



## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.21 @ 16:30:00

End Date: 2014.11.22 @ 00:02:30

Job Ticket #: 59193                      DST #: 1

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

Printed: 2014.11.28 @ 16:25:18



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59193

**DST#: 1**

ATTN: Max Lovely

Test Start: 2014.11.21 @ 16:30:00

## GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:02:00

Time Test Ended: 00:02:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Chuck Smith

Unit No: 61

**Interval: 3851.00 ft (KB) To 3886.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 3886.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 102.90 psig @ 3854.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.21

End Date:

2014.11.22

Last Calib.: 2014.11.22

Start Time: 16:30:02

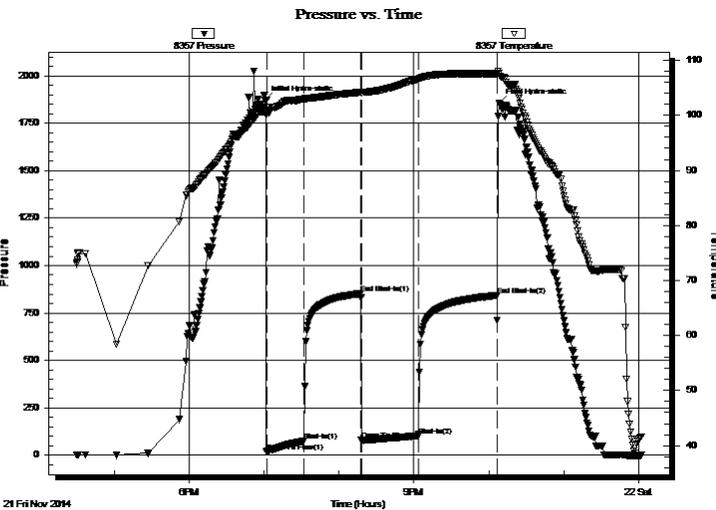
End Time:

00:02:30

Time On Btm: 2014.11.21 @ 19:00:40

Time Off Btm: 2014.11.21 @ 22:08:30

TEST COMMENT: 30- 5" Blow .  
45- No return.  
45- 4 1/2" Blow .  
60- No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1870.38	100.75	Initial Hydro-static
2	19.82	100.21	Open To Flow (1)
32	74.83	102.95	Shut-In(1)
77	852.59	104.21	End Shut-In(1)
78	78.68	103.99	Open To Flow (2)
123	102.90	106.61	Shut-In(2)
186	842.69	107.59	End Shut-In(2)
188	1856.65	107.67	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	OSWM 25w 75m	0.59
67.00	OSM 100m	0.94

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59193

**DST#: 1**

ATTN: Max Lovely

Test Start: 2014.11.21 @ 16:30:00

## Tool Information

Drill Pipe:	Length: 3723.00 ft	Diameter: 3.80 inches	Volume: 52.22 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.81 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.50 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3851.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	62.50 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			3824.50	
Shut In Tool	5.00			3829.50	
Hydraulic tool	5.00			3834.50	
Jars	5.00			3839.50	
Safety Joint	2.50			3842.00	
Packer	5.00			3847.00	27.50 Bottom Of Top Packer
Packer	4.00			3851.00	
Stubb	1.00			3852.00	
Perforations	2.00			3854.00	
Recorder	0.00	8357	Inside	3854.00	
Recorder	0.00	6751	Outside	3854.00	
Perforations	29.00			3883.00	
Bullnose	3.00			3886.00	35.00 Bottom Packers & Anchor

**Total Tool Length: 62.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59193

**DST#: 1**

ATTN: Max Lovely

Test Start: 2014.11.21 @ 16:30:00

### 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:

50000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.55 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	OSWM 25w 75m	0.590
67.00	OSM 100m	0.940

Total Length: 187.00 ft      Total Volume: 1.530 bbl

Num Fluid Samples: 0

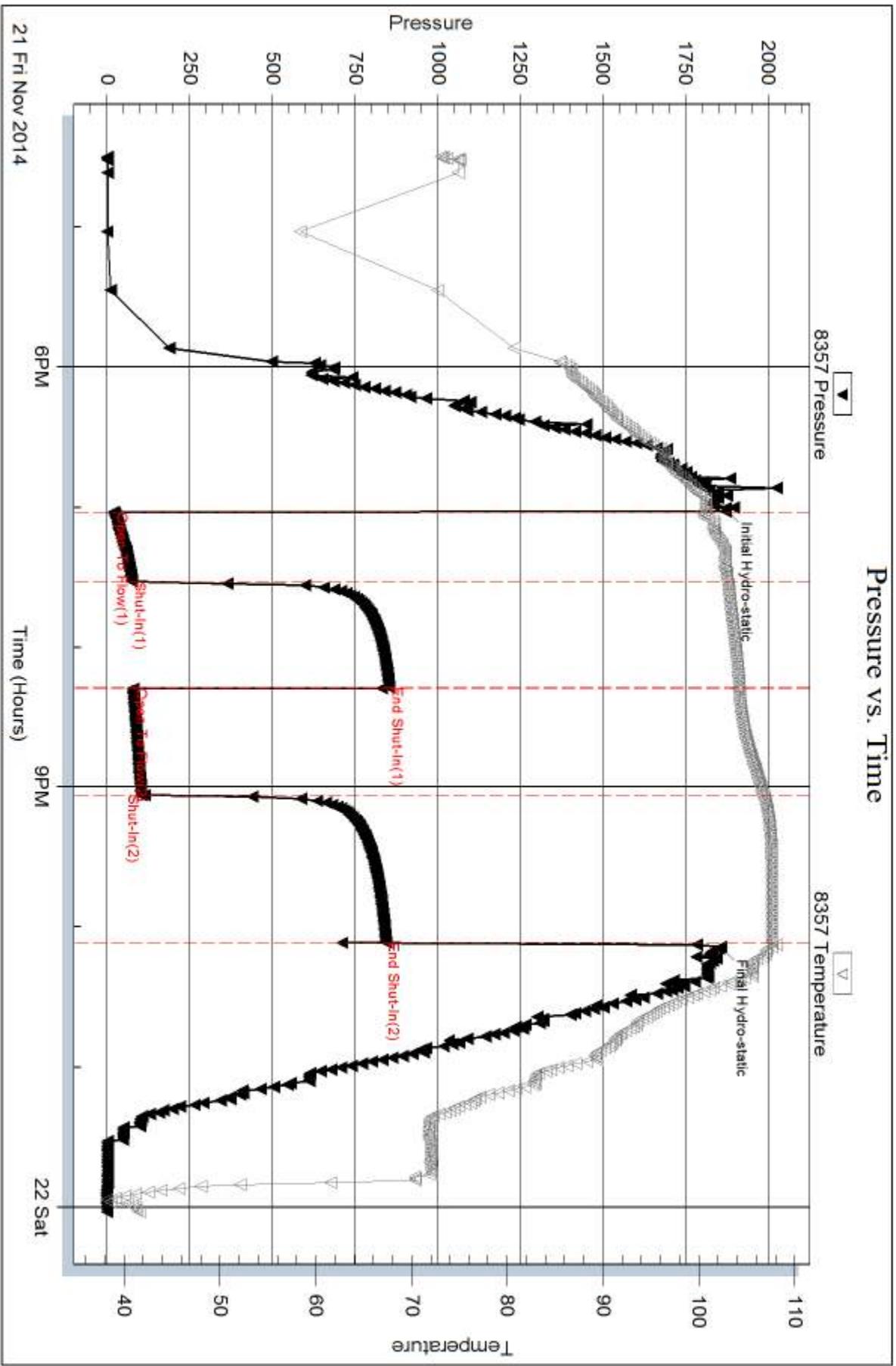
Num Gas Bombs: 0

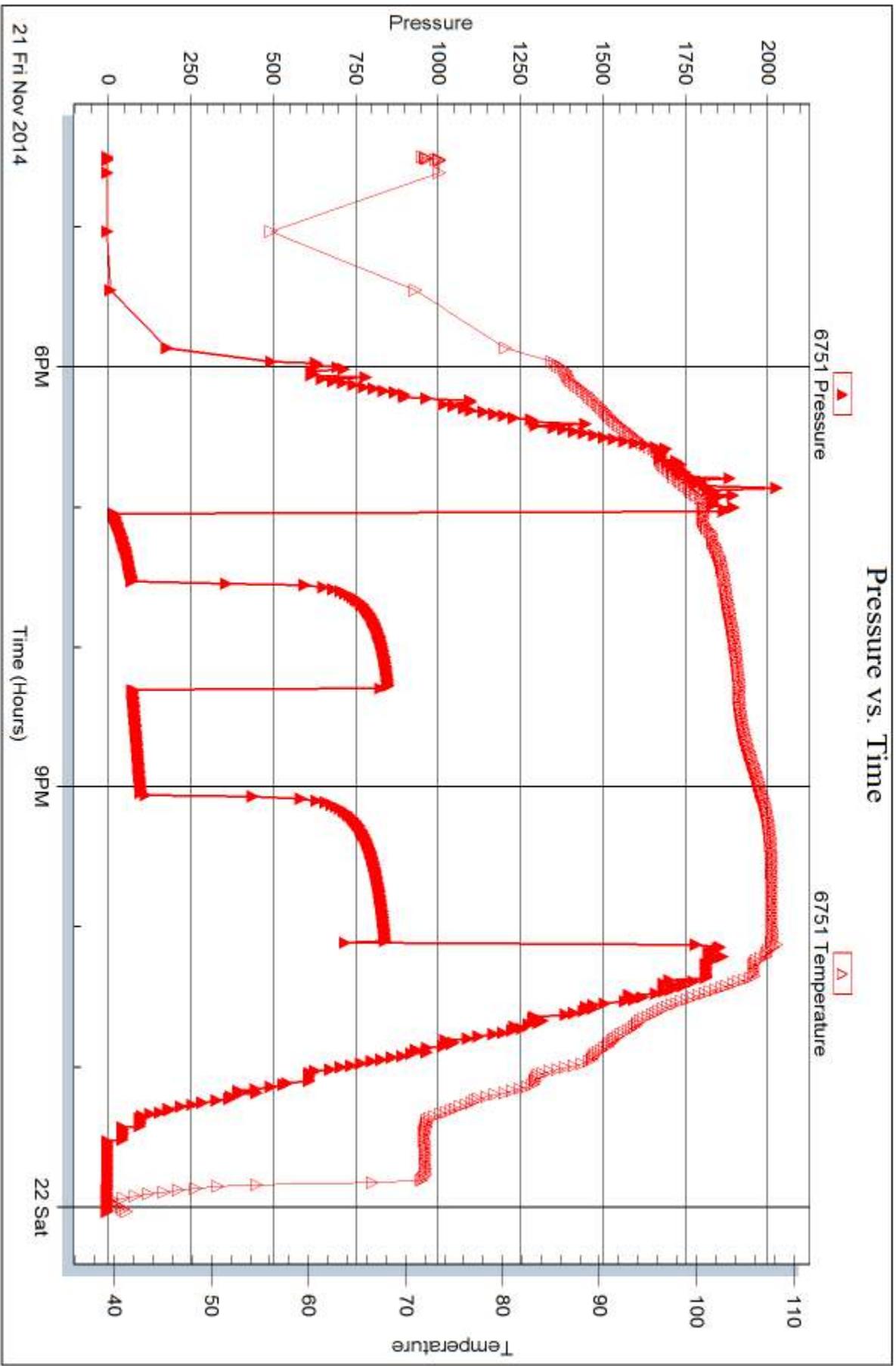
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .310 @ 33 Degrees F = 50000 PPM







## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.22 @ 06:20:00

End Date: 2014.11.22 @ 12:34:20

Job Ticket #: 59194                      DST #: 2

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

Printed: 2014.11.28 @ 16:24:20



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59194

**DST#: 2**

ATTN: Max Lovely

Test Start: 2014.11.22 @ 06:20:00

## GENERAL INFORMATION:

Formation: **LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:51:30

Time Test Ended: 12:34:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 3896.00 ft (KB) To 3923.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 3923.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 237.61 psig @ 3899.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.22

End Date:

2014.11.22

Last Calib.:

2014.11.22

Start Time: 06:20:02

End Time:

12:34:19

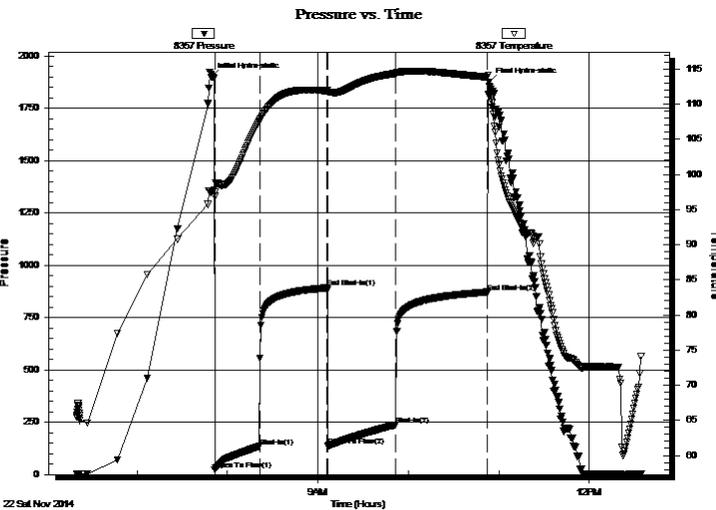
Time On Btm:

2014.11.22 @ 07:49:10

Time Off Btm:

2014.11.22 @ 10:53:40

**TEST COMMENT:** 30- B.O.B. @ 16 1/2 min.  
45- Weak surface return died @ 15 min.  
45- B.O.B. @ 21 min.  
60- No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1897.43	97.34	Initial Hydro-static
3	23.08	96.86	Open To Flow (1)
33	134.77	107.60	Shut-In(1)
77	892.19	111.88	End Shut-In(1)
78	137.26	111.71	Open To Flow (2)
123	237.61	114.35	Shut-In(2)
183	871.88	113.85	End Shut-In(2)
185	1874.37	112.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
460.00	OSMW 5m 95w	5.36
1.00	CGO 1g 99o	0.01

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59194

**DST#: 2**

ATTN: Max Lovely

Test Start: 2014.11.22 @ 06:20:00

## Tool Information

Drill Pipe:	Length: 3754.00 ft	Diameter: 3.80 inches	Volume: 52.66 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.50 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3896.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	54.50 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			3869.50	
Shut In Tool	5.00			3874.50	
Hydraulic tool	5.00			3879.50	
Jars	5.00			3884.50	
Safety Joint	2.50			3887.00	
Packer	5.00			3892.00	27.50 Bottom Of Top Packer
Packer	4.00			3896.00	
Stubb	1.00			3897.00	
Perforations	2.00			3899.00	
Recorder	0.00	8357	Inside	3899.00	
Recorder	0.00	6751	Outside	3899.00	
Perforations	21.00			3920.00	
Bullnose	3.00			3923.00	27.00 Bottom Packers & Anchor

**Total Tool Length: 54.50**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59194

**DST#: 2**

ATTN: Max Lovely

Test Start: 2014.11.22 @ 06:20:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

20 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

50000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.54 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
460.00	OSMW 5m 95w	5.359
1.00	CGO 1g 99o	0.014

Total Length: 461.00 ft      Total Volume: 5.373 bbl

Num Fluid Samples: 0

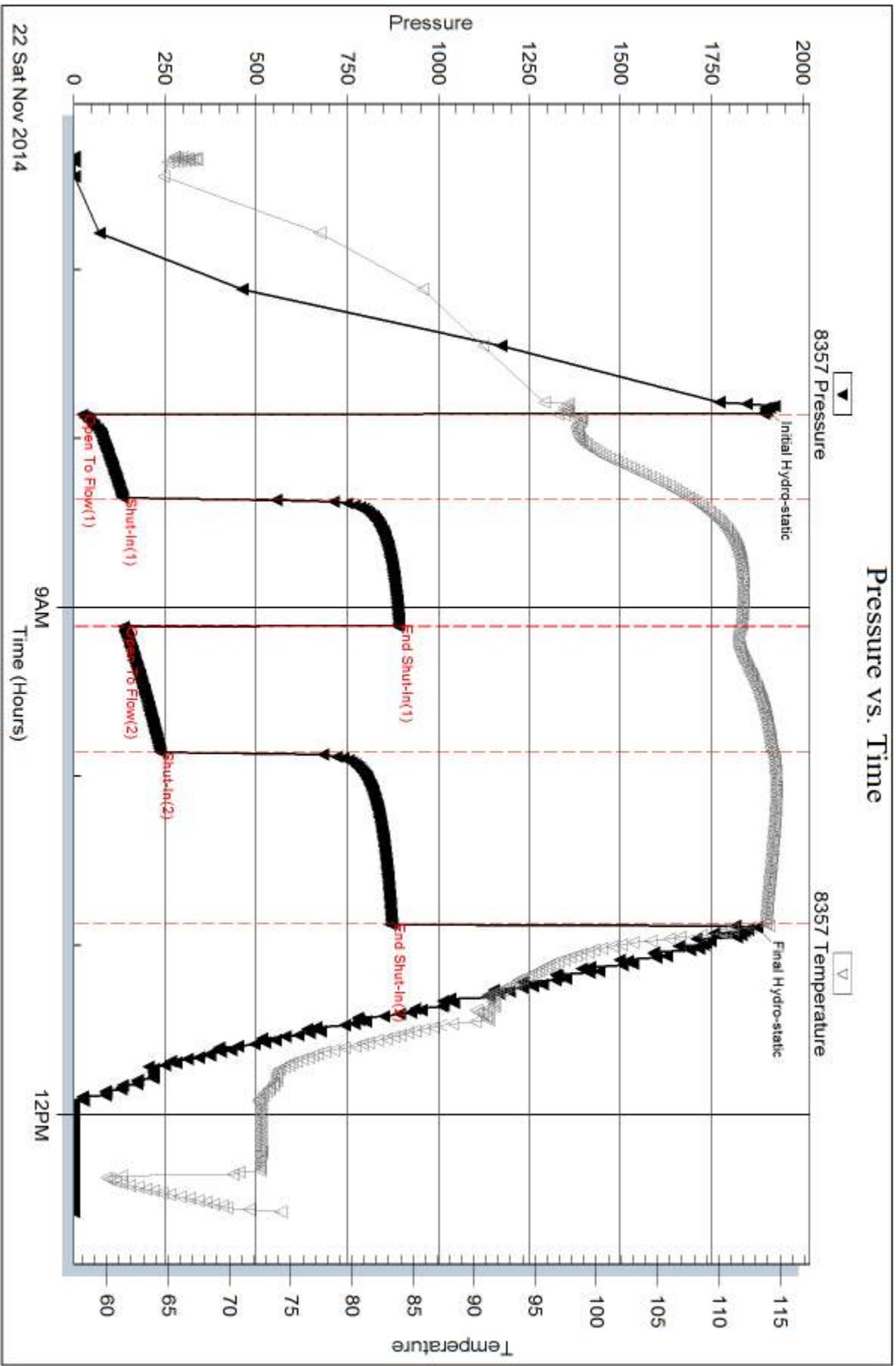
Num Gas Bombs: 0

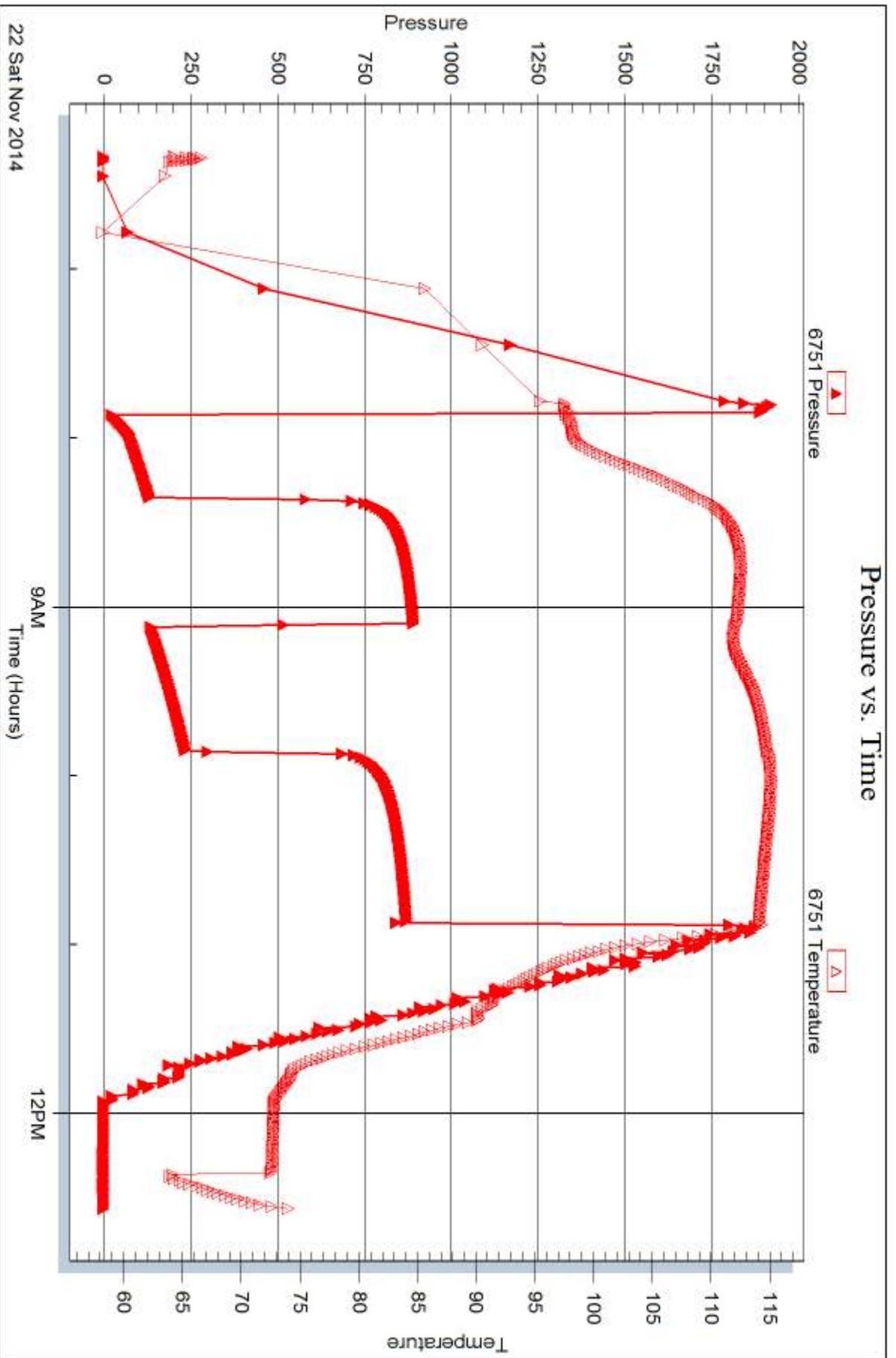
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 21 @ 70 Degrees F. 147 @ 70 Degrees F







## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.22 @ 18:48:00

End Date: 2014.11.23 @ 01:38:09

Job Ticket #: 59195                      DST #: 3

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

Printed: 2014.11.28 @ 16:23:24



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59195

**DST#: 3**

ATTN: Max Lovely

Test Start: 2014.11.22 @ 18:48:00

## GENERAL INFORMATION:

Formation: **LKC 'C'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:04:30

Time Test Ended: 01:38:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 3939.00 ft (KB) To 3948.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 3948.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 161.50 psig @ 3933.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.22

End Date:

2014.11.23

Last Calib.:

2014.11.23

Start Time: 18:48:02

End Time:

01:38:10

Time On Btm:

2014.11.22 @ 21:02:30

Time Off Btm:

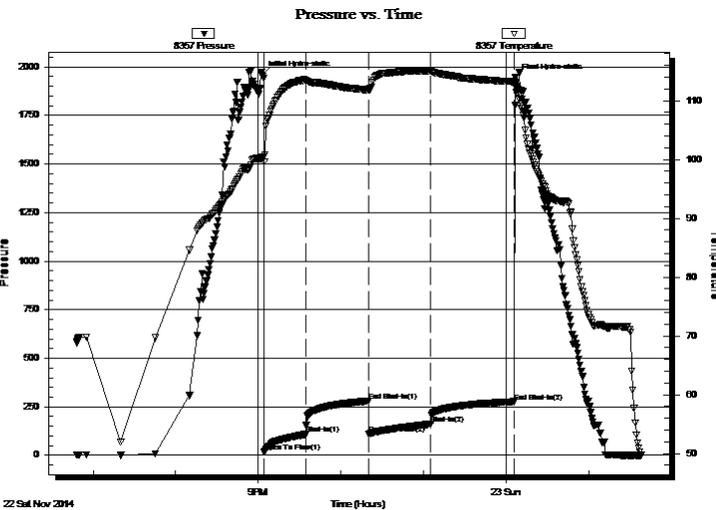
2014.11.23 @ 00:06:40

TEST COMMENT: 30- B.O.B. @ 29 min.

45- No return.

45- 10" Blow .

60- No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1956.91	100.19	Initial Hydro-static
2	17.30	99.58	Open To Flow (1)
33	108.65	113.43	Shut-In(1)
78	279.31	111.82	End Shut-In(1)
78	110.18	111.79	Open To Flow (2)
123	161.50	115.05	Shut-In(2)
184	276.52	113.25	End Shut-In(2)
185	1944.32	112.42	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
306.00	OSMW 20m 80w	3.20
30.00	SOCMW 2o 48m 50w	0.42

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59195

**DST#: 3**

ATTN: Max Lovely

Test Start: 2014.11.22 @ 18:48:00

## Tool Information

Drill Pipe:	Length: 3820.00 ft	Diameter: 3.80 inches	Volume: 53.58 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.17 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3930.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	38.00 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			3911.00	
Shut In Tool	5.00			3916.00	
Hydraulic tool	5.00			3921.00	
Packer	5.00			3926.00	20.00 Bottom Of Top Packer
Packer	4.00			3930.00	
Stubb	1.00			3931.00	
Perforations	2.00			3933.00	
Recorder	0.00	8357	Inside	3933.00	
Recorder	0.00	6751	Outside	3933.00	
Perforations	12.00			3945.00	
Bullnose	3.00			3948.00	18.00 Bottom Packers & Anchor

**Total Tool Length: 38.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59195

**DST#: 3**

ATTN: Max Lovely

Test Start: 2014.11.22 @ 18:48:00

## 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:

52000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
306.00	OSMW 20m 80w	3.199
30.00	SOCMW 2o 48m 50w	0.421

Total Length: 336.00 ft      Total Volume: 3.620 bbl

Num Fluid Samples: 0

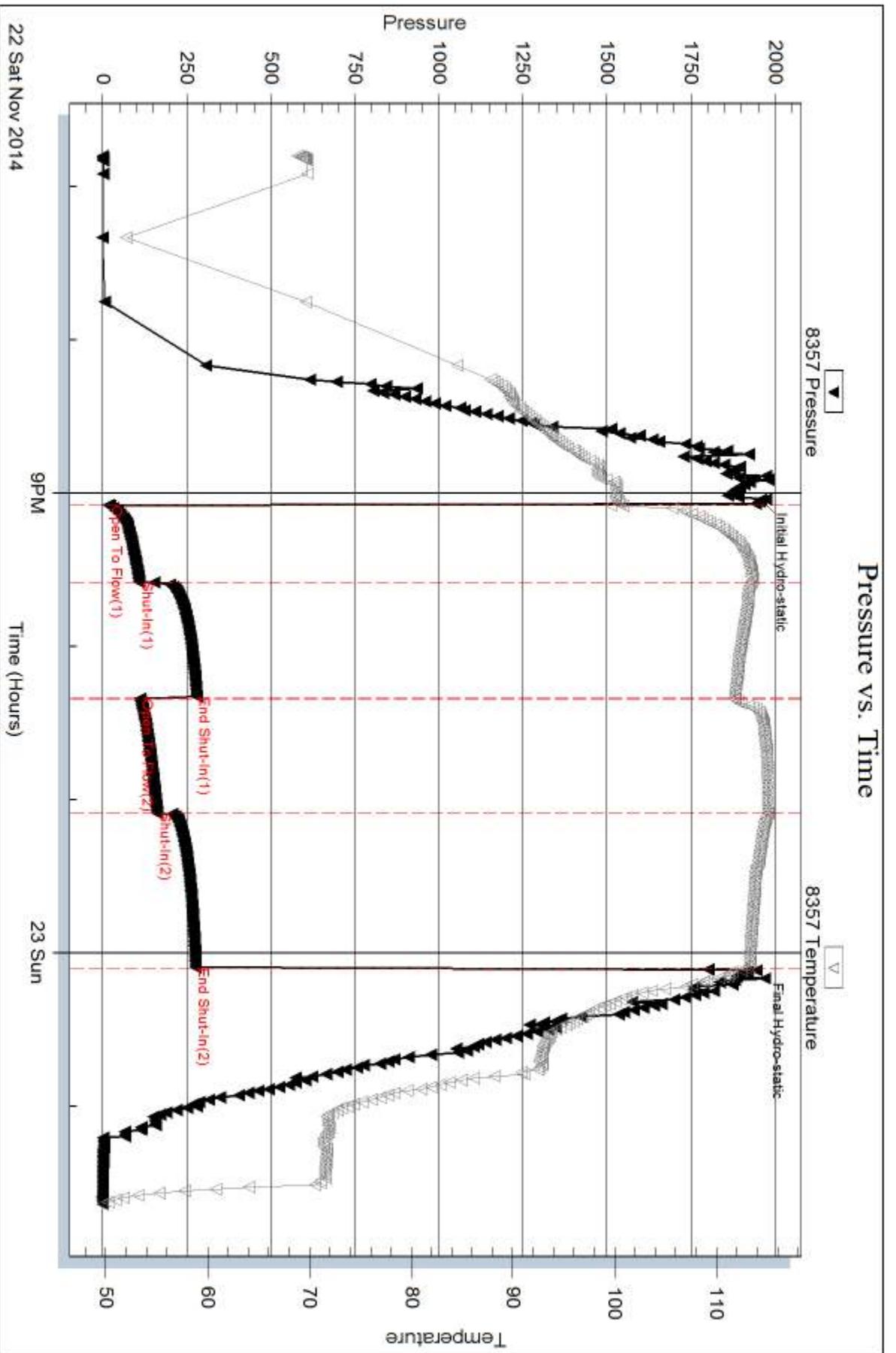
Num Gas Bombs: 0

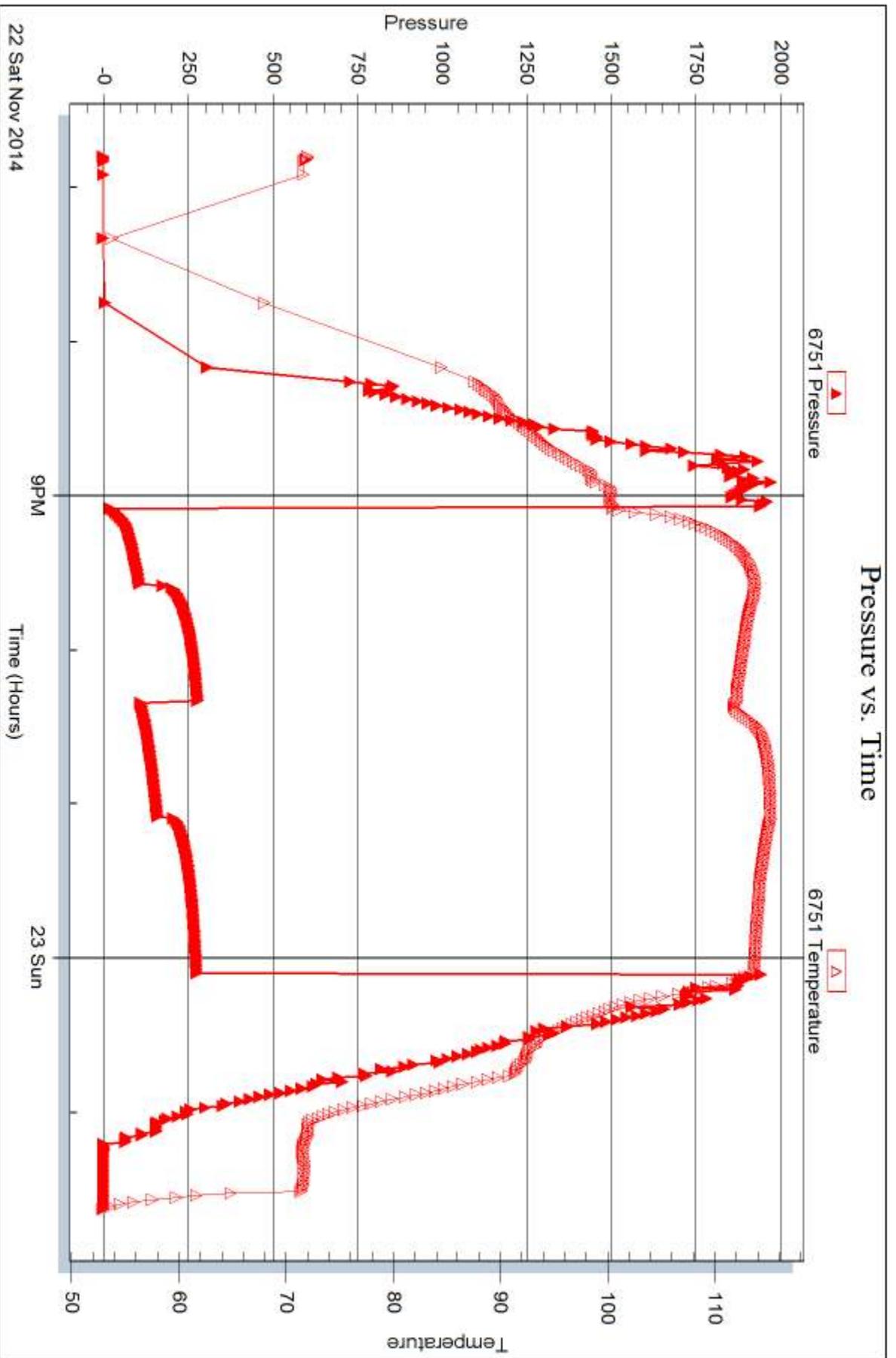
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .260 @ 40 Degrees F = 52000 PPM







## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.23 @ 09:45:00

End Date: 2014.11.23 @ 16:19:09

Job Ticket #: 59196                      DST #: 4

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

Printed: 2014.11.28 @ 16:22:21



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59196

**DST#: 4**

ATTN: Max Lovely

Test Start: 2014.11.23 @ 09:45:00

## GENERAL INFORMATION:

Formation: **LKC 'E,F'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:43:40

Time Test Ended: 16:19:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 3985.00 ft (KB) To 4016.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 4016.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 73.14 psig @ 3988.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.23

End Date:

2014.11.23

Last Calib.: 2014.11.23

Start Time: 09:45:02

End Time:

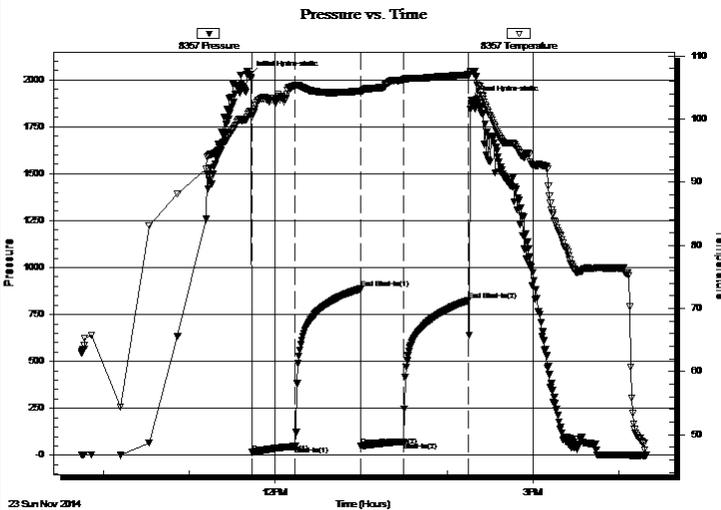
16:19:10

Time On Btm: 2014.11.23 @ 11:42:20

Time Off Btm: 2014.11.23 @ 14:16:50

TEST COMMENT: 30- 2" Blow .  
45- No return.  
30- 1" Blow .  
45- No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2023.89	101.22	Initial Hydro-static
2	15.94	100.35	Open To Flow (1)
32	47.89	105.27	Shut-In(1)
77	886.52	104.42	End Shut-In(1)
78	50.39	104.17	Open To Flow (2)
108	73.14	106.24	Shut-In(2)
153	825.39	107.00	End Shut-In(2)
155	1891.30	107.54	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
121.00	SOCM 2o 98m	0.60

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59196

**DST#: 4**

ATTN: Max Lovely

Test Start: 2014.11.23 @ 09:45:00

## Tool Information

Drill Pipe:	Length: 3852.00 ft	Diameter: 3.80 inches	Volume: 54.03 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.62 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	3985.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	51.00 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			3966.00	
Shut In Tool	5.00			3971.00	
Hydraulic tool	5.00			3976.00	
Packer	5.00			3981.00	20.00 Bottom Of Top Packer
Packer	4.00			3985.00	
Stubb	1.00			3986.00	
Perforations	2.00			3988.00	
Recorder	0.00	8357	Inside	3988.00	
Recorder	0.00	6751	Outside	3988.00	
Perforations	25.00			4013.00	
Bullnose	3.00			4016.00	31.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59196

**DST#: 4**

ATTN: Max Lovely

Test Start: 2014.11.23 @ 09:45:00

## 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:

0 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
121.00	SOCM 2o 98m	0.604

Total Length: 121.00 ft      Total Volume: 0.604 bbl

Num Fluid Samples: 0

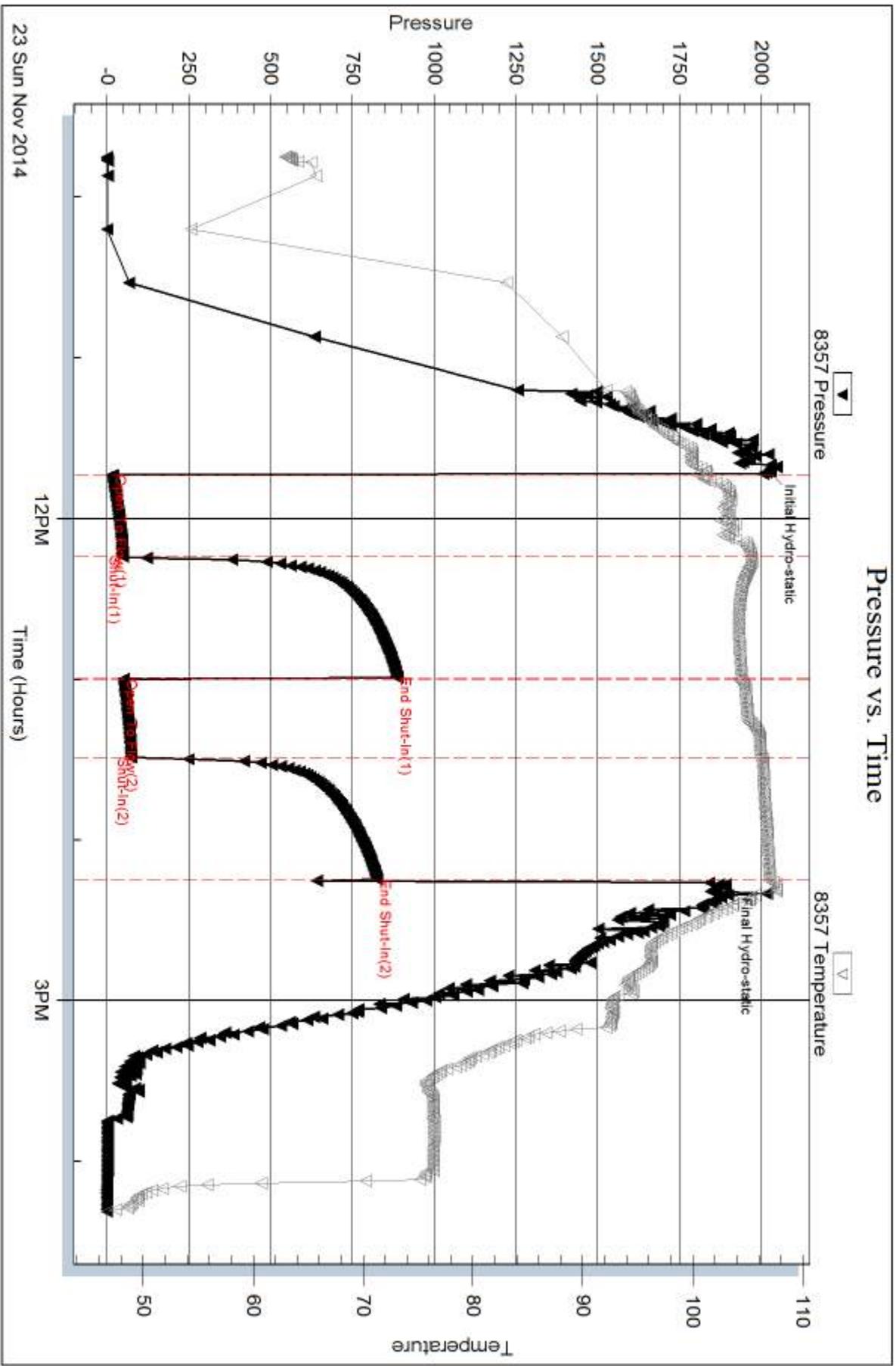
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

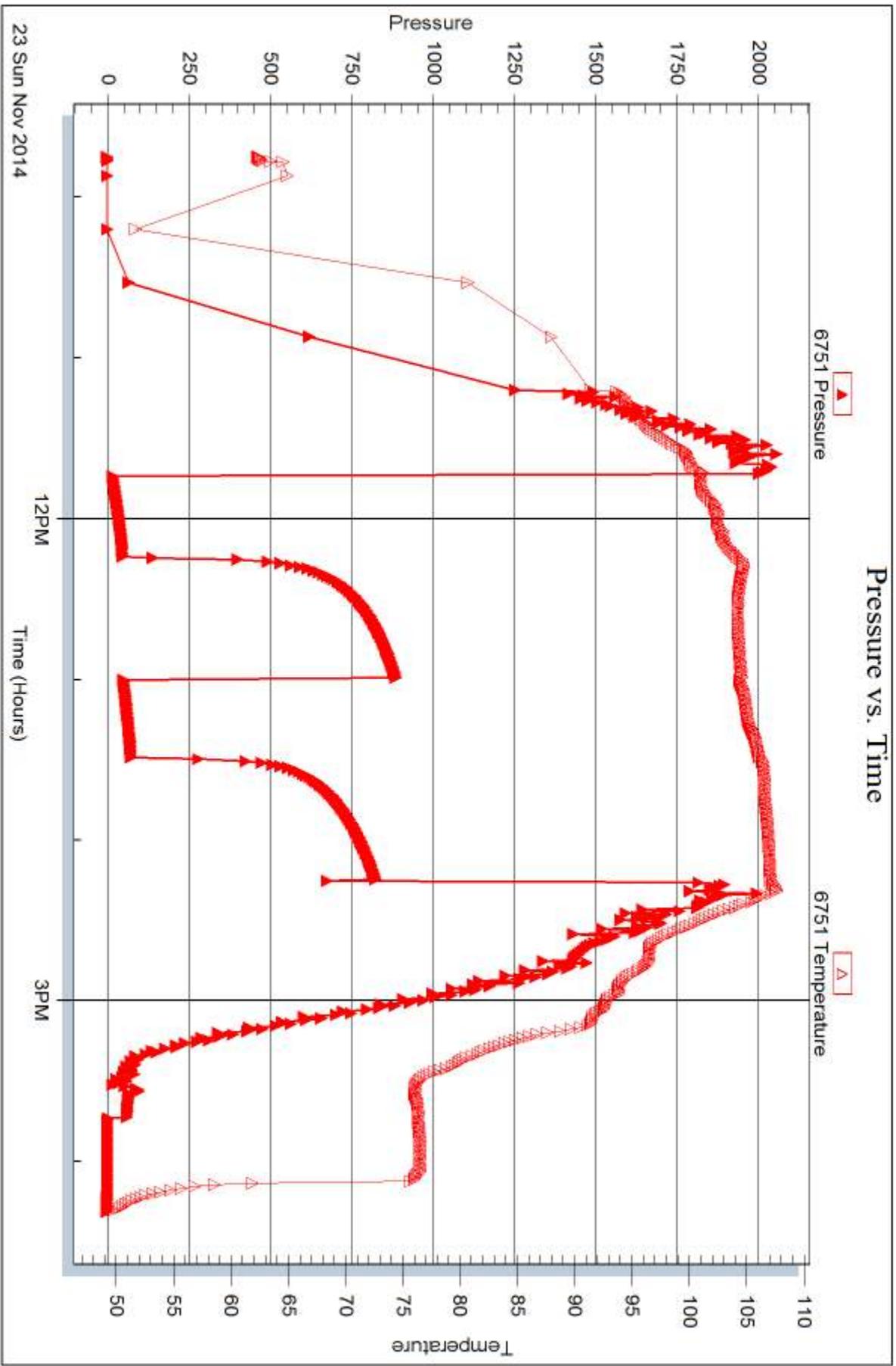


Serial #: 6751

Outside Ritchie Exploration, Inc.

Baker 31C #1

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 59196

Printed: 2014, 11, 28 @ 16:22:23



## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.24 @ 05:55:00

End Date: 2014.11.24 @ 12:12:20

Job Ticket #: 59197                      DST #: 5

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

Printed: 2014.11.28 @ 16:21:29

Ritchie Exploration, Inc.  
31-15s-34w Logan,KS  
Baker 31C #1  
DST # 5  
LKC 1  
2014.11.24



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59197

**DST#: 5**

ATTN: Max Lovely

Test Start: 2014.11.24 @ 05:55:00

## GENERAL INFORMATION:

Formation: **LKC I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:35:50

Time Test Ended: 12:12:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 4102.00 ft (KB) To 4130.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 4130.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 59.51 psig @ 4103.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.24

End Date:

2014.11.24

Last Calib.: 2014.11.24

Start Time: 05:55:02

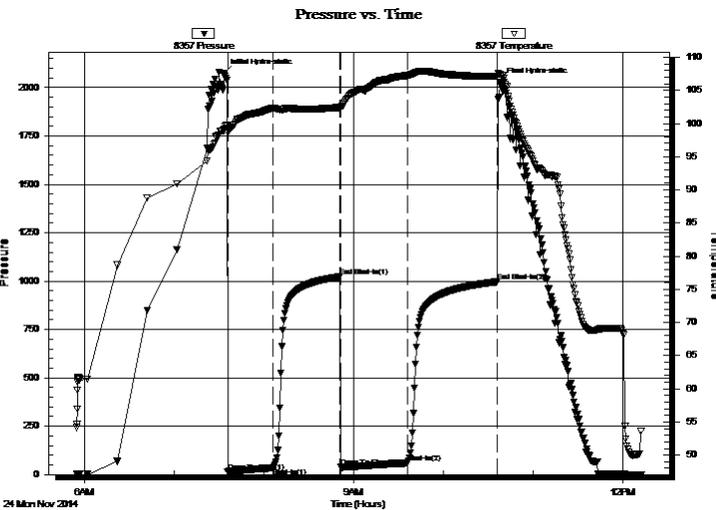
End Time:

12:12:19

Time On Btm: 2014.11.24 @ 07:33:30

Time Off Btm: 2014.11.24 @ 10:38:00

TEST COMMENT: 30- 3" Blow .  
45- No return.  
45- 2" Blow .  
60- No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2073.12	99.09	Initial Hydro-static
3	15.27	98.60	Open To Flow (1)
33	34.93	102.36	Shut-In(1)
78	1022.72	102.44	End Shut-In(1)
78	38.08	102.51	Open To Flow (2)
123	59.51	107.25	Shut-In(2)
183	997.04	107.11	End Shut-In(2)
185	2029.53	107.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 15o 85m	0.30
45.00	CGO 2g 98o	0.22

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59197

**DST#: 5**

ATTN: Max Lovely

Test Start: 2014.11.24 @ 05:55:00

## Tool Information

Drill Pipe:	Length: 3979.00 ft	Diameter: 3.80 inches	Volume: 55.81 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 56.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4102.00 ft			Final 63000.00 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			4083.00	
Shut In Tool	5.00			4088.00	
Hydraulic tool	5.00			4093.00	
Packer	5.00			4098.00	20.00 Bottom Of Top Packer
Packer	4.00			4102.00	
Stubb	1.00			4103.00	
Recorder	0.00	8357	Inside	4103.00	
Recorder	0.00	6751	Outside	4103.00	
Perforations	24.00			4127.00	
Bullnose	3.00			4130.00	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.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59197

**DST#: 5**

ATTN: Max Lovely

Test Start: 2014.11.24 @ 05:55:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

26 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCM 15o 85m	0.295
45.00	CGO 2g 98o	0.221

Total Length: 105.00 ft      Total Volume: 0.516 bbl

Num Fluid Samples: 0

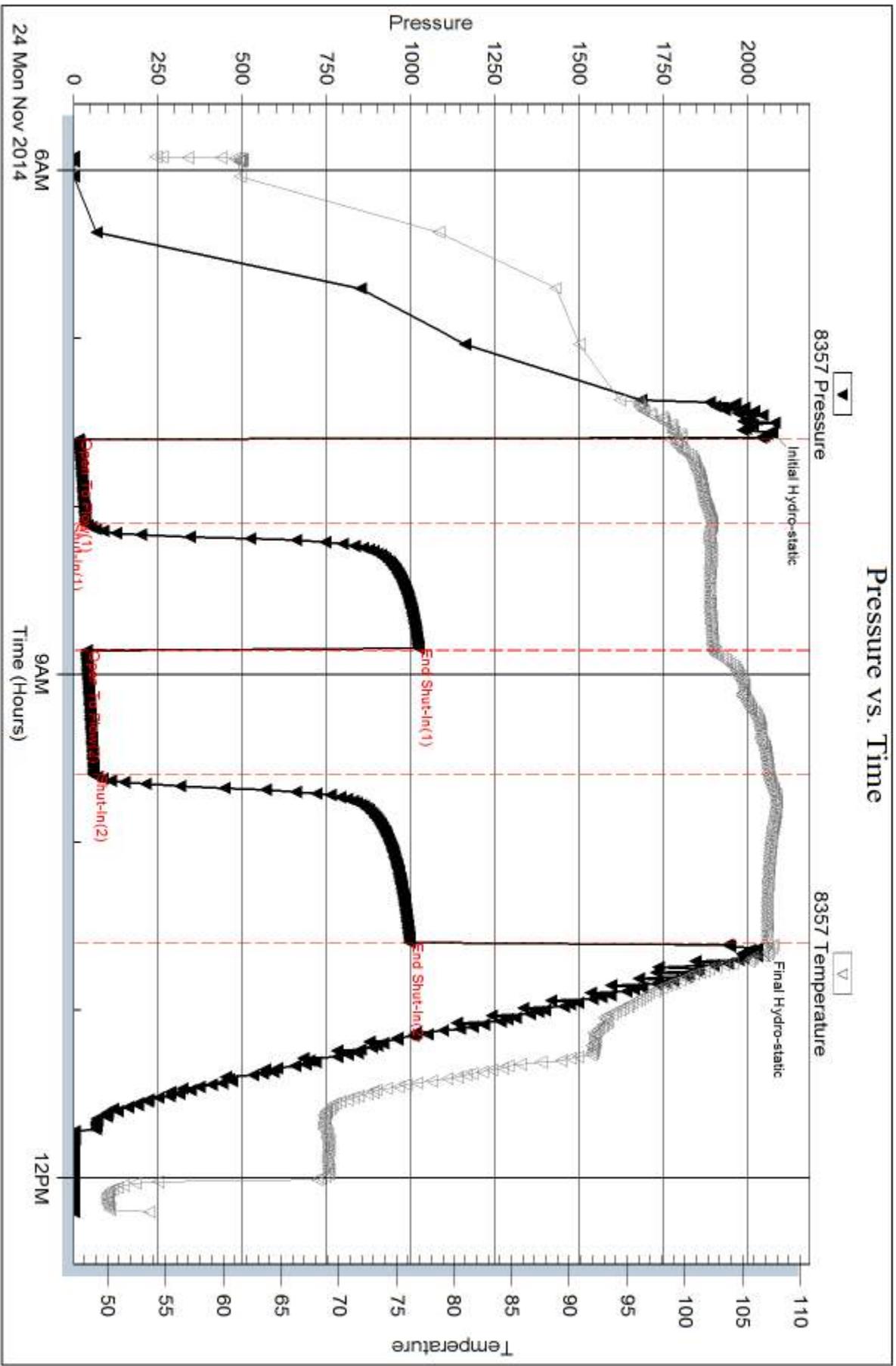
Num Gas Bombs: 0

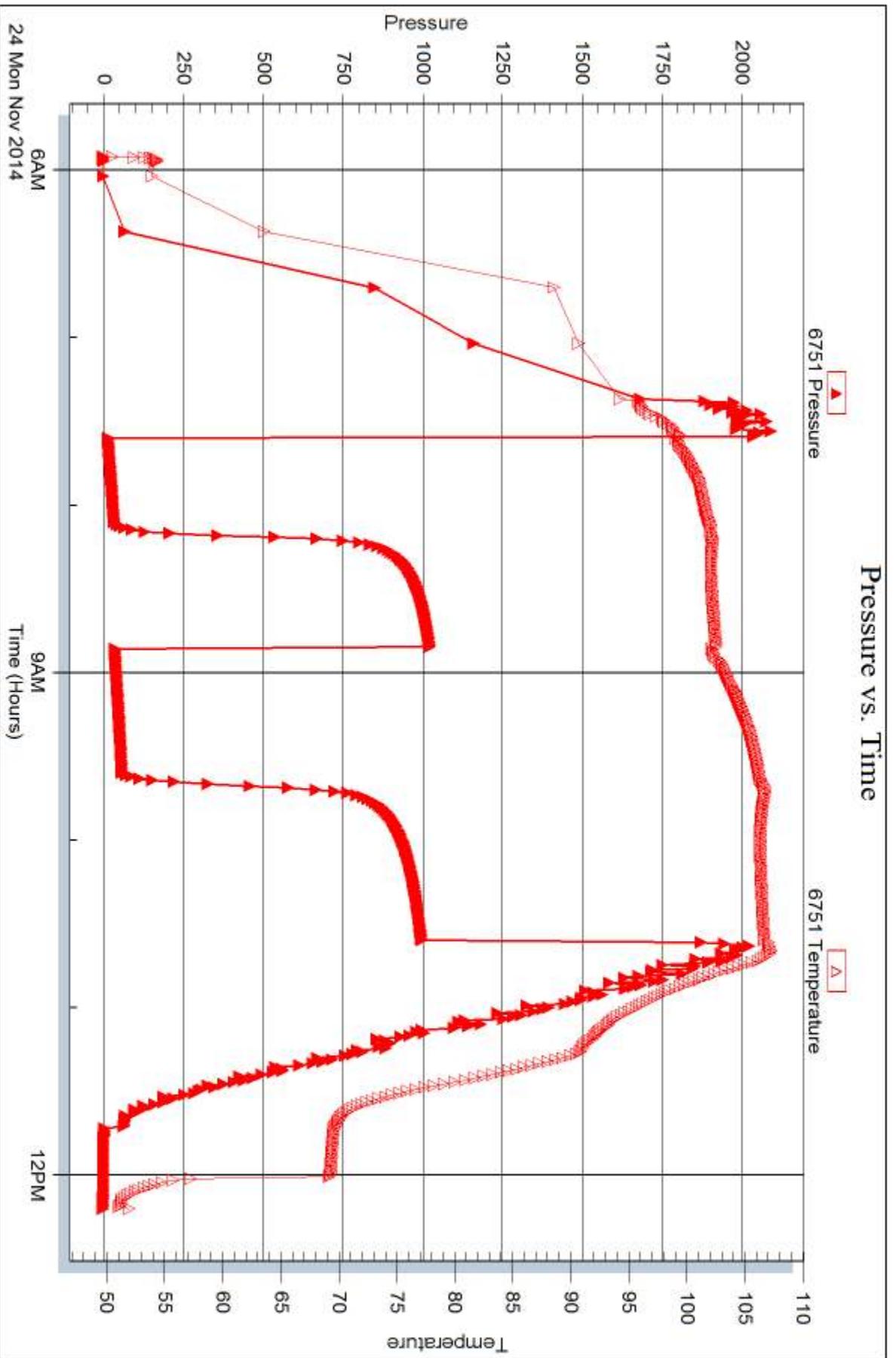
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 26 @ 60 Degrees F = 26







## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.24 @ 21:51:00

End Date: 2014.11.25 @ 03:46:50

Job Ticket #: 59198                      DST #: 6

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

Printed: 2014.11.28 @ 16:20:45



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59198

**DST#: 6**

ATTN: Max Lovely

Test Start: 2014.11.24 @ 21:51:00

## GENERAL INFORMATION:

Formation: **LKC 'J,K'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:01:10

Time Test Ended: 03:46:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 4134.00 ft (KB) To 4190.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 4190.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 479.74 psig @ 4137.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.24

End Date:

2014.11.25

Last Calib.:

2014.11.25

Start Time: 21:51:02

End Time:

03:46:49

Time On Btm:

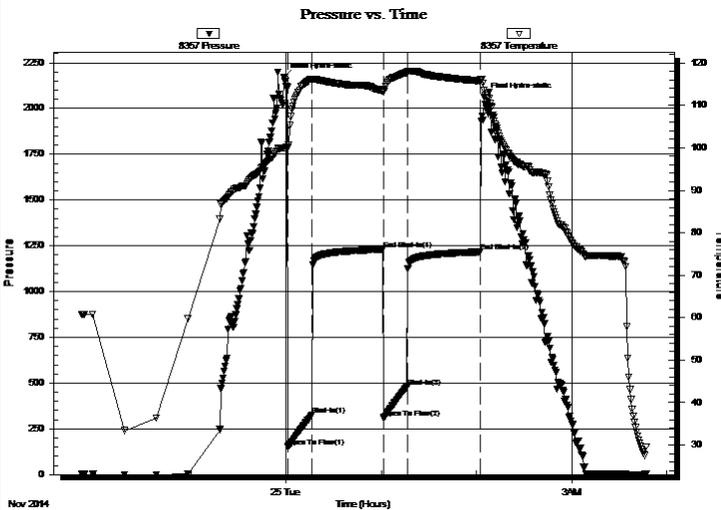
2014.11.24 @ 23:58:40

Time Off Btm:

2014.11.25 @ 02:04:40

**TEST COMMENT:** 15- B.O.B. @ 3 1/2 min.  
45- Weak return died @ 4 min.  
15- B.O.B. @ 3 3/4 min.  
45- No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2172.70	100.03	Initial Hydro-static
3	148.94	100.08	Open To Flow (1)
18	327.15	116.19	Shut-In(1)
63	1230.29	113.44	End Shut-In(1)
63	309.19	113.40	Open To Flow (2)
78	479.74	117.76	Shut-In(2)
124	1217.11	115.81	End Shut-In(2)
126	2060.97	113.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
306.00	MCW 25m 75w W/ Oil spots in tool.	3.20
496.00	MCW 45m 55w	6.96
190.00	WCM 5w 95m	2.67

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59198

**DST#: 6**

ATTN: Max Lovely

Test Start: 2014.11.24 @ 21:51:00

## Tool Information

Drill Pipe:	Length: 4011.00 ft	Diameter: 3.80 inches	Volume: 56.26 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 56.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4134.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	76.00 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			4115.00	
Shut In Tool	5.00			4120.00	
Hydraulic tool	5.00			4125.00	
Packer	5.00			4130.00	20.00 Bottom Of Top Packer
Packer	4.00			4134.00	
Stubb	1.00			4135.00	
Perforations	2.00			4137.00	
Recorder	0.00	8357	Inside	4137.00	
Recorder	0.00	6751	Outside	4137.00	
Perforations	17.00			4154.00	
Change Over Sub	1.00			4155.00	
Drill Pipe	31.00			4186.00	
Change Over Sub	1.00			4187.00	
Bullnose	3.00			4190.00	56.00 Bottom Packers & Anchor

**Total Tool Length: 76.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59198

**DST#: 6**

ATTN: Max Lovely

Test Start: 2014.11.24 @ 21:51:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 49.00 sec/qt  
Water Loss: 8.77 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 7000.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: 43000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
306.00	MCW 25m 75w W/ Oil spots in tool.	3.199
496.00	MCW 45m 55w	6.958
190.00	WCM 5w 95m	2.665

Total Length: 992.00 ft Total Volume: 12.822 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

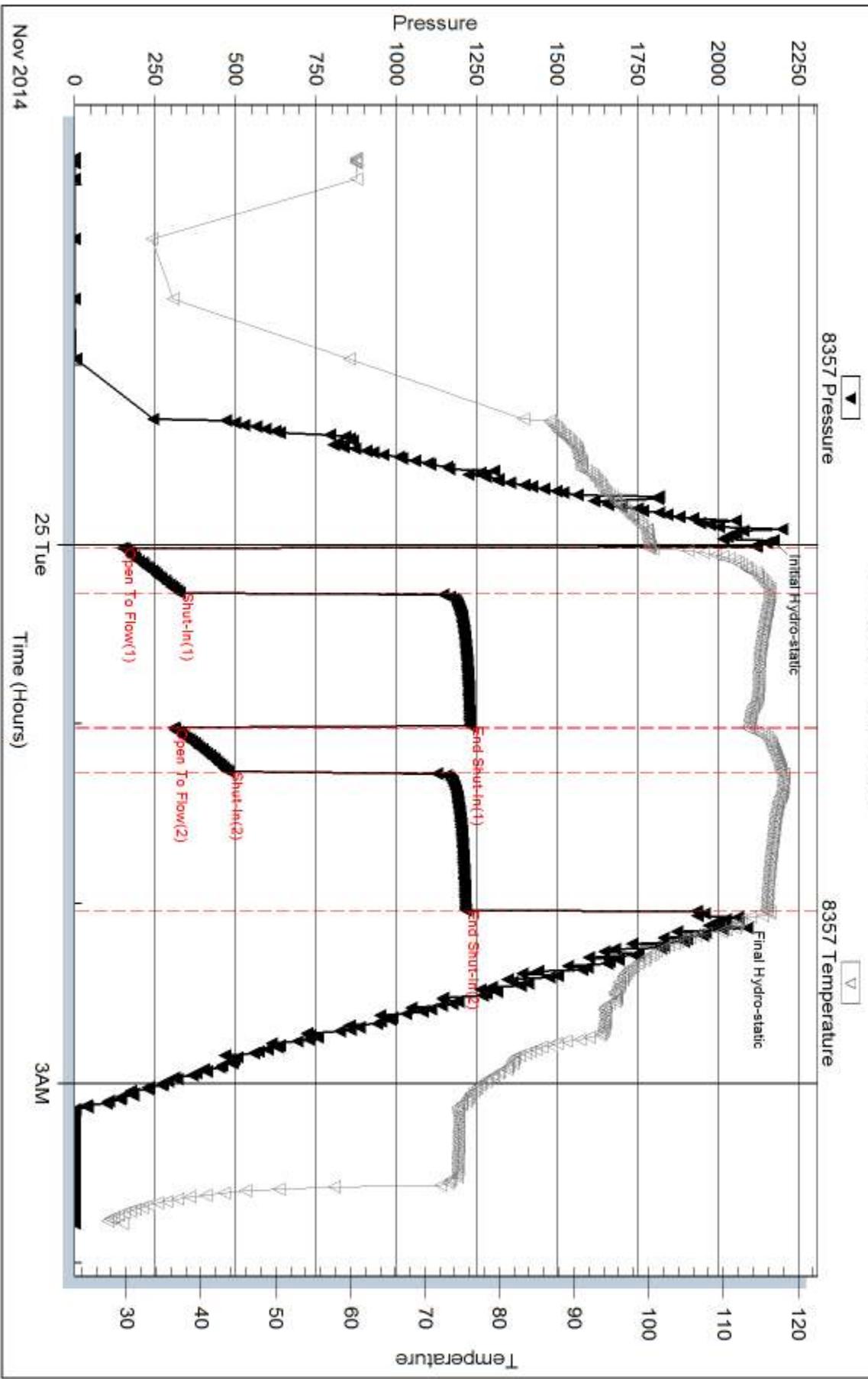
Serial #:

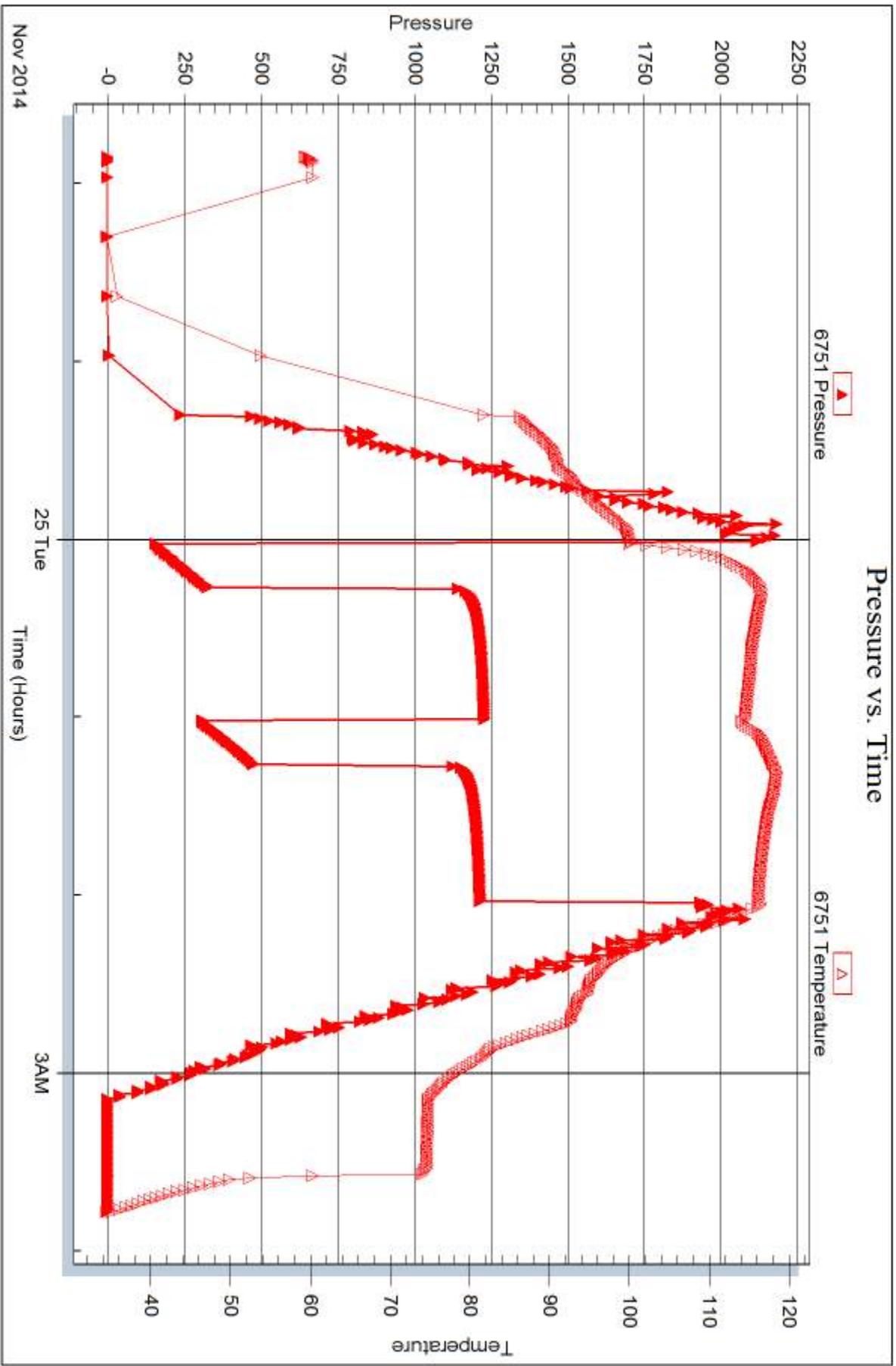
Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .221 @ 55 Degrees F = 43000 PPM

### Pressure vs. Time







## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

#### **31-15s-34w Logan,KS**

Start Date: 2014.11.25 @ 20:50:00

End Date: 2014.11.26 @ 03:53:00

Job Ticket #: 59199                      DST #: 7

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

Printed: 2014.11.28 @ 16:19:25



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59199

**DST#: 7**

ATTN: Max Lovely

Test Start: 2014.11.25 @ 20:50:00

## GENERAL INFORMATION:

Formation: **Altamont 'A-C'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:03:50

Time Test Ended: 03:53:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 4278.00 ft (KB) To 4366.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 4366.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 155.82 psig @ 4344.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.25

End Date:

2014.11.26

Last Calib.: 2014.11.26

Start Time: 20:50:02

End Time:

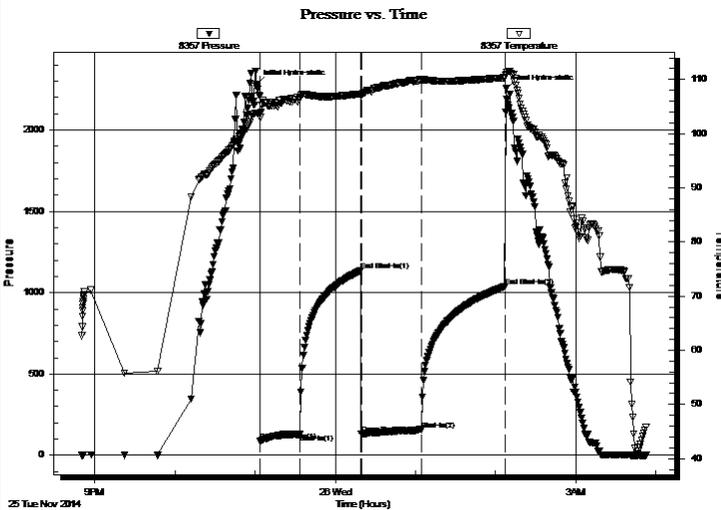
03:53:00

Time On Btm: 2014.11.25 @ 23:01:20

Time Off Btm: 2014.11.26 @ 02:07:50

TEST COMMENT: 30- 3 1/2" Blow .  
45- No return.  
45- 2" Blow .  
60- No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2282.33	103.85	Initial Hydro-static
3	86.16	102.97	Open To Flow (1)
33	129.61	106.48	Shut-In(1)
78	1135.62	107.32	End Shut-In(1)
78	129.97	107.04	Open To Flow (2)
123	155.82	110.01	Shut-In(2)
186	1037.88	110.33	End Shut-In(2)
187	2253.07	110.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
182.00	M 100m Oil spots on top of tool.	1.46

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59199

**DST#: 7**

ATTN: Max Lovely

Test Start: 2014.11.25 @ 20:50:00

## Tool Information

Drill Pipe:	Length: 4136.00 ft	Diameter: 3.80 inches	Volume: 58.02 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.50 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4278.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	88.00 ft			
Tool Length:	115.50 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			4251.50	
Shut In Tool	5.00			4256.50	
Hydraulic tool	5.00			4261.50	
Jars	5.00			4266.50	
Safety Joint	2.50			4269.00	
Packer	5.00			4274.00	27.50 Bottom Of Top Packer
Packer	4.00			4278.00	
Stubb	1.00			4279.00	
Perforations	2.00			4281.00	
Change Over Sub	1.00			4282.00	
Drill Pipe	61.00			4343.00	
Change Over Sub	1.00			4344.00	
Recorder	0.00	8357	Inside	4344.00	
Recorder	0.00	6751	Outside	4344.00	
Perforations	19.00			4363.00	
Bullnose	3.00			4366.00	88.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>115.50</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59199

**DST#: 7**

ATTN: Max Lovely

Test Start: 2014.11.25 @ 20:50:00

## 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: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.55 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7200.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
182.00	M 100m Oil spots on top of tool.	1.460

Total Length: 182.00 ft      Total Volume: 1.460 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

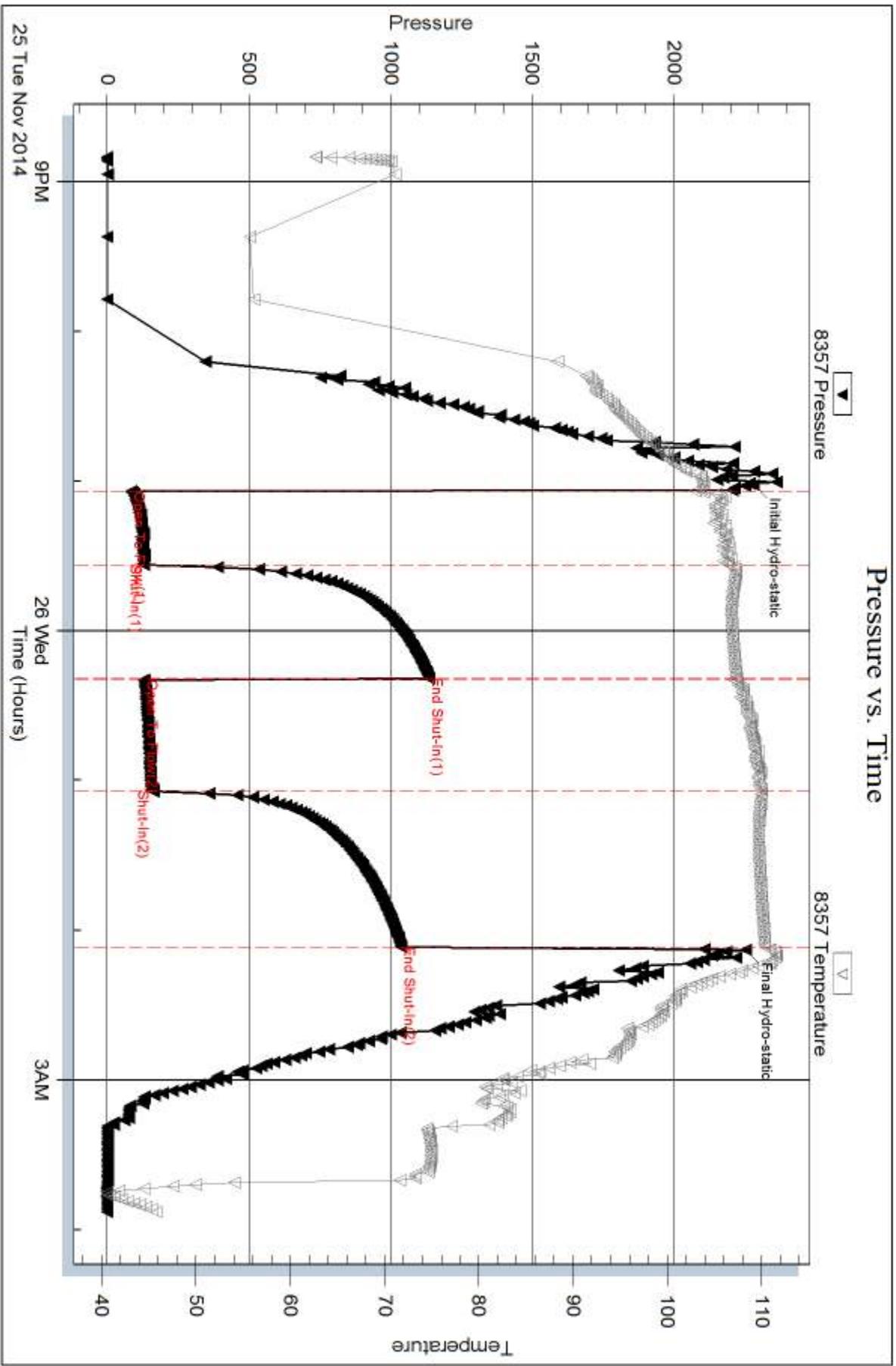
Serial #: 8357

Inside

Ritchie Exploration, Inc.

Baker 31C #1

DST Test Number: 7

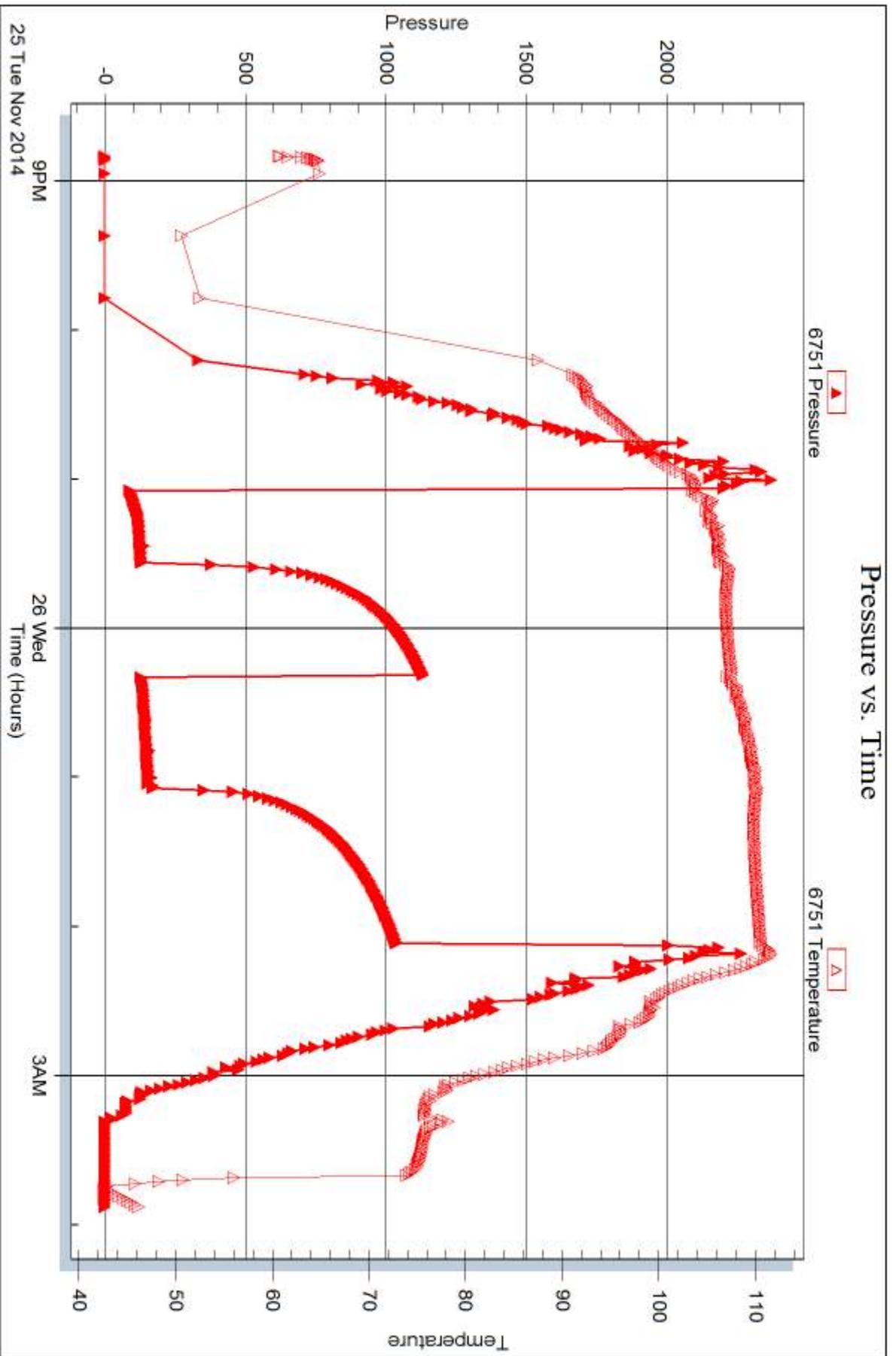


Serial #: 6751

Outside Ritchie Exploration, Inc.

Baker 31C #1

DST Test Number: 7





## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.26 @ 20:38:00

End Date: 2014.11.27 @ 03:20:09

Job Ticket #: 59200                      DST #: 8

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

Printed: 2014.11.28 @ 16:19:00



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59200

**DST#: 8**

ATTN: Max Lovely

Test Start: 2014.11.26 @ 20:38:00

## GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:46:30

Time Test Ended: 03:20:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 4426.00 ft (KB) To 4462.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 4462.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357**

**Inside**

Press@RunDepth: 61.19 psig @ 4429.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.26

End Date:

2014.11.27

Last Calib.: 2014.11.27

Start Time: 20:38:02

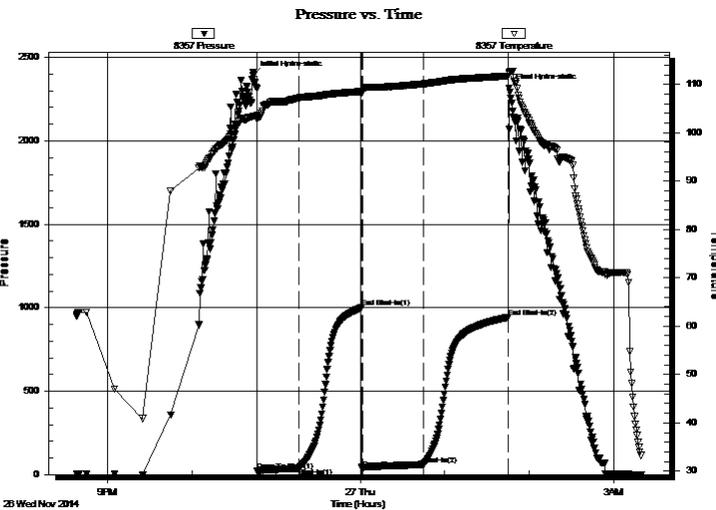
End Time:

03:20:10

Time On Btm: 2014.11.26 @ 22:43:50

Time Off Btm: 2014.11.27 @ 01:46:00

TEST COMMENT: 30- B.O.B. @ 30 min.  
45- No return.  
45- B.O.B. @ 18 min.  
60- 1/2" Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2395.90	103.42	Initial Hydro-static
3	20.12	102.74	Open To Flow (1)
32	38.40	107.20	Shut-In(1)
77	1000.09	108.54	End Shut-In(1)
78	33.97	108.31	Open To Flow (2)
121	61.19	110.10	Shut-In(2)
182	942.45	111.74	End Shut-In(2)
183	2315.16	112.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	GOCM 20g 15o 65m	0.37
25.00	CGO 60g 40o	0.12
0.00	270' Weak GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59200

**DST#: 8**

ATTN: Max Lovely

Test Start: 2014.11.26 @ 20:38:00

## Tool Information

Drill Pipe:	Length: 4295.00 ft	Diameter: 3.80 inches	Volume: 60.25 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.84 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4426.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	56.00 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			4407.00	
Shut In Tool	5.00			4412.00	
Hydraulic tool	5.00			4417.00	
Packer	5.00			4422.00	20.00 Bottom Of Top Packer
Packer	4.00			4426.00	
Stubb	1.00			4427.00	
Perforations	2.00			4429.00	
Recorder	0.00	8357	Inside	4429.00	
Recorder	0.00	6751	Outside	4429.00	
Perforations	30.00			4459.00	
Bullnose	3.00			4462.00	36.00 Bottom Packers & Anchor

**Total Tool Length: 56.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 59200

**DST#: 8**

ATTN: Max Lovely

Test Start: 2014.11.26 @ 20:38:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 48.00 sec/qt  
Water Loss: 9.55 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6500.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 38 deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	GOCM 20g 15o 65m	0.369
25.00	CGO 60g 40o	0.123
0.00	270' Weak GIP	0.000

Total Length: 100.00 ft      Total Volume: 0.492 bbl

Num Fluid Samples: 0

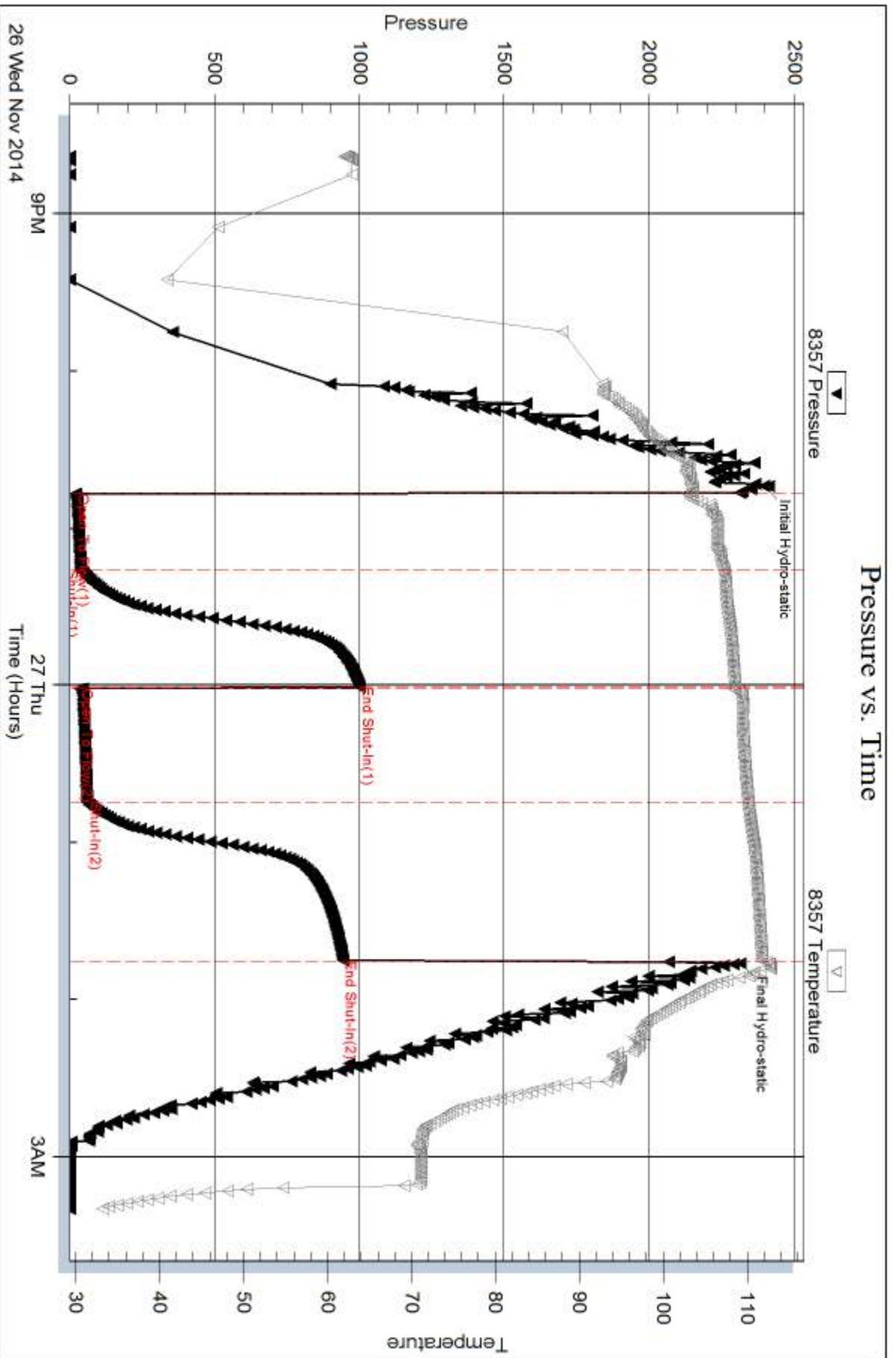
Num Gas Bombs: 0

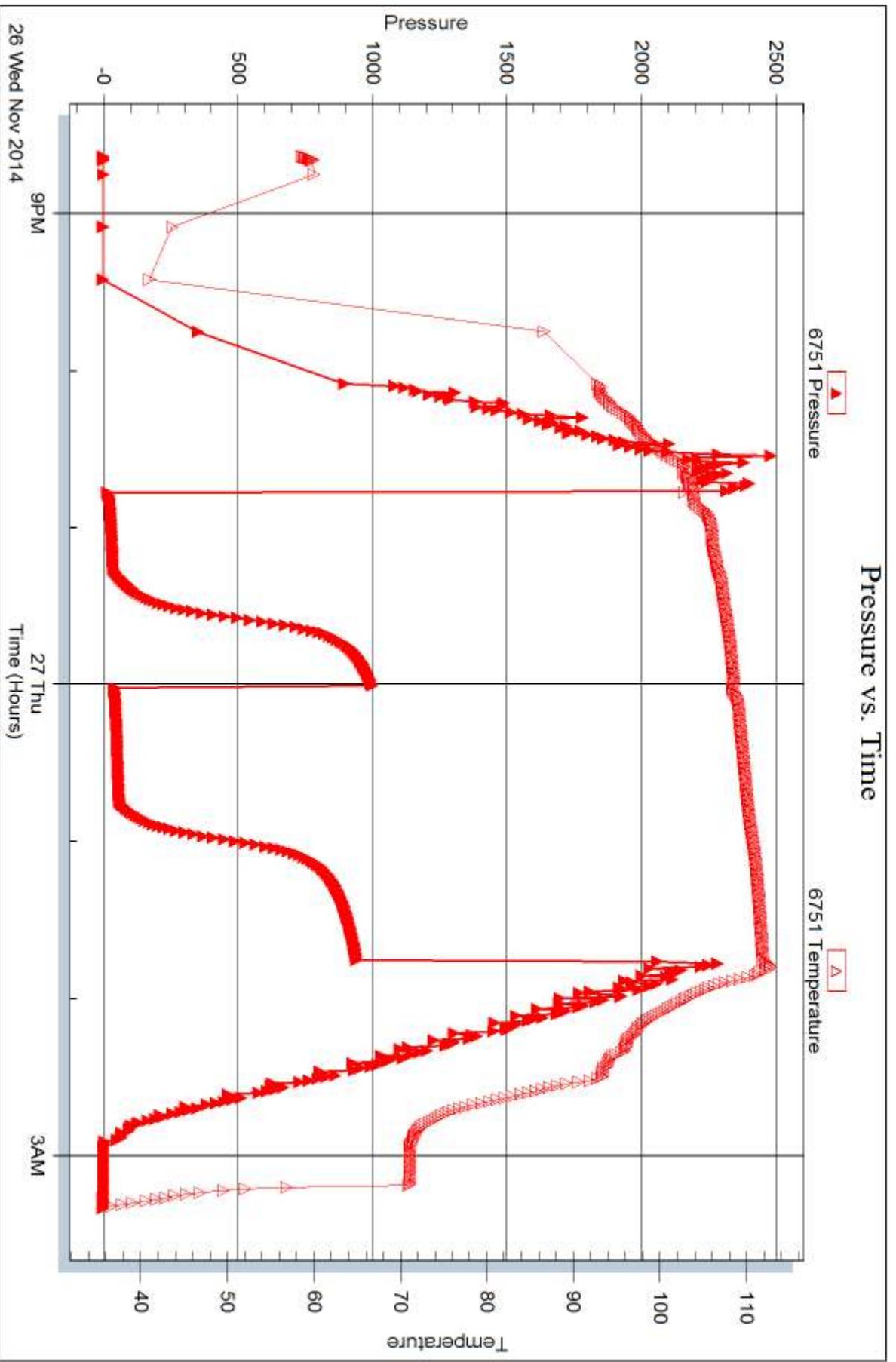
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 35 @ 30 Degrees F = 38.







## DRILL STEM TEST REPORT

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

PO Box 83188  
Wichita, KS 67278

ATTN: Max Lovely

### **Baker 31C #1**

### **31-15s-34w Logan,KS**

Start Date: 2014.11.27 @ 14:27:00

End Date: 2014.11.27 @ 19:57:09

Job Ticket #: 58476                      DST #: 9

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

Printed: 2014.11.28 @ 16:17:10

Ritchie Exploration, Inc. 31-15s-34w Logan,KS Baker 31C #1 DST # 9 Cherokee 2014.11.27



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 58476

**DST#: 9**

ATTN: Max Lovely

Test Start: 2014.11.27 @ 14:27:00

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:05:50

Time Test Ended: 19:57:09

Test Type: Conventional Bottom Hole (Reset)

Tester: Chuck Smith

Unit No: 61

**Interval: 4525.00 ft (KB) To 4546.00 ft (KB) (TVD)**

Reference Elevations: 3049.00 ft (KB)

Total Depth: 4546.00 ft (KB) (TVD)

3044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8357 Inside**

Press@RunDepth: 24.61 psig @ 4528.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.27 End Date: 2014.11.27

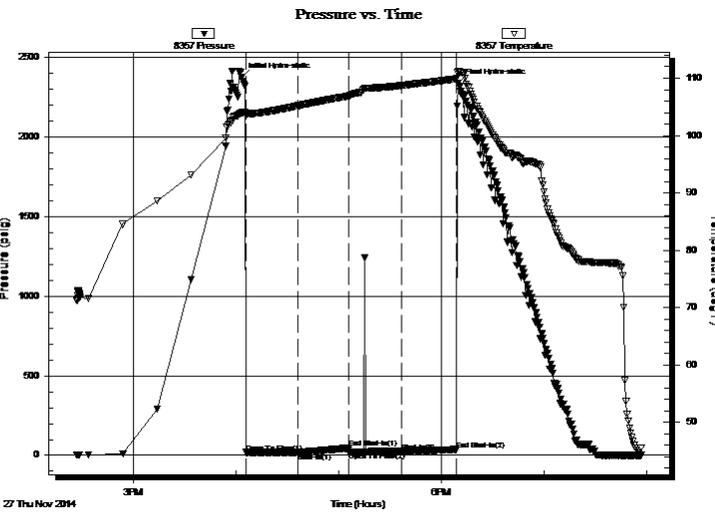
Last Calib.: 2014.11.27

Start Time: 14:27:02 End Time: 19:57:10

Time On Btm: 2014.11.27 @ 16:03:20

Time Off Btm: 2014.11.27 @ 18:10:10

**TEST COMMENT:** 30- 1/4" Blow died @ 20 min.  
30- No return.  
30- No blow , flushed tool, no blow .  
30- No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2373.58	103.96	Initial Hydro-static
3	17.88	103.52	Open To Flow (1)
33	18.97	105.20	Shut-In(1)
63	46.22	106.90	End Shut-In(1)
63	19.39	106.92	Open To Flow (2)
94	24.61	108.72	Shut-In(2)
126	35.09	109.89	End Shut-In(2)
127	2339.54	111.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OSM 100m	0.02

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 58476

**DST#: 9**

ATTN: Max Lovely

Test Start: 2014.11.27 @ 14:27:00

## Tool Information

Drill Pipe:	Length: 4390.00 ft	Diameter: 3.80 inches	Volume: 61.58 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 62.17 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4525.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 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			4506.00	
Shut In Tool	5.00			4511.00	
Hydraulic tool	5.00			4516.00	
Packer	5.00			4521.00	20.00 Bottom Of Top Packer
Packer	4.00			4525.00	
Stubb	1.00			4526.00	
Perforations	2.00			4528.00	
Recorder	0.00	8357	Inside	4528.00	
Recorder	0.00	6751	Outside	4528.00	
Perforations	15.00			4543.00	
Bullnose	3.00			4546.00	21.00 Bottom Packers & Anchor

**Total Tool Length: 41.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration, Inc.

**31-15s-34w Logan,KS**

PO Box 83188  
Wichita, KS 67278

**Baker 31C #1**

Job Ticket: 58476

**DST#: 9**

ATTN: Max Lovely

Test Start: 2014.11.27 @ 14:27:00

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OSM 100m	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

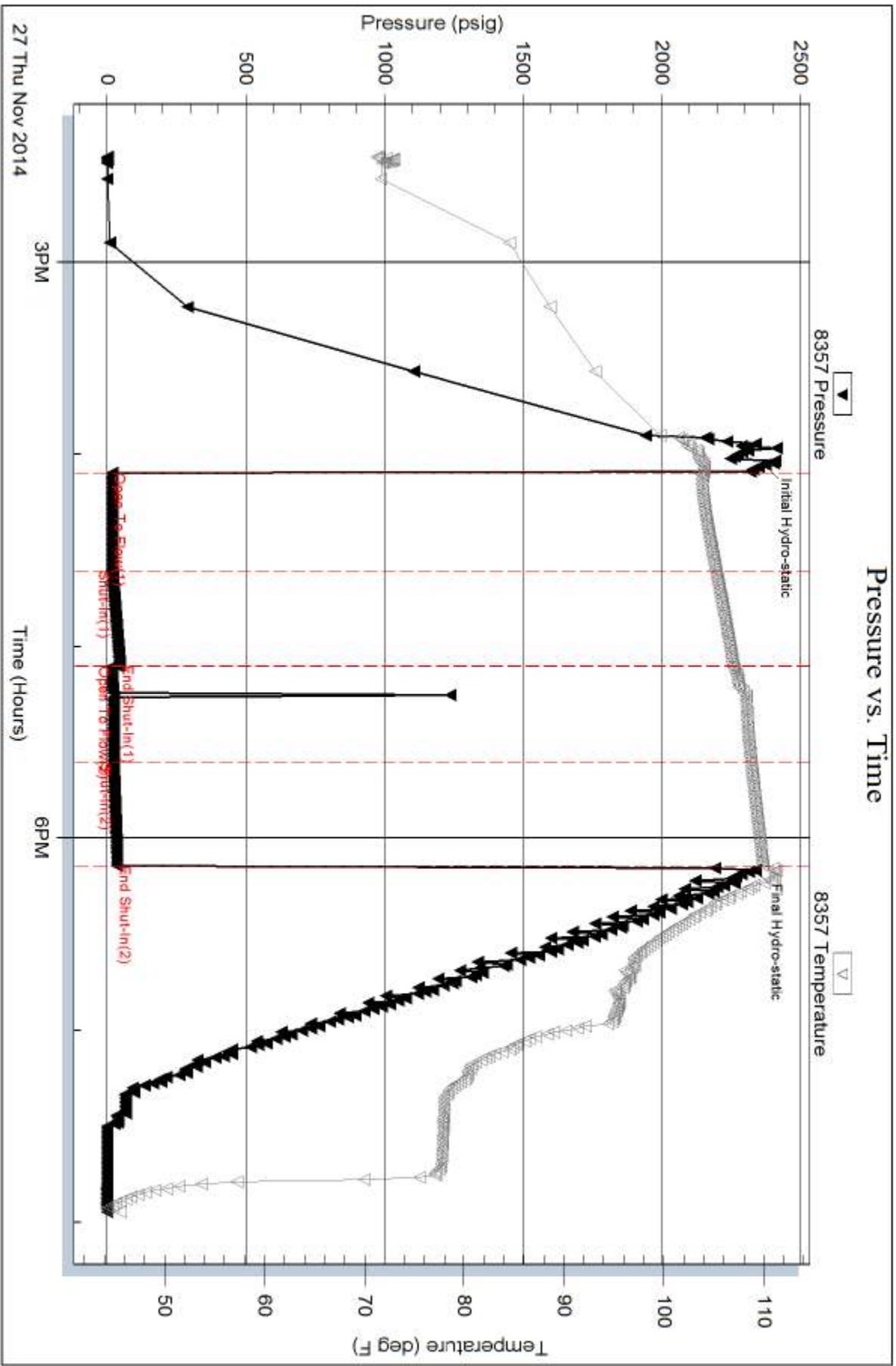
Num Gas Bombs: 0

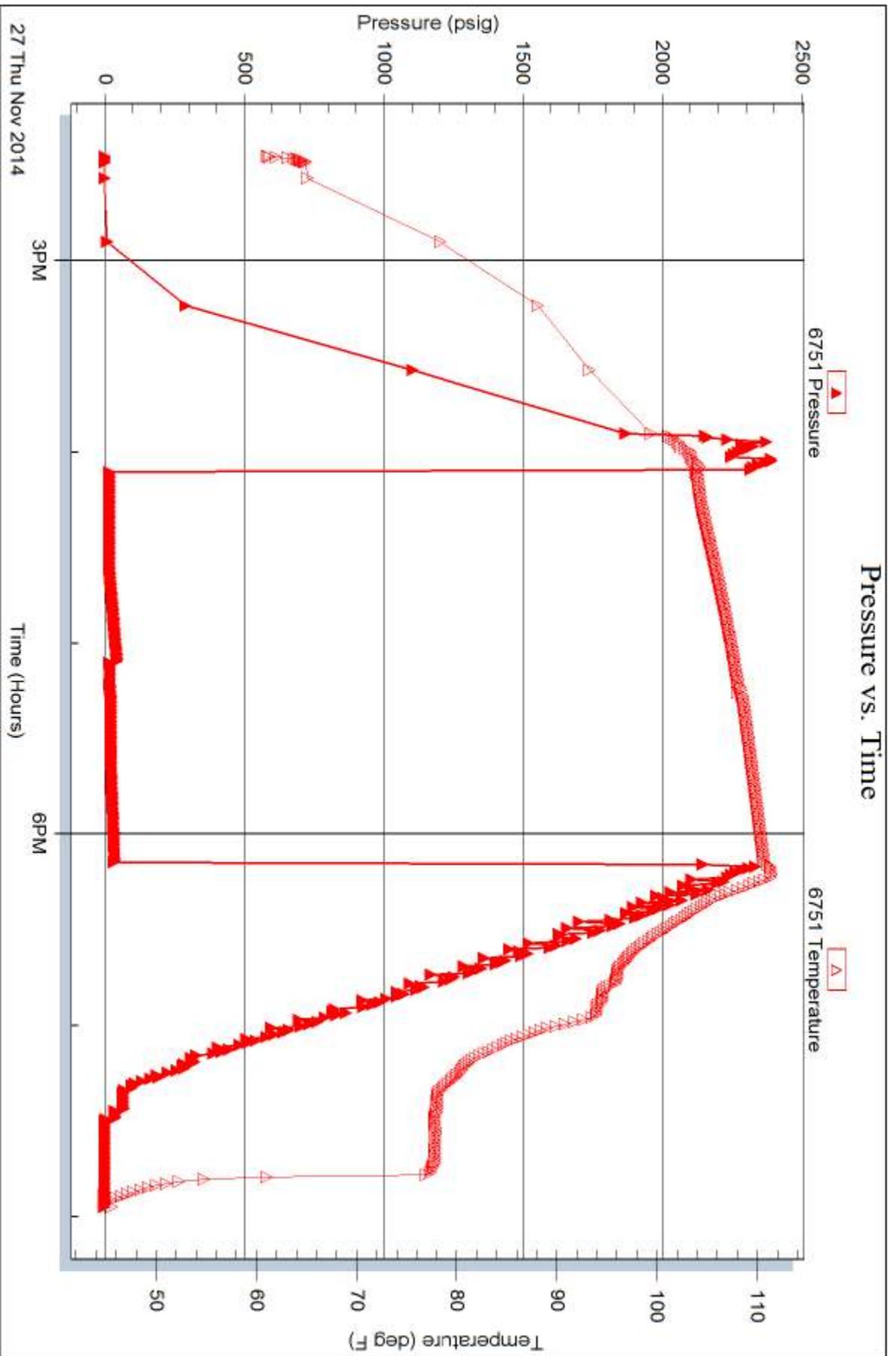
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59193

4/10

Well Name & No. #1 Baker 31c Test No. 1 Date 11-21-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address POB 83188 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW\*2  
 Location: Sec. 31 Twp. 15s Rge. 34w Co. Wichita Logan State KS

Interval Tested 3851 - 3886 Zone Tested Toronto  
 Anchor Length 35 Drill Pipe Run 3723 Mud Wt. 8.6  
 Top Packer Depth 3847 Drill Collars Run 120 Vis 55  
 Bottom Packer Depth 3851 Wt. Pipe Run 0 WL 9.6  
 Total Depth 3886 Chlorides 6000 ppm System LCM 2<sup>c</sup>  
 Blow Description 5" Blow  
No return  
4 1/2" Blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>67</u>	Feet of <u>OSM</u>				<u>100%</u>
Rec <u>120</u>	Feet of <u>OSWM</u>			<u>25%</u>	<u>75%</u>
Rec _____	Feet of _____				
Rec _____	Feet of _____				

Rec Total 187 BHT 108 Gravity - API RW .310 @ 35 °F Chlorides 50,000 ppm  
 (A) Initial Hydrostatic 1820  Test 1150 T-On Location 15:40  
 (B) First Initial Flow 20  Jars 250 T-Started 16:30  
 (C) First Final Flow 75  Safety Joint 75 T-Open 19:02  
 (D) Initial Shut-In 853  Circ Sub N/C T-Pulled 22:07  
 (E) Second Initial Flow 79  Hourly Standby \_\_\_\_\_ T-Out 00:03  
 (F) Second Final Flow 103  Mileage 61RT 94.55  
 (G) Final Shut-In 843  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1857  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1569.55  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1569.55

Approved By [Signature] Our Representative Chuck Smith

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. 59194

4/10

Well Name & No. #1 Baker 31C Test No. 2 Date 11-22-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address POB 83188 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15W05 Rge. 34W Co. Wichita Logan State KS

Interval Tested 3896-3923 Zone Tested Lansing 'A'  
 Anchor Length 27 Drill Pipe Run 3754 Mud Wt. 8.7  
 Top Packer Depth 3892 Drill Collars Run 120 Vis 56  
 Bottom Packer Depth 3896 Wt. Pipe Run 0 WL 9.6  
 Total Depth 3923 Chlorides 6000 ppm System LCM 2\*

Blow Description B.O.B. @ 16 1/2 min.  
Weak surface return died @  
B.O.B. @ 21 min.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>660</u>	<u>99</u>			
<u>460</u>	<u>05 MW</u>		<u>9.5</u>		<u>5</u>

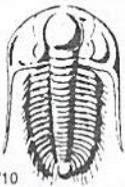
Rec Total 461 BHT 113 Gravity 20 API RW 147 @ 70 ° F Chlorides 50000 ppm

(A) Initial Hydrostatic 1897  Test 1150 T-On Location 6:19  
 (B) First Initial Flow 23  Jars 1 T-Started 6:20  
 (C) First Final Flow 135  Safety Joint \_\_\_\_\_ T-Open 7:52  
 (D) Initial Shut-In 892  Circ Sub NIC T-Pulled 10:52  
 (E) Second Initial Flow 137  Hourly Standby \_\_\_\_\_ T-Out 12:34  
 (F) Second Final Flow 238  Mileage 61 RT 94.55 Comments \_\_\_\_\_  
 (G) Final Shut-In 872  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1874  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Total 1244.55  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1244.55

Approved By Max Lovely Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **59195**

4/10

Well Name & No. #1 Baker 3/C Test No. 3 Date 11-22-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address POB 83188 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15s Rge. 34w Co. Logan State KS

Interval Tested 3930-3948 Zone Tested Lansing 'c'  
 Anchor Length 18 Drill Pipe Run 3820 Mud Wt. 8.8  
 Top Packer Depth 3926 Drill Collars Run 120 Vis 58  
 Bottom Packer Depth 3930 Wt. Pipe Run 0 WL 7.2  
 Total Depth 3948 Chlorides 5000 ppm System LCM 2<sup>nd</sup>

Blow Description B.O.B. @ 29 min.  
No return.  
10" Blow  
No return.

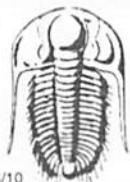
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>30</u>	Feet of <u>SOCMW</u>	%gas	<u>2</u> %oil	<u>50</u> %water	<u>48</u> %mud
Rec <u>306</u>	Feet of <u>OSMW</u>	%gas	%oil	<u>80</u> %water	<u>20</u> %mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 336 BHT 113 Gravity — API RW .260 @ 40 ° F Chlorides 52000 ppm

(A) Initial Hydrostatic 1957  Test 1150 T-On Location 18:45  
 (B) First Initial Flow 17  Jars \_\_\_\_\_ T-Started 18:48  
 (C) First Final Flow 109  Safety Joint \_\_\_\_\_ T-Open 21:05  
 (D) Initial Shut-In 279  Circ Sub NIC T-Pulled 00:06  
 (E) Second Initial Flow 110  Hourly Standby \_\_\_\_\_ T-Out 1:38  
 (F) Second Final Flow 162  Mileage 94.55 Comments \_\_\_\_\_  
 (G) Final Shut-In 277  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1944  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1244.55  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60 Sub Total 1244.55

Approved By [Signature] Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59196

Well Name & No. #1 Baker 31C Test No. 4 Date 11-23-14  
 Company Ritchie Exploration Elevation 703049 KB 3044 GL  
 Address POB 83188 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15s Rge. 34w Co. Logan State KS

Interval Tested 3985 - 4016 Zone Tested Lansing 'E,F'  
 Anchor Length 31 Drill Pipe Run 3852 Mud Wt. 8.9  
 Top Packer Depth 3981 Drill Collars Run 120 Vis 54  
 Bottom Packer Depth 3985 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4016 Chlorides 6000 ppm System LCM 2"  
 Blow Description 2" Blow.  
No return.  
1" Blow.  
No return.

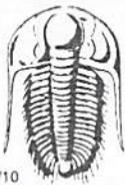
Rec	Feet of	%gas	%oil	%water	%mud
<u>5121</u>	<u>SOCM</u>	<u>2</u>		<u>98</u>	
<u>60</u>	<u>OSM</u>		<u>15</u>	<u>85</u>	

Rec Total 121 BHT 107 Gravity — API RW 196 @ 51 °F Chlorides 5500 ppm

(A) Initial Hydrostatic 2024  Test 1250 T-On Location 9:44  
 (B) First Initial Flow 16  Jars \_\_\_\_\_ T-Started 9:45  
 (C) First Final Flow 48  Safety Joint \_\_\_\_\_ T-Open 11:44  
 (D) Initial Shut-In 887  Circ Sub NIC T-Pulled 14:15  
 (E) Second Initial Flow 50  Hourly Standby \_\_\_\_\_ T-Out 16:19  
 (F) Second Final Flow 73  Mileage 61RT 94.55 Comments \_\_\_\_\_  
 (G) Final Shut-In 825  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1891  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1344.55  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1344.55

Approved By Max Lovely Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59197

4/10

Well Name & No. #1 Baker 31C Test No. 5 Date 11-24-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address POB 83188 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15s Rge. 34W Co. Logan State KS

Interval Tested 4102 - 4130 Zone Tested Lansing 'I'  
 Anchor Length 28 Drill Pipe Run 3979 Mud Wt. 9.0  
 Top Packer Depth 4098 Drill Collars Run 120 Vis 55  
 Bottom Packer Depth 4102 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4130 Chlorides 7000 ppm System LCM 1#

Blow Description 3" Blow.  
No return.  
2" Blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>45</u>	Feet of <u>CGO</u>	<u>2</u> %gas	<u>98</u> %oil	%water	%mud
Rec <u>60</u>	Feet of <u>OCM</u>	%gas <u>15</u>	%oil	%water <u>85</u>	%mud
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 105 BHT 107 Gravity 26 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2073  Test 1250 T-On Location 5:55  
 (B) First Initial Flow 15  Jars \_\_\_\_\_ T-Started 5:55  
 (C) First Final Flow 35  Safety Joint \_\_\_\_\_ T-Open 7:36  
 (D) Initial Shut-In 1023  Circ Sub N/C T-Pulled 10:36  
 (E) Second Initial Flow 38  Hourly Standby \_\_\_\_\_ T-Out 12:12  
 (F) Second Final Flow 60  Mileage 61RT 94.55 Comments \_\_\_\_\_  
 (G) Final Shut-In 997  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2030  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Total 1344.55  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1344.55

Approved By [Signature] Our Representative Chuck Smith

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. 59198

4/10

Well Name & No. <u>#1 Baker 31C</u>	Test No. <u>6</u>	Date <u>11-24-14</u>
Company <u>Ritchie Exploration</u>	Elevation <u>3049</u>	KB <u>3044</u> GL
Address <u>POB 83188 Wichita, KS 67278</u>		
Co. Rep / Geo. <u>Max Lovely</u>	Rig <u>WW #2</u>	
Location: Sec. <u>31</u> Twp. <u>15s</u> Rge. <u>34W</u> Co. <u>Logan</u> State <u>KS</u>		

Interval Tested <u>4134-4190</u>	Zone Tested <u>Lansing 'J-K'</u>
Anchor Length <u>56</u>	Drill Pipe Run <u>401P</u> Mud Wt. <u>9.0</u>
Top Packer Depth <u>4130</u>	Drill Collars Run <u>120</u> Vis <u>49</u>
Bottom Packer Depth <u>4134</u>	Wt. Pipe Run <u>0</u> WL <u>8.8</u>
Total Depth <u>4190</u>	Chlorides <u>7000</u> ppm System LCM <u>2*</u>

Blow Description B.O.B. @ 3 1/2 min.  
Weak return died @ 4 min.  
B.O.B. @ 3 3/4 min.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>WCM</u>		<u>5</u>	<u>95</u>	
<u>496</u>	<u>MCW</u>		<u>55</u>	<u>45</u>	
<u>306</u>	<u>MCW w/oil spots in tool.</u>		<u>75</u>	<u>2.5</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

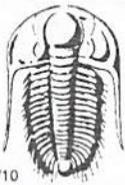
Rec Total 992 BHT 116 Gravity - API RW .221 @ 55 °F Chlorides 43000 ppm

(A) Initial Hydrostatic <u>2173</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>21:50</u>
(B) First Initial Flow <u>149</u>	<input type="checkbox"/> Jars	T-Started <u>21:51</u>
(C) First Final Flow <u>327</u>	<input type="checkbox"/> Safety Joint	T-Open <u>00:01</u>
(D) Initial Shut-In <u>1230</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>2:02</u>
(E) Second Initial Flow <u>309</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>3:47</u>
(F) Second Final Flow <u>480</u>	<input checked="" type="checkbox"/> Mileage <u>61RT</u> 94.55	Comments
(G) Final Shut-In <u>1217</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2061</u>	<input type="checkbox"/> Straddle	

Initial Open <u>15</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>45</u>	<input checked="" type="checkbox"/> Ruined Packer <u>320</u>
Final Flow <u>15</u>	<input type="checkbox"/> Extra Copies
Final Shut-In <u>45</u>	Sub Total <u>320</u>
	Total <u>1664.55</u>
	MP/DST Disc't
Sub Total <u>1344.55</u>	

Approved By DG Love Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59199

4/10

Well Name & No. #1 Baker 310 Test No. 7 Date 11-25-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address POB 81388 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15s Rge. 34w Co. Logan State KS

Interval Tested 4278 - 4366 Zone Tested Altamont 'A,B,C'  
 Anchor Length 88 Drill Pipe Run 4136 Mud Wt. 9.2  
 Top Packer Depth 4274 Drill Collars Run 120 Vis 70  
 Bottom Packer Depth 4278 Wt. Pipe Run 0 WL 9.6  
 Total Depth 4366 Chlorides 7200 ppm System LCM 2"

Blow Description 3 1/2" Blow  
No return.  
2" Blow.  
No return.

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>182</u>	Feet of <u>Mud Oil spots on top of tool.</u>				<u>100</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 182 BHT 110 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2282</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>20:35</u>
(B) First Initial Flow <u>86</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>20:50</u>
(C) First Final Flow <u>130</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:04</u>
(D) Initial Shut-In <u>1136</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>2:07</u>
(E) Second Initial Flow <u>130</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>3:53</u>
(F) Second Final Flow <u>156</u>	<input checked="" type="checkbox"/> Mileage <u>6/RT</u> 94.55	Comments
(G) Final Shut-In <u>1038</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2253</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

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

Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Sub Total 1669.55

Sub Total 1669.55

Approved By My Lovely Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 59200

4/10

Well Name & No. #1 Baker 31C Test No. 8 Date 11-26-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address P.O. Box 81388 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15s Rge. 34w Co. Logan State KS

Interval Tested 4426-4462 Zone Tested Ft. Scott  
 Anchor Length 36 Drill Pipe Run 4295 Mud Wt. 9.1  
 Top Packer Depth 4422 Drill Collars Run 120 Vis 48  
 Bottom Packer Depth 4426 Wt. Pipe Run 0 WL 9.6  
 Total Depth 4462 Chlorides 6500 ppm System LCM 2#

Blow Description B.O.B. @ 30 min.  
No return.  
B.O.B. @ 18 min.  
1/2" Return

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>25</u>	Feet of <u>660</u>	<u>60</u>	<u>40</u>		
Rec <u>75</u>	Feet of <u>600m</u>	<u>20</u>	<u>15</u>		<u>65</u>
Rec	Feet of <u>270' Weak GIP</u>				
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 100 BHT 112 Gravity 38 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm  
 (A) Initial Hydrostatic 2396  Test 1250 T-On Location 20:35  
 (B) First Initial Flow 20  Jars \_\_\_\_\_ T-Started 20:38  
 (C) First Final Flow 38  Safety Joint \_\_\_\_\_ T-Open 22:47  
 (D) Initial Shut-In 1000  Circ Sub NK T-Pulled 1:45  
 (E) Second Initial Flow 34  Hourly Standby \_\_\_\_\_ T-Out 3:20  
 (F) Second Final Flow 61  Mileage 61RT 94.55 Comments \_\_\_\_\_  
 (G) Final Shut-In 942  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2315  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  Ruined Packer 320  
 Initial Shut-In 45  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow 45  Extra Recorder \_\_\_\_\_ Sub Total 320  
 Final Shut-In 60  Day Standby \_\_\_\_\_ Total 1664.55  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1344.55

Approved By Max Lovely Our Representative Chuck Smith

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58476

4/10

Well Name & No. #1 Baker 31C Test No. 9 Date 11-27-14  
 Company Ritchie Exploration Elevation 3049 KB 3044 GL  
 Address POB 81388 Wichita, KS 67278  
 Co. Rep / Geo. Max Lovely Rig WW#2  
 Location: Sec. 31 Twp. 15S Rge. 34W Co. Logan State KS

Interval Tested 4525-4546 Zone Tested Cherokee  
 Anchor Length 21 Drill Pipe Run 4390 Mud Wt. 9.1  
 Top Packer Depth 4521 Drill Collars Run 120 Vis 56  
 Bottom Packer Depth 4525 Wt. Pipe Run 0 WL 10.4  
 Total Depth 4546 Chlorides 8800 ppm System LCM 1"

Blow Description 1/4" Blow died @ 20 min.  
No return.  
No blow, flushed tool, no blow.  
No return.

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

Rec Total 5 BHT 110 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2374</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>14:25</u>
(B) First Initial Flow <u>18</u>	<input type="checkbox"/> Jars	T-Started <u>14:27</u>
(C) First Final Flow <u>19</u>	<input type="checkbox"/> Safety Joint	T-Open <u>16:06</u>
(D) Initial Shut-In <u>46</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIC</u>	T-Pulled <u>18:09</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>19:57</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>61RT 9455 x2</u>	Comments <u>Released @ 11:30 am</u>
(G) Final Shut-In <u>35</u>	<input type="checkbox"/> Sampler <u>94.55+94.55</u>	<u>11-28-14 No test</u>
(H) Final Hydrostatic <u>2340</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</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>30</u>	<input type="checkbox"/> Day Standby	Total <u>1439.10</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1439.10</u>	

Approved By \_\_\_\_\_ Our Representative Chuck Smith

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