



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil

21-5s-21w Norton KS

Po Box 641
Hays KS, 67601

Glennemeier A #3

ATTN: Jeff Lawler

Job Ticket: 62711

DST#: 1

Test Start: 2015.05.23 @ 11:22:00

GENERAL INFORMATION:

Formation: **Gorham Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:25:00

Time Test Ended: 19:21:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 73

Interval: 3644.00 ft (KB) To 3654.00 ft (KB) (TVD)

Reference Elevations: 2216.00 ft (KB)

Total Depth: 3654.00 ft (KB) (TVD)

2211.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8648

Inside

Press @ Run Depth: 109.59 psig @ 3645.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.05.23

End Date: 2015.05.23

Last Calib.: 2015.05.23

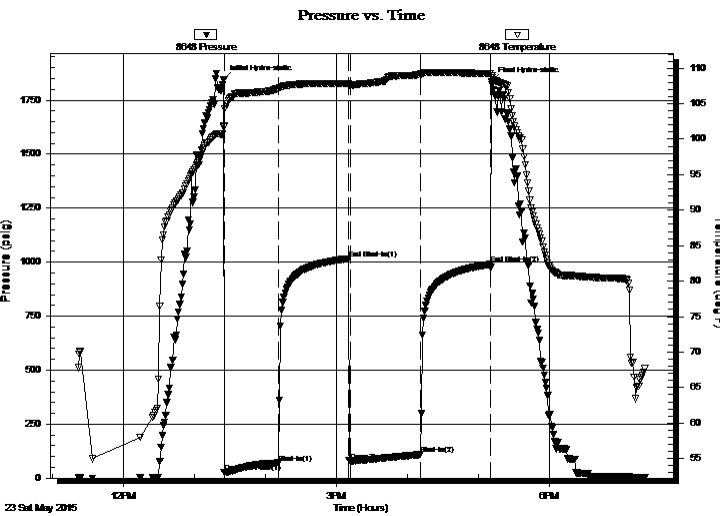
Start Time: 11:22:05

End Time: 19:21:14

Time On Btm: 2015.05.23 @ 13:24:45

Time Off Btm: 2015.05.23 @ 17:11:30

TEST COMMENT: 45 - IF- 6" blow
60 - IS- No return
60 - FF- 3.5" blow
60 - FS- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1844.17	101.76	Initial Hydro-static
1	26.25	101.82	Open To Flow (1)
46	70.58	107.07	Shut-In(1)
106	1014.76	107.81	End Shut-In(1)
107	79.92	107.67	Open To Flow (2)
167	109.59	109.09	Shut-In(2)
226	989.70	109.21	End Shut-In(2)
227	1834.10	108.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	HOCMW, 10%M, 40%O, 50%W	0.30
62.00	HOCWM, 10%W, 40%O, 50%M	0.34
62.00	GMCO, 10%G, 20%M, 70%O	0.87
93.00	GO, 30%G, 70%O	1.30
0.00	62' of G.I.P.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

21-5s-21w Norton KS

Po Box 641
Hays KS, 67601

Glennemeier A #3

Job Ticket: 62711

DST#: 1

ATTN: Jeff Lawler

Test Start: 2015.05.23 @ 11:22:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 2.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	HOCMW, 10%M, 40%O, 50%W	0.305
62.00	HOCWM, 10%W, 40%O, 50%M	0.341
62.00	GMCO, 10%G, 20%M, 70%O	0.870
93.00	GO, 30%G, 70%O	1.305
0.00	62' of G.I.P.	0.000

Total Length: 279.00 ft

Total Volume: 2.821 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8648

Inside

Black Diamond Oil

Glennreier A #3

DST Test Number: 1

