



DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

Baker 31B #1

31 15s 34w Logan,KS

Start Date: 2014.04.12 @ 08:48:00

End Date: 2014.04.12 @ 15:17:30

Job Ticket #: 57632 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.19 @ 13:13:17



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57632

DST#: 1

Test Start: 2014.04.12 @ 08:48:00

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:46:00

Time Test Ended: 15:17:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

Interval: 3993.00 ft (KB) To 4025.00 ft (KB) (TVD)

Total Depth: 4025.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8522 Outside

Press@RunDepth: 68.00 psig @ 3994.00 ft (KB)

Start Date: 2014.04.12

End Date:

2014.04.12

Start Time: 08:48:05

End Time:

15:17:29

Capacity: 8000.00 psig

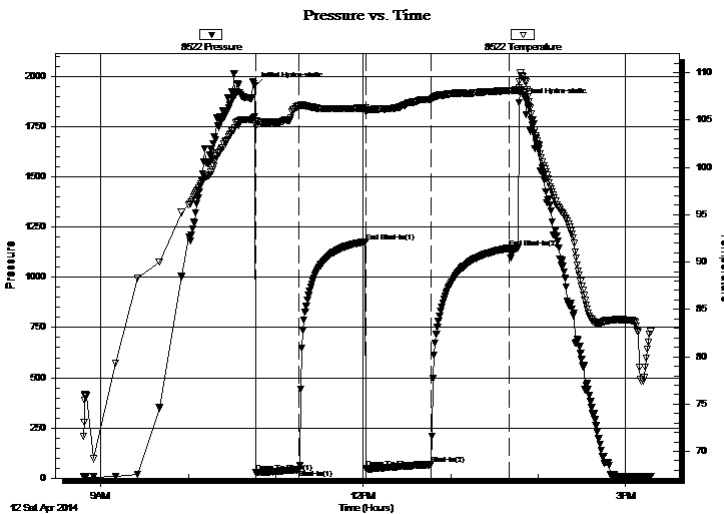
Last Calib.: 2014.04.12

Time On Btm: 2014.04.12 @ 10:45:45

Time Off Btm: 2014.04.12 @ 13:46:45

TEST COMMENT: IF: 3/4" blow.
IS: No return.
FF: Surface blow.
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1952.02	105.39	Initial Hydro-static
1	28.56	104.35	Open To Flow (1)
30	43.16	106.49	Shut-In(1)
76	1177.84	106.28	End Shut-In(1)
76	46.41	105.83	Open To Flow (2)
121	68.00	107.17	Shut-In(2)
174	1145.52	108.11	End Shut-In(2)
181	1871.59	108.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	w cm 60m 40w w/oil spots	0.37

Gas Rates

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

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57632

DST#: 1

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Deviated: No Whipstock: ft (KB)

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Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

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Total Depth: 4025.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8678 Inside

Press@RunDepth: psig @ 3994.00 ft (KB)

Start Date: 2014.04.12

End Date:

2014.04.12

Start Time: 08:48:05

End Time:

15:16:29

Capacity: 8000.00 psig

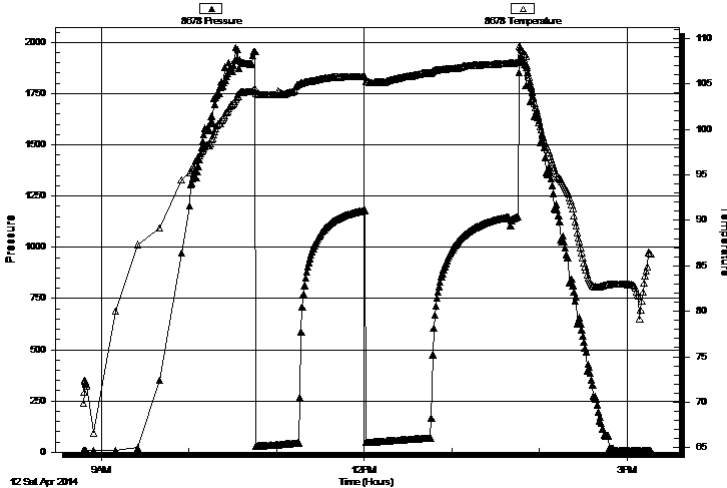
Last Calib.: 2014.04.12

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 3/4" blow.
IS: No return.
FF: Surface blow.
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
75.00	w cm 60m 40w w/oil spots	0.37

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57632

DST#: 1

ATTN: Mac Armstrong

Test Start: 2014.04.12 @ 08:48:00

Tool Information

Drill Pipe:	Length:	3875.00 ft	Diameter:	3.80 inches	Volume:	54.36 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:	123.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	54.96 bbl	Tool Chased	3.00 ft
Drill Pipe Above KB:		32.00 ft					String Weight: Initial	58000.00 lb
Depth to Top Packer:		3993.00 ft					Final	58000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		32.00 ft						
Tool Length:		59.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3967.00	
Shut In Tool	5.00			3972.00	
Hydraulic tool	5.00			3977.00	
Jars	5.00			3982.00	
Safety Joint	2.00			3984.00	
Packer	5.00			3989.00	27.00 Bottom Of Top Packer
Packer	4.00			3993.00	
Stubb	1.00			3994.00	
Recorder	0.00	8678	Inside	3994.00	
Recorder	0.00	8522	Outside	3994.00	
Perforations	28.00			4022.00	
Bullnose	3.00			4025.00	32.00 Bottom Packers & Anchor

Total Tool Length: 59.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57632

DST#: 1

ATTN: Mac Armstrong

Test Start: 2014.04.12 @ 08:48:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 50.00 sec/qt

Water Loss: 7.18 in³

Resistivity: 0.00 ohm.m

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

44000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	w cm 60m 40w w/oil spots	0.369

Total Length: 75.00 ft Total Volume: 0.369 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

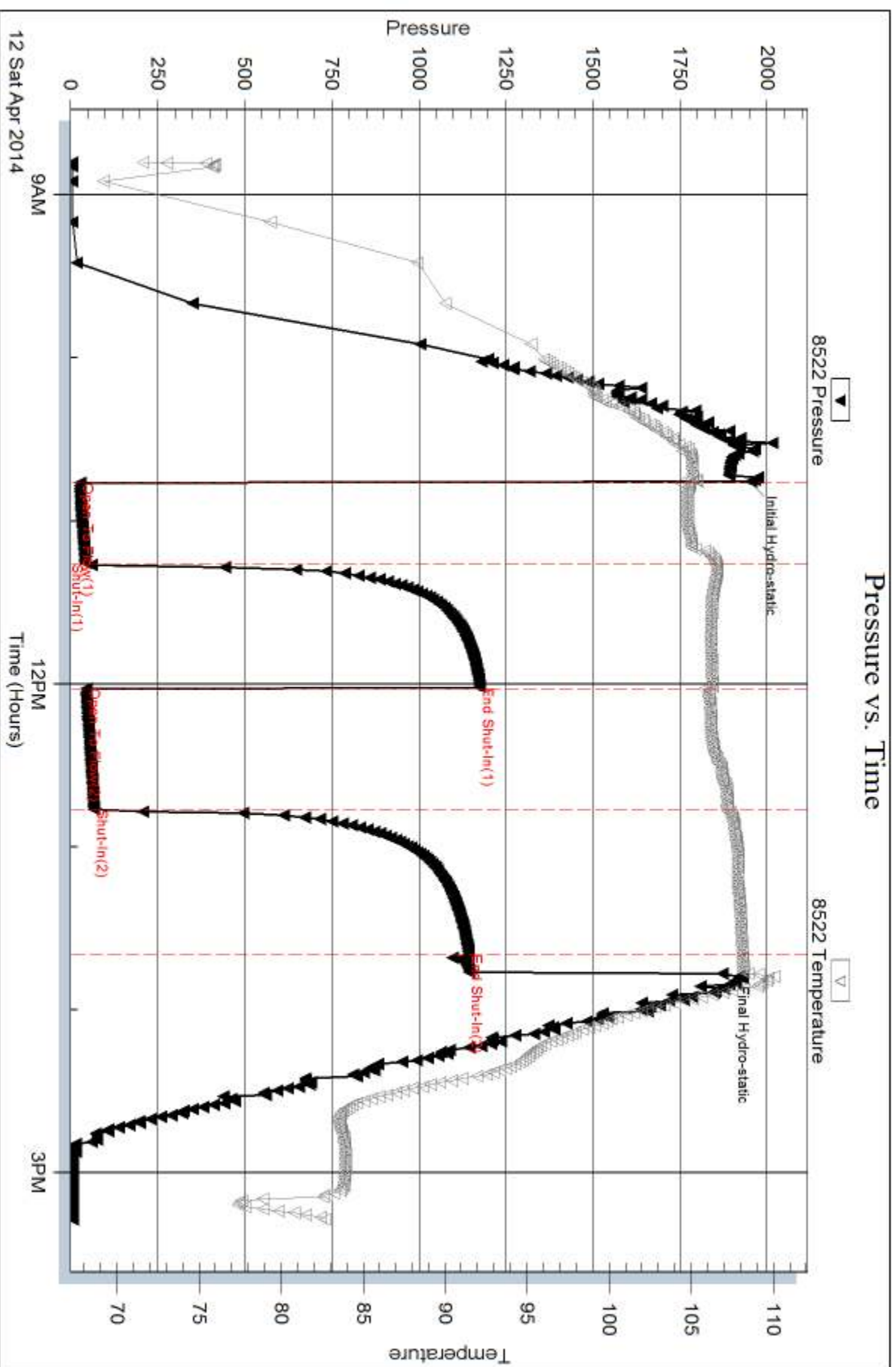
Recovery Comments: rw is .156 @ 75f = 44,000ppm

Serial #: 8522

Outside Ritchie Exploration

Baker 31B #1

DST Test Number: 1



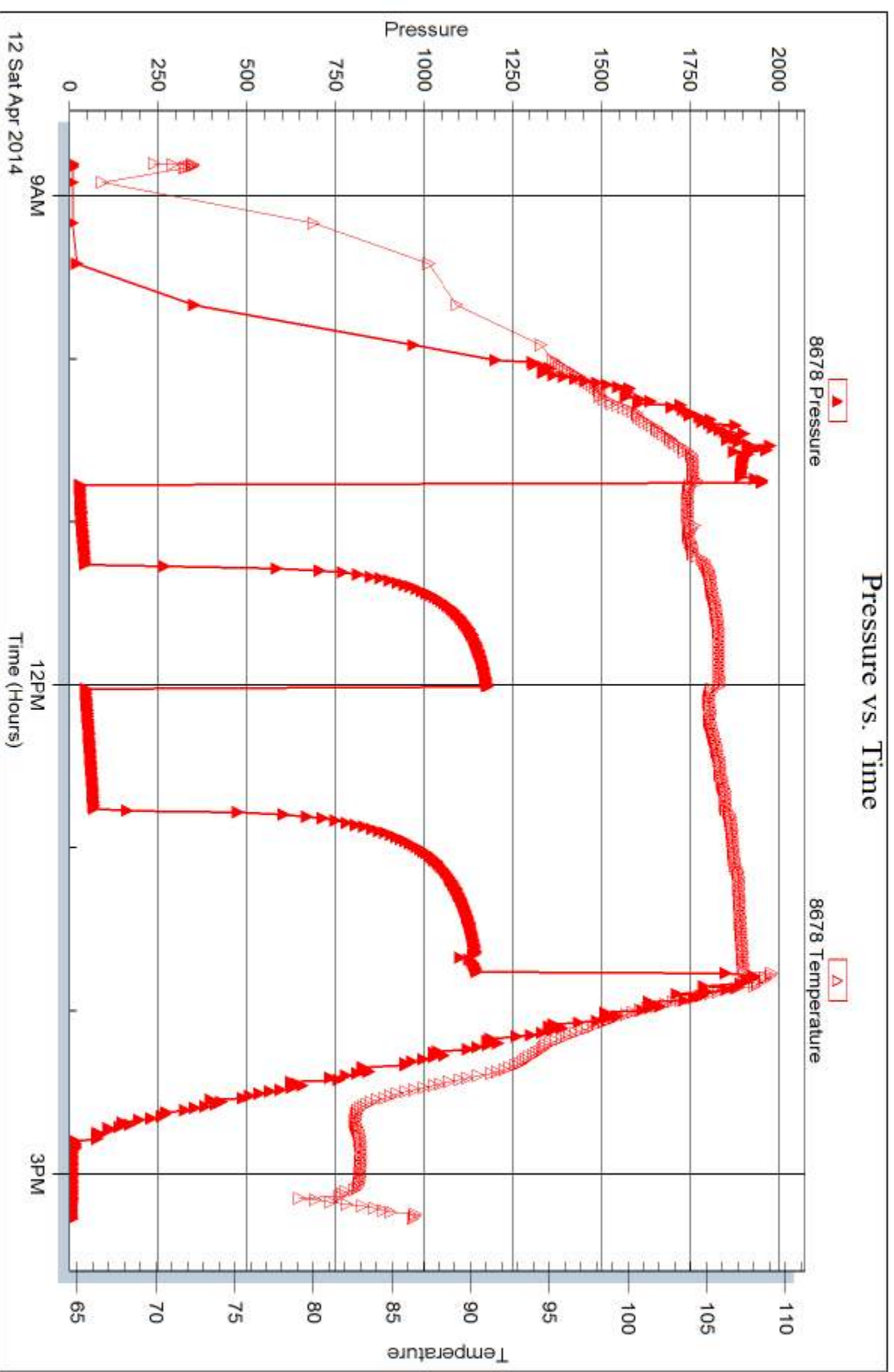
Serial #: 8678

Inside

Ritchie Exploration

Baker 31B #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

Baker 31B #1

31 15s 34w Logan,KS

Start Date: 2014.04.13 @ 05:49:00

End Date: 2014.04.13 @ 12:05:00

Job Ticket #: 57633 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.19 @ 13:12:29



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DRILL STEM TEST REPORT

Ritchie Exploration

31 15s 34w Logan, KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57633

DST#: 2

ATTN: Mac Armstrong

Test Start: 2014.04.13 @ 05:49:00

GENERAL INFORMATION:

Formation: **LKC G-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:19:15

Time Test Ended: 12:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4008.00 ft (KB) To 4150.00 ft (KB) (TVD)

Total Depth: 4150.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8522 Outside

Press@RunDepth: 90.15 psig @ 4009.00 ft (KB)

Start Date: 2014.04.13

End Date:

2014.04.13

Start Time: 05:49:05

End Time:

12:04:59

Capacity: 8000.00 psig

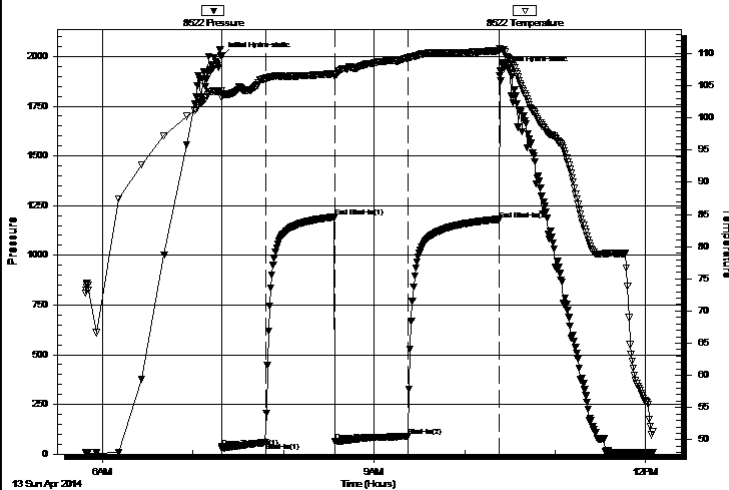
Last Calib.: 2014.04.13

Time On Btm: 2014.04.13 @ 07:19:00

Time Off Btm: 2014.04.13 @ 10:23:45

TEST COMMENT: IF: 2" blow.
IS: No return.
FF: 1" blow.
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2001.09	104.23	Initial Hydro-static
1	36.53	103.11	Open To Flow (1)
30	59.15	106.09	Shut-In(1)
75	1192.89	106.85	End Shut-In(1)
76	62.71	106.40	Open To Flow (2)
124	90.15	109.27	Shut-In(2)
184	1178.89	110.40	End Shut-In(2)
185	1926.66	110.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
140.00	mud 100m (oil spots) 6" oil on top	0.84

Gas Rates

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



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DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57633

DST#: 2

Test Start: 2014.04.13 @ 05:49:00

GENERAL INFORMATION:

Formation: **LKC G-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:19:15

Time Test Ended: 12:05:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4008.00 ft (KB) To 4150.00 ft (KB) (TVD)

Total Depth: 4150.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8678 Inside

Press@RunDepth: psig @ 4009.00 ft (KB)

Start Date: 2014.04.13

End Date:

2014.04.13

Start Time: 05:49:05

End Time:

12:03:59

Capacity: 8000.00 psig

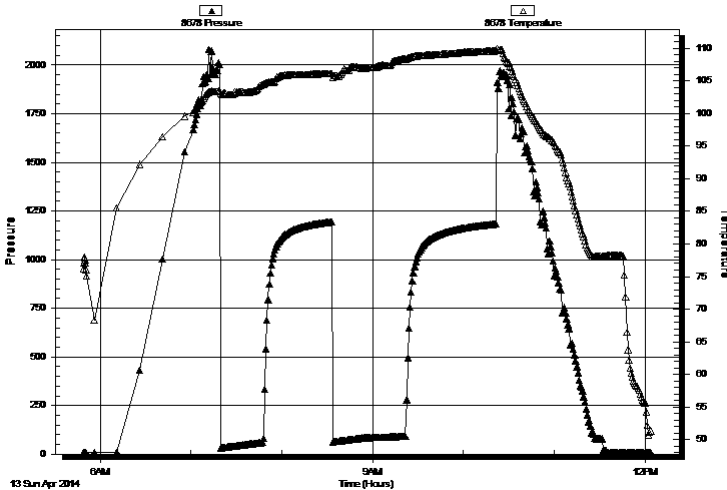
Last Calib.: 2014.04.13

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 2" blow.
IS: No return.
FF: 1" blow.
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
140.00	mud 100m (oil spots) 6" oil on top	0.84

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57633

DST#: 2

ATTN: Mac Armstrong

Test Start: 2014.04.13 @ 05:49:00

Tool Information

Drill Pipe:	Length:	3881.00 ft	Diameter:	3.80 inches	Volume:	54.44 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:	123.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	75000.00 lb
					Total Volume:	55.04 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		23.00 ft					String Weight: Initial	58000.00 lb
Depth to Top Packer:		4008.00 ft					Final	58000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		82.00 ft						
Tool Length:		109.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3982.00	
Shut In Tool	5.00			3987.00	
Hydraulic tool	5.00			3992.00	
Jars	5.00			3997.00	
Safety Joint	2.00			3999.00	
Packer	5.00			4004.00	27.00 Bottom Of Top Packer
Packer	4.00			4008.00	
Stubb	1.00			4009.00	
Recorder	0.00	8678	Inside	4009.00	
Recorder	0.00	8522	Outside	4009.00	
Perforations	13.00			4022.00	
Change Over Sub	1.00			4023.00	
Drill Pipe	63.00			4086.00	
Change Over Sub	1.00			4087.00	
Bullnose	3.00			4090.00	82.00 Bottom Packers & Anchor

Total Tool Length: 109.00



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57633

DST#: 2

ATTN: Mac Armstrong

Test Start: 2014.04.13 @ 05:49:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 7.98 in³

Resistivity: 0.00 ohm.m

Salinity: 6500.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

0 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
140.00	mud 100m (oil spots) 6" oil on top	0.843

Total Length: 140.00 ft

Total Volume: 0.843 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

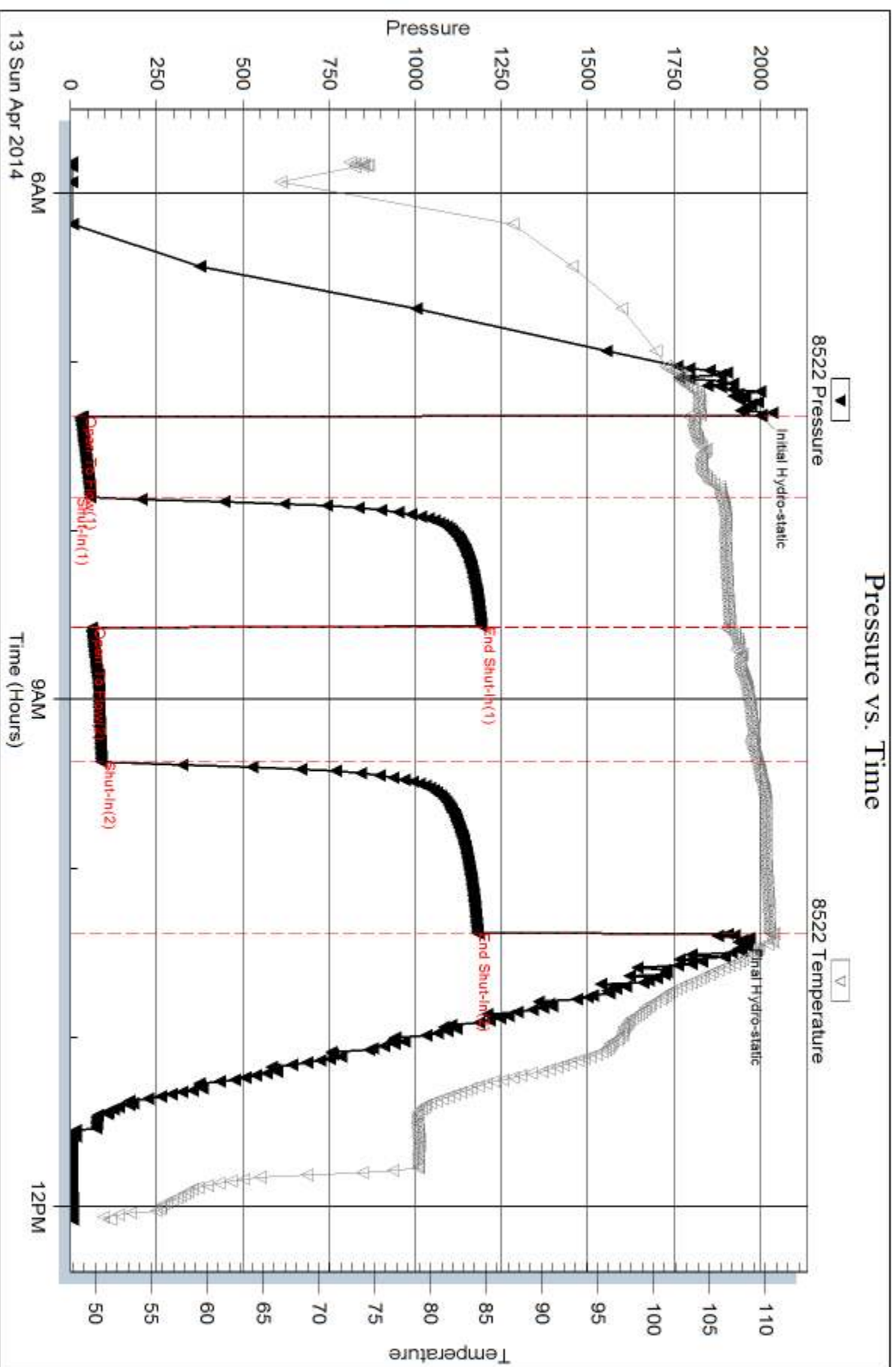
Recovery Comments:

Serial #: 8522

Outside Ritchie Exploration

Baker 31B #1

DST Test Number: 2



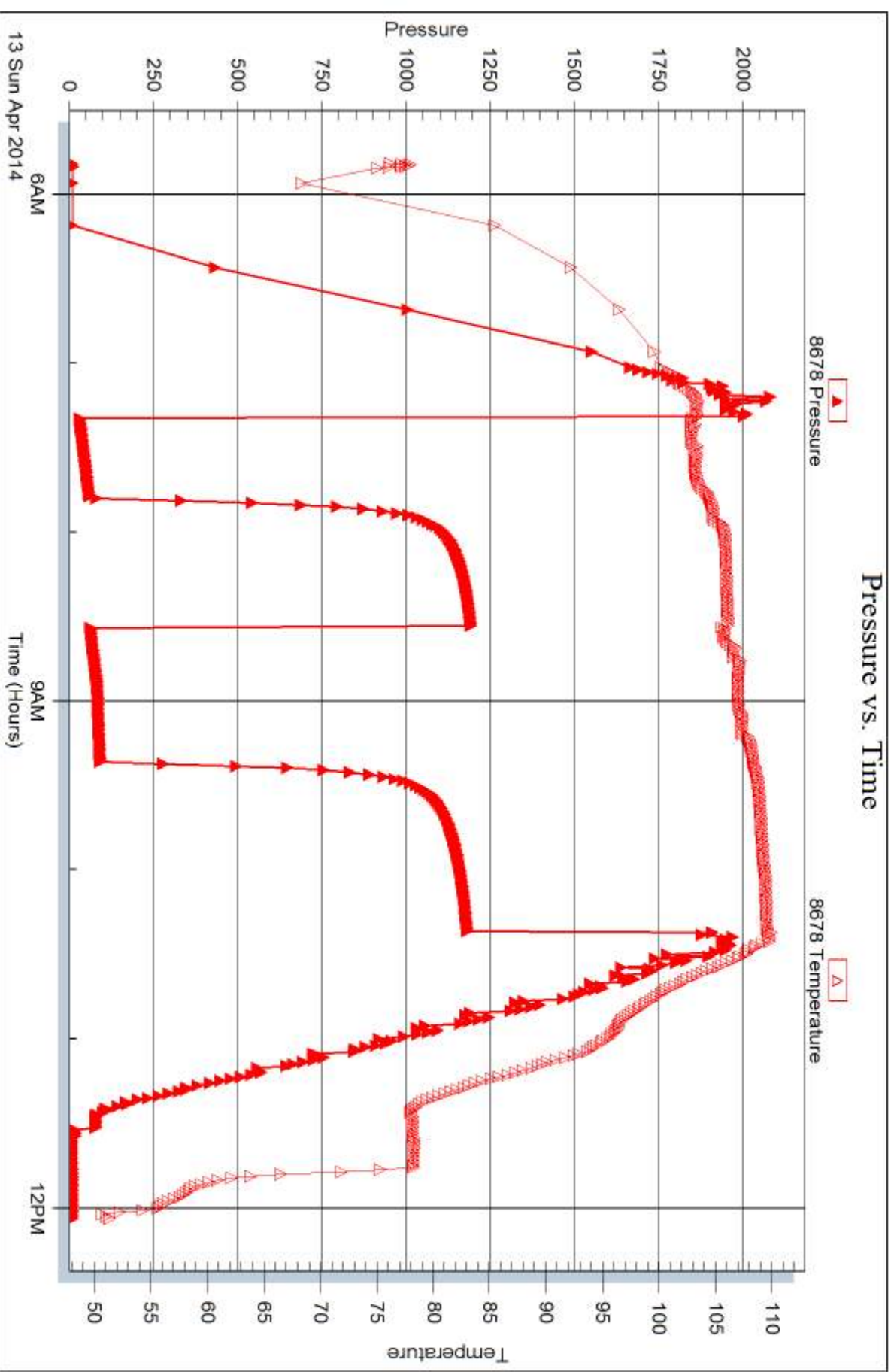
Serial #: 8678

Inside

Ritchie Exploration

Baker 31B #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

Baker 31B #1

31 15s 34w Logan,KS

Start Date: 2014.04.14 @ 13:16:00

End Date: 2014.04.14 @ 20:26:00

Job Ticket #: 57634 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.19 @ 13:12:14



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57634

DST#: 3

Test Start: 2014.04.14 @ 13:16:00

GENERAL INFORMATION:

Formation: **LKC K - Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:11:15

Time Test Ended: 20:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4170.00 ft (KB) To 4384.00 ft (KB) (TVD)

Total Depth: 4384.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8522 Outside

Press@RunDepth: 1203.13 psig @ 4171.00 ft (KB)

Start Date: 2014.04.14

End Date:

2014.04.14

Start Time: 13:16:05

End Time:

20:25:59

Capacity: 8000.00 psig

Last Calib.: 2014.04.14

Time On Btm: 2014.04.14 @ 15:10:45

Time Off Btm: 2014.04.14 @ 17:59:45

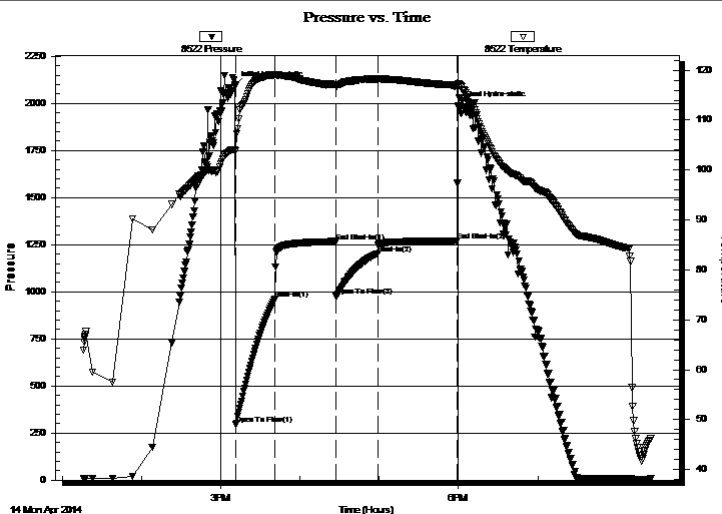
TEST COMMENT: IF: BOB @ 20 sec.

IS: No return.

FF: BOB @ 1 min.

FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2092.91	104.04	Initial Hydro-static
1	298.29	103.87	Open To Flow (1)
31	961.77	119.07	Shut-In(1)
77	1267.53	117.11	End Shut-In(1)
77	976.10	116.90	Open To Flow (2)
108	1203.13	118.25	Shut-In(2)
168	1270.28	116.81	End Shut-In(2)
169	1988.29	117.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2600.00	mcw 3m 97w	35.35

Gas Rates

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



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DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan,KS

Baker 31B #1

Job Ticket: 57634

DST#: 3

Test Start: 2014.04.14 @ 13:16:00

GENERAL INFORMATION:

Formation: **LKC K - Altamont**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:11:15

Time Test Ended: 20:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4170.00 ft (KB) To 4384.00 ft (KB) (TVD)

Total Depth: 4384.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8678 Inside

Press@RunDepth: psig @ 4171.00 ft (KB)

Start Date: 2014.04.14

End Date:

2014.04.14

Start Time: 13:18:05

End Time:

20:26:59

Capacity: 8000.00 psig

Last Calib.: 2014.04.14

Time On Btm:

Time Off Btm:

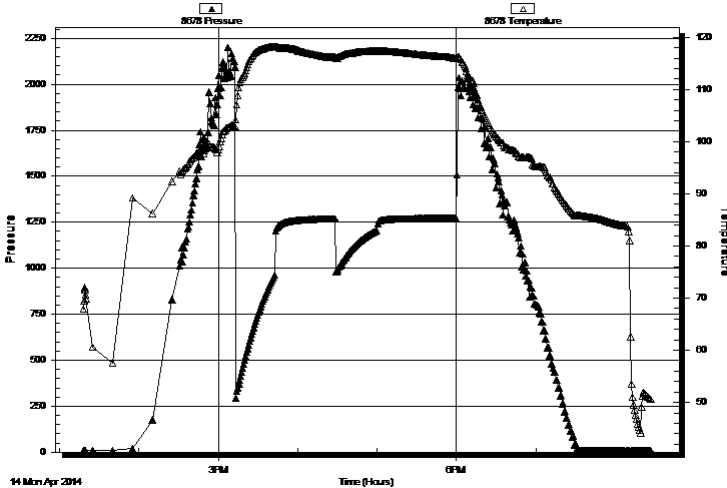
TEST COMMENT: IF: BOB @ 20 sec.

IS: No return.

FF: BOB @ 1 min.

FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
2600.00	mcw 3m 97w	35.35

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57634

DST#: 3

ATTN: Mac Armstrong

Test Start: 2014.04.14 @ 13:16:00

Tool Information

Drill Pipe:	Length:	4037.00 ft	Diameter:	3.80 inches	Volume:	56.63 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:	123.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	85000.00 lb
					Total Volume:	57.23 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		17.00 ft					String Weight: Initial	58000.00 lb
Depth to Top Packer:		4170.00 ft					Final	68000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		214.00 ft						
Tool Length:		241.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description

Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00		4144.00	
Shut In Tool	5.00		4149.00	
Hydraulic tool	5.00		4154.00	
Jars	5.00		4159.00	
Safety Joint	2.00		4161.00	
Packer	5.00		4166.00	27.00 Bottom Of Top Packer
Packer	4.00		4170.00	
Stubb	1.00		4171.00	
Recorder	0.00	8678 Inside	4171.00	
Recorder	0.00	8522 Outside	4171.00	
Perforations	21.00		4192.00	
Change Over Sub	1.00		4193.00	
Drill Pipe	187.00		4380.00	
Change Over Sub	1.00		4381.00	
Bullnose	3.00		4384.00	214.00 Bottom Packers & Anchor

Total Tool Length: 241.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57634

DST#: 3

ATTN: Mac Armstrong

Test Start: 2014.04.14 @ 13:16:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 9.58 in³

Resistivity: 0.00 ohm.m

Salinity: 7000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

0 deg API

Water Salinity:

47000 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2600.00	mcw 3m 97w	35.351

Total Length: 2600.00 ft Total Volume: 35.351 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

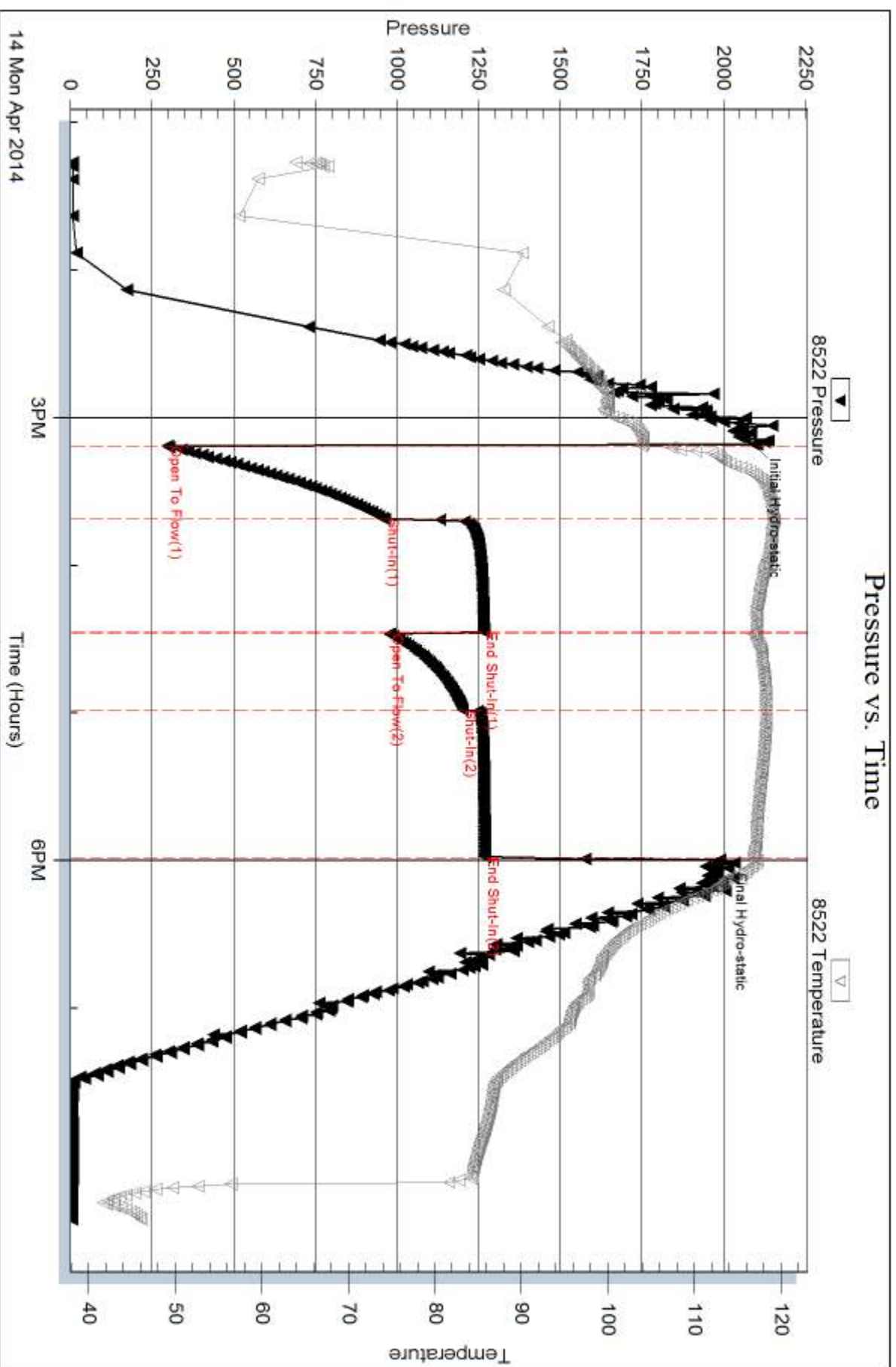
Recovery Comments: rw is .255 @ 44F = 47000ppm

Serial #: 8522

Outside Ritchie Exploration

Baker 31B #1

DST Test Number: 3



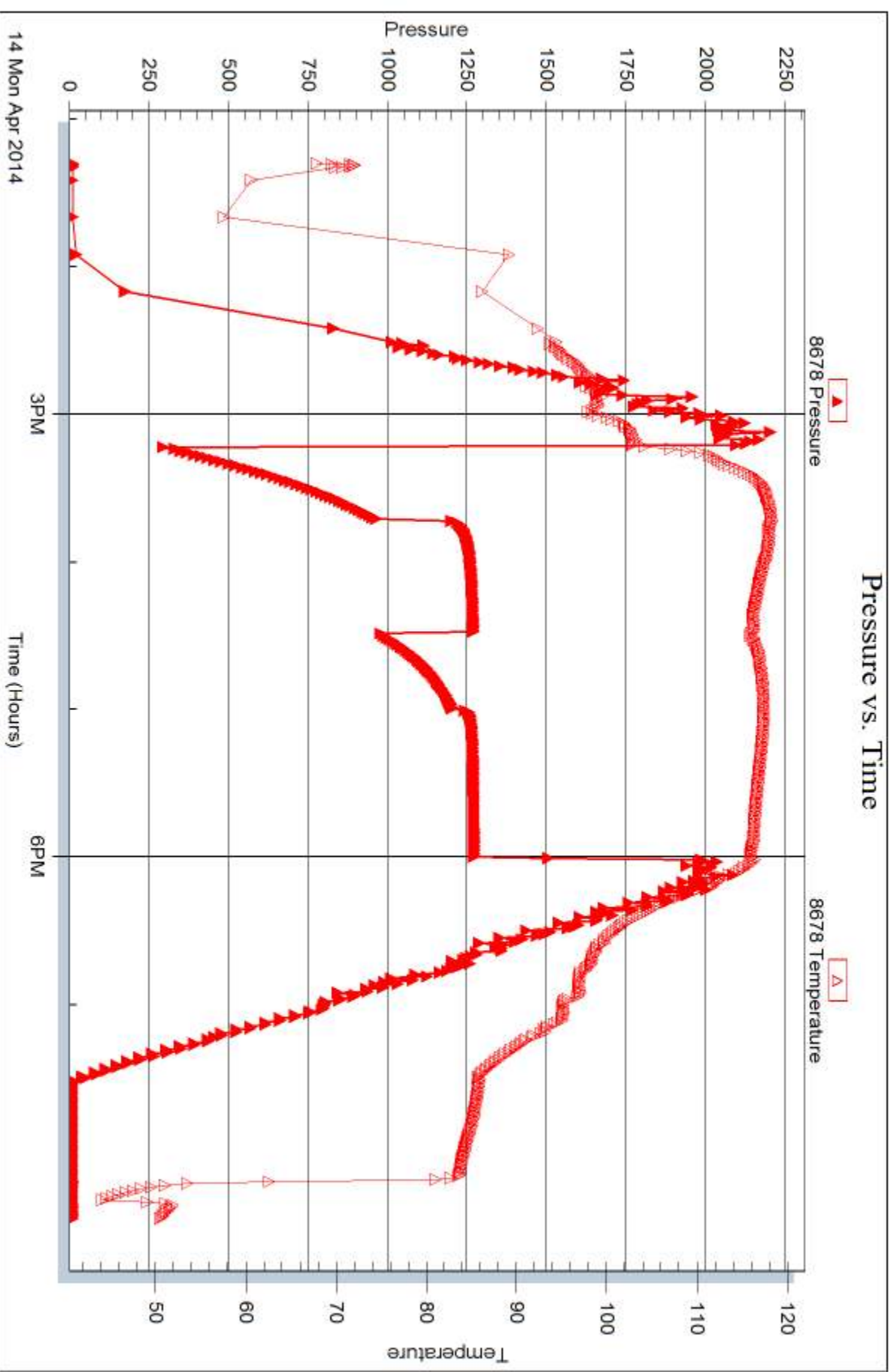
Serial #: 8678

Inside

Ritchie Exploration

Baker 31B #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

Baker 31B #1

31 15s 34w Logan,KS

Start Date: 2014.04.15 @ 14:44:00

End Date: 2014.04.15 @ 21:14:00

Job Ticket #: 57635 DST #: 4

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.04.19 @ 13:11:35



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57635

DST#: 4

Test Start: 2014.04.15 @ 14:44:00

GENERAL INFORMATION:

Formation: **Cherokee Lime**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:20:45

Time Test Ended: 21:14:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4518.00 ft (KB) To 4544.00 ft (KB) (TVD)

Total Depth: 4544.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8522 Outside

Press@RunDepth: 73.46 psig @ 4519.00 ft (KB)

Start Date: 2014.04.15

End Date:

2014.04.15

Start Time: 14:44:05

End Time:

21:13:59

Capacity: 8000.00 psig

Last Calib.: 2014.04.15

Time On Btm: 2014.04.15 @ 16:20:30

Time Off Btm: 2014.04.15 @ 19:23:15

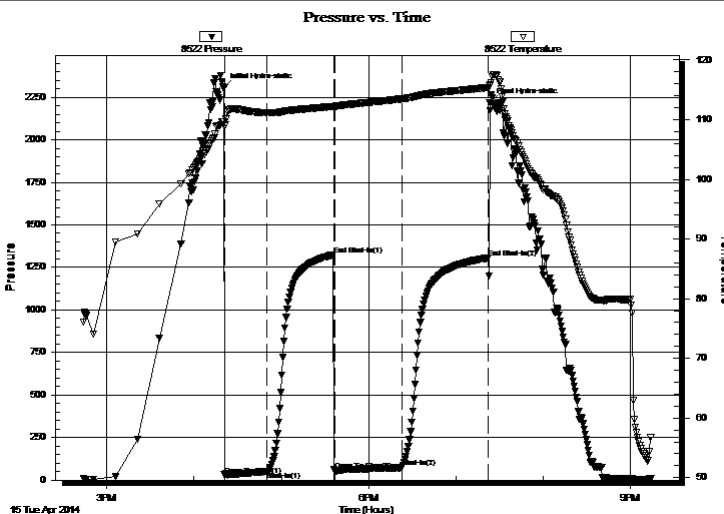
TEST COMMENT: IF: BOB @ 28 min.

IS: No return

FF BOB @ 25 min.

FS: 1/2" return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2306.53	109.63	Initial Hydro-static
1	30.99	108.94	Open To Flow (1)
30	51.75	111.14	Shut-In(1)
76	1324.49	112.23	End Shut-In(1)
76	59.87	112.18	Open To Flow (2)
122	73.46	113.47	Shut-In(2)
182	1306.23	115.38	End Shut-In(2)
183	2218.21	115.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
100.00	gmco 20g 40m 40o	0.49
45.00	go 35g 65o	0.42
0.00	275' GIP	0.00

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57635

DST#: 4

ATTN: Mac Armstrong

Test Start: 2014.04.15 @ 14:44:00

GENERAL INFORMATION:

Formation: **Cherokee Lime**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:20:45

Time Test Ended: 21:14:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4518.00 ft (KB) To 4544.00 ft (KB) (TVD)

Total Depth: 4544.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8678 Inside

Press@RunDepth: psig @ 4519.00 ft (KB)

Start Date: 2014.04.15

End Date:

2014.04.15

Start Time: 14:44:05

End Time:

21:12:37

Capacity: 8000.00 psig

Last Calib.: 2014.04.15

Time On Btm:

Time Off Btm:

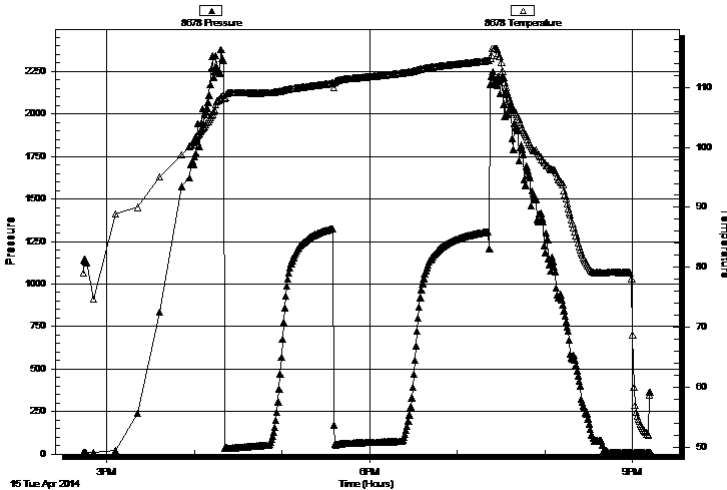
TEST COMMENT: IF: BOB @ 28 min.

IS: No return

FF BOB @ 25 min.

FS: 1/2" return.

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
100.00	gmco 20g 40m 40o	0.49
45.00	go 35g 65o	0.42
0.00	275' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57635

DST#: 4

ATTN: Mac Armstrong

Test Start: 2014.04.15 @ 14:44:00

Tool Information

Drill Pipe:	Length:	4380.00 ft	Diameter:	3.80 inches	Volume:	61.44 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:	123.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	80000.00 lb
					Total Volume:	62.04 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		12.00 ft					String Weight: Initial	58000.00 lb
Depth to Top Packer:		4518.00 ft					Final	59000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		26.00 ft						
Tool Length:		53.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4492.00	
Shut In Tool	5.00			4497.00	
Hydraulic tool	5.00			4502.00	
Jars	5.00			4507.00	
Safety Joint	2.00			4509.00	
Packer	5.00			4514.00	27.00 Bottom Of Top Packer
Packer	4.00			4518.00	
Stubb	1.00			4519.00	
Recorder	0.00	8678	Inside	4519.00	
Recorder	0.00	8522	Outside	4519.00	
Perforations	22.00			4541.00	
Bullnose	3.00			4544.00	26.00 Bottom Packers & Anchor

Total Tool Length: 53.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57635

DST#: 4

ATTN: Mac Armstrong

Test Start: 2014.04.15 @ 14:44:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

Water Loss: 9.59 in³

Resistivity: 0.00 ohm.m

Salinity: 7200.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

27 deg API

0 ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
100.00	gmco 20g 40m 40o	0.492
45.00	go 35g 65o	0.422
0.00	275' GIP	0.000

Total Length: 145.00 ft

Total Volume: 0.914 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

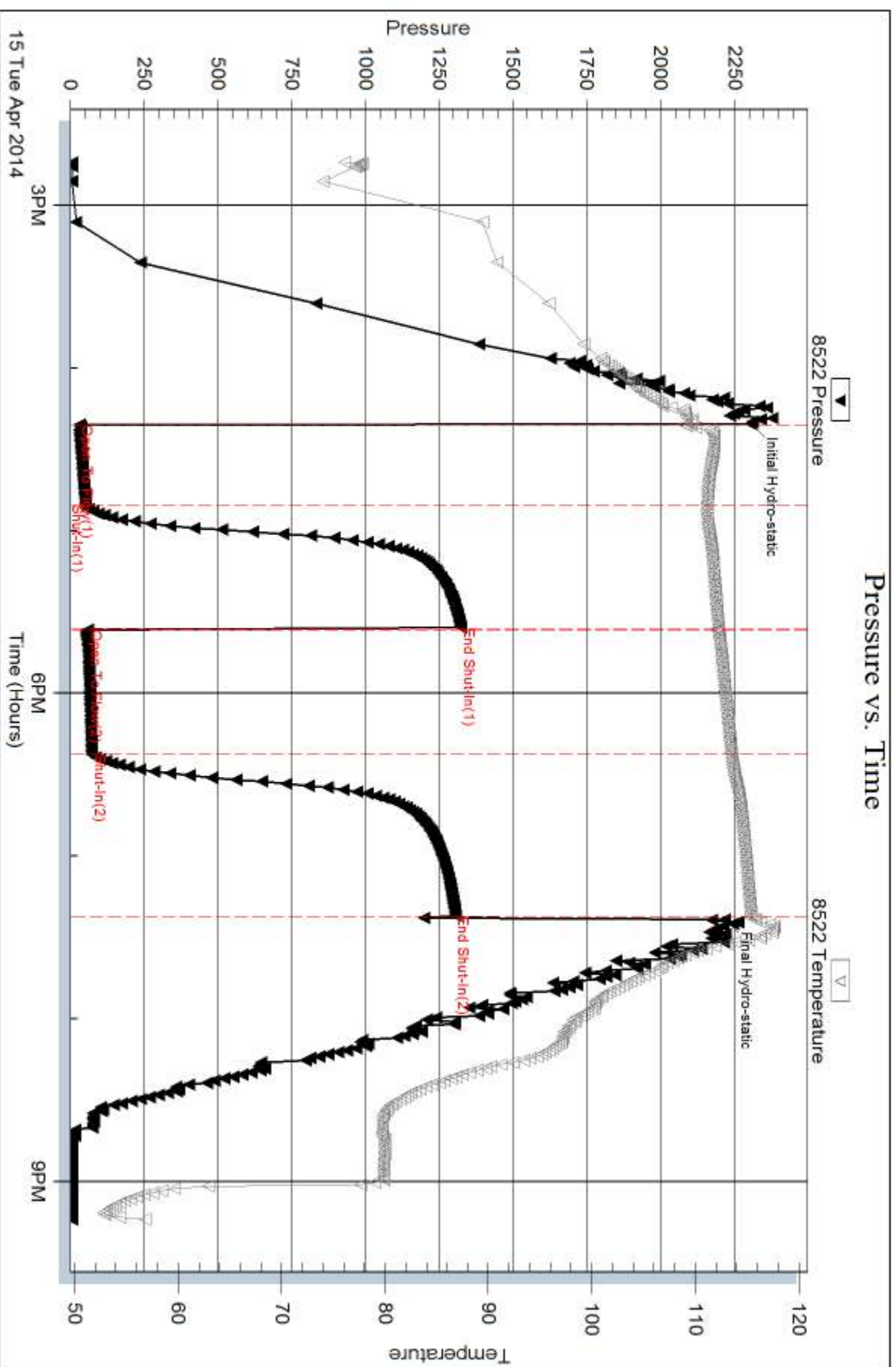
Recovery Comments:

Serial #: 8522

Outside Ritchie Exploration

Baker 31B #1

DST Test Number: 4



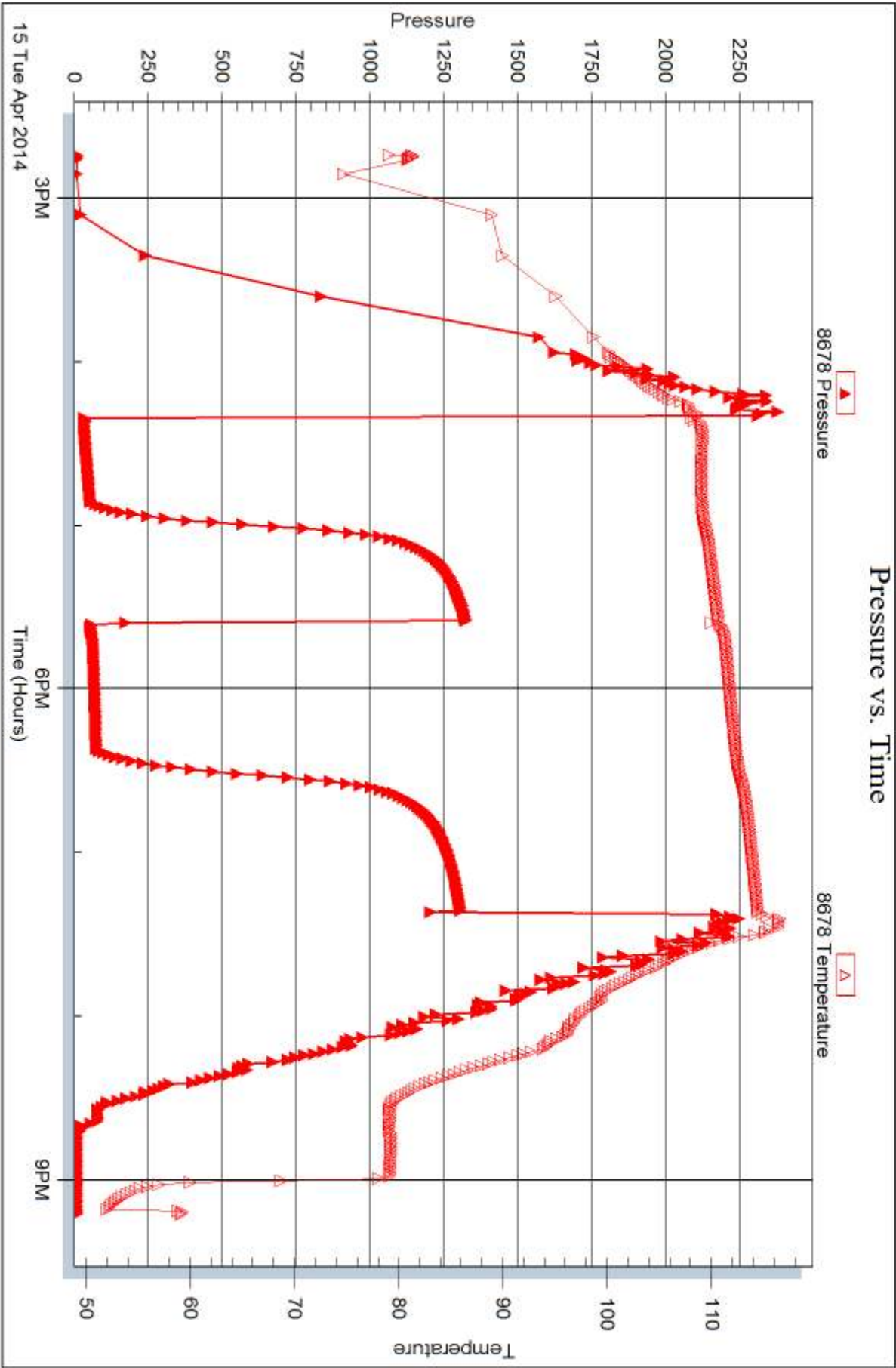
Serial #: 8678

Inside

Ritchie Exploration

Baker 31B #1

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

Baker 31B #1

31 15s 34w Logan,KS

Start Date: 2014.04.16 @ 14:08:00

End Date: 2014.04.16 @ 21:15:30

Job Ticket #: 57636 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.04.19 @ 13:10:48



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57636

DST#: 5

Test Start: 2014.04.16 @ 14:08:00

GENERAL INFORMATION:

Formation: **Morrow - Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:18:45

Time Test Ended: 21:15:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4574.00 ft (KB) To 4656.00 ft (KB) (TVD)

Total Depth: 4656.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8522 Outside

Press@RunDepth: 610.30 psig @ 4575.00 ft (KB)

Start Date: 2014.04.16

End Date:

2014.04.16

Start Time: 14:08:05

End Time:

21:15:29

Capacity: 8000.00 psig

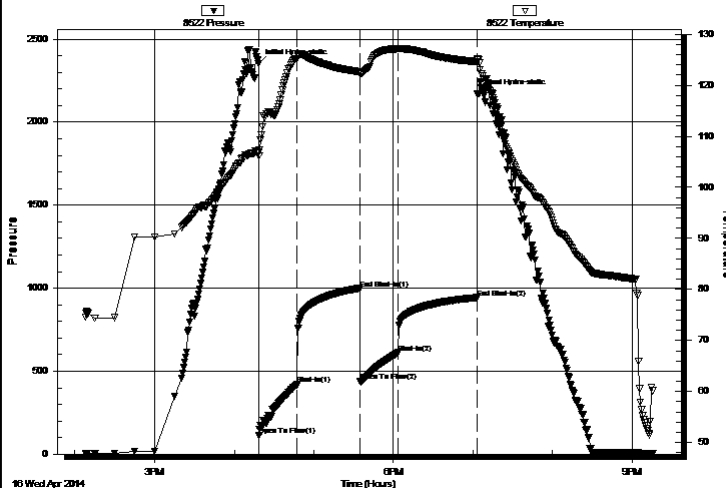
Last Calib.: 2014.04.16

Time On Btm: 2014.04.16 @ 16:18:30

Time Off Btm: 2014.04.16 @ 19:03:45

TEST COMMENT: IF: BOB @ 4 min.
IS: No return
FF: BOB @ 5 min.
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2351.00	106.90	Initial Hydro-static
1	114.01	106.18	Open To Flow (1)
29	418.90	125.22	Shut-In(1)
77	996.59	122.56	End Shut-In(1)
77	439.65	122.32	Open To Flow (2)
105	610.30	127.15	Shut-In(2)
165	943.02	124.61	End Shut-In(2)
166	2169.84	124.91	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1120.00	smcw 3m 97w (oil spots in tool)	14.59

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration

8100 E 22nd St N #700
Wichita, KS 67278-3188

ATTN: Mac Armstrong

31 15s 34w Logan, KS

Baker 31B #1

Job Ticket: 57636

DST#: 5

Test Start: 2014.04.16 @ 14:08:00

GENERAL INFORMATION:

Formation: **Morrow - Miss**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:18:45

Time Test Ended: 21:15:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

Interval: 4574.00 ft (KB) To 4656.00 ft (KB) (TVD)

Total Depth: 4656.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3060.00 ft (KB)

3055.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8678 Inside

Press@RunDepth: psig @ 4575.00 ft (KB)

Start Date: 2014.04.16

End Date:

2014.04.16

Start Time: 14:08:05

End Time:

21:11:03

Capacity: 8000.00 psig

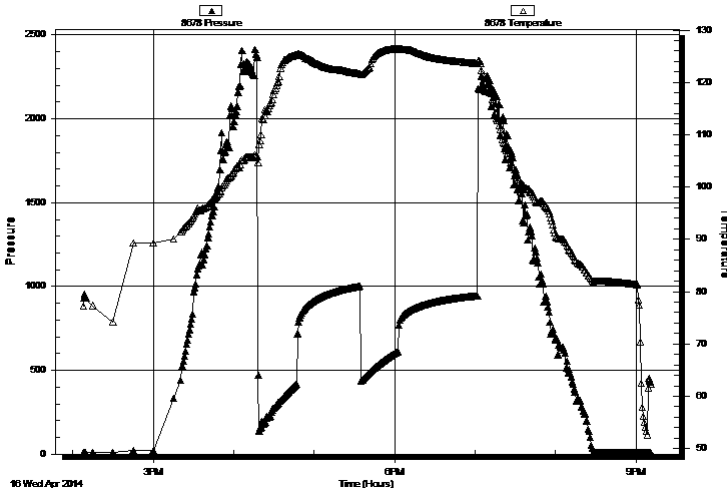
Last Calib.: 2014.04.16

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB @ 4 min.
IS: No return
FF: BOB @ 5 min.
FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
1120.00	smcw 3m 97w (oil spots in tool)	14.59

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

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57636

DST#: 5

ATTN: Mac Armstrong

Test Start: 2014.04.16 @ 14:08:00

Tool Information

Drill Pipe:	Length:	4444.00 ft	Diameter:	3.80 inches	Volume:	62.34 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:	123.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	80000.00 lb
					Total Volume:	62.94 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		20.00 ft					String Weight: Initial	58000.00 lb
Depth to Top Packer:		4574.00 ft					Final	60000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		82.00 ft						
Tool Length:		109.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				
Tool Comments:								

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

Change Over Sub	1.00			4548.00	
Shut In Tool	5.00			4553.00	
Hydraulic tool	5.00			4558.00	
Jars	5.00			4563.00	
Safety Joint	2.00			4565.00	
Packer	5.00			4570.00	27.00 Bottom Of Top Packer
Packer	4.00			4574.00	
Stubb	1.00			4575.00	
Recorder	0.00	8678	Inside	4575.00	
Recorder	0.00	8522	Outside	4575.00	
Perforations	13.00			4588.00	
Change Over Sub	1.00			4589.00	
Drill Pipe	63.00			4652.00	
Change Over Sub	1.00			4653.00	
Bullnose	3.00			4656.00	82.00 Bottom Packers & Anchor

Total Tool Length: 109.00



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

31 15s 34w Logan,KS

8100 E 22nd St N #700
Wichita, KS 67278-3188

Baker 31B #1

Job Ticket: 57636

DST#: 5

ATTN: Mac Armstrong

Test Start: 2014.04.16 @ 14:08:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 64.00 sec/qt

Water Loss: 10.38 in³

Resistivity: 0.00 ohm.m

Salinity: 7500.00 ppm

Filter Cake: 2.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

0 deg API

Water Salinity: 32000 ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1120.00	smcw 3m 97w (oil spots in tool)	14.590

Total Length: 1120.00 ft Total Volume: 14.590 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .275 @ 56F = 32000ppm

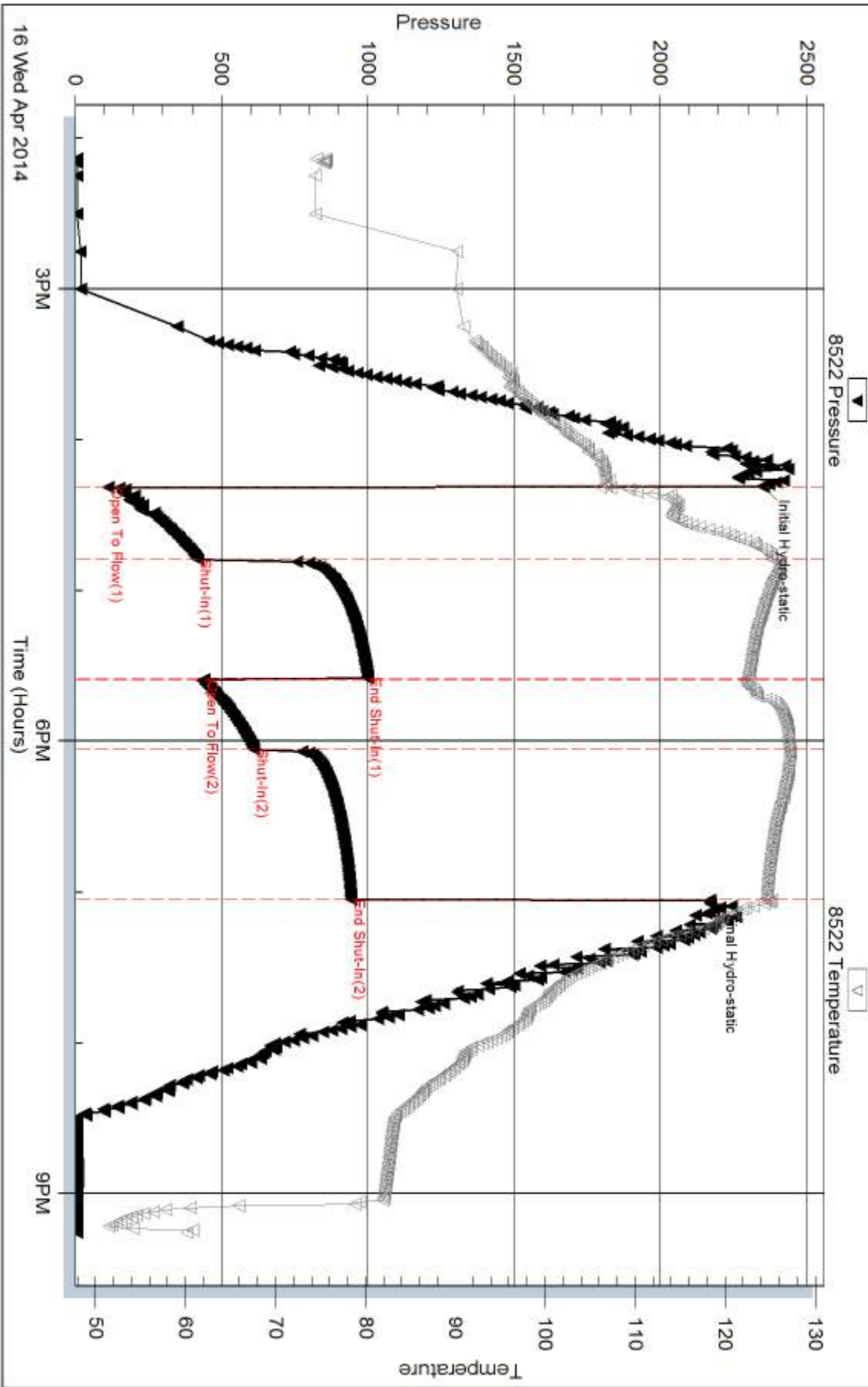
Serial #: 8522

Outside Ritchie Exploration

Baker 31B #1

DST Test Number: 5

Pressure vs. Time



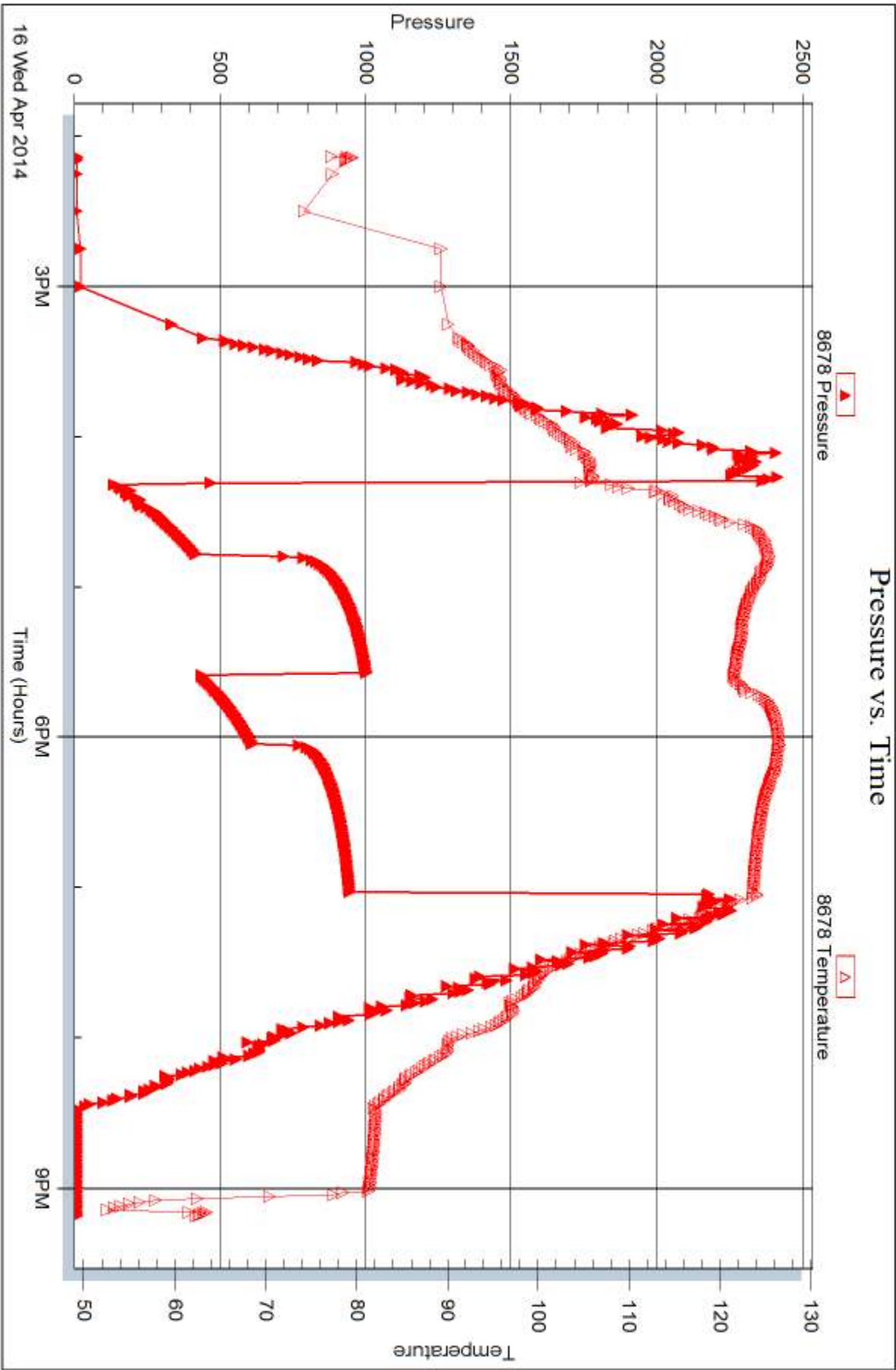
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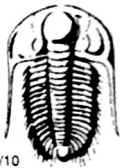
Inside

Ritchie Exploration

Baker 31B #1

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57632

Well Name & No. Rita #1 Baker 31B Test No. 1 Date 4/12/14
Company Ritchie Exploration Elevation 3060 KB 3055 GL
Address 8100 E. 22nd St. N #700 Wichita, ks 67278
Co. Rep / Geo. Mac Armstrong Rig WW #2
Location: Sec. 31 Twp. 15s Rge. 34w Co. Logan State Ks

Interval Tested 3993-4025 Zone Tested LKC E&F
Anchor Length 32 Drill Pipe Run 3875 Mud Wt. 9.1
Top Packer Depth 3988 Drill Collars Run 123 Vis 53
Bottom Packer Depth 3993 Wt. Pipe Run Ø WL 7.2
Total Depth 4025 Chlorides 5,000 ppm System LCM 1#

Blow Description IFI: 3/4" blow.
ISJ: No return
FF: Surface blow
FSJ: No return.

Rec	Feet of	OTL spots	%gas	%oil	%water	%mud
<u>75</u>	<u>WCM</u>	<u>OTL spots</u>		<u>40</u>	<u>60</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 75 BHT 108 Gravity — API RW — .156 @ 75 ° F Chlorides 4,000 ppm

(A) Initial Hydrostatic	(B) First Initial Flow	(C) First Final Flow	(D) Initial Shut-In	(E) Second Initial Flow	(F) Second Final Flow	(G) Final Shut-In	(H) Final Hydrostatic
<u>1952</u>	<u>29</u>	<u>43</u>	<u>1178</u>	<u>46</u>	<u>68</u>	<u>1146</u>	<u>1872</u>

☒ Test 1250
☒ Jars 250
☒ Safety Joint 75
☒ Circ Sub N/C
☐ Hourly Standby
☒ Mileage 60 RT 93
☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
Sub Total 1668

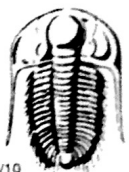
T-On Location 0745
T-Started 0848
T-Open 1046
T-Pulled 1346
T-Out 1517
Comments
☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
Sub Total 0
Total 1668
MP/DST Disc't

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

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. 57633

Well Name & No. #1 Baker 31B Test No. 2 Date 4/13/14
 Company Ritchie Exploration Elevation 3060 KB 5055 GL
 Address 8100 E. 22ND ST X1 #700 Wichita, KS 67278
 Co. Rep / Geo. Mac Armstrong Rig WW #2
 Location: Sec. 31 Twp. 15S Rge. 34W Co. Logan State Ks

Interval Tested 4068 - 4150 Zone Tested LKC - G-H-I
 Anchor Length 82' Drill Pipe Run 3881 Mud Wt. 9.3
 Top Packer Depth 4063 Drill Collars Run 123 Vis 52
 Bottom Packer Depth 4068 Wt. Pipe Run Ø WL 8.0
 Total Depth 4150 Chlorides 6500 ppm System LCM 2#

Blow Description IF: 2" blow
ISI: No return.
FF: 1" blow
FSI: No return.

Rec <u>140</u>	Feet of <u>MUD (OIL SPOTS)</u>	%gas	%oil	%water <u>100</u>	%mud
Rec	Feet of <u>6" oil on top</u>	%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 140 BHT 110 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2001 ☒ Test 1250
 (B) First Initial Flow 37 ☒ Jars 250
 (C) First Final Flow 59 ☒ Safety Joint 75
 (D) Initial Shut-In 1193 ☒ Circ Sub N/C
 (E) Second Initial Flow 63 ☐ Hourly Standby
 (F) Second Final Flow 90 ☒ Mileage 60 RT 93
 (G) Final Shut-In 1179 ☐ Sampler
 (H) Final Hydrostatic 1927 ☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility

T-On Location 0430
 T-Started 0549
 T-Open 0720
 T-Pulled 1020
 T-Out 1205

Comments

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 1668

Sub Total 1668

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. 57634

Well Name & No. <u>#1 Baker 31B</u>	Test No. <u>3</u>	Date <u>4/14/14</u>
Company <u>Ritchie Exploration</u>	Elevation <u>3000</u>	KB <u>3055</u> GL
Address <u>8100 E 22nd St N #700 Wichita, KS 67278</u>		
Co. Rep / Geo. <u>Mac Armstrong</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>4170 - 4384</u>	Zone Tested <u>LKC-K, L, Pleasanton, Marmaton, Altamont</u>
Anchor Length <u>214</u>	Drill Pipe Run <u>4037</u> Mud Wt. <u>9.2</u>
Top Packer Depth <u>4165</u>	Drill Collars Run <u>123</u> Vis <u>53</u>
Bottom Packer Depth <u>4170</u>	Wt. Pipe Run <u>8</u> WL <u>9.6</u>
Total Depth <u>4384</u>	Chlorides <u>7,000</u> ppm System LCM <u>1[#]</u>

Blow Description IF: BOB @ 20 sec.
ISS: No return.
FF: BOB @ 1 min
FSS: No return.

Rec <u>2600</u>	Feet of <u>5mcw</u>	%gas	%oil <u>97</u>	%water <u>3</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total <u>2600</u> BHT <u>117</u>	Gravity <u>—</u> API RW <u>255</u> @ <u>44</u> °F	Chlorides <u>47000</u> ppm
(A) Initial Hydrostatic <u>2093</u>	☒ Test 1250	T-On Location <u>1230</u>
(B) First Initial Flow <u>289</u>	☒ Jars 250	T-Started <u>1816</u>
(C) First Final Flow <u>962</u>	☒ Safety Joint 75	T-Open <u>1508</u>
(D) Initial Shut-In <u>1268</u>	☒ Circ Sub <u>N/C</u>	T-Pulled <u>1753</u>
(E) Second Initial Flow <u>976</u>	☐ Hourly Standby	T-Out <u>2026</u>
(F) Second Final Flow <u>1203</u>	☒ Mileage <u>60 RT</u> 93	Comments
(G) Final Shut-In <u>1270</u>	☐ Sampler	
(H) Final Hydrostatic <u>1988</u>	☐ Straddle	

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

☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 1668

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 1668
 MP/DST Disc't

Approved By

Our Representative

Bradley J. [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57635

Well Name & No. #1 Baker 31B Test No. 4 Date 4/15/14
 Company Ritchie Exploration Elevation 3060 KB 3055 GL
 Address 8100 E 22nd St X1 #700 Wichita, KS 67278
 Co. Rep / Geo. Mac Armstrong Rig WW#2
 Location: Sec. 31 Twp. 15S Rge. 34W Co. Logan State Ks

Interval Tested 4518-4544 Zone Tested Lower Cherokee Lime
 Anchor Length 26' Drill Pipe Run 4380 Mud Wt. 9.3
 Top Packer Depth 4513 Drill Collars Run 123 Vis 57
 Bottom Packer Depth 4518 Wt. Pipe Run 0 WL 9.6
 Total Depth 4544 Chlorides 7200 ppm System LCM 1#

Blow Description IF: BOB @ 20 min

IGS: No return.

FF: BOB @ 25 min

FSS: 1/2" return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>6 MCD</u>	<u>35</u>	<u>65</u>	<u>40</u>	<u>40</u>
<u>100</u>	<u>6 MCD</u>	<u>20</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 145 BHT 113 Gravity 27 API RW — @ — °F Chlorides ppm

(A) Initial Hydrostatic 2307
 (B) First Initial Flow 31
 (C) First Final Flow 52
 (D) Initial Shut-In 1324
 (E) Second Initial Flow 60
 (F) Second Final Flow 73
 (G) Final Shut-In 1306
 (H) Final Hydrostatic 2218

☒ Test 1250
☒ Jars 250
☒ Safety Joint 75
☒ Circ Sub N/C
☐ Hourly Standby
☒ Mileage 60RT 93

T-On Location 1400
 T-Started 14551444
 T-Open 1622
 T-Pulled 1922
 T-Out 2114
 Comments

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

☐ Sampler
☐ Straddle
☐ Shale Packer
☐ Extra Packer
☐ Extra Recorder
☐ Day Standby
☐ Accessibility
 Sub Total 1668

☐ Ruined Shale Packer
☐ Ruined Packer
☐ Extra Copies
 Sub Total 0
 Total 1668
 MP/DST Disc't

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57636

Well Name & No. #1 Baker 31B Test No. 5 Date 4/16/14
Company Ritchie Exploration Elevation 3060 KB 3055 GL
Address 8100 E. 22nd St N #700 Wichita, KS 67278
Co. Rep / Geo. Mac Armstrong Rig WW#2
Location: Sec. 31 Twp. 15S Rge. 34W Co. Logan State Ks

Interval Tested 4574 4656 Zone Tested Morrow + Miss
Anchor Length 82 Drill Pipe Run 4444 Mud Wt. 9.3
Top Packer Depth 4569 Drill Collars Run 123 Vis 64
Bottom Packer Depth 4574 Wt. Pipe Run Ø WL 10.4
Total Depth 4656 Chlorides 7500 ppm System LCM 2#

Blow Description IF: BOB@ 4 min
ISJ: No return.
FF: BOB@ 5 min
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1120</u>	<u>5mew</u>				
	<u>oil spots in too</u>				

Rec Total 1120 BHT 126 Gravity — API RW 1275 @ 56 °F Chlorides 32,000 ppm

(A) Initial Hydrostatic	<u>2351</u>	☒ Test	<u>1250</u>	T-On Location	<u>1330</u>
(B) First Initial Flow	<u>114</u>	☒ Jars	<u>250</u>	T-Started	<u>1408</u>
(C) First Final Flow	<u>419</u>	☒ Safety Joint	<u>75</u>	T-Open	<u>1620</u>
(D) Initial Shut-In	<u>997</u>	☒ Circ Sub <u>✓</u>		T-Pulled	<u>1905</u>
(E) Second Initial Flow	<u>440</u>	☐ Hourly Standby		T-Out	<u>2112</u>
(F) Second Final Flow	<u>610</u>	☒ Mileage <u>60 RT</u>	<u>93</u>	Comments	
(G) Final Shut-In	<u>943</u>	☐ Sampler			
(H) Final Hydrostatic	<u>2170</u>	☐ Straddle			

Initial Open	<u>30</u>	☐ Shale Packer		☐ Ruined Shale Packer	
Initial Shut-In	<u>48</u>	☐ Extra Packer		☐ Ruined Packer	
Final Flow	<u>30</u>	☐ Extra Recorder		☐ Extra Copies	
Final Shut-In	<u>60</u>	☐ Day Standby		Sub Total	<u>0</u>
		☐ Accessibility		Total	<u>1668</u>
		Sub Total	<u>1668</u>	MP/DST Disc't	

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