



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cynosure Energy LLC

S14-15S-20W Ellis Co, KS

1125 17th St Suite 410
Denver Co, 80202

Penny #1-14-15-20

Job Ticket: 63519

DST#: 2

ATTN: Charlie Sturdavant/

Test Start: 2017.03.24 @ 11:32:00

GENERAL INFORMATION:

Formation: **Lansing 'Eand F' zo**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:12:15

Time Test Ended: 17:34:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

Interval: 3390.00 ft (KB) To 3420.00 ft (KB) (TVD)

Reference Elevations: 2052.00 ft (KB)

Total Depth: 3420.00 ft (KB) (TVD)

2044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8934 Outside

Press@RunDepth: 207.22 psig @ 3391.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.24

End Date:

2017.03.24

Last Calib.: 2017.03.24

Start Time: 11:32:05

End Time:

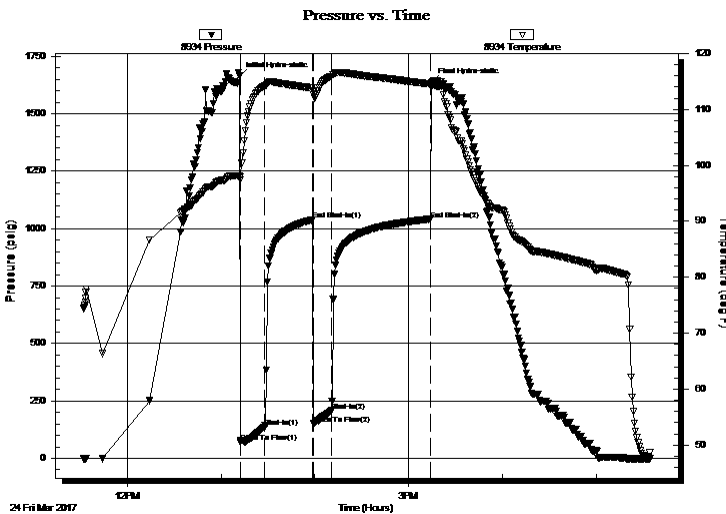
17:34:14

Time On Btm: 2017.03.24 @ 13:12:00

Time Off Btm: 2017.03.24 @ 15:14:30

TEST COMMENT: 15-IF-BOB in 45 seconds
30-ISI-BOB in 12 minutes
15-FF-BOB instantaneously
60-FSI-BOB in 3 minutes

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1663.21	98.14	Initial Hydro-static
1	70.69	97.44	Open To Flow (1)
16	136.32	114.16	Shut-In(1)
47	1037.55	113.83	End Shut-In(1)
48	150.87	112.55	Open To Flow (2)
59	207.22	115.86	Shut-In(2)
123	1040.34	114.49	End Shut-In(2)
123	1633.09	114.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	Gassy Oil 50%G 50%O	3.51
190.00	Gassy Mud Cut Oil 30%G 20%M 50%O	2.67
60.00	MCO 10%M 90%O	0.84
60.00	Gassy Oil 50%G 50%O	0.84

* Recovery from multiple tests

Gas Rates

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



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2044.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 9120 Inside

Press@RunDepth: psig @ 3391.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.24

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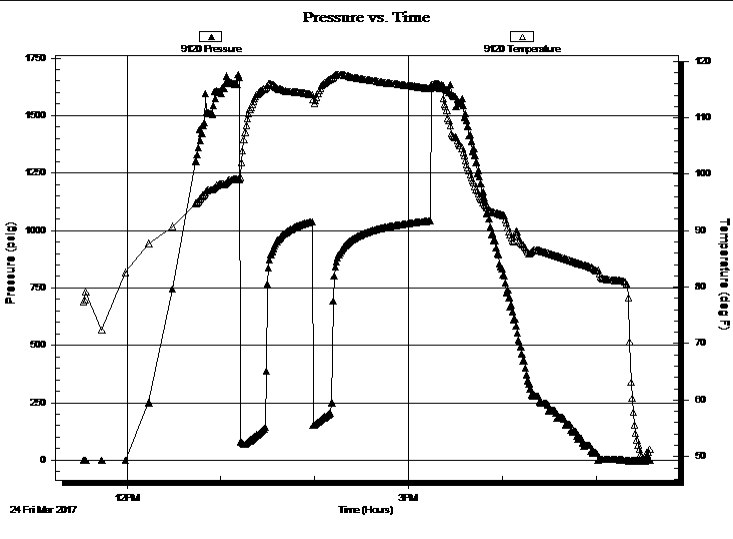
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Recovery

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250.00	Gassy Oil 50%G 50%O	3.51
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Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 40.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
250.00	Gassy Oil 50%G 50%O	3.507
190.00	Gassy Mud Cut Oil 30%G 20%M 50%O	2.665
60.00	MCO 10%M 90%O	0.842
60.00	Gassy Oil 50%G 50%O	0.842

Total Length: 560.00 ft

Total Volume: 7.856 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM

Pressure vs. Time

