



DRILL STEM TEST REPORT

Prepared For: **Royal Energy**
P.O. Box 1820
Dodge City ,Kansas 67801

ATTN: Eli Felts

Alpers #2

4-23s-12w Stafford

Start Date: 2018.09.04 @ 13:00:22
End Date: 2018.09.04 @ 19:42:00
Job Ticket #: 01007 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2018.09.04 @ 19:58:02

Royal Energy
4-23s-12w Stafford
Alpers #2
DST # 1
Lansing "A-F"
2018.09.04



DRILL STEM TEST REPORT

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 Dodge City, Kansas 67801
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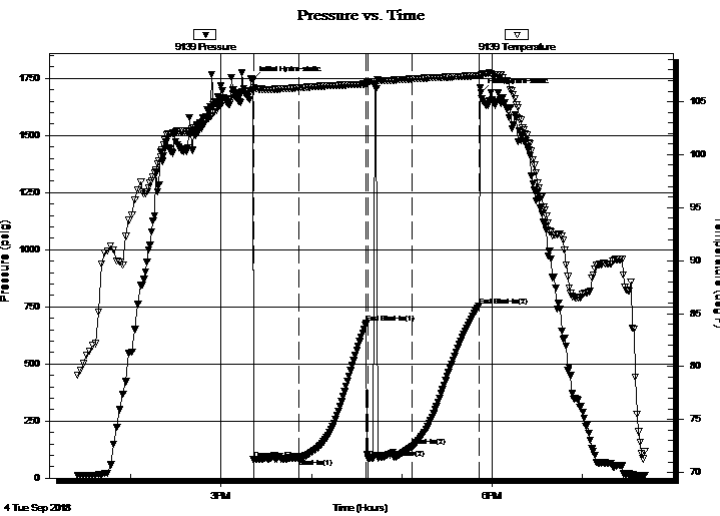
4-23s-12w Stafford
Alpers #2
 Job Ticket: 01007 **DST#: 1**
 Test Start: 2018.09.04 @ 13:00:22

GENERAL INFORMATION:

Formation: **Lansing "A-F"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 15:22:00 Tester: Gene Budig
 Time Test Ended: 19:42:00 Unit No: 1
Interval: 3288.00 ft (KB) To 3395.00 ft (KB) (TVD)
 Reference Elevations: 1851.00 ft (KB)
 Total Depth: 3395.00 ft (KB) (TVD) 1841.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 9139 Outside
 Press@RunDepth: 754.87 psig @ 3390.06 ft (KB) Capacity: 5000.00 psig
 Start Date: 2018.09.04 End Date: 2018.09.04 Last Calib.: 2018.09.04
 Start Time: 13:22:00 End Time: 19:41:00 Time On Btm: 2018.09.04 @ 15:21:00
 Time Off Btm: 2018.09.04 @ 17:52:30

TEST COMMENT: 1st Opening 30 Minutes weak blow for 12 minutes and died
 1st Shut-In 45 Minutes
 2nd Opening 30 Minutes no blow - Flushed tool-w eak blow 3 minutes and died
 2nd Shut-In 45 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1742.43	106.03	Initial Hydro-static
1	80.96	106.13	Open To Flow (1)
31	86.40	106.32	Shut-In(1)
76	679.79	106.68	End Shut-In(1)
77	87.83	106.90	Open To Flow (2)
106	137.61	107.15	Shut-In(2)
150	754.87	107.47	End Shut-In(2)
152	1689.02	107.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	Drilling Mud	0.35

Gas Rates

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



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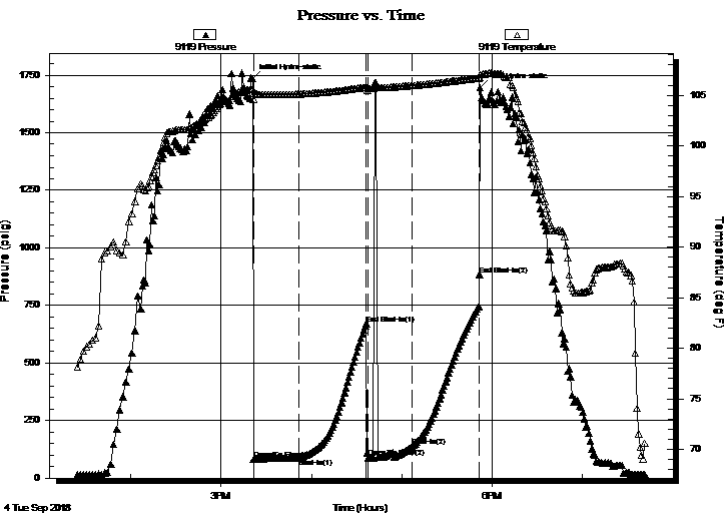
4-23s-12w Stafford
Alpers #2
 Job Ticket: 01007 **DST#: 1**
 Test Start: 2018.09.04 @ 13:00:22

GENERAL INFORMATION:

Formation: **Lansing "A-F"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 15:22:00 Tester: Gene Budig
 Time Test Ended: 19:42:00 Unit No: 1
 Interval: **3288.00 ft (KB) To 3395.00 ft (KB) (TVD)** Reference Elevations: 1851.00 ft (KB)
 Total Depth: 3395.00 ft (KB) (TVD) 1841.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

Serial #: 9119 Inside
 Press@RunDepth: 884.01 psig @ 3390.06 ft (KB) Capacity: 5000.00 psig
 Start Date: 2018.09.04 End Date: 2018.09.04 Last Calib.: 2018.09.04
 Start Time: 13:22:00 End Time: 19:41:00 Time On Btm: 2018.09.04 @ 15:21:00
 Time Off Btm: 2018.09.04 @ 17:52:00

TEST COMMENT: 1st Opening 30 Minutes weak blow for 12 minutes and died
 1st Shut-In 45 Minutes
 2nd Opening 30 Minutes no blow - Flushed tool-weak blow 3 minutes and died
 2nd Shut-In 45 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1733.76	105.68	Initial Hydro-static
1	80.86	104.62	Open To Flow (1)
31	87.05	105.12	Shut-In(1)
76	669.64	105.82	End Shut-In(1)
77	88.47	105.68	Open To Flow (2)
106	136.35	105.97	Shut-In(2)
151	884.01	106.81	End Shut-In(2)
151	1696.62	107.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	Drilling Mud	0.35

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Royal Energy
 P.O. Box 1820
 Dodge City ,Kansas 67801
 ATTN: Eii Felts

4-23s-12w Stafford
Alpers #2
 Job Ticket: 01007 **DST#: 1**
 Test Start: 2018.09.04 @ 13:00:22

Tool Information

Drill Pipe:	Length: 3295.00 ft	Diameter: 3.80 inches	Volume: 46.22 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 46.22 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3298.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	97.06 ft				
Tool Length:	127.06 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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Shut In Tool	5.00			3273.00	
Hydraulic tool	5.00			3278.00	
Jars	5.00			3283.00	
Safety Joint	5.00			3288.00	
Packer	5.00			3293.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	3298.00	
Anchor	5.00			3303.00	
Change Over Sub	0.75			3303.75	
Drill Pipe	63.56			3367.31	
Change Over Sub	0.75		Inside	3368.06	
Anchor	22.00			3390.06	
Recorder	0.00	9119	Inside	3390.06	
Recorder	0.00	9139	Outside	3390.06	
Bullnose	5.00			3395.06	97.06 Bottom Packers & Anchor

Total Tool Length: 127.06



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FLUID SUMMARY

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Mud and Cushion Information

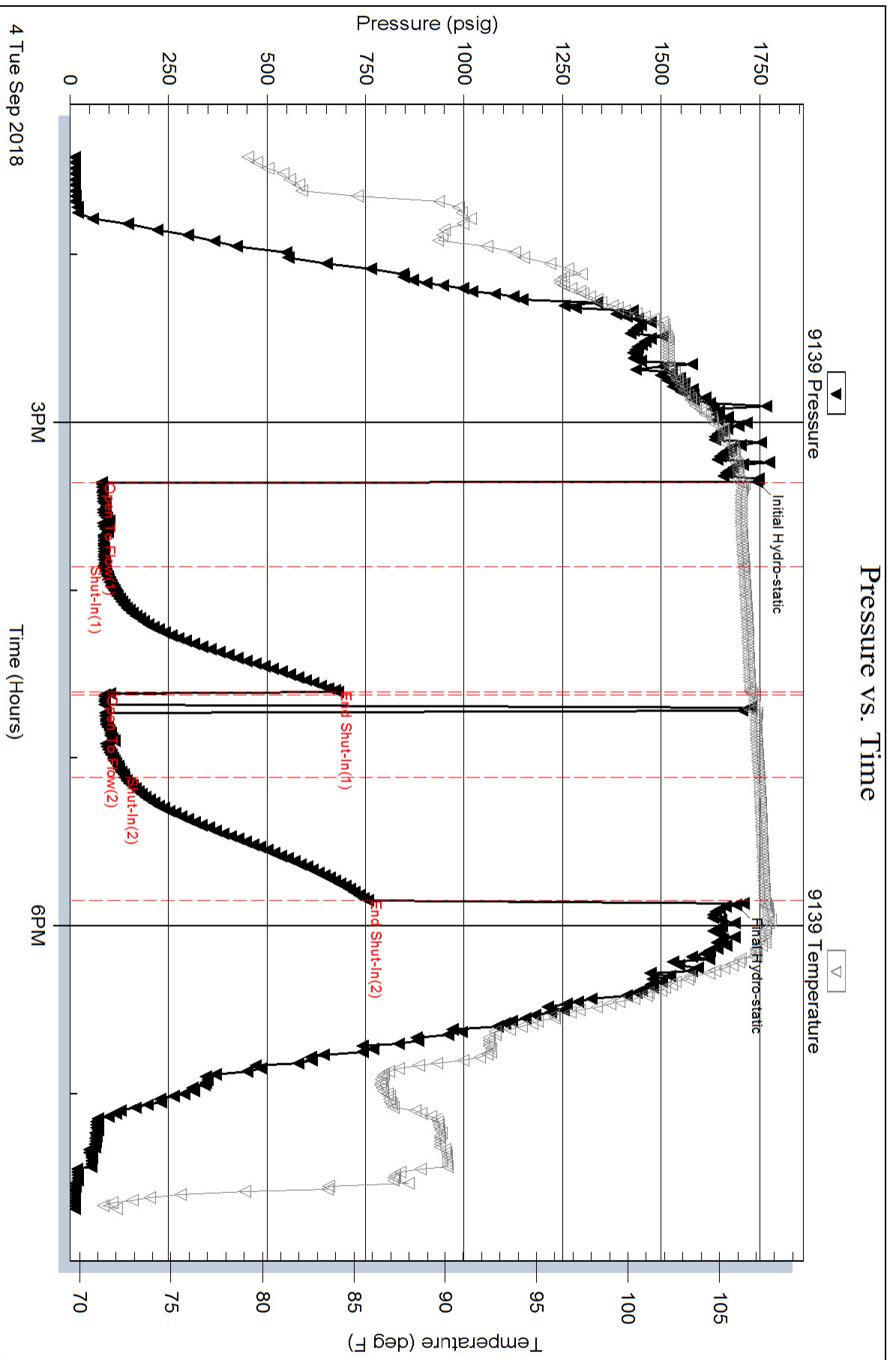
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.20 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 10500.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	Drilling Mud	0.351

Total Length: 25.00 ft Total Volume: 0.351 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



Pressure vs. Time

