



DRILL STEM TEST REPORT

Prepared For: **F.G. Holl Company LLC**

9431 East Central Suite 100
Wichita, Kansas 67206-2563

ATTN: Rene Husted

Kufeld #1-19

19-19s18w Barton

Start Date: 2014.09.09 @ 05:43:00

End Date: 2014.09.09 @ 00:00:00

Job Ticket #: 60369 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.09 @ 12:01:28

F.G. Holl Company LLC
19-19s18w Barton
Kufeld #1-19
DST # 3
Neva
2014.09.09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

F.G. Holl Company LLC

19-19s18w Barton

9431 East Central Suite 100
Wichita, Kansas 67206-2563

Kufeld #1-19

Job Ticket: 60369

DST#: 3

ATTN: Rene Husted

Test Start: 2014.09.09 @ 05:43:00

GENERAL INFORMATION:

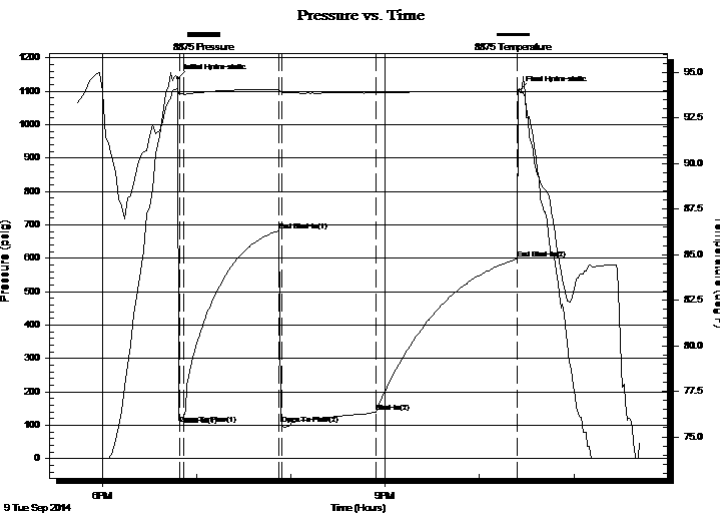
Formation: **Neva**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:48:00
 Time Test Ended: 00:00:00
 Interval: **2240.00 ft (KB) To 2300.00 ft (KB) (TVD)**
 Total Depth: 2400.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 20 miles
 Reference Elevations: 1915.00 ft (KB)
 1907.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8875

Inside

Press@RunDepth: 598.19 psig @ 2295.67 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.09 End Date: 2014.09.09 Last Calib.: 2014.09.09
 Start Time: 17:43:17 End Time: 23:41:47 Time On Btm: 2014.09.09 @ 18:48:17
 Time Off Btm: 2014.09.09 @ 22:25:17

TEST COMMENT: 1st Opening 5 Minutes-Fair blow built to the bottom of the bucket in 2 minutes
 1st Shut-In 60 Minutes-WEak blow back
 2nd Opening 60 Minutes-Fair blow built to the bottom of the bucket in 1 minute
 2nd Shut-In 90 Minutes-fair blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1138.08	94.10	Initial Hydro-static
1	102.44	93.84	Open To Flow (1)
4	126.92	93.80	Shut-In(1)
64	682.47	94.07	End Shut-In(1)
66	103.12	93.91	Open To Flow (2)
126	139.85	93.87	Shut-In(2)
216	598.19	93.92	End Shut-In(2)
217	1102.78	93.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Watery Mud 20%water 80%Mud	1.68
120.00	Muddy Water 70%Water 30% Mud	1.68
0.00	Chlorides 76,000	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	0.01	5.39
Last Gas Rate	0.13	2.53	6.34
Max. Gas Rate	0.13	5.67	7.51



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 Wichita, Kansas 67206-2563
 ATTN: Rene Husted

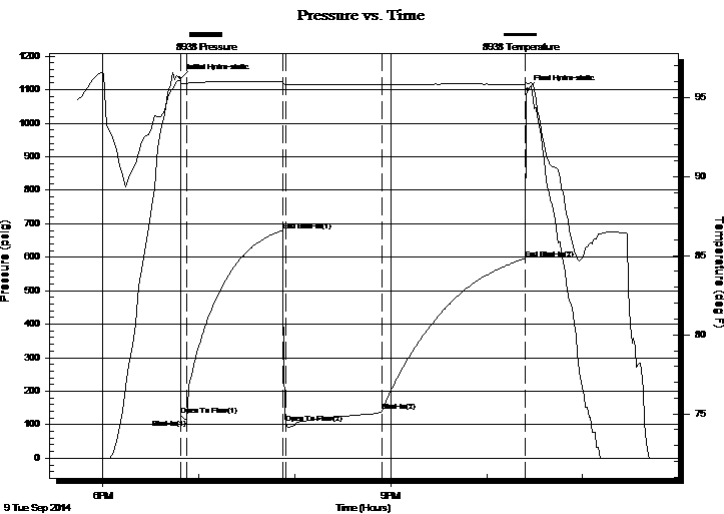
19-19s18w Barton
Kufeld #1-19
 Job Ticket: 60369 **DST#: 3**
 Test Start: 2014.09.09 @ 05:43:00

GENERAL INFORMATION:

Formation: **Neva**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 06:48:00
 Time Test Ended: 00:00:00
 Interval: **2240.00 ft (KB) To 2300.00 ft (KB) (TVD)**
 Total Depth: 2400.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 20 miles
 Reference Elevations: 1915.00 ft (KB)
 1907.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8938 Outside
 Press@RunDepth: 595.84 psig @ 2296.67 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.09 End Date: 2014.09.09 Last Calib.: 2014.09.09
 Start Time: 17:43:14 End Time: 23:42:14 Time On Btm: 2014.09.09 @ 18:48:14
 Time Off Btm: 2014.09.09 @ 22:25:14

TEST COMMENT: 1st Opening 5 Minutes-Fair blow built to the bottom of the bucket in 2 minutes
 1st Shut-In 60 Minutes-WEak blow back
 2nd Opening 60 Minutes-Fair blow built to the bottom of the bucket in 1 minute
 2nd Shut-In 90 Minutes-fair blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1134.10	96.08	Initial Hydro-static
1	127.13	95.84	Open To Flow (1)
4	115.84	95.86	Shut-In(1)
64	680.00	95.96	End Shut-In(1)
66	103.54	95.82	Open To Flow (2)
126	138.97	95.79	Shut-In(2)
216	595.84	95.83	End Shut-In(2)
217	1101.15	95.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Watery Mud 20%w ater 80%Mud	1.68
120.00	Muddy Water 70%Water 30% Mud	1.68
0.00	Chlorides 76,000	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	0.01	5.39
Last Gas Rate	0.13	2.53	6.34
Max. Gas Rate	0.13	5.67	7.51



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DRILL STEM TEST REPORT

TOOL DIAGRAM

F.G. Holl Company LLC

19-19s18w Barton

9431 East Central Suite 100
Wichita, Kansas 67206-2563

Kufeld #1-19

Job Ticket: 60369

DST#: 3

ATTN: Rene Husted

Test Start: 2014.09.09 @ 05:43:00

Tool Information

Drill Pipe:	Length: 2215.00 ft	Diameter: 3.80 inches	Volume: 31.07 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.86 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 31.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	2240.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.67 ft			
Tool Length:	87.67 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			2217.00	
Hydraulic Tool	5.00			2222.00	
Jars	6.00			2228.00	
Safety Joint	2.00			2230.00	
Top Packer	5.00			2235.00	
Packer	5.00			2240.00	28.00 Bottom Of Top Packer
Anchor	5.00			2245.00	
Change Over Sub	0.75			2245.75	
Drill Pipe	31.17			2276.92	
Change Over Sub	0.75			2277.67	
Anchor	17.00			2294.67	
Recorder	1.00	8875	Inside	2295.67	
Recorder	1.00	8938	Outside	2296.67	
Bull Plug	3.00			2299.67	59.67 Anchor Tool

Total Tool Length: 87.67



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FLUID SUMMARY

F.G. Holl Company LLC
9431 East Central Suite 100
Wichita, Kansas 67206-2563
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19-19s18w Barton
Kufeld #1-19
Job Ticket: 60369 **DST#: 3**
Test Start: 2014.09.09 @ 05:43:00

Mud and Cushion Information

Mud Type: STARCH	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 36.00 sec/qt	Cushion Volume: bbl		
Water Loss: 16.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 31000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

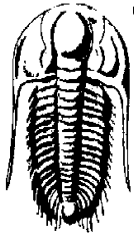
Length ft	Description	Volume bbl
120.00	Watery Mud 20%w ater 80%Mud	1.683
120.00	Muddy Water 70%Water 30% Mud	1.683
0.00	Chlorides 76,000	0.000

Total Length: 240.00 ft Total Volume: 3.366 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:



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DRILL STEM TEST REPORT

GAS RATES

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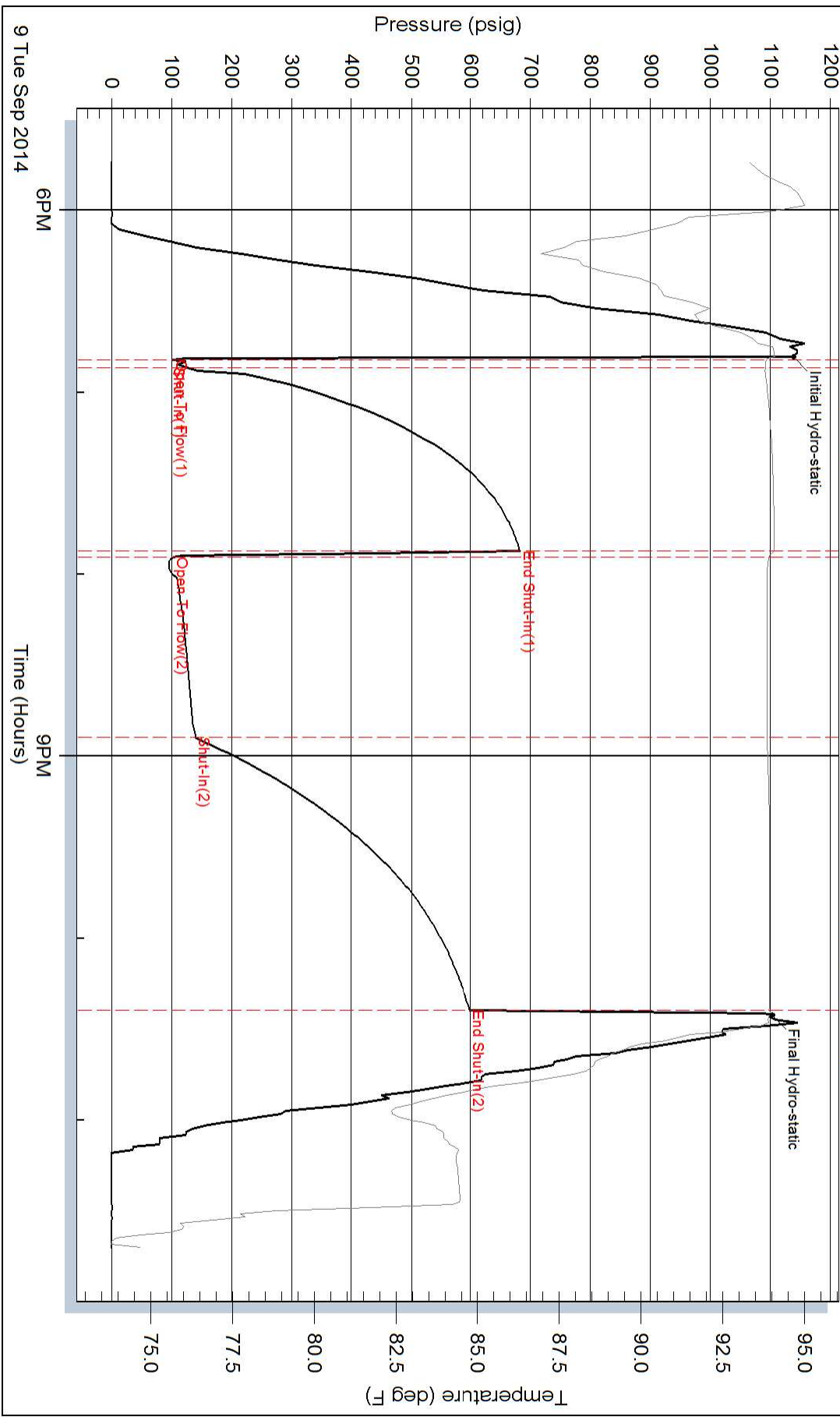
Gas Rates Information

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	0.13	0.01	5.39
2	20	0.13	5.67	7.51
2	30	0.13	5.67	7.51
2	40	0.13	4.62	7.12
2	50	0.13	3.56	6.72
2	55	0.13	2.53	6.34

Pressure vs. Time



Pressure vs. Time

