



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E 22nd St. N #700  
Wichita, KS 67278

ATTN: Adam Eldani

### **Shuler 17B #1**

#### **17-6s-29w Sheridan,KS**

Start Date: 2015.08.28 @ 02:23:00

End Date: 2015.08.28 @ 09:03:00

Job Ticket #: 65216                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.09.03 @ 09:16:00



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65216

**DST#: 1**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 02:23:00

## GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:22:50

Time Test Ended: 09:03:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 3895.00 ft (KB) To 3937.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 3937.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8653 Outside**

Press@RunDepth: 126.64 psig @ 3896.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.28

End Date:

2015.08.28

Last Calib.:

2015.08.28

Start Time: 02:24:00

End Time:

09:03:00

Time On Btm:

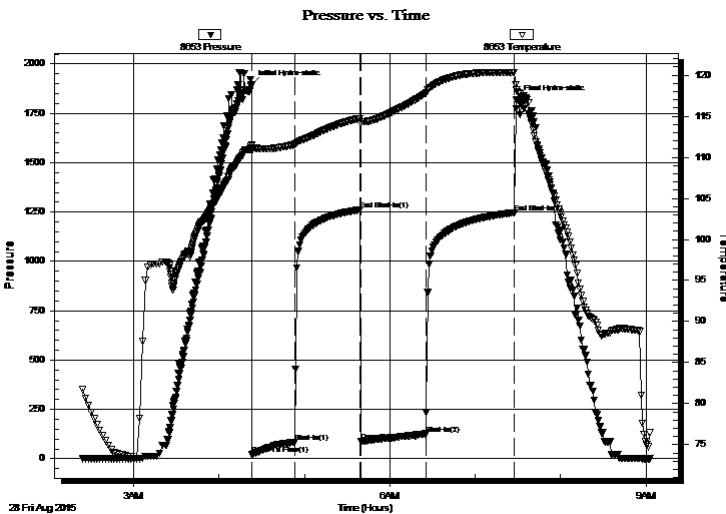
2015.08.28 @ 04:22:40

Time Off Btm:

2015.08.28 @ 07:29:00

**TEST COMMENT:** 30 - IF- 1/8" Blow built to 7 1/4"  
45 - IS- No Return  
45 - FF- Surface Blow stated at 2 min. Built to 7 1/2"  
60 - FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1894.56	111.46	Initial Hydro-static
1	22.11	110.74	Open To Flow (1)
31	84.51	111.55	Shut-In(1)
76	1260.98	114.74	End Shut-In(1)
77	89.99	114.12	Open To Flow (2)
123	126.64	117.77	Shut-In(2)
185	1247.46	120.33	End Shut-In(2)
187	1820.64	118.19	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
121.00	OSMW 30M 70W (oil spots)	0.60
63.00	OSMW 50M 50W (oil spots)	0.88
58.00	OSWM 40W 60M (oil spots)	0.81

## Gas Rates

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



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# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N#700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65216

**DST#: 1**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 02:23:00

**GENERAL INFORMATION:**

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:22:50

Time Test Ended: 09:03:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 3895.00 ft (KB) To 3937.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 3937.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8520 Inside**

Press@RunDepth: psig @ 3896.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.28 End Date: 2015.08.28

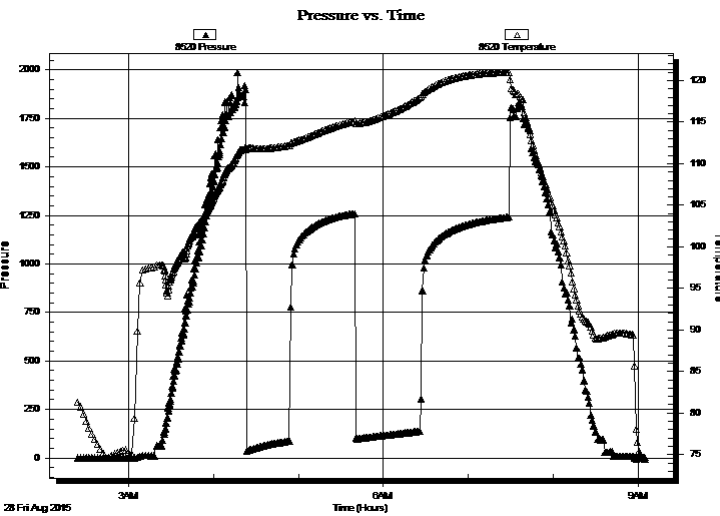
Last Calib.: 2015.08.28

Start Time: 02:24:00 End Time: 09:04:30

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30 - IF- 1/8" Blow built to 7 1/4"  
45 - ISI- No Return  
45 - FF- Surface Blow stated at 2 min. Built to 7 1/2"  
60 - FSI- No Return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
121.00	OSMW 30M 70W (oil spots)	0.60
63.00	OSMW 50M 50W (oil spots)	0.88
58.00	OSWM 40W 60M (oil spots)	0.81

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N#700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65216

**DST#: 1**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 02:23:00

## Tool Information

Drill Pipe:	Length: 3752.00 ft	Diameter: 3.80 inches	Volume: 52.63 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 53.23 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3895.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3868.00	
Shut In Tool	5.00			3873.00	
Hydraulic tool	5.00			3878.00	
Jars	5.00			3883.00	
Safety Joint	3.00			3886.00	
Packer	5.00			3891.00	28.00 Bottom Of Top Packer
Packer	4.00			3895.00	
Stubb	1.00			3896.00	
Recorder	0.00	8653	Outside	3896.00	
Recorder	0.00	8520	Inside	3896.00	
Perforations	3.00			3899.00	
Change Over Sub	1.00			3900.00	
Drill Pipe	31.00			3931.00	
Change Over Sub	1.00			3932.00	
Bullnose	5.00			3937.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65216

**DST#: 1**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 02:23:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
121.00	OSMW 30M 70W (oil spots)	0.595
63.00	OSMW 50M 50W (oil spots)	0.884
58.00	OSWM 40W 60M (oil spots)	0.814

Total Length: 242.00 ft      Total Volume: 2.293 bbl

Num Fluid Samples: 0

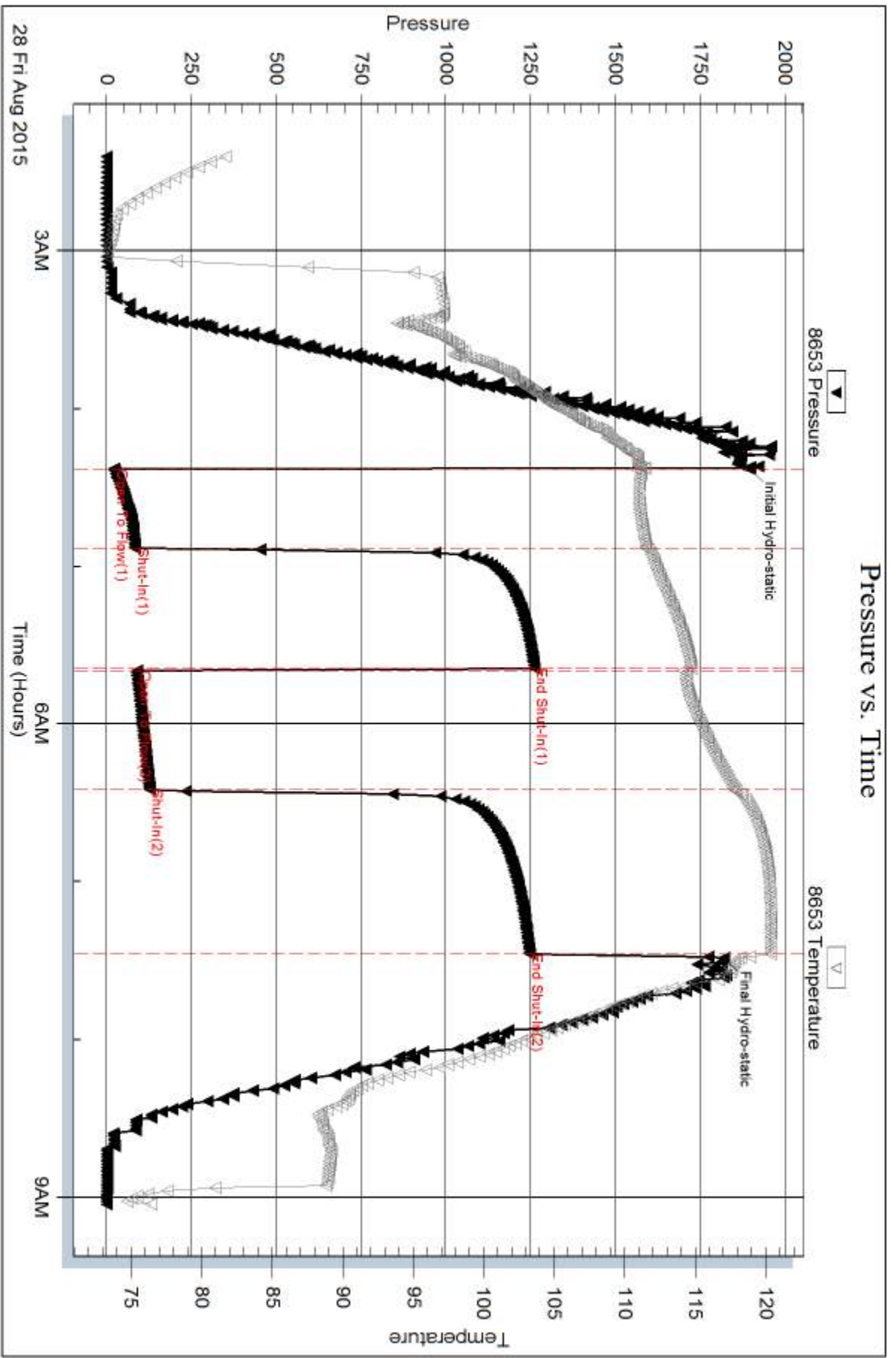
Num Gas Bombs: 0

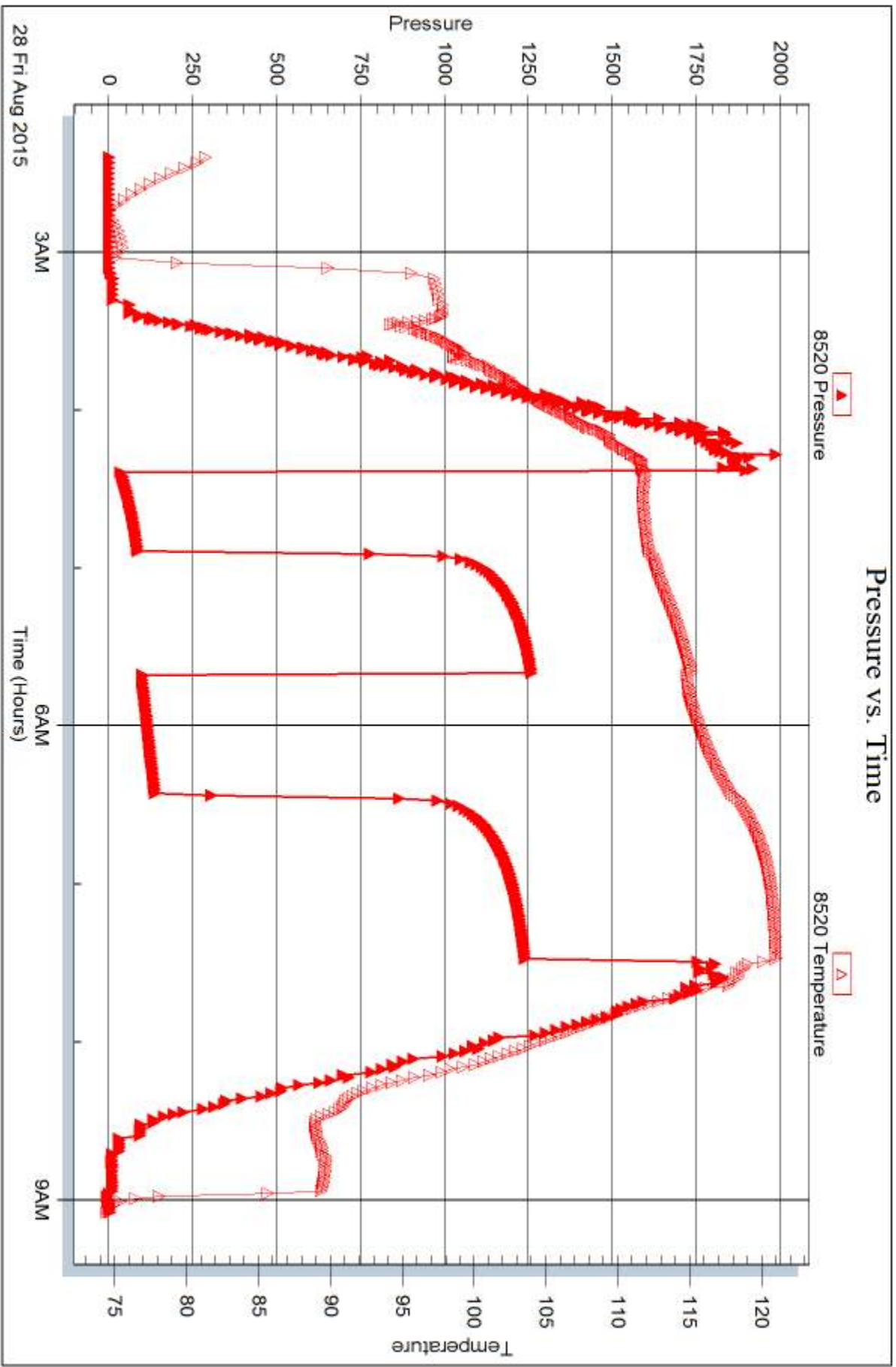
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .25 @ 68 deg = 30,000ppm







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E 22nd St. N #700  
Wichita, KS 67278

ATTN: Adam Eldani

### **Shuler 17B #1**

#### **17-6s-29w Sheridan,KS**

Start Date: 2015.08.28 @ 17:45:00

End Date: 2015.08.29 @ 01:19:00

Job Ticket #: 65217                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.09.03 @ 08:40:59

Ritchie Exploration, Inc.  
17-6s-29w Sheridan,KS  
Shuler 17B #1  
DST # 2  
LKC "A-B"  
2015.08.28





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 2**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 17:45:00

## GENERAL INFORMATION:

Formation: **LKC "A-B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:38:10

Time Test Ended: 01:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 3951.00 ft (KB) To 3977.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 3977.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8653 Outside**

Press@RunDepth: 906.76 psig @ 3952.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.28

End Date:

2015.08.29

Last Calib.:

2015.08.29

Start Time: 17:46:00

End Time:

01:19:00

Time On Btm:

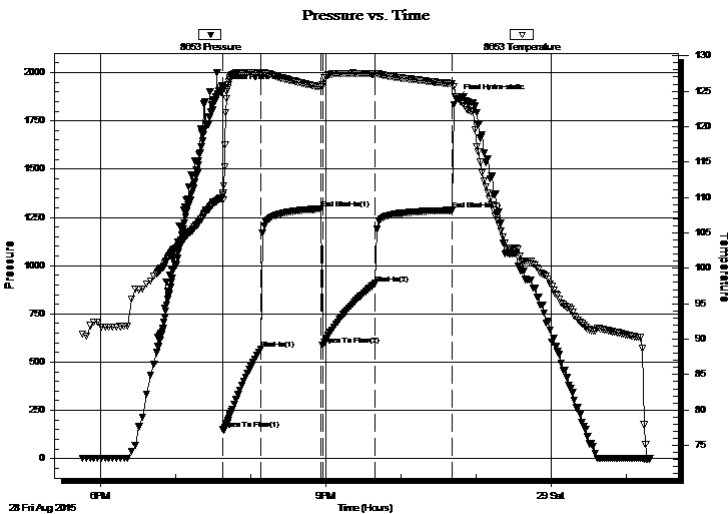
2015.08.28 @ 19:38:00

Time Off Btm:

2015.08.28 @ 22:44:30

**TEST COMMENT:** 30 - IF- BoB 1 1/2 min.  
45 - IS- No Return  
45 - FF- BoB in 3 min.  
60 - FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1915.74	110.61	Initial Hydro-static
1	152.91	109.67	Open To Flow (1)
30	566.74	127.57	Shut-In(1)
78	1294.14	125.56	End Shut-In(1)
80	588.75	125.83	Open To Flow (2)
122	906.76	127.42	Shut-In(2)
183	1286.90	126.04	End Shut-In(2)
187	1865.82	124.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
688.00	OSMW 5M 95W (oil spots)	8.55
693.00	OCMW 10o 5M 85W	9.72
315.00	OCMW 10o 10M 80W	4.42
297.00	OCMW 20o 40M 40W	4.17
10.00	Free Oil 100o	0.14

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 2**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 17:45:00

## Tool Information

Drill Pipe:	Length: 3815.00 ft	Diameter: 3.80 inches	Volume: 53.51 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 54.11 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	3951.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3924.00	
Shut In Tool	5.00			3929.00	
Hydraulic tool	5.00			3934.00	
Jars	5.00			3939.00	
Safety Joint	3.00			3942.00	
Packer	5.00			3947.00	28.00 Bottom Of Top Packer
Packer	4.00			3951.00	
Stubb	1.00			3952.00	
Recorder	0.00	8653	Outside	3952.00	
Recorder	0.00	8520	Inside	3952.00	
Perforations	20.00			3972.00	
Bullnose	5.00			3977.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 2**

ATTN: Adam Eldani

Test Start: 2015.08.28 @ 17:45:00

## 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:

42000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
688.00	OSMW 5M 95W (oil spots)	8.549
693.00	OCMW 10o 5M 85W	9.721
315.00	OCMW 10o 10M 80W	4.419
297.00	OCMW 20o 40M 40W	4.166
10.00	Free Oil 100o	0.140

Total Length: 2003.00 ft      Total Volume: 26.995 bbl

Num Fluid Samples: 0

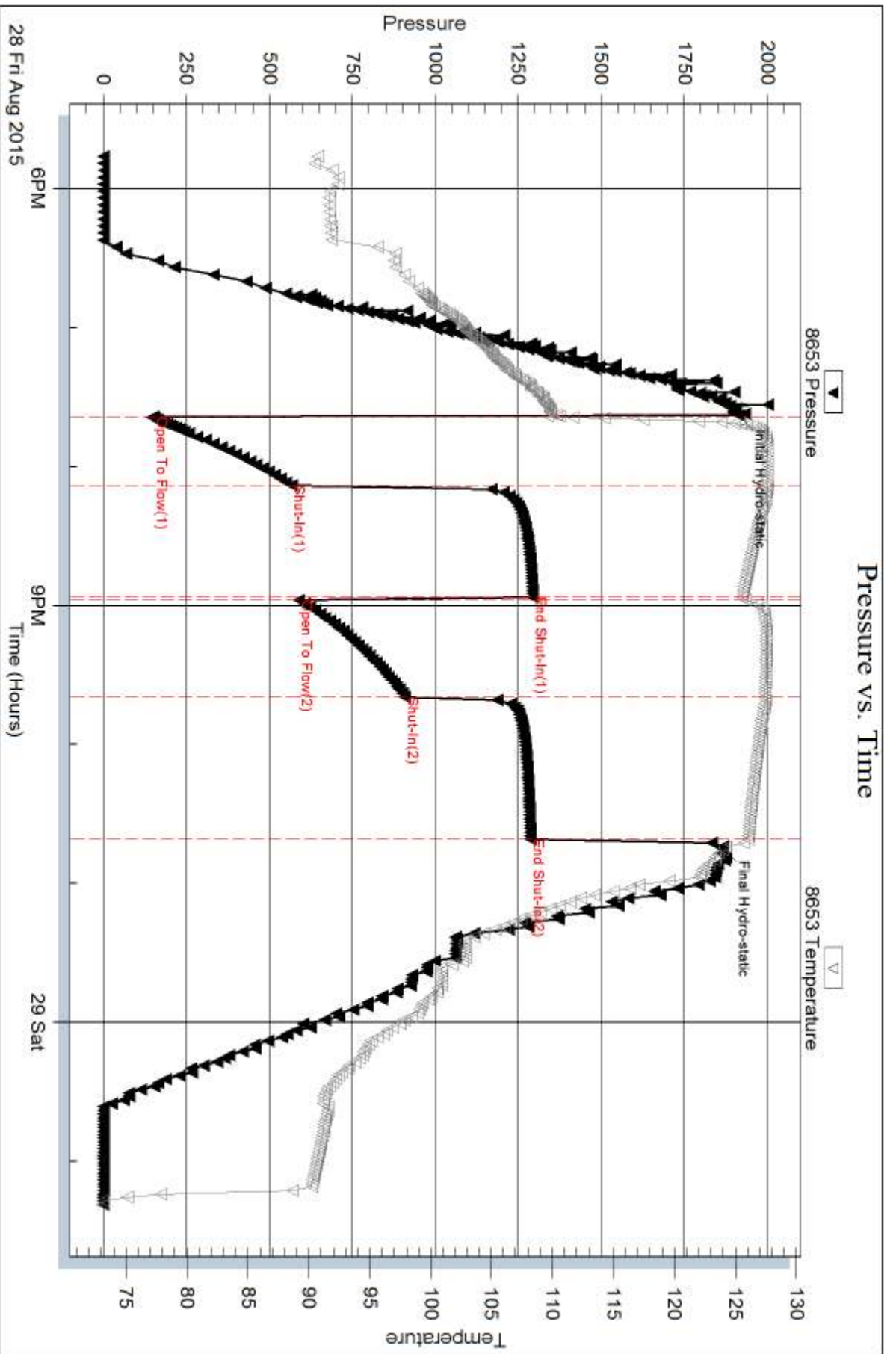
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .18 @ 70 deg = 42000ppm



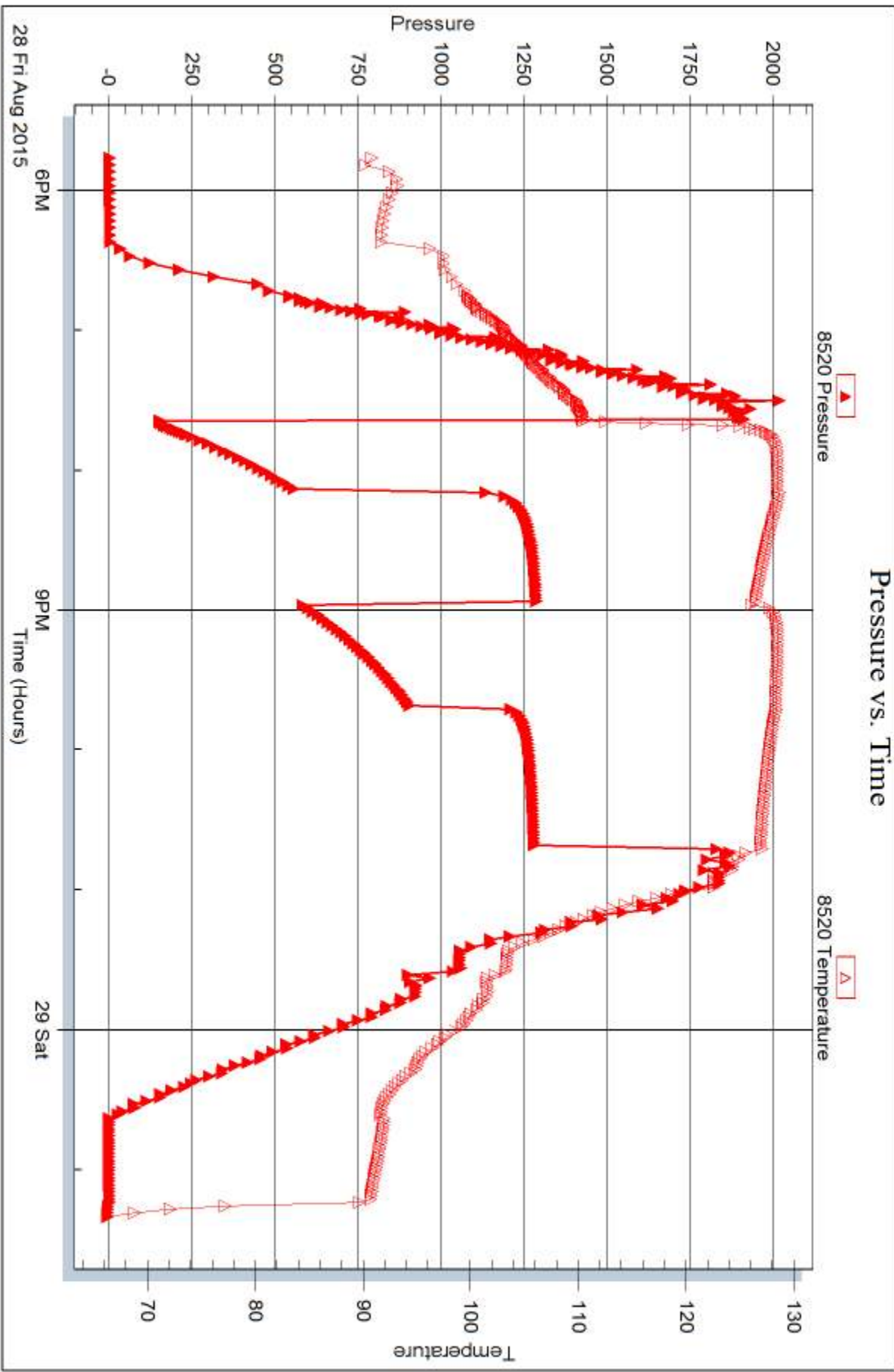
Serial #: 8520

Inside

Ritchie Exploration, Inc.

Shuler 17B #1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 65217

Printed: 2015.09.03 @ 08:41:01



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E 22nd St. N #700  
Wichita, KS 67278

ATTN: Adam Eldani

### **Shuler 17B #1**

#### **17-6s-29w Sheridan,KS**

Start Date: 2015.08.29 @ 07:50:00

End Date: 2015.08.29 @ 13:58:30

Job Ticket #: 65217                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.09.03 @ 08:40:15

Ritchie Exploration, Inc.  
17-6s-29w Sheridan,KS  
Shuler 17B #1  
DST # 3  
LKC "B"  
2015.08.29



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 3**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 07:50:00

## GENERAL INFORMATION:

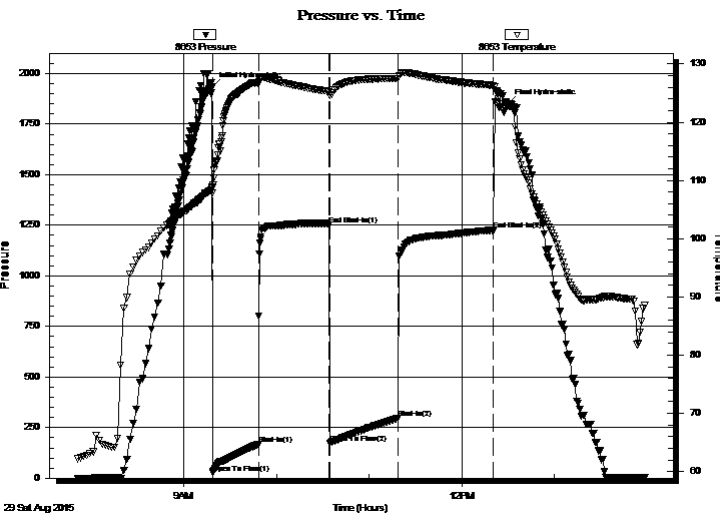
Formation: **LKC "B"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 09:18:30  
 Tester: Kevin Mack  
 Time Test Ended: 13:58:30  
 Unit No: 82  
**Interval: 3975.00 ft (KB) To 3988.00 ft (KB) (TVD)**  
 Reference Elevations: 2850.00 ft (KB)  
 Total Depth: 3988.00 ft (KB) (TVD)  
 2847.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 3.00 ft

## Serial #: 8653

**Outside**

Press@RunDepth: 295.64 psig @ 3976.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.08.29 End Date: 2015.08.29 Last Calib.: 2015.08.29  
 Start Time: 07:51:00 End Time: 13:58:30 Time On Btm: 2015.08.29 @ 09:18:20  
 Time Off Btm: 2015.08.29 @ 12:30:00

**TEST COMMENT:** 30 - IF- BoB in 9 min  
 45 - IS- Weak Surface Return started at 20 min. did not build or die  
 45 - FF- BoB in 14 min  
 60 - FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1936.25	108.92	Initial Hydro-static
1	25.28	107.90	Open To Flow (1)
30	167.91	126.64	Shut-In(1)
76	1252.67	125.27	End Shut-In(1)
77	173.78	124.58	Open To Flow (2)
121	295.64	127.52	Shut-In(2)
183	1225.16	126.27	End Shut-In(2)
192	1850.91	122.80	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
310.00	OSMW 5M 95W (oil spots)	3.25
189.00	OCMW 5o 10M 85W	2.65
63.00	OCMW 50 20M 75W	0.88
63.00	OCMW 10o 45M 45W	0.88
2.00	Free Oil 100o	0.03

## Gas Rates

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





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TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E22nd St. N#700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 3**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 07:50:00

## GENERAL INFORMATION:

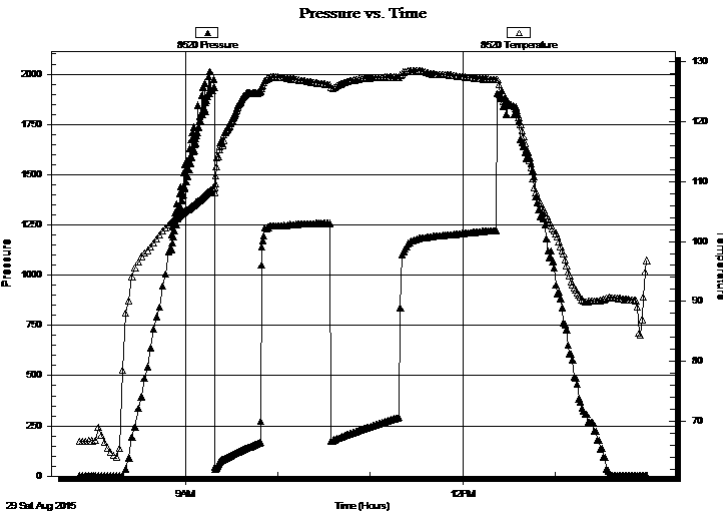
Formation: **LKC "B"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:18:30  
 Time Test Ended: 13:58:30  
 Interval: **3975.00 ft (KB) To 3988.00 ft (KB) (TVD)**  
 Total Depth: 3988.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Kevin Mack  
 Unit No: 82  
 Reference Elevations: 2850.00 ft (KB)  
 2847.00 ft (CF)  
 KB to GR/CF: 3.00 ft

## Serial #: 8520

Inside

Press@RunDepth: psig @ 3976.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2015.08.29 End Date: 2015.08.29 Last Calib.: 2015.08.29  
 Start Time: 07:51:00 End Time: 14:00:00 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30 - IF- BoB in 9 min  
 45 - ISI- Weak Surface Return started at 20 min. did not build or die  
 45 - FF- BoB in 14 min  
 60 - FSI- No Return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
310.00	OSMW 5M 95W (oil spots)	3.25
189.00	OCMW 5o 10M 85W	2.65
63.00	OCMW 50 20M 75W	0.88
63.00	OCMW 10o 45M 45W	0.88
2.00	Free Oil 100o	0.03

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 3**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 07:50:00

## Tool Information

Drill Pipe:	Length: 3846.00 ft	Diameter: 3.80 inches	Volume: 53.95 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 54.55 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3975.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	13.00 ft			
Tool Length:	41.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3948.00	
Shut In Tool	5.00			3953.00	
Hydraulic tool	5.00			3958.00	
Jars	5.00			3963.00	
Safety Joint	3.00			3966.00	
Packer	5.00			3971.00	28.00 Bottom Of Top Packer
Packer	4.00			3975.00	
Stubb	1.00			3976.00	
Recorder	0.00	8653	Outside	3976.00	
Recorder	0.00	8520	Inside	3976.00	
Perforations	7.00			3983.00	
Bullnose	5.00			3988.00	13.00 Bottom Packers & Anchor

**Total Tool Length: 41.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65217

**DST#: 3**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 07:50:00

## 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:

45000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
310.00	OSMW 5M 95W (oil spots)	3.246
189.00	OCMW 5o 10M 85W	2.651
63.00	OCMW 50 20M 75W	0.884
63.00	OCMW 10o 45M 45W	0.884
2.00	Free Oil 100o	0.028

Total Length: 627.00 ft      Total Volume: 7.693 bbl

Num Fluid Samples: 0

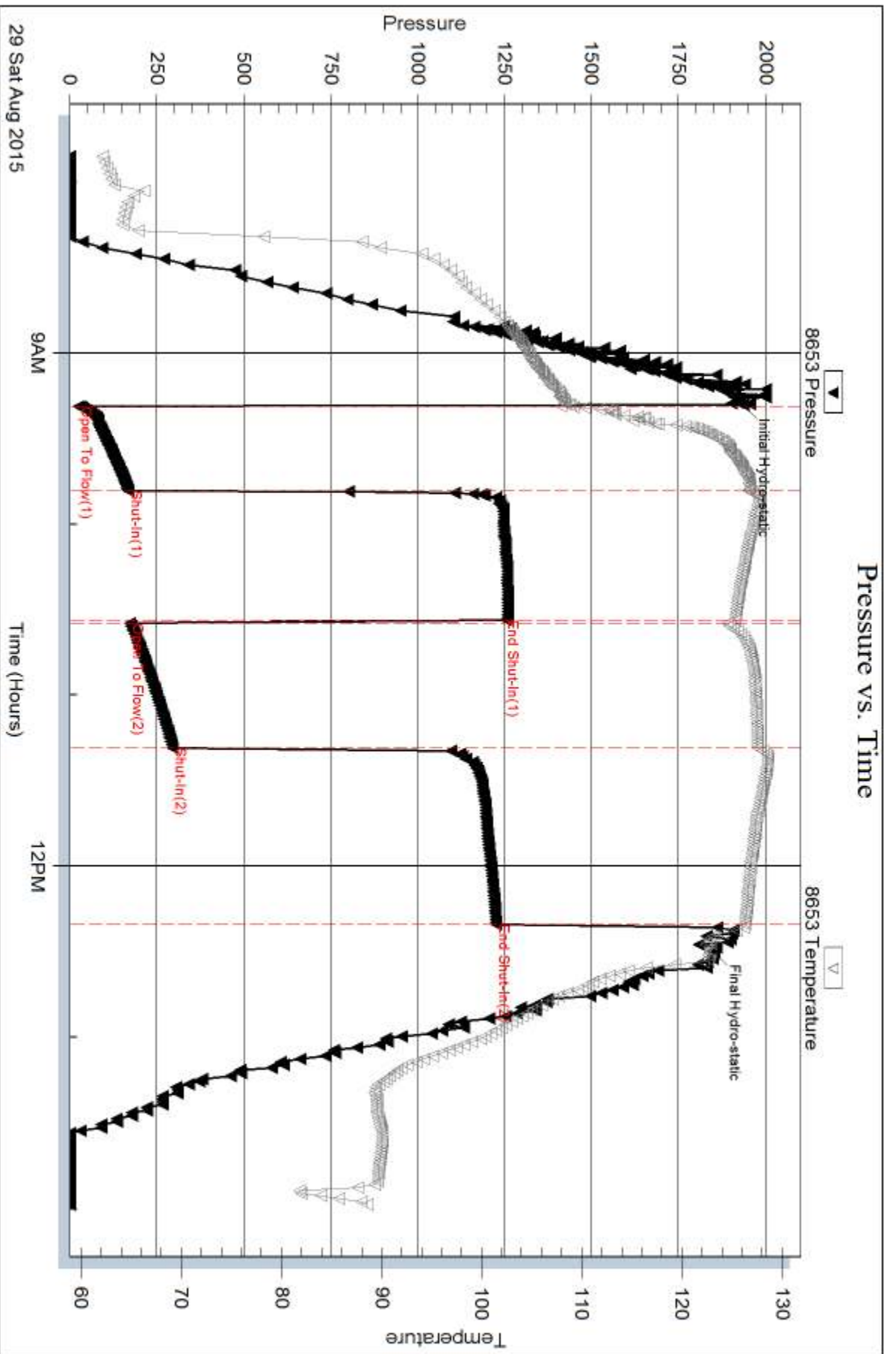
Num Gas Bombs: 0

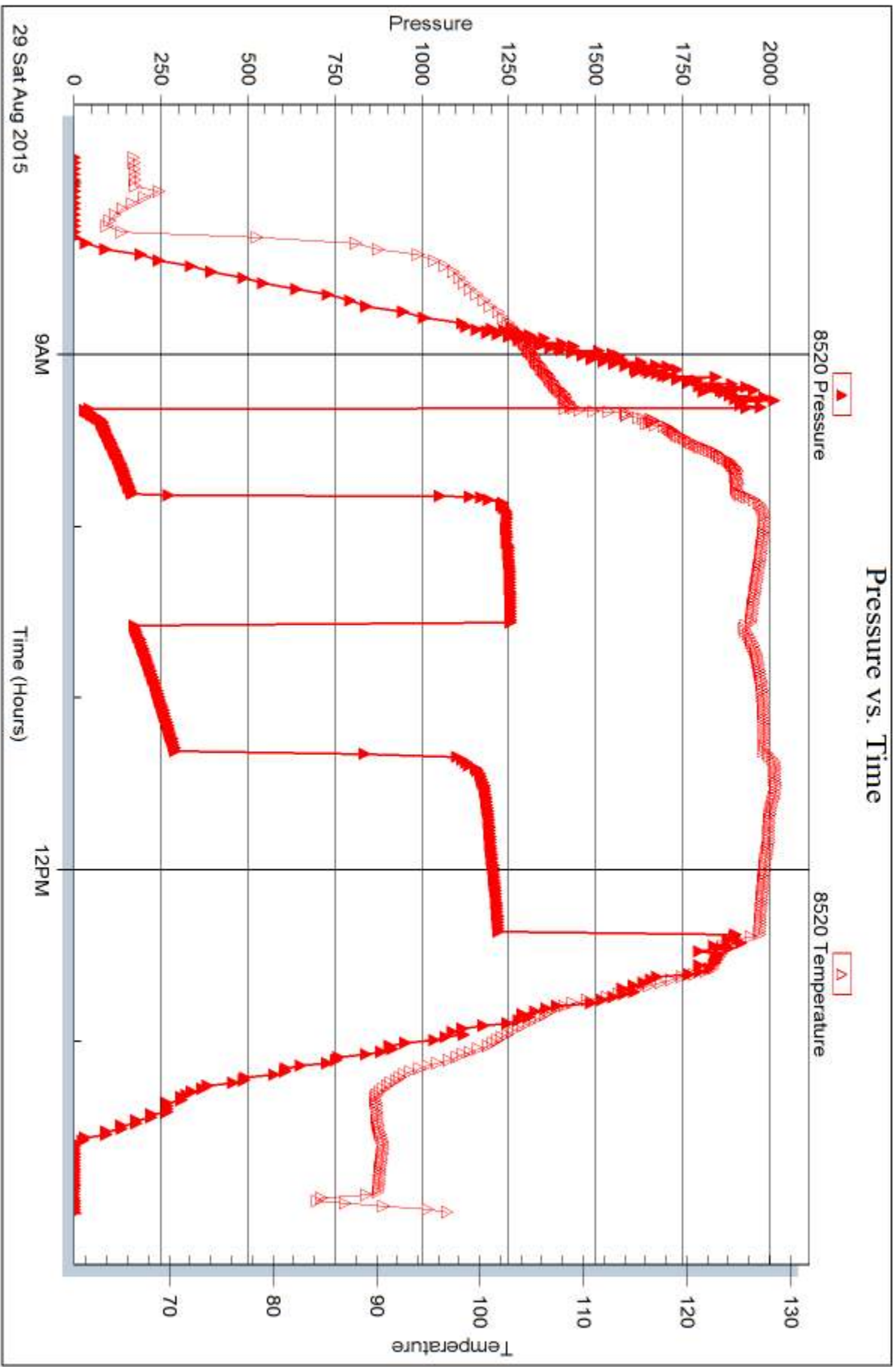
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .15 @ 87 = 45000ppm







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E 22nd St. N #700  
Wichita, KS 67278

ATTN: Adam Eldani

### **Shuler 17B #1**

#### **17-6s-29w Sheridan,KS**

Start Date: 2015.08.29 @ 22:09:00

End Date: 2015.08.30 @ 04:21:00

Job Ticket #: 65219                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.09.03 @ 08:39:49

Ritchie Exploration, Inc.  
17-6s-29w Sheridan,KS  
Shuler 17B #1  
DST # 4  
LKC "E-F"  
2015.08.29



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65219

**DST#: 4**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 22:09:00

## GENERAL INFORMATION:

Formation: **LKC "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:51:00

Time Test Ended: 04:21:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 3992.00 ft (KB) To 4020.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 4020.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8653**

**Outside**

Press@RunDepth: 47.45 psig @ 3993.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.29

End Date:

2015.08.30

Last Calib.: 2015.08.30

Start Time: 22:10:00

End Time:

04:21:00

Time On Btm: 2015.08.29 @ 23:50:50

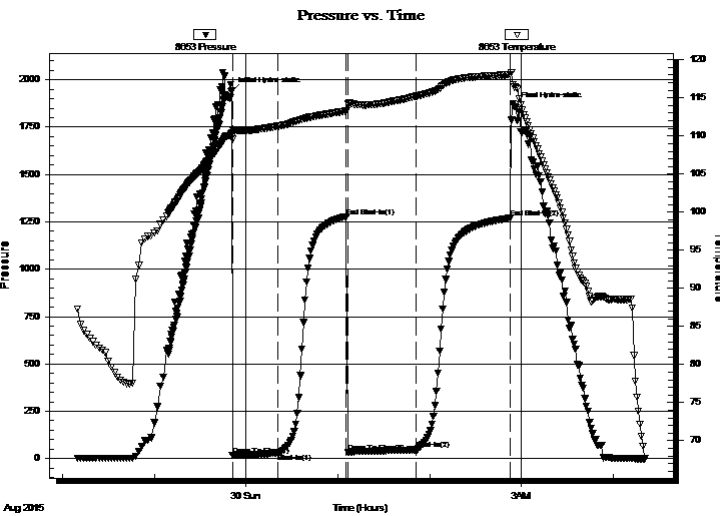
Time Off Btm: 2015.08.30 @ 02:55:30

TEST COMMENT: 30 - IF- 1/8" Blow built to 2 1/4"

45 - IS- No Return

45 - FF- Surface Blow built to 3 1/4"

60 - FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1939.90	110.40	Initial Hydro-static
1	19.51	109.59	Open To Flow (1)
31	28.12	111.29	Shut-In(1)
75	1276.91	113.29	End Shut-In(1)
76	34.43	114.19	Open To Flow (2)
121	47.45	115.21	Shut-In(2)
182	1269.20	118.04	End Shut-In(2)
185	1857.84	116.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM 30o 70M	0.20
30.00	CGO 10G 90o	0.15

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

### DRILL STEM TEST REPORT

Ritchie Exploration, Inc.  
8100 E 22nd St. N #700  
Wichita, KS 67278  
ATTN: Adam Eldani

**17-6s-29w Sheridan,KS**  
**Shuler 17B #1**  
Job Ticket: 65219      **DST#: 4**  
Test Start: 2015.08.29 @ 22:09:00

**GENERAL INFORMATION:**

Formation: **LKC "E-F"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:51:00  
Time Test Ended: 04:21:00

Test Type: Conventional Bottom Hole (Initial)  
Tester: Kevin Mack  
Unit No: 82

**Interval: 3992.00 ft (KB) To 4020.00 ft (KB) (TVD)**  
Total Depth: 4020.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good

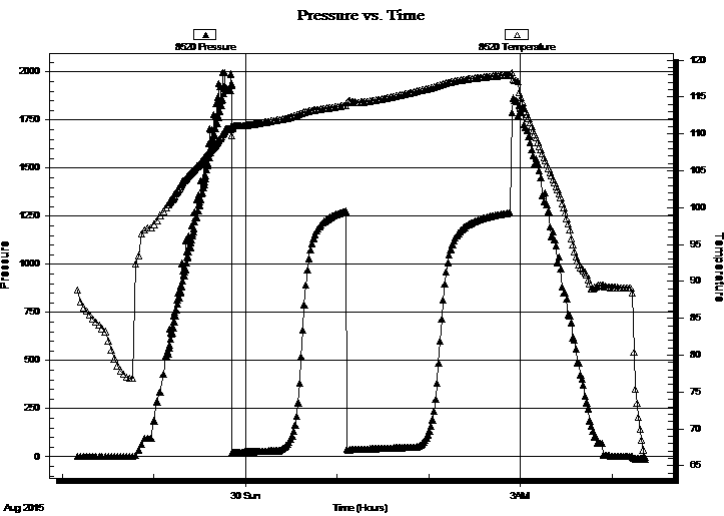
Reference Elevations: 2850.00 ft (KB)  
2847.00 ft (CF)  
KB to GR/CF: 3.00 ft

**Serial #: 8520 Inside**

Press@RunDepth: psig @ 3993.00 ft (KB)  
Start Date: 2015.08.29 End Date: 2015.08.30  
Start Time: 22:10:00 End Time: 04:22:00

Capacity: 8000.00 psig  
Last Calib.: 2015.08.30  
Time On Btm:  
Time Off Btm:

TEST COMMENT: 30 - IF- 1/8" Blow built to 2 1/4"  
45 - IS- No Return  
45 - FF- Surface Blow built to 3 1/4"  
60 - FS- No Return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
40.00	OCM 30o 70M	0.20
30.00	CGO 10G 90o	0.15

**Gas Rates**

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65219

**DST#: 4**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 22:09:00

## Tool Information

Drill Pipe:	Length: 3855.00 ft	Diameter: 3.80 inches	Volume: 54.08 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 54.68 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3992.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3973.00	
Shut In Tool	5.00			3978.00	
Hydraulic tool	5.00			3983.00	
Packer	5.00			3988.00	20.00 Bottom Of Top Packer
Packer	4.00			3992.00	
Stubb	1.00			3993.00	
Recorder	0.00	8653	Outside	3993.00	
Recorder	0.00	8520	Inside	3993.00	
Perforations	22.00			4015.00	
Bullnose	5.00			4020.00	28.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>48.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65219

**DST#: 4**

ATTN: Adam Eldani

Test Start: 2015.08.29 @ 22:09:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	OCM 30o 70M	0.197
30.00	CGO 10G 90o	0.148

Total Length: 70.00 ft      Total Volume: 0.345 bbl

Num Fluid Samples: 0

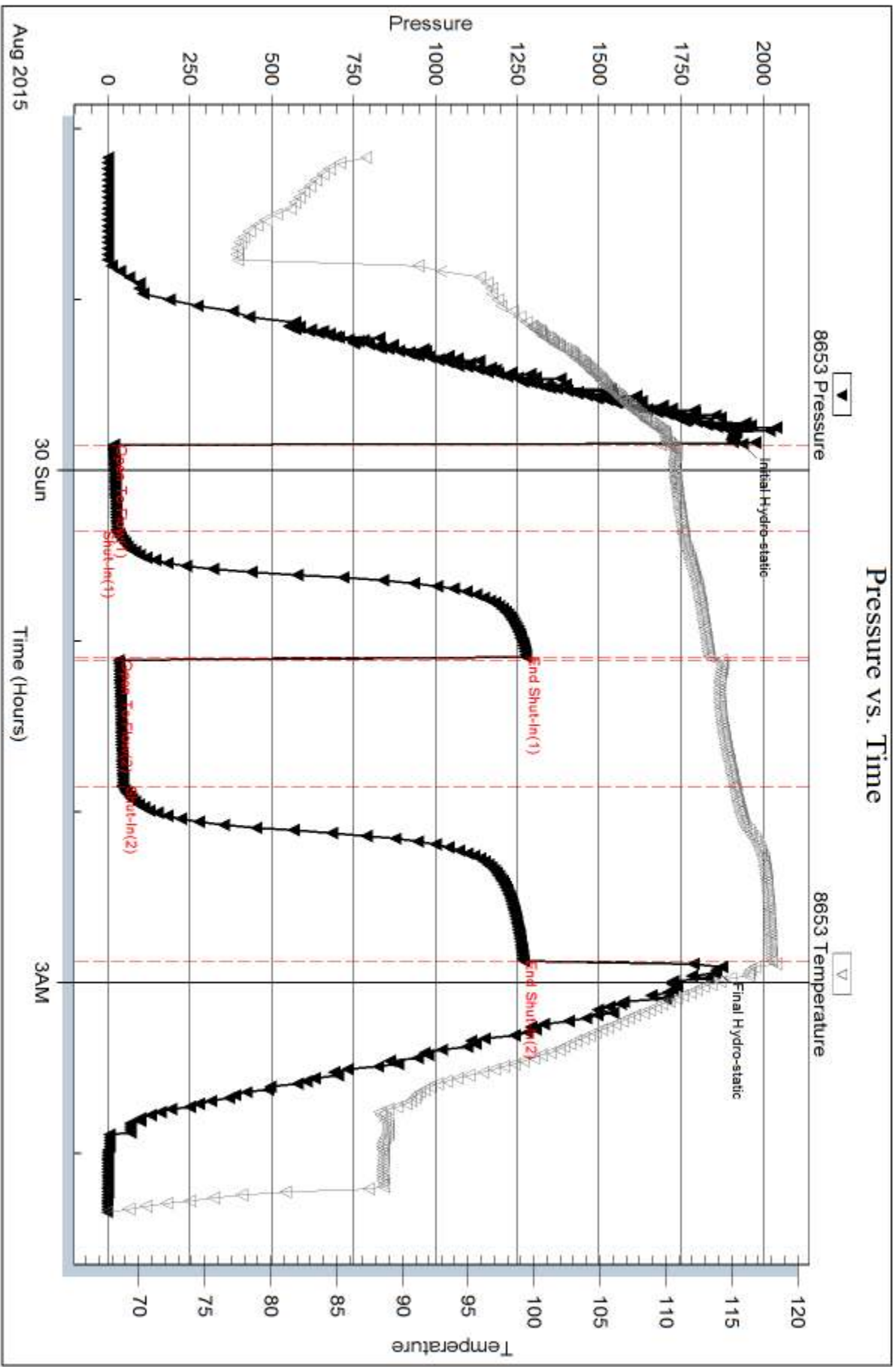
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil API 34 @ 80 deg = 32 corrected



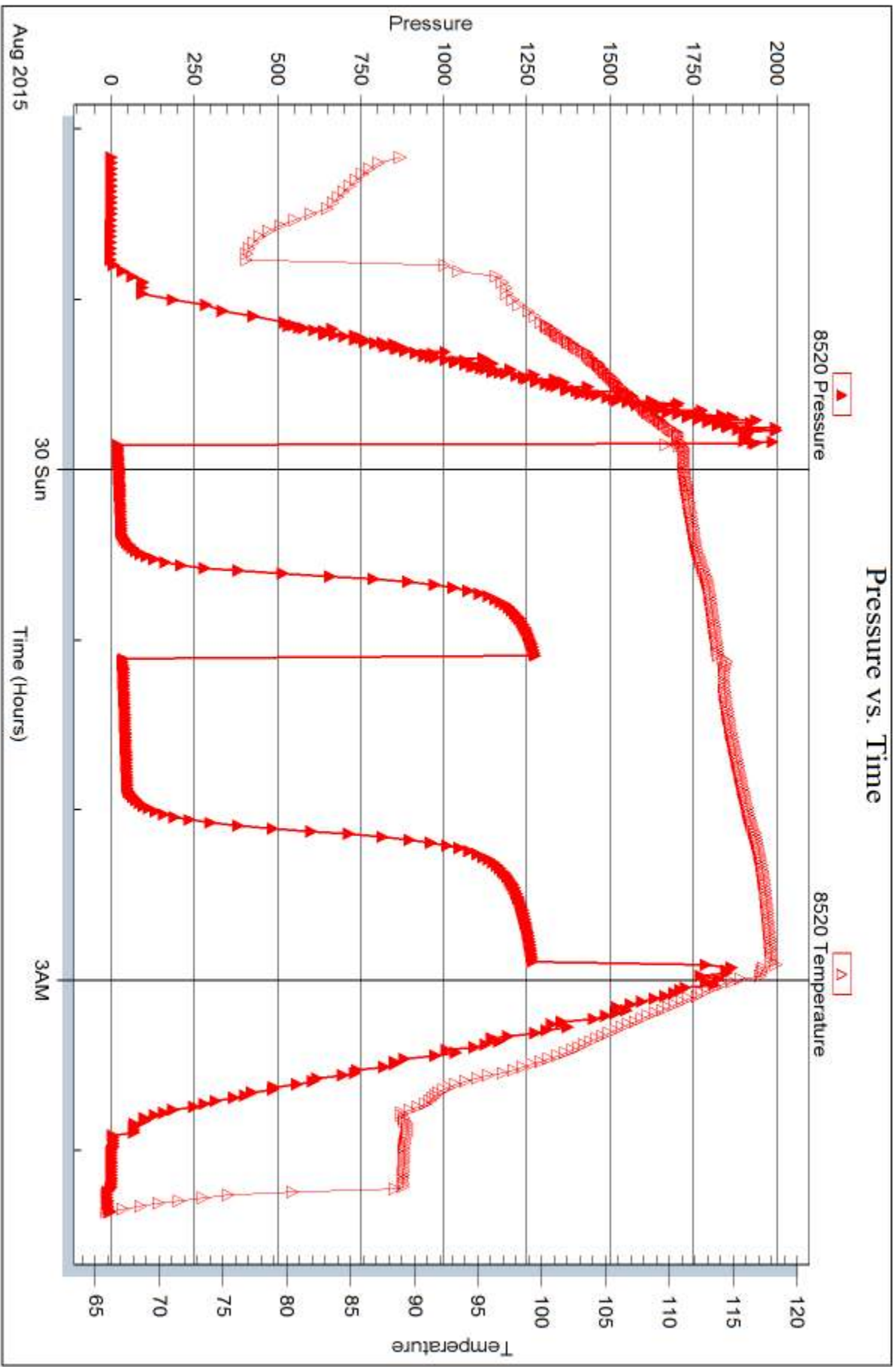
Serial #: 8520

Inside

Ritchie Exploration, Inc.

Shuler 17B #1

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E 22nd St. N #700  
Wichita, KS 67278

ATTN: Adam Eldani

### **Shuler 17B #1**

#### **17-6s-29w Sheridan,KS**

Start Date: 2015.08.30 @ 10:50:00

End Date: 2015.08.30 @ 16:58:00

Job Ticket #: 65220                      DST #: 5

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.09.03 @ 08:39:21

Ritchie Exploration, Inc.  
17-6s-29w Sheridan,KS  
Shuler 17B #1  
DST # 5  
LKC "G"  
2015.08.30



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65220

**DST#: 5**

ATTN: Adam Eldani

Test Start: 2015.08.30 @ 10:50:00

## GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:13:10

Time Test Ended: 16:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 4017.00 ft (KB) To 4041.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 4041.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8653 Outside**

Press@RunDepth: 107.86 psig @ 4018.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.30

End Date:

2015.08.30

Last Calib.:

2015.08.30

Start Time: 10:51:00

End Time:

16:58:00

Time On Btm:

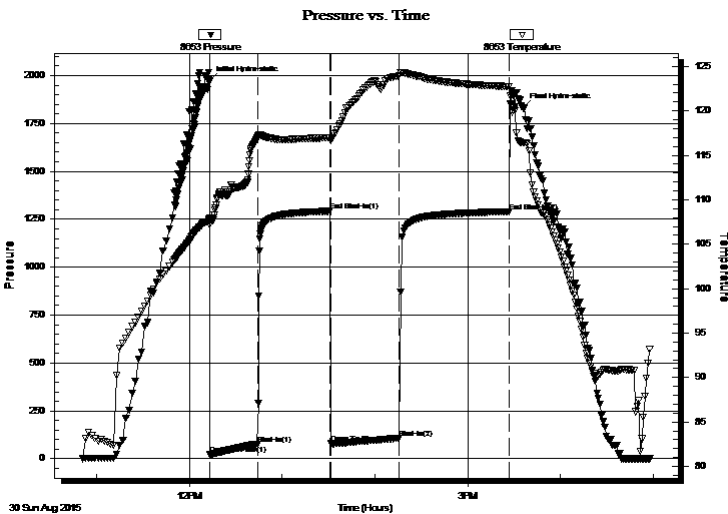
2015.08.30 @ 12:13:00

Time Off Btm:

2015.08.30 @ 15:36:00

**TEST COMMENT:** 30 - IF- Surface Blow built to 5"  
45 - IS- No Return  
45 - FF- Surface Blow built to 6"  
60 - FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1972.06	107.98	Initial Hydro-static
1	22.44	107.21	Open To Flow (1)
32	75.60	117.02	Shut-In(1)
78	1292.32	117.01	End Shut-In(1)
79	78.35	116.68	Open To Flow (2)
123	107.86	123.95	Shut-In(2)
194	1289.17	122.71	End Shut-In(2)
203	1830.13	116.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
121.00	OSMW 20M 80W (oil spots)	0.60
78.00	OSWM 40W 60M (oil spots)	1.09

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N#700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65220

**DST#: 5**

ATTN: Adam Eldani

Test Start: 2015.08.30 @ 10:50:00

## Tool Information

Drill Pipe:	Length: 3886.00 ft	Diameter: 3.80 inches	Volume: 54.51 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 55.11 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4017.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3998.00	
Shut In Tool	5.00			4003.00	
Hydraulic tool	5.00			4008.00	
Packer	5.00			4013.00	20.00 Bottom Of Top Packer
Packer	4.00			4017.00	
Stubb	1.00			4018.00	
Recorder	0.00	8653	Outside	4018.00	
Recorder	0.00	8520	Inside	4018.00	
Perforations	18.00			4036.00	
Bullnose	5.00			4041.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65220

**DST#: 5**

ATTN: Adam Eldani

Test Start: 2015.08.30 @ 10:50:00

### 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:

40000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
121.00	OSMW 20M 80W (oil spots)	0.595
78.00	OSWM 40W 60M (oil spots)	1.094

Total Length: 199.00 ft      Total Volume: 1.689 bbl

Num Fluid Samples: 0

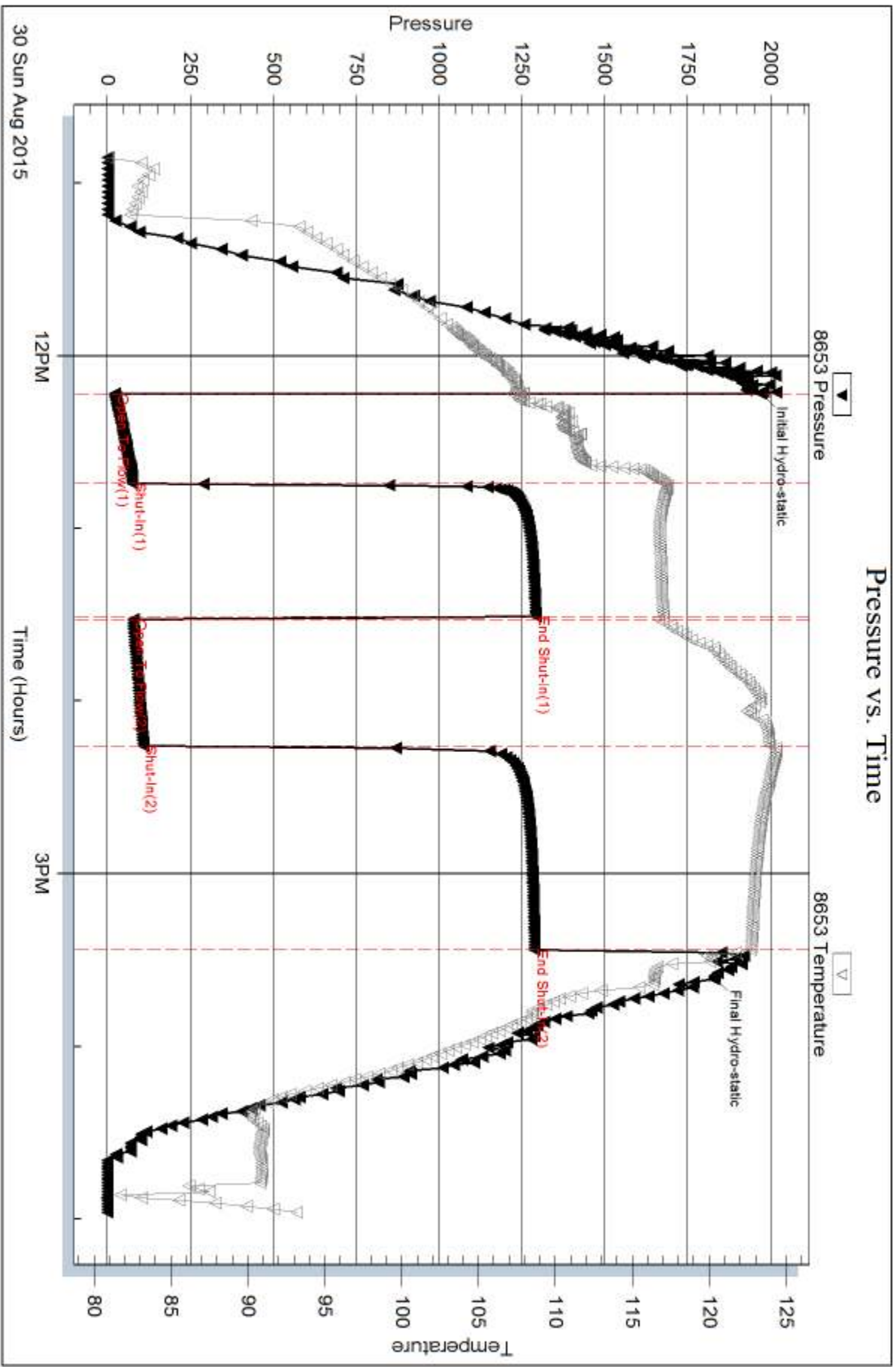
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .13 @ 99 deg = 40000ppm



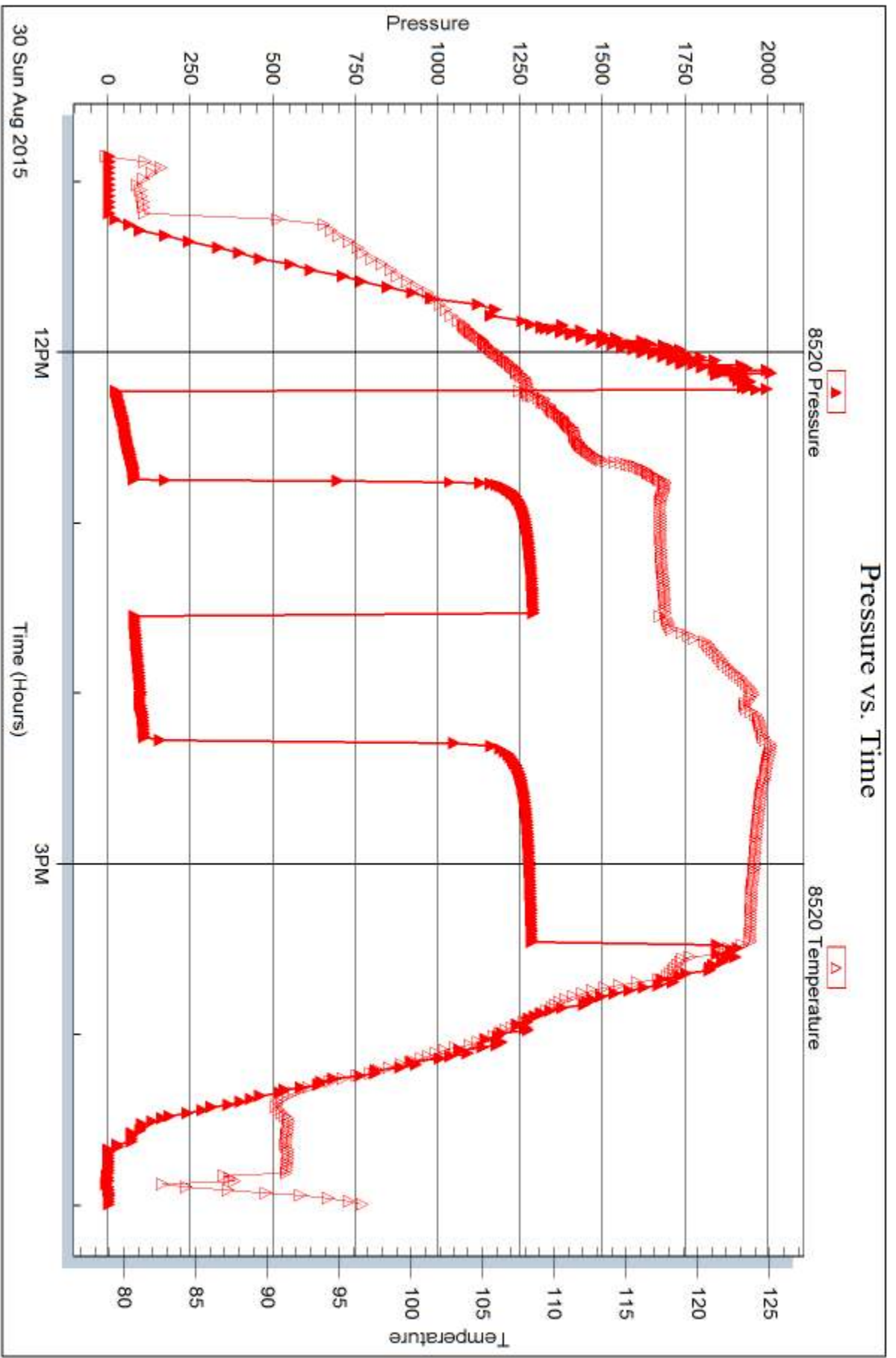
Serial #: 8520

Inside

Ritchie Exploration, Inc.

Shuler 17B #1

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 65220

Printed: 2015.09.03 @ 08:39:23



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc.**

8100 E 22nd St. N #700  
Wichita, KS 67278

ATTN: Adam Eldani

### **Shuler 17B #1**

#### **17-6s-29w Sheridan,KS**

Start Date: 2015.08.31 @ 04:50:00

End Date: 2015.08.31 @ 10:58:30

Job Ticket #: 65221                      DST #: 6

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.09.03 @ 08:37:13



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65221

**DST#: 6**

ATTN: Adam Eldani

Test Start: 2015.08.31 @ 04:50:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:29:30

Time Test Ended: 10:58:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 4043.00 ft (KB) To 4101.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 4101.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8653**

**Outside**

Press@RunDepth: 39.98 psig @ 4044.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.31

End Date:

2015.08.31

Last Calib.:

2015.08.31

Start Time: 04:51:00

End Time:

10:58:30

Time On Btm:

2015.08.31 @ 06:29:20

Time Off Btm:

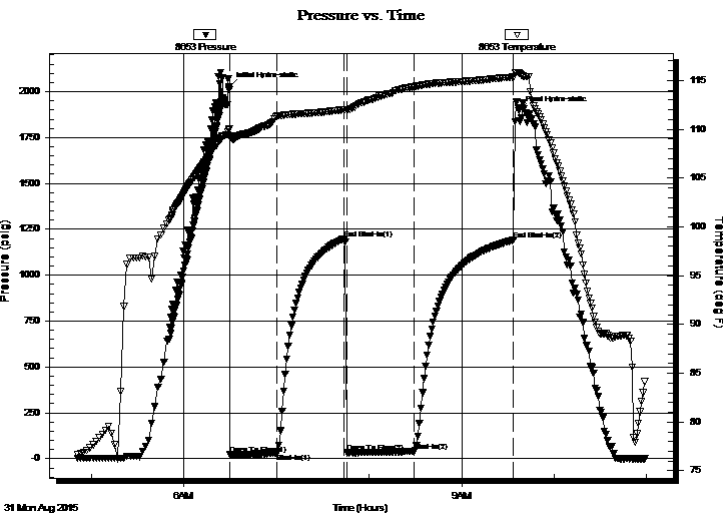
2015.08.31 @ 09:37:00

TEST COMMENT: 30 - IF- 1/8" Blow built to 1"

45 - IS- No Return

45 - FF- No Blow

60 - FS- No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2026.36	110.01	Initial Hydro-static
1	21.83	109.17	Open To Flow (1)
31	29.46	111.35	Shut-In(1)
75	1198.69	112.01	End Shut-In(1)
77	32.88	111.96	Open To Flow (2)
120	39.98	114.37	Shut-In(2)
185	1191.35	115.36	End Shut-In(2)
188	1897.69	115.77	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OSM 100M (oil spots)	0.10

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65221

**DST#: 6**

ATTN: Adam Eldani

Test Start: 2015.08.31 @ 04:50:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:29:30

Time Test Ended: 10:58:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 82

**Interval: 4043.00 ft (KB) To 4101.00 ft (KB) (TVD)**

Reference Elevations: 2850.00 ft (KB)

Total Depth: 4101.00 ft (KB) (TVD)

2847.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 3.00 ft

**Serial #: 8520**

**Inside**

Press@RunDepth: psig @ 4044.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.08.31

End Date:

2015.08.31

Last Calib.:

2015.08.31

Start Time: 04:51:00

End Time:

10:59:30

Time On Btm:

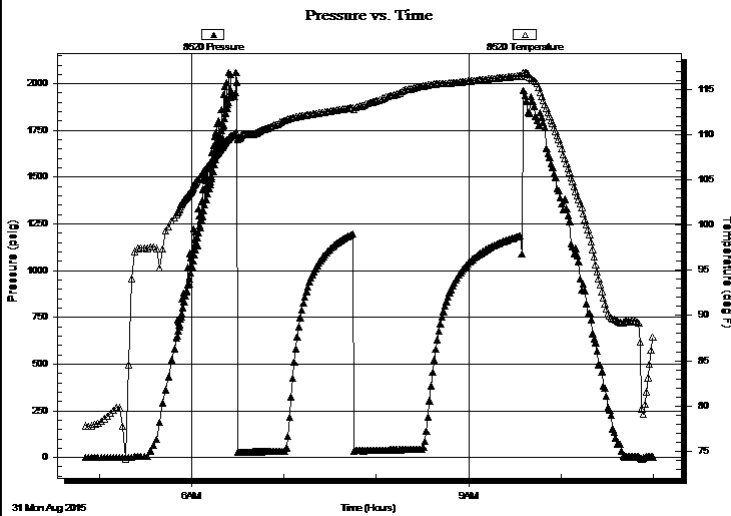
Time Off Btm:

TEST COMMENT: 30 - IF- 1/8" Blow built to 1"

45 - IS- No Return

45 - FF- No Blow

60 - FS- No Return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	OSM 100M (oil spots)	0.10

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N#700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65221

**DST#: 6**

ATTN: Adam Eldani

Test Start: 2015.08.31 @ 04:50:00

## Tool Information

Drill Pipe:	Length: 3917.00 ft	Diameter: 3.80 inches	Volume: 54.95 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: 121.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 55.55 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4043.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4024.00	
Shut In Tool	5.00			4029.00	
Hydraulic tool	5.00			4034.00	
Packer	5.00			4039.00	20.00 Bottom Of Top Packer
Packer	4.00			4043.00	
Stubb	1.00			4044.00	
Recorder	0.00	8653	Outside	4044.00	
Recorder	0.00	8520	Inside	4044.00	
Perforations	19.00			4063.00	
Change Over Sub	1.00			4064.00	
Drill Pipe	31.00			4095.00	
Change Over Sub	1.00			4096.00	
Bullnose	5.00			4101.00	58.00 Bottom Packers & Anchor

**Total Tool Length: 78.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**17-6s-29w Sheridan,KS**

8100 E 22nd St. N #700  
Wichita, KS 67278

**Shuler 17B #1**

Job Ticket: 65221

**DST#: 6**

ATTN: Adam Eldani

Test Start: 2015.08.31 @ 04:50:00

## 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:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	OSM 100M (oil spots)	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

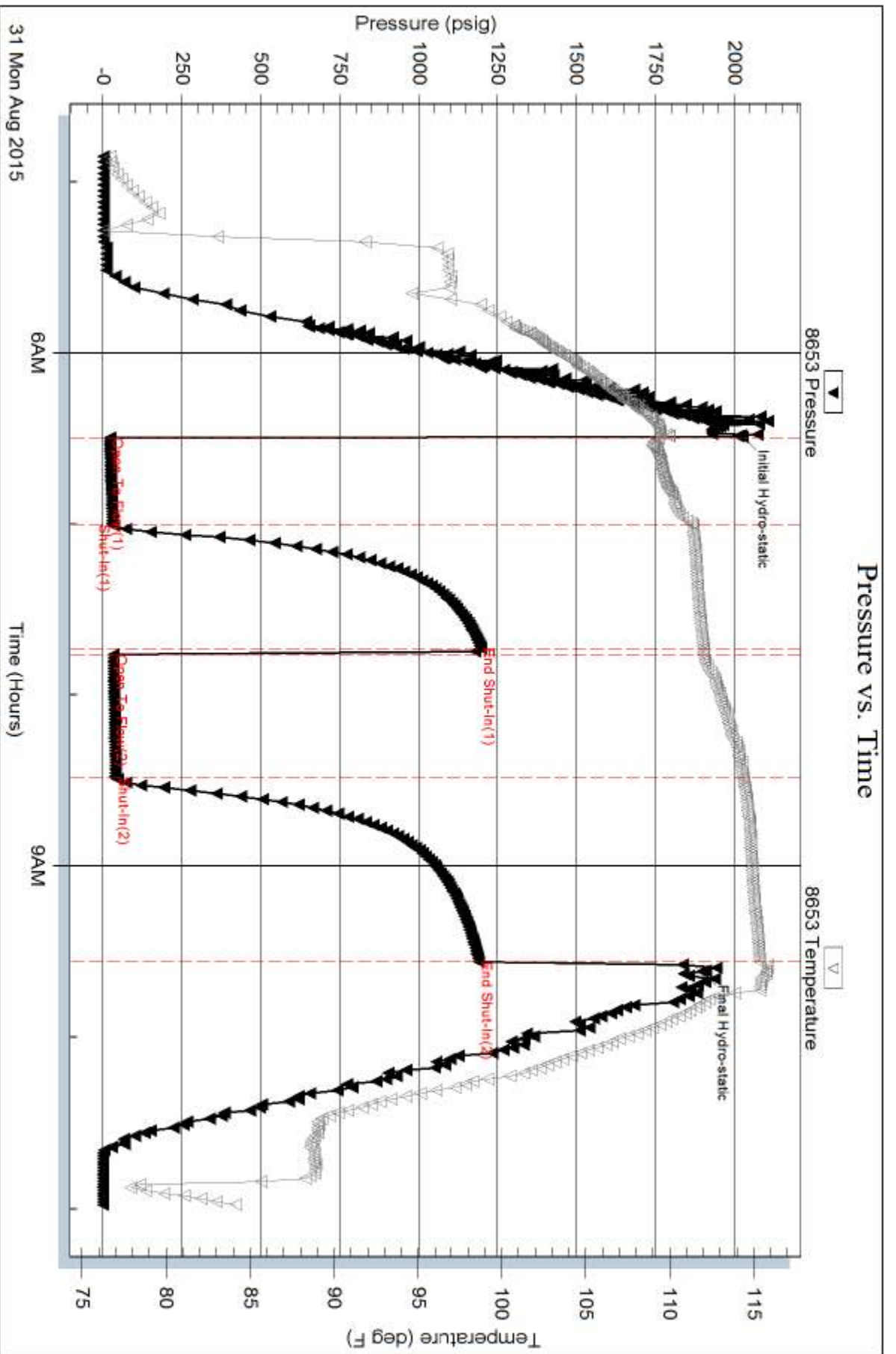
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





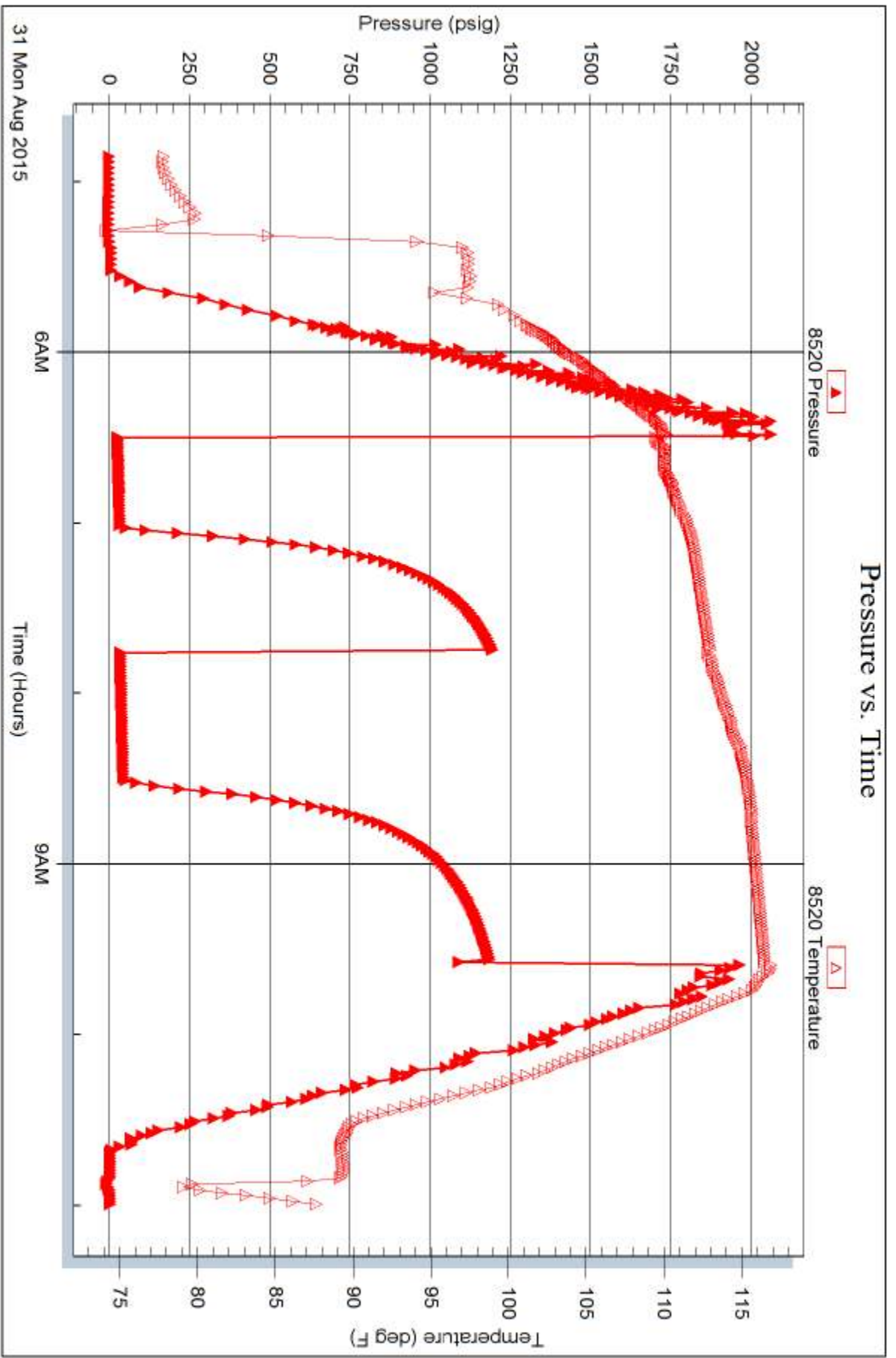
Serial #: 8520

Inside

Ritchie Exploration, Inc.

Shuler 17B #1

DST Test Number: 6



Trilobite Testing, Inc

Ref. No: 65221

Printed: 2015.09.03 @ 08:37:15



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65216**

Well Name & No. Shuler 17B #1 Test No. 1 Date 8-28-15  
 Company Ritchie Exploration, Inc Elevation 2850 KB 2847 GL  
 Address 8100 E 22nd St. N#7000 Wichita, KS 67278  
 Co. Rep / Geo. Adam Eldani Rig HW#8  
 Location: Sec. 17 Twp. G5 Rge. 29W Co. Sheridan State KS

Interval Tested 3895-3937 Zone Tested Turonto  
 Anchor Length 42' Drill Pipe Run 3752 Mud Wt. 8.8  
 Top Packer Depth 3891 Drill Collars Run 121' Vis 52  
 Bottom Packer Depth 3895 Wt. Pipe Run 0 WL 7.2  
 Total Depth 3937 Chlorides 20000 ppm System LCM 2#  
 Blow Description IF - 1/8" Blow built to 7 1/4"  
FSI - NO Return  
FF - Blow started at 2 min. Built to 7 1/2"  
FSI - NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>58</u>	<u>OSWm</u>	<u>SPOTS</u>	<u>40</u>	<u>60</u>	
<u>63</u>	<u>OSMW</u>	<u>SPOTS</u>	<u>50</u>	<u>50</u>	
<u>121</u>	<u>OSMW</u>	<u>SPOTS</u>	<u>70</u>	<u>30</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 242 BHT 120 Gravity - API RW 25 @ 68 °F Chlorides 30,000 ppm  
 (A) Initial Hydrostatic 1894  Test 1050 T-On Location 1:40 AM  
 (B) First Initial Flow 22  Jars 250 T-Started 2:23 AM  
 (C) First Final Flow 84  Safety Joint 75 T-Open 4:24 AM  
 (D) Initial Shut-In 1260  Circ Sub \_\_\_\_\_ T-Pulled 7:24 AM  
 (E) Second Initial Flow 89  Hourly Standby \_\_\_\_\_ T-Out 9:05 AM  
 (F) Second Final Flow 126  Mileage START 45 Comments \_\_\_\_\_  
 (G) Final Shut-In 1247  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1820  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1420 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative

TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65217**

4/10

Well Name & No. Shuler 17 B #1 Test No. 2 Date 8-28-15  
 Company Ritchie Exploration, Inc. Elevation 2850 KB 2847 GL  
 Address 8100 E 22nd St. N #7000 Wichita, KS 67278  
 Co. Rep / Geo. Adam Eldeni Rig WW#8  
 Location: Sec. 17 Twp. 6S Rge. 29W Co. Sheridan State KS

Interval Tested 3951-3977 Zone Tested LKC "A-B"  
 Anchor Length 26' Drill Pipe Run 3815 Mud Wt. 9.2  
 Top Packer Depth 3947 Drill Collars Run 121' Vis 600  
 Bottom Packer Depth 3951 Wt. Pipe Run 0 WL 7.8  
 Total Depth 3977 Chlorides 1500 ppm System LCM 2#  
 Blow Description IF-BoB in 1 1/2 min  
ISI-NO Return  
FF-BoB in 3 min  
FSI-NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>166</u>	<u>Free Oil</u>	<u>1000</u>			
<u>297</u>	<u>OC MW</u>	<u>20</u>	<u>40</u>	<u>40</u>	
<u>315</u>	<u>OC MW</u>	<u>10</u>	<u>80</u>	<u>10</u>	
<u>693</u>	<u>OC MW</u>	<u>10</u>	<u>85</u>	<u>5</u>	
<u>688</u>	<u>OS MW</u>	<u>SPOT</u>	<u>95</u>	<u>5</u>	

Rec Total 2,003 BHT 126 Gravity \_\_\_\_\_ API RW .18 @ 70 °F Chlorides 42,000 ppm

(A) Initial Hydrostatic 1915  Test 1050 T-On Location 5:25 PM  
 (B) First Initial Flow 152  Jars 250 T-Started 5:45 PM  
 (C) First Final Flow 566  Safety Joint 75 T-Open 7:38 PM  
 (D) Initial Shut-In 1294  Circ Sub \_\_\_\_\_ T-Pulled 10:38 PM  
 (E) Second Initial Flow 588  Hourly Standby \_\_\_\_\_ T-Out 1:20 AM  
 (F) Second Final Flow 906  Mileage 50 RT <sup>45</sup> Comments \_\_\_\_\_  
 (G) Final Shut-In 1286  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1865  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1420 Sub Total 0  
 Total 1420 Total 1420  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative 

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65218**

Well Name & No. Shuler 17B#1 Test No. 3 Date 8-29-15  
 Company Ritchie Exploration, Inc. Elevation 2850 KB 2847 GL  
 Address 8100 E 22<sup>nd</sup> St. N #7000 Wichita, KS 67278  
 Co. Rep / Geo. Adam Eldani Rig WW #8  
 Location: Sec. 17 Twp. 6S Rge. 29W Co. Sheridan State KS

Interval Tested 3975-3988 Zone Tested LKc "C"  
 Anchor Length 13' Drill Pipe Run 3846 Mud Wt. 9.2  
 Top Packer Depth 3971 Drill Collars Run 121' Vis 51  
 Bottom Packer Depth 3975 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3988 Chlorides 1,700 ppm System LCM 2#

Blow Description IF-BoB in 9 min  
ISI-Weak Surface Return Started at 20 min. Did not build or die  
FF-BoB in 14 min.  
FSI-NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Free oil</u>	<u>1000</u>			
<u>63</u>	<u>OCMW</u>	<u>100</u>	<u>45</u>	<u>45</u>	
<u>63</u>	<u>OCMW</u>	<u>5</u>	<u>75</u>	<u>20</u>	
<u>189</u>	<u>OCMW</u>	<u>5</u>	<u>85</u>	<u>10</u>	
<u>310</u>	<u>OSMW</u>	<u>SPOTS</u>	<u>95</u>	<u>5</u>	

Rec Total 627' BHT 126 Gravity — API RW .15 @ 87 °F Chlorides 45,000 ppm

(A) Initial Hydrostatic 1936  Test 1050 T-On Location 7:45 AM  
 (B) First Initial Flow 25  Jars 250 T-Started 7:50 AM  
 (C) First Final Flow 167  Safety Joint 75 T-Open 9:18 AM  
 (D) Initial Shut-In 1252  Circ Sub \_\_\_\_\_ T-Pulled 12:18 PM  
 (E) Second Initial Flow 173  Hourly Standby \_\_\_\_\_ T-Out 2:00 PM  
 (F) Second Final Flow 295  Mileage 50 RT 45  
 (G) Final Shut-In 1225  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1850  Straddle \_\_\_\_\_  
 Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Day Standby \_\_\_\_\_ Sub Total 0  
 Accessibility \_\_\_\_\_ Total 1670  
 Sub Total 1670 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65219**

Well Name & No. Shuler 17B #1 Test No. 4 Date 8-29-15  
 Company Ritchie Explorations Inc. Elevation 2850 KB 2847 GL  
 Address 8100 E 22nd St. N #7000 Wichita, KS 67278  
 Co. Rep / Geo. Adam Eldani Rig LW #8  
 Location: Sec. 17 Twp. 6S Rge. 29W Co. Sheridan State KS

Interval Tested 3992-4020 Zone Tested LKC "E-F"  
 Anchor Length 28' Drill Pipe Run \_\_\_\_\_ Mud Wt. 9.2  
 Top Packer Depth 3988 Drill Collars Run 121 Vis 51  
 Bottom Packer Depth 3992 Wt. Pipe Run 10 WL 7.6  
 Total Depth 4020 Chlorides 1,700 ppm System LCM 2#  
 Blow Description IF - 1/8" Blow built to 2 1/4"  
FSI - No Return  
FF - Surface Blow built to 3 1/4"  
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>CGO</u>	<u>10</u>	<u>90</u>		
<u>40</u>	<u>OLM</u>		<u>30</u>		<u>70</u>
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 70' BHT 118 Gravity 32 API RW - @ - °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1939  Test 1150 T-On Location 10:00 PM  
 (B) First Initial Flow 19  Jars \_\_\_\_\_ T-Started 10:09 PM  
 (C) First Final Flow 28  Safety Joint \_\_\_\_\_ T-Open 11:51 PM  
 (D) Initial Shut-In 1276  Circ Sub \_\_\_\_\_ T-Pulled 2:51 AM  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 4:23 AM  
 (F) Second Final Flow 47  Mileage 50RT 45 Comments \_\_\_\_\_  
 (G) Final Shut-In 1269  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1857  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1195

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1195  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65220**

Well Name & No. Shuler 17B #1 Test No. 5 Date 8-30-15  
 Company Ritchie Exploration, Inc. Elevation 28500 KB 2847 GL  
 Address 81000 E 22<sup>nd</sup> St. N #7000 Wichita, KS 67278  
 Co. Rep / Geo. Adam Eldan Rig WW #8  
 Location: Sec. 17 Twp. 6S Rge. 29W Co. Sheridan State KS

Interval Tested 4017-4041 Zone Tested LKC "G"  
 Anchor Length 24' Drill Pipe Run 3886 Mud Wt. 9.1  
 Top Packer Depth 4013 Drill Collars Run 121' Vis 52  
 Bottom Packer Depth 4017 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4041 Chlorides 2,000 ppm System LCM 2#  
 Blow Description IF - Surface Blow built to 5"  
ISI - No Return  
FF - Surface Blow built to 6"  
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>78</u>	<u>OSW</u>	<u>SPOTS</u>	<u>400</u>	<u>600</u>	
<u>121</u>	<u>OSM</u>	<u>SPOTS</u>	<u>800</u>	<u>20</u>	

Rec Total 199' BHT 123 Gravity - API RW -13 @ 99 °F Chlorides 40,000 ppm  
 (A) Initial Hydrostatic 1972  Test 1150 T-On Location 10:40 AM  
 (B) First Initial Flow 22  Jars \_\_\_\_\_ T-Started 10:50 AM  
 (C) First Final Flow 75  Safety Joint \_\_\_\_\_ T-Open 12:15 PM  
 (D) Initial Shut-In 1292  Circ Sub \_\_\_\_\_ T-Pulled 3:15 PM  
 (E) Second Initial Flow 78  Hourly Standby \_\_\_\_\_ T-Out 5:00 PM  
 (F) Second Final Flow 107  Mileage SCRT 45 Comments \_\_\_\_\_  
 (G) Final Shut-In 1289  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1836  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1195

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 60

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1195  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_

Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **65221**

Well Name & No. Shuer 17B #1 Test No. 6 Date 8-31-15  
 Company Ritchie Exploration, Inc. Elevation 2856 KB 2847 GL  
 Address 8100 E 22<sup>nd</sup> St. N #7000 Wichita, KS 67278  
 Co. Rep / Geo. Adam Eldani Rig LWS#8  
 Location: Sec. 17 Twp. 6S Rge. 29W Co. Sheridan State KS

Interval Tested 4043-4101 Zone Tested LKC "H-I-J"  
 Anchor Length 58' Drill Pipe Run 3917 Mud Wt. 9.1  
 Top Packer Depth 4039 Drill Collars Run 121' Vis 52  
 Bottom Packer Depth 4043 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4101 Chlorides 2,000 ppm System LCM 2#  
 Blow Description IF - 1/8" Blow built to 1"  
ISI - No Return  
FP - No Blow  
FSE - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>OSM</u>	<u>SPOTS</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 20 BHT 115 Gravity 1150 API RW - @ - °F Chlorides - ppm  
 (A) Initial Hydrostatic 2026  Test 1150 T-On Location 4:45 AM  
 (B) First Initial Flow 21  Jars - T-Started 6:50 AM  
 (C) First Final Flow 29  Safety Joint - T-Open 6:30 AM  
 (D) Initial Shut-In 1198  Circ Sub - T-Pulled 9:30 AM  
 (E) Second Initial Flow 32  Hourly Standby - T-Out 11:00 AM  
 (F) Second Final Flow 39  Mileage 50 RT X2 Comments vacated tools  
 (G) Final Shut-In 1191  Sampler 45+45 330 9-2-15  
 (H) Final Hydrostatic 1897  Straddle -  Ruined Shale Packer -  
 Shale Packer -  Ruined Packer -  
 Extra Packer -  Extra Copies -  
 Extra Recorder - Sub Total 800 no charge  
 Day Standby 1.5d 4.5h Total 2040  
 Accessibility - MP/DST Disc't -  
 Sub Total 1240

Approved By \_\_\_\_\_

Our Representative 

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