



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Pioneer Resources LLC.

1-14s-32w-Logan, KS

80 Windwill Dr.
Phillipsburg, KS 67661

Harms #2

Job Ticket: 54554

DST#: 3

ATTN: Cliff Ottaway

Test Start: 2013.12.16 @ 15:12:00

GENERAL INFORMATION:

Formation: **Cherokee-Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:22:30

Time Test Ended: 21:58:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cornelio Landa III

Unit No: 46

Interval: 4487.00 ft (KB) To 4546.00 ft (KB) (TVD)

Reference Elevations: 2929.00 ft (KB)

Total Depth: 4546.00 ft (KB) (TVD)

2921.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8650 Outside

Press @ Run Depth: 45.94 psig @ 4489.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.12.16

End Date: 2013.12.16

Last Calib.: 2013.12.16

Start Time: 15:12:15

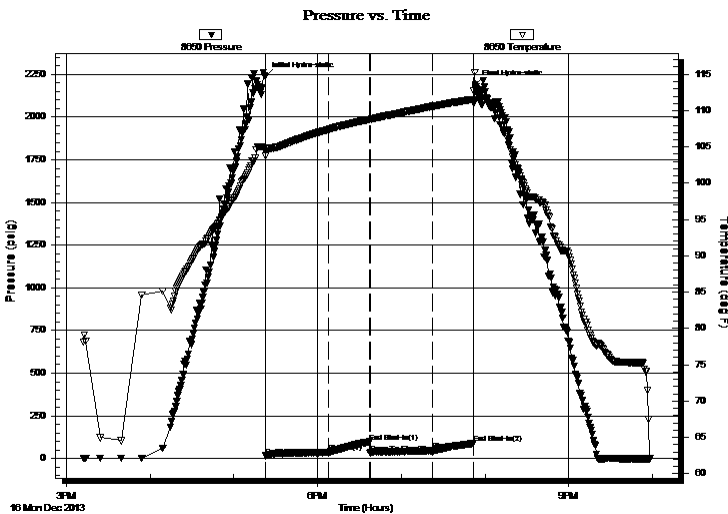
End Time: 21:58:30

Time On Btm: 2013.12.16 @ 17:22:15

Time Off Btm: 2013.12.16 @ 19:53:15

TEST COMMENT: IF: 9 1/4 in. of blow
IS: Bled off in 2 min.- No return
FF: 2 in. Immediately-Built to B.o.b. in 40 min.
FS: Bled off in 2 min.- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2238.43	104.81	Initial Hydro-static
1	16.29	103.71	Open To Flow (1)
46	34.64	107.39	Shut-In(1)
75	97.97	108.77	End Shut-In(1)
76	32.43	108.75	Open To Flow (2)
120	45.94	110.57	Shut-In(2)
150	88.93	111.55	End Shut-In(2)
151	2190.16	113.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Mud 100m	0.30

Gas Rates

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

* Recovery from multiple tests



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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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	Mud 100m	0.305

Total Length: 62.00 ft Total Volume: 0.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

