



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53673

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.05.18 @ 07:37:55

GENERAL INFORMATION:

Formation: **Toronto-LKC D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:28:25

Time Test Ended: 14:04:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Jeff Brown

Unit No: 67

Interval: **2963.00 ft (KB) To 3039.00 ft (KB) (TVD)**

Reference Elevations: 1814.00 ft (KB)

Total Depth: 3039.00 ft (KB) (TVD)

1807.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6625

Outside

Press@RunDepth: 74.18 psig @ 3031.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.18

End Date:

2013.05.18

Last Calib.: 2013.05.18

Start Time: 07:37:56

End Time:

13:58:55

Time On Btm: 2013.05.18 @ 09:27:55

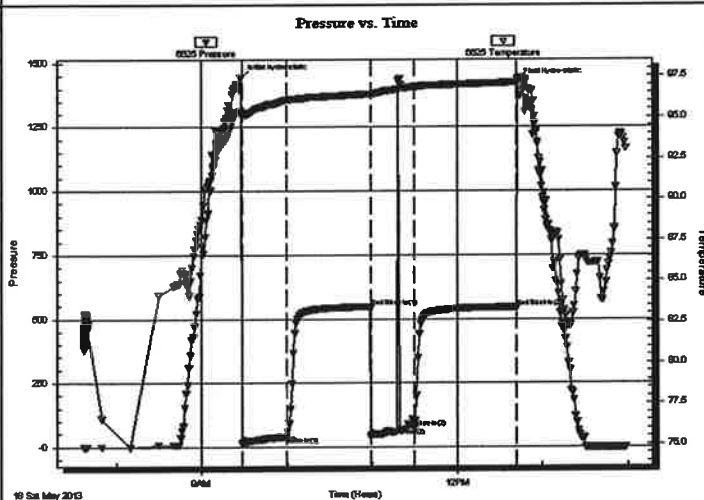
Time Off Btm: 2013.05.18 @ 12:42:25

TEST COMMENT: IFF=Fair blow built to 8 in

ISI=Dead no blow back

FFP=Weak blow died out in 5 min Flushed tool weak blow Died out in 2 min

FSI=Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1443.73	95.33	Initial Hydro-static
1	15.27	95.06	Open To Flow (1)
32	41.82	96.06	Shut-In(1)
91	545.54	96.41	End Shut-In(1)
92	40.28	96.40	Open To Flow (2)
122	74.18	96.84	Shut-In(2)
194	545.28	97.11	End Shut-In(2)
195	1421.88	97.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
86.00	Mud With oil spots	1.21
30.00	Mud with a scum of oil	0.42

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Miller-Becker Enterprises LLC

100 S Main St
Russell KS 67665

ATTN: Jeff Lawler

22-14s-15w Russell,KS

Jacobs #1

Job Ticket: 53673

DST#: 1

Test Start: 2013.05.18 @ 07:37:55

Formation: **Toronto-LKC D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:28:25

Time Test Ended: 14:04:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Jeff Brown

Unit No: 67

Interval: 2963.00 ft (KB) To 3039.00 ft (KB) (TVD)

Total Depth: 3039.00 ft (KB) (TVD)

Hole Diameter: 7.88 inchesHole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8679

Inside

Press@RunDepth: psig @ 3031.00 ft (KB)

Start Date: 2013.05.18

End Date: 2013.05.18

Capacity: 8000.00 psig

Last Calib.: 2013.05.18

Start Time: 07:37:48

End Time: 13:57:47

Time On Btm:

Time Off Btm:

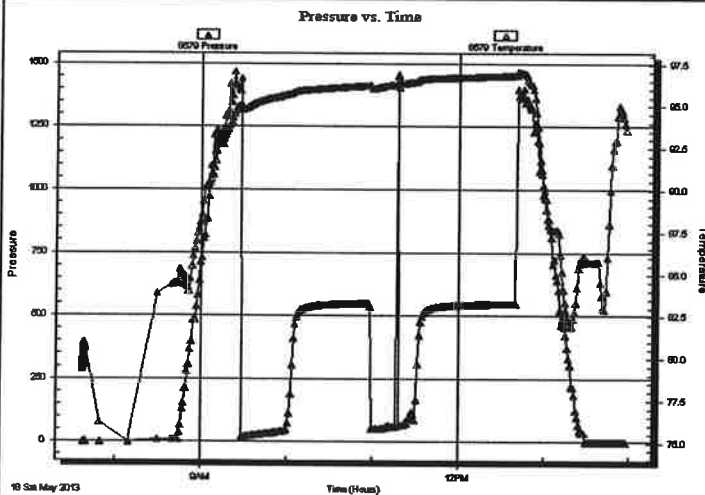
TEST COMMENT:

IFP=Fair blow built to 8 in

ISI=Dead no blow back

FFP=Weak blow died out in 5 min Flushed tool weak blow Died out in 2 min

FSI=Dead no blow back



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
86.00	Mud With oil spots	1.21
30.00	Mud with a scum of oil	0.42

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53673

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.05.18 @ 07:37:55

Tool Information

Drill Pipe:	Length: 2972.00 ft	Diameter: 3.80 inches	Volume: 41.69 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	35000.00 lb
			Total Volume: 41.69 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial	31000.00 lb
Depth to Top Packer:	2963.00 ft			Final	32000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	76.00 ft				
Tool Length:	96.00 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			2944.00	
Shut In Tool	5.00			2949.00	
Hydraulic tool	5.00			2954.00	
Packer	4.00			2958.00	20.00 Bottom Of Top Packer
Packer	5.00			2963.00	
Stubb	1.00			2964.00	
Perforations	3.00			2967.00	
Change Over Sub	1.00			2968.00	
Drill Pipe	62.00			3030.00	
Change Over Sub	1.00			3031.00	
Recorder	0.00	6625	Outside	3031.00	
Recorder	0.00	8679	Inside	3031.00	
Perforations	5.00			3036.00	
Bullnose	3.00			3039.00	76.00 Bottom Packers & Anchor

Total Tool Length: 96.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53673

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.05.18 @ 07:37:55

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 80.00 sec/qt

Water Loss: 7.57 in³

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
86.00	Mud With oil spots	1.206
30.00	Mud with a scum of oil	0.421

Total Length: 116.00 ft

Total Volume: 1.627 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell,KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53674

DST#: 2

ATTN: Jeff Lawler

Test Start: 2013.05.19 @ 03:36:36

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:15:06

Time Test Ended: 09:00:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3142.00 ft (KB) To 3195.00 ft (KB) (TVD)**

Reference Elevations: 1814.00 ft (KB)

Total Depth: 3195.00 ft (KB) (TVD)

1807.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 6625

Outside

Press@RunDepth: 30.52 psig @ 3178.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.19 End Date:

2013.05.19

Last Calib.: 2013.05.19

Start Time: 03:36:37 End Time:

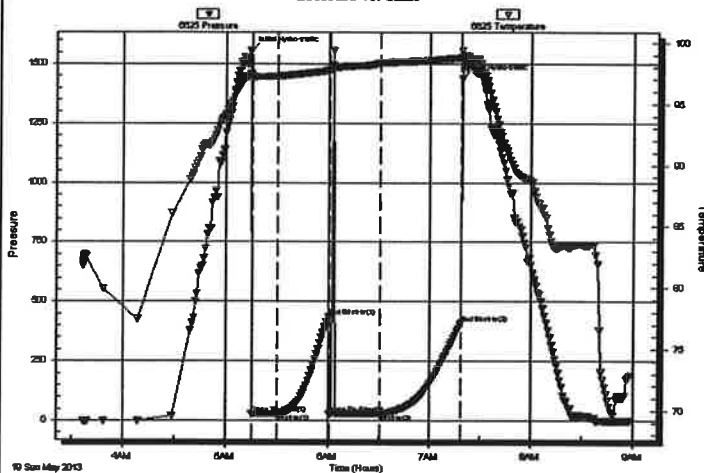
08:58:06

Time On Btm: 2013.05.19 @ 05:14:36

Time Off Btm: 2013.05.19 @ 07:19:06

TEST COMMENT: IFP=Weak blow died out in 2 min
IS=Dead no blow back
FFP=Dead - Flushed tool weak blow then died out
FSI=Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1556.54	97.46	Initial Hydro-static
1	28.39	97.23	Open To Flow (1)
16	29.28	97.26	Shut-In(1)
46	435.00	97.72	End Shut-In(1)
46	29.73	97.78	Open To Flow (2)
76	30.52	98.32	Shut-In(2)
124	409.96	98.78	End Shut-In(2)
125	1436.96	99.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.07

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Miller-Becker Enterprises LLC

ATTN: Jeff Lawler

Jacobs #1

Job Ticket: 53674

DST#: 2

Test Start: 2013.05.19 @ 03:36:36

Formation: LKC H-J

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:15:06

Time Test Ended: 09:00:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3142.00 ft (KB) To 3195.00 ft (KB) (TVD)

Total Depth: 3195.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8679

Inside

Press@RunDepth: psig @ 3178.00 ft (KB)

Start Date: 2013.05.19

End Date:

2013.05.19

Capacity: 8000.00 psia

Last Calib.: 2013.05.19

Start Time: 03:36:20

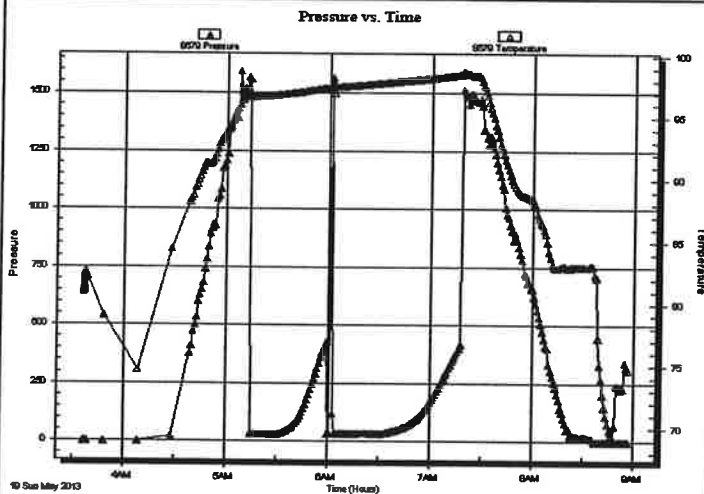
End Time:

08:56:49

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Weak blow died out in 2 min
ISI=Dead no blow back
FFP=Dead - Flushed tool weak blow then died out
FSI=Dead no blow back

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

Annotation

Length (ft)	Description	Volume (bbl)
5.00	Mud	0.07

- * Recovery from multiple tests

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

Pressure (psig)

Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53674

DST#: 2

ATTN: Jeff Lawler

Test Start: 2013.05.19 @ 03:36:36

Tool Information

Drill Pipe:	Length: 3129.00 ft	Diameter: 3.80 inches	Volume: 43.89 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	36000.00 lb
		Total Volume:	43.89 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	30000.00 lb
Depth to Top Packer:	3142.00 ft			Final	30000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	73.00 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			3123.00	
Shut In Tool	5.00			3128.00	
Hydraulic tool	5.00			3133.00	
Packer	4.00			3137.00	20.00 Bottom Of Top Packer
Packer	5.00			3142.00	
Stubb	1.00			3143.00	
Perforations	2.00			3145.00	
Change Over Sub	1.00			3146.00	
Drill Pipe	31.00			3177.00	
Change Over Sub	1.00			3178.00	
Recorder	0.00	6625	Outside	3178.00	
Recorder	0.00	8679	Inside	3178.00	
Perforations	14.00			3192.00	
Bullnose	3.00			3195.00	53.00 Bottom Packers & Anchor

Total Tool Length: 73.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53674

DST#: 2

ATTN: Jeff Lawler

Test Start: 2013.05.19 @ 03:36:36

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 80.00 sec/qt

Water Loss: 7.57 in³

Resistivity: ohm.m

Salinity: 2000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

ft

bbl

psig

Oil API:

Water Salinity:

deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud	0.070

Total Length:

5.00 ft

Total Volume:

0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
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DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

100 S Main St
Russell KS 67665

ATTN: Jeff Lawler

22-14s-15w Russell, KS

Jacobs #1

Job Ticket: 53675

DST#: 3

Test Start: 2013.05.19 @ 19:11:19

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:50:49

Time Test Ended: 23:08:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3215.00 ft (KB) To 3246.00 ft (KB) (TVD)**

Total Depth: 3246.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6625

Outside

Press@RunDepth: 12.42 psig @ 3219.00 ft (KB)

Start Date: 2013.05.19

End Date:

2013.05.19

Start Time: 19:11:20

End Time:

23:04:19

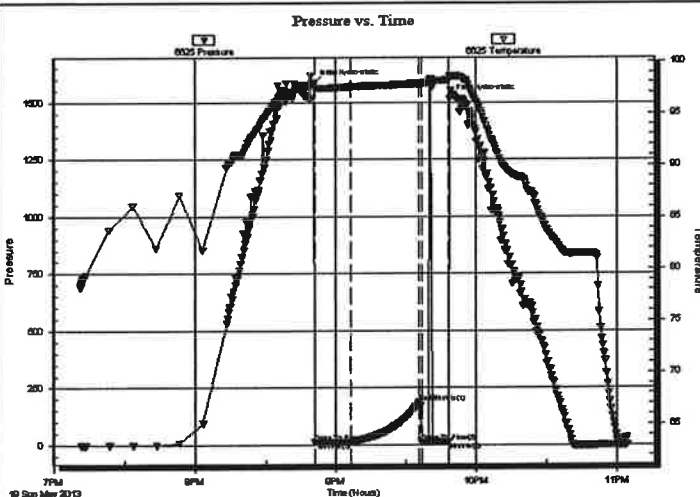
Capacity: 8000.00 psig

Last Calib.: 2013.05.19

Time On Btm: 2013.05.19 @ 20:50:19

Time Off Btm: 2013.05.19 @ 21:48:49

TEST COMMENT: IFP=Weak blow died out in 1 min
ISI=Dead no blow back
FFP=Dead Flushed tool. surged then dead



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1584.81	97.64	Initial Hydro-static
1	12.57	97.38	Open To Flow (1)
16	12.42	97.53	Shut-In(1)
46	186.83	97.83	End Shut-In(1)
47	11.55	97.86	Open To Flow (2)
58	13.58	98.19	Shut-In(2)
59	1516.51	98.60	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 5%O 95%M	0.07

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Miller-Becker Enterprises LLC

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53675

DST#: 3

Test Start: 2013.05.19 @ 19:11:19

GENERAL INFORMATION:

Formation: Arbuckle

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:50:49

Time Test Ended: 23:08:19

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3215.00 ft (KB) To 3246.00 ft (KB) (TVD)

Total Depth: 3246.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8679 **Inside**

Press@RunDepth: psig @ 3219.00 ft (KB)

Start Date: 2013.05.19 End Date: 2013.05.19

Capacity: 8000.00 psig

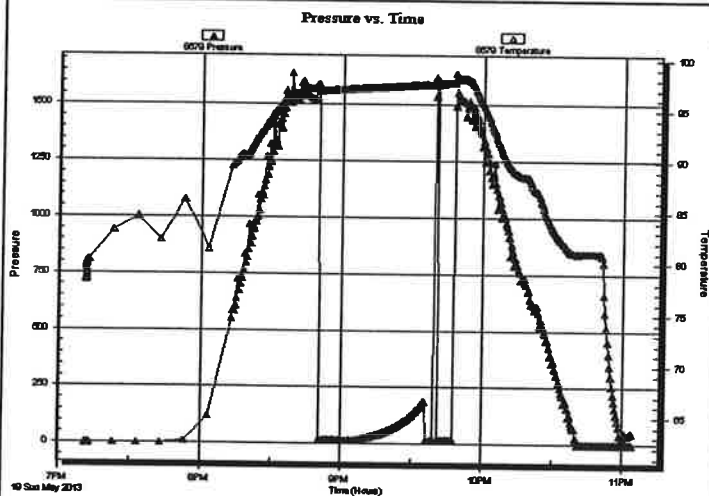
Start Time: 19:11:10 End Time: 23:03:39

Last Calib.: 2013.05.19

Time On Btm:

Time Off Btm:

TEST COMMENT: IFF=Weak blow died out in 1 min
ISI=Dead no blow back
FFF=Dead Flushed tool. surged then dead



PRESSURE SUMMARY

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

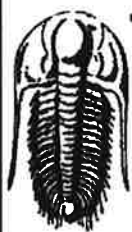
Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 5%O 95%M	0.07

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53675

DST#: 3

ATTN: Jeff Lawler

Test Start: 2013.05.19 @ 19:11:19

Tool Information

Drill Pipe:	Length: 3223.00 ft	Diameter: 3.80 inches	Volume: 45.21 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	36000.00 lb
		Total Volume:	45.21 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	31000.00 lb
Depth to Top Packer:	3215.00 ft			Final	31000.00 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	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3196.00	
Shut In Tool	5.00			3201.00	
Hydraulic tool	5.00			3206.00	
Packer	4.00			3210.00	20.00 Bottom Of Top Packer
Packer	5.00			3215.00	
Stubb	1.00			3216.00	
Perforations	3.00			3219.00	
Recorder	0.00	6625	Outside	3219.00	
Recorder	0.00	8679	Inside	3219.00	
Perforations	24.00			3243.00	
Bullnose	3.00			3246.00	31.00 Bottom Packers & Anchor

Total Tool Length: 51.00



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53675

DST#: 3

ATTN: Jeff Lawler

Test Start: 2013.05.19 @ 19:11:19

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: 54.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	SOCM 5%O 95%M	0.070

Total Length: 5.00 ft

Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



Miller-Becker Enterprises LLC

ATTN: Jeff Lawler

Jacobs #1

Job Ticket: 53851

DST#: 4

Test Start: 2013.05.20 @ 03:54:28

Formation: **Arbuckle**

Formation: **Arbuckle**

Deviated:	No	Whipstock:	ft (KB)
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Time Tool Opened: 05:43:00

Time Test Ended: 07:25:58

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6625 **Outside**

Press@RunDepth: psig @ 3245.00 ft (KB)

Start Date: 2013.05.20 End Date: 2013.05.20

Start Time: 03:54:29 End Time: 07:21:58

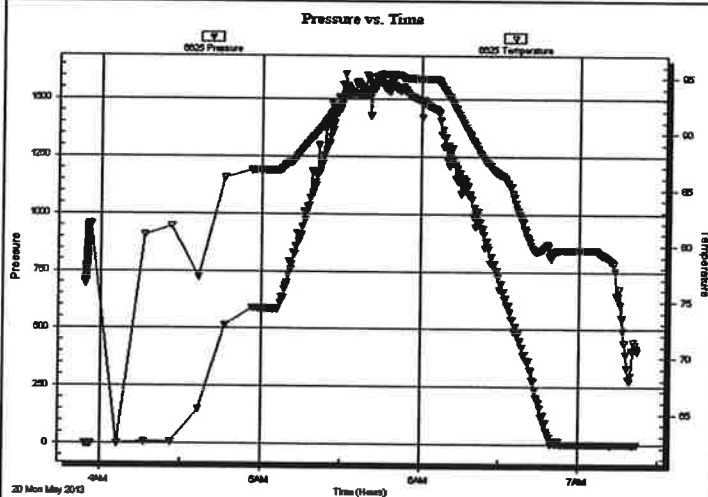
Capacity: 8000.00 psig

Last Calib.: 2013.05.20

Time On Btm:

Time Off Btm:

TEST COMMENT: Mis-Run



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Mud	1.05

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53851

DST#: 4

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 03:54:28

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:43:00

Time Test Ended: 07:25:58

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3244.00 ft (KB) To 3250.00 ft (KB) (TVD)**

Total Depth: 3250.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8679** Inside

Press@RunDepth: psig @ 3245.00 ft (KB)

Start Date: 2013.05.20

End Date: 2013.05.20

Capacity: 8000.00 psig

Last Calib.: 2013.05.20

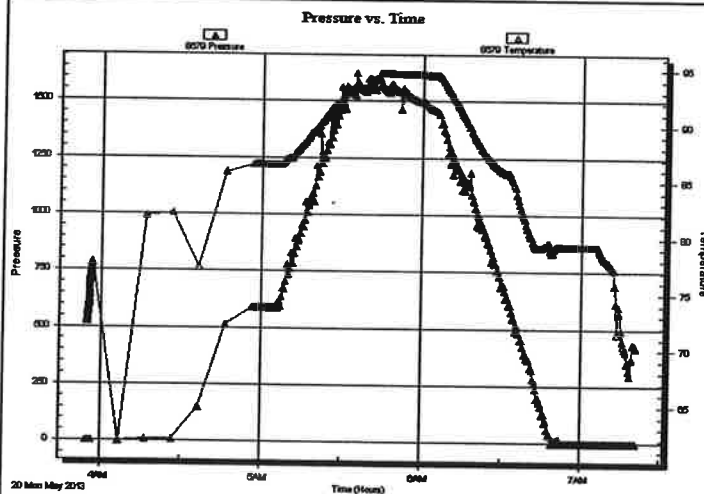
Start Time: 03:54:37

End Time: 07:21:06

Time On Btm:

Time Off Btm:

TEST COMMENT: Mis-Run



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
75.00	Mud	1.05

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Trilobite Testing, Inc

Ref. No: 53851

Printed: 2013.05.29 @ 08:39:20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53851

DST#: 4

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 03:54:28

Tool Information

Drill Pipe:	Length: 3253.00 ft	Diameter: 3.80 inches	Volume: 45.63 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 36000.00 lb
		Total Volume: 45.63 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 31000.00 lb
Depth to Top Packer:	3244.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	6.00 ft			
Tool Length:	26.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Mis-Run

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3225.00	
Shut In Tool	5.00			3230.00	
Hydraulic tool	5.00			3235.00	
Packer	4.00			3239.00	20.00 Bottom Of Top Packer
Packer	5.00			3244.00	
Stubb	1.00			3245.00	
Recorder	0.00	6625	Outside	3245.00	
Recorder	0.00	8679	Inside	3245.00	
Perforations	2.00			3247.00	
Bullnose	3.00			3250.00	6.00 Bottom Packers & Anchor
Total Tool Length:	26.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53851

DST#: 4

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 03:54:28

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: 54.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	Mud	1.052

Total Length: 75.00 ft

Total Volume: 1.052 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53851

DST#: 5

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 07:45:24

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:13:24

Time Test Ended: 12:48:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3212.00 ft (KB) To 3250.00 ft (KB) (TVD)**

Total Depth: 3250.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **6625**

Outside

Press@RunDepth: 14.59 psig @ 3215.00 ft (KB)

Start Date: 2013.05.20

End Date:

2013.05.20

Start Time:

07:45:25

End Time:

12:44:24

Capacity:

8000.00 psig

Last Calib.:

2013.05.20

Time On Btm:

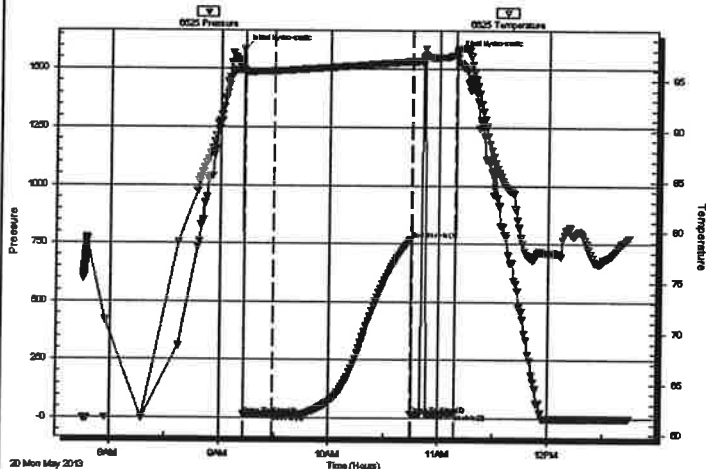
2013.05.20 @ 09:12:54

Time Off Btm:

2013.05.20 @ 11:09:24

TEST COMMENT: IFP=Weak blow died out in 3 min
IS=Dead no blow back
FFP=Weak blow died Flushed tool weak blow then died

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1582.37	96.06	Initial Hydro-static
1	13.91	95.76	Open To Flow (1)
17	14.59	95.90	Shut-In(1)
92	767.53	96.88	End Shut-In(1)
92	16.14	96.77	Open To Flow (2)
116	19.92	97.49	Shut-In(2)
117	1563.19	97.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM 2%O 98 %M	0.28

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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Miller-Becker Enterprises LLC

ATTN: Jeff Lawler

Jacobs #1

Job Ticket: 53851

DST#: 5

Test Start: 2013.05.20 @ 07:45:24

Formation: **Arbuckle**

Deviated:	No	Whipstock:	ft (KB)
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Time Tool Opened: 09:13:24

Time Test Ended: 12:48:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3212.00 ft (KB) To 3250.00 ft (KB) (TVD)

Total Depth: 3250.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8679

Inside

Press@RunDepth: psig @ 3215.00 ft (KB)

Start Date: 2013.05.20

End Date:

2013.05.20

Capacity: 8000.00 psia

Last Calib.: 2013.05.20

Start Time: 07:45:10

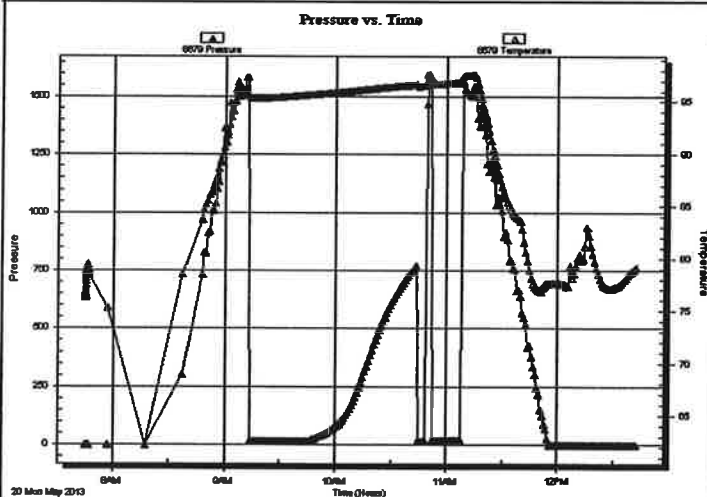
End Time:

12:43:09

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Weak blow died out in 3 min
IS=Dead no blow back
FFP=Weak blow died Flushed tool weak blow then died



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

Length (ft)	Description	Volume (bbl)
20.00	SOCM 2%O 98 %M	0.28

* Recovery from multiple tests

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53851

DST#: 5

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 07:45:24

Tool Information

Drill Pipe:	Length:	3222.00 ft	Diameter:	3.80 inches	Volume:	45.20 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:	36000.00 lb
					Total Volume:	45.20 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft							
Depth to Top Packer:	3212.00 ft							
Depth to Bottom Packer:	ft							
Interval between Packers:	38.00 ft							
Tool Length:	58.00 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			3193.00	
Shut In Tool	5.00			3198.00	
Hydraulic tool	5.00			3203.00	
Packer	4.00			3207.00	20.00 Bottom Of Top Packer
Packer	5.00			3212.00	
Stubb	1.00			3213.00	
Perforations	2.00			3215.00	
Recorder	0.00	6625	Outside	3215.00	
Recorder	0.00	8679	Inside	3215.00	
Perforations	32.00			3247.00	
Bullnose	3.00			3250.00	38.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53851

DST#: 5

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 07:45:24

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 54.00 sec/qt
Water Loss: 7.98 in³
Resistivity: ohm.m
Salinity: 2000.00 ppm
Filter Cake: inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	SOCM 2%O 98 %M	0.281

Total Length: 20.00 ft Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell,KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53853

DST#: 6

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 23:02:47

GENERAL INFORMATION:

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:09:17

Time Test Ended: 04:58:47

Test Type: Conventional Straddle (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3210.00 ft (KB) To 3262.00 ft (KB) (TVD)**

Reference Elevations: 1814.00 ft (KB)

Total Depth: 3300.00 ft (KB) (TVD)

1807.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8679 Inside

Press@RunDepth: 836.96 psig @ 3245.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.20

End Date: 2013.05.21

Last Calib.: 2013.05.21

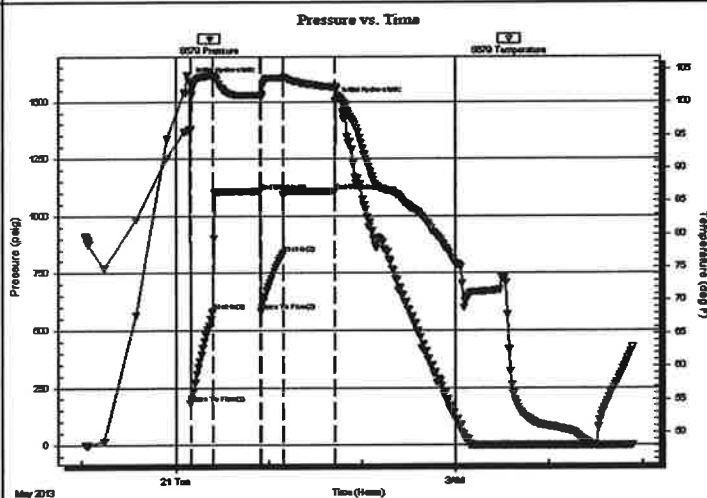
Start Time: 23:02:48

End Time: 04:53:47

Time On Btm: 2013.05.21 @ 00:08:47

Time Off Btm:

TEST COMMENT: IFP=Strong blow BOB in 1 min
ISI=Dead no blow back
FFP=Strong blow BOB in 45 sec
FSI=Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1591.76	95.82	Initial Hydro-static
1	179.96	95.91	Open To Flow (1)
15	583.67	103.97	Shut-In(1)
46	1108.94	101.03	End Shut-In(1)
46	584.75	100.70	Open To Flow (2)
60	836.96	103.67	Shut-In(2)
94	1109.06	102.27	End Shut-In(2)
94	1503.00	102.32	Initial Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1449.00	MW 10%M 90%W	20.33
330.00	WM with a scum of oil 15%W 85%M	4.63

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53853

DST#: 6

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 23:02:47

GENERAL INFORMATION:

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:09:17

Time Test Ended: 04:58:47

Test Type: Conventional Straddle (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3210.00 ft (KB) To 3262.00 ft (KB) (TVD)**

Total Depth: 3300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8167** Below (Straddle)

Press@RunDepth: psig @ 3264.00 ft (KB)

Start Date: 2013.05.20

End Date:

2013.05.21

Capacity: 8000.00 psig

Last Calib.:

2013.05.21

Start Time: 23:02:38

End Time:

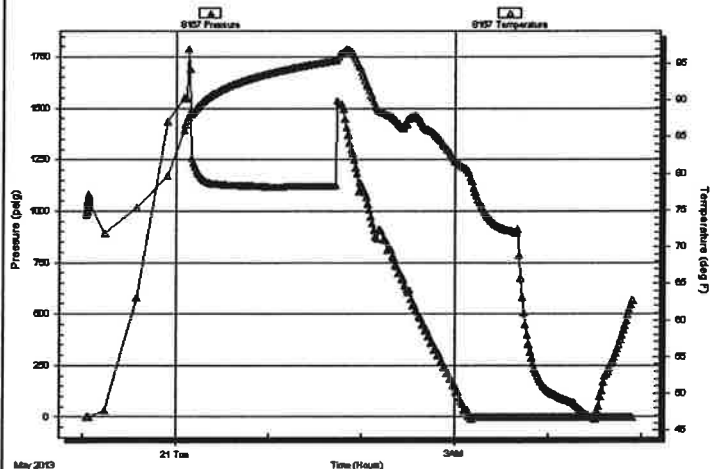
04:54:37

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Strong blow BOB in 1 min
ISI=Dead no blow back
FFP=Strong blow BOB in 45 sec
FSI=Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

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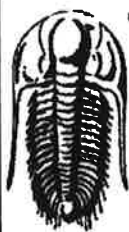
Recovery

Length (ft)	Description	Volume (bbl)
1449.00	MW 10%M 90%W	20.33
330.00	WM with a scum of oil 15%W 85%M	4.63

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53853

DST#: 6

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 23:02:47

GENERAL INFORMATION:

Formation: Reagan Sand

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:09:17

Time Test Ended: 04:58:47

Test Type: Conventional Straddle (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3210.00 ft (KB) To 3262.00 ft (KB) (TVD)

Total Depth: 3300.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1814.00 ft (KB)

1807.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6625

Outside

Press@RunDepth: psig @ 3245.00 ft (KB)

Start Date: 2013.05.20

End Date:

2013.05.21

Capacity:

8000.00 psig

Start Time: 23:02:41

End Time:

04:54:40

Last Calib.:

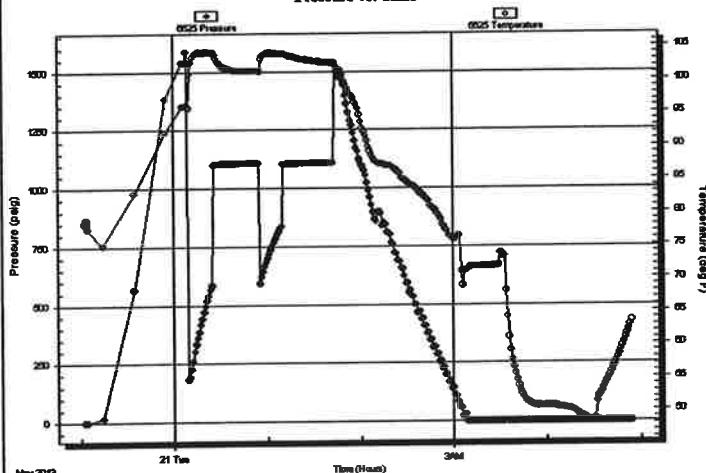
2013.05.21

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Strong blow BOB in 1 min
ISI=Dead no blow back
FFP=Strong blow BOB in 45 sec
FSI=Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
1449.00	MW 10%M 90%W	20.33
330.00	WM with a scum of oil 15%W 85%M	4.63

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53853

DST#: 6

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 23:02:47

Tool Information

Drill Pipe:	Length:	3192.00 ft	Diameter:	3.80 inches	Volume:	44.78 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:	42000.00 lb
					Total Volume:	44.78 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft						String Weight: Initial	31000.00 lb
Depth to Top Packer:	3210.00 ft						Final	38000.00 lb
Depth to Bottom Packer:	3262.00 ft							
Interval between Packers:	52.00 ft							
Tool Length:	118.00 ft							
Number of Packers:	3	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3183.00		
Shut In Tool	5.00			3188.00		
Hydraulic tool	5.00			3193.00		
Jars	5.00			3198.00		
Safety Joint	3.00			3201.00		
Packer	4.00			3205.00	28.00	Bottom Of Top Packer
Packer	5.00			3210.00		
Stubb	1.00			3211.00		
Perforations	1.00			3212.00		
Change Over Sub	1.00			3213.00		
Drill Pipe	31.00			3244.00		
Change Over Sub	1.00			3245.00		
Recorder	0.00	8679	Inside	3245.00		
Recorder	0.00	6625	Outside	3245.00		
Perforations	13.00			3258.00		
Blank Off Sub	1.00			3259.00		
Stubb	3.00			3262.00	52.00	Tool Interval
Packer	1.00			3263.00		
Stubb	1.00			3264.00		
Recorder	0.00	8167	Below	3264.00		
Change Over Sub	1.00			3265.00		
Drill Pipe	31.00			3296.00		
Change Over Sub	1.00			3297.00		
Bullnose	3.00			3300.00	38.00	Bottom Packers & Anchor
Total Tool Length:		118.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Miller-Becker Enterprises LLC

22-14s-15w Russell, KS

100 S Main St
Russell KS 67665

Jacobs #1

Job Ticket: 53853

DST#: 6

ATTN: Jeff Lawler

Test Start: 2013.05.20 @ 23:02:47

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 8.79 in³

Resistivity: ohm.m

Salinity: 2500.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1449.00	MW 10%M 90%W	20.326
330.00	WM with a scum of oil 15%W 85%M	4.629

Total Length: 1779.00 ft

Total Volume: 24.955 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: