

TRILOBITE
TESTING, INC.

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

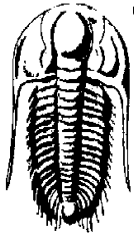
Start Date: 2014.09.12 @ 21:13:00

End Date: 2014.09.13 @ 04:38:00

Job Ticket #: DST #: 8

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

Printed: 2014.09.13 @ 17:08:38



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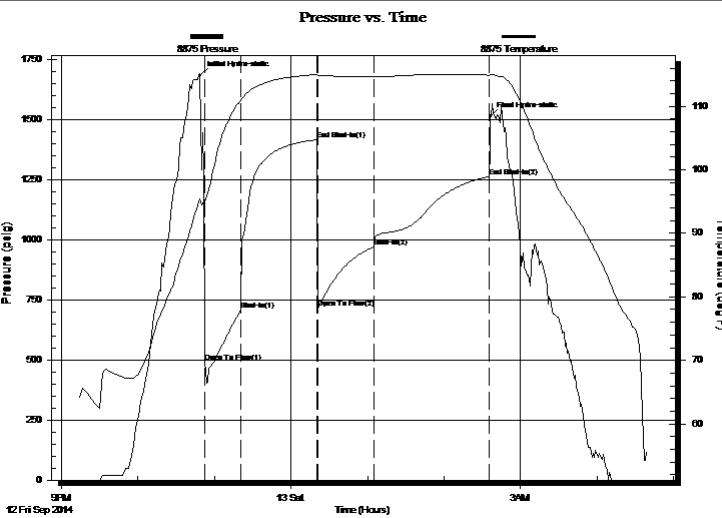
19-19s18w Barton
Kufeld #1-19
 Job Ticket: **DST#: 8**
 Test Start: 2014.09.12 @ 21:13:00

GENERAL INFORMATION:

Formation: **Kansas City "F"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:49:00
 Time Test Ended: 04:38:00
 Interval: **3280.00 ft (KB) To 3311.00 ft (KB) (TVD)**
 Total Depth: 3315.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: Gene Budig
 Unit No: S4
 Reference Elevations: 1915.00 ft (KB)
 1907.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8875 Inside
 Press@RunDepth: 1263.19 psig @ 3309.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.12 End Date: 2014.09.13 Last Calib.: 1899.12.30
 Start Time: 21:13:22 End Time: 04:38:52 Time On Btm: 2014.09.12 @ 22:48:52
 Time Off Btm: 2014.09.13 @ 02:36:22

TEST COMMENT: 1st Opening 30 Minutes Good blow built to the bottom of the bucket in 1 minute
 1st Shut-In 60 Minutes
 2nd Opening 45 Minutes Good blow built to the bottom of the bucket in 1 minute
 2nd Shut-In 90 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1682.90	95.48	Initial Hydro-static
4	491.30	94.95	Open To Flow (1)
32	705.71	110.95	Shut-In(1)
92	1416.20	114.97	End Shut-In(1)
93	715.21	114.79	Open To Flow (2)
136	969.05	114.61	Shut-In(2)
227	1263.19	114.88	End Shut-In(2)
228	1513.20	114.94	Final Hydro-static

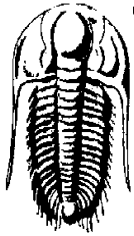
Recovery

Length (ft)	Description	Volume (bbl)
300.00	Muddy Water	4.21
1750.00	Water Chlorides 46,000	24.55

* Recovery from multiple tests

Gas Rates

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



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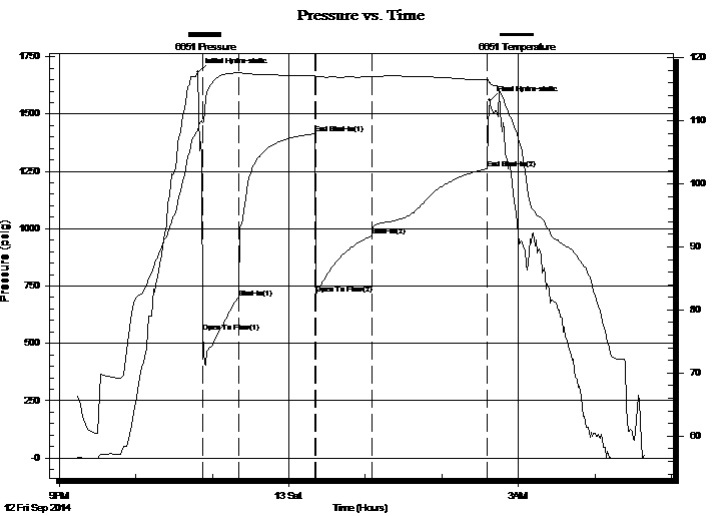
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 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: Gene Budig
 Unit No: S4
 Reference Elevations: 1915.00 ft (KB)
 1907.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6651

Press@RunDepth: 1261.27 psig @ ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.12 End Date: 2014.09.13 Last Calib.: 1899.12.30
 Start Time: 21:13:28 End Time: 04:38:58 Time On Btm: 2014.09.12 @ 22:48:58
 Time Off Btm: 2014.09.13 @ 02:37:28

TEST COMMENT: 1st Opening 30 Minutes Good blow built to the bottom of the bucket in 1 minute
 1st Shut-In 60 Minutes
 2nd Opening 45 Minutes Good blow built to the bottom of the bucket in 1 minute
 2nd Shut-In 90 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1681.57	108.51	Initial Hydro-static
4	549.80	109.64	Open To Flow (1)
32	700.07	117.64	Shut-In(1)
92	1413.97	117.20	End Shut-In(1)
93	713.74	116.96	Open To Flow (2)
136	967.15	116.96	Shut-In(2)
227	1261.27	116.46	End Shut-In(2)
229	1559.26	115.95	Final Hydro-static

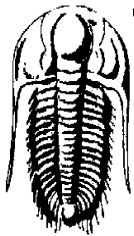
Recovery

Length (ft)	Description	Volume (bbl)
300.00	Muddy Water	4.21
1750.00	Water Chlorides 46,000	24.55

* Recovery from multiple tests

Gas Rates

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



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19-19s18w Barton
Kufeld #1-19
Job Ticket: **DST#: 8**
Test Start: 2014.09.12 @ 21:13:00

GENERAL INFORMATION:

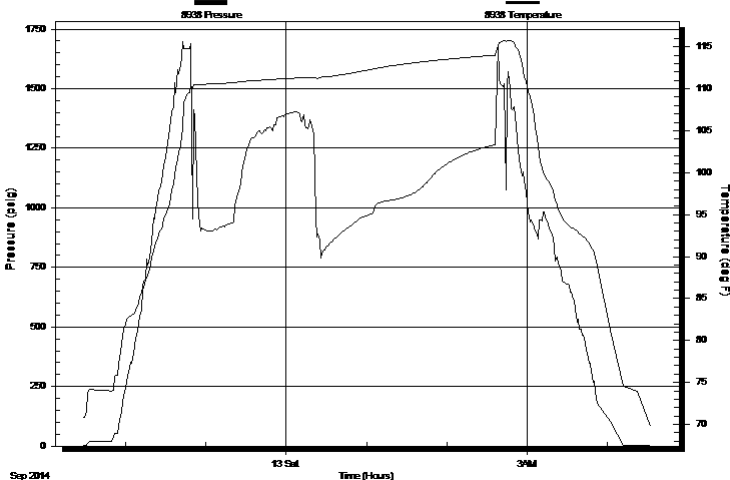
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Time Test Ended: 04:38:00
Interval: **3280.00 ft (KB) To 3311.00 ft (KB) (TVD)**
Total Depth: 3315.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 1915.00 ft (KB)
1907.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8938

Press@RunDepth: psig @ ft (KB) Capacity: 8000.00 psig
Start Date: 2014.09.12 End Date: 2014.09.13 Last Calib.: 1899.12.30
Start Time: 14:52:00 End Time: 04:37:00 Time On Btm:
Time Off Btm:

TEST COMMENT: 1st Opening 30 Minutes Good blow built to the bottom of the bucket in 1 minute
1st Shut-In 60 Minutes
2nd Opening 45 Minutes Good blow built to the bottom of the bucket in 1 minute
2nd Shut-In 90 Minutes

Pressure vs. Time



PRESSURE SUMMARY

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

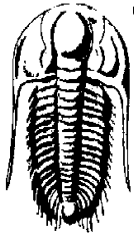
Recovery

Length (ft)	Description	Volume (bbl)
300.00	Muddy Water	4.21
1750.00	Water Chlorides 46,000	24.55

Gas Rates

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

* Recovery from multiple tests



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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:

DST#: 8

ATTN: Rene Hustedad

Test Start: 2014.09.12 @ 21:13:00

Tool Information

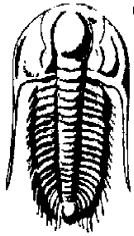
Drill Pipe:	Length: 3277.00 ft	Diameter: 3.80 inches	Volume: 45.97 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.86 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 45.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3280.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	3311.00 ft			
Interval between Packers:	31.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3257.00	
Hydraulic Tool	5.00			3262.00	
Jars	6.00			3268.00	
Safety Joint	2.00			3270.00	
Top Packer	5.00			3275.00	
Packer	5.00			3280.00	28.00 Bottom Of Top Packer
Anchor	28.00			3308.00	
Recorder	1.00	8875	Inside	3309.00	
Recorder	1.00	8878	Outside	3310.00	
Blank Off Sub	1.00			3311.00	31.00 Tool Interval
Packer	5.00			3316.00	
Recorder	1.00		Outside	3317.00	
Bull Plug	3.00			3320.00	9.00 Bottom Packers & Anchor

Total Tool Length: 68.00



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FLUID SUMMARY

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Kufeld #1-19
Job Ticket: **DST#: 8**
Test Start: 2014.09.12 @ 21:13:00

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: bbl		
Water Loss: 9.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6200.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	Muddy Water	4.208
1750.00	Water Chlorides 46,000	24.548

Total Length: 2050.00 ft Total Volume: 28.756 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time

