



DRILL STEM TEST REPORT

Prepared For: **Hupfer Operating Inc.**

P.O. Box
Lawrence, Kansas 66203-0912

ATTN: Jim Musgrove

Knop A # a3

32-19s-11w Barton

Start Date: 2018.08.25 @ 21:29:00

End Date: 2018.08.25 @ 03:02:00

Job Ticket #: 01004 DST #: 2

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2018.08.26 @ 03:28:31

Hupfer Operating Inc.
32-19s-11w Barton
Knop A # a3
DST # 2
Kansas City "A-H"
2018.08.25



DRILL STEM TEST REPORT

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

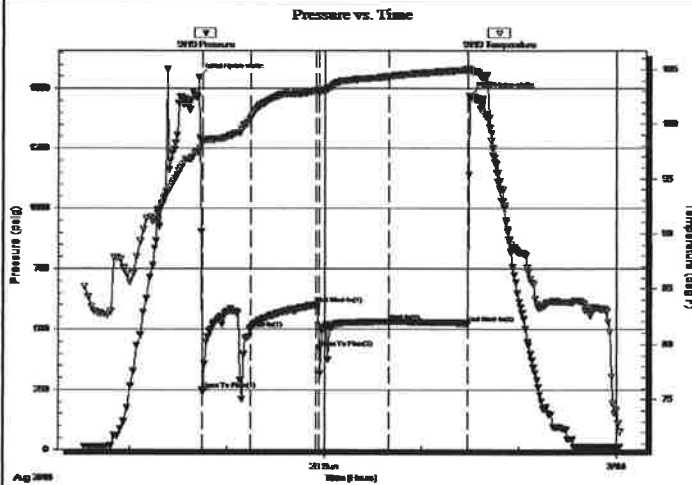
32-19s-11w Barton
Knop A # a3
 Job Ticket: 01004 **DST#: 2**
 Test Start: 2018.08.25 @ 21:29:00

GENERAL INFORMATION:

Formation: **Kansas City "A-H"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:44:00
 Time Test Ended: 03:02:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1
 Interval: **3035.00 ft (KB) To 3135.00 ft (KB) (TVD)**
 Total Depth: 3035.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1788.00 ft (KB)
 1780.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9119 Inside
 Press@RunDepth: 524.53 psig @ 3130.06 ft (KB) Capacity: psig
 Start Date: 2018.08.25 End Date: 2018.08.26 Last Calib.: 2018.08.26
 Start Time: 21:29:09 End Time: 03:02:09 Time On Btm: 2018.08.25 @ 22:42:39
 Time Off Btm: 2018.08.26 @ 01:29:39

TEST COMMENT: 1st Opening 30 Minutes blow built to 10 inches decreased to 6 built to bottom in 29 minutes
 1st Shut-In 30 Minutes
 2nd Opening 45 Minutes no blow flushed tool bottom of the bucket in 1 minute decreasing
 2nd opening 60 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1545.88	97.52	Initial Hydro-static
2	248.40	98.36	Open To Flow (1)
32	498.86	100.63	Shut-In(1)
73	601.10	103.08	End Shut-In(1)
74	421.29	102.97	Open To Flow (2)
117	530.32	104.38	Shut-In(2)
166	524.53	104.96	End Shut-In(2)
167	1468.05	105.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	drilling mud	0.56
120.00	oil cut mud 10% Oil 90% Mud	1.01

Gas Rates

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



DRILL STEM TEST REPORT

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

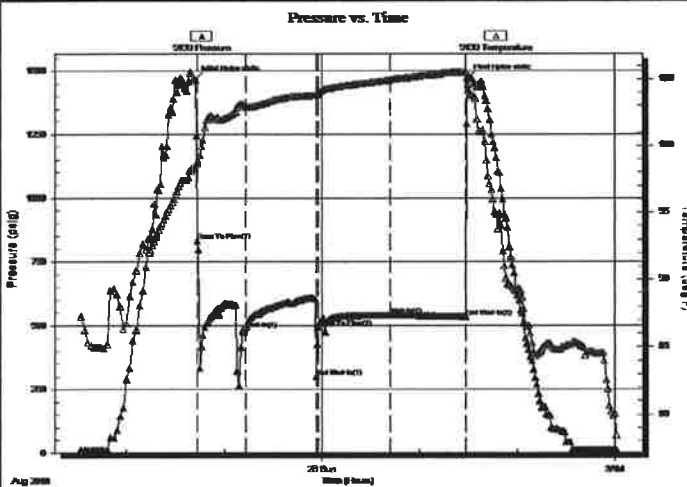
32-19S-11w Barton
Knop A # a3
 Job Ticket: 01004 **DST#: 2**
 Test Start: 2018.08.25 @ 21:29:00

GENERAL INFORMATION:

Formation: **Kansas City "A-H"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:44:00
 Time Test Ended: 03:02:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1
 Interval: **3035.00 ft (KB) To 3135.00 ft (KB) (TVD)**
 Total Depth: 3035.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1788.00 ft (KB)
 1780.00 ft (CF)
 KB to GRVCF: 8.00 ft

Serial #: 9139 Outside
 Press@RunDepth: 534.02 psig @ 3130.06 ft (KB) Capacity: 5000.00 psig
 Start Date: 2018.08.25 End Date: 2018.08.26 Last Calib.: 2018.08.26
 Start Time: 21:29:00 End Time: 03:01:30 Time On Btm: 2018.08.25 @ 22:42:00
 Time Off Btm: 2018.08.26 @ 01:29:30

TEST COMMENT: 1st Opening 30 Minutes blow built to 10 inches decreased to 6 built to bottom in 29 minutes
 1st Shut-In 30 Minutes
 2nd Opening 45 Minutes no blow flushed tool bottom of the bucket in 1 minute decreasing
 2nd opening 60 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1466.62	98.32	Initial Hydro-static
2	830.94	98.84	Open To Flow (1)
31	484.05	102.94	Shut-In(1)
75	297.98	103.86	End Shut-In(1)
76	491.31	103.89	Open To Flow (2)
120	539.72	104.96	Shut-In(2)
167	534.02	105.50	End Shut-In(2)
168	1472.83	104.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	drilling mud	0.56
120.00	oil cut mud 10% Oil 90% Mud	1.01

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Hupfer Operating Inc.

32-19-11w Barton

P.O. Box
Shawnee, Kansas 66203-0912

Knop A # a3

Job Ticket: 01004

DST#: 2

ATTN: Jim Musgrove

Test Start: 2018.08.25 @ 21:29:00

Tool Information

Drill Pipe:	Length: 2855.00 ft	Diameter: 3.80 inches	Volume: 40.05 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 180.00 ft	Diameter: 2.86 inches	Volume: 1.43 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: 87000.00 lb
			<u>Total Volume: 41.48 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3045.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	90.06 ft			
Tool Length:	110.06 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			3030.00	
Hydraulic tool	5.00			3035.00	
Packer	5.00			3040.00	20.00 Bottom Of Top Packer
Packer	5.00		Fluid	3045.00	
Anchor	5.00			3050.00	
Change Over Sub	0.75			3050.75	
Drill Pipe	62.56			3113.31	
Change Over Sub	0.75		Inside	3114.06	
Anchor	16.00			3130.06	
Recorder	0.00	9119	Inside	3130.06	
Recorder	0.00	9139	Outside	3130.06	
Bullnose	5.00			3135.06	90.06 Bottom Packers & Anchor

Total Tool Length: 110.06



DRILL STEM TEST REPORT

FLUID SUMMARY

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

32-19s-11w Barton
Knop A # a3
 Job Ticket: 01004 **DST#: 2**
 Test Start: 2018.08.25 @ 21:29:00

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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.20 in ⁹	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 8000.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	drilling mud	0.556
120.00	oil cut mud 10% Oil 90% Mud	1.014

Total Length: 190.00 ft Total Volume: 1.570 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 9119

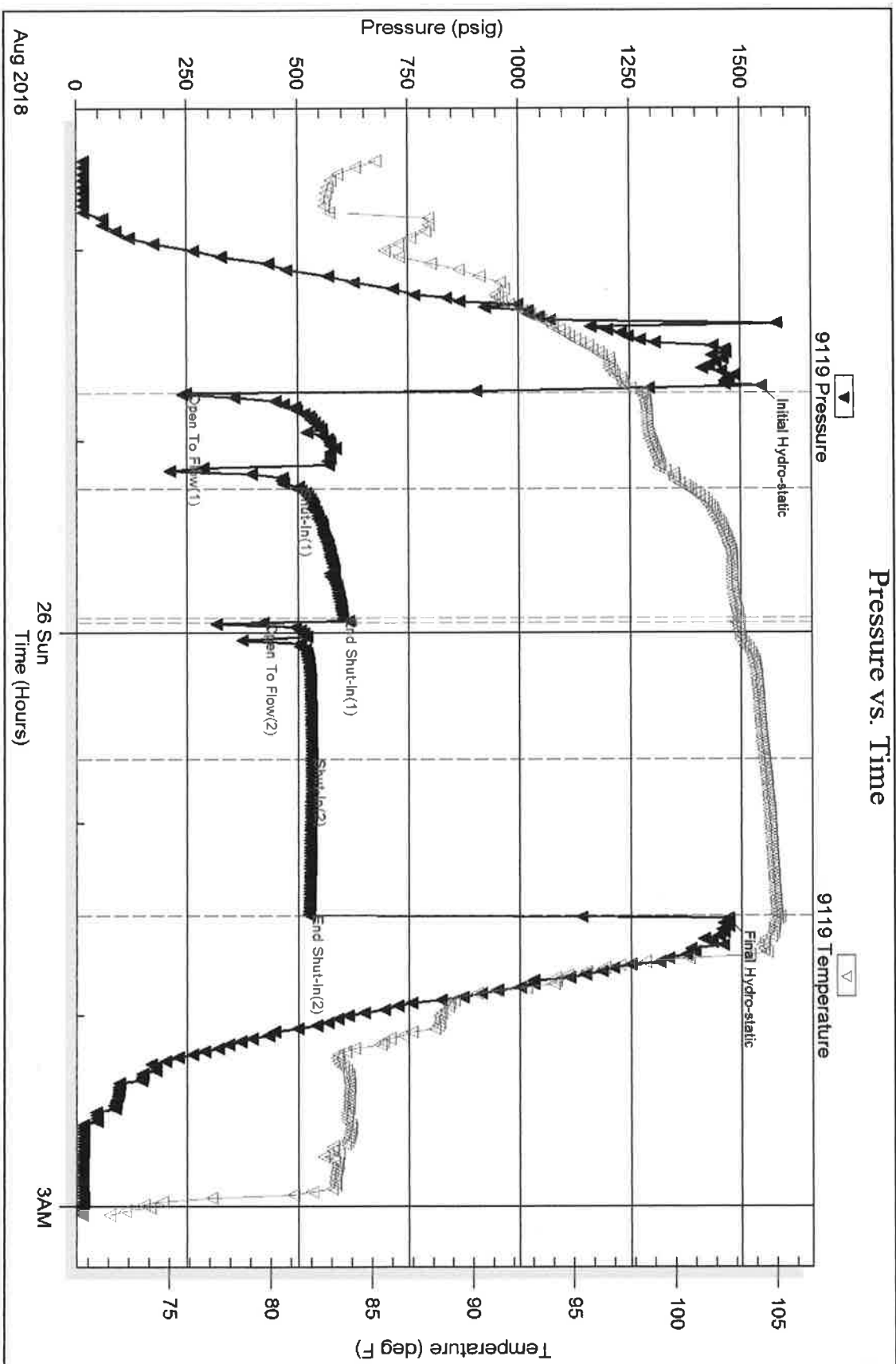
Inside

Hupfer Operating Inc.

Knop A # a3

DST Test Number: 2

Pressure vs. Time



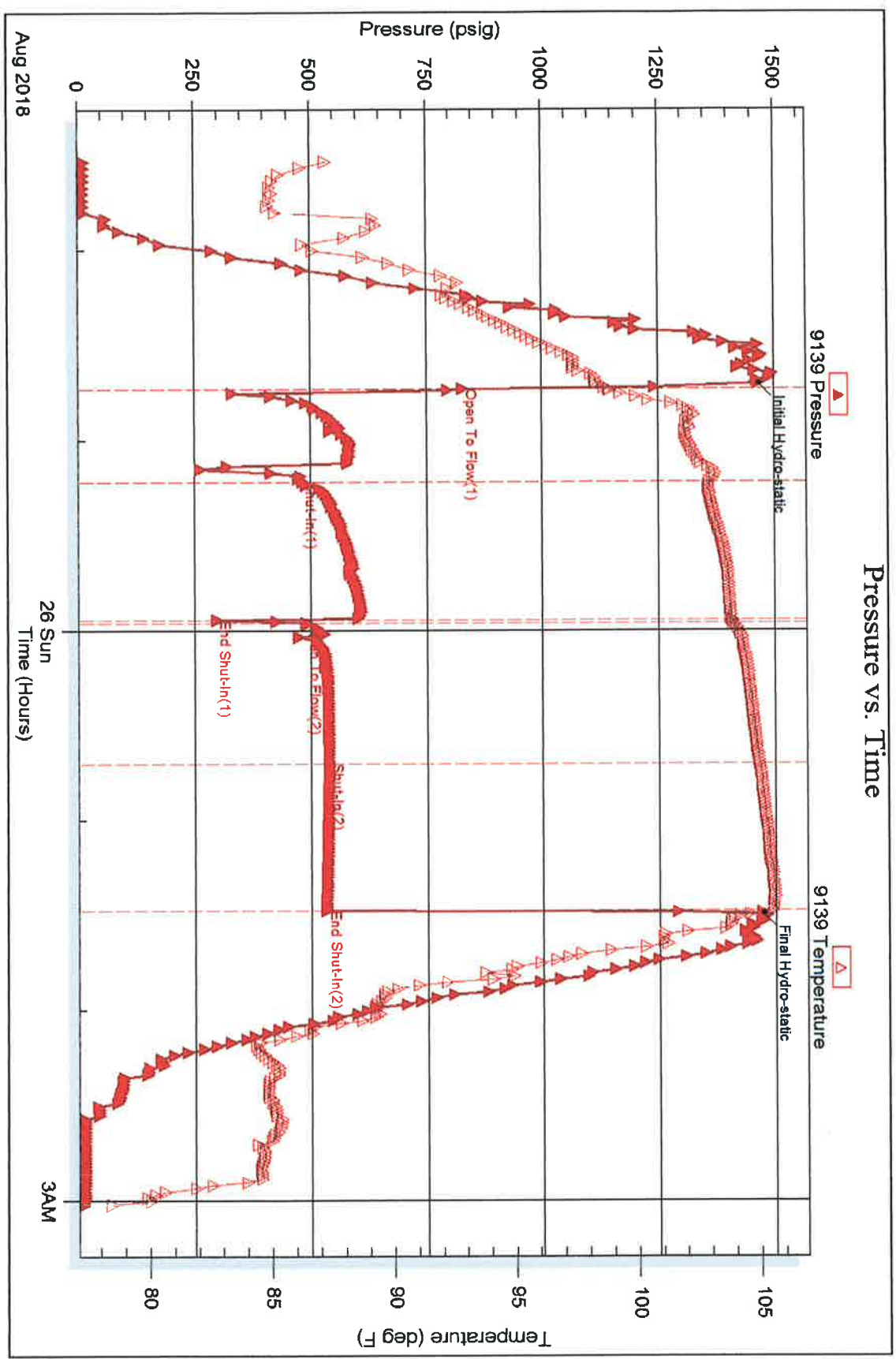
Serial #: 9139

Outside Hupfer Operating Inc.

Knop A # a3

DST Test Number: 2

Pressure vs. Time



Eagle Testers

Ref. No.: 01004

Printed: 2018.08.26 @ 03:28:33



DRILL STEM TEST REPORT

Prepared For: **Hupfer Operating Inc.**

P.O. Box
Shawnee, Kansas 66203-0912

ATTN: Jim Musgrove

Knop A # a3

32-19s-11w Barton

Start Date: 2018.08.26 @ 23:39:00

End Date: 2018.08.27 @ 04:25:00

Job Ticket #: 01005 DST #: 3

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2018.08.27 @ 05:00:48

Hupfer Operating Inc. 32-19s-11w Barton Knop A # a3 DST # 3 Arbuckle 2018.08.26



DRILL STEM TEST REPORT

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

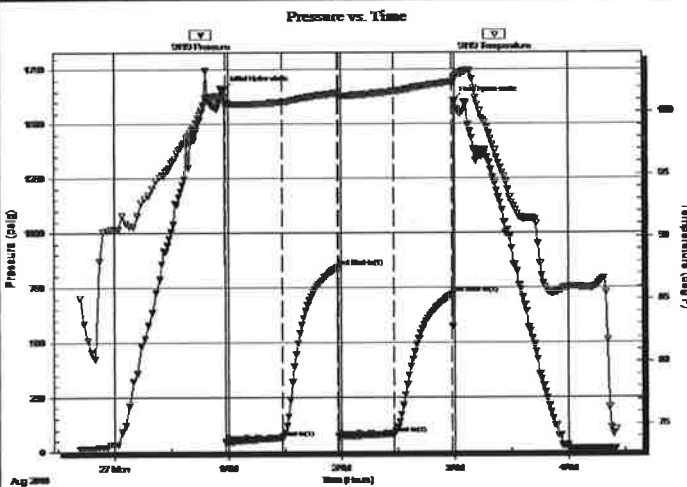
32-19a-11w Barton
Knop A # a3
 Job Ticket: `01005 **DST#:3**
 Test Start: 2018.08.26 @ 23:39:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:58:00
 Time Test Ended: 04:25:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1
 Interval: **3307.00 ft (KB) To 3339.00 ft (KB) (TVD)**
 Total Depth: 3339.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1788.00 ft (KB)
 1780.00 ft (CF)
 KB to GRVCF: 8.00 ft

Serial #: 9119 Inside
 Press@RunDepth: 719.54 psig @ 3334.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2018.08.26 End Date: 2018.08.27 Last Calib.: 2018.08.27
 Start Time: 23:39:00 End Time: 04:25:00 Time On Btm: 2018.08.27 @ 00:58:00
 Time Off Btm: 2018.08.27 @ 02:59:30

TEST COMMENT: 1st Opening 30 Minutes weak blow built to 2 inches decreased to a weak surface blow
 1st Shut-In 30 Minutes
 2nd Opening 30 Minutes weak steady 1/2 inch blow throughout
 2nd Shut-In 30 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1660.68	101.25	Initial Hydro-static
1	45.88	100.54	Open To Flow (1)
31	65.82	100.82	Shut-In(1)
60	843.39	101.53	End Shut-In(1)
61	70.41	101.32	Open To Flow (2)
90	83.13	101.67	Shut-In(2)
121	719.54	102.42	End Shut-In(2)
122	1609.21	102.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	clean gassy oil 20% Gas 80%Oil	0.32
0.00	Gravity 43 corrected	0.00
40.00	oil cut mud	0.32
0.00	10%Gas 40%Oil 45%Mud 5% w ater	0.00

Gas Rates

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



DRILL STEM TEST REPORT

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

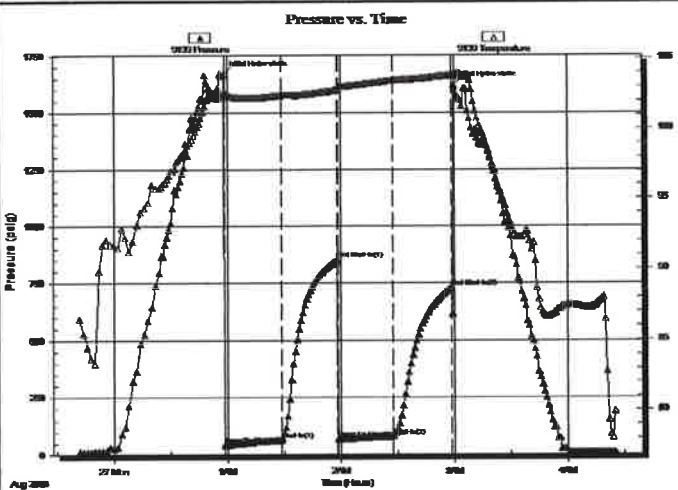
32-19-11w Barton
Knop A # a3
 Job Ticket: `01005 **DST#: 3**
 Test Start: 2018.08.26 @ 23:39:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:58:00
 Time Test Ended: 04:25:00
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig
 Unit No: 1
 Interval: **3307.00 ft (KB) To 3339.00 ft (KB) (TVD)**
 Total Depth: 3339.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1788.00 ft (KB)
 1780.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 9139 Outside
 Press@RunDepth: 729.87 psig @ 3334.00 ft (KB) Capacity: 5000.00 psig
 Start Date: 2018.08.26 End Date: 2018.08.27 Last Calib.: 2018.08.27
 Start Time: 23:39:00 End Time: 04:25:00 Time On Btrn: 2018.08.27 @ 00:58:00
 Time Off Btrn: 2018.08.27 @ 02:59:30

TEST COMMENT: 1st Opening 30 Minutes weak blow built to 2 inches decreased to a weak surface blow
 1st Shut-In 30 Minutes
 2nd Opening 30 Minutes weak steady 1/2 inch blow throughout
 2nd Shut-In 30 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1669.92	102.27	Initial Hydro-static
1	42.82	102.60	Open To Flow (1)
31	66.09	102.37	Shut-In(1)
60	853.73	102.73	End Shut-In(1)
61	68.59	103.03	Open To Flow (2)
90	81.18	103.45	Shut-In(2)
121	729.87	103.81	End Shut-In(2)
122	1619.44	103.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	clean gassy oil 20% Gas 80%Oil	0.32
0.00	Gravity 43 corrected	0.00
40.00	oil cut mud	0.32
0.00	10%Gas 40%Oil 45%Mud 5% w ater	0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

32-19s-11w Barton
Knop A # a3
 Job Ticket: `01005 **DST#: 3**
 Test Start: 2018.08.26 @ 23:39:00

Tool Information

Drill Pipe:	Length: 3135.00 ft	Diameter: 3.80 inches	Volume: 43.98 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 180.00 ft	Diameter: 2.86 inches	Volume: 1.43 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
			Total Volume: 45.41 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	51000.00 lb
Depth to Top Packer:	3307.00 ft			Final	51000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	32.00 ft				
Tool Length:	52.00 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			3292.00	
Hydraulic tool	5.00			3297.00	
Packer	5.00			3302.00	20.00 Bottom Of Top Packer
Packer	5.00		Fluid	3307.00	
Anchor	27.00			3334.00	
Recorder	0.00	9119	Inside	3334.00	
Recorder	0.00	9139	Outside	3334.00	
Bullnose	5.00			3339.00	32.00 Bottom Packers & Anchor

Total Tool Length: 52.00



DRILL STEM TEST REPORT

FLUID SUMMARY

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

32-199-11w Barton
Knop A # a3
 Job Ticket: `01005 **DST#: 3**
 Test Start: 2018.08.26 @ 23:39:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil Apt:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.00 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 70000.00 ppm			
Filter Cake: 1.00 inches			

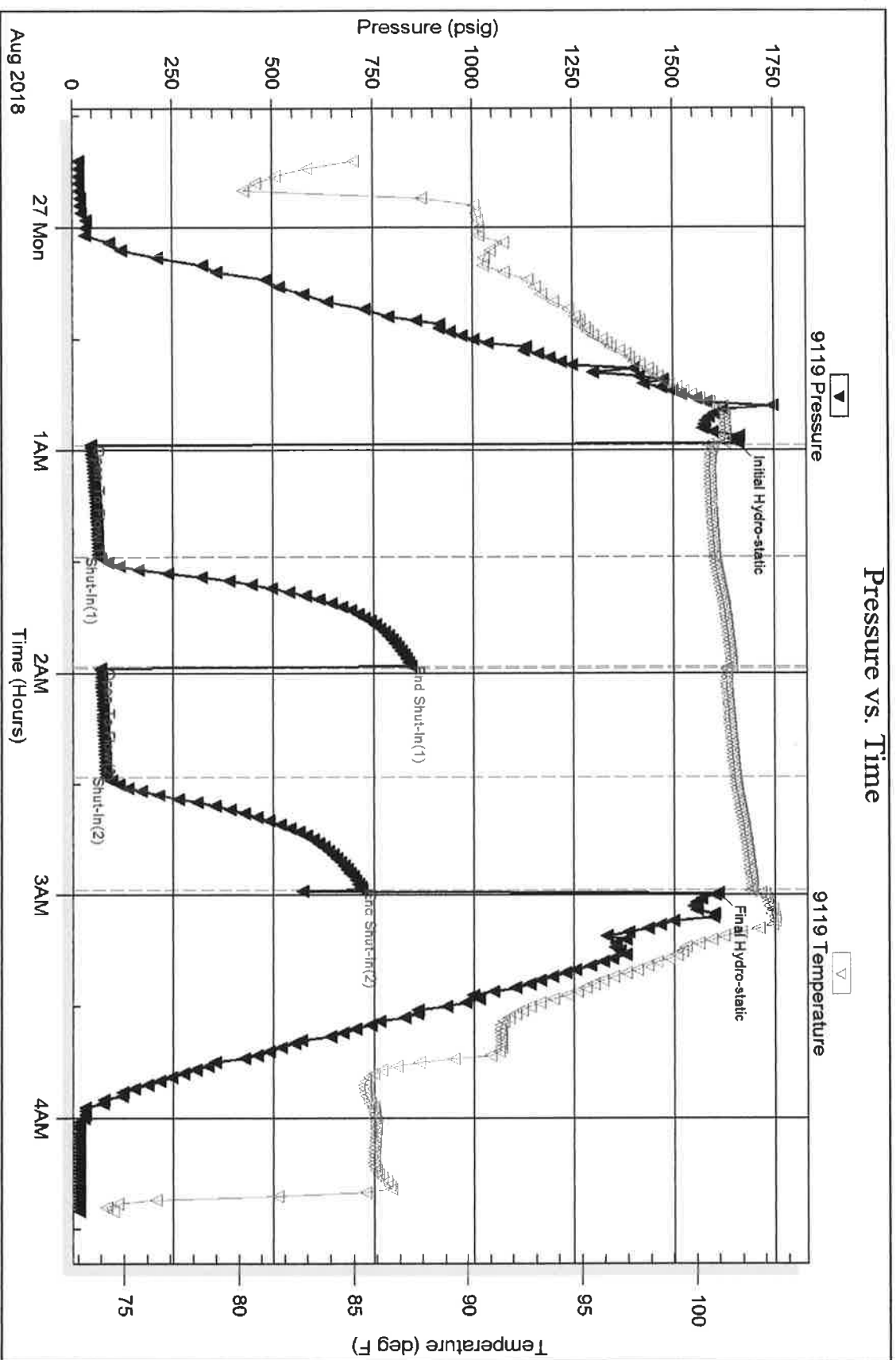
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	clean gassy oil 20% Gas 80%Oil	0.318
0.00	Gravity 43 corrected	0.000
40.00	oil cut mud	0.318
0.00	10%Gas 40%Oil 45%Mud 5% water	0.000

Total Length: 80.00 ft Total Volume: 0.636 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time

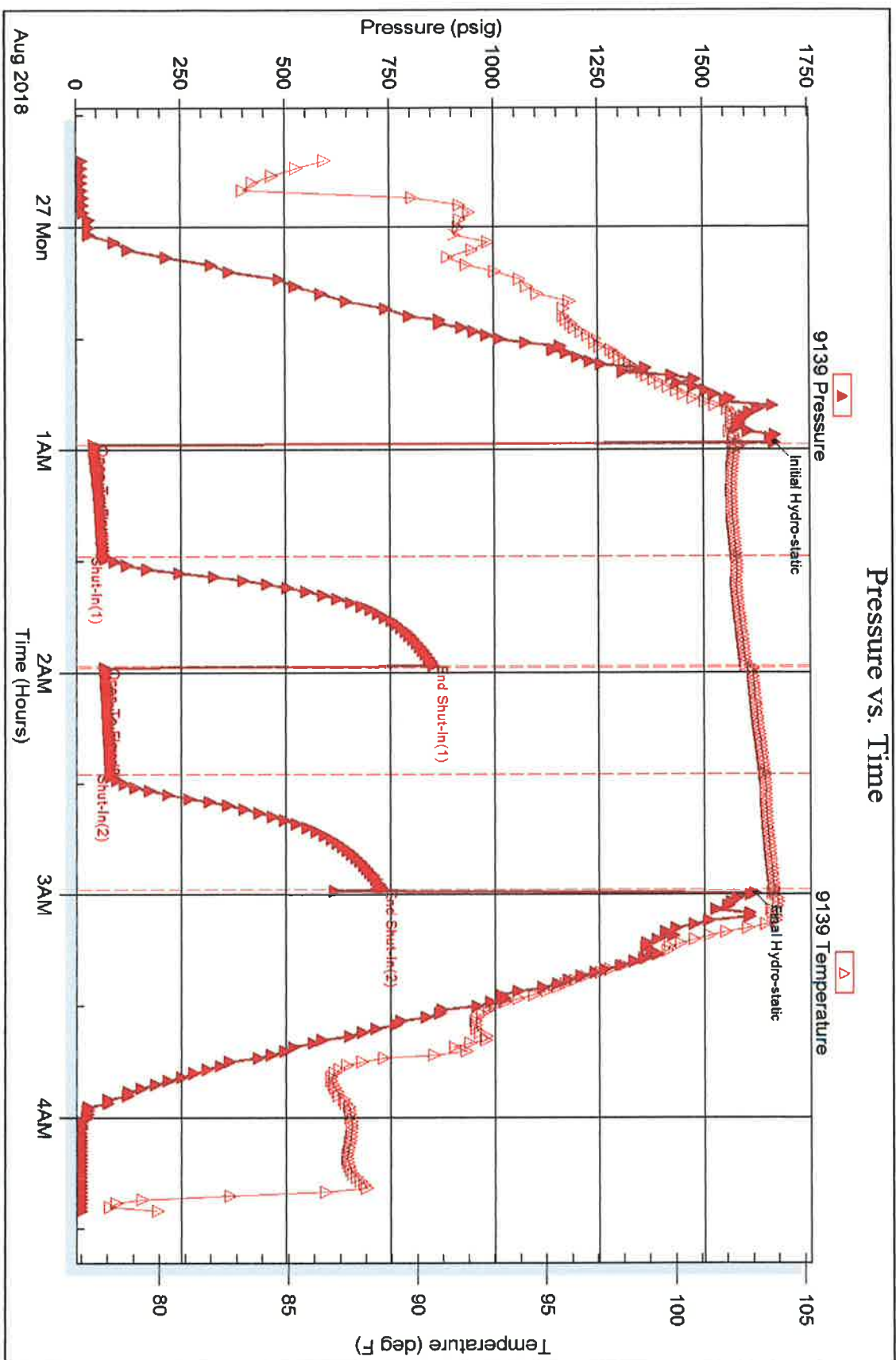


Serial #: 9139

Outside Hupfer Operating Inc.

Knop A # a3

DST Test Number: 3



Eagle Testers

Ref. No: 01005

Printed: 2018.08.27 @ 05:00:50



DRILL STEM TEST REPORT

Prepared For: **Hupfer Operating inc.**

P.O. Box
Lawrence, Kansas 66203-0912

ATTN: Jim Musgrove

Knop A # a3

32-19s-11w Barton

Start Date: 2018.08.25 @ 22:58:00

End Date: 2018.08.25 @ 05:00:00

Job Ticket #: 01003 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2018.08.25 @ 05:19:59

Hupfer Operating Inc. 32-19s-11w Barton Knop A # a3 DST # 1 Topoka 2018.08.25



DRILL STEM TEST REPORT

Hupfer Operating Inc.
 P.O. Box
 Shawnee, Kansas 66203-0912
 ATTN: Jim Musgrove

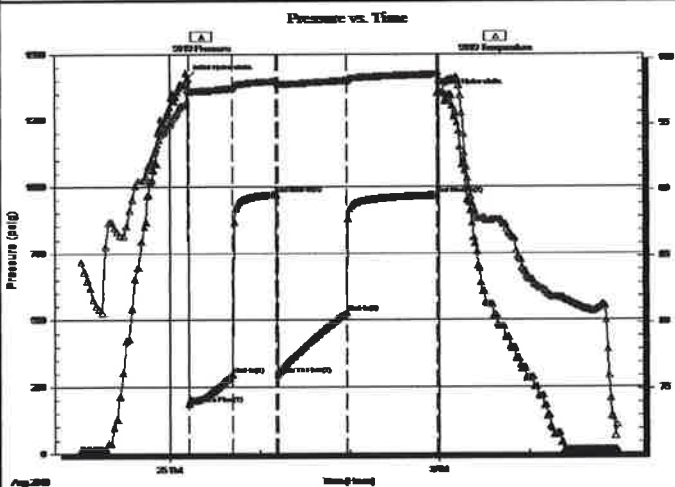
32-199-11w Barton
Knop A # a3
 Job Ticket: 01003 **DST#: 1**
 Test Start: 2018.08.25 @ 22:58:00

GENERAL INFORMATION:

Formation: **Topeka**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 12:14:00
 Time Test Ended: 05:00:00
 Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Gene Budig**
 Unit No: **1**
 Interval: **2856.00 ft (KB) To 2900.00 ft (KB) (TVD)**
 Total Depth: **2900.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**
 Reference Elevations: **1788.00 ft (KB)**
1780.00 ft (CF)
 KB to GR/CF: **8.00 ft**

Serial #: 9119 Inside
 Press@RunDepth: **967.19 psig @ 2895.00 ft (KB)** Capacity: **5000.00 psig**
 Start Date: **2018.08.24** End Date: **2018.08.25** Last Calib.: **2018.08.25**
 Start Time: **22:58:00** End Time: **04:58:00** Time On Btrrc: **2018.08.25 @ 00:12:00**
 Time Off Btrrc: **2018.08.25 @ 02:59:00**

TEST COMMENT: 1st Opening 30 Minutes strong blow gas to surface in 3 minutes
 1st Shut-In 30 Minutes
 2nd Opening 45 Minutes Strong blow see gas flow report
 2nd Shut-In 60 Minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1408.73	97.67	Initial Hydro-static
1	185.59	97.51	Open To Flow (1)
30	296.89	97.79	Shut-In(1)
59	970.49	98.31	End Shut-In(1)
60	297.29	98.10	Open To Flow (2)
106	527.51	98.37	Shut-In(2)
167	967.19	98.83	End Shut-In(2)
167	1353.39	98.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	clean oil	3.02
120.00	oil cut w water 40%oil 60%Water	1.68
800.00	Water chlorides 96000	11.22

Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	7.10	335.83
Last Gas Rate	0.50	2.75	115.69
Max. Gas Rate	0.50	18.80	223.96



DRILL STEM TEST REPORT

TOOL DIAGRAM

Hupfer Operating Inc.

32-19s-11w Barton

P.O. Box
Shawnee, Kansas 66203-0912

Knop A # a3

Job Ticket: 01003

DST#: 1

ATTN: Jim Musgrove

Test Start: 2018.08.25 @ 22:58:00

Tool Information

Drill Pipe:	Length: 2666.00 ft	Diameter: 3.80 inches	Volume: 37.40 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 180.00 ft	Diameter: 2.76 inches	Volume: 1.33 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: 64000.00 lb
			<u>Total Volume: 38.73 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	2856.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	64.00 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			2841.00	
Hydraulic tool	5.00			2846.00	
Packer	5.00			2851.00	20.00 Bottom Of Top Packer
Packer	5.00		Fluid	2856.00	
Anchor	39.00			2895.00	
Recorder	0.00	9119	Inside	2895.00	
Recorder	0.00	9139	Outside	2895.00	
Bullnose	5.00			2900.00	44.00 Bottom Packers & Anchor

Total Tool Length: 64.00



DRILL STEM TEST REPORT

FLUID SUMMARY

Hupfer Operating Inc.
P.O. Box
Shawnee, Kansas 66203-0912
ATTN: Jim Musgrove

32-19-11w Barton
Knop A # a3
Job Ticket: 01003 DST#: 1
Test Start: 2018.08.25 @ 22:58:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 48.00 sec/qt
Water Loss: 8.80 in³
Resistivity: ohm.m
Salinity: 4000.00 ppm
Filter Cake: 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
300.00	clean oil	3.015
120.00	oil cut w ater 40%oil 60%Water	1.683
800.00	Water chlorides 96000	11.222

Total Length: 1220.00 ft Total Volume: 15.920 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:



DRILL STEM TEST REPORT

GAS RATES

Hupfer Operating Inc.

32-19s-11w Barton

P.O. Box
Shawnee, Kansas 66203-0912

Knop A # a3

Job Ticket: 01003

DST#: 1

ATTN: Jim Musgrove

Test Start: 2018.08.25 @ 22:58:00

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)
1	10	0.75	7.10	335.83
1	20	0.75	3.20	274.91
1	30	0.50	18.80	223.96
2	10	0.50	15.25	200.01
2	20	0.50	9.75	162.91
2	30	0.50	4.30	126.14
2	40	0.50	2.75	115.69

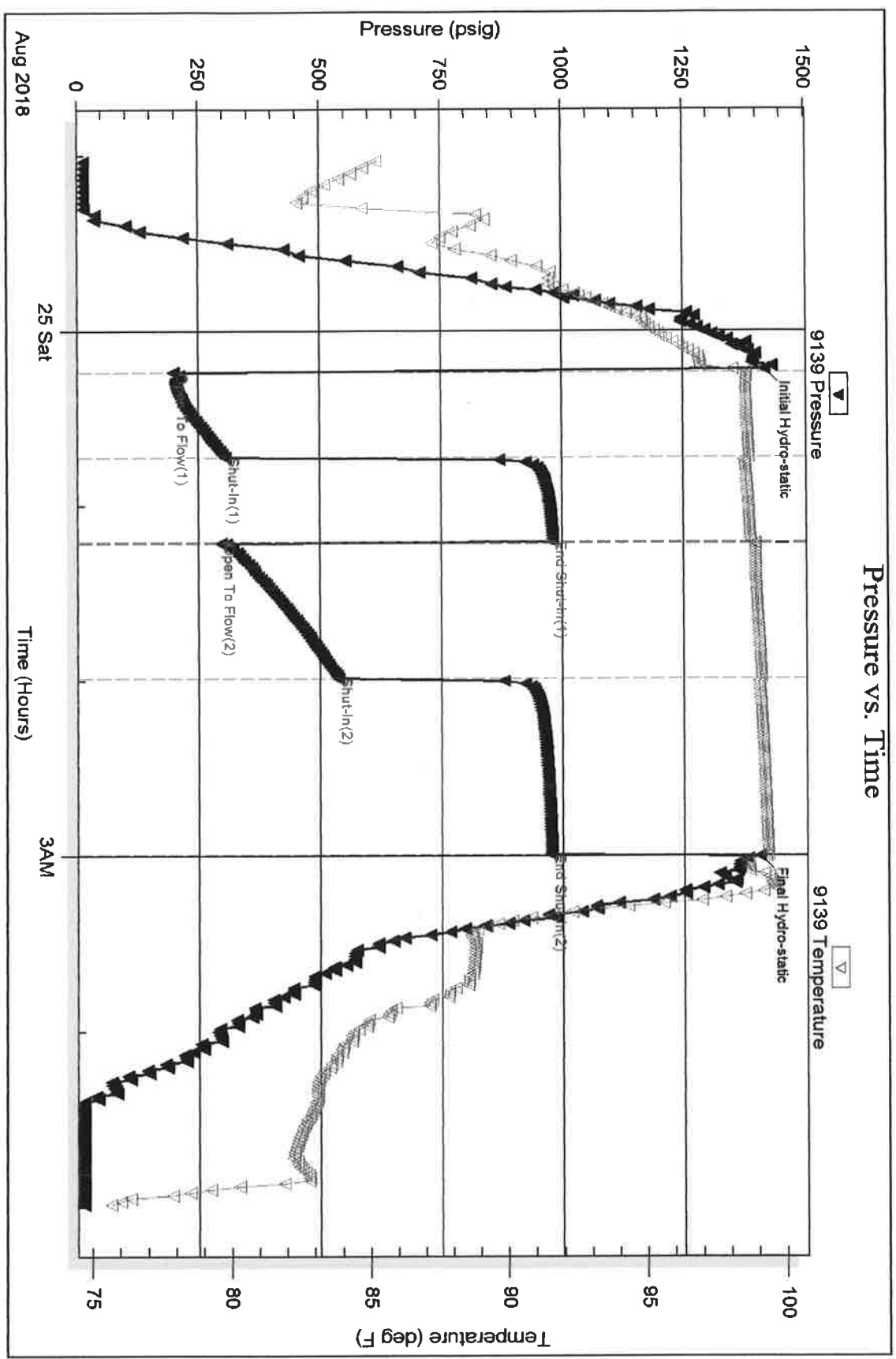
Serial #: 9139

Outside Hupfer Operating Inc.

Knop A # a3

DST Test Number: 1

Pressure vs. Time



Eagle Testers

Ref. No: 01003

Printed: 2018.08.25 @ 05:20:01

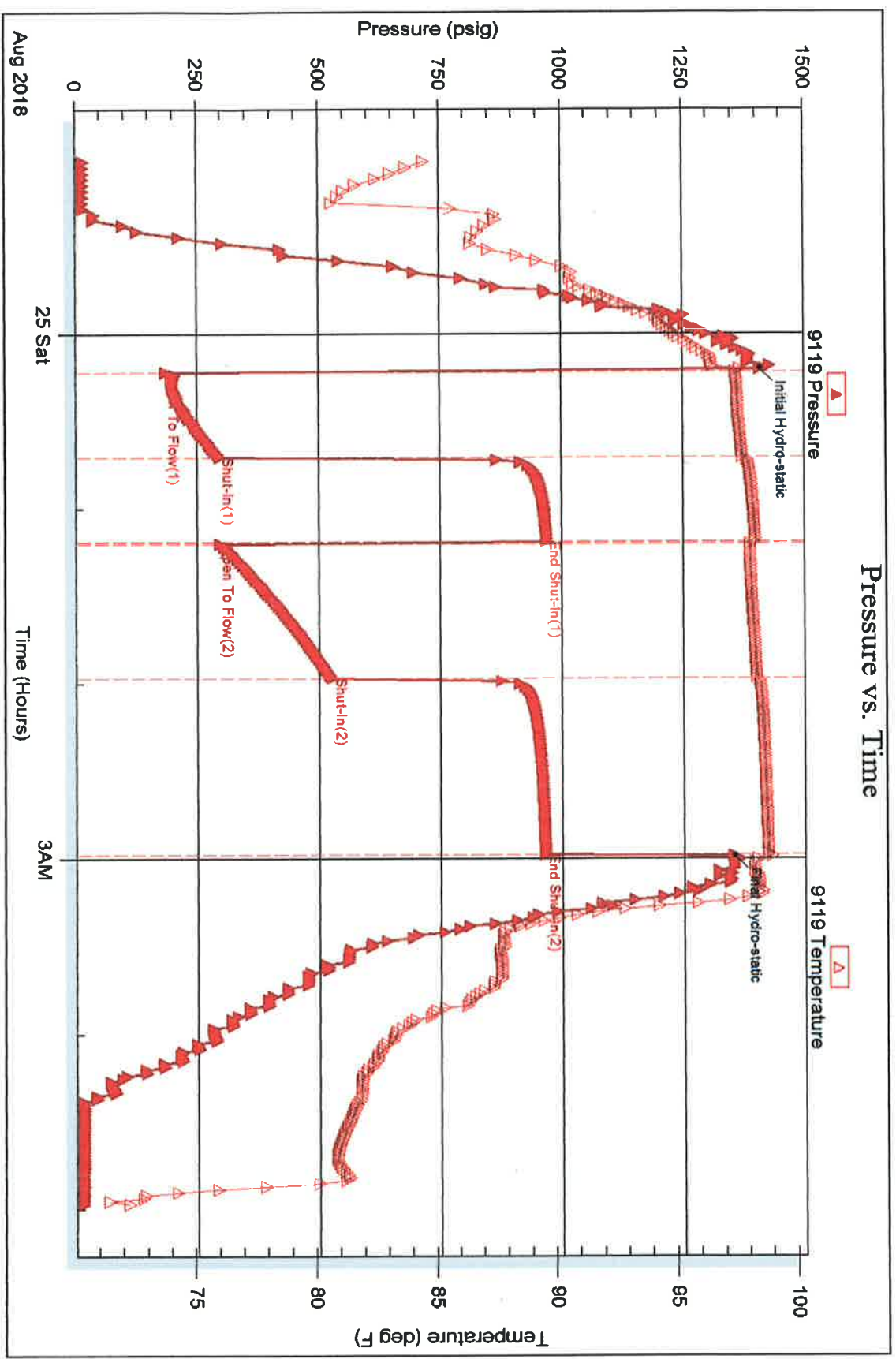
Serial #: 9119

Inside

Hurper Operating Inc.

Knop A # a3

DST Test Number: 1



Eagle Testers

Ref. No: 01003

Printed: 2018.08.25 @ 05:20:01