



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Herman L. Loeb LLC
 P.O.Box 838
 Lawrenceville, IL 62439
 ATTN: Jon Christensen

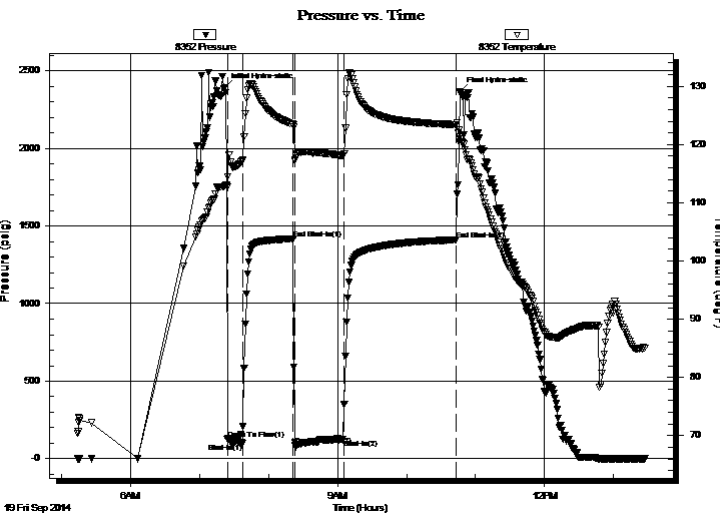
15-28s-19w Kiowa Ks.
Joy Station #1-15
 Job Ticket: 57854 **DST#: 3**
 Test Start: 2014.09.19 @ 05:14:06

GENERAL INFORMATION:

Formation: **Miss.**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:24:21
 Time Test Ended: 13:26:51
 Interval: **4888.00 ft (KB) To 4932.00 ft (KB) (TVD)**
 Total Depth: 4932.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition:
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Gary Pevoteaux
 Unit No: 56
 Reference Elevations: 2287.00 ft (KB)
 2274.00 ft (CF)
 KB to GR/CF: 13.00 ft

Serial #: 8352 Outside
 Press@RunDepth: 126.38 psig @ 4889.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.19 End Date: 2014.09.19 Last Calib.: 2014.09.19
 Start Time: 05:14:11 End Time: 13:26:50 Time On Btm: 2014.09.19 @ 07:21:51
 Time Off Btm: 2014.09.19 @ 10:46:36

TEST COMMENT: IF:Strong blow : B.O.B in 1 min. GTS in 8 mins. 4-5 ft. fill on btm. Slid tool 4 ft.
 IS:No blow .
 FF:Strong blow . (see gas flow report)
 FS:No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2391.33	112.96	Initial Hydro-static
3	126.40	112.70	Open To Flow (1)
16	100.59	117.22	Shut-In(1)
60	1418.51	123.46	End Shut-In(1)
62	85.96	117.43	Open To Flow (2)
104	126.38	118.09	Shut-In(2)
202	1409.75	123.37	End Shut-In(2)
205	2363.90	121.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MW w/trace of oil 45%w 55%w	0.59
0.00	Rw .39 ohms @ 90 deg	0.00
120.00	GCWM 16%g 26%w 58%m	0.59
70.00	GCM 9%g 91%m	0.34

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	17.00	211.82
Last Gas Rate	0.50	19.50	228.68
Max. Gas Rate	0.50	20.00	232.05



DRILL STEM TEST REPORT

Herman L. Loeb LLC
P.O.Box 838
Lawrenceville, IL 62439
ATTN: Jon Christensen

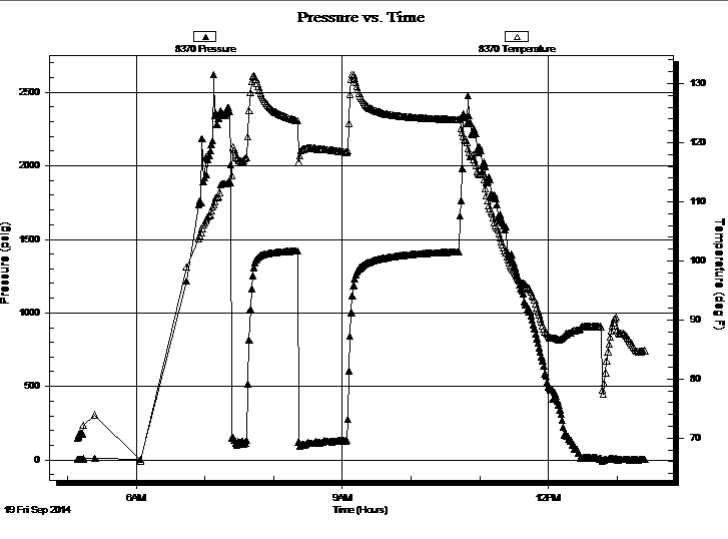
15-28s-19w Kiowa Ks.
Joy Station #1-15
Job Ticket: 57854 **DST#: 3**
Test Start: 2014.09.19 @ 05:14:06

GENERAL INFORMATION:

Formation: **Miss.**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:24:21
Time Test Ended: 13:26:51
Interval: 4888.00 ft (KB) To 4932.00 ft (KB) (TVD)
Total Depth: 4932.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:
Test Type: Conventional Bottom Hole (Reset)
Tester: Gary Pevoteaux
Unit No: 56
Reference Elevations: 2287.00 ft (KB)
2274.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8370 Inside
Press@RunDepth: psig @ 4889.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.09.19 End Date: 2014.09.19 Last Calib.: 2014.09.19
Start Time: 05:09:00 End Time: 13:23:54 Time On Btm:
Time Off Btm:

TEST COMMENT: IF:Strong blow : B.O.B in 1 min. GTS in 8 mins. 4-5 ft. fill on btm. Slid tool 4 ft.
IS:No blow .
FF:Strong blow . (see gas flow report)
FS:No blow .



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	MW w/trace of oil 45%w 55%w	0.59
0.00	Rw .39 ohms @ 90 deg	0.00
120.00	GCWM 16%g 26%w 58%m	0.59
70.00	GCM 9%g 91%m	0.34

* Recovery from multiple tests

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	17.00	211.82
Last Gas Rate	0.50	19.50	228.68
Max. Gas Rate	0.50	20.00	232.05



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Herman L. Loeb LLC
P.O.Box 838
Lawrenceville, IL 62439
ATTN: Jon Christensen

15-28s-19w Kiowa Ks.
Joy Station #1-15
Job Ticket: 57854 **DST#: 3**
Test Start: 2014.09.19 @ 05:14:06

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:	19000 ppm
Viscosity: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.79 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.20 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MW w/trace of oil 45% m 55% w	0.590
0.00	Rw .39 ohms @ 90 deg	0.000
120.00	GCWM 16% g 26% w 58% m	0.590
70.00	GCM 9% g 91% m	0.344

Total Length: 310.00 ft Total Volume: 1.524 bbl
Num Fluid Samples: 0 Num Gas Bombs: 1 Serial #: gp-3
Laboratory Name: Caraway Laboratory Location: Liberal, KS
Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Herman L. Loeb LLC
P.O.Box 838
Lawrenceville, IL 62439
ATTN: Jon Christensen

15-28s-19w Kiowa Ks.
Joy Station #1-15
Job Ticket: 57854 **DST#: 3**
Test Start: 2014.09.19 @ 05:14:06

Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

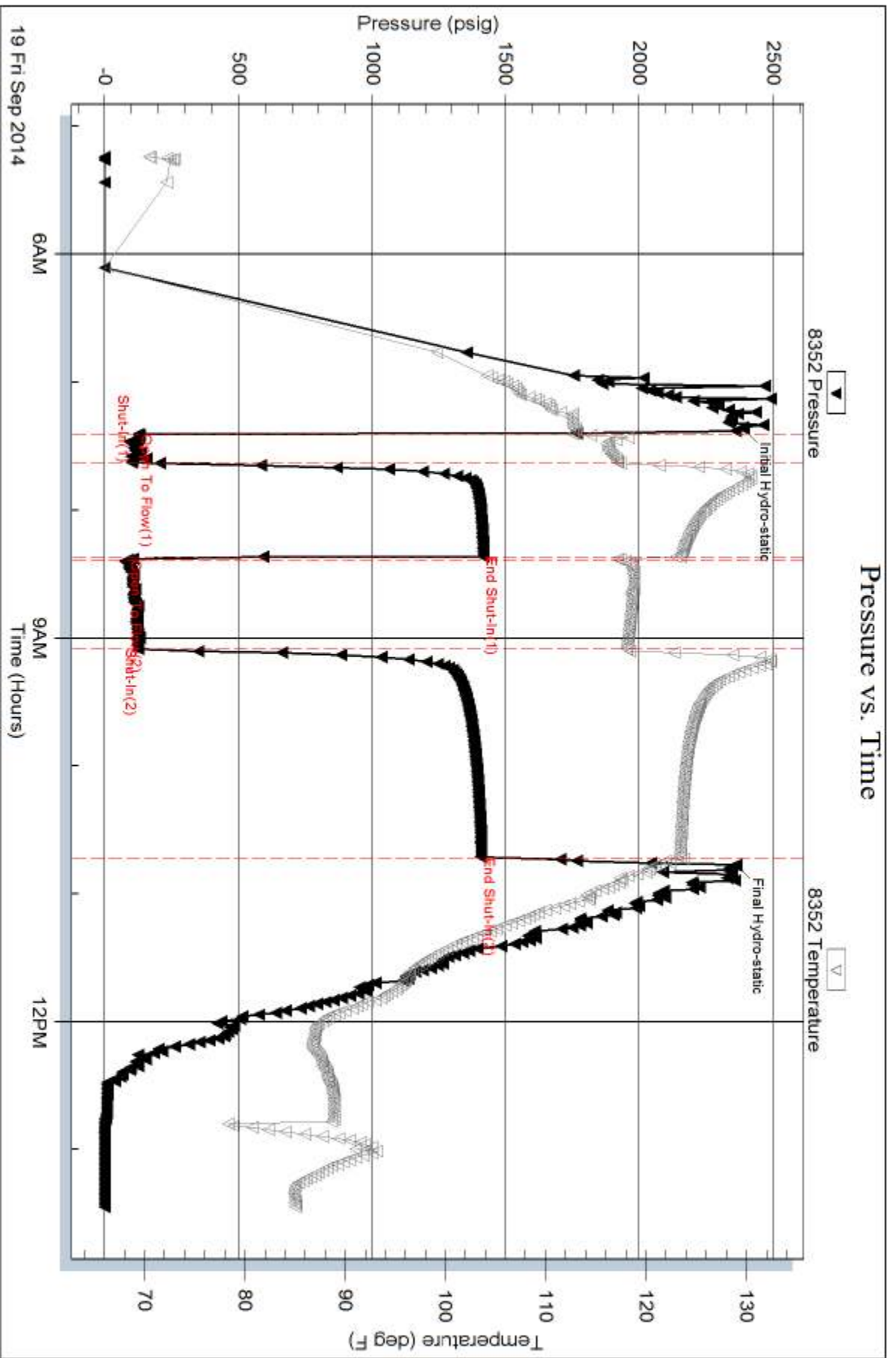
Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.50	17.00	211.82
2	20	0.50	19.00	225.31
2	30	0.50	20.00	232.05
2	40	0.50	20.00	232.05
2	45	0.50	19.50	228.68

Serial #: 8352

Outside Herman L. Loeb LLC

Joy Station #1-15

DST Test Number: 3



Serial #: 8370

Inside

Herman L. Loeb LLC

Joy Station #1-15

DST Test Number: 3

