



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Thomas Garner

15/25S/13W Stafford, KS

Dennis #1

Job Ticket: 62013

DST#: 1

ATTN:

Test Start: 2017.11.29 @ 07:06:00

## GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:42:20

Time Test Ended: 14:50:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 80

Interval: **4100.00 ft (KB) To 4135.00 ft (KB) (TVD)**

Total Depth: 4135.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1938.00 ft (KB)

1927.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: **9124**

Inside

Press@RunDepth: 221.98 psig @ 4101.00 ft (KB)

Start Date: 2017.11.29

End Date:

2017.11.29

Capacity: 8000.00 psig

Start Time: 07:06:00

End Time:

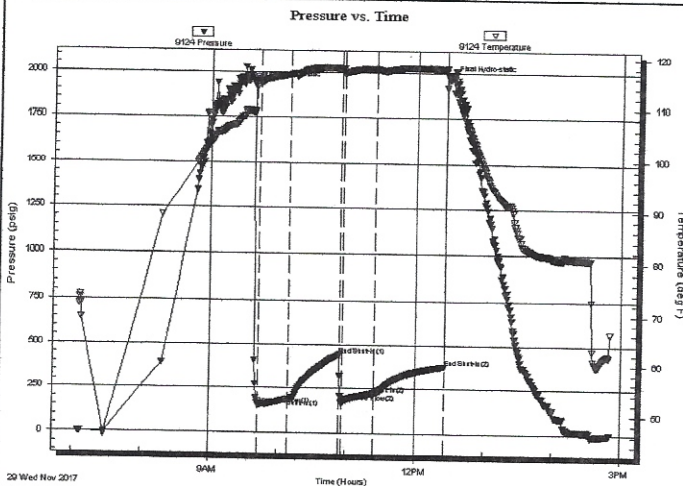
14:50:09

Last Calib.: 1899.12.30

Time On Btm: 2017.11.29 @ 09:37:50

Time Off Btm: 2017.11.29 @ 12:30:00

**TEST COMMENT:** IF - Strong blow throughout initial flow period. Gas to surface 6 minutes into initial flow period.  
 IS - 3 inch blow back during initial shut-in period.  
 FF - Strong blow throughout final flow period.  
 FS - 5 inch blow back during final shut-in period.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1928.22	109.18	Initial Hydro-static
5	153.60	114.83	Open To Flow (1)
32	185.83	116.48	Shut-in(1)
76	444.21	117.66	End Shut-in(1)
79	170.57	116.69	Open To Flow (2)
107	221.98	117.66	Shut-in(2)
168	377.62	117.74	End Shut-in(2)
173	1966.98	116.57	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
315.00	Gassy oil cut mud 15%G 17%M & 68%O	2.45
160.00	Gassy clean oil 100%O	2.24

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	7.00	33.95
Last Gas Rate	0.13	11.90	9.84
Max. Gas Rate	0.13	11.90	9.84

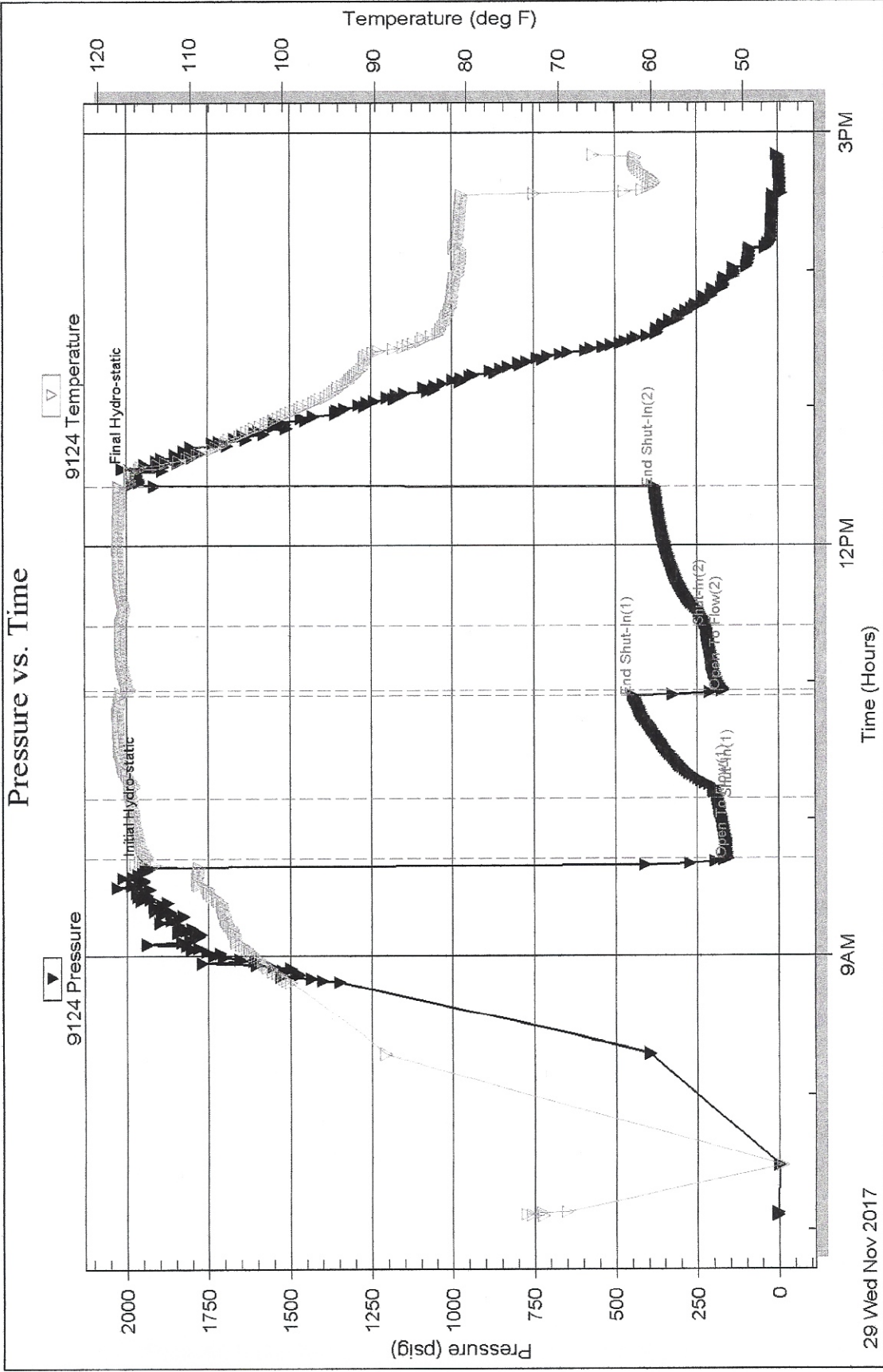
DST Test Number: 1

Dennis #1

Thomas Garner

Inside

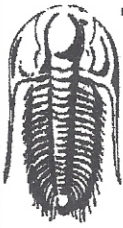
Serial #: 9124



Printed: 2017.11.29 @ 15:30:20

Ref. No: 62013

Triobite Testing, Inc



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Thomas Garner

15/25S/13W Stafford, KS

Dennis #1

Job Ticket: 62013

DST#: 1

ATTN:

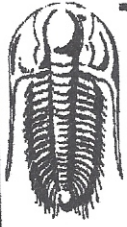
Test Start: 2017.11.29 @ 07:06:00

### 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	16	0.25	7.00	33.95
1	26	0.25	6.50	33.16
1	30	0.25	6.00	32.36
2	10	0.13	9.30	8.87
2	20	0.13	11.00	9.51
2	30	0.13	11.90	9.84



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Thomas Garner

15/25S/13W Stafford, KS

Dennis #1

Job Ticket: 62013

DST#: 1

Test Start: 2017.11.29 @ 07:06:00

ATTN:

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 54.00 sec/qt

Water Loss: 9.20 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 4900.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

38.6 deg API

Water Salinity:

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	Gassy oil cut mud 15%G 17%M & 68%O	2.451
160.00	Gassy clean oil 100%O	2.244

Total Length: 475.00 ft      Total Volume: 4.695 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Thomas Garner  
305 East 7th  
St. John, KS  
67576-1652  
ATTN: Tom Garner/Josh Aust

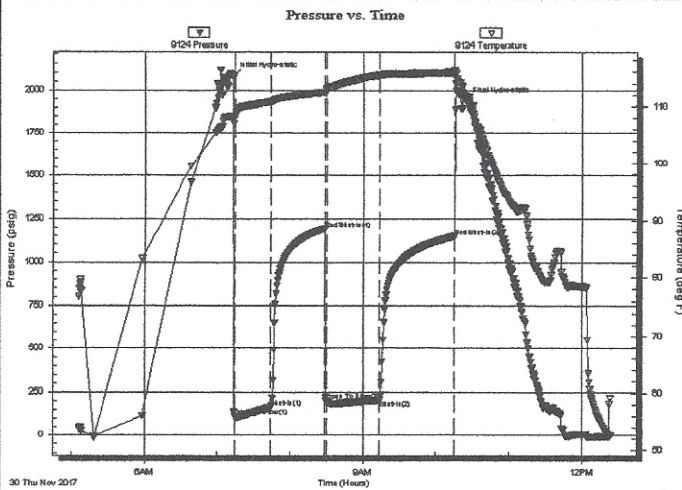
**15/25S/13W Stafford, KS**  
**Dennis #1**  
Job Ticket: 62014      **DST#: 2**  
Test Start: 2017.11.30 @ 05:06:02

## GENERAL INFORMATION:

Formation: **Simpson Sand**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 07:14:22  
Time Test Ended: 12:24:11  
Interval: **4182.00 ft (KB) To 4246.00 ft (KB) (TVD)**  
Total Depth: 4246.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Jimmy Ricketts  
Unit No: 80  
Reference Elevations: 1938.00 ft (KB)  
1927.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 9124**      **Inside**  
Press@RunDepth: 204.49 psig @ 4183.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.11.30      End Date: 2017.11.30      Last Calib.: 1899.12.30  
Start Time: 05:06:02      End Time: 12:24:11      Time On Btm: 2017.11.30 @ 07:13:02  
Time Off Btm: 2017.11.30 @ 10:24:11

**TEST COMMENT:** IF - Weak blow building to strong blow 26 minutes into initial flow period.  
IS - Surface blow back during initial shut-in period.  
FF - Weak blow building to strong blow 20 minutes into final flow period.  
FS - 5 inch blow back during final shut-in period.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.68	108.33	Initial Hydro-static
2	111.55	108.30	Open To Flow (1)
31	164.26	110.92	Shut-in(1)
76	1192.14	112.54	End Shut-in(1)
77	199.06	113.15	Open To Flow (2)
121	204.49	115.47	Shut-in(2)
183	1149.24	115.94	End Shut-in(2)
192	1938.99	111.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
125.00	GO&HMCW 7%G 2%O 47%W 44%M	0.61
125.00	GO&HWCW 11%G 6%O 22%W 61%M	0.92
65.00	VGHOCM 51%G 21%O 28%M	0.91
305.00	Gas in pipe 100%G	4.28

## Gas Rates

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

Serial #: 9124

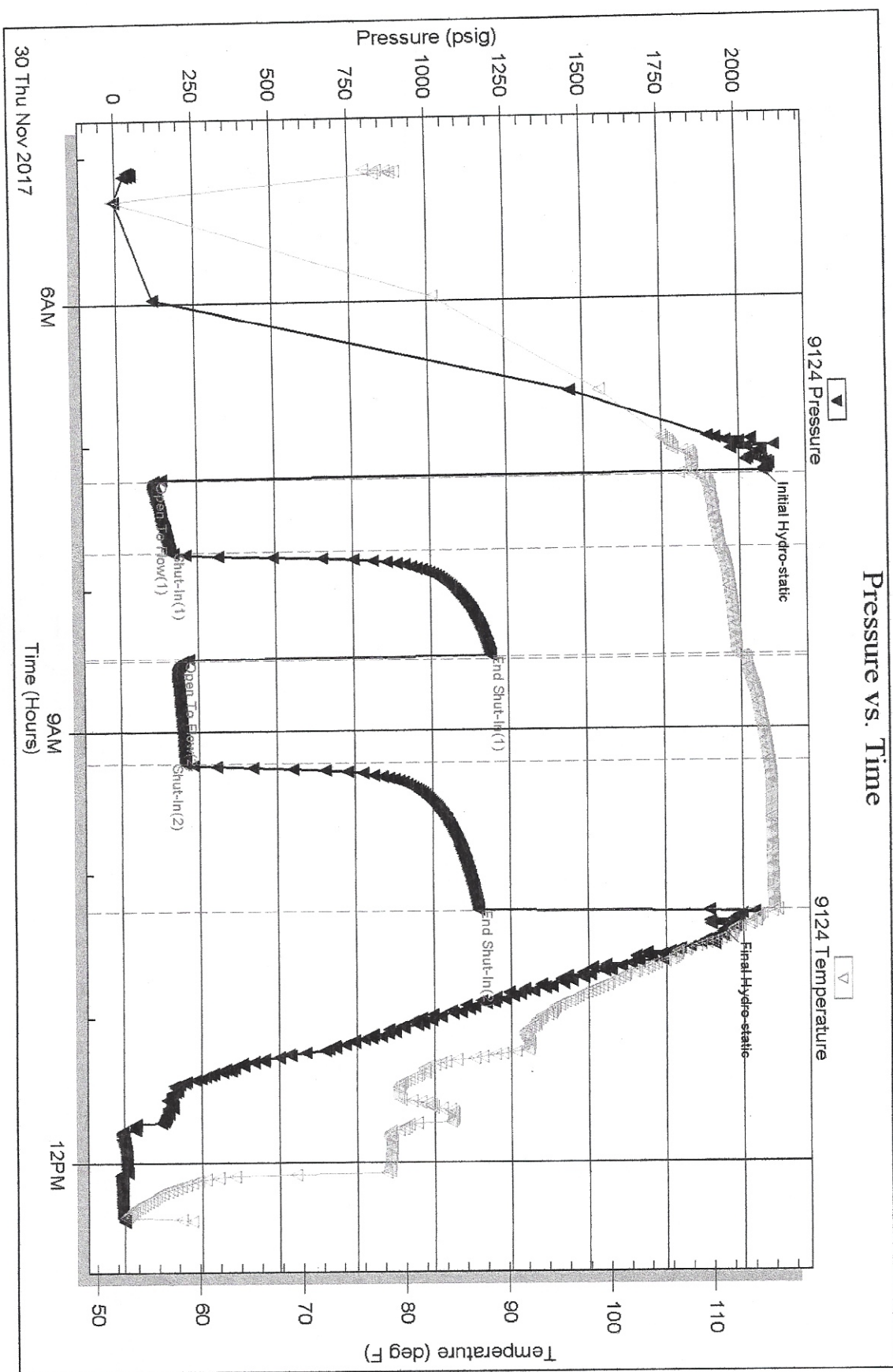
Inside

Thomas Garner

Dennis #1

DST Test Number: 2

### Pressure vs. Time





**TRILOBITE  
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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Thomas Garner

15/25S/13W Stafford, KS

305 East 7th  
St. John, KS  
67576-1652  
ATTN: Tom Garner/Josh Aust

**Dennis #1**  
Job Ticket: 62014      **DST#: 2**  
Test Start: 2017.11.30 @ 05:06:02

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 64.00 sec/qt  
Water Loss: 9.20 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 9800.00 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: 14000 ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
125.00	GO&HMCW 7%G 2%O 47%W 44%M	0.615
125.00	GO&HWCM 11%G 6%O 22%W 61%M	0.924
65.00	VGHOCM 51%G 21%O 28%M	0.912
305.00	Gas in pipe 100%G	4.278

Total Length: 620.00 ft      Total Volume: 6.729 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:





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Thomas Garner  
305 East 7th  
St. John, KS  
67576-1652  
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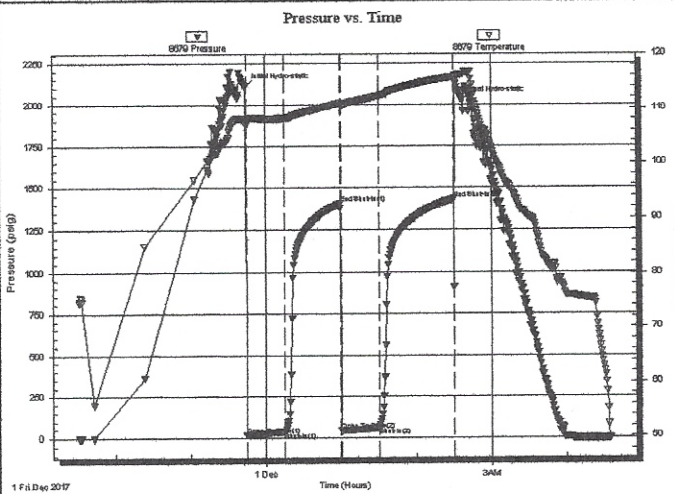
**15/25S/13W Stafford, KS**  
**Dennis #1**  
Job Ticket: 62015      **DST#: 3**  
Test Start: 2017.11.30 @ 21:31:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:44:30  
Time Test Ended: 04:34:20  
Interval: **4276.00 ft (KB) To 4282.00 ft (KB) (TVD)**  
Total Depth: **4282.00 ft (KB) (TVD)**  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Jimmy Ricketts  
Unit No: 80  
Reference Elevations: 1938.00 ft (KB)  
1927.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 8679**      **Outside**  
Press@RunDepth: 61.85 psig @ 4277.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2017.11.30      End Date: 2017.12.01      Last Calib.: 1899.12.30  
Start Time: 21:31:00      End Time: 04:34:20      Time On Btm: 2017.11.30 @ 23:43:40  
Time Off Btm: 2017.12.01 @ 02:36:39

**TEST COMMENT:** IF - Weak blow building to 7 inches initial flow period.  
FF - Weak blow building to 6 inches final flow period.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2107.02	107.96	Initial Hydro-static
1	19.56	106.76	Open To Flow (1)
32	38.62	108.20	Shut-In(1)
76	1403.92	110.92	End Shut-In(1)
77	44.75	110.56	Open To Flow (2)
107	61.85	112.26	Shut-In(2)
167	1429.51	115.75	End Shut-In(2)
173	2020.80	116.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	Heavy oil cut mud 44%O 56%M	0.07
110.00	Clean oil 100%O	0.54

## Gas Rates

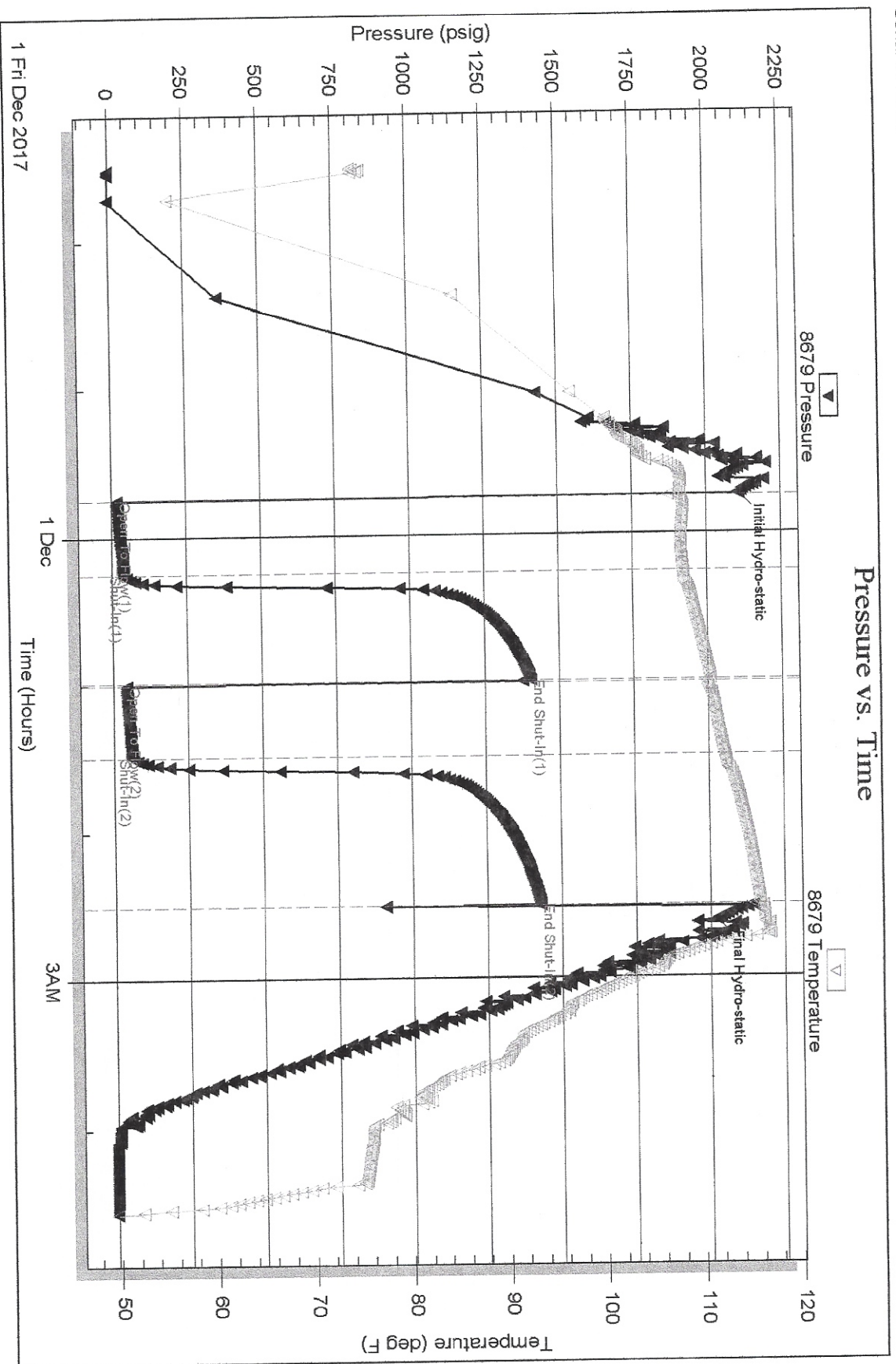
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Serial #: 8679

Outside Thomas Garner

Dennis #1

DST Test Number: 3





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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Thomas Garner  
305 East 7th  
St. John, KS  
67576-1652  
ATTN: Tom Garner/Josh Aust

**15/25S/13W Stafford, KS**  
**Dennis #1**  
Job Ticket: 62015      **DST#: 3**  
Test Start: 2017.11.30 @ 21:31:00

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API: 33.9 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.20 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 9800.00 ppm		
Filter Cake: inches		

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
15.00	Heavy oil cut mud 44%O 56%M	0.074
110.00	Clean oil 100%O	0.541

Total Length: 125.00 ft      Total Volume: 0.615 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: