



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Mike Kelso Oil

14-17s-21w Ness,KS

PO Box 467  
Chase, KS 67524-0467

Wonder-Mud #14-1

Job Ticket: 65462

DST#:1

ATTN: Mike Kelso, Sean De

Test Start: 2016.05.26 @ 22:56:01

### GENERAL INFORMATION:

Formation: Cherokee Sand "A"

Deviated: No Whipstock ft (KB)

Time Tool Opened: 02:56:11

Time Test Ended: 06:51:40

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 77

Interval: 4080.00 ft (KB) To 4106.00 ft (KB) (TVD)

Total Depth: 4106.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2183.00 ft (KB)

2176.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8018 Inside

Press@RunDepth: 195.61 psig @ 4081.00 ft (KB)

Start Date: 2016.05.26

End Date:

2016.05.27

Start Time: 22:56:01

End Time:

06:51:40

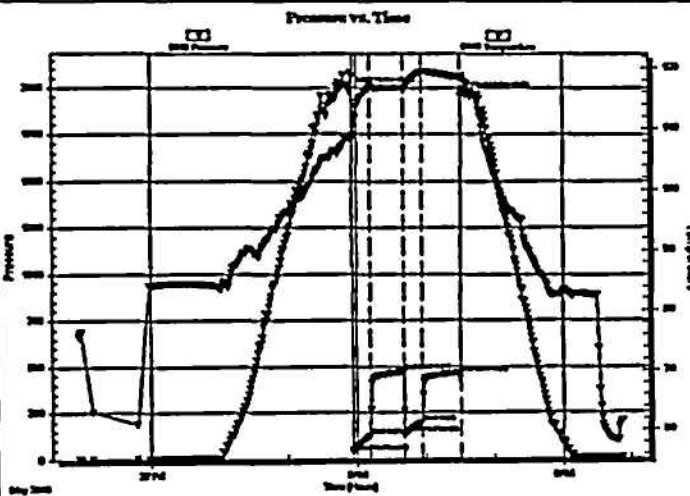
Capacity: 8000.00 psig

Last Calib.: 2016.05.27

Time On Blmt: 2016.05.27 @ 02:54:11

Time Off Blmt: 2016.05.27 @ 04:35:10

TEST COMMENT: 15-FP-wk to strg in 10 min  
30-ISF-surface blk  
15-FFP-wk to strg in 12 min  
30-FSIF-1/8" blk



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1982.16	108.33	Initial Hydro-static
2	35.70	108.30	Open To Flow (1)
17	123.38	117.21	Shut-in(1)
47	471.01	116.78	End Shut-in(1)
47	131.37	116.68	Open To Flow (2)
63	195.61	119.38	Shut-in(2)
96	462.85	118.51	End Shut-in(2)
101	1957.92	117.57	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
124.00	SOCW 2%O98%W	0.88
62.00	O&GCM 10%G20%O70%M	0.44
170.00	HO&GCM 10%G30%O60%M	1.20
55.00	CO	0.39
0.00	145' GP	0.00

### Gas Rates

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





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mike Kelso Oil

**14-17s-21w Ness,KS**

PO Box 467  
Chase, KS 67524-0467

**Wonder-Mud #14-1**

Job Ticket: 65462

**DST#: 1**

ATTN: Mike Kelso ,Sean De

Test Start: 2016.05.26 @ 22:56:01

**Tool Information**

Drill Pipe:	Length: 3601.00 ft	Diameter: 3.80 inches	Volume: 50.51 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 455.00 ft	Diameter: 2.70 inches	Volume: 3.22 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 53.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4080.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	55.00 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			4052.00	
Shut In Tool	5.00			4057.00	
Hydraulic tool	5.00			4062.00	
Jars	5.00			4067.00	
Safety Joint	3.00			4070.00	
Packer	5.00			4075.00	29.00 Bottom Of Top Packer
Packer	5.00			4080.00	
Stubb	1.00			4081.00	
Recorder	0.00	8018	Inside	4081.00	
Recorder	0.00	8700	Outside	4081.00	
Perforations	22.00			4103.00	
Bullnose	3.00			4106.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 55.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

FLUID SUMMARY

Mke Kelso Oil

14-17s-21w Ness,KS

PO Box 467  
Chase, KS 67524-0467

Wonder-Mud #14-1

Job Ticket: 65462

DST#:1

ATTN: Mke Kelso, Sean De

Test Start: 2016.05.26 @ 22:56:01

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 46.00 sec/qt  
Water Loss: 8.72 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6000.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: 41 deg API  
Water Salinity: 43000 ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	SOCW 2% O98%W	0.878
62.00	O&GCM 10%G20%O70%M	0.439
170.00	HO&GCM 10%G30%O60%M	1.204
55.00	CO	0.389
0.00	145' GP	0.000

Total Length: 411.00 ft      Total Volume: 2.910 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.17@68F



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Mike Kelso OI  
 PO Box 467  
 Chase, KS 67524-0467  
 ATTN: Mike Kelso, Sean Do

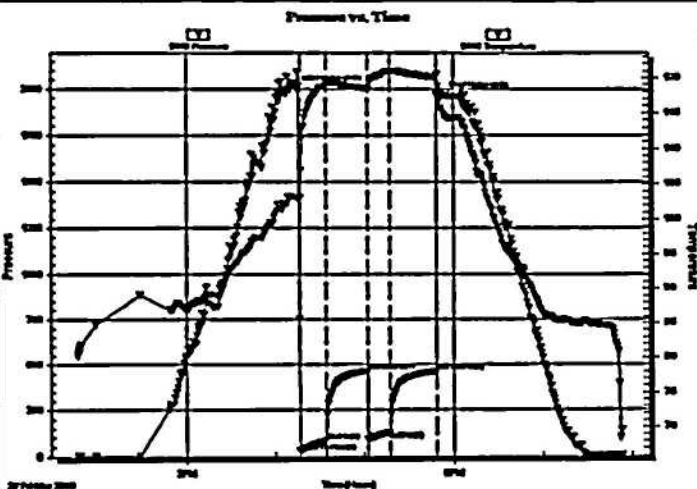
14-17s-21w Ness, KS  
 Wonder-Mud #14-1  
 Job Ticket: 65463 DST#:2  
 Test Start: 2016.05.27 @ 13:45:53

### GENERAL INFORMATION:

Formation: Cherokee Sand  
 Deviated: No Whipstock ft (KB)  
 Time Tool Opened: 16:16:48  
 Time Test Ended: 19:53:32  
 Interval: 4106.00 ft (KB) To 4114.00 ft (KB) (TVD)  
 Total Depth: 4114.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 77  
 Reference Elevations: 2183.00 ft (KB)  
 2176.00 ft (CF)  
 KB to GR/CF: 7.00 ft

Serial #: 8018 Inside  
 Press@RunDepth: 128.94 psig @ 4107.00 ft (KB)  
 Start Date: 2016.05.27 End Date: 2016.05.27  
 Start Time: 13:45:53 End Time: 19:53:32  
 Capacity: 8000.00 psig  
 Last Calib.: 2016.05.27  
 Time On Blmt: 2016.05.27 @ 16:14:18  
 Time Off Blmt: 2016.05.27 @ 17:53:33

TEST COMMENT: 15-FFP-wk to a gd bl 3/4" to 7" bl  
 30-ISP-no bl  
 15-FFP-wk to a fr bl 1/2" to 5" bl  
 30-FSP-no bl



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1998.83	103.08	Initial Hydro-static
3	27.32	103.02	Open To Flow (1)
21	83.93	119.18	Shut-in(1)
48	460.98	118.44	End Shut-in(1)
49	90.15	118.22	Open To Flow (2)
64	128.94	120.85	Shut-in(2)
94	460.45	120.05	End Shut-in(2)
100	1964.15	114.65	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
240.00	water	1.70
1.00	OI	0.01
0.00	45' GP	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

Mike Kelso Oil

14-17s-21w Ness,KS

PO Box 467  
Chase, KS 67524-0467

Wonder-Mud #14-1

Job Ticket: 65463

DST#: 2

ATTN: Mike Kelso ,Sean De

Test Start: 2016.05.27 @ 13:45:53

### Tool Information

Drill Pipe:	Length: 3634.00 ft	Diameter: 3.80 inches	Volume: 50.98 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 455.00 ft	Diameter: 2.70 inches	Volume: 3.22 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.20 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4106.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	37.00 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			4078.00	
Shut In Tool	5.00			4083.00	
Hydraulic tool	5.00			4088.00	
Jars	5.00			4093.00	
Safety Joint	3.00			4096.00	
Packer	5.00			4101.00	29.00 Bottom Of Top Packer
Packer	5.00			4106.00	
Stubb	1.00			4107.00	
Recorder	0.00	8018	Inside	4107.00	
Recorder	0.00	8700	Outside	4107.00	
Perforations	4.00			4111.00	
Bullnose	3.00			4114.00	8.00 Bottom Packers & Anchor

**Total Tool Length: 37.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mka Kelso Oil  
PO Box 467  
Chase, KS 67524-0467  
ATTN: Mka Kelso, Sean De

14-17s-21w Ness, KS  
Wonder-Mud #14-1  
Job Ticket: 65463      DST#:2  
Test Start: 2016.05.27 @ 13:45:53

## 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:	43000 ppm
Viscosity:	46.00 sec/qt	Cushion Volume:	bbbl		
Water Loss:	8.69 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
240.00	water	1.700
1.00	Oil	0.007
0.00	45' GP	0.000

Total Length: 241.00 ft      Total Volume: 1.707 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW.16@70F





**TRIOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Mike Kelso Oil  
PO Box 467  
Chase, KS 67524-0467  
ATTN: Mike Kelso, Sean De

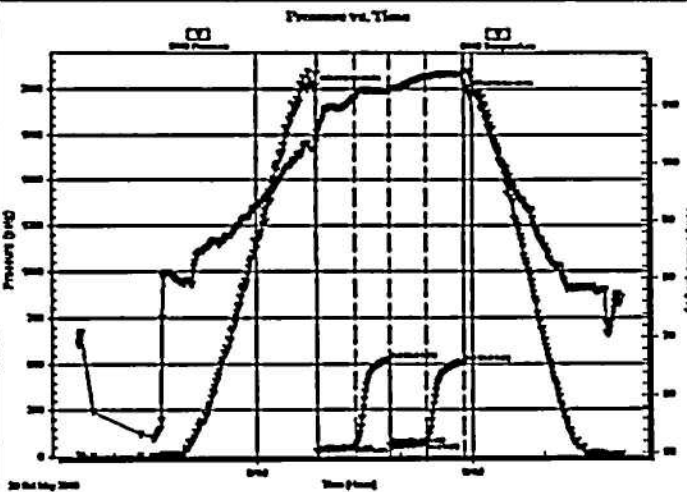
14-17s-21w Ness, KS  
Wonder-Mud #14-1  
Job Ticket: 65464 DST#:3  
Test Start: 2016.05.28 @ 03:30:39

## GENERAL INFORMATION:

Formation: Cheokeer Sand "C"  
Deviated: No Whipstock ft (KB)  
Time Tool Opened: 06:50:34  
Time Test Ended: 11:04:18  
Interval: 4116.00 ft (KB) To 4132.00 ft (KB) (TVD)  
Total Depth: 4132.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Ray Schwager  
Unit No: 77  
Reference Elevations: 2183.00 ft (KB)  
2176.00 ft (CF)  
KB to GR/CF: 7.00 ft

Serial #: 8018 Inside  
Press@RunDepth: 69.04 psig @ 4117.00 ft (KB)  
Start Date: 2016.05.28 End Date: 2016.05.28  
Start Time: 03:30:39 End Time: 11:04:18  
Capacity: 8000.00 psig  
Last Calb.: 2016.05.28  
Time On Bltrc: 2016.05.28 @ 06:48:49  
Time Off Bltrc: 2016.05.28 @ 08:57:48

TEST COMMENT: 30-FFP-wk to a fr bl 1/4" to 6" bl  
30-ISF-no bl  
30-FFP-wk to a fr bl 1/4" to 5" bl  
30-FSP-no bl



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1999.65	102.51	Initial Hydro-static
2	22.00	103.78	Open To Flow (1)
33	48.97	111.24	Shut-in(1)
62	524.33	112.44	End Shut-in(1)
63	55.85	112.40	Open To Flow (2)
93	69.04	114.92	Shut-in(2)
124	505.93	115.45	End Shut-in(2)
129	1967.82	115.79	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	HO&GCM 22%G30%O8%W40%M	0.42
50.00	HO&GCM 10%G40%O50%M	0.35
10.00	CO	0.07
0.00	186' GP	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**

Mike Kelso Oil  
 PO Box 467  
 Chase, KS 67524-0467  
 ATTN: Mike Kelso, Sean Da

14-17s-21w Ness, KS  
 Wonder-Mud #14-1  
 Job Ticket: 65464 DST#:3  
 Test Start: 2016.05.28 @ 03:30:39

**Tool Information**

Drill Pipe:	Length: 3663.00 ft	Diameter: 3.80 inches	Volume: 51.38 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 455.00 ft	Diameter: 2.70 inches	Volume: 3.22 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 54.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4116.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	45.00 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			4088.00	
Shut In Tool	5.00			4093.00	
Hydraulic tool	5.00			4098.00	
Jars	5.00			4103.00	
Safety Joint	3.00			4106.00	
Packer	5.00			4111.00	29.00 Bottom Of Top Packer
Packer	5.00			4116.00	
Stubb	1.00			4117.00	
Recorder	0.00	8018	Inside	4117.00	
Recorder	0.00	8700	Outside	4117.00	
Perforations	12.00			4129.00	
Bullnose	3.00			4132.00	16.00 Bottom Packers & Anchor

**Total Tool Length: 45.00**



**TRIBOLITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mke Kelso Oil

14-17s-21w Ness,KS

PO Box 467  
Chase, KS 67524-0467

Wonder-Mud #14-1

Job Ticket: 65464      DST#:3

ATTN: Mke Kelso, Sean De

Test Start: 2016.05.28 @ 03:30:39

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.71 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 bbf
60.00	HO&GCM 22%G30%O8%W40%M	0.425
50.00	HO&GCM 10%G40%O50%M	0.354
10.00	CO	0.071
0.00	186° GP	0.000

Total Length: 120.00 ft

Total Volume: 0.850 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: