

## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206

ATTN: Phil Askey

**McBride-Michel A #1**

**31-18s-45w Kiowa,CO**

Start Date: 2012.01.19 @ 22:55:44

End Date: 2012.01.20 @ 06:20:14

Job Ticket #: 44939                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.01 @ 15:17:52



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44939

**DST#: 1**

Test Start: 2012.01.19 @ 22:55:44

### GENERAL INFORMATION:

Formation: **J**

Deviated: **No** Whipstock: **0.00 ft (KB)**

Time Tool Opened: 01:42:14

Time Test Ended: 06:20:14

Test Type: **Conventional Straddle (Initial)**

Tester: **Shane McBride**

Unit No: **55**

**Interval: 3842.00 ft (KB) To 3866.00 ft (KB) (TVD)**

Total Depth: **3904.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **3915.00 ft (KB)**

**3904.00 ft (CF)**

KB to GR/CF: **11.00 ft**

**Serial #: 6667** **Inside**

Press @ Run Depth: **50.79 psig @ 3843.00 ft (KB)**

Start Date: **2012.01.19**

End Date:

**2012.01.20**

Start Time: **22:55:44**

End Time:

**06:01:14**

Capacity: **8000.00 psig**

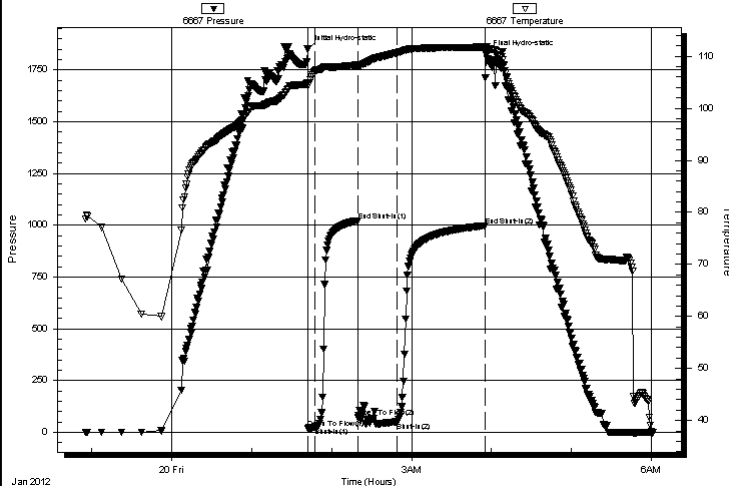
Last Calib.: **2012.01.20**

Time On Btm: **2012.01.20 @ 01:41:59**

Time Off Btm: **2012.01.20 @ 03:56:14**

TEST COMMENT: 1/4" blow  
No return  
Weak surface blow  
No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1850.20	104.81	Initial Hydro-static
1	20.94	104.24	Open To Flow (1)
6	25.97	107.13	Shut-In (1)
38	1022.33	108.31	End Shut-In (1)
38	70.78	108.04	Open To Flow (2)
67	50.79	110.65	Shut-In (2)
134	997.62	111.77	End Shut-In (2)
135	1823.27	111.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	mc w w/oil spots 15% m 85% w	0.30

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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1700 Waterfront Pkwy  
Ste 1200  
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ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44939

**DST#: 1**

Test Start: 2012.01.19 @ 22:55:44

### GENERAL INFORMATION:

Formation: **J**

Deviated: **No** Whipstock: **0.00 ft (KB)**

Time Tool Opened: 01:42:14

Time Test Ended: 06:20:14

Test Type: **Conventional Straddle (Initial)**

Tester: **Shane McBride**

Unit No: **55**

**Interval: 3842.00 ft (KB) To 3866.00 ft (KB) (TVD)**

Total Depth: **3904.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **3915.00 ft (KB)**

**3904.00 ft (CF)**

KB to GR/CF: **11.00 ft**

**Serial #: 6771 Outside**

Press@RunDepth: **psig @ 3843.00 ft (KB)**

Start Date: **2012.01.19**

End Date:

**2012.01.20**

Start Time: **22:55:52**

End Time:

**06:01:22**

Capacity: **8000.00 psig**

Last Calib.:

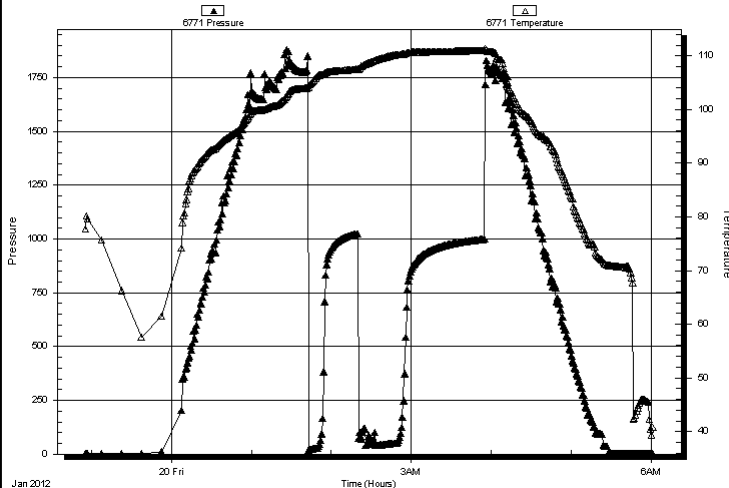
**2012.01.20**

Time On Btm:

Time Off Btm:

TEST COMMENT: 1/4" blow  
No return  
Weak surface blow  
No return

Pressure vs. Time



### PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
60.00	mc w w/oil spots 15% m 85% w	0.30

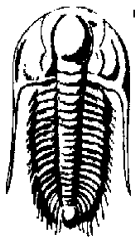
### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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## Test Start: 2012.01.19 @ 22:55:44

## KB to GR/CF: 11.00 ft



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44939

**DST#: 1**

Test Start: 2012.01.19 @ 22:55:44

### Tool Information

Drill Pipe:	Length: 3664.00 ft	Diameter: 3.80 inches	Volume: 51.40 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:	25000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	85000.00 lb
		Total Volume:	52.29 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	3842.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	3866.00 ft				
Interval between Packers:	24.00 ft				
Tool Length:	84.00 ft				
Number of Packers:	3	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			3823.00	
Shut In Tool	5.00			3828.00	
Hydraulic tool	5.00			3833.00	
Packer	5.00			3838.00	20.00 Bottom Of Top Packer
Packer	4.00			3842.00	
Stubb	1.00			3843.00	
Recorder	0.00	6771	Outside	3843.00	
Recorder	0.00	6667	Inside	3843.00	
Perforations	19.00			3862.00	
Blank Off Sub	1.00			3863.00	
top of s packer	3.00			3866.00	24.00 Tool Interval
Packer	1.00			3867.00	
Stubb	1.00			3868.00	
Change Over Sub	1.00			3869.00	
Recorder	0.00	8368	Below	3869.00	
Drill Pipe	31.00			3900.00	
Change Over Sub	1.00			3901.00	
Bullnose	5.00			3906.00	40.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



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## DRILL STEM TEST REPORT

### FLUID SUMMARY

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44939

**DST#: 1**

Test Start: 2012.01.19 @ 22:55:44

### 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:

37000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5600.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	m c w w/oil spots 15% m 85% w	0.295

Total Length: 60.00 ft

Total Volume: 0.295 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw .261 @ 50\*f= 37,000

Serial #: 6667

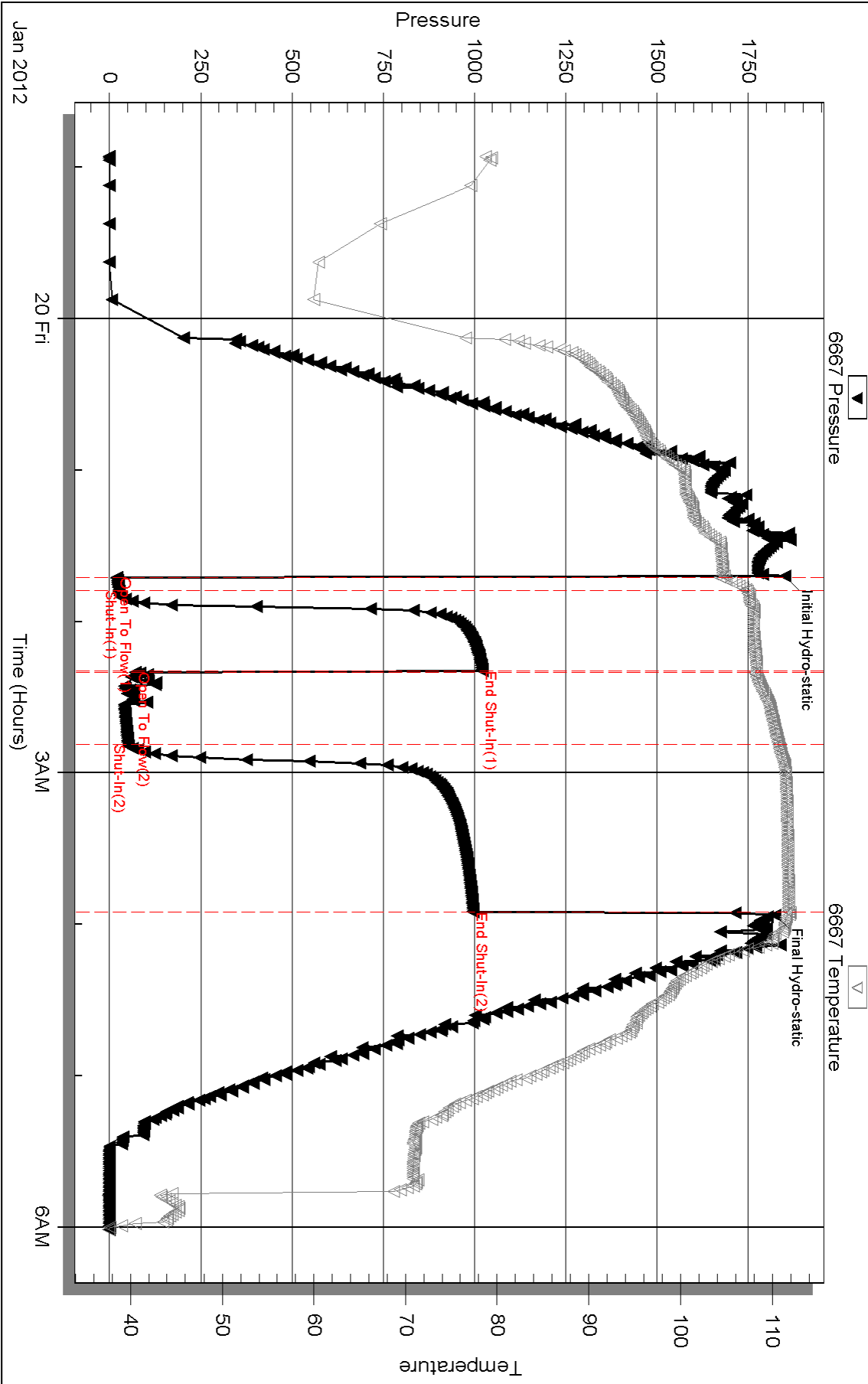
Inside

Mull Drilling Co

McBride-Michel A #1

DST Test Number: 1

Pressure vs. Time

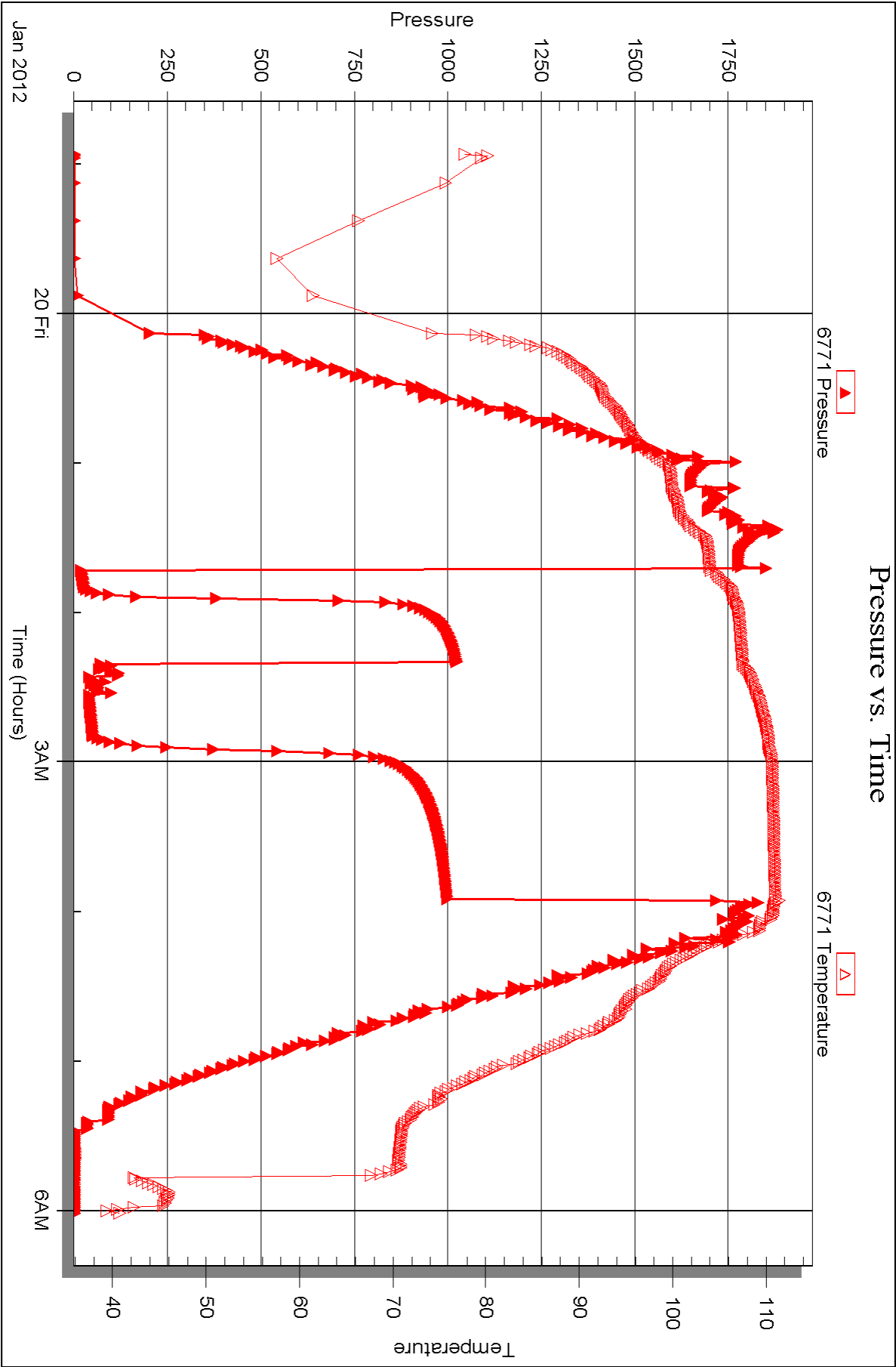


Serial #: 6771

Outside    Mall Drilling Co

McBride-Michel A #1

DST Test Number: 1



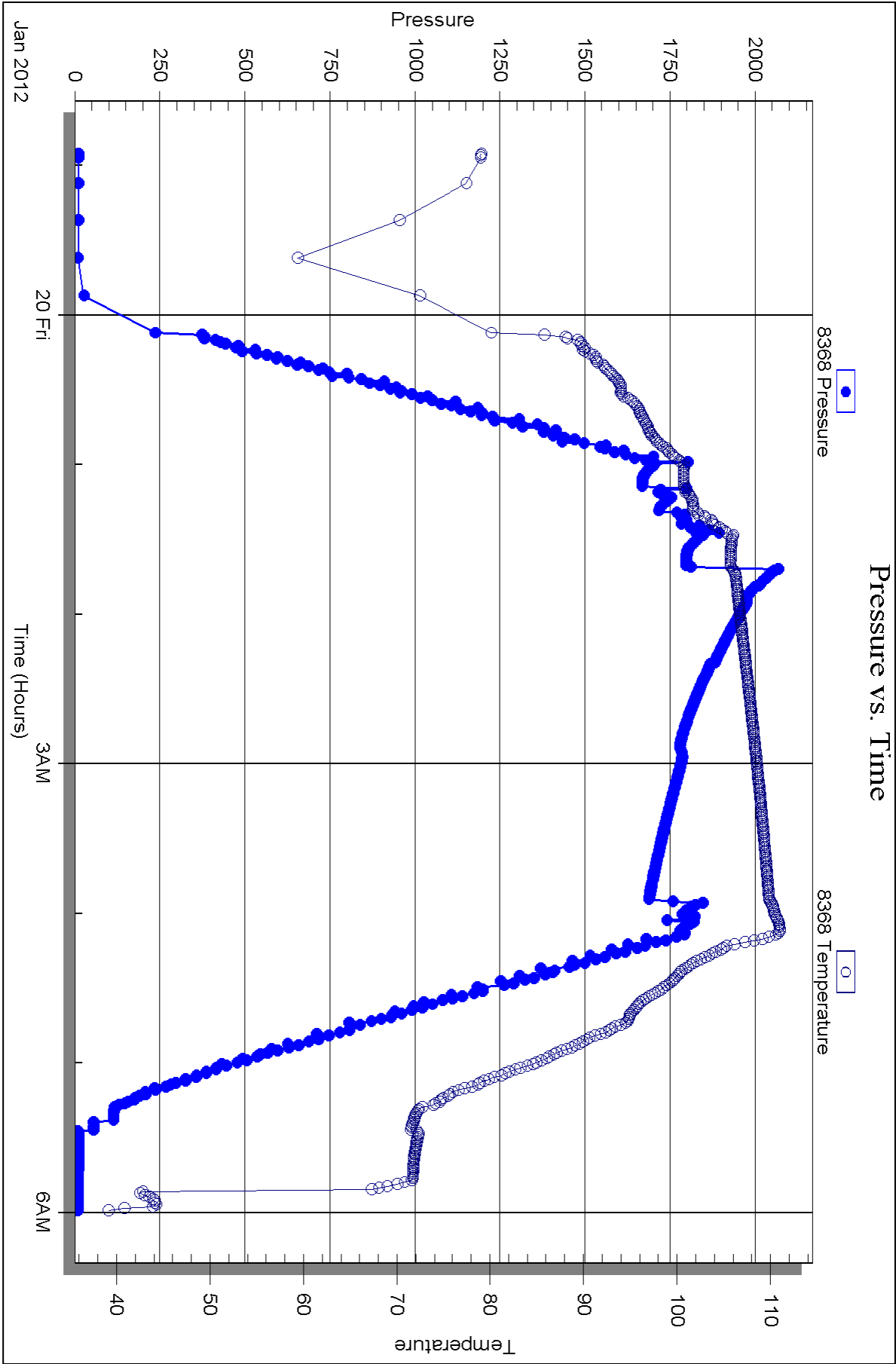


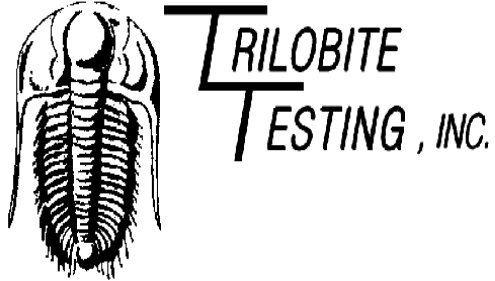
Serial #: 8368

Below (Strat) Milling Co

McBride-Michel A #1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206

ATTN: Phil Askey

**McBride-Michel A #1**

**31-18s-45w Kiowa,CO**

Start Date: 2012.01.21 @ 08:35:18

End Date: 2012.01.21 @ 15:35:48

Job Ticket #: 44940                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.01 @ 15:16:48



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**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44940

**DST#: 2**

Test Start: 2012.01.21 @ 08:35:18

### GENERAL INFORMATION:

Formation: **Marm-Ft Scott**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 11:02:33

Time Test Ended: 15:35:48

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

Interval: **4000.00 ft (KB) To 4090.00 ft (KB) (TVD)**

Total Depth: 4090.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6771 Outside**

Press @ Run Depth: 27.83 psig @ 4001.00 ft (KB)

Start Date: 2012.01.21

End Date:

2012.01.21

Start Time: 08:35:33

End Time:

15:13:48

Capacity: 8000.00 psig

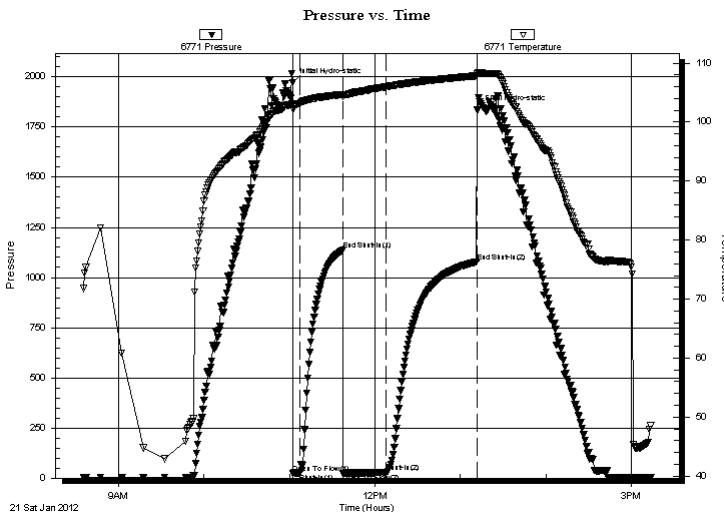
Last Calib.: 2012.01.21

Time On Btm: 2012.01.21 @ 11:02:18

Time Off Btm: 2012.01.21 @ 13:12:18

TEST COMMENT: 1/8" blow  
No return  
Weak surface blow  
No return

### PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1970.62	103.09	Initial Hydro-static
1	23.61	102.20	Open To Flow (1)
5	23.93	103.20	Shut-In (1)
36	1137.50	104.70	End Shut-In (1)
36	24.87	104.30	Open To Flow (2)
66	27.83	106.03	Shut-In (2)
130	1078.22	107.86	End Shut-In (2)
130	1835.99	108.41	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% m	0.02

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests



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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44940

**DST#: 2**

Test Start: 2012.01.21 @ 08:35:18

### Tool Information

Drill Pipe:	Length: 3813.00 ft	Diameter: 3.80 inches	Volume: 53.49 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:	25000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	85000.00 lb
		Total Volume:	54.38 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4000.00 ft			Final	64000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	90.00 ft				
Tool Length:	117.00 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			3974.00	
Shut In Tool	5.00			3979.00	
Hydraulic tool	5.00			3984.00	
Jars	5.00			3989.00	
Safety Joint	2.00			3991.00	
Packer	5.00			3996.00	27.00 Bottom Of Top Packer
Packer	4.00			4000.00	
Stubb	1.00			4001.00	
Recorder	0.00	6771	Outside	4001.00	
Recorder	0.00	6667	Inside	4001.00	
Perforations	19.00			4020.00	
Change Over Sub	1.00			4021.00	
Drill Pipe	63.00			4084.00	
Change Over Sub	1.00			4085.00	
Bullnose	5.00			4090.00	90.00 Bottom Packers & Anchor

**Total Tool Length: 117.00**



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## DRILL STEM TEST REPORT

### FLUID SUMMARY

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44940

**DST#: 2**

Test Start: 2012.01.21 @ 08:35:18

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 5.57 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 5600.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

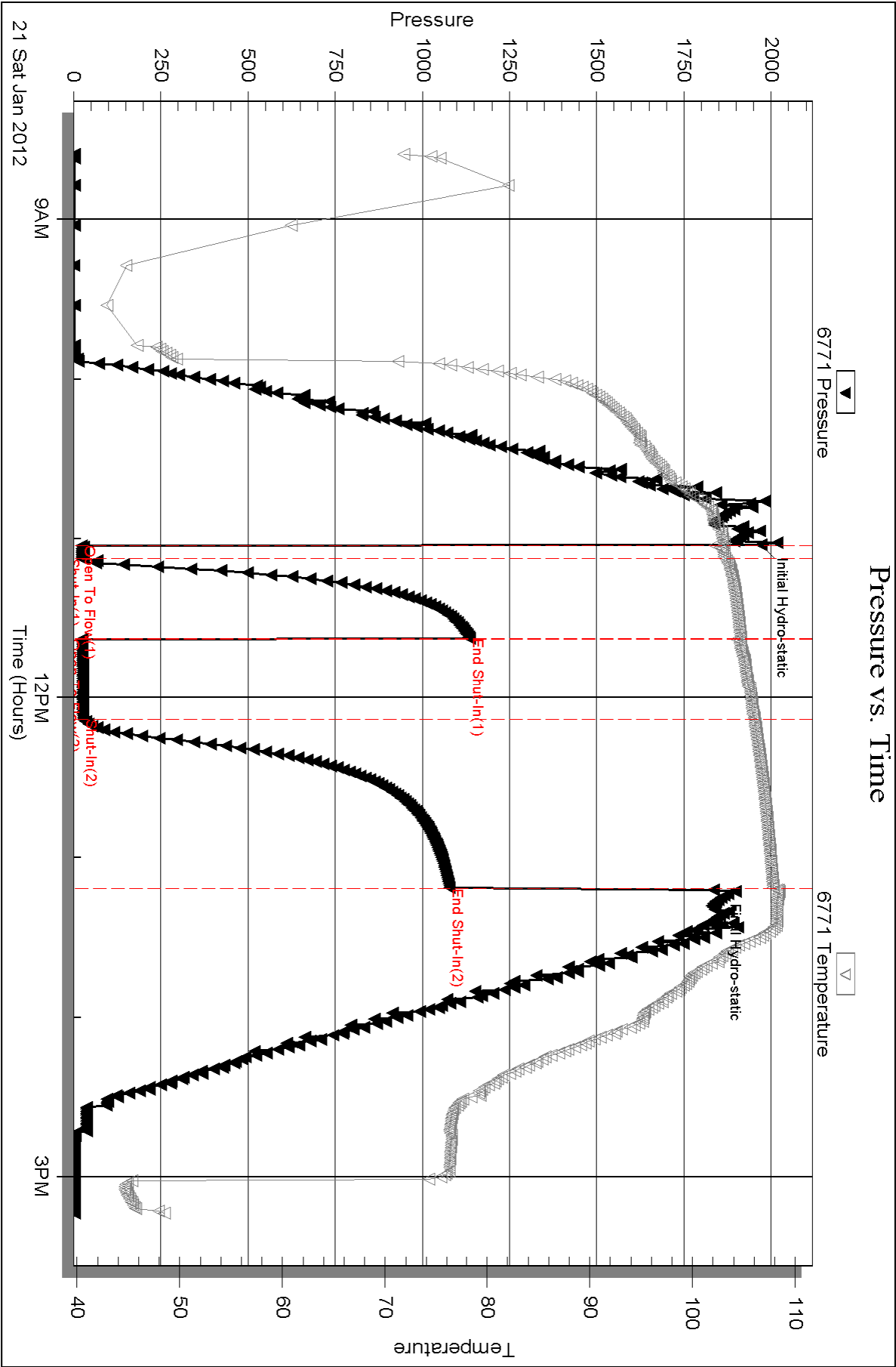
Recovery Comments:

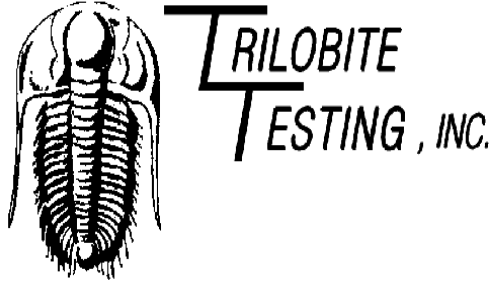
Serial #: 6771

Outside Mull Drilling Co

McBride-Michel A #1

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206

ATTN: Phil Askey

**McBride-Michel A #1**

**31-18s-45w Kiowa,CO**

Start Date: 2012.01.23 @ 06:05:59

End Date: 2012.01.23 @ 14:35:14

Job Ticket #: 44941                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.01 @ 15:16:09



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44941

**DST#: 3**

Test Start: 2012.01.23 @ 06:05:59

### GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 08:31:44

Time Test Ended: 14:35:14

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

Interval: **4387.00 ft (KB) To 4432.00 ft (KB) (TVD)**

Total Depth: 3904.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6771 Outside**

Press @ Run Depth: 181.24 psig @ 4388.00 ft (KB)

Start Date: 2012.01.23

End Date:

2012.01.23

Start Time: 06:05:59

End Time:

14:15:14

Capacity: 8000.00 psig

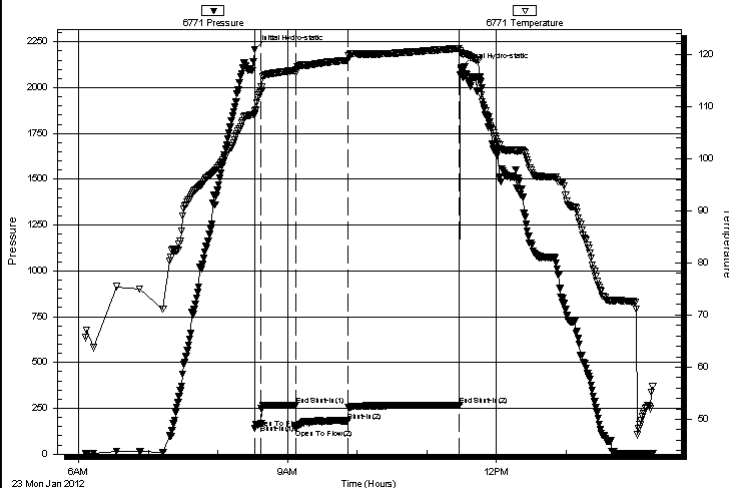
Last Calib.: 2012.01.23

Time On Btm: 2012.01.23 @ 08:31:29

Time Off Btm: 2012.01.23 @ 11:29:14

TEST COMMENT: B.O.B. 1/2 min.  
G.T.S. 2 min into shutin no return  
Gauging gas @ open  
No return

Pressure vs. Time



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2209.22	109.07	Initial Hydro-static
1	141.69	108.48	Open To Flow (1)
6	165.07	112.88	Shut-In (1)
36	266.30	116.93	End Shut-In (1)
36	137.66	116.35	Open To Flow (2)
81	181.24	118.83	Shut-In (2)
177	266.30	121.11	End Shut-In (2)
178	2109.70	120.23	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
180.00	g m 25%g 7% m	0.89

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	18.00	506.08
Last Gas Rate	0.75	27.00	605.86
Max. Gas Rate	0.75	27.00	605.86

\* Recovery from multiple tests





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Ste 1200  
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ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44941

**DST#: 3**

Test Start: 2012.01.23 @ 06:05:59

### GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 08:31:44

Time Test Ended: 14:35:14

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

**Interval: 4387.00 ft (KB) To 4432.00 ft (KB) (TVD)**

Total Depth: 3904.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6667 Inside**

Press @ Run Depth: psig @ 4388.00 ft (KB)

Start Date: 2012.01.23

End Date:

2012.01.23

Start Time: 06:05:59

End Time:

14:15:29

Capacity: 8000.00 psig

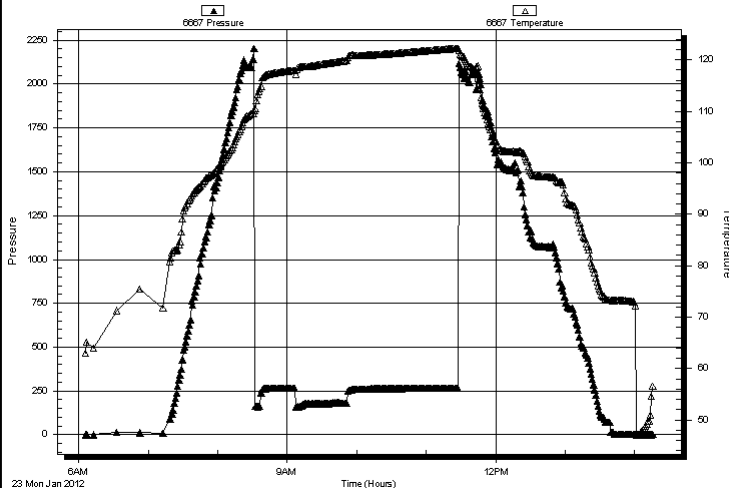
Last Calib.: 2012.01.23

Time On Btm:

Time Off Btm:

TEST COMMENT: B.O.B. 1/2 min.  
G.T.S. 2 min into shutin no return  
Gauging gas @ open  
No return

Pressure vs. Time



### PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
180.00	g m 25%g 7% m	0.89

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	18.00	506.08
Last Gas Rate	0.75	27.00	605.86
Max. Gas Rate	0.75	27.00	605.86

\* Recovery from multiple tests



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## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44941

**DST#: 3**

Test Start: 2012.01.23 @ 06:05:59

### Tool Information

Drill Pipe:	Length: 4185.00 ft	Diameter: 3.80 inches	Volume: 58.70 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:	25000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose:	85000.00 lb
		Total Volume:	59.59 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	4387.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	45.00 ft				
Tool Length:	72.00 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			4361.00	
Shut In Tool	5.00			4366.00	
Hydraulic tool	5.00			4371.00	
Jars	5.00			4376.00	
Safety Joint	2.00			4378.00	
Packer	5.00			4383.00	27.00 Bottom Of Top Packer
Packer	4.00			4387.00	
Stubb	1.00			4388.00	
Recorder	0.00	6771	Outside	4388.00	
Recorder	0.00	6667	Inside	4388.00	
Perforations	5.00			4393.00	
Change Over Sub	1.00			4394.00	
Drill Pipe	32.00			4426.00	
Change Over Sub	1.00			4427.00	
Bullnose	5.00			4432.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 72.00**



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**TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44941

**DST#: 3**

Test Start: 2012.01.23 @ 06:05:59

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 60.00 sec/qt

Water Loss: 7.96 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	g m 25%g 7% m	0.885

Total Length: 180.00 ft

Total Volume: 0.885 bbl

Num Fluid Samples: 0

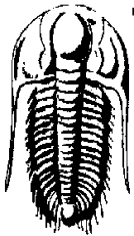
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44941

**DST#: 3**

Test Start: 2012.01.23 @ 06:05:59

### Gas Rates Information

Temperature: 89 (deg F)  
Relative Density: 0.7  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	5	0.75	18.00	506.08
2	5	0.75	18.00	474.15
2	10	0.75	22.00	532.68
2	15	0.75	24.00	561.95
2	20	0.75	25.00	576.59
2	25	0.75	26.00	591.22
2	30	0.75	26.00	591.22
2	35	0.75	27.00	605.86
2	40	0.75	27.00	605.86

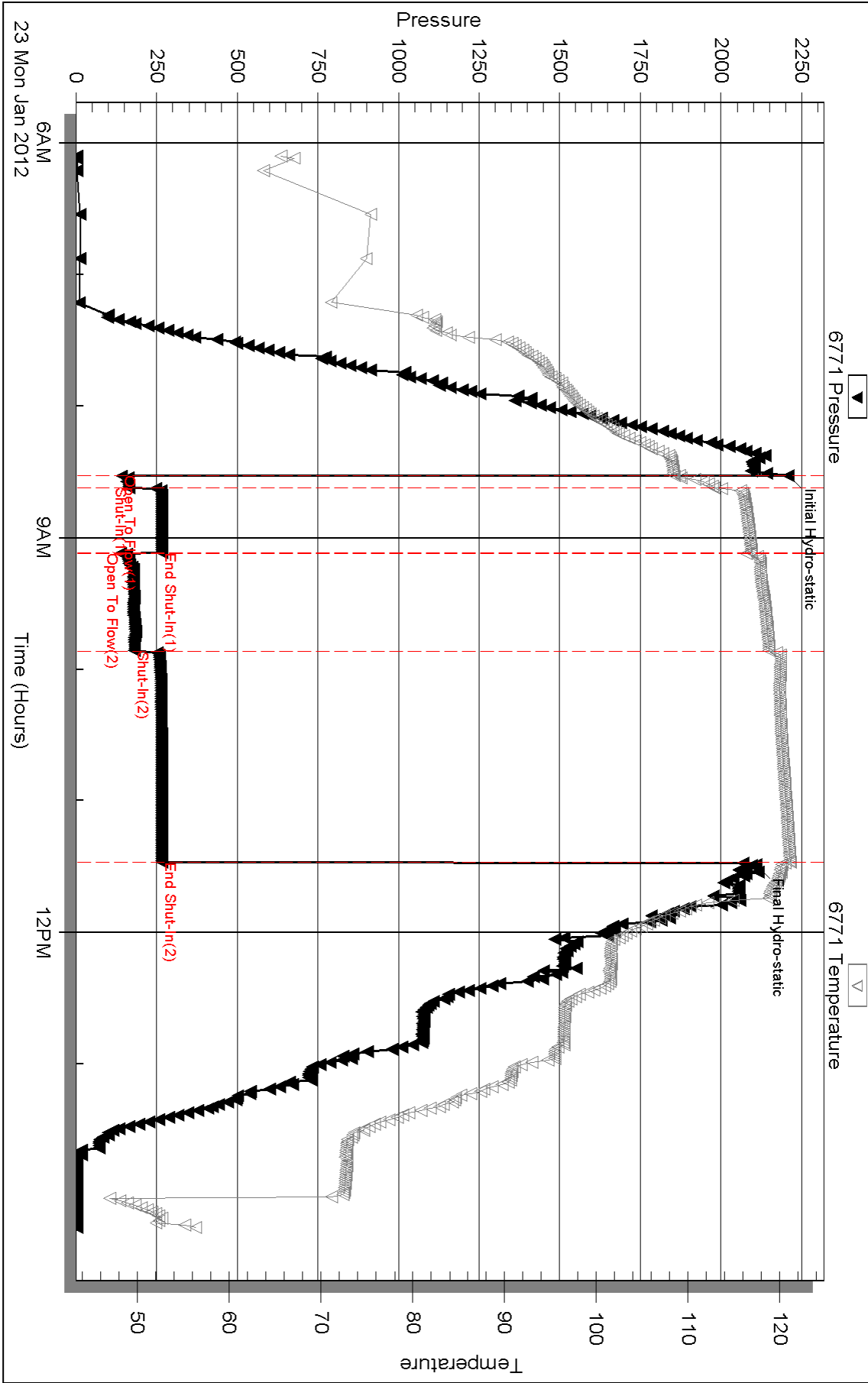
Serial #: 6771

Outside Mull Drilling Co

McBride-Michel A #1

DST Test Number: 3

Pressure vs. Time



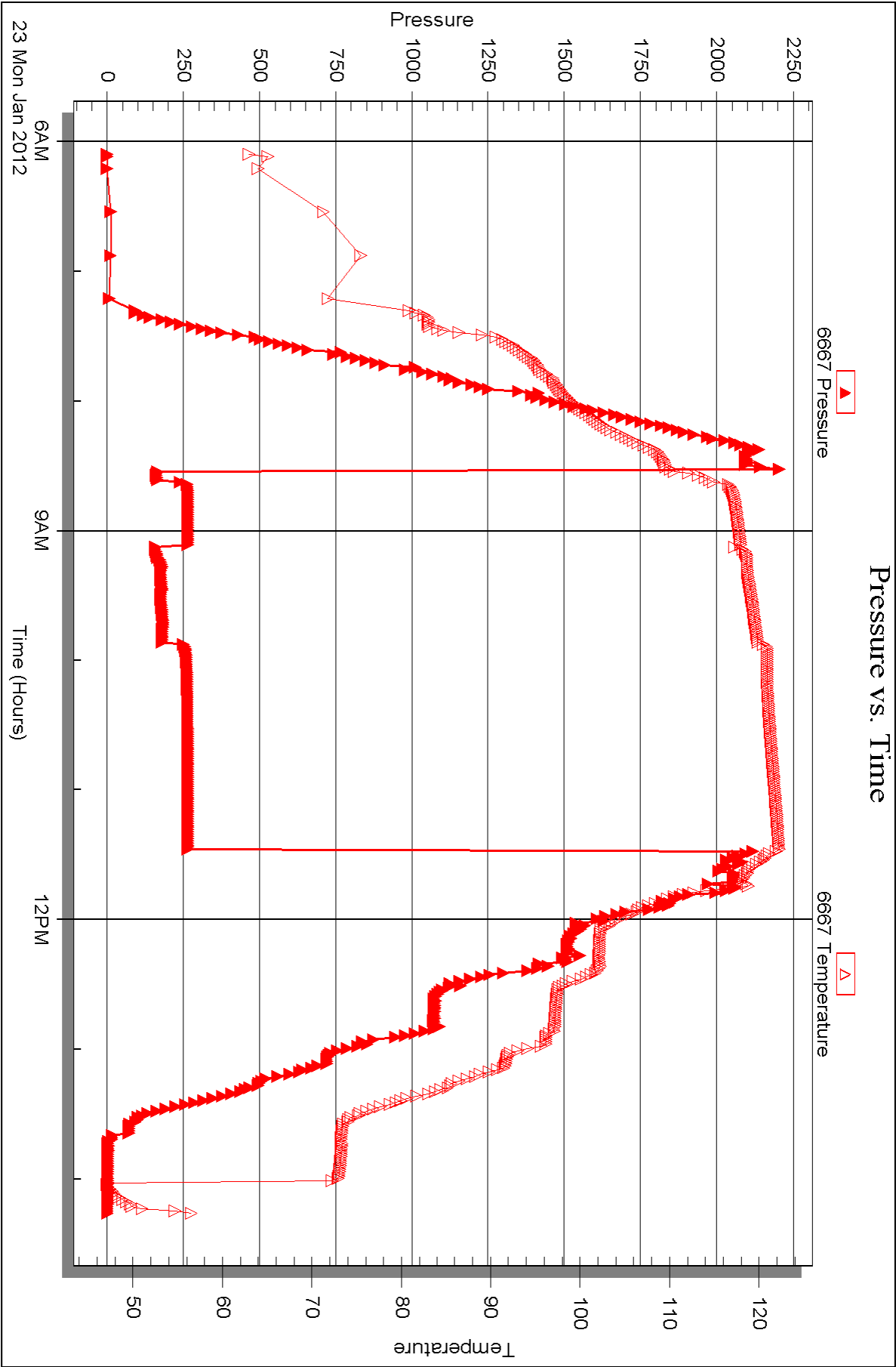
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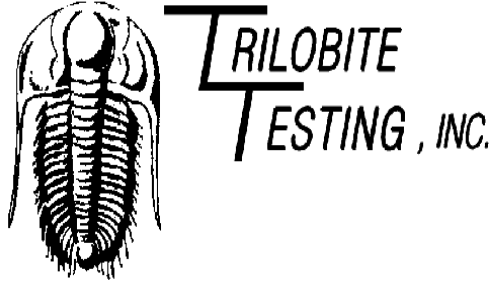
Inside

Mull Drilling Co

McBride-Michel A #1

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206

ATTN: Phil Askey

**McBride-Michel A #1**

**31-18s-45w Kiowa,CO**

Start Date: 2012.01.25 @ 07:51:04

End Date: 2012.01.25 @ 16:30:49

Job Ticket #: 44942                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.01 @ 15:15:15



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44942

**DST#: 4**

Test Start: 2012.01.25 @ 07:51:04

### GENERAL INFORMATION:

Formation: **Miss Spergan**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 10:07:49

Time Test Ended: 16:30:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

Interval: **4650.00 ft (KB) To 4740.00 ft (KB) (TVD)**

Total Depth: 4740.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6667 Outside**

Press@RunDepth: 37.91 psig @ 4651.00 ft (KB)

Start Date: 2012.01.25

End Date:

2012.01.25

Start Time: 07:51:04

End Time:

16:10:49

Capacity: 8000.00 psig

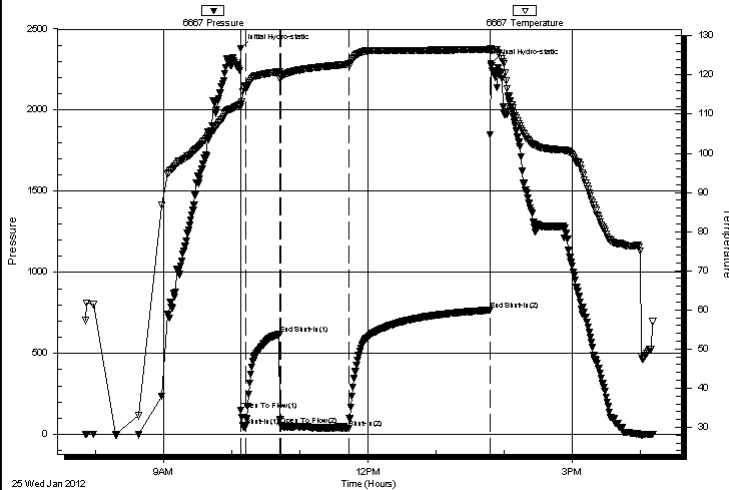
Last Calib.: 2012.01.25

Time On Btm: 2012.01.25 @ 10:07:34

Time Off Btm: 2012.01.25 @ 13:48:04

TEST COMMENT: B.O.B. in 3 1/2 min.  
B.O.B. return blow in 10 min  
B.O.B. @ open G.T.S. in 25 min. to weak to gauge  
Bled off throughout

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2380.88	112.57	Initial Hydro-static
1	147.95	111.88	Open To Flow (1)
5	54.14	117.29	Shut-In (1)
35	618.62	120.79	End Shut-In (1)
36	54.94	119.62	Open To Flow (2)
96	37.91	122.73	Shut-In (2)
220	767.07	126.57	End Shut-In (2)
221	2288.01	126.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	mud 20g 80m	0.32
0.00	G. T. S. on 2nd flow	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44942

**DST#: 4**

Test Start: 2012.01.25 @ 07:51:04

### GENERAL INFORMATION:

Formation: **Miss Spergan**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 10:07:49

Time Test Ended: 16:30:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

**Interval: 4650.00 ft (KB) To 4740.00 ft (KB) (TVD)**

Total Depth: 4740.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6771 Inside**

Press @ Run Depth: psig @ 4651.00 ft (KB)

Start Date: 2012.01.25

End Date:

2012.01.25

Start Time: 07:51:09

End Time:

16:10:54

Capacity: 8000.00 psig

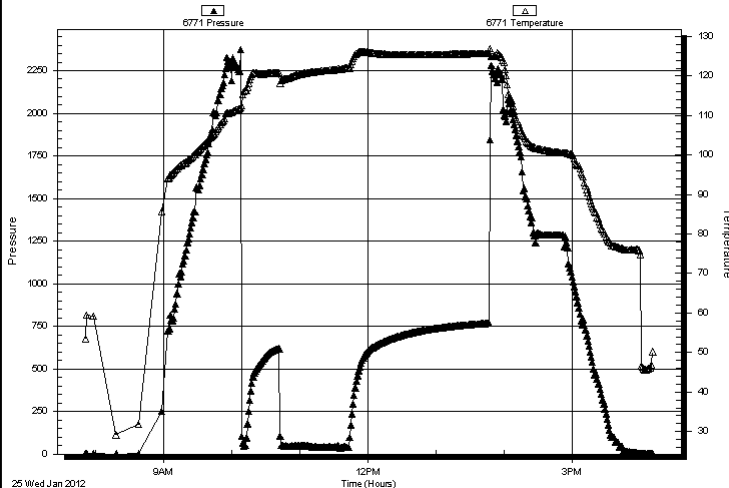
Last Calib.: 2012.01.25

Time On Btm:

Time Off Btm:

**TEST COMMENT:** B.O.B. in 3 1/2 min.  
B.O.B. return blow in 10 min  
B.O.B. @ open G.T.S. in 25 min. to weak to gauge  
Bled off throughout

Pressure vs. Time



### PRESSURE SUMMARY

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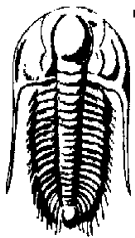
### Recovery

Length (ft)	Description	Volume (bbl)
65.00	mud 20g 80m	0.32
0.00	G. T. S. on 2nd flow	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**

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44942

**DST#: 4**

Test Start: 2012.01.25 @ 07:51:04

### Tool Information

Drill Pipe:	Length:	4474.00 ft	Diameter:	3.80 inches	Volume:	62.76 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:	25000.00 lb
Drill Collar:	Length:	181.00 ft	Diameter:	2.25 inches	Volume:	0.89 bbl	Weight to Pull Loose:	90000.00 lb
					Total Volume:	63.65 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		25.00 ft					String Weight: Initial	68000.00 lb
Depth to Top Packer:		4650.00 ft					Final	70000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		90.00 ft						
Tool Length:		110.00 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			4631.00	
Shut In Tool	5.00			4636.00	
Hydraulic tool	5.00			4641.00	
Packer	5.00			4646.00	20.00 Bottom Of Top Packer
Packer	4.00			4650.00	
Stubb	1.00			4651.00	
Recorder	0.00	6771	Inside	4651.00	
Recorder	0.00	6667	Outside	4651.00	
Perforations	19.00			4670.00	
Change Over Sub	1.00			4671.00	
Drill Pipe	63.00			4734.00	
Change Over Sub	1.00			4735.00	
Bullnose	5.00			4740.00	90.00 Bottom Packers & Anchor

**Total Tool Length: 110.00**



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44942

**DST#: 4**

Test Start: 2012.01.25 @ 07:51:04

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 61.00 sec/qt

Water Loss: 7.97 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 5600.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	mud 20g 80m	0.320
0.00	G. T. S. on 2nd flow	0.000

Total Length: 65.00 ft

Total Volume: 0.320 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

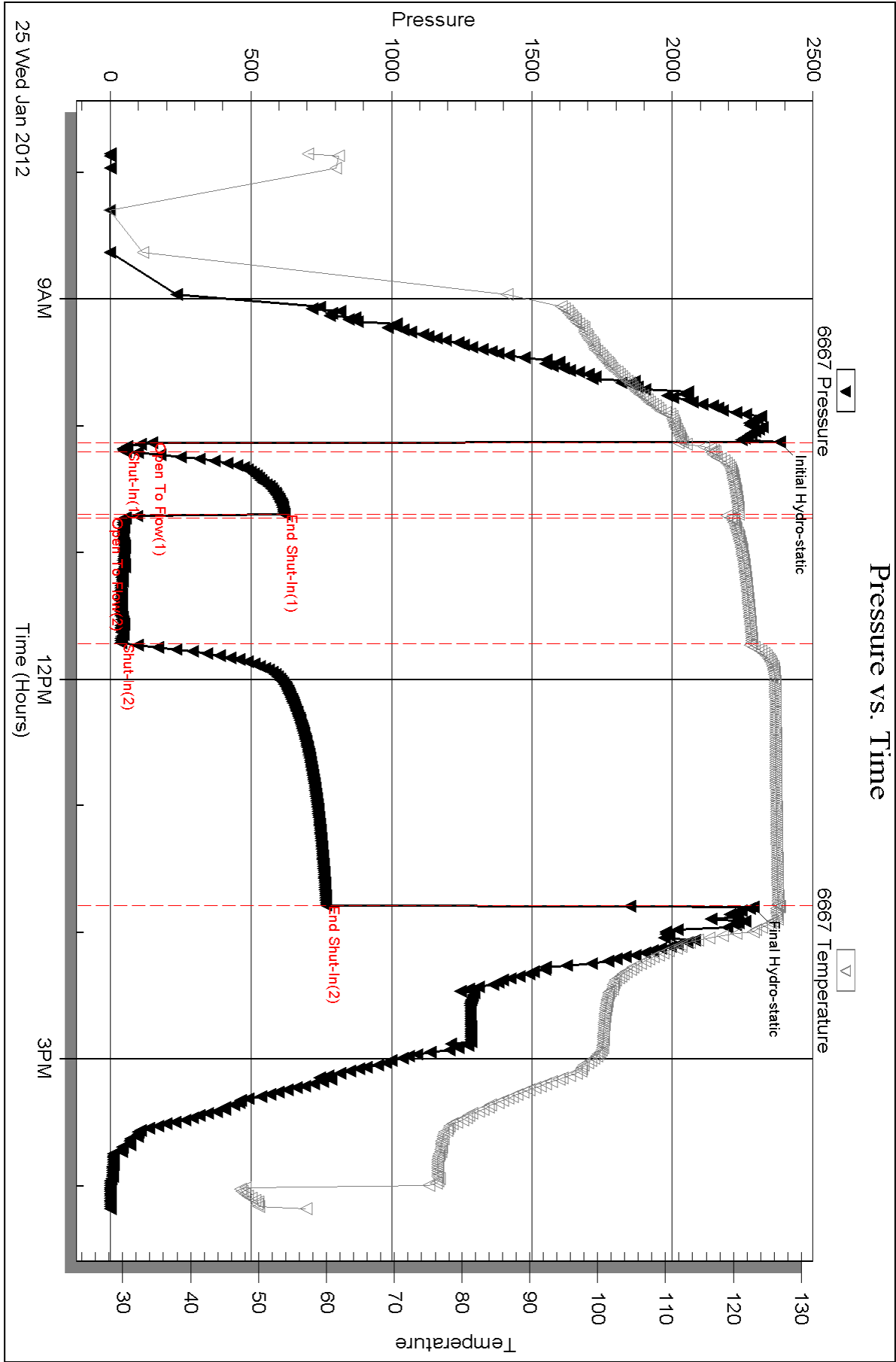
Recovery Comments:

Serial #: 6667

Outside      Mall Drilling Co

McBride-Michel A #1

DST Test Number: 4



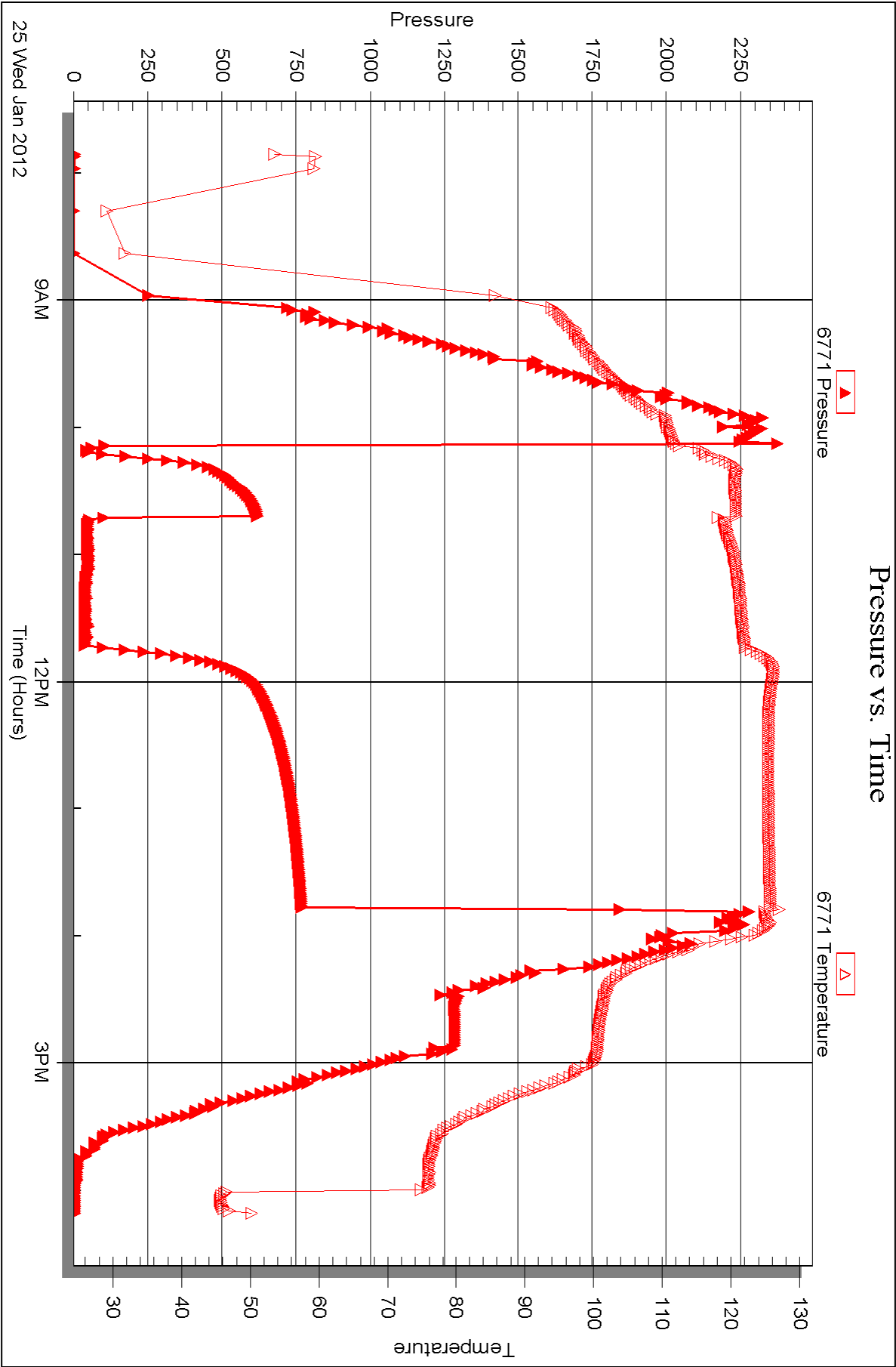
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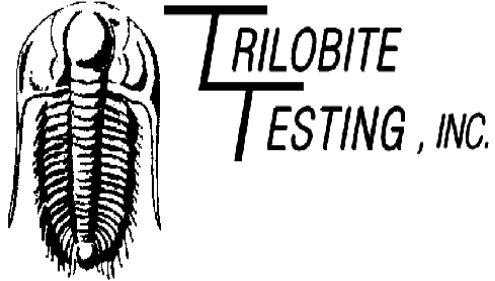
Inside

Mull Drilling Co

McBride-Michel A #1

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206

ATTN: Phil Askey

**McBride-Michel A #1**

**31-18s-45w Kiowa,CO**

Start Date: 2012.01.26 @ 06:36:01

End Date: 2012.01.26 @ 13:58:31

Job Ticket #: 44943                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.01 @ 15:14:30



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44943

**DST#: 5**

Test Start: 2012.01.26 @ 06:36:01

### GENERAL INFORMATION:

Formation: **Miss Spergan**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 09:19:31

Time Test Ended: 13:58:31

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

**Interval: 4740.00 ft (KB) To 4780.00 ft (KB) (TVD)**

Reference Elevations: 3915.00 ft (KB)

Total Depth: 4780.00 ft (KB) (TVD)

3904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6771 Outside**

Press @ Run Depth: 26.10 psig @ 4741.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.01.26

End Date:

2012.01.26

Last Calib.:

2012.01.26

Start Time: 06:36:01

End Time:

13:34:31

Time On Btm:

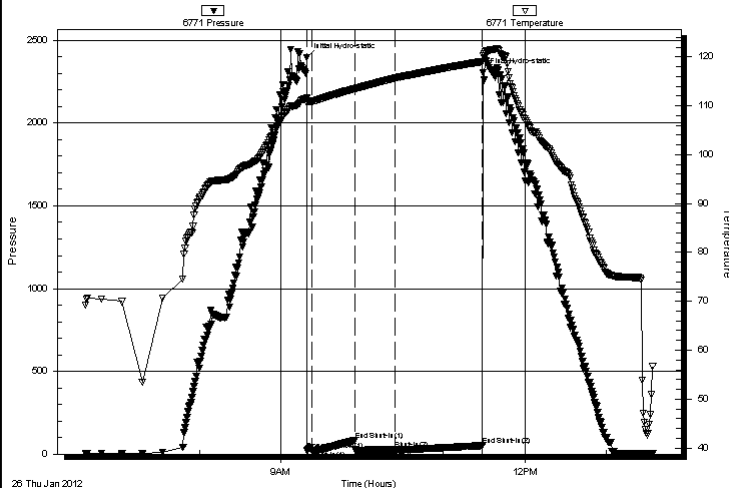
2012.01.26 @ 09:19:16

Time Off Btm:

2012.01.26 @ 11:29:16

TEST COMMENT: Weak surface blow  
No return  
Weak surface blow  
No return

Pressure vs. Time



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2394.16	111.59	Initial Hydro-static
1	23.55	110.64	Open To Flow (1)
4	22.54	110.89	Shut-In(1)
36	83.71	113.50	End Shut-In(1)
36	24.91	113.51	Open To Flow (2)
66	26.10	115.65	Shut-In(2)
130	52.01	119.05	End Shut-In(2)
130	2303.72	120.16	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud 100% m	0.00

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 44943

**DST#: 5**

Test Start: 2012.01.26 @ 06:36:01

### GENERAL INFORMATION:

Formation: **Miss Spergan**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 09:19:31

Time Test Ended: 13:58:31

Test Type: Conventional Bottom Hole (Reset)

Tester: Shane McBride

Unit No: 55

**Interval: 4740.00 ft (KB) To 4780.00 ft (KB) (TVD)**

Total Depth: 4780.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 6667 Inside**

Press @ Run Depth: psig @ 4741.00 ft (KB)

Start Date: 2012.01.26

End Date:

2012.01.26

Start Time: 06:36:01

End Time:

13:34:31

Capacity: 8000.00 psig

Last Calib.:

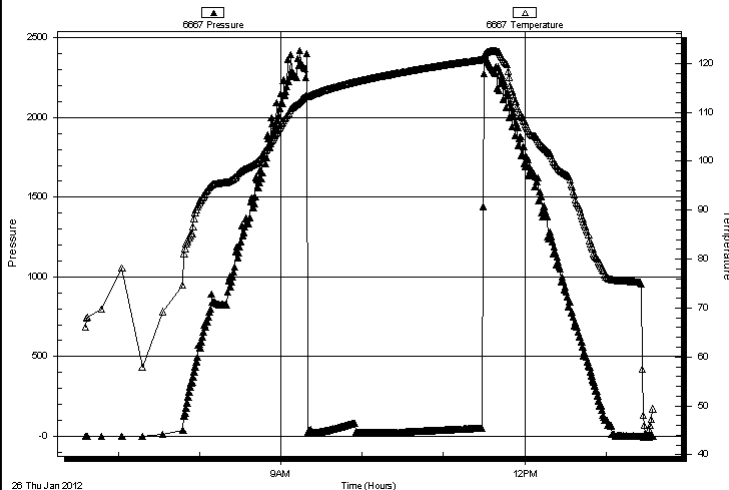
2012.01.26

Time On Btm:

Time Off Btm:

TEST COMMENT: Weak surface blow  
No return  
Weak surface blow  
No return

Pressure vs. Time



### PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
1.00	mud 100% m	0.00

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44943

**DST#: 5**

Test Start: 2012.01.26 @ 06:36:01

### Tool Information

Drill Pipe:	Length:	4563.00 ft	Diameter:	3.80 inches	Volume:	64.01 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:	25000.00 lb
Drill Collar:	Length:	181.00 ft	Diameter:	2.25 inches	Volume:	0.89 bbl	Weight to Pull Loose:	90000.00 lb
					Total Volume:	64.90 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		31.00 ft					String Weight: Initial	72000.00 lb
Depth to Top Packer:		4740.00 ft					Final	72000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		40.00 ft						
Tool Length:		67.00 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			4714.00	
Shut In Tool	5.00			4719.00	
Hydraulic tool	5.00			4724.00	
Jars	5.00			4729.00	
Safety Joint	2.00			4731.00	
Packer	5.00			4736.00	27.00 Bottom Of Top Packer
Packer	4.00			4740.00	
Stubb	1.00			4741.00	
Recorder	0.00	6771	Outside	4741.00	
Recorder	0.00	6667	Inside	4741.00	
Perforations	34.00			4775.00	
Bullnose	5.00			4780.00	40.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

### FLUID SUMMARY

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 44943

**DST#: 5**

Test Start: 2012.01.26 @ 06:36:01

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 5.55 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 5600.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud 100%m	0.005

Total Length: 1.00 ft

Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

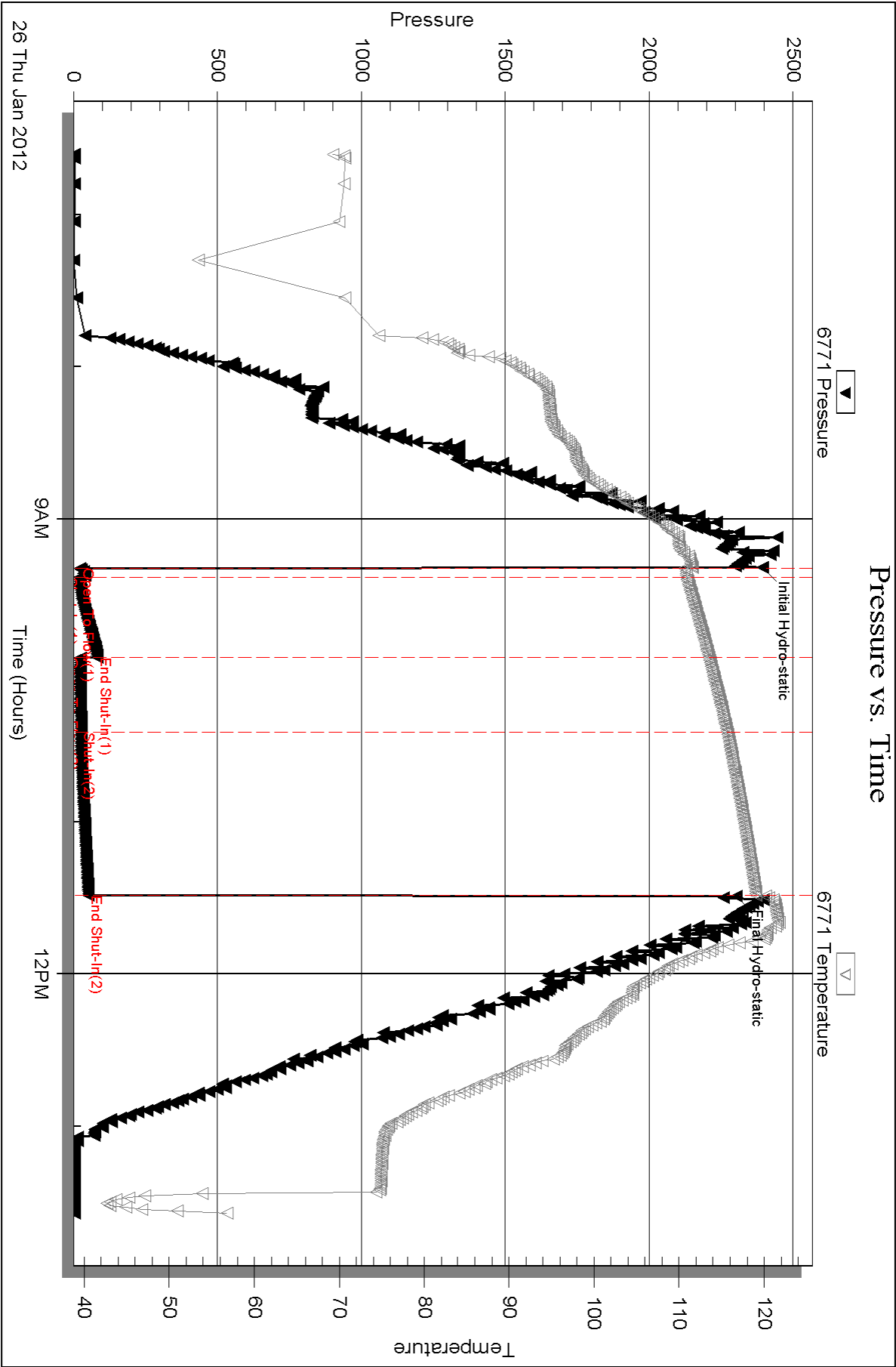
Recovery Comments:

Serial #: 6771

Outside Mull Drilling Co

McBride-Michel A #1

DST Test Number: 5



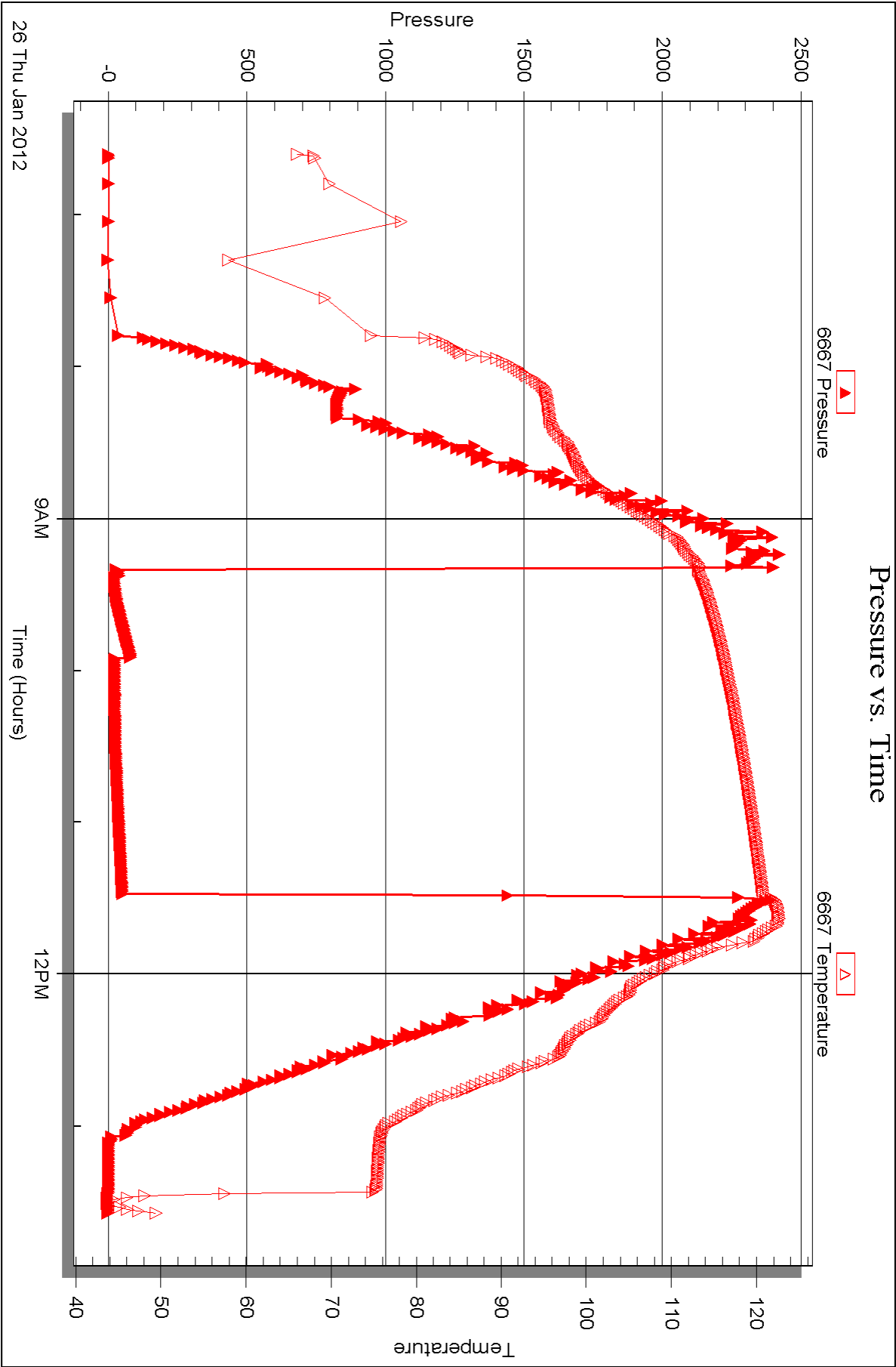
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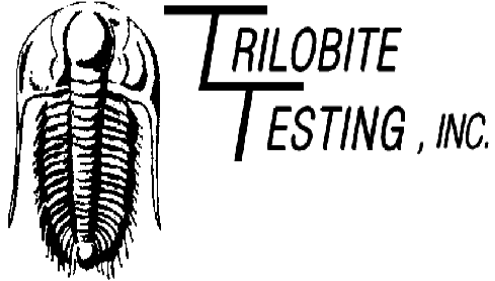
Inside

Mull Drilling Co

McBride-Michel A #1

DST Test Number: 5





## DRILL STEM TEST REPORT

Prepared For: **Mull Drilling Co**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206

ATTN: Phil Askey

**McBride-Michel A #1**

**31-18s-45w Kiowa,CO**

Start Date: 2012.01.27 @ 10:05:30

End Date: 2012.01.27 @ 17:44:39

Job Ticket #: 45323                      DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.01 @ 15:12:54



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 45323

**DST#: 6**

Test Start: 2012.01.27 @ 10:05:30

### GENERAL INFORMATION:

Formation: **Warsaw**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 11:54:55

Time Test Ended: 17:44:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 35

**Interval: 4862.00 ft (KB) To 4882.00 ft (KB) (TVD)**

Total Depth: 4882.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8373 Inside**

Press @ Run Depth: 196.89 psig @ 4863.00 ft (KB)

Start Date: 2012.01.27

End Date:

2012.01.27

Start Time: 10:05:30

End Time:

17:44:39

Capacity: 8000.00 psig

Last Calib.: 2012.01.27

Time On Btm: 2012.01.27 @ 11:53:25

Time Off Btm: 2012.01.27 @ 15:32:09

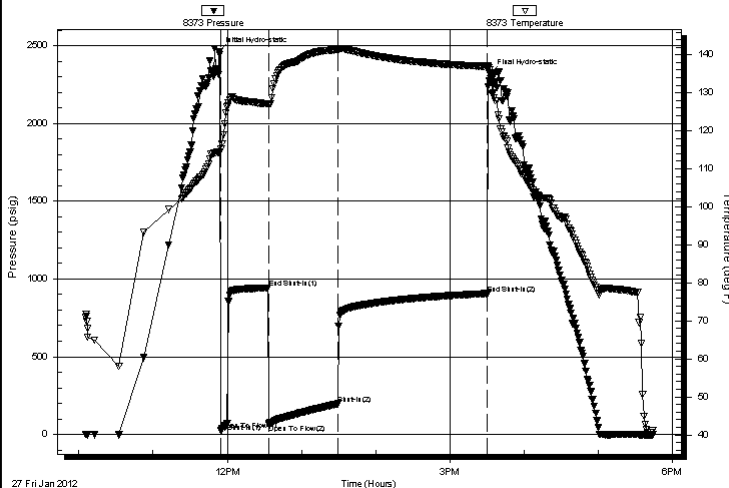
TEST COMMENT: IF: 1/4" blow built to 2 in 5 min.

IS: No return.

FF: BOB in 30 min.

FS: No return.

Pressure vs. Time



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2461.48	114.51	Initial Hydro-static
2	24.53	115.19	Open To Flow (1)
7	70.57	126.54	Shut-In (1)
40	941.91	127.12	End Shut-In (1)
41	63.82	126.76	Open To Flow (2)
96	196.89	141.35	Shut-In (2)
217	906.65	136.98	End Shut-In (2)
219	2318.66	135.99	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcw 95%w 5%m	0.61
124.00	mcw 90%w 10%m	1.22
174.00	wcm 40%w 60%m	2.44

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Mull Drilling Co

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**31-18s-45w Kiowa, CO**

**McBride-Michel A #1**

Job Ticket: 45323

**DST#: 6**

Test Start: 2012.01.27 @ 10:05:30

### GENERAL INFORMATION:

Formation: **Warsaw**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 11:54:55

Time Test Ended: 17:44:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 35

**Interval: 4862.00 ft (KB) To 4882.00 ft (KB) (TVD)**

Total Depth: 4882.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3915.00 ft (KB)

3904.00 ft (CF)

KB to GR/CF: 11.00 ft

**Serial #: 8356 Outside**

Press @ Run Depth: psig @ 4863.00 ft (KB)

Start Date: 2012.01.27

End Date:

2012.01.27

Start Time: 10:05:11

End Time:

17:44:20

Capacity: 8000.00 psig

Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

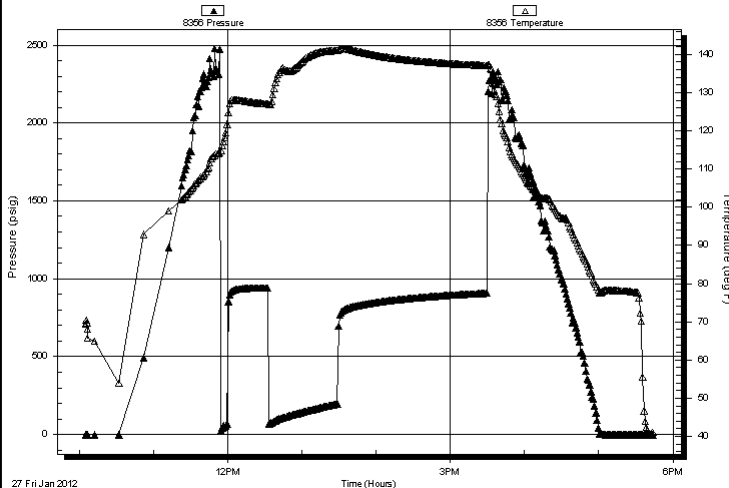
TEST COMMENT: IF: 1/4" blow built to 2 in 5 min.

IS: No return.

FF: BOB in 30 min.

FS: No return.

Pressure vs. Time



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcw 95%w 5%m	0.61
124.00	mcw 90%w 10%m	1.22
174.00	wcm 40%w 60%m	2.44

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 45323

**DST#: 6**

Test Start: 2012.01.27 @ 10:05:30

### Tool Information

Drill Pipe:	Length: 4659.00 ft	Diameter: 3.80 inches	Volume: 65.35 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: 25000.00 lb
Drill Collar:	Length: 181.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 85000.00 lb
		Total Volume: 66.24 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4862.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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

Stubb	1.00			4835.00	
Shut In Tool	5.00			4840.00	
Hydraulic tool	5.00			4845.00	
Jars	5.00			4850.00	
Safety Joint	3.00			4853.00	
Packer	5.00			4858.00	28.00 Bottom Of Top Packer
Packer	4.00			4862.00	
Stubb	1.00			4863.00	
Recorder	0.00	8373	Inside	4863.00	
Recorder	0.00	8356	Outside	4863.00	
Perforations	14.00			4877.00	
Bullnose	5.00			4882.00	20.00 Bottom Packers & Anchor

**Total Tool Length: 48.00**





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## DRILL STEM TEST REPORT

### FLUID SUMMARY

Mull Drilling Co

**31-18s-45w Kiowa, CO**

1700 Waterfront Pkwy  
Ste 1200  
Wichita, KS 67206  
ATTN: Phil Askey

**McBride-Michel A #1**

Job Ticket: 45323

**DST#: 6**

Test Start: 2012.01.27 @ 10:05:30

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 7.98 in<sup>3</sup>

Resistivity: 0.00 ohm.m

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

0 deg API

Water Salinity:

12000 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	mcw 95%w 5%m	0.610
124.00	mcw 90%w 10%m	1.220
174.00	wcm 40%w 60%m	2.441

Total Length: 422.00 ft

Total Volume: 4.271 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .93@47=12000

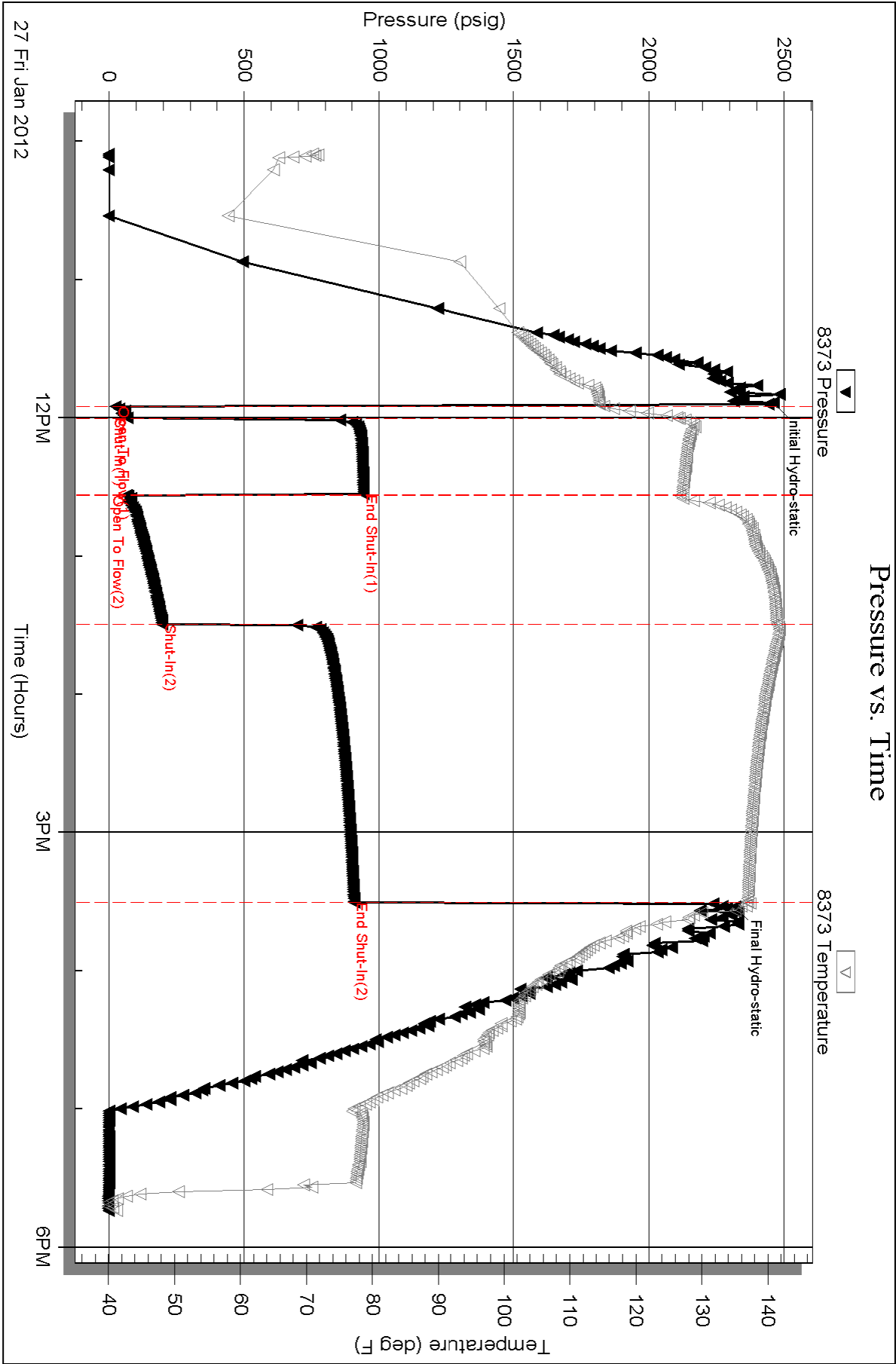
Serial #: 8373

Inside

Mull Drilling Co

McBride-Michel A #1

DST Test Number: 6

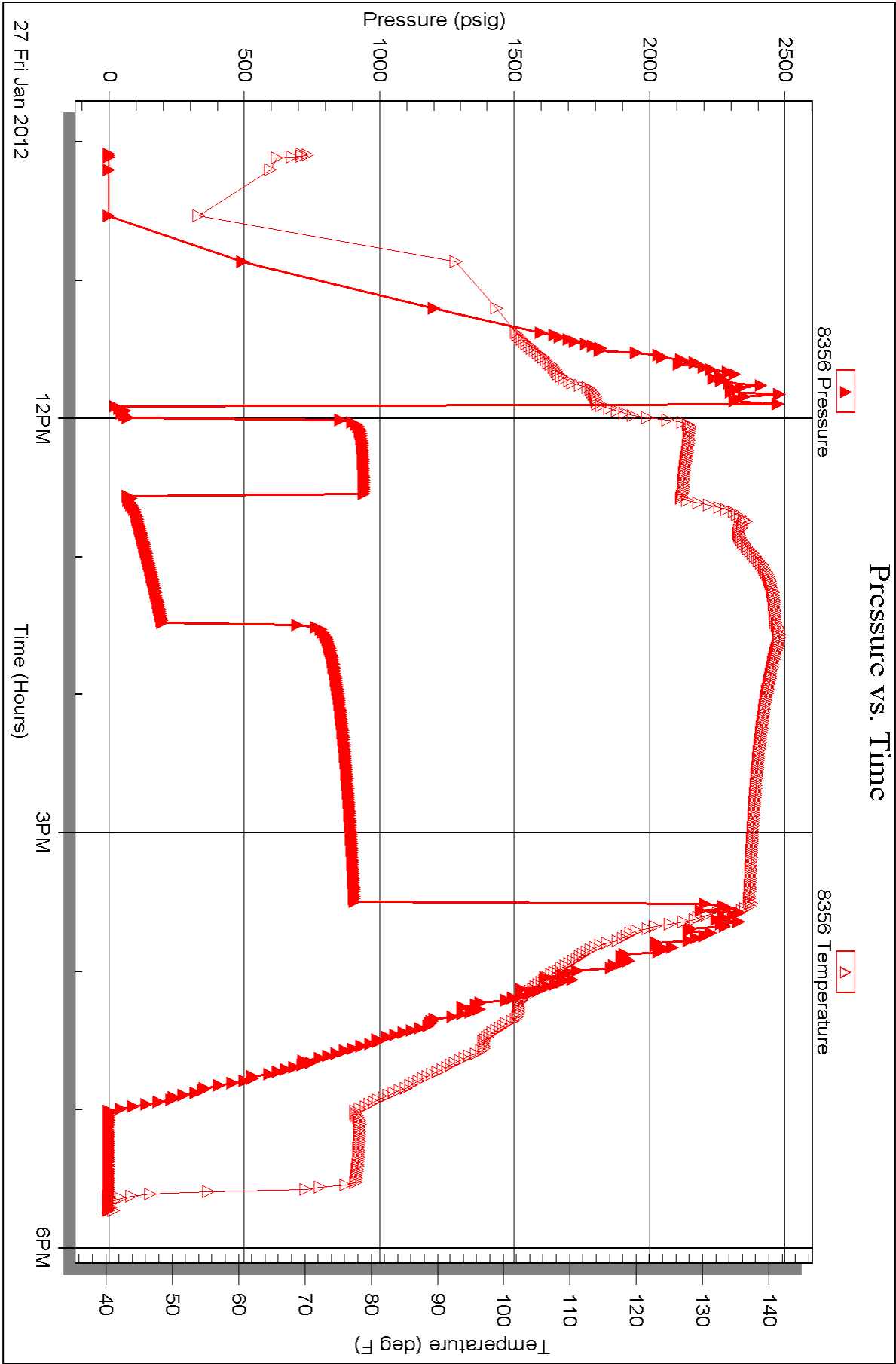


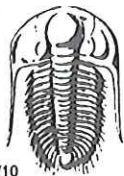
Serial #: 8356

Outside Mull Drilling Co

McBride-Michel A #1

DST Test Number: 6





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Test Ticket

NO. 44939

BY: \_\_\_\_\_

Well Name & No. McBride-Mitchell #1-31 Test No. #1 Date 1/20/12  
Company Mull Drilling Co Elevation 3915 KB 3904 GL  
Address Leitch, KS  
Co. Rep / Geo. Phil Askey Rig Mitchell #20  
Location: Sec. 31 Twp. 18.5 Rge. 4Bw Co. Krowe State Colo

Interval Tested 3842 3866 Zone Tested 5  
Anchor Length 24 Drill Pipe Run 3864 Mud Wt. 8.6  
Top Packer Depth 3842 3812 Drill Collars Run 181 Vis SS  
Bottom Packer Depth 3866 Wt. Pipe Run --- WL 5.6  
Total Depth 3904 Chlorides 5600 ppm System LCM #8  
Blow Description 1/4" blow  
no return  
Weak blow (Surface)  
no return

Rec	Feet of	%gas	%oil	%water	%mud
<u>600</u>	<u>new work spots</u>			<u>85</u>	<u>15</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 600 BHT 112° Gravity --- API RW 20.1 @ 50 °F Chlorides 37,000 ppm

(A) Initial Hydrostatic 1850  
(B) First Initial Flow 20  
(C) First Final Flow 25  
(D) Initial Shut-In 1022  
(E) Second Initial Flow 70  
(F) Second Final Flow 50  
(G) Final Shut-In 997  
(H) Final Hydrostatic 1823

☒ Test 1125  
☒ Jars 250  
☒ Safety Joint 75  
☒ Circ Sub n/c  
☐ Hourly Standby  
☒ Mileage 184 RT 257.60  
☐ Sampler  
☒ Straddle 600  
☒ Shale Packer 250  
☐ Extra Packer  
☐ Extra Recorder  
☐ Day Standby  
☐ Accessibility  
Sub Total 2557.60

T-On Location 2200  
T-Started 22:55  
T-Open 01:45  
T-Pulled 03:50  
T-Out 04:20  
Comments \_\_\_\_\_

Initial Open 5  
Initial Shut-In 30  
Final Flow 30  
Final Shut-In 600

☐ Ruined Shale Packer  
☒ Ruined Packer 320  
☐ Extra Copies  
Sub Total 320  
Total 2877.60  
MP/DST Disc't \_\_\_\_\_

Approved By Phil Askey

Our Representative [Signature]

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## Test Ticket

NO. 44940

Well Name & No. McBride-Wyche #1-31 Test No. #2 Date 1/21/12  
Company Mud Drilling Co Elevation 3915 KB 3904 GL  
Address Wichita, KS  
Co. Rep / Geo. Phil Wekey Rig Marford #20  
Location: Sec. 31 Twp. 18S Rge. 43W Co. Kiowa State Colo

Interval Tested 4000 4090 Zone Tested MAM - FA Scott  
Anchor Length 90 Drill Pipe Run 3813' Mud Wt. 8.6  
Top Packer Depth 3995 Drill Collars Run 181' X 14 Vis 56  
Bottom Packer Depth 4000 Wt. Pipe Run --- WL 5.4  
Total Depth 4090 Chlorides 5,700 ppm System LCM #0  
Blow Description 1/8" in blow  
No return  
Weak surface blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>			<u>100</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

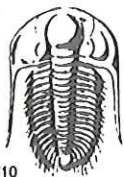
Rec Total 5' BHT 108° Gravity --- API RW --- @ --- F Chlorides --- ppm  
(A) Initial Hydrostatic 1970 ☒ Test 1225' T-On Location 08:00  
(B) First Initial Flow 23 ☒ Jars 250' T-Started 08:35  
(C) First Final Flow 23 ☒ Safety Joint 75' T-Open 11:00  
(D) Initial Shut-In 1137 ☒ Circ Sub N/C T-Pulled 13:05  
(E) Second Initial Flow 24 ☐ Hourly Standby T-Out 15:35  
(F) Second Final Flow 27 ☒ Mileage 184 RT 257.60 Comments ---  
(G) Final Shut-In 1078 ☐ Sampler ---  
(H) Final Hydrostatic 1835 ☐ Straddle --- ☐ Ruined Shale Packer ---  
☐ Shale Packer --- ☐ Ruined Packer ---  
☐ Extra Packer --- ☐ Extra Copies ---  
☐ Extra Recorder --- Sub Total 0  
☐ Day Standby --- Total 1807.60  
☐ Accessibility --- MP/DST Disc't ---

Initial Open 5  
Initial Shut-In 30  
Final Flow 30  
Final Shut-In 100

Approved By Phil Wekey Our Representative [Signature]

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JAN 30 2012

BY: \_\_\_\_\_

## Test Ticket

NO. 44941

Well Name & No. McBride - Michel #1-31 Test No. #3 Date 1/23/12  
Company Mill Drilling Co Inc Elevation 3915 KB 3914 GL  
Address Wichita, KS  
Co. Rep / Geo. Phil Ashby Rig Mudcat #20  
Location: Sec. 31 Twp. 18S Rge. 4W Co. Kansas State Colo

Interval Tested 4387 4432 Zone Tested Mormon Sand  
Anchor Length 45 Drill Pipe Run 4185' Mud Wt. 9.1  
Top Packer Depth 4382 Drill Collars Run 181' xH Vis 60  
Bottom Packer Depth 4387 Wt. Pipe Run 5500 WL 8.0  
Total Depth 4432 Chlorides 5500 ppm System LCM #8  
Blow Description B.O.B. 12 min

G.T.S. 2 min into section (no return)  
Gauging gas @ open  
no return

Rec	Feet of	%gas	%oil	%water	%mud
<u>180'</u>	<u>gassy mud</u>	<u>25</u>		<u>75</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>G.T.S. First Shut-in</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 180' BHT 121.0 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic	(B) First Initial Flow	(C) First Final Flow	(D) Initial Shut-In	(E) Second Initial Flow	(F) Second Final Flow	(G) Final Shut-In	(H) Final Hydrostatic
<u>2209</u>	<u>141</u>	<u>165</u>	<u>266</u>	<u>137</u>	<u>181</u>	<u>266</u>	<u>2109</u>

<input checked="" type="checkbox"/> Test	<input checked="" type="checkbox"/> Jars	<input checked="" type="checkbox"/> Safety Joint	<input checked="" type="checkbox"/> Circ Sub	<input type="checkbox"/> Hourly Standby	<input checked="" type="checkbox"/> Mileage	<input type="checkbox"/> Sampler	<input type="checkbox"/> Straddle	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Day Standby	<input type="checkbox"/> Accessibility
<u>1225'</u>	<u>250'</u>	<u>75'</u>	<u>N/A</u>		<u>184 RT 257.60</u>							

T-On Location 05:50  
T-Started 06:05  
T-Open 08:30  
T-Pulled 11:20  
T-Out 14:35  
Comments \_\_\_\_\_

Initial Open 5  
Initial Shut-In 30  
Final Flow 45  
Final Shut-In 90

Sub Total 1807.60

MP/DST Disc't \_\_\_\_\_

Approved By Phil Ashby Our Representative [Signature]

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## GAS VOLUME REPORT

WELL NAME AND NO.

DST NO

OPERATOR

1.54  
1-Flow

2<sup>nd</sup> Flow

Remarks:

Remarks: 1 sample sent to Caraway, Liberal, KS  
Bunt Bright Orange  
Gr. 5. Lured into 1st Shunt row.





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BY: \_\_\_\_\_

## Test Ticket

NO. 44942

Well Name & No. McBride Michel #131 Test No. #4 Date 1/25/12  
Company Mull Drilling Co Inc Elevation 3915 KB 3904 GL  
Address Wichita, KS  
Co. Rep / Geo. Phil Askey Rig Marked #20  
Location: Sec. 31 Twp. 18S Rge. 7SW Co. Kiowa State Colo

Interval Tested 4650 4740 Zone Tested MSS Spugen  
Anchor Length 90 Drill Pipe Run 4474' Mud Wt. 9.3  
Top Packer Depth 4645 Drill Collars Run 181' XH Vis 101  
Bottom Packer Depth 4650 Wt. Pipe Run 5600 WL B.°  
Total Depth 4740 Chlorides 5600 ppm System LCM #8

Blow Description B.O.B. in 3 1/2 min  
B.O.B. return blow in 10 min  
B.O.B. @ open G.T.S. in 25 min turned to gauge  
Bled off throughout

Rec	Feet of	%gas	%oil	%water	%mud
<u>65'</u>	<u>Grassy Mud</u>	<u>20%</u>			<u>80%</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 65' BHT 127° Gravity — API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic	(B) First Initial Flow	(C) First Final Flow	(D) Initial Shut-In	(E) Second Initial Flow	(F) Second Final Flow	(G) Final Shut-In	(H) Final Hydrostatic
<u>2380</u>	<u>147</u>	<u>54</u>	<u>1018</u>	<u>54</u>	<u>37</u>	<u>767</u>	<u>2288</u>

Test	Jars	Safety Joint	Circ Sub	Hourly Standby	Mileage	Sampler	Straddle	Shale Packer	Extra Packer	Extra Recorder	Day Standby	Accessibility
<u>1225'</u>			<u>n/c</u>		<u>184RT 257.60</u>						<u>1 day + 16 3/4 hrs</u>	

T-On Location	T-Started	T-Open	T-Pulled	T-Out	Comments
<u>07:10</u>	<u>07:50</u>	<u>10:05</u>	<u>13:40</u>	<u>16:30</u>	

Initial Open 5  
Initial Shut-In 30  
Final Flow 600  
Final Shut-In 120  
Sub Total 558.45  
Total 2041.05  
MP/DST Disc't —  
Sub Total 1482.60

Approved By

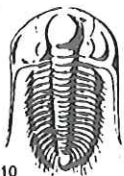
Phil Askey

Our Representative

[Signature]

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RECEIVED  
JAN 30 2012

BY: \_\_\_\_\_

## Test Ticket

NO. 44943

Well Name & No. McBride-Michel #1-31 Test No. #5 Date 1/26/12  
 Company Mull Drilling Co Inc Elevation 3915 KB 3904 GL  
 Address Wichita, KS  
 Co. Rep / Geo. Phil Askey Rig Marlow #20  
 Location: Sec. 31 Twp. 18S Rge. 43W Co. Krowa State Colo

Interval Tested 4740 4780 Zone Tested Miss. Spargan Warsaw  
 Anchor Length 40 Drill Pipe Run 456.3' Mud Wt. 9.3  
 Top Packer Depth 4735 Drill Collars Run 181' XH Vis 56  
 Bottom Packer Depth 4740 Wt. Pipe Run — WL 8.0  
 Total Depth 4780 Chlorides 5600 ppm System LCM #8  
 Blow Description Weak Surface blow  
No return  
Weak Surface blow died on 5min  
No return

Rec	1'	Feet of	Mud	%gas	%oil	%water	100	%mud
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

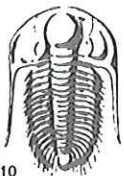
Rec Total 1' BHT 122° Gravity — API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic	<u>2394</u>	<input checked="" type="checkbox"/> Test	<u>1225'</u>	T-On Location	<u>06:10</u>
(B) First Initial Flow	<u>23</u>	<input checked="" type="checkbox"/> Jars	<u>250'</u>	T-Started	<u>06:35</u>
(C) First Final Flow	<u>22</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75'</u>	T-Open	<u>09:18</u>
(D) Initial Shut-In	<u>83</u>	<input checked="" type="checkbox"/> Circ Sub	<u>N/C</u>	T-Pulled	<u>11:23</u>
(E) Second Initial Flow	<u>24</u>	<input type="checkbox"/> Hourly Standby	<u>1 1/2 hrs 150'</u>	T-Out	<u>17:44</u> <u>11.5</u>
(F) Second Final Flow	<u>26</u>	<input checked="" type="checkbox"/> Mileage	<u>184.8</u> <u>257.60</u>	Comments	
(G) Final Shut-In	<u>32</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2303</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open	<u>5</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>30</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>30</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>60</u>	<input type="checkbox"/> Day Standby		Total	<u>1957.60</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1957.60</u>		

Approved By Phil Askey Our Representative [Signature]  
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RECEIVED  
JAN 30 2012

## Test Ticket

NO. 45323

Well Name & No. McBride-Michel #1 Test No. 5 Date 1-27-12  
 Company Mull Drilling Co. Elevation 3915 KB 3904 GL  
 Address Wichita, KS  
 Co. Rep / Geo. Phill Askey Rig Martin 20  
 Location: Sec. 31 Twp. 18S Rge. 45W Co. Kiowa State CO

Interval Tested 4862 4882 Zone Tested W4RS8W  
 Anchor Length 20 Drill Pipe Run 4659 Mud Wt. 9.3  
 Top Packer Depth 4857 Drill Collars Run 179 Vis 52  
 Bottom Packer Depth 4862 Wt. Pipe Run — WL 8.0  
 Total Depth 4882 Chlorides 4500 ppm System LCM 7

Blow Description IF: 1/4 blow built to 2 in 5 min.  
IS: No return.  
FF: BoB in 30 min.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>174</u>	<u>wcm</u>		<u>40</u>	<u>60</u>	
<u>124</u>	<u>mcw</u>		<u>90</u>	<u>10</u>	
<u>124</u>	<u>mcw</u>		<u>95</u>	<u>5</u>	

Rec Total 422 BHT 126 Gravity — API RW 93 @ 47 °F Chlorides 12,000 ppm

(A) Initial Hydrostatic <u>2461</u>	<input checked="" type="checkbox"/> Test <u>1225</u>	T-On Location <u>9:45</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>10:05</u>
(C) First Final Flow <u>70</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:54</u>
(D) Initial Shut-In <u>941</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>15:29</u>
(E) Second Initial Flow <u>63</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>17:45</u>
(F) Second Final Flow <u>196</u>	<input checked="" type="checkbox"/> Mileage <u>184 - 257.60</u>	Comments
(G) Final Shut-In <u>906</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2318</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer

Initial Open 5  
 Initial Shut-In 30  
 Final Flow 60  
 Final Shut-In 120

☐ Extra Packer  
☐ Extra Recorder  
☐ Day Standby  
☐ Accessibility

Sub Total 1807.60

Approved By Phil Askey Our Representative [Signature]  
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