



DRILL STEM TEST REPORT

Prepared For: **Woolsey Operating**

125 N Market Suite 1000
Wichita, KS 67202-1729

ATTN: Dean Pattisson/Bill

Kilgore #2

20-28S-19W Kiowa, KS

Start Date: 2019.02.26 @ 01:19:00

End Date: 2019.02.26 @ 10:30:10

Job Ticket #: 63933 DST #: 2

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

Printed: 2019.02.27 @ 13:20:49



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Woolsey Operating
125 N Market Suite 1000
Wichita, KS 67202-1729
ATTN: Dean Pattisson/Bill

20-28S-19W Kiowa, KS

Kilgore #2

Job Ticket: 63933

DST#: 2

Test Start: 2019.02.26 @ 01:19:00

GENERAL INFORMATION:

Formation: **Mississippian**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:45:30
 Time Test Ended: 10:30:10
 Interval: **4918.00 ft (KB) To 4928.00 ft (KB) (TVD)**
 Total Depth: 4928.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 2299.00 ft (KB)
 2287.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8369

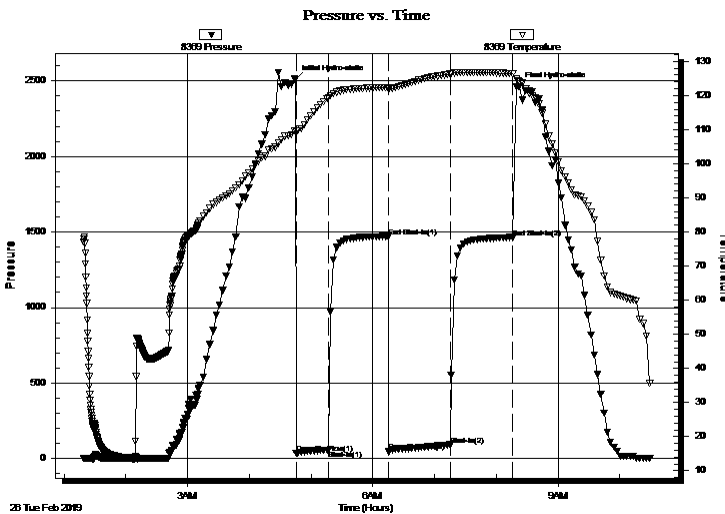
Outside

Press@RunDepth: 91.48 psig @ 4919.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.02.26 End Date: 2019.02.26 Last Calib.: 2019.02.26
 Start Time: 01:19:01 End Time: 10:30:10 Time On Btm: 2019.02.26 @ 04:44:20
 Time Off Btm: 2019.02.26 @ 08:21:09

TEST COMMENT: IF - Strong blow throughout initial flow period. GTS in 20 minutes
 FF - Strong blow throughout final flow period.
 FS - 5" blow back during final shut-in period.

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2508.33	109.73	Initial Hydro-static
2	35.22	109.49	Open To Flow (1)
33	55.52	119.30	Shut-In(1)
91	1470.59	122.26	End Shut-In(1)
92	50.36	121.90	Open To Flow (2)
151	91.48	126.22	Shut-In(2)
212	1463.92	126.43	End Shut-In(2)
217	2461.43	124.37	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
120.00	SMOCW 9% O 4% M & 87% W	0.59
85.00	OCMW 10%O 37%M 53%W	1.17

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	6.32	32.87
Last Gas Rate	0.13	8.60	8.61
Max. Gas Rate	0.13	8.60	8.61



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 125 N Market Suite 1000
 Wichita, KS 67202-1729
 ATTN: Dean Pattisson/Bill

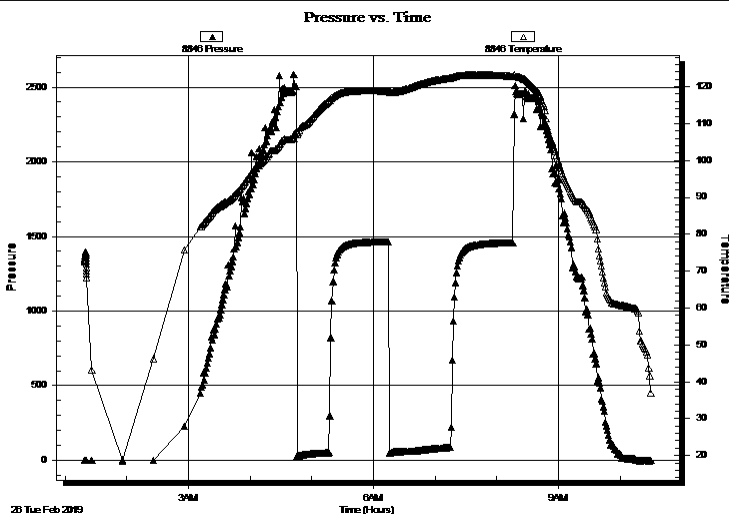
20-28S-19W Kiowa, KS
Kilgore #2
 Job Ticket: 63933 **DST#: 2**
 Test Start: 2019.02.26 @ 01:19:00

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 Total Depth: 4928.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 2299.00 ft (KB)
 2287.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8846 Inside
 Press@RunDepth: psig @ 4919.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.02.26 End Date: 2019.02.26 Last Calib.: 1899.12.30
 Start Time: 01:19:01 End Time: 10:29:40 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF - Strong blow throughout initial flow period. GTS in 20 minutes
 FF - Strong blow throughout final flow period.
 FS - 5" blow back during final shut-in period.



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

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	SMOCW 9% O 4% M & 87% W	0.59
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Woolsey Operating

20-28S-19W Kiowa, KS

125 N Market Suite 1000
Wichita, KS 67202-1729

Kilgore #2

Job Ticket: 63933

DST#: 2

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.26 @ 01:19:00

Tool Information

Drill Pipe:	Length: 4785.00 ft	Diameter: 3.80 inches	Volume: 67.12 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 122.00 ft	Diameter: 2.25 inches	Volume: 0.60 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 67.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4918.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	4928.00 ft			
Interval between Packers:	10.00 ft			
Tool Length:	38.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4891.00	
Shut In Tool	5.00			4896.00	
Hydraulic tool	5.00			4901.00	
Jars	5.00			4906.00	
Safety Joint	3.00			4909.00	
Packer	5.00			4914.00	28.00 Bottom Of Top Packer
Packer	4.00			4918.00	
Stubb	1.00			4919.00	
Recorder	0.00	8369	Outside	4919.00	
Recorder	0.00	8846	Inside	4919.00	
Perforations	7.00			4926.00	
Bullnose	2.00			4928.00	10.00 Bottom Packers & Anchor

Total Tool Length: 38.00



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FLUID SUMMARY

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Kilgore #2

Job Ticket: 63933

DST#: 2

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.26 @ 01:19:00

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:

40000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	SMOCW 9% O 4% M & 87% W	0.590
85.00	OCMW 10%O 37%M 53%W	1.174

Total Length: 205.00 ft Total Volume: 1.764 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Rw .31 @ 40*



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GAS RATES

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Wichita, KS 67202-1729

Kilgore #2

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DST#: 2

ATTN: Dean Pattisson/Bill

Test Start: 2019.02.26 @ 01:19:00

Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	30	0.25	6.32	32.87
2	10	0.25	5.09	30.92
2	20	0.25	3.32	28.11
2	30	0.13	4.70	7.15
2	40	0.13	6.79	7.93
2	50	0.13	7.88	8.34
2	60	0.13	8.60	8.61

