



DRILL STEM TEST REPORT

Prepared For: **FG Holl Company LLC**

9431 E. Central STE. 100 Wichita Kansas
67208-2563

ATTN: Frank Greenbaum

Binford/Campbell #1

31/20s/15w/Barton

Start Date: 2013.05.05 @ 08:20:00

End Date: 2013.05.05 @ 16:56:00

Job Ticket #: 17581 DST #: 5

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

Printed: 2013.05.05 @ 17:43:41



DRILL STEM TEST REPORT

FG Holl Company LLC

31/20s/15w/Barton

9431 E. Central STE. 100 Wichita Kansas 67208-2563

Binford/Campbell #1

ATTN: Frank Greenbaum

Job Ticket: 17581

DST#: 5

Test Start: 2013.05.05 @ 08:20:00

GENERAL INFORMATION:

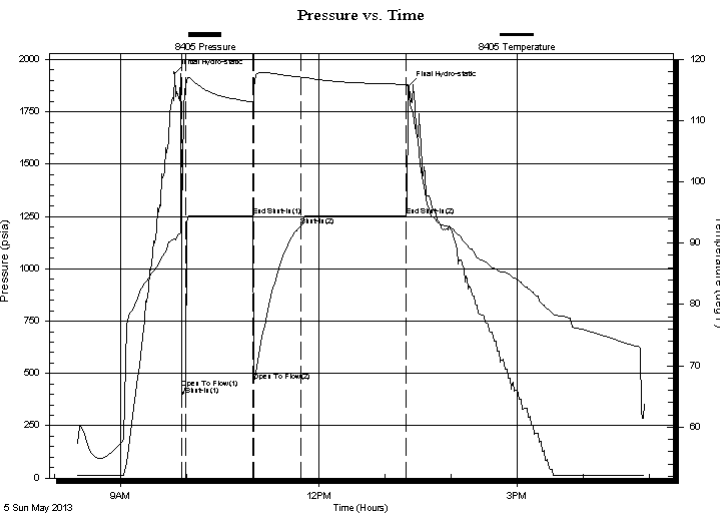
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:55:30
 Time Test Ended: 16:56:00
 Interval: **3810.00 ft (KB) To 3820.00 ft (KB) (TVD)**
 Total Depth: 3820.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Shane Konzem
 Unit No: 3330/50/Great Bend
 Reference Elevations: 2022.00 ft (KB)
 2014.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8405

Inside

Press @ Run Depth: 1204.57 psia @ 3816.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.05.05 End Date: 2013.05.05 Last Calib.: 2013.05.05
 Start Time: 08:20:00 End Time: 16:56:00 Time On Btm: 2013.05.05 @ 09:49:00
 Time Off Btm: 2013.05.05 @ 13:21:30

TEST COMMENT: 1st Open/ 4 Minutes. Strong Blow built to bottom of bucket in 30 seconds.
 1st Shut In/ 60 Minutes. Strong blow back built to bottom of bucket 45 seconds after 4 minute bleed off. Gas to surface in 5 Minutes.
 2nd Open/ 45 Minutes. After a three minute bled off strong blow built to bottom of bucket in 4 seconds. gas at



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1934.39	90.71	Initial Hydro-static
7	430.77	94.90	Open To Flow (1)
10	437.53	115.65	Shut-In(1)
71	1254.88	112.99	End Shut-In(1)
72	464.12	115.12	Open To Flow (2)
115	1204.57	117.06	Shut-In(2)
210	1254.35	115.87	End Shut-In(2)
213	1874.60	113.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	Gas at surface	0.00
217.00	2.5% gas, 17.5% oil, 30% mud, 50% water	3.04
186.00	10% oil, 90% water	2.61
2170.00	100% water.	30.44
0.00	chloride recov 31000 ppm	0.00
0.00	resist recov. .21 ohms at 50 degrees.	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.70	3.26
Last Gas Rate	0.13	0.00	0.00
Max. Gas Rate	0.13	9.15	3.43



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Job Ticket: 17581

DST#: 5

Test Start: 2013.05.05 @ 08:20:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:55:30

Time Test Ended: 16:56:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane Konzem

Unit No: 3330/50/Great Bend

Interval: 3810.00 ft (KB) To 3820.00 ft (KB) (TVD)

Reference Elevations: 2022.00 ft (KB)

Total Depth: 3820.00 ft (KB) (TVD)

2014.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8400 Outside

Press @ Run Depth: 1254.61 psia @ 3817.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.05.05

End Date: 2013.05.05

Last Calib.: 2013.05.05

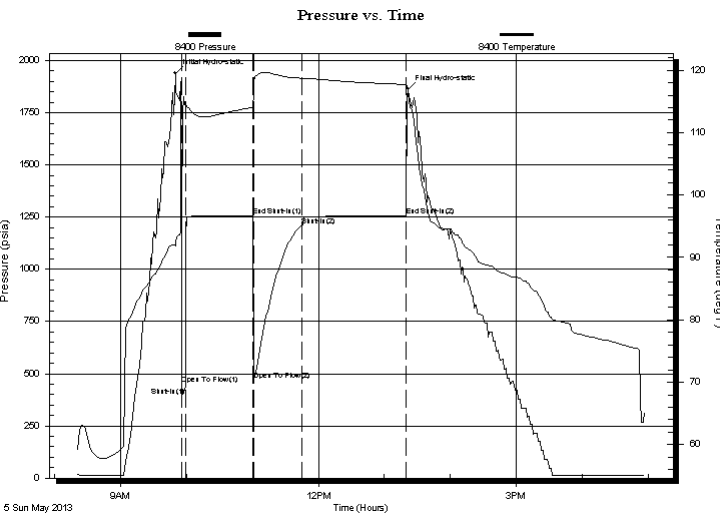
Start Time: 08:20:00

End Time: 16:57:00

Time On Btm: 2013.05.05 @ 09:50:00

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TEST COMMENT: 1st Open/ 4 Minutes. Strong Blow built to bottom of bucket in 30 seconds.
 1st Shut In/ 60 Minutes. Strong blow back built to bottom of bucket 45 seconds after 4 minute bleed off. Gas to surface in 5 Minutes.
 2nd Open/ 45 Minutes. After a three minute bled off strong blow built to bottom of bucket in 4 seconds. gas at



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1939.69	91.88	Initial Hydro-static
6	451.25	96.11	Open To Flow (1)
9	436.23	114.60	Shut-In(1)
71	1255.22	114.03	End Shut-In(1)
71	467.19	116.18	Open To Flow (2)
115	1208.37	118.71	Shut-In(2)
210	1254.61	117.71	End Shut-In(2)
212	1861.33	116.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	Gas at surface	0.00
217.00	2.5% gas, 17.5% oil, 30% mud, 50% water	3.04
186.00	10% oil, 90% water	2.61
2170.00	100% water.	30.44
0.00	chloride recov 31000 ppm	0.00
0.00	resist recov. .21 ohms at 50 degrees.	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	8.70	3.26
Last Gas Rate	0.13	0.00	0.00
Max. Gas Rate	0.13	9.15	3.43



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TOOL DIAGRAM

FG Holl Company LLC

31/20s/15w/Barton

9431 E. Central STE. 100 Wichita Kansas 67208-2563

Binford/Campbell #1

Job Ticket: 17581

DST#: 5

ATTN: Frank Greenbaum

Test Start: 2013.05.05 @ 08:20:00

Tool Information

Drill Pipe:	Length: 3805.00 ft	Diameter: 3.80 inches	Volume: 53.37 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: 62000.00 lb
			<u>Total Volume: 53.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3810.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	33.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	3792.00	
Hydraulic Tool	5.00			3797.00	
Jars	6.00			3803.00	
Safety Joint	2.00			3805.00	
Packer	5.00			3810.00	23.00 Bottom Of Top Packer
Anchor	5.00			3815.00	
Recorder	1.00	8405	Inside	3816.00	
Recorder	1.00	8400	Outside	3817.00	
Bullnose	3.00			3820.00	10.00 Anchor Tool
Total Tool Length:	33.00				



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FLUID SUMMARY

FG Holl Company LLC

31/20s/15w/Barton

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Binford/Campbell #1

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DST#: 5

ATTN: Frank Greenbaum

Test Start: 2013.05.05 @ 08:20:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 50.00 sec/qt
 Water Loss: 8.40 in³
 Resistivity: ohm.m
 Salinity: 5800.00 ppm
 Filter Cake: 1.00 inches

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

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	Gas at surface	0.000
217.00	2.5% gas, 17.5% oil, 30% mud, 50% w ater	3.044
186.00	10% oil, 90% w ater	2.609
2170.00	100% w ater.	30.439
0.00	chloride recov 31000 ppm	0.000
0.00	resist recov. .21 ohms at 50 degrees.	0.000

Total Length: 2573.00 ft Total Volume: 36.092 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



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GAS RATES

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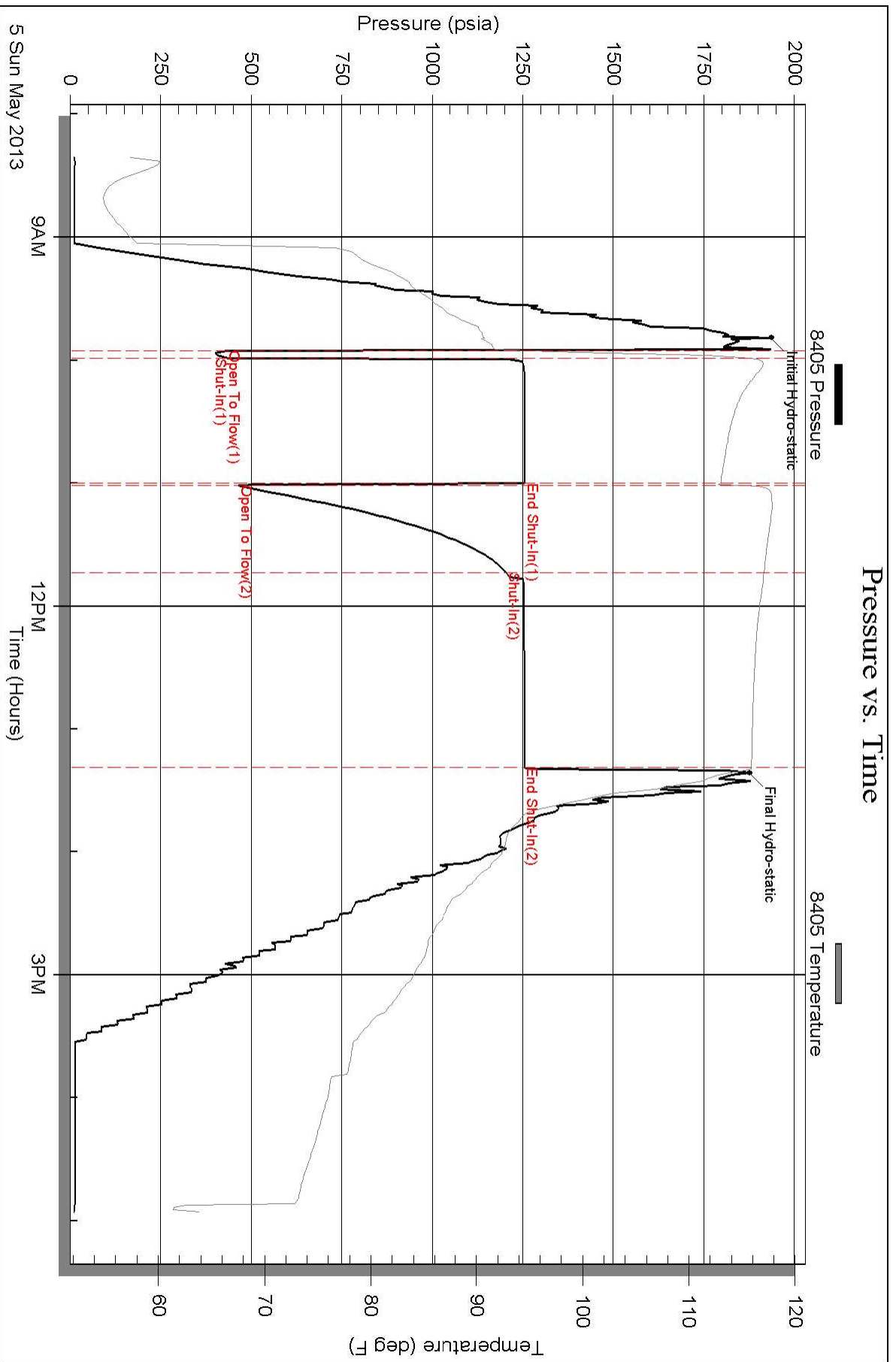
Gas Rates Information

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

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	5	0.13	8.70	3.26
2	10	0.13	9.15	3.43
2	20	0.13	8.70	3.26
2	30	0.13	6.10	2.28
2	40	0.13	4.50	1.68
2	45	0.13	0.00	0.00
3	5	0.75	2.85	44.52
3	10	0.75	2.85	44.52
3	15	0.75	2.85	44.52
3	20	0.75	2.85	44.52
3	25	0.75	2.85	44.52
3	30	0.75	2.85	44.52
3	35	0.75	2.85	44.52
3	40	0.75	2.85	44.52
3	45	0.75	2.85	44.52
4	5	0.50	3.95	26.64
4	10	0.50	3.95	26.64
4	15	0.50	3.95	26.64
4	20	0.50	3.95	26.64
4	25	0.50	3.50	23.61
4	30	0.50	3.50	23.61
4	35	0.50	3.50	23.61
4	40	0.50	3.50	23.61
4	45	0.50	2.95	19.90
4	50	0.13	6.36	2.38
4	55	0.13	6.55	2.45
4	60	0.13	6.55	2.45
4	65	0.13	6.55	2.45
4	70	0.13	0.00	0.00

Pressure vs. Time



Pressure vs. Time

