



**TRILOBITE TESTING, INC.**

### DRILL STEM TEST REPORT

M.A. Yost Operations

27-14s-15w Russell, KS

PO Box 811  
Russell, KS 67665

**Camp A #1**

Job Ticket: 60487

DST#: 1

ATTN: Jack Yost / Mike Bai

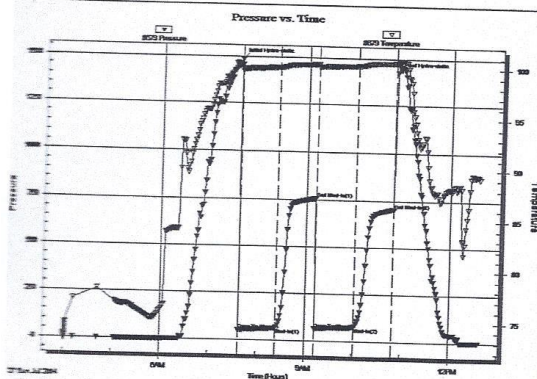
Test Start: 2014.07.27 @ 04:00:00

**GENERAL INFORMATION:**

Formation: LKC A-C  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:37:30  
 Time Test Ended: 12:35:30  
 Interval: 2988.00 ft (KB) To 3085.00 ft (KB) (TVD)  
 Total Depth: 3085.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Bob Hamel  
 Unit No: 58  
 Reference Elevations: 1825.00 ft (KB)  
 1818.00 ft (CF)  
 KB to GR/CF: 7.00 ft

Serial #: 8679 Inside  
 Press @ Run Depth: 75.41 psig @ 3055.00 ft (KB)  
 Start Date: 2014.07.27 End Date: 2014.07.27  
 Start Time: 04:00:01 End Time: 12:35:30  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.07.27  
 Time On Btm: 2014.07.27 @ 07:36:30  
 Time Off Btm: 2014.07.27 @ 10:50:30

TEST COMMENT: I.F. - 45 - Blow built to 2"  
 I.S.I. - 45 - No blow back  
 F.F. - 45 - Weak surface blow built to 1"  
 F.S.I. - 45 - No blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1487.25	100.10	Initial Hydro-static
1	52.86	99.53	Open To Flow (1)
48	64.60	99.94	Shut-In(1)
96	75.74	100.27	End Shut-In(1)
96	64.97	100.02	Open To Flow (2)
145	75.41	100.20	Shut-In(2)
193	703.66	100.47	End Shut-In(2)
194	1426.01	100.57	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
50.00	S,O,S,M, 100%M (FEW OIL SPECS)	0.70
0.00	SHOW OF FREE OIL IN TOOL	0.00

**Gas Rates**

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







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**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

M.A. Yost Operations

27-14s-15w Russell, KS

PO Box 811  
Russell, KS 67665

**Camp A #1**

Job Ticket: 60487

**DST#: 1**

ATTN: Jack Yost / Mike Bai

Test Start: 2014.07.27 @ 04:00:00

**Tool Information**

Drill Pipe:	Length: 2984.00 ft	Diameter: 3.80 inches	Volume: 41.86 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<b>Total Volume: 41.86 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	2988.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	97.00 ft			
Tool Length:	124.00 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			2962.00	
Shut In Tool	5.00			2967.00	
Hydraulic tool	5.00			2972.00	
Jars	5.00			2977.00	
Safety Joint	2.00			2979.00	
Packer	4.00			2983.00	27.00 Bottom Of Top Packer
Packer	5.00			2988.00	
Stubb	1.00			2989.00	
Perforations	1.00			2990.00	
Change Over Sub	1.00			2991.00	
Drill Pipe	63.00			3054.00	
Change Over Sub	1.00			3055.00	
Recorder	0.00	6625	Outside	3055.00	
Recorder	0.00	8679	Inside	3055.00	
Perforations	26.00			3081.00	
Bullnose	4.00			3085.00	97.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>124.00</b>				



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**FLUID SUMMARY**

M.A. Yost Operations

27-14s-15w Russell, KS

PO Box 811  
Russell, KS 67665

**Camp A #1**

Job Ticket: 60487

**DST#: 1**

ATTN: Jack Yost / Mike Bai

Test Start: 2014.07.27 @ 04:00:00

**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: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
50.00	S,O,S,M, 100%M (FEW OIL SPECS)	0.701
0.00	SHOW OF FREE OIL IN TOOL	0.000

Total Length: 50.00 ft      Total Volume: 0.701 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

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**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

M.A. Yost Operations

27-14s-15w Russell, KS

PO Box 811  
Russell, KS 67665

**Camp A #1**

Job Ticket: 60488

DST#: 2

ATTN: Jack Yost / Mike Bai

Test Start: 2014.07.28 @ 04:10:00

**GENERAL INFORMATION:**

Formation: Gorham Sand

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:51:00

Time Test Ended: 13:04:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Bob Hamel

Unit No: 58

Interval: 3232.00 ft (KB) To 3256.00 ft (KB) (TVD)

Total Depth: 3256.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1825.00 ft (KB)

1818.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8679

Inside

Press@RunDepth: 240.37 psig @ 3234.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.28

End Date:

2014.07.28

Last Calib.: 2014.07.28

Start Time: 04:10:01

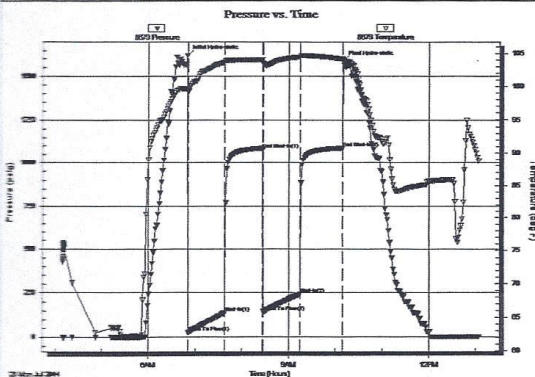
End Time:

13:04:30

Time On Btm: 2014.07.28 @ 06:50:00

Time Off Btm: 2014.07.28 @ 10:10:00

TEST COMMENT: I.F. - 45 - BOB in 8 1/2 min  
I.S.I. - 45 - Weak surface blow back built to 1"  
F.F. - 45 - BOB in 12 min  
F.S.I. - 45 - Weak surface blow back built to 2"



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1619.53	99.64	Initial Hydro-static
1	25.97	99.24	Open To Flow (1)
48	137.07	103.66	Shut-In(1)
97	1081.61	103.98	End Shut-In(1)
97	142.11	103.58	Open To Flow (2)
144	240.37	104.45	Shut-In(2)
199	1088.25	104.17	End Shut-In(2)
200	1587.06	103.97	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
128.00	H <sub>2</sub> O,C,M,W, 20%O 30%M 50%W	1.77
365.00	G/O 100%	5.12
0.00	315' G.I.P.	0.00

**Gas Rates**

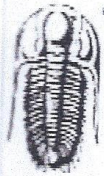
Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)

\* Recovery from multiple tests

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**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

M.A. Yost Operations

27-14s-15w Russell, KS

PO Box 811  
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**Camp A #1**

Job Ticket: 60488

**DST#: 2**

ATTN: Jack Yost / Mike Bai

Test Start: 2014.07.28 @ 04:10:00

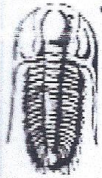
**Tool Information**

Drill Pipe:	Length: 3236.00 ft	Diameter: 3.80 inches	Volume: 45.39 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 45.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 39000.00 lb
Depth to Top Packer:	3232.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 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			3206.00	
Shut In Tool	5.00			3211.00	
Hydraulic tool	5.00			3216.00	
Jars	5.00			3221.00	
Safety Joint	2.00			3223.00	
Packer	4.00			3227.00	27.00 Bottom Of Top Packer
Packer	5.00			3232.00	
Studd	1.00			3233.00	
Perforations	1.00			3234.00	
Recorder	0.00	6625	Outside	3234.00	
Recorder	0.00	8679	Inside	3234.00	
Perforations	18.00			3252.00	
Bullnose	4.00			3256.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>51.00</b>				

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**FLUID SUMMARY**

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**Camp A #1**

Job Ticket: 60488

DST#: 2

ATTN: Jack Yost / Mike Bai

Test Start: 2014.07.28 @ 04:10:00

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

31.2 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

8500 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 300.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
126.00	H <sub>2</sub> O,C,M,W, 20%O 30%M 50%W	1.767
365.00	C/O 100%	5.120
0.00	315' G.I.P.	0.000

Total Length: 491.00 ft      Total Volume: 6.887 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: CORRECTED OIL GRAVITY = 31.2 @ 60 Deg.  
R.W. = .57 OHMS @ 97 DEG.