



## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300  
Wichita KS 67202+1216

ATTN: Robert Hendrix

### **Hamit Unit #2-20**

### **20-6s-19w Rooks,KS**

Start Date: 2017.11.11 @ 13:10:00

End Date: 2017.11.11 @ 21:27:00

Job Ticket #: 63177                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.11.14 @ 09:15:44



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63177

**DST#: 1**

Test Start: 2017.11.11 @ 13:10:00

## GENERAL INFORMATION:

Formation: **LKC 'A-G'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:28:15  
 Time Test Ended: 21:27:00  
 Interval: **3348.00 ft (KB) To 3464.00 ft (KB) (TVD)**  
 Total Depth: 3464.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

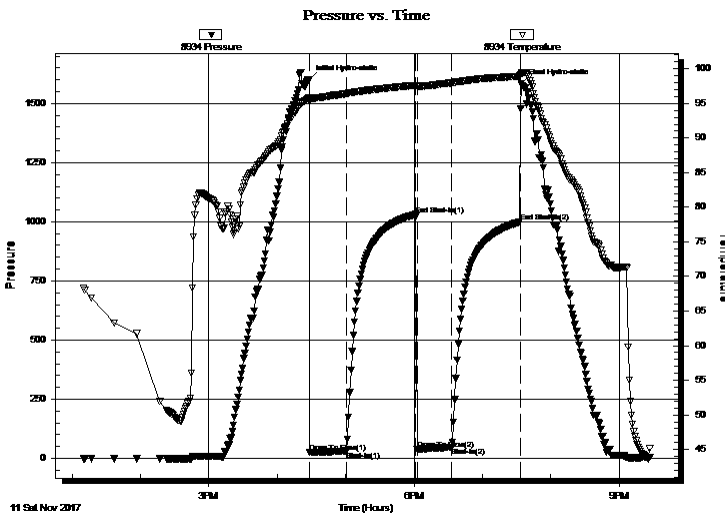
## Serial #: 8934

Inside

Press@RunDepth: 47.71 psig @ 3351.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.11 End Date: 2017.11.11 Last Calib.: 2017.11.11  
 Start Time: 13:10:15 End Time: 21:27:00 Time On Btm: 2017.11.11 @ 16:28:00  
 Time Off Btm: 2017.11.11 @ 19:34:00

TEST COMMENT: 30-IF-Weak Blow ; Built to 2"  
 60-ISI-No Return  
 30-FF-No Blow  
 60-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1601.92	95.85	Initial Hydro-static
1	25.34	95.35	Open To Flow (1)
33	31.72	96.39	Shut-In(1)
94	1030.82	97.61	End Shut-In(1)
95	39.04	97.42	Open To Flow (2)
126	47.71	97.96	Shut-In(2)
185	999.26	98.94	End Shut-In(2)
186	1583.90	99.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud 100%M	0.30

## Gas Rates

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



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ATTN: Robert Hendrix

**20-6s-19w Rooks, KS**

**Hamit Unit #2-20**

Job Ticket: 63177

**DST#: 1**

Test Start: 2017.11.11 @ 13:10:00

## GENERAL INFORMATION:

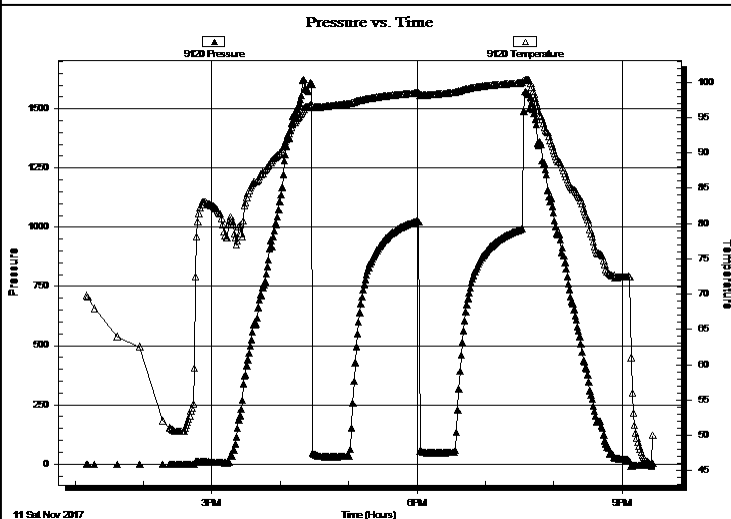
Formation: **LKC 'A-G'**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 16:28:15  
 Tester: Spencer J. Staab  
 Time Test Ended: 21:27:00  
 Unit No: 84  
 Interval: **3348.00 ft (KB) To 3464.00 ft (KB) (TVD)**  
 Reference Elevations: 2130.00 ft (KB)  
 Total Depth: 3464.00 ft (KB) (TVD)  
 2125.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

**Serial #: 9120**

**Inside**

Press@RunDepth: psig @ 3351.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.11 End Date: 2017.11.11 Last Calib.: 2017.11.11  
 Start Time: 13:10:15 End Time: 21:27:00 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30-IF-Weak Blow ; Built to 2"  
 60-ISI-No Return  
 30-FF-No Blow  
 60-FSI-No Return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	Mud 100%M	0.30

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63177      **DST#: 1**  
Test Start: 2017.11.11 @ 13:10:00

**Tool Information**

Drill Pipe:	Length: 3150.00 ft	Diameter: 3.80 inches	Volume: 44.19 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
		Total Volume: 45.08 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3348.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	116.00 ft			
Tool Length:	144.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

**Length (ft)    Serial No.    Position    Depth (ft)    Accum. Lengths**

Change Over Sub	1.00			3321.00	
Shut In Tool	5.00			3326.00	
Hydraulic tool	5.00			3331.00	
Jars	5.00			3336.00	
Safety Joint	3.00			3339.00	
Packer	5.00			3344.00	28.00      Bottom Of Top Packer
Packer	4.00			3348.00	
Stubb	1.00			3349.00	
Perforations	1.00			3350.00	
Change Over Sub	1.00			3351.00	
Recorder	0.00	9120	Inside	3351.00	
Recorder	0.00	8934	Inside	3351.00	
Drill Pipe	93.00			3444.00	
Change Over Sub	1.00			3445.00	
Perforations	15.00			3460.00	
Bullnose	4.00			3464.00	116.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>		<b>144.00</b>			



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# DRILL STEM TEST REPORT

## FLUID SUMMARY

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63177      **DST#: 1**  
Test Start: 2017.11.11 @ 13:10:00

### 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: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.39 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 700.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	Mud 100%M	0.295

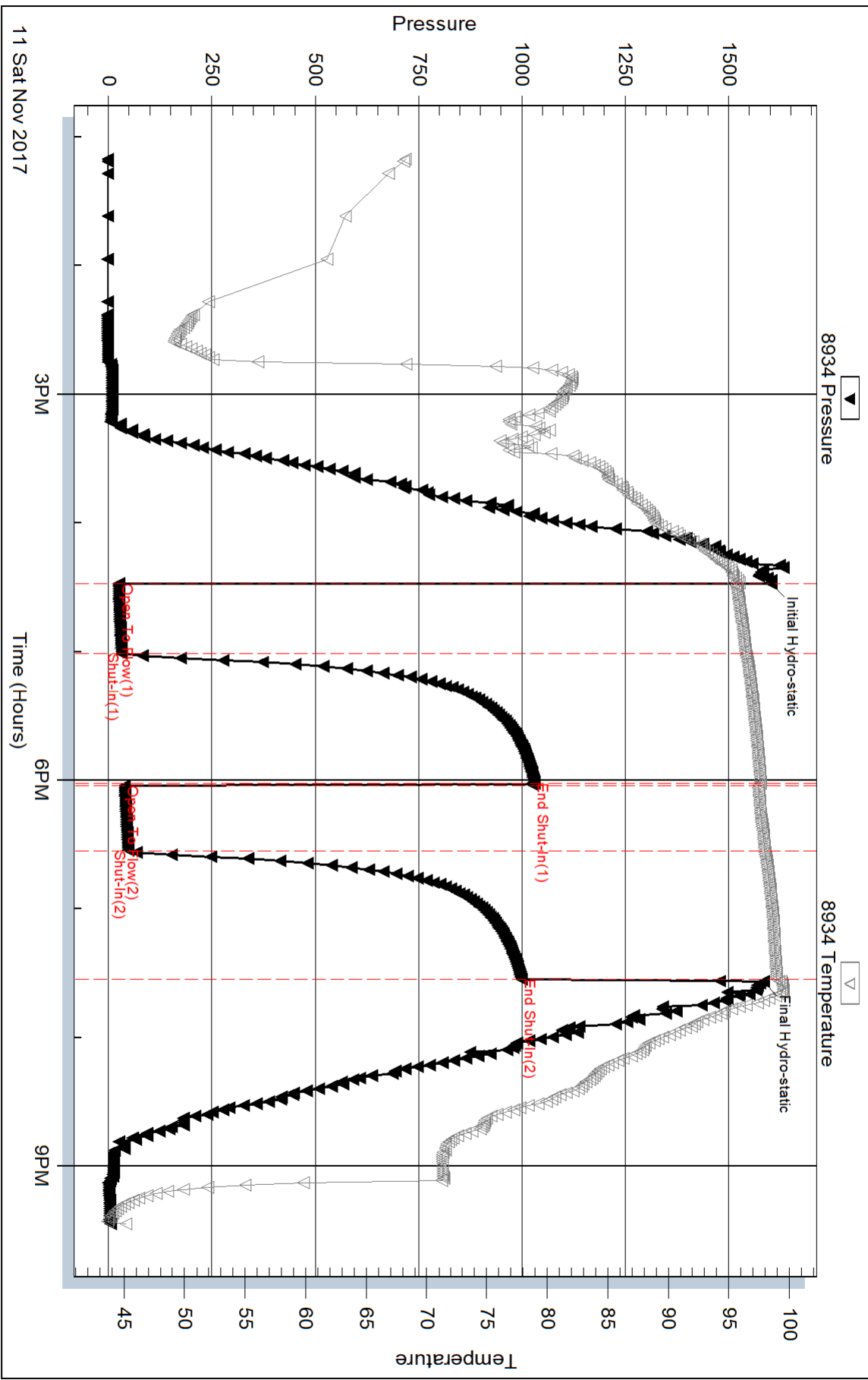
Total Length: 60.00 ft      Total Volume: 0.295 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: 1/2#LCM

### Pressure vs. Time



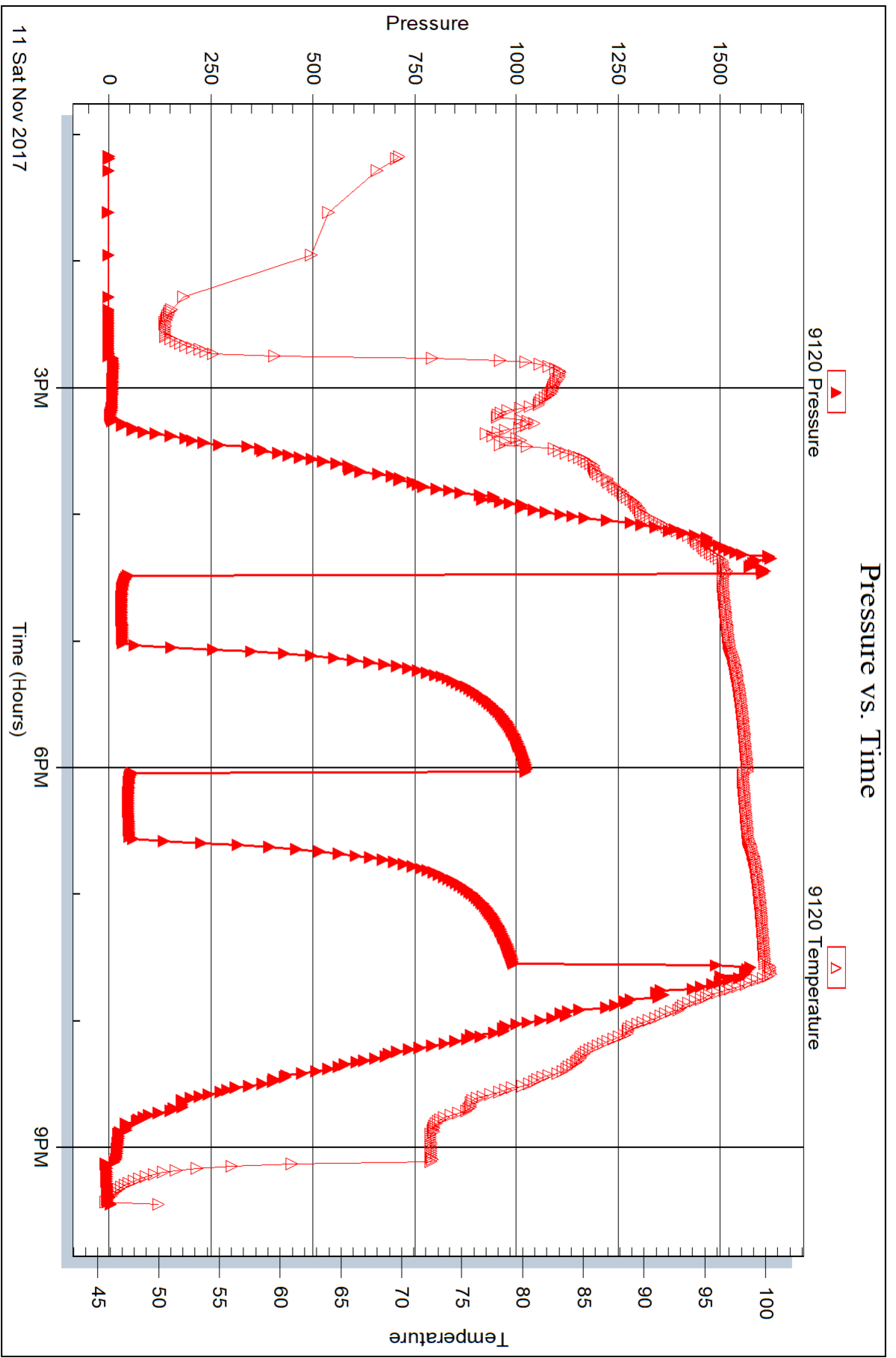
Serial #: 9120

Inside

Murfin Drilling Company

Hamit Unit #2-20

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300  
Wichita KS 67202+1216

ATTN: Robert Hendrix

### **Hamit Unit #2-20**

#### **20-6s-19w Rooks,KS**

Start Date: 2017.11.12 @ 12:33:00

End Date: 2017.11.12 @ 19:26:30

Job Ticket #: 63178                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

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# DRILL STEM TEST REPORT

Murfin Drilling Company  
 250 N Water STE 300  
 Wichita KS 67202+1216  
 ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
 Job Ticket: 63178 **DST#: 2**  
 Test Start: 2017.11.12 @ 12:33:00

## GENERAL INFORMATION:

Formation: **LKC 'G-L'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:49:15  
 Time Test Ended: 19:26:30  
 Interval: **3470.00 ft (KB) To 3573.00 ft (KB) (TVD)**  
 Total Depth: 3573.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

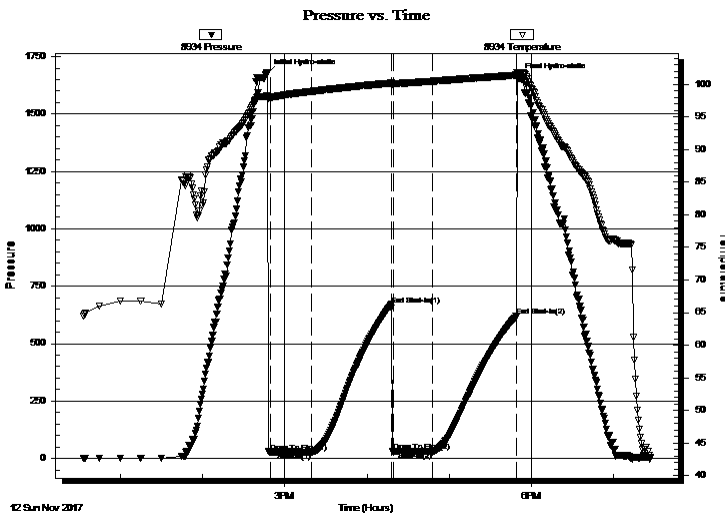
## Serial #: 8934

Inside

Press@RunDepth: 31.46 psig @ 3475.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2017.11.12 End Date: 2017.11.12 Last Calib.: 2017.11.12  
 Start Time: 12:33:15 End Time: 19:26:30 Time On Btm: 2017.11.12 @ 14:47:30  
 Time Off Btm: 2017.11.12 @ 17:50:30

TEST COMMENT: 30-IF-Weak Blow ; Built to 1"  
 60-ISI-No Return  
 30-FF-No Blow  
 60-FSI-No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1675.05	98.32	Initial Hydro-static
2	28.87	98.00	Open To Flow (1)
32	28.15	98.91	Shut-In(1)
91	670.04	100.18	End Shut-In(1)
92	31.61	100.05	Open To Flow (2)
121	31.46	100.47	Shut-In(2)
182	619.14	101.39	End Shut-In(2)
183	1658.55	101.75	Final Hydro-static

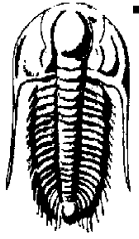
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	SOCM 1%O 99%M	0.05

\* Recovery from multiple tests

## Gas Rates

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



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**20-6s-19w Rooks, KS**

**Hamit Unit #2-20**

Job Ticket: 63178

**DST#: 2**

Test Start: 2017.11.12 @ 12:33:00

### GENERAL INFORMATION:

Formation: **LKC 'G-L'**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:49:15  
 Time Test Ended: 19:26:30  
 Interval: **3470.00 ft (KB) To 3573.00 ft (KB) (TVD)**  
 Total Depth: 3573.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2130.00 ft (KB)  
 2125.00 ft (CF)  
 KB to GR/CF: 5.00 ft

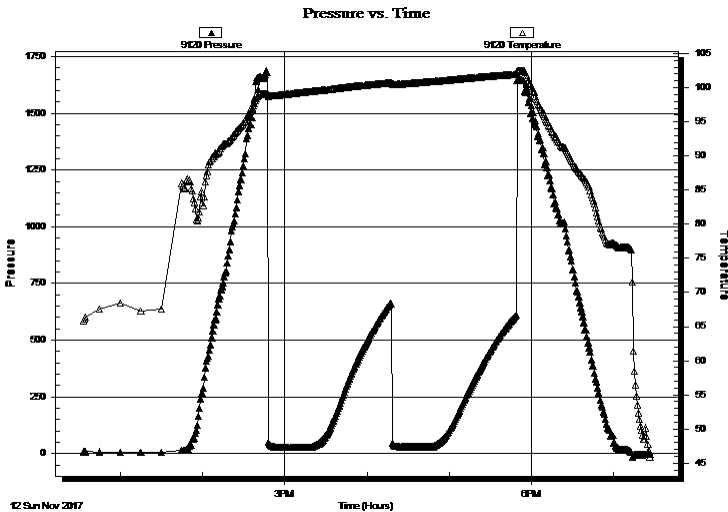
**Serial #: 9120**

**Inside**

Press@RunDepth: psig @ 3475.00 ft (KB)  
 Start Date: 2017.11.12 End Date: 2017.11.12  
 Start Time: 12:33:15 End Time: 19:26:45  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.11.12  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30-IF-Weak Blow ; Built to 1"  
 60-ISI-No Return  
 30-FF-No Blow  
 60-FSI-No Return

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
10.00	SOCM 1%O 99%M	0.05

\* Recovery from multiple tests

### Gas Rates

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



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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63178      **DST#: 2**  
Test Start: 2017.11.12 @ 12:33:00

**Tool Information**

Drill Pipe:	Length: 3273.00 ft	Diameter: 3.80 inches	Volume: 45.91 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 51000.00 lb
			<u>Total Volume: 46.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3470.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	103.00 ft			
Tool Length:	131.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3443.00	
Shut In Tool	5.00			3448.00	
Hydraulic tool	5.00			3453.00	
Jars	5.00			3458.00	
Safety Joint	3.00			3461.00	
Packer	5.00			3466.00	28.00      Bottom Of Top Packer
Packer	4.00			3470.00	
Stubb	1.00			3471.00	
Perforations	3.00			3474.00	
Change Over Sub	1.00			3475.00	
Recorder	0.00	9120	Inside	3475.00	
Recorder	0.00	8934	Inside	3475.00	
Drill Pipe	93.00			3568.00	
Change Over Sub	1.00			3569.00	
Bullnose	4.00			3573.00	103.00      Bottom Packers & Anchor

**Total Tool Length: 131.00**



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# DRILL STEM TEST REPORT

## FLUID SUMMARY

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250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63178      **DST#: 2**  
Test Start: 2017.11.12 @ 12:33:00

### Mud and Cushion Information

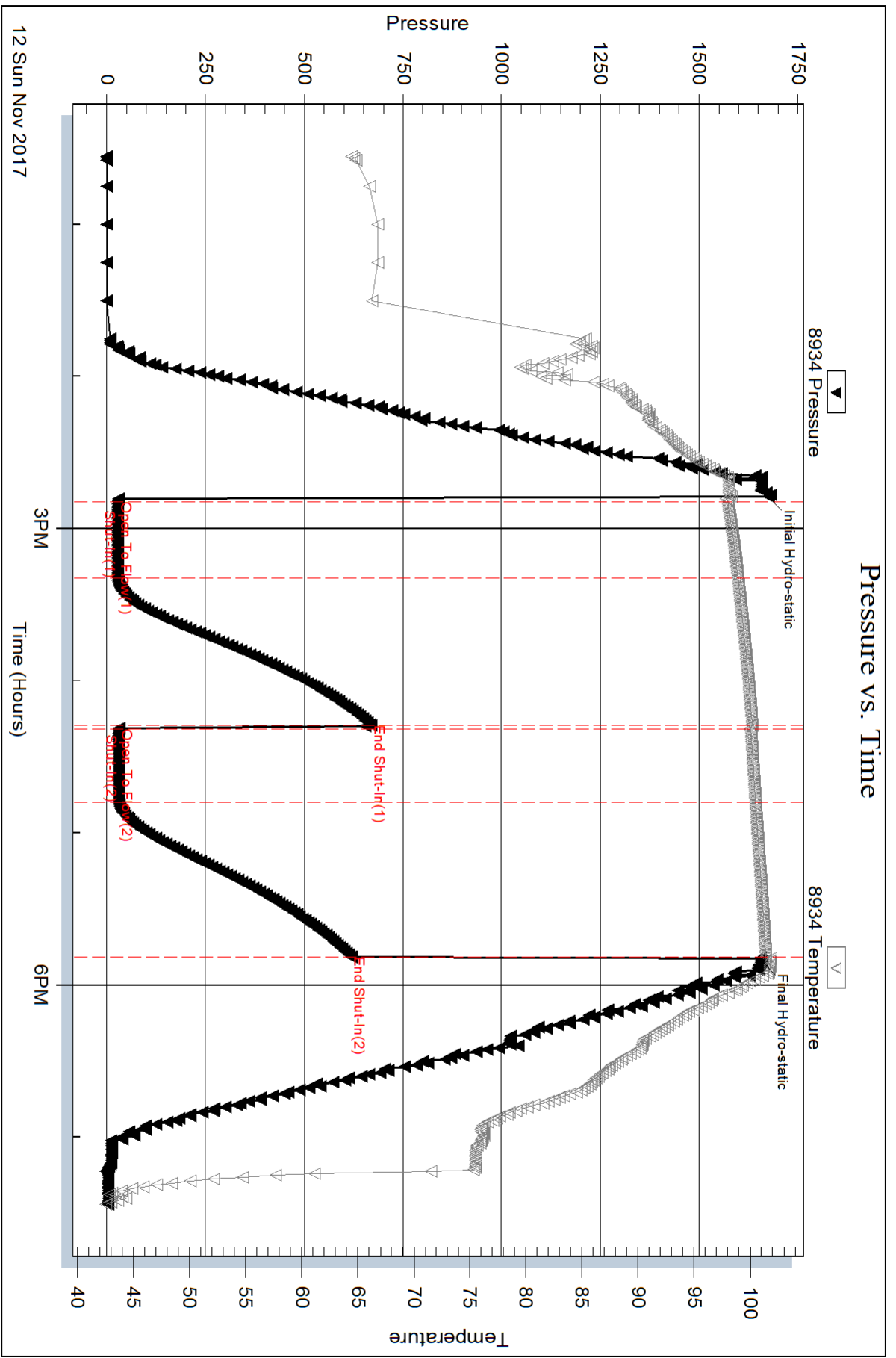
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	SOCM 1%O 99%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: Trace LCM



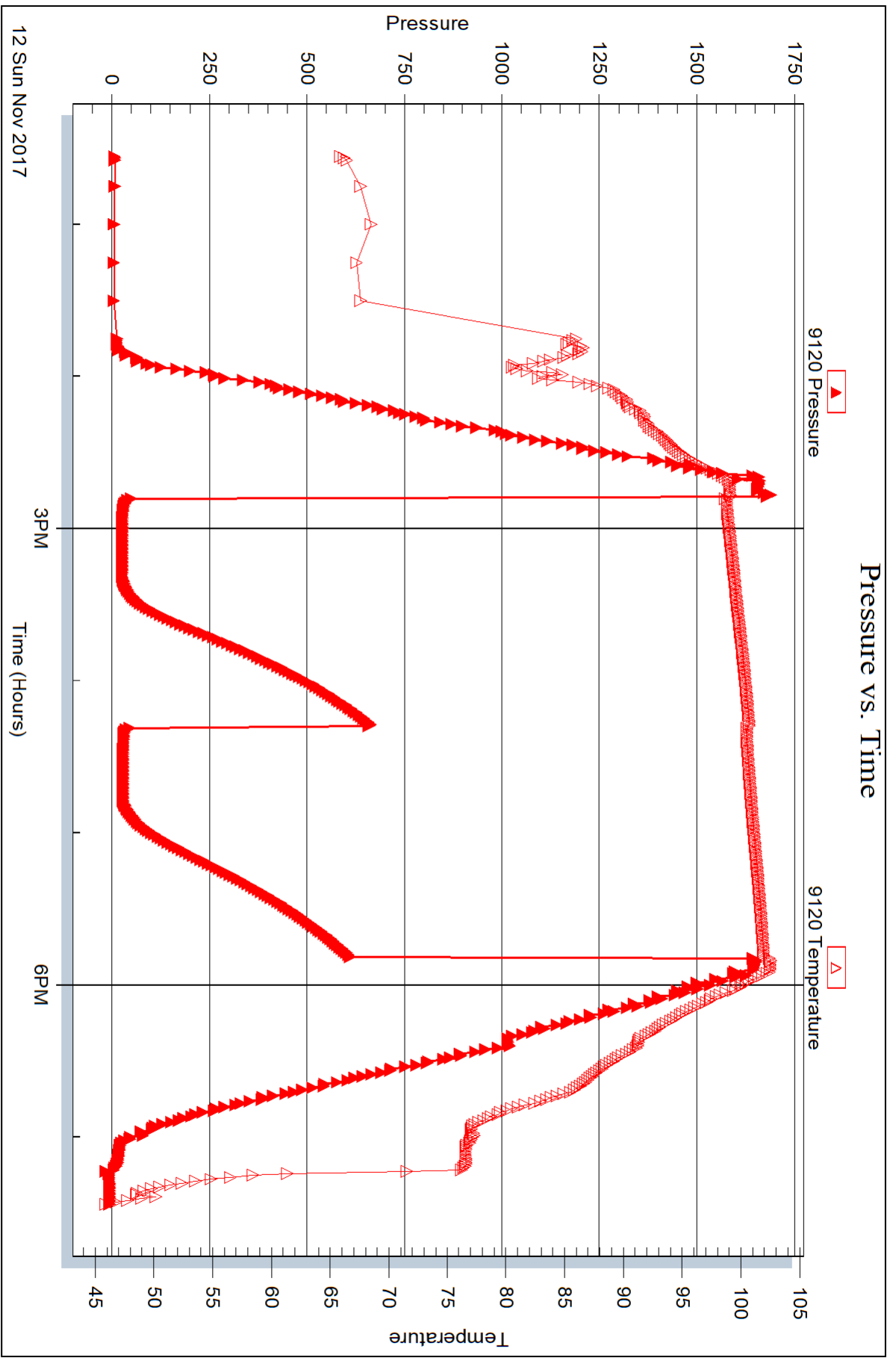
Serial #: 9120

Inside

Murfin Drilling Company

Hamit Unit #2-20

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water STE 300  
Wichita KS 67202+1216

ATTN: Robert Hendrix

### **Hamit Unit #2-20**

#### **20-6s-19w Rooks,KS**

Start Date: 2017.11.13 @ 03:42:00

End Date: 2017.11.13 @ 11:26:30

Job Ticket #: 63179                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.11.14 @ 09:14:36



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# DRILL STEM TEST REPORT

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63179

**DST#: 3**

Test Start: 2017.11.13 @ 03:42:00

## GENERAL INFORMATION:

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:44:00

Time Test Ended: 11:26:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 3607.00 ft (KB) To 3643.00 ft (KB) (TVD)**

Reference Elevations: 2130.00 ft (KB)

Total Depth: 3643.00 ft (KB) (TVD)

2125.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8934 Outside**

Press@RunDepth: 93.29 psig @ 3611.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.11.13

End Date:

2017.11.13

Last Calib.:

2017.11.13

Start Time: 03:42:15

End Time:

11:26:30

Time On Btm:

2017.11.13 @ 05:43:00

Time Off Btm:

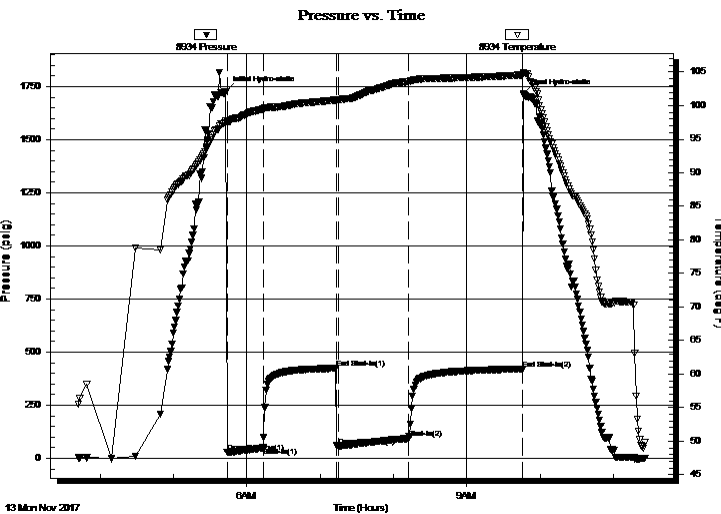
2017.11.13 @ 09:46:15

TEST COMMENT: 30-IF-Weak Blow ; Built to 4"

60-ISI-No Return

60-FF-Weak Blow ; Built to 5 1/2"

90-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1729.90	97.73	Initial Hydro-static
1	26.85	97.58	Open To Flow (1)
31	50.11	99.51	Shut-In(1)
90	423.74	100.85	End Shut-In(1)
92	57.24	100.84	Open To Flow (2)
150	93.29	103.61	Shut-In(2)
243	419.83	104.56	End Shut-In(2)
244	1717.62	104.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM 5%O 95%M	0.30
60.00	OCM 10%O 90%M	0.30
30.00	HMCO 20%M 80%O	0.15
30.00	GO 50%G 50%O	0.15

\* Recovery from multiple tests

## Gas Rates

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





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**DRILL STEM TEST REPORT**

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 250 N Water STE 300  
 Wichita KS 67202+1216  
 ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**

**Hamit Unit #2-20**

Job Ticket: 63179

**DST#: 3**

Test Start: 2017.11.13 @ 03:42:00

**GENERAL INFORMATION:**

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:44:00

Time Test Ended: 11:26:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

**Interval: 3607.00 ft (KB) To 3643.00 ft (KB) (TVD)**

Reference Elevations: 2130.00 ft (KB)

Total Depth: 3643.00 ft (KB) (TVD)

2125.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 9120 Inside**

Press@RunDepth: psig @ 3611.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.11.13 End Date: 2017.11.13

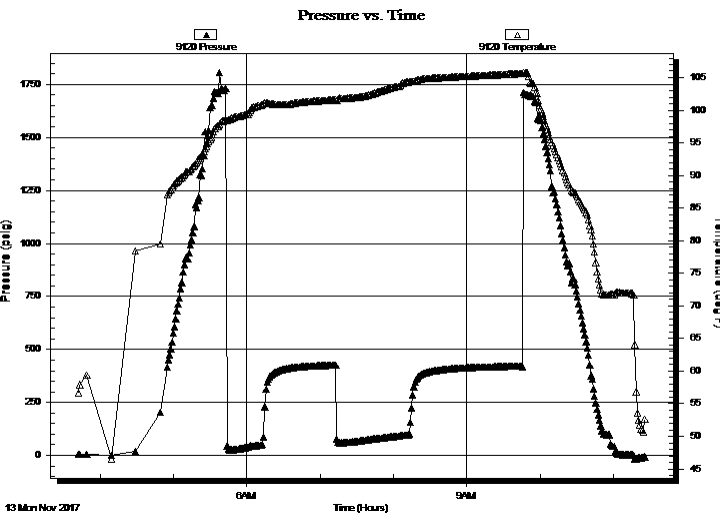
Last Calib.: 2017.11.13

Start Time: 03:42:15 End Time: 11:26:30

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30-IF-Weak Blow ; Built to 4"  
 60-ISI-No Return  
 60-FF-Weak Blow ; Built to 5 1/2"  
 90-FSI-No Return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
60.00	OCM 5%O 95%M	0.30
60.00	OCM 10%O 90%M	0.30
30.00	HMCO 20%M 80%O	0.15
30.00	GO 50%G 50%O	0.15

**Gas Rates**

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

\* Recovery from multiple tests



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TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63179      **DST#: 3**  
Test Start: 2017.11.13 @ 03:42:00

**Tool Information**

Drill Pipe:	Length: 3428.00 ft	Diameter: 3.80 inches	Volume: 48.09 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 180.00 ft	Diameter: 2.25 inches	Volume: 0.89 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 48.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3607.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3580.00	
Shut In Tool	5.00			3585.00	
Hydraulic tool	5.00			3590.00	
Jars	5.00			3595.00	
Safety Joint	3.00			3598.00	
Packer	5.00			3603.00	28.00      Bottom Of Top Packer
Packer	4.00			3607.00	
Stubb	1.00			3608.00	
Perforations	3.00			3611.00	
Recorder	0.00	9120	Inside	3611.00	
Recorder	0.00	8934	Outside	3611.00	
Perforations	28.00			3639.00	
Bullnose	4.00			3643.00	36.00      Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Murfin Drilling Company  
250 N Water STE 300  
Wichita KS 67202+1216  
ATTN: Robert Hendrix

**20-6s-19w Rooks,KS**  
**Hamit Unit #2-20**  
Job Ticket: 63179      **DST#: 3**  
Test Start: 2017.11.13 @ 03:42:00

## Mud and Cushion Information

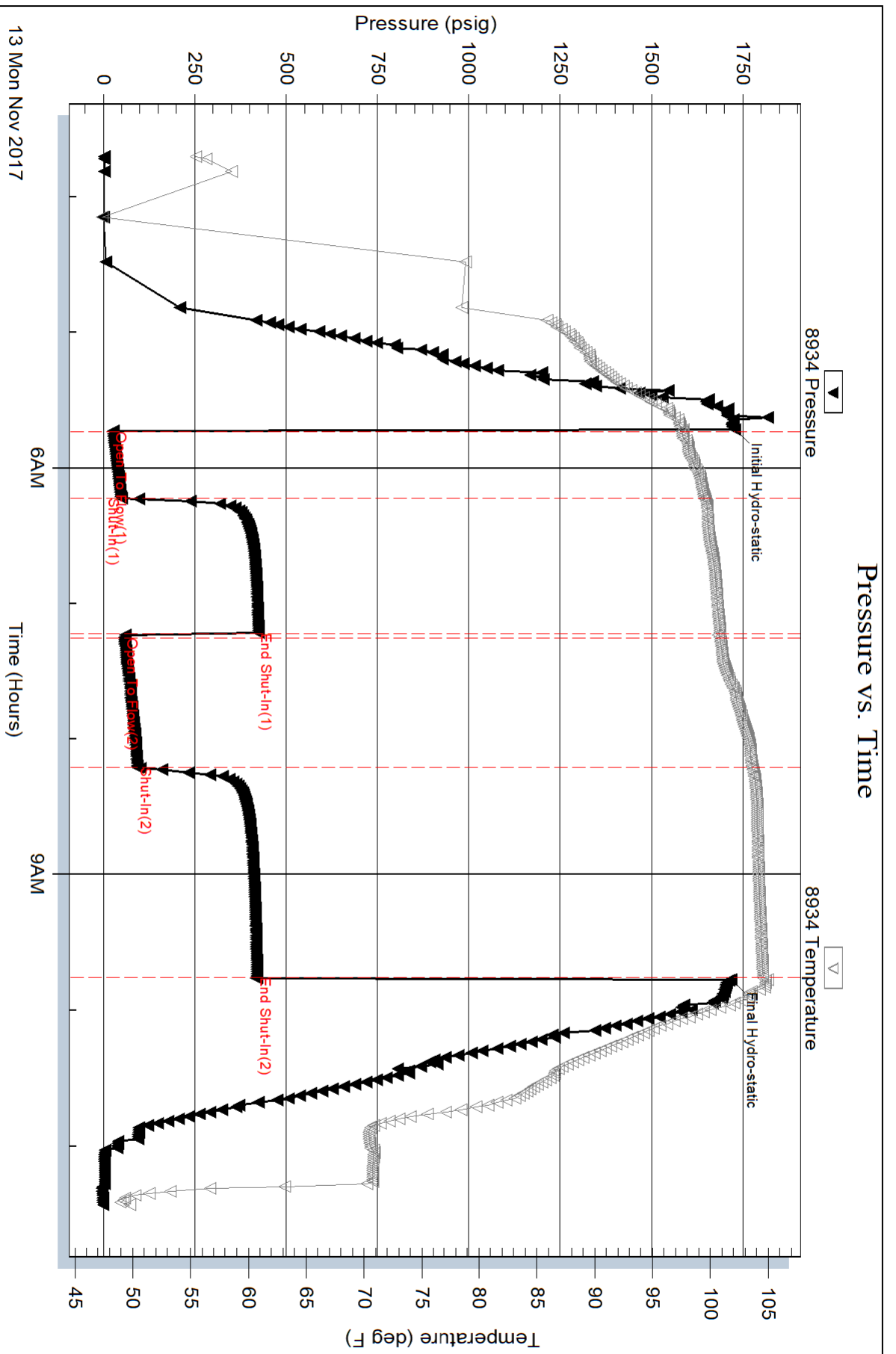
Mud Type: Gel Chem	Cushion Type:	Oil API: 25 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.99 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1000.00 ppm		
Filter Cake: inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OCM 5%O 95%M	0.295
60.00	OCM 10%O 90%M	0.295
30.00	HMCO 20%M 80%O	0.148
30.00	GO 50%G 50%O	0.148

Total Length: 180.00 ft      Total Volume: 0.886 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: Trace LCM



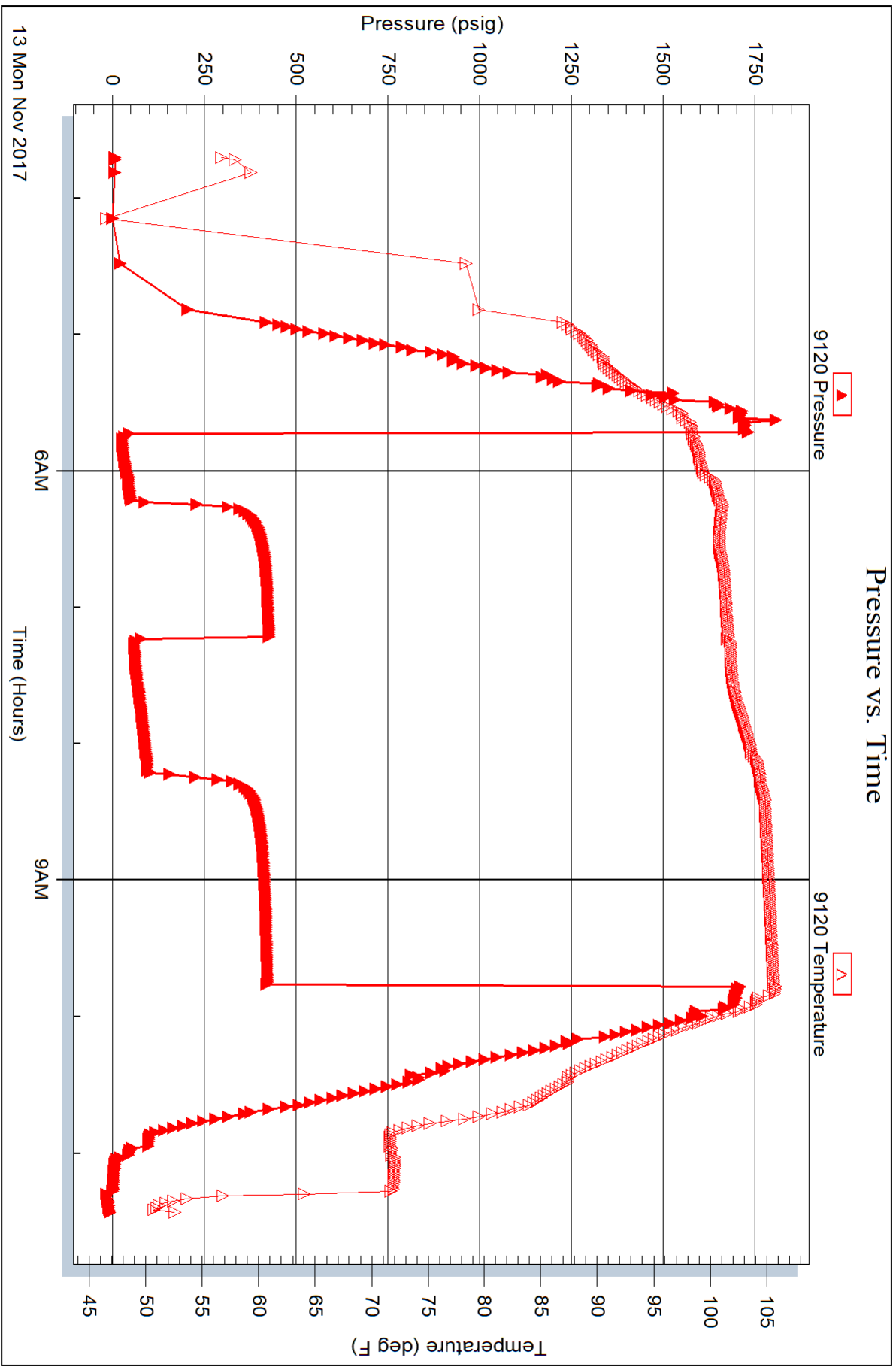
Serial #: 9120

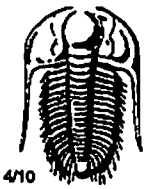
Inside

Murfin Drilling Company

Hamit Unit #2-20

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63177

Well Name & No. Hamit Unit # 2-20 Test No. 1 Date 11/11/2017  
 Company Murfin Drilling Company Elevation 2130 KB 2125 GL  
 Address 250 N Water STE 300 Wichita KS 67202-1216  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 20 Twp. 6S Rge. 19W Co. Rooks State KS

Interval Tested 3348' - 3464' Zone Tested Lansing 'a-g'  
 Anchor Length 116' Drill Pipe Run 3150' Mud Wt. 9.0  
 Top Packer Depth 3343' Drill Collars Run 180' Vis 49  
 Bottom Packer Depth 3348' Wt. Pipe Run - WL 6.4  
 Total Depth 3464' Chlorides 700 ppm System LCM 1/2#

Blow Description 17-Weak Blow, Built to 2"  
1SD - No Return  
77 - No Blow  
7SD - No Return

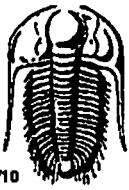
Rec	Feet of	%gas	%oil	%water	%mud
60'	Mud				

Rec Total 60' BHT 98° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1601  Test 1050 T-On Location 71:22  
 (B) First Initial Flow 25  Jars 250 T-Started 13:10  
 (C) First Final Flow 31  Safety Joint 75 T-Open 16:30  
 (D) Initial Shut-In 1030  Circ Sub \_\_\_\_\_ T-Pulled 19:30  
 (E) Second Initial Flow 39  Hourly Standby X1 80 T-Out 21:26  
 (F) Second Final Flow 47  Mileage 112 27 84  
 (G) Final Shut-In 999  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1583  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  
 Final Flow 30  Extra Recorder \_\_\_\_\_  
 Final Shut-In 60  Day Standby \_\_\_\_\_  
 Sub Total 1539  Accessibility \_\_\_\_\_  
 Total 1539  Ruined Shale Packer \_\_\_\_\_  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1539  Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative James J. Staal Thanks!  
 785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63178

Well Name & No. Haymit Unit #2-20 Test No. 2 Date 11/12/2017  
 Company Murfin Drilling Company Inc. Elevation 2130' KB 2125' GL  
 Address 250 N. Water STE 300 Wichita Ks 67202 +1216  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 20 Twp. 6s Rge. 19w Co. Rooks State Ks

Interval Tested 3470' - 3573' Zone Tested Lansing 'H-L'  
 Anchor Length 103' Drill Pipe Run 3273' Mud Wt. 9.1  
 Top Packer Depth 3465' Drill Collars Run 180' Vis 54  
 Bottom Packer Depth 3470' Wt. Pipe Run - WL 6.0  
 Total Depth 3573' Chlorides 1,000 ppm System LCM trace

Blow Description 77-Weak Blow; Built to 1"  
55- No Return  
77- No Blow  
78- No Return

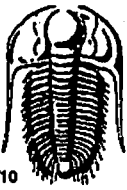
Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>Slightly OCM</u>	<u>1</u>		<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10' BHT 101° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1675  Test 1050 T-On Location 12:00  
 (B) First Initial Flow 28  Jars 250 T-Started 12:33  
 (C) First Final Flow 28  Safety Joint 75 T-Open 14:46  
 (D) Initial Shut-In 670  Circ Sub \_\_\_\_\_ T-Pulled 17:46  
 (E) Second Initial Flow 31  Hourly Standby \_\_\_\_\_ T-Out 19:24  
 (F) Second Final Flow 31  Mileage 112 RT <sup>84</sup> Comments Stayed at Bill  
 (G) Final Shut-In 619  Sampler \_\_\_\_\_ City house  
 (H) Final Hydrostatic 1658  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1459  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1459

Approved By \_\_\_\_\_ Our Representative Spencer J. Stival Thanks!



# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63179

Well Name & No. Hamit Unit # 2-20 Test No. 3 Date 11/13/2017  
 Company Murfin Drilling Company Inc. Elevation 2130 KB 2125 GL  
 Address 250 N. Water STE 300 Wichita Ks 67202 +1216  
 Co. Rep / Geo. Robert Hendrix Rig Murfin #3  
 Location: Sec. 20 Twp. 6A Rge. 19W Co. Rooks State Ks

Interval Tested 3607' - 3643' Zone Tested Reagan  
 Anchor Length 36' Drill Pipe Run 3428' Mud Wt. 9.1  
 Top Packer Depth 3602' Drill Collars Run 180' Vis 54  
 Bottom Packer Depth 3607' Wt. Pipe Run - WL 6.0  
 Total Depth 3643' Chlorides 1,000 ppm System LCM Trace

Blow Description 77-Weak Blow; Built to 4"  
ISA No Return  
77-Weak Blow; Built to 5 1/2"  
75D - No Return

Rec	Feet of	%gas	%oil	%water	%mud
60'	OCM	5		95	
60'	OCM	10		90	
30'	HMCO	80		20	
30'	JO	50	50		

Rec Total 180' BHT 104° Gravity 25° API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1729  Test 1050 T-On Location 03:14  
 (B) First Initial Flow 26  Jars 250 T-Started 03:42  
 (C) First Final Flow 50  Safety Joint 75 T-Open 05:42  
 (D) Initial Shut-In 423  Circ Sub \_\_\_\_\_ T-Pulled 09:42  
 (E) Second Initial Flow 57  Hourly Standby \_\_\_\_\_ T-Out 11:25  
 (F) Second Final Flow 93  Mileage 112 RT <sup>84</sup> Comments Loaded tools  
 (G) Final Shut-In 419  Sampler \_\_\_\_\_ after test  
 (H) Final Hydrostatic 1717  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1459  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1459

Approved By \_\_\_\_\_ Our Representative Spencer J. Neal Thanks!  
 785-259-0056