



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Hartman Oil Co., Inc
 10500 E. Berkley Sq. Pkwy, STE 100
 Wichita, Ks. 67206
 ATTN: Kitt Noah

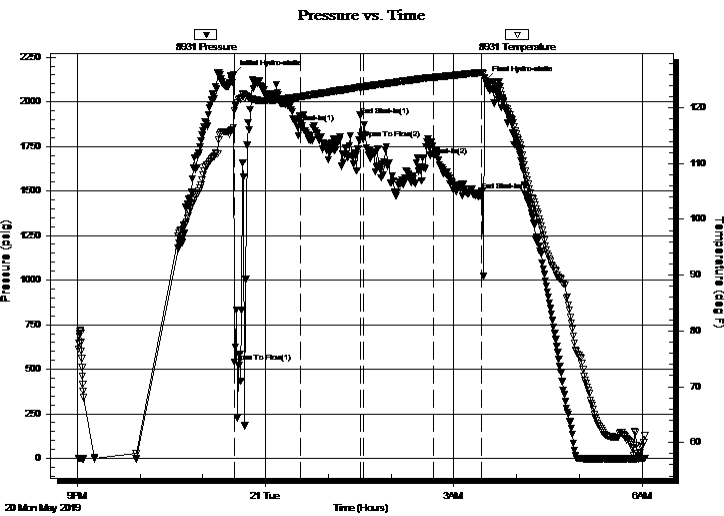
4-31s-7w Harper Co. Ks.
Sanders #3
 Job Ticket: 64925 **DST#: 2**
 Test Start: 2019.05.20 @ 21:01:15

GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:30:15
 Time Test Ended: 06:02:45
 Interval: **4377.00 ft (KB) To 4384.00 ft (KB) (TVD)**
 Total Depth: 4384.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Matt Smith
 Unit No: 68
 Reference Elevations: 1612.00 ft (KB)
 1607.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8931 Inside
 Press@RunDepth: 1699.40 psig @ 4378.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.05.20 End Date: 2019.05.21 Last Calib.: 2019.05.21
 Start Time: 21:01:20 End Time: 06:02:45 Time On Btm: 2019.05.20 @ 23:29:15
 Time Off Btm: 2019.05.21 @ 03:30:15

TEST COMMENT: IF: Weak blow . Built to 5.18".
 IS: Weak blow . Built to 3.12".
 FF: No blow .
 FS: No blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2150.17	116.42	Initial Hydro-static
1	539.51	119.53	Open To Flow (1)
64	1883.66	122.01	Shut-In(1)
121	1924.68	123.75	End Shut-In(1)
124	1790.95	123.77	Open To Flow (2)
191	1699.40	125.45	Shut-In(2)
237	1499.77	126.32	End Shut-In(2)
241	2119.81	124.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	TDM 100% mud	0.46

* Recovery from multiple tests

Gas Rates

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



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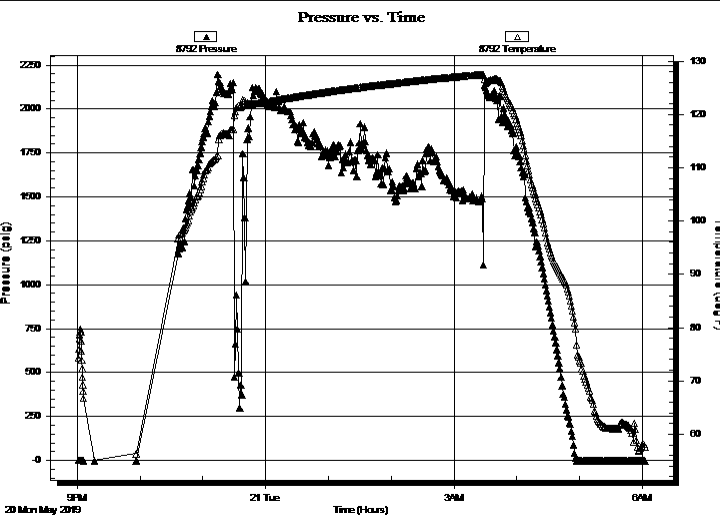
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Test Type: Conventional Bottom Hole (Reset)
Tester: Matt Smith
Unit No: 68
Reference Elevations: 1612.00 ft (KB)
1607.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8792 Outside
Press@RunDepth: psig @ 4378.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2019.05.20 End Date: 2019.05.21 Last Calib.: 2019.05.21
Start Time: 21:01:15 End Time: 06:02:40 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Weak blow . Built to 5.18".
IS: Weak blow . Built to 3.12".
FF: No blow .
FS: No blow .



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

Recovery		
Length (ft)	Description	Volume (bbl)
60.00	TDM 100% mud	0.46

* Recovery from multiple tests

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc
10500 E. Berkley Sq. Pkwy, STE 100
Wichita, Ks. 67206
ATTN: Kitt Noah

4-31s-7w Harper Co. Ks.
Sanders #3
Job Ticket: 64925 **DST#: 2**
Test Start: 2019.05.20 @ 21:01:15

Tool Information

Drill Pipe:	Length: 4248.00 ft	Diameter: 3.80 inches	Volume: 59.59 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.80 inches	Volume: 0.88 bbl	Weight to Pull Loose: 100000.0 lb
		Total Volume: 60.47 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4377.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	7.00 ft			
Tool Length:	35.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Shale Packer is in Tool length.

Tool set and opened 13 1/2 ft high.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4350.00	
Shut In Tool	5.00			4355.00	
Hydraulic tool	5.00			4360.00	
Jars	5.00			4365.00	
Safety Joint	3.00			4368.00	
Packer	4.00			4372.00	28.00 Bottom Of Top Packer
Packer	5.00			4377.00	
Stubb	1.00			4378.00	
Recorder	0.00	8931	Inside	4378.00	
Recorder	0.00	8792	Outside	4378.00	
Perforations	3.00			4381.00	
Bullnose	3.00			4384.00	7.00 Bottom Packers & Anchor

Total Tool Length: 35.00



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FLUID SUMMARY

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ATTN: Kitt Noah

4-31s-7w Harper Co. Ks.
Sanders #3
Job Ticket: 64925 **DST#: 2**
Test Start: 2019.05.20 @ 21:01:15

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	11000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.58 in ³	Gas Cushion Type:		
Resistivity: 11000.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: 0.20 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	TDM 100% mud	0.457

Total Length: 60.00 ft Total Volume: 0.457 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none

Laboratory Name: Laboratory Location:

Recovery Comments: Mud was so thick it looked like Paste. Bottom Hole Collar completely full.

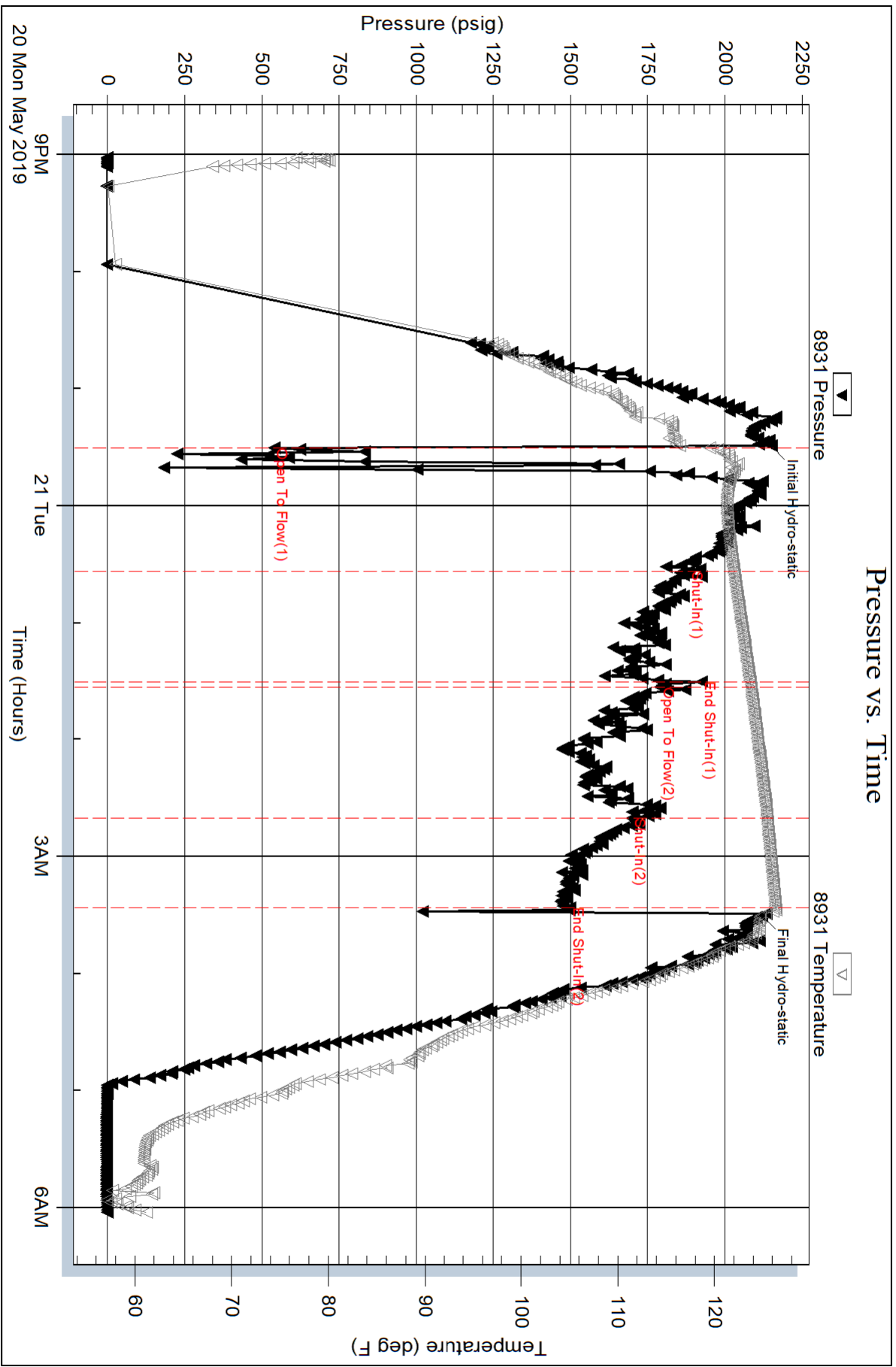
Serial #: 8931

Inside

Hartman Oil Co., Inc

Sanders #3

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 64925

Printed: 2019.05.21 @ 07:35:15

Serial #: 8792

Outside Hartman Oil Co., Inc

Sanders #3

DST Test Number: 2

