



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: 63521

DST#: 4

ATTN: Charlie Sturdavant/

Test Start: 2017.03.26 @ 12:04:00

GENERAL INFORMATION:

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:16:00

Time Test Ended: 17:41:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

Interval: 3646.00 ft (KB) To 3670.00 ft (KB) (TVD)

Reference Elevations: 2052.00 ft (KB)

Total Depth: 3670.00 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: 27.66 psig @ 3651.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.03.26 End Date: 2017.03.26

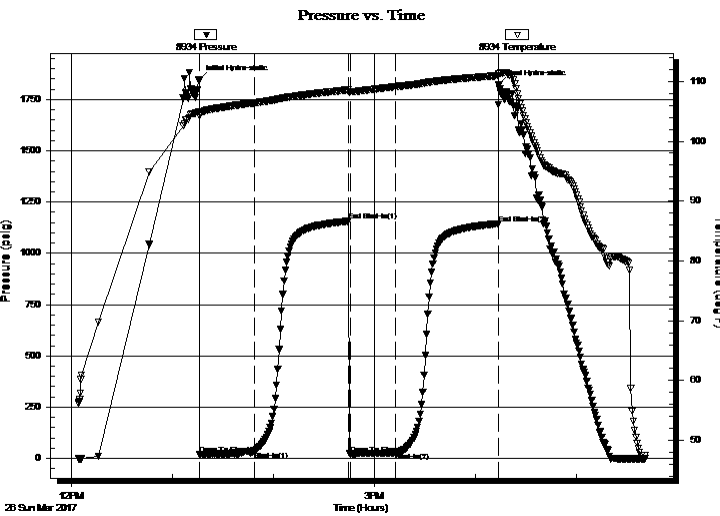
Last Calib.: 2017.03.26

Start Time: 12:04:05 End Time: 17:41:14

Time On Btm: 2017.03.26 @ 13:15:45

Time Off Btm: 2017.03.26 @ 16:14:00

TEST COMMENT: 30-IF-Weak Blow ; Built from a Surface Blow to 3 and 1/4 inches
60-ISI-Weak Surface Blow Back
30-FF-Weak Blow ; Built from a 1/4 inch Blow to 4 and 1/2 inches
60-FSI-No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1844.66	104.96	Initial Hydro-static
1	19.53	104.22	Open To Flow (1)
33	37.40	106.40	Shut-In(1)
89	1156.73	108.59	End Shut-In(1)
90	20.04	108.31	Open To Flow (2)
117	27.66	109.12	Shut-In(2)
178	1144.15	110.96	End Shut-In(2)
179	1823.20	111.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	MCO 10%M 90%O	0.14
30.00	MCO 25%M 75%O	0.42

Gas Rates

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

* Recovery from multiple tests



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Total Depth: 3670.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2052.00 ft (KB)

2044.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 9120 Inside

Press@RunDepth: psig @ 3651.00 ft (KB)

Start Date: 2017.03.26

End Date: 2017.03.26

Start Time: 12:04:15

End Time: 17:41:15

Capacity: 8000.00 psig

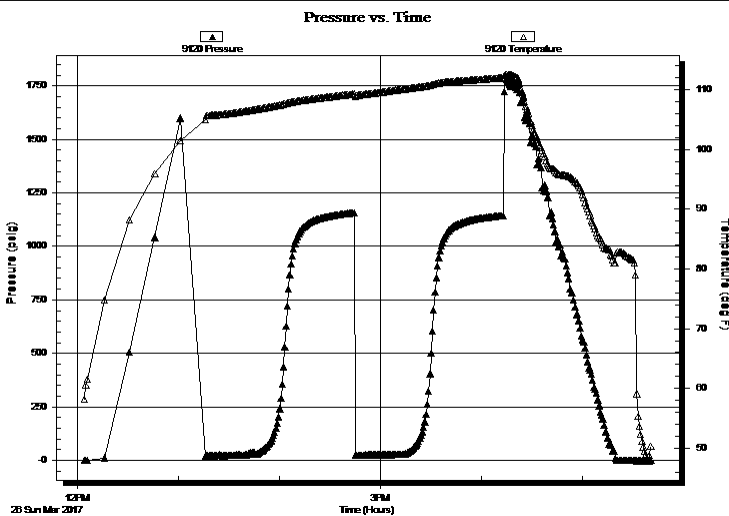
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Time On Btm:

Time Off Btm:

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Recovery

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FLUID SUMMARY

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S14-15S-20W Ellis Co, KS

1125 17th St Suite 410
Denver Co, 80202

Penny #1-14-15-20

Job Ticket: 63521

DST#: 4

ATTN: Charlie Sturdavant/

Test Start: 2017.03.26 @ 12:04:00

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: ppm

Viscosity: 49.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 12100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	MCO 10%M 90%O	0.140
30.00	MCO 25%M 75%O	0.421

Total Length: 40.00 ft Total Volume: 0.561 bbl

Num Fluid Samples: 0

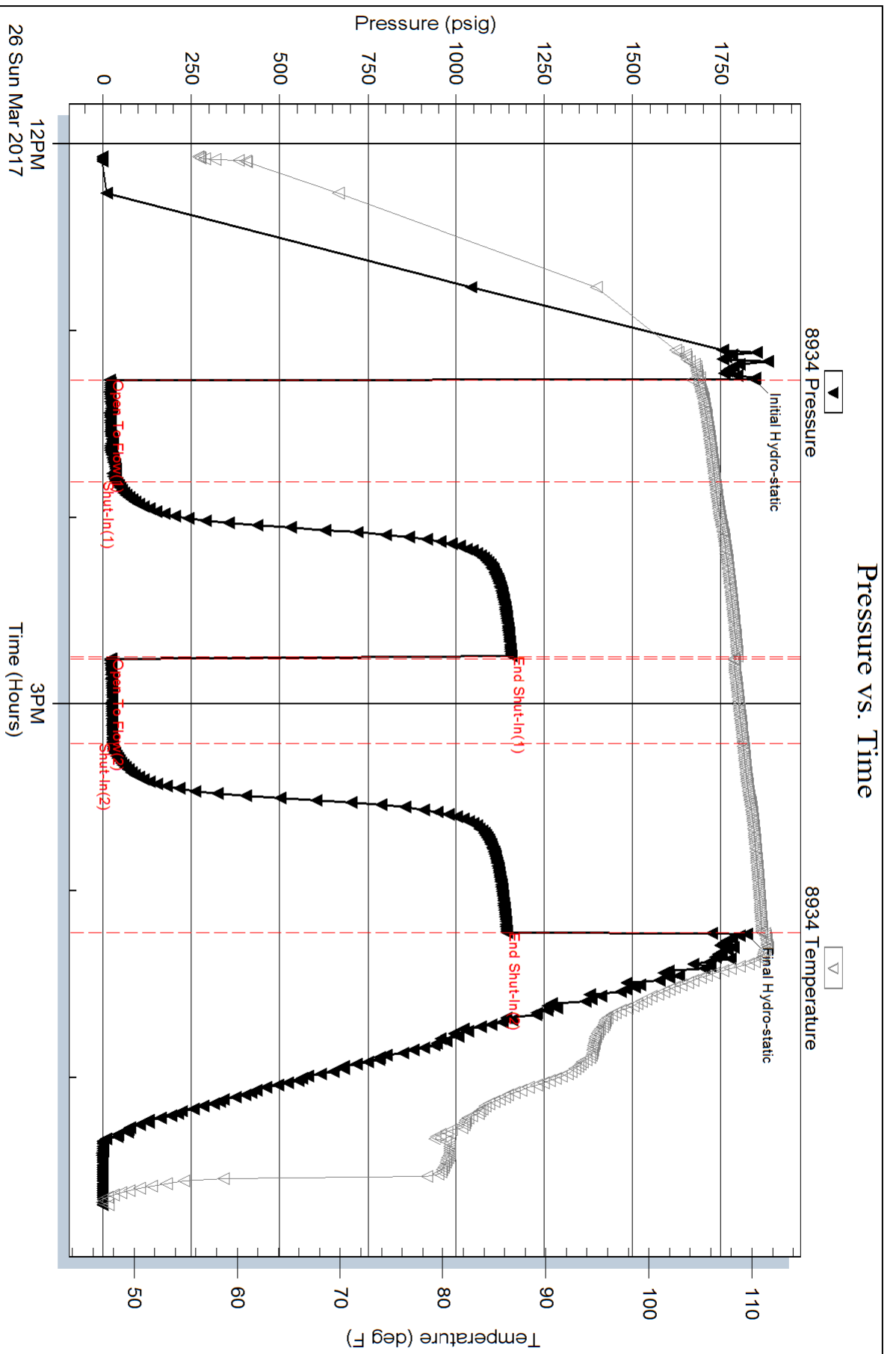
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2# LCM



Serial #: 9120

Inside

Cynosure Energy LLC

Penny #1-14-15-20

DST Test Number: 4

