



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Woolsey Operation Company LLC
 125 N Market
 Suite 100
 Wichita, Kansas 67202+1729
 ATTN: Bill Klaver

22/28S/19W/Kiowa

McFadden B-1

Job Ticket: 63051

DST#: 2

Test Start: 2018.01.25 @ 23:56:00

GENERAL INFORMATION:

Formation: **Cherokee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:17:02
 Time Test Ended: 11:55:47
 Interval: **4820.00 ft (KB) To 4864.00 ft (KB) (TVD)**
 Total Depth: 4864.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Pratt/ 80
 Reference Elevations: 2284.00 ft (KB)
 2272.00 ft (CF)
 KB to GR/CF: 12.00 ft

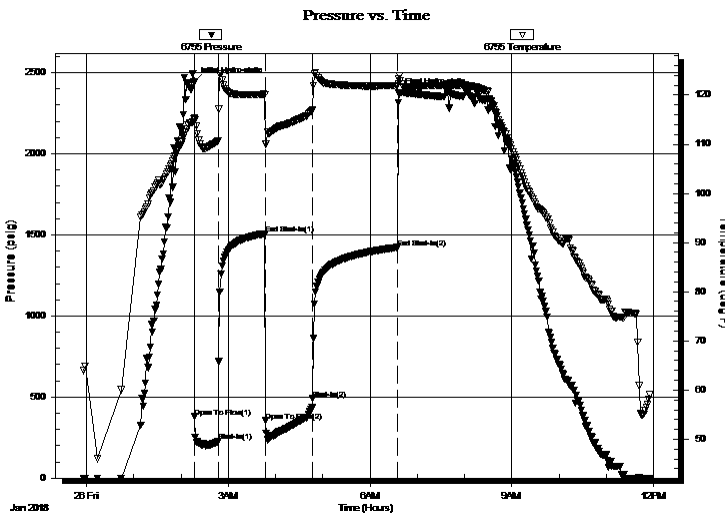
Serial #: 6755

Inside

Press@RunDepth: 489.99 psig @ 4821.00 ft (KB) Capacity: psig
 Start Date: 2018.01.25 End Date: 2018.01.26 Last Calib.: 2018.01.26
 Start Time: 23:56:01 End Time: 11:55:47 Time On Btm: 2018.01.26 @ 02:16:17
 Time Off Btm: 2018.01.26 @ 06:36:17

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 15 sec./ Gas to surface in 3 minutes
 I.S.I. 60 Minutes/ Blow back built to BOB
 F.F. 60 Minutes/ Blow built to BOB in 3 sec.
 F.S.I. 90 Minutes/ No blow back - hose plugged with hulls

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2442.23	115.07	Initial Hydro-static
1	378.28	115.34	Open To Flow (1)
31	226.48	110.71	Shut-In(1)
91	1506.01	120.13	End Shut-In(1)
91	353.89	110.01	Open To Flow (2)
151	489.99	116.90	Shut-In(2)
259	1422.32	121.97	End Shut-In(2)
260	2375.86	123.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	Oil cut Muddy Gas	2.25
0.00	20% Oil 35% Mud 45% Gas	0.00
1178.00	Gassy Oil	10.30
0.00	35% Gas 65% Oil	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	14.00	443.60
Last Gas Rate	0.50	18.00	218.56
Max. Gas Rate	0.50	32.00	313.00



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McFadden B-1

Job Ticket: 63051

DST#: 2

Test Start: 2018.01.25 @ 23:56:00

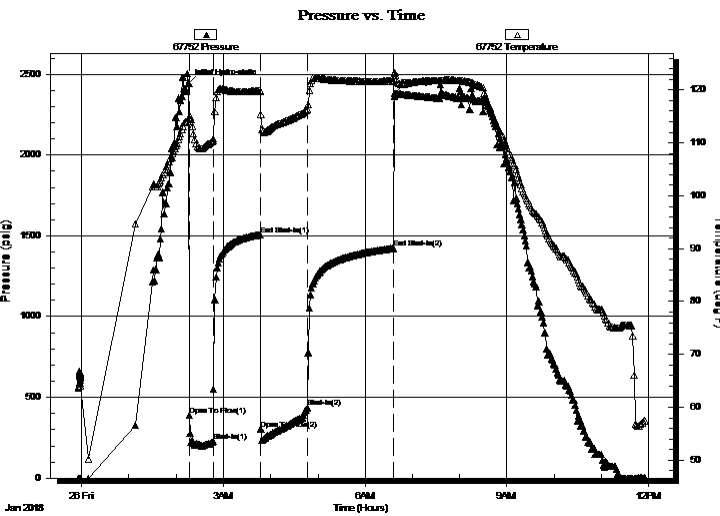
GENERAL INFORMATION:

Formation: **Cherokee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:17:02
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 Interval: **4820.00 ft (KB) To 4864.00 ft (KB) (TVD)**
 Total Depth: 4864.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Pratt/ 80
 Reference Elevations: 2284.00 ft (KB)
 2272.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 67752

Press@RunDepth: 1422.85 psig @ ft (KB) Capacity: psig
 Start Date: 2018.01.25 End Date: 2018.01.26 Last Calib.: 2018.01.26
 Start Time: 23:56:01 End Time: 11:55:47 Time On Btm: 2018.01.26 @ 02:16:02
 Time Off Btm: 2018.01.26 @ 06:37:32

TEST COMMENT: I.F. 30 Minutes/ Blow built to BOB in 15 sec./ Gas to surface in 3 minutes
 I.S.I. 60 Minutes/ Blow back built to BOB
 F.F. 60 Minutes/ Blow built to BOB in 3 sec.
 F.S.I. 90 Minutes/ No blow back - hose plugged with hulls



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2442.38	114.69	Initial Hydro-static
1	390.29	114.62	Open To Flow (1)
31	226.37	110.44	Shut-In(1)
91	1506.30	119.81	End Shut-In(1)
92	302.28	115.40	Open To Flow (2)
151	435.98	116.44	Shut-In(2)
260	1422.85	121.72	End Shut-In(2)
262	2378.26	123.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	Oil cut Muddy Gas	2.25
0.00	20% Oil 35% Mud 45% Gas	0.00
1178.00	Gassy Oil	10.30
0.00	35% Gas 65% Oil	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	14.00	443.60
Last Gas Rate	0.50	18.00	218.56
Max. Gas Rate	0.50	32.00	313.00



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TESTING, INC.**

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FLUID SUMMARY

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22/28S/19W/Kiowa

125 N Market
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ATTN: Bill Klaver

McFadden B-1

Job Ticket: 63051

DST#: 2

Test Start: 2018.01.25 @ 23:56:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 56.00 sec/qt
Water Loss: 8.77 in³
Resistivity: ohm.m
Salinity: 4500.00 ppm
Filter Cake: 1.00 inches

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

Oil API: 39 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
310.00	Oil cut Muddy Gas	2.251
0.00	20% Oil 35% Mud 45% Gas	0.000
1178.00	Gassy Oil	10.299
0.00	35% Gas 65% Oil	0.000

Total Length: 1488.00 ft Total Volume: 12.550 bbl

Num Fluid Samples: 0

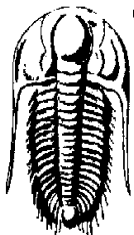
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



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GAS RATES

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McFadden B-1

Job Ticket: 63051

DST#: 2

Test Start: 2018.01.25 @ 23:56:00

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	10	0.75	14.00	443.60
1	20	0.75	7.00	334.26
1	30	0.75	7.00	334.26
2	10	0.50	32.00	313.00
2	20	0.50	26.00	272.53
2	30	0.50	24.00	259.04
2	40	0.50	22.00	245.54
2	50	0.50	20.00	232.05
2	60	0.50	18.00	218.56

Pressure vs. Time

