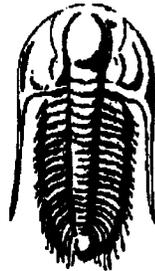


15-009-25368

5-18s-11w



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

Prepared For: **Samuel Gary Jr & Associates, Inc.**

1515 Wynkoop Ste. 700  
Denver, CO 80202

ATTN: Claton Camozzi

**5-18s-11w Barton KS**

**Stueder #1-5**

Start Date: 2009.12.10 @ 20:27:13

End Date: 2009.12.11 @ 04:40:07

Job Ticket #: 36621                      DST #: 1

**KCC**  
**MAR 18 2010**  
**CONFIDENTIAL**

**RECEIVED**  
**MAR 22 2010**  
**KCC WICHITA**

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

Samuel Gary Jr & Associates, Inc.

Stueder #1-5

5-18s-11w Barton KS

DST # 1

LKC "A-C"

2009.12.10



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18s-11w Barton KS**

Job Ticket: 36621

**DST#: 1**

ATTN: Claton Camozzi

Test Start: 2009.12.10 @ 20:27:13

## GENERAL INFORMATION:

Formation: **LKC "A-C"**

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

Time Tool Opened: **22:46:08**

Time Test Ended: **04:40:07**

Test Type: **Conventional Bottom Hole**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: **3022.00 ft (KB) To 3075.00 ft (KB) (TVD)**

Total Depth: **3075.00 ft (KB) (TVD)**

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

Reference Elevations: **1803.00 ft (KB)**

**1795.00 ft (CF)**

**KB to GR/CF: 8.00 ft**

**Serial #: 8371**

**Inside**

Press@RunDepth: **63.33 psig @ 3025.00 ft (KB)**

Start Date: **2009.12.10**

End Date: **2009.12.11**

Capacity: **8000.00 psig**

Last Calib.: **2009.12.11**

Start Time: **20:27:13**

End Time: **04:40:07**

Time On Btm: **2009.12.10 @ 22:44:08**

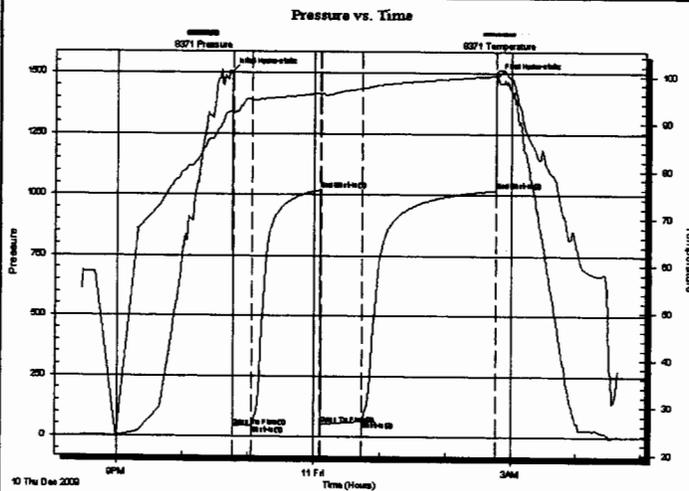
Time Off Btm: **2009.12.11 @ 02:47:07**

**TEST COMMENT: IFP - weak to fair blow 1/2" - 4"**

**ISI - no blow back**

**FFP - BOB 16 min**

**FSI - no blow back**



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1502.68	92.53	Initial Hydro-static
2	40.38	92.09	Open To Flow (1)
20	45.64	94.91	Shut-In (1)
82	1020.12	96.30	End Shut-In (1)
82	50.57	95.89	Open To Flow (2)
120	63.33	97.32	Shut-In (2)
242	1019.16	100.09	End Shut-In (2)
243	1486.19	101.18	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	mud w / O spts	0.91
0.00	90' GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18s-11w Barton KS**

Job Ticket: 36621

**DST#: 1**

ATTN: Claton Carozzi

Test Start: 2009.12.10 @ 20:27:13

**Tool Information**

Drill Pipe:	Length: 3015.00 ft	Diameter: 3.80 inches	Volume: 42.29 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 42.29 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3022.00 ft			Final 37000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3000.00	
Hydraulic tool	5.00			3005.00	
Jars	5.00			3010.00	
Safety Joint	2.00			3012.00	
Packer	5.00			3017.00	27.00 Bottom Of Top Packer
Packer	5.00			3022.00	
Stubb	1.00			3023.00	
Perforations	1.00			3024.00	
Change Over Sub	1.00			3025.00	
Recorder	0.00	8018	inside	3025.00	
Recorder	0.00	8371	inside	3025.00	
Blank Spacing	31.00			3056.00	
Change Over Sub	1.00			3057.00	
Perforations	15.00			3072.00	
Bullnose	3.00			3075.00	53.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>80.00</b>				



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18s-11w Barton KS**

Job Ticket: 36621      **DST#: 1**

ATTN: Claton Camozzi

Test Start: 2009.12.10 @ 20:27:13

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 42.00 sec/qt

Water Loss: 10.30 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 7500.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: ppm

deg API

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	mud w/ O spts	0.912
0.00	90' GIP	0.000

Total Length: 65.00 ft      Total Volume: 0.912 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

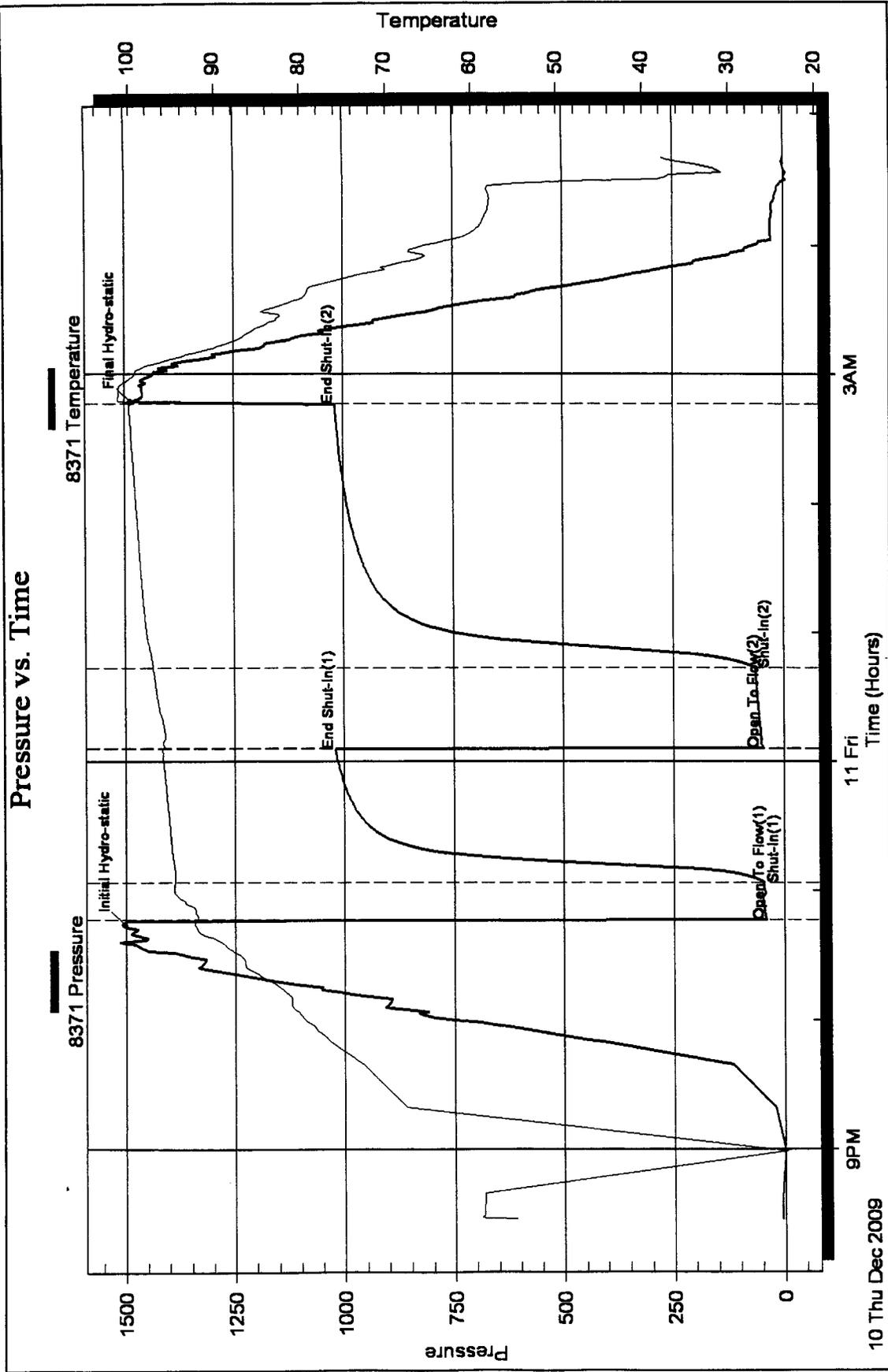
Serial #: 8371

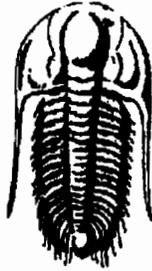
Inside

Samuel Gary Jr & Associates, Inc.

5-18s-11w Barton KS

DST Test Number: 1





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Associates, Inc.**

1515 Wynkoop Ste. 700  
Denver, CO 80202

ATTN: Claton Camozzi

**5-18s-11w Barton KS**

**Stueder #1-5**

Start Date: 2009.12.12 @ 17:00:27

End Date: 2009.12.12 @ 23:06:51

Job Ticket #: 36622                      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Samuel Gary Jr & Associates, Inc.

Stueder #1-5

5-18s-11w Barton KS

DST # 2

Arbuckle

2009.12.12



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Samuel Gary Jr & Associates, Inc.

1515 Wynkoop Ste. 700  
Denver, CO 80202

ATTN: Claton Carozzi

**Stueder #1-5**

**5-18s-11w Barton KS**

Job Ticket: 36622

DST#: 2

Test Start: 2009.12.12 @ 17:00:27

### GENERAL INFORMATION:

Formation: **Arbuckle**

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

Time Tool Opened: 18:43:52

Time Test Ended: 23:06:51

Test Type: **Conventional Bottom Hole**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: **3351.00 ft (KB) To 3367.00 ft (KB) (TVD)**

Total Depth: **3367.00 ft (KB) (TVD)**

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

Reference Elevations: **1803.00 ft (KB)**

**1795.00 ft (CF)**

KB to GR/CF: **8.00 ft**

Serial #: **8371**

**Inside**

Press@RunDepth: **694.00 psig @ 3354.00 ft (KB)**

Start Date: **2009.12.12**

End Date:

**2009.12.12**

Start Time: **17:00:27**

End Time:

**23:06:51**

Capacity: **8000.00 psig**

Last Calib.: **2009.12.12**

Time On Btm: **2009.12.12 @ 18:42:22**

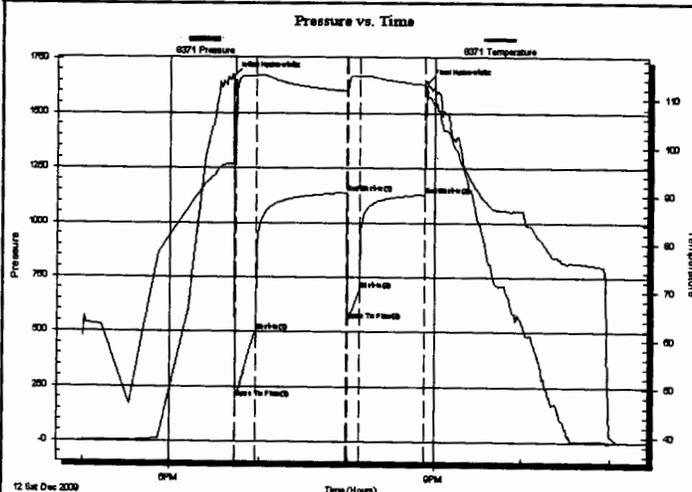
Time Off Btm: **2009.12.12 @ 20:54:22**

TEST COMMENT: **IFF - BOB 30 sec.**

**ISI - no blow back**

**FFP - BOB 45 sec.**

**FSI - no blow back**



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1670.66	96.62	Initial Hydro-static
2	197.99	100.61	Open To Flow (1)
15	502.01	114.84	Shut-In(1)
77	1138.84	111.75	End Shut-In(1)
77	551.79	111.38	Open To Flow (2)
86	694.00	114.73	Shut-In(2)
131	1130.90	113.10	End Shut-In(2)
132	1640.13	111.23	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
1300.00	MW 95%W, 5%M	18.24
175.00	WM 30%W, 70%M	2.45

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18s-11w Barton KS**

Job Ticket: 36622

**DST#: 2**

ATTN: Claton Carozzi

Test Start: 2009.12.12 @ 17:00:27

### Tool Information

Drill Pipe:	Length: 3357.00 ft	Diameter: 3.80 inches	Volume: 47.09 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: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.09 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3351.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	43.00 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			3329.00	
Hydraulic tool	5.00			3334.00	
Jars	5.00			3339.00	
Safety Joint	2.00			3341.00	
Packer	5.00			3346.00	27.00 Bottom Of Top Packer
Packer	5.00			3351.00	
Stubb	1.00			3352.00	
Perforations	2.00			3354.00	
Recorder	0.00	8018	Inside	3354.00	
Recorder	0.00	8371	Inside	3354.00	
Perforations	10.00			3364.00	
Bullnose	3.00			3367.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 43.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18-11w Barton KS**

Job Ticket: 36622

**DST#: 2**

ATTN: Claton Carozzi

Test Start: 2009.12.12 @ 17:00:27

## 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:

29000 ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.92 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1300.00	MW 95%W, 5%M	18.236
175.00	WM 30%W, 70%M	2.455

Total Length: 1475.00 ft      Total Volume: 20.691 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .653 @ 23F = 29000 chlorides

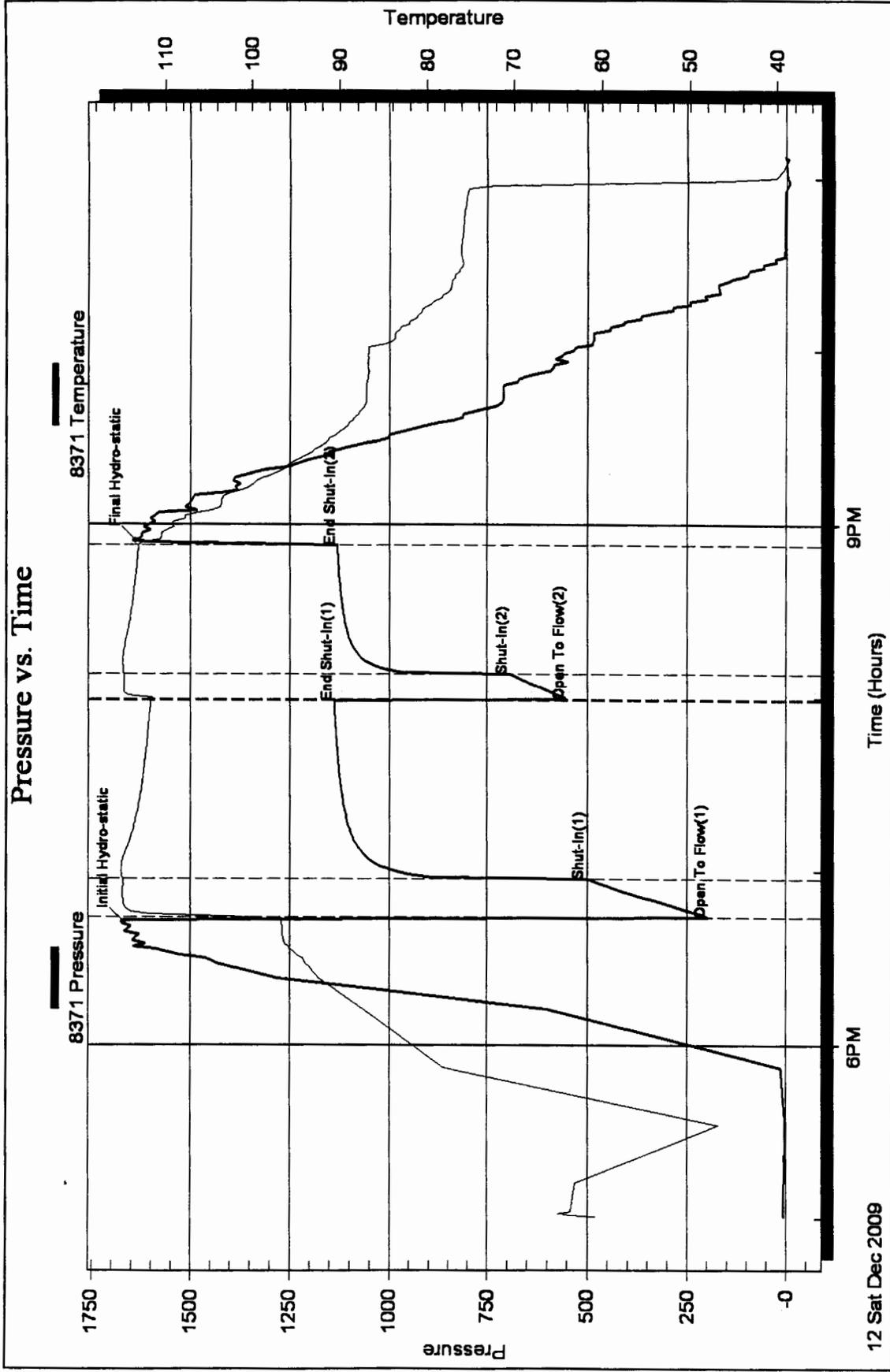
Serial #: 8371

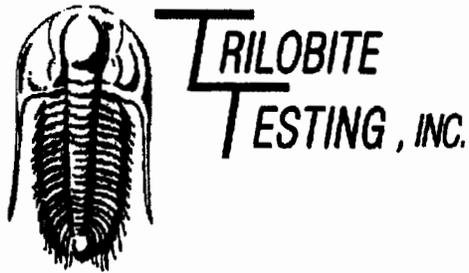
Inside

Samuel Gary Jr & Associates, Inc.

5-18s-11w Barton KS

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Associates, Inc.**

1515 Wynkoop Ste. 700  
Denver, CO 80202

ATTN: Claton Camozzi

**5-18s-11w Barton KS**

**Stueder #1-5**

Start Date: 2009.12.13 @ 14:48:26

End Date: 2009.12.13 @ 22:37:50

Job Ticket #: 36623                      DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Samuel Gary Jr & Associates, Inc.

1515 Wynkoop Ste. 700  
Denver, CO 80202

ATTN: Claton Camozzi

**Stueder #1-5**

**5-18s-11w Barton KS**

Job Ticket: 36623

DST#: 3

Test Start: 2009.12.13 @ 14:48:26

### GENERAL INFORMATION:

Formation: **Arbuckle (2)**

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

Time Tool Opened: 16:13:51

Time Test Ended: 22:37:50

Test Type: **Conventional Straddle**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: **3355.00 ft (KB) To 3366.00 ft (KB) (TVD)**

Total Depth: **3475.00 ft (KB) (TVD)**

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

Reference Elevations: **1803.00 ft (KB)**

**1795.00 ft (CF)**

KB to GR/CF: **8.00 ft**

**Serial #: 8371 Below (Straddle)**

Press@RunDepth: **68.43 psig @ 3377.00 ft (KB)**

Start Date: **2009.12.13**

End Date:

**2009.12.13**

Start Time: **14:48:26**

End Time:

**22:37:50**

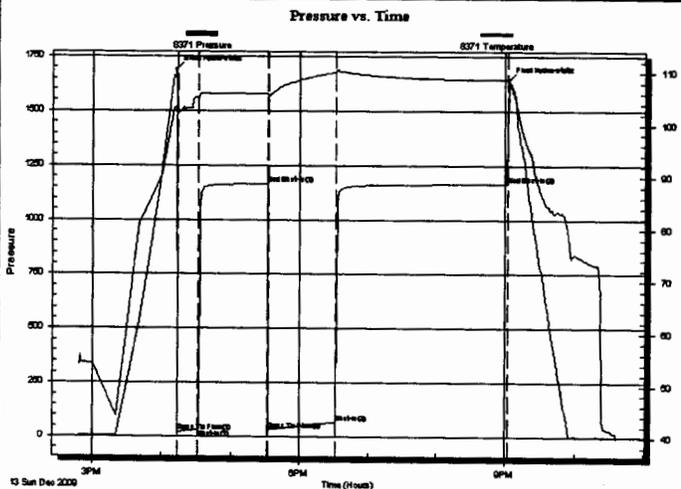
Capacity: **8000.00 psig**

Last Calib.: **2009.12.13**

Time On Btm: **2009.12.13 @ 16:12:21**

Time Off Btm: **2009.12.13 @ 21:03:20**

**TEST COMMENT:** IFF - weak to fair blow 1/4" - 4"  
ISI - no blow back  
FFP - BOB 59 min  
FSI - no blow back



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1688.09	103.32	Initial Hydro-static
2	22.35	102.67	Open To Flow (1)
19	31.48	105.29	Shut-In(1)
80	1164.07	105.87	End Shut-In(1)
81	33.09	105.42	Open To Flow (2)
139	68.43	110.07	Shut-In(2)
290	1163.98	108.69	End Shut-In(2)
291	1640.61	107.20	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW 90%W, 10%M	0.84
44.00	MW 70%W, 30%M	0.62
1.00	MW w/ SCJMO 60%W, 40%M	0.01

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18s-11w Barton KS**

Job Ticket: 36623

**DST#:3**

ATTN: Claton Carozzi

Test Start: 2009.12.13 @ 14:48:26

### Tool Information

Drill Pipe:	Length: 3366.00 ft	Diameter: 3.80 inches	Volume: 47.22 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: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.22 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3355.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	3366.00 ft			
Interval between Packers:	11.00 ft			
Tool Length:	145.00 ft			
Number of Packers:	4	Diameter:	6.75 inches	
Tool Comments:				
Tool slid 2' to bottom				

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3340.00	
Hydraulic tool	5.00			3345.00	
Packer	5.00			3350.00	20.00 Bottom Of Top Packer
Packer	5.00			3355.00	
Stubb	1.00			3356.00	
Recorder	0.00	8018	Inside	3356.00	
Perforations	5.00			3361.00	
Blank Off Sub	1.00			3362.00	
Blank Spacing	4.00			3366.00	
Packer	5.00			3371.00	11.00 Tool Interval
Packer	5.00			3376.00	
Stubb	1.00			3377.00	
Recorder	0.00	8371	Below	3377.00	
Perforations	9.00			3386.00	
Change Over Sub	1.00			3387.00	
Blank Spacing	93.00			3480.00	114.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>145.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Associates, Inc.

**Stueder #1-5**

1515 Wynkoop Ste. 700  
Denver, CO 80202

**5-18s-11w Barton KS**

Job Ticket: 36623

**DST#: 3**

ATTN: Claton Carozzi

Test Start: 2009.12.13 @ 14:48:26

## 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:

29000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.14 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7300.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MW 90%W, 10%M	0.842
44.00	MW 70%W, 30%M	0.617
1.00	MW w/ SCUMO 60%W, 40%M	0.014

Total Length: 105.00 ft

Total Volume:

1.473 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .527 @ 32F = 29000 chlorides

Serial #: 8371

Below (Stratton) Gary Jr. & Associates, Inc.

5-18s-11w Barton KS

DST Test Number: 3

