



DRILL STEM TEST REPORT

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

9431 East Central Suite 100
Wichita, Kansas 67206

ATTN: Ryan Greenbaum

Smith "F" #1-6

6-21s-15w

Start Date: 2014.02.20 @ 00:00:00

End Date: 2014.02.20 @ 00:00:00

Job Ticket #: 17124 DST #: 3

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2014.02.21 @ 02:13:13

F.G.Holl Company LLC
6-21s-15w
Smith "F" #1-6
DST # 3
Arbuckle
2014.02.20



DRILL STEM TEST REPORT

F.G.Holl Company LLC
 9431 East Central Suite 100
 Wichita, Kansas 67206
 ATTN: Ryan Greenbaum

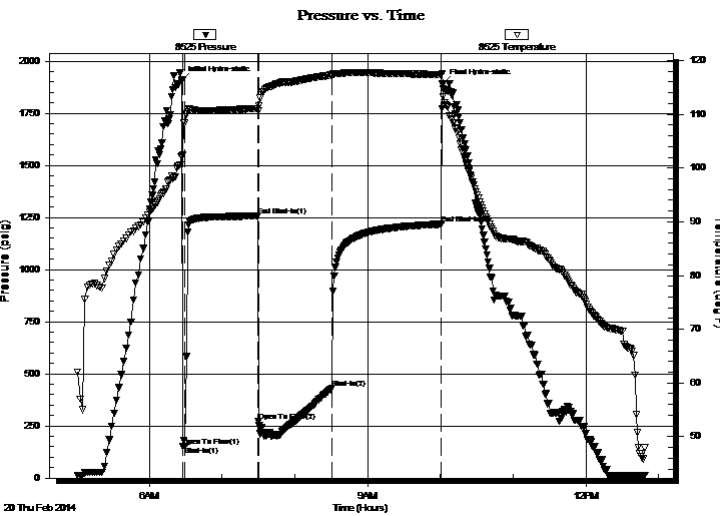
6-21s-15w
Smith "F" #1-6
 Job Ticket: 17124 **DST#: 3**
 Test Start: 2014.02.20 @ 00:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:00:00
 Time Test Ended: 00:00:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 3334
 Interval: **3752.00 ft (KB) To 3762.00 ft (KB) (TVD)**
 Reference Elevations: 1968.00 ft (KB)
 Total Depth: 3762.00 ft (KB) (TVD) 1960.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8525 Inside
 Press@RunDepth: 1218.68 psig @ 3758.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.02.20 End Date: 2014.02.20 Last Calib.: 2014.02.21
 Start Time: 05:00:00 End Time: 12:49:00 Time On Btm: 2014.02.20 @ 06:27:00
 Time Off Btm: 2014.02.20 @ 10:02:00

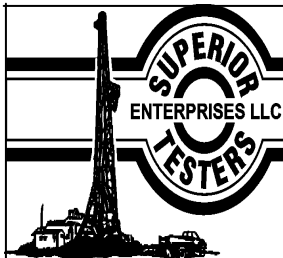
TEST COMMENT: 1st Opening 3 minutes-Strong blow built to the bottom of a 5 gallon bucket in 30 seconds
 1st Shut-In 60 Minutes-Fair blow back
 2nd Open 60 Minutes-Strong blow gas to surface as soon as the tool was opened
 2nd Shut-In 90 Minutes-Fair blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1906.50	102.22	Initial Hydro-static
1	151.81	102.35	Open To Flow (1)
3	154.25	108.34	Shut-In(1)
63	1257.17	111.04	End Shut-In(1)
63	273.13	110.66	Open To Flow (2)
124	432.44	117.29	Shut-In(2)
214	1218.68	117.40	End Shut-In(2)
215	1893.73	115.53	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
90.00	slightly muddy w water 5% mud 95% Water	1.26
0.00	Chlorides 22,000	0.00
1600.00	Clean gassy oil 40% Gas 60% Oil	22.44
0.00	Gravity 34 Corrected	0.00

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	12.75	183.15
Last Gas Rate	0.50	1.40	106.58
Max. Gas Rate	0.50	12.75	183.15



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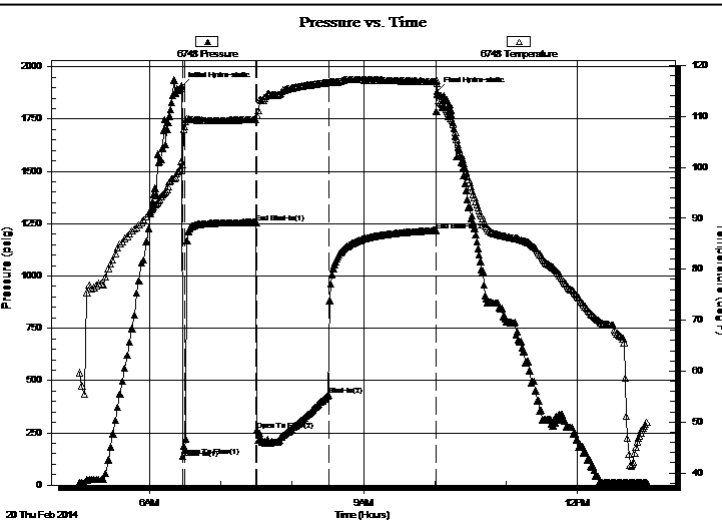
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Smith "F" #1-6
 Job Ticket: 17124 **DST#: 3**
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GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:00:00
 Time Test Ended: 00:00:00
 Interval: **3752.00 ft (KB) To 3762.00 ft (KB) (TVD)**
 Total Depth: 3762.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 3334
 Reference Elevations: 1968.00 ft (KB)
 1960.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6748 **Outside**
 Press@RunDepth: 1217.75 psig @ 3759.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.02.20 End Date: 2014.02.20 Last Calib.: 2014.02.21
 Start Time: 05:00:00 End Time: 12:58:30 Time On Btm: 2014.02.20 @ 06:27:00
 Time Off Btm: 2014.02.20 @ 10:02:00

TEST COMMENT: 1st Opening 3 minutes-Strong blow built to the bottom of a 5 gallon bucket in 30 seconds
 1st Shut-In 60 Minutes-Fair blow back
 2nd Open 60 Minutes-Strong blow gas to surface as soon as the tool was opened
 2nd Shyut-In 90 Minutes-Fair blow back



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1906.80	101.34	Initial Hydro-static
1	137.05	100.56	Open To Flow (1)
3	169.54	107.93	Shut-In(1)
63	1256.47	109.41	End Shut-In(1)
64	262.11	110.11	Open To Flow (2)
124	430.97	116.63	Shut-In(2)
214	1217.75	116.89	End Shut-In(2)
215	1880.78	116.44	Final Hydro-static

Length (ft)	Description	Volume (bbl)
90.00	slightly muddy w water 5% mud 95% Water	1.26
0.00	Chlorides 22,000	0.00
1600.00	Clean gassy oil 40% Gas 60% Oil	22.44
0.00	Grav ity 34 Corrected	0.00

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	12.75	183.15
Last Gas Rate	0.50	1.40	106.58
Max. Gas Rate	0.50	12.75	183.15



DRILL STEM TEST REPORT

TOOL DIAGRAM

F.G.Holl Company LLC

6-21s-15w

9431 East Central Suite 100
Wichita, Kansas 67206

Smith "F" #1-6

Job Ticket: 17124

DST#: 3

ATTN: Ryan Greenbaum

Test Start: 2014.02.20 @ 00:00:00

Tool Information

Drill Pipe:	Length: 3744.00 ft	Diameter: 3.80 inches	Volume: 52.52 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 52.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3752.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	38.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			3729.00	
Hydraulic Tool	5.00			3734.00	
Jars	6.00			3740.00	
Safety Joint	2.00			3742.00	
Top Packer	5.00			3747.00	
Packer	5.00			3752.00	28.00 Bottom Of Top Packer
Anchor	5.00			3757.00	
Recorder	1.00	8525	Inside	3758.00	
Recorder	1.00	6748	Outside	3759.00	
Bull Plug	3.00			3762.00	10.00 Anchor Tool
Total Tool Length:	38.00				



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FLUID SUMMARY

F.G.Holl Company LLC

6-21s-15w

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Smith "F" #1-6

Job Ticket: 17124

DST#: 3

ATTN: Ryan Greenbaum

Test Start: 2014.02.20 @ 00:00:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 66.00 sec/qt
Water Loss: 6.00 in³
Resistivity: ohm.m
Salinity: 4000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	slightly muddy water 5% mud 95% Water	1.262
0.00	Chlorides 22,000	0.000
1600.00	Clean gassy oil 40% Gas 60% Oil	22.444
0.00	Gravity 34 Corrected	0.000

Total Length: 1690.00 ft Total Volume: 23.706 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



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GAS RATES

F.G.Holl Company LLC

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Job Ticket: 17124

DST#: 3

ATTN: Ryan Greenbaum

Test Start: 2014.02.20 @ 00:00:00

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	5	0.50	12.75	183.15
2	15	0.50	1.75	108.94
2	25	0.50	1.75	108.94
2	35	0.50	1.75	108.94
2	45	0.50	1.60	107.93
2	55	0.50	1.50	107.26
2	60	0.50	1.40	106.58

