



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Deutscher Oil Operations

27-12s-20w Ellis KS

130 Ave
Ellis KS, 67637

Armbrister 1-27

ATTN: Richard Bell

Job Ticket: 53802

DST#: 4

Test Start: 2013.05.21 @ 09:45:00

GENERAL INFORMATION:

Formation: **Marmaton - Pawnee**

Deviated: No Whipstock: 2215.00 ft (KB)

Time Tool Opened: 11:52:10

Time Test Ended: 16:58:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Interval: 3836.00 ft (KB) To 3855.00 ft (KB) (TVD)

Reference Elevations: 2215.00 ft (KB)

Total Depth: 3855.00 ft (KB) (TVD)

2210.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8322 Outside

Press @ RunDepth: 448.26 psig @ 3837.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.21

End Date: 2013.05.21

Last Calib.: 2013.05.21

Start Time: 09:45:01

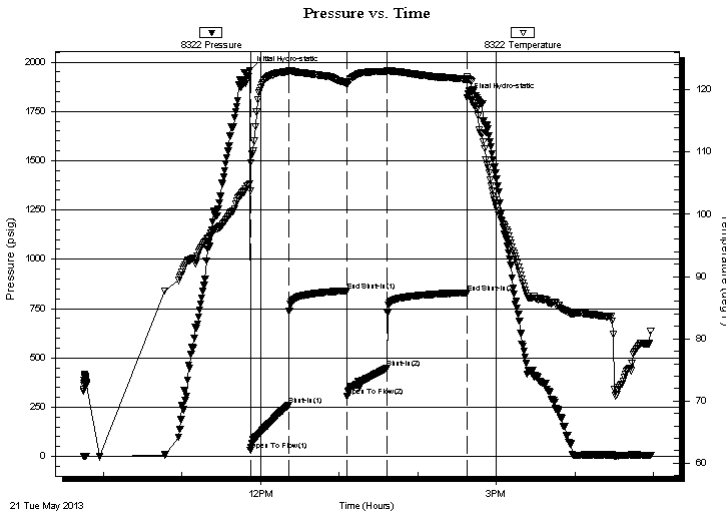
End Time: 16:57:50

Time On Btm: 2013.05.21 @ 11:52:00

Time Off Btm: 2013.05.21 @ 14:37:50

TEST COMMENT: 30-IFP- BOB in 5 1/4 min.
45-ISIP- Weak Surface Blow in 3 min.
30-FFP- BOB in 7 min.
60-FSIP- Surface Blow in 1 min. Died Back in 30 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1957.61	104.91	Initial Hydro-static
1	31.24	103.73	Open To Flow (1)
30	260.16	122.94	Shut-In(1)
74	839.24	121.12	End Shut-In(1)
75	304.22	120.88	Open To Flow (2)
105	448.26	122.98	Shut-In(2)
166	829.91	121.70	End Shut-In(2)
166	1821.25	122.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
567.00	MCW 5% <i>m</i> 95% <i>w</i> Show of Oil	6.82
126.00	OMCW 2% <i>o</i> 5% <i>m</i> 93% <i>w</i>	1.77
126.00	GOMCW 10% <i>g</i> 12% <i>o</i> 15% <i>m</i> 63% <i>w</i>	1.77
50.00	GOMCW 5% <i>g</i> 10% <i>o</i> 40% <i>m</i> 45% <i>w</i>	0.70
20.00	CO 100% <i>o</i>	0.28
0.00	100 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



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Test Start: 2013.05.21 @ 09:45:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

38000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: 0.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
567.00	MCW 5% <i>m</i> 95% <i>w</i> Show of Oil	6.824
126.00	OMCW 2% <i>o</i> 5% <i>m</i> 93% <i>w</i>	1.767
126.00	GOMCW 10% <i>g</i> 12% <i>o</i> 15% <i>m</i> 63% <i>w</i>	1.767
50.00	GOMCW 5% <i>g</i> 10% <i>o</i> 40% <i>m</i> 45% <i>w</i>	0.701
20.00	CO 100% <i>o</i>	0.281
0.00	100 GIP	0.000

Total Length: 889.00 ft

Total Volume: 11.340 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .190 @ 70

