



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources LLC

36-11s-33w Logan Co KS

80 Windmill Dr.
Phillipsburg KS
67661
ATTN: Jason Alm

Zerr 1

Job Ticket: 64402

DST#: 1

Test Start: 2017.12.09 @ 04:38:00

GENERAL INFORMATION:

Formation: **E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:28:30

Time Test Ended: 12:53:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: 4132.00 ft (KB) To 4170.00 ft (KB) (TVD)

Reference Elevations: 3090.00 ft (KB)

Total Depth: 4170.00 ft (KB) (TVD)

3082.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8672

Inside

Press@RunDepth: 250.37 psig @ 4133.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.12.09

End Date:

2017.12.09

Last Calib.: 2017.12.09

Start Time: 04:38:00

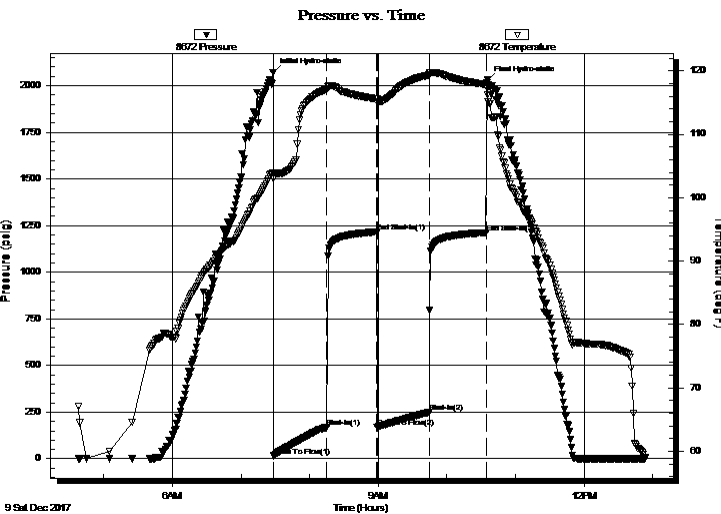
End Time:

12:53:30

Time On Btm: 2017.12.09 @ 07:28:00

Time Off Btm: 2017.12.09 @ 10:35:15

TEST COMMENT: IF:BOB in 24 min.
IS:No return blow
FF:BOB in 29 min.
FS:No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2071.39	103.91	Initial Hydro-static
1	16.19	103.03	Open To Flow (1)
47	168.67	117.08	Shut-In(1)
91	1216.18	115.57	End Shut-In(1)
91	170.47	115.02	Open To Flow (2)
137	250.37	119.33	Shut-In(2)
187	1212.39	117.82	End Shut-In(2)
188	2029.78	116.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
196.00	w cm 20%w 80%m	2.75
310.00	mcw 5%m 95%w	4.35
0.00	1" free oil	0.00

Gas Rates

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



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FLUID SUMMARY

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ATTN: Jason Alm

Test Start: 2017.12.09 @ 04:38:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

12000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
196.00	w cm 20%w 80%m	2.749
310.00	mcw 5%m 95%w	4.348
0.00	1" free oil	0.000

Total Length: 506.00 ft Total Volume: 7.097 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW= .741@55.9= 12,000 ppm

