



## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.03 @ 12:38:58

End Date: 2016.12.03 @ 23:04:28

Job Ticket #: 58211                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 09:07:10



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58211 **DST#: 1**  
Test Start: 2016.12.03 @ 12:38:58

## GENERAL INFORMATION:

Formation: **Lansing "A&B"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 17:50:28  
Time Test Ended: 23:04:28  
Interval: **4157.00 ft (KB) To 4201.00 ft (KB) (TVD)**  
Total Depth: 4201.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 3316.00 ft (KB)  
3311.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Brannan Lonsdale  
Unit No: 73

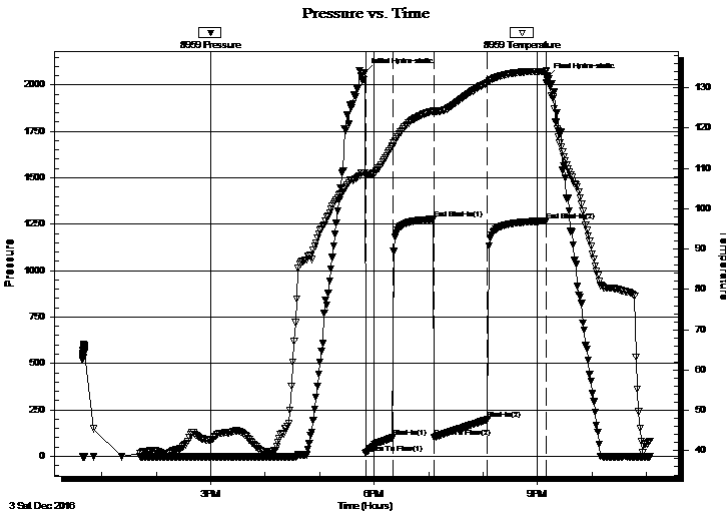
## Serial #: 8959

Outside

Press@RunDepth: 198.26 psig @ 4158.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2016.12.03 End Date: 2016.12.03 Last Calib.: 2016.12.03  
Start Time: 12:38:59 End Time: 23:04:28 Time On Btm: 2016.12.03 @ 17:49:58  
Time Off Btm: 2016.12.03 @ 21:10:28

TEST COMMENT: 30- IF- BOB 22 mins  
45- IS- No blow  
60- FF- BOB 27 mins  
60- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2067.14	108.91	Initial Hydro-static
1	15.66	108.14	Open To Flow (1)
31	100.74	115.67	Shut-In(1)
76	1276.71	124.25	End Shut-In(1)
77	104.23	123.91	Open To Flow (2)
135	198.26	131.25	Shut-In(2)
199	1268.08	133.99	End Shut-In(2)
201	2037.50	133.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
409.00	MW, 15%M 85%W	4.65

## Gas Rates

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



**TRILOBITE  
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# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58211      **DST#: 1**  
 Test Start: 2016.12.03 @ 12:38:58

## GENERAL INFORMATION:

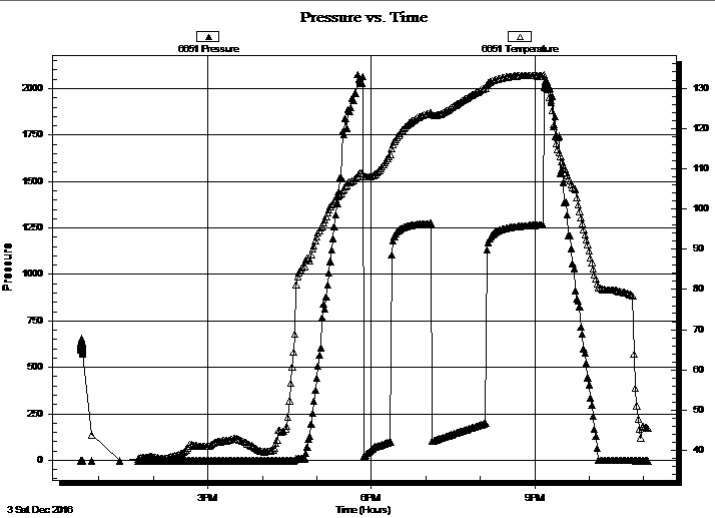
**Formation: Lansing "A&B"**  
**Deviated:** No      **Whipstock:**      **ft (KB)**  
**Time Tool Opened:** 17:50:28  
**Time Test Ended:** 23:04:28  
**Interval: 4157.00 ft (KB) To 4201.00 ft (KB) (TVD)**  
**Total Depth:** 4201.00 ft (KB) (TVD)  
**Hole Diameter:** 7.88 inches      **Hole Condition:** Fair

**Test Type:** Conventional Bottom Hole (Initial)  
**Tester:** Brannan Lonsdale  
**Unit No:** 73  
**Reference Elevations:**      3316.00 ft (KB)  
    3311.00 ft (CF)  
**KB to GR/CF:**      5.00 ft

**Serial #: 6651**      **Inside**  
**Press@RunDepth:**      psig @      4158.00 ft (KB)  
**Start Date:**      2016.12.03      **End Date:**      2016.12.03  
**Start Time:**      12:39:48      **End Time:**      23:05:17

**Capacity:**      8000.00 psig  
**Last Calib.:**      2016.12.03  
**Time On Btm:**  
**Time Off Btm:**

**TEST COMMENT:** 30- IF- BOB 22 mins  
 45- IS- No blow  
 60- FF- BOB 27 mins  
 60- FS- No blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
409.00	MW, 15%M 85%W	4.65

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58211 **DST#: 1**  
Test Start: 2016.12.03 @ 12:38:58

**Tool Information**

Drill Pipe:	Length: 4037.00 ft	Diameter: 3.82 inches	Volume: 57.23 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 64000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4157.00 ft			Final 51000.00 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:

<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			4138.00	
Shut In Tool	5.00			4143.00	
Hydraulic tool	5.00			4148.00	
Packer	5.00			4153.00	20.00 Bottom Of Top Packer
Packer	4.00			4157.00	
Stubb	1.00			4158.00	
Recorder	0.00	6651	Inside	4158.00	
Recorder	0.00	8959	Outside	4158.00	
Perforations	7.00			4165.00	
Change Over Sub	1.00			4166.00	
Drill Pipe	31.00			4197.00	
Change Over Sub	1.00			4198.00	
Bullnose	3.00			4201.00	44.00 Bottom Packers & Anchor

**Total Tool Length: 64.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58211

**DST#: 1**

ATTN: Tim Priest

Test Start: 2016.12.03 @ 12:38:58

### 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:

63000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
409.00	MW, 15%M 85%W	4.650

Total Length: 409.00 ft      Total Volume: 4.650 bbl

Num Fluid Samples: 0

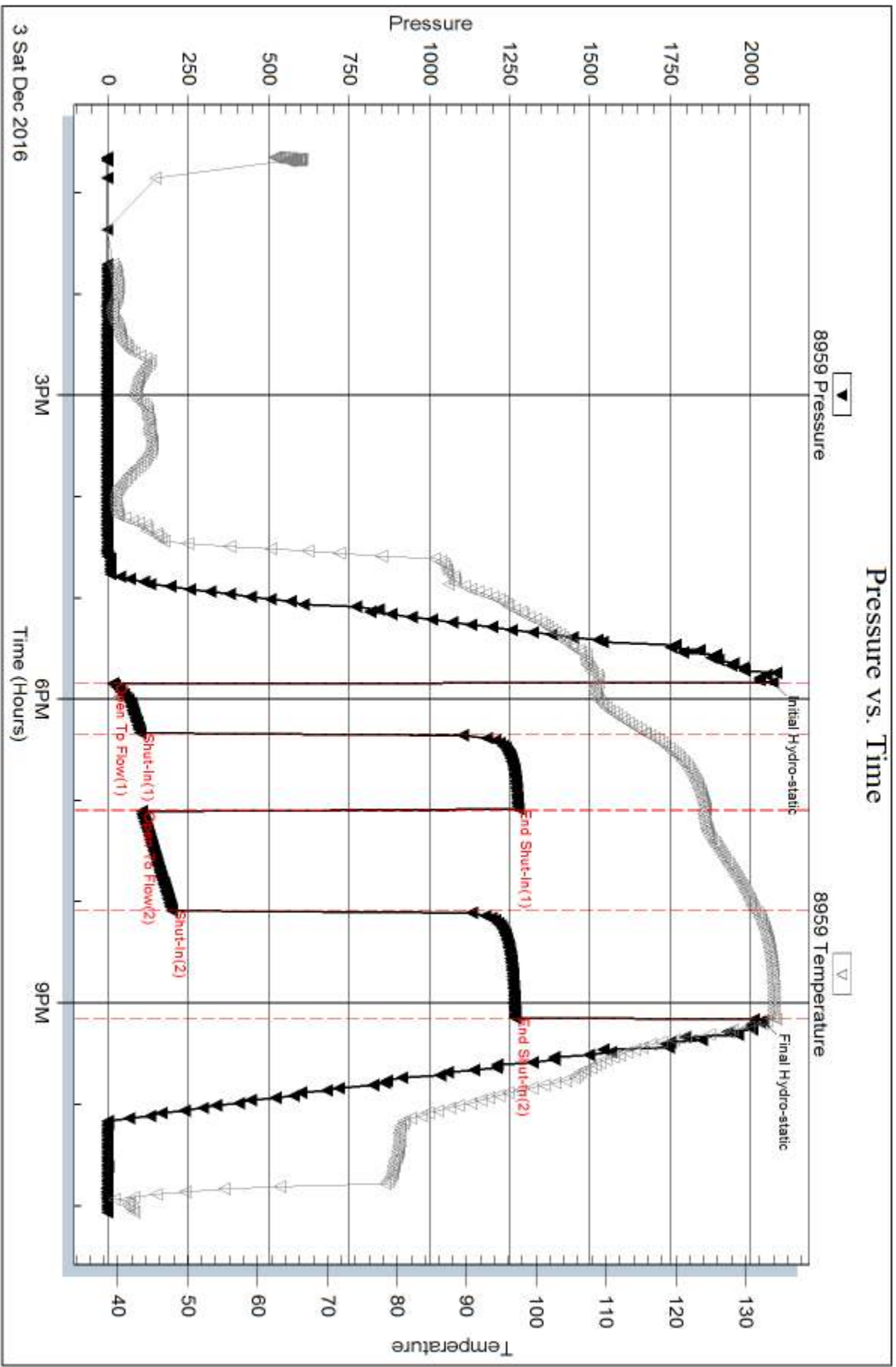
Num Gas Bombs: 0

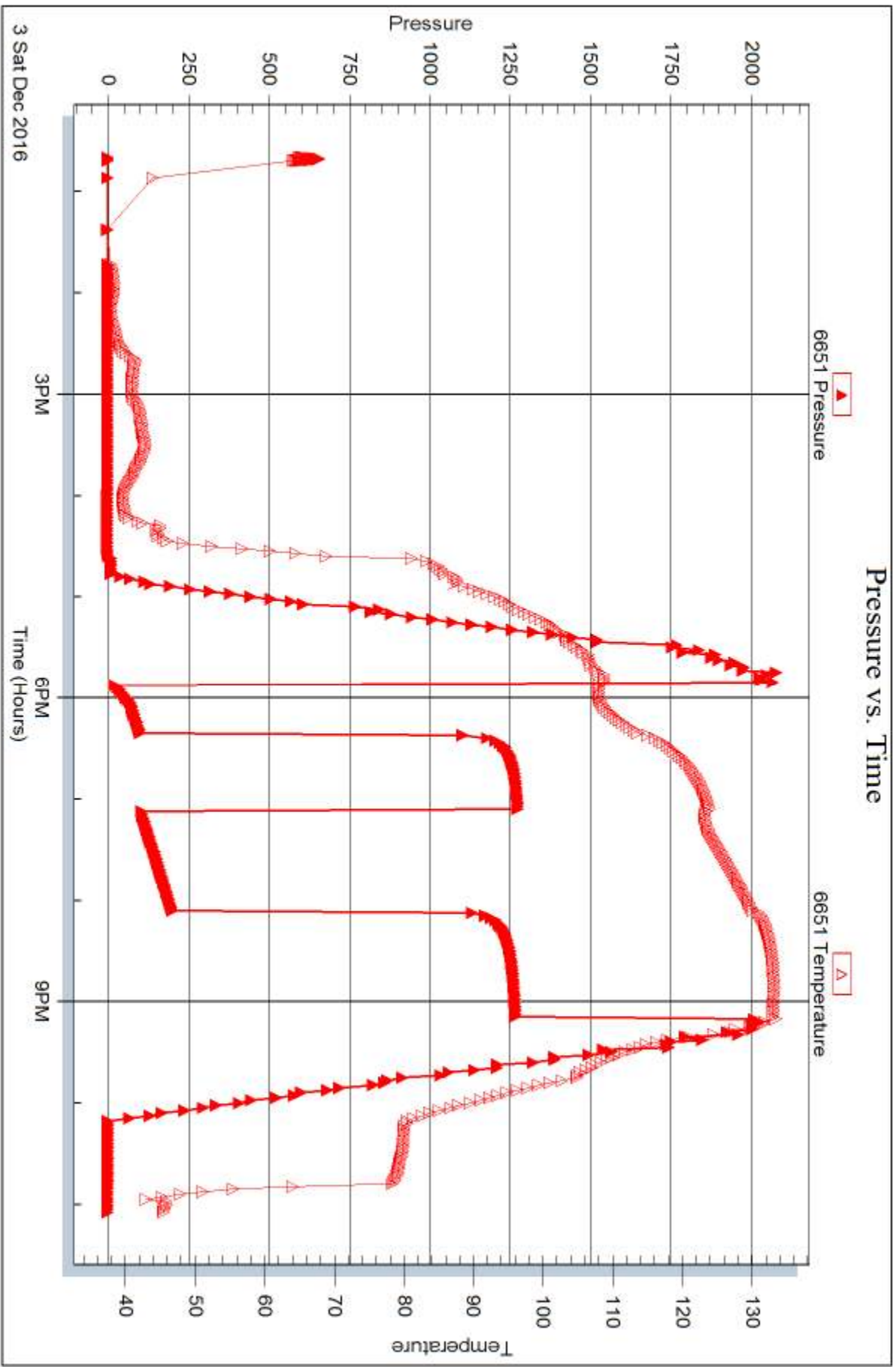
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .21@36deg







## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.04 @ 09:25:58

End Date: 2016.12.04 @ 17:01:58

Job Ticket #: 58212                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 09:06:50





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58212 **DST#: 2**  
 Test Start: 2016.12.04 @ 09:25:58

## GENERAL INFORMATION:

Formation: **LKC "E&F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:18:58  
 Time Test Ended: 17:01:58  
 Interval: **4239.00 ft (KB) To 4270.00 ft (KB) (TVD)**  
 Total Depth: 4270.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

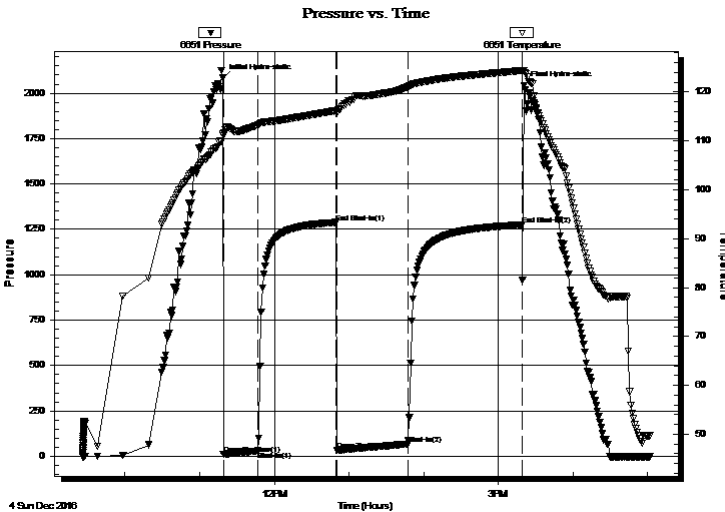
## Serial #: 6651

Inside

Press@RunDepth: 66.00 psig @ 4240.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.04 End Date: 2016.12.04 Last Calib.: 2016.12.04  
 Start Time: 09:25:59 End Time: 17:01:58 Time On Btm: 2016.12.04 @ 11:18:28  
 Time Off Btm: 2016.12.04 @ 15:20:28

TEST COMMENT: 30- IF- Slow ly built to 1"  
 60- IS- No blow  
 60- FF- Slow ly built to 2 1/2"  
 90- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2082.83	111.41	Initial Hydro-static
1	10.24	111.13	Open To Flow (1)
28	28.85	113.20	Shut-In(1)
91	1288.12	116.19	End Shut-In(1)
92	31.66	115.80	Open To Flow (2)
149	66.00	121.01	Shut-In(2)
241	1274.54	124.41	End Shut-In(2)
242	2040.08	124.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	MW w / show of oil in tool	0.61

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58212      **DST#: 2**  
 Test Start: 2016.12.04 @ 09:25:58

## GENERAL INFORMATION:

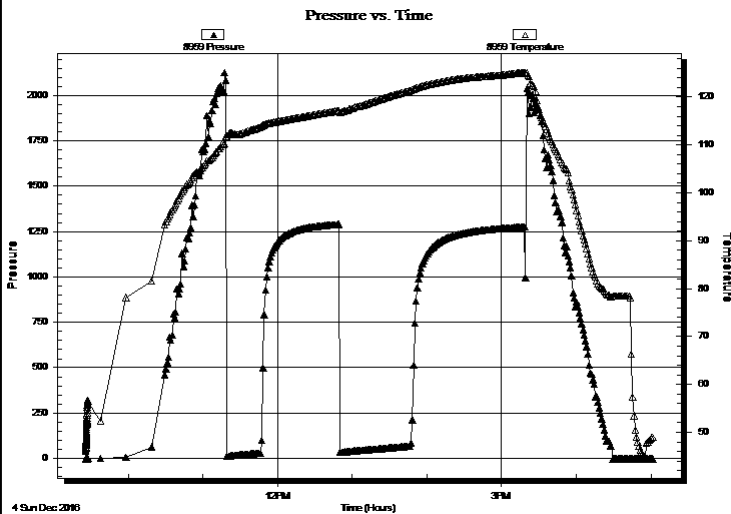
Formation: **LKC "E&F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:18:58  
 Time Test Ended: 17:01:58  
**Interval: 4239.00 ft (KB) To 4270.00 ft (KB) (TVD)**  
 Total Depth: 4270.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8959

Outside

Press@RunDepth:                      psig @      4240.00 ft (KB)  
 Start Date:                              2016.12.04      End Date:                              2016.12.04  
 Start Time:                              09:25:53      End Time:                              17:01:52  
 Capacity:                                      8000.00 psig  
 Last Calib.:                                      2016.12.04  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30- IF- Slow ly built to 1"  
 60- IS- No blow  
 60- FF- Slow ly built to 2 1/2"  
 90- FS- No blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	MW w / show of oil in tool	0.61

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58212

**DST#: 2**

ATTN: Tim Priest

Test Start: 2016.12.04 @ 09:25:58

## Tool Information

Drill Pipe:	Length: 4100.00 ft	Diameter: 3.82 inches	Volume: 58.12 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	63000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	53000.00 lb
Depth to Top Packer:	4239.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	31.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4220.00	
Shut In Tool	5.00			4225.00	
Hydraulic tool	5.00			4230.00	
Packer	5.00			4235.00	20.00 Bottom Of Top Packer
Packer	4.00			4239.00	
Stubb	1.00			4240.00	
Recorder	0.00	6651	Inside	4240.00	
Recorder	0.00	8959	Outside	4240.00	
Perforations	27.00			4267.00	
Bullnose	3.00			4270.00	31.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>51.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58212

**DST#: 2**

ATTN: Tim Priest

Test Start: 2016.12.04 @ 09:25:58

### 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:

42000 ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.75 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	MW w/ show of oil in tool	0.610

Total Length: 124.00 ft      Total Volume: 0.610 bbl

Num Fluid Samples: 0

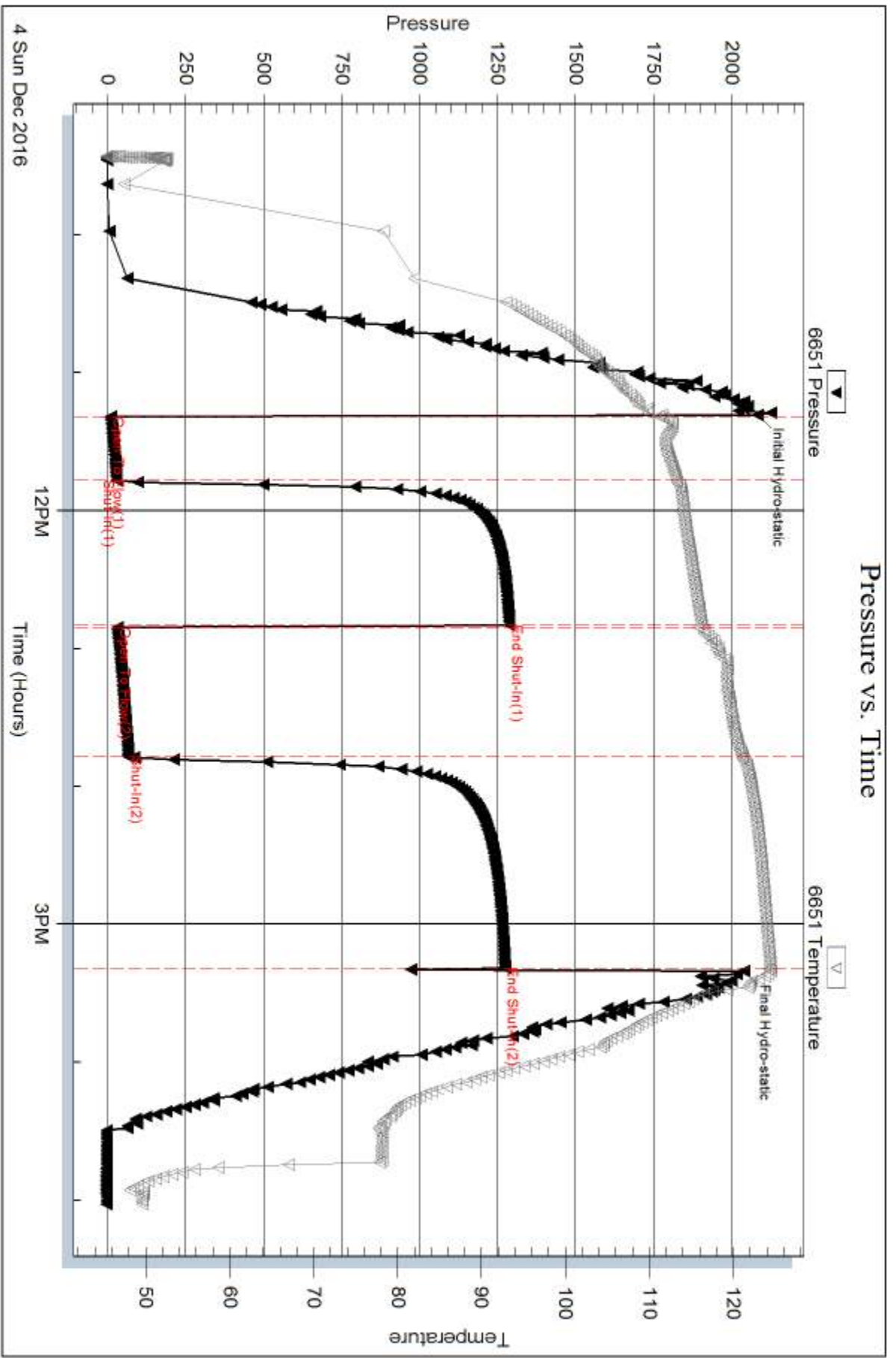
Num Gas Bombs: 0

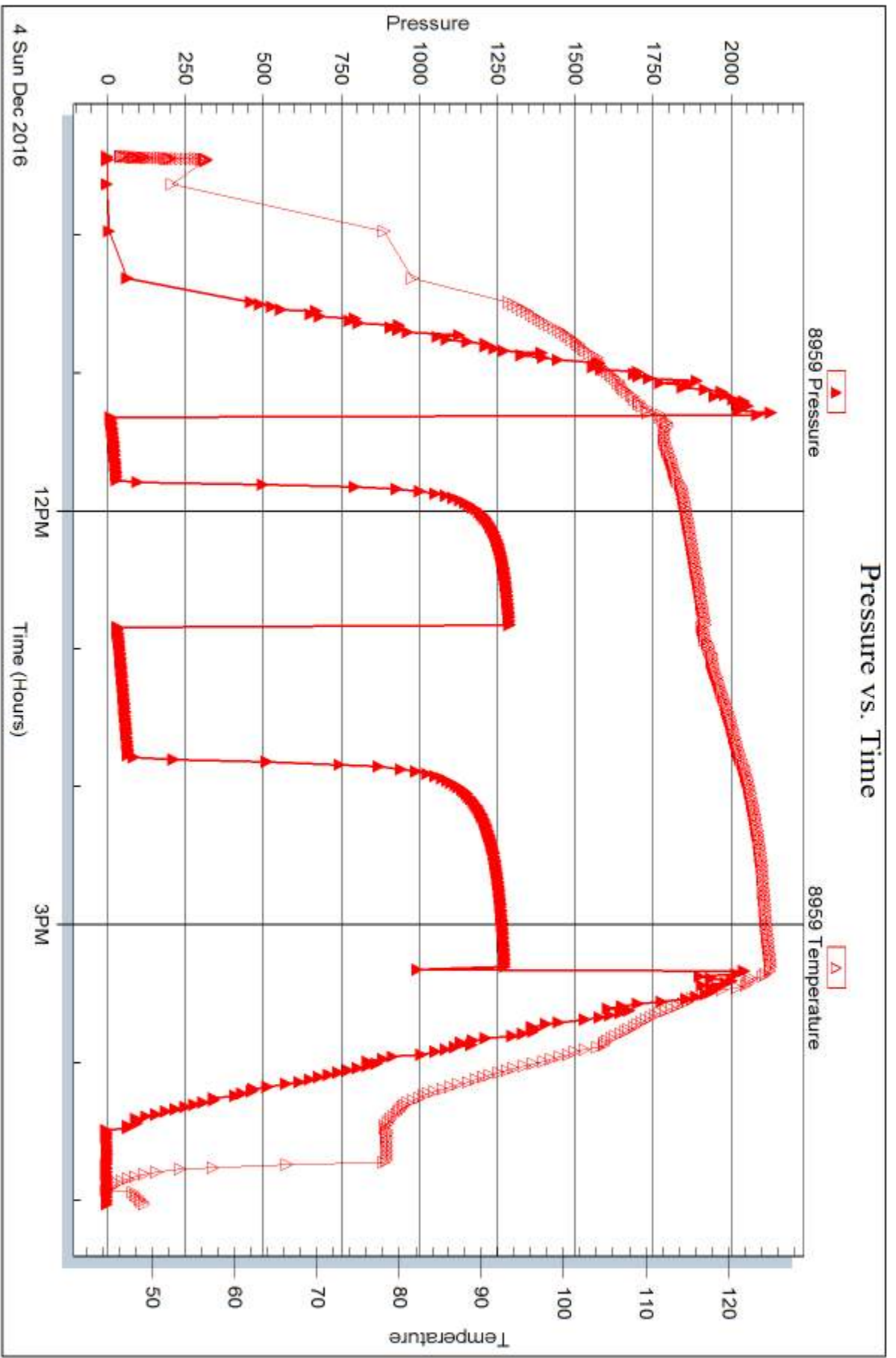
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .22@50deg







## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.05 @ 06:07:36

End Date: 2016.12.05 @ 13:47:36

Job Ticket #: 58213                      DST #: 3

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 09:06:29

Val Energy, Inc.  
Kough Mattson Unit #1-4  
4-8S-35W Thomas,KS  
DST # 3  
LKC "J"  
2016.12.05



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58213 **DST#: 3**  
 Test Start: 2016.12.05 @ 06:07:36

## GENERAL INFORMATION:

Formation: **LKC "J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:49:36  
 Time Test Ended: 13:47:36  
 Interval: **4362.00 ft (KB) To 4380.00 ft (KB) (TVD)**  
 Total Depth: 4380.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

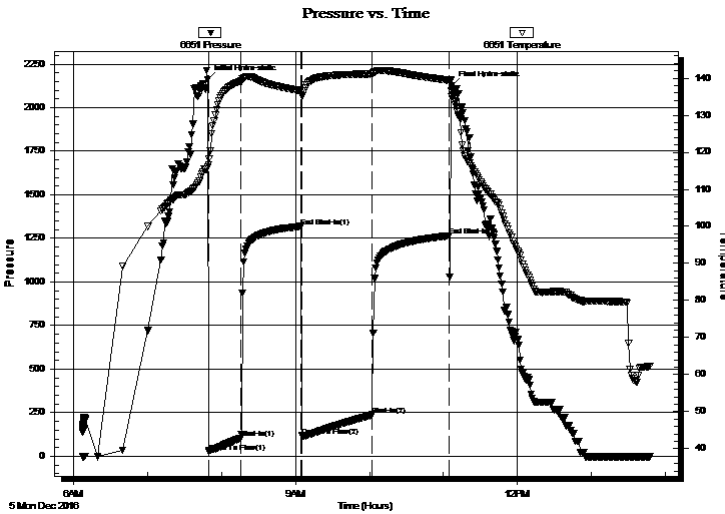
## Serial #: 6651

Inside

Press@RunDepth: 237.04 psig @ 4363.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.05 End Date: 2016.12.05 Last Calib.: 2016.12.05  
 Start Time: 06:07:37 End Time: 13:47:36 Time On Btm: 2016.12.05 @ 07:49:06  
 Time Off Btm: 2016.12.05 @ 11:06:36

TEST COMMENT: 30- IF- BOB 3 mins  
 45- IS- BOB 11 mins  
 60- FF- BOB instantly  
 60- FSI- BOB 14 mins

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2160.24	115.97	Initial Hydro-static
1	25.09	116.58	Open To Flow (1)
27	104.17	139.16	Shut-In(1)
75	1318.45	136.57	End Shut-In(1)
76	116.25	135.34	Open To Flow (2)
133	237.04	141.16	Shut-In(2)
196	1264.85	139.42	End Shut-In(2)
198	2127.62	134.96	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	GMCO, 20%G 15%M 65%O	0.61
508.00	CGO, 25%G 75%O	7.20
0.00	1650' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58213 **DST#: 3**  
 Test Start: 2016.12.05 @ 06:07:36

### GENERAL INFORMATION:

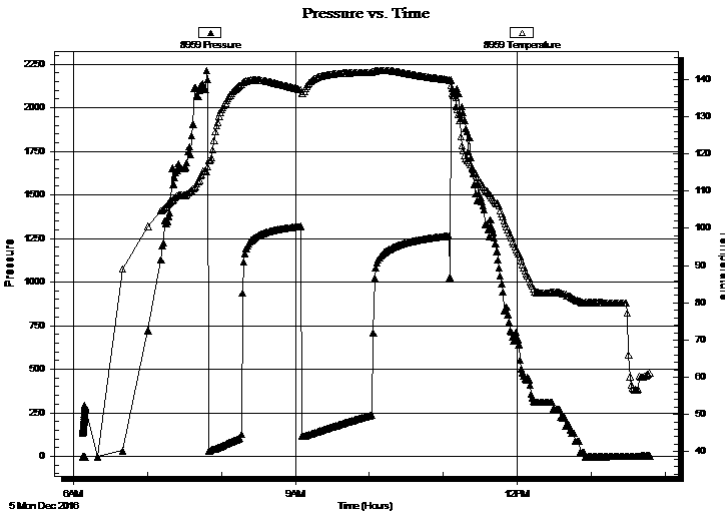
Formation: **LKC "J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:49:36  
 Time Test Ended: 13:47:36  
 Interval: **4362.00 ft (KB) To 4380.00 ft (KB) (TVD)**  
 Total Depth: 4380.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

### Serial #: 8959 Outside

Press@RunDepth: psig @ 4363.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.05 End Date: 2016.12.05 Last Calib.: 2016.12.05  
 Start Time: 06:07:39 End Time: 13:47:38 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30- IF- BOB 3 mins  
 45- ISL- BOB 11 mins  
 60- FF- BOB instantly  
 60- FSI- BOB 14 mins

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
124.00	GMCO, 20%G 15%M 65%O	0.61
508.00	CGO, 25%G 75%O	7.20
0.00	1650' GIP	0.00

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58213      **DST#: 3**  
Test Start: 2016.12.05 @ 06:07:36

**Tool Information**

Drill Pipe:	Length: 4227.00 ft	Diameter: 3.82 inches	Volume: 59.92 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	53000.00 lb
Depth to Top Packer:	4362.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	38.00 ft				
Number of Packers:	2	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			4343.00	
Shut In Tool	5.00			4348.00	
Hydraulic tool	5.00			4353.00	
Packer	5.00			4358.00	20.00      Bottom Of Top Packer
Packer	4.00			4362.00	
Stubb	1.00			4363.00	
Recorder	0.00	6651	Inside	4363.00	
Recorder	0.00	8959	Outside	4363.00	
Perforations	14.00			4377.00	
Bullnose	3.00			4380.00	18.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>38.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58213

**DST#: 3**

ATTN: Tim Priest

Test Start: 2016.12.05 @ 06:07:36

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	GMCO, 20%G 15%M 65%O	0.610
508.00	CGO, 25%G 75%O	7.201
0.00	1650' GIP	0.000

Total Length: 632.00 ft      Total Volume: 7.811 bbl

Num Fluid Samples: 0

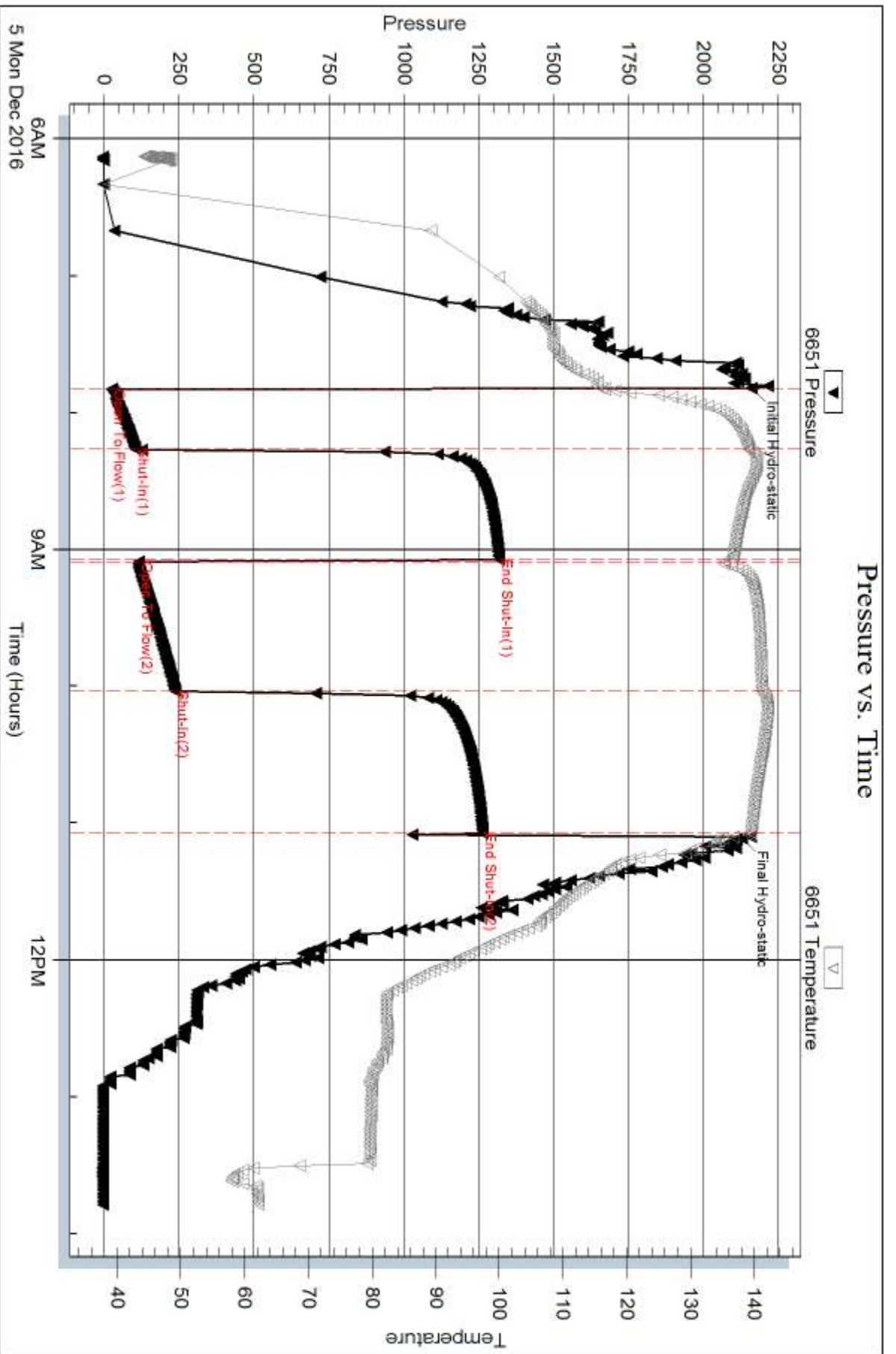
Num Gas Bombs: 0

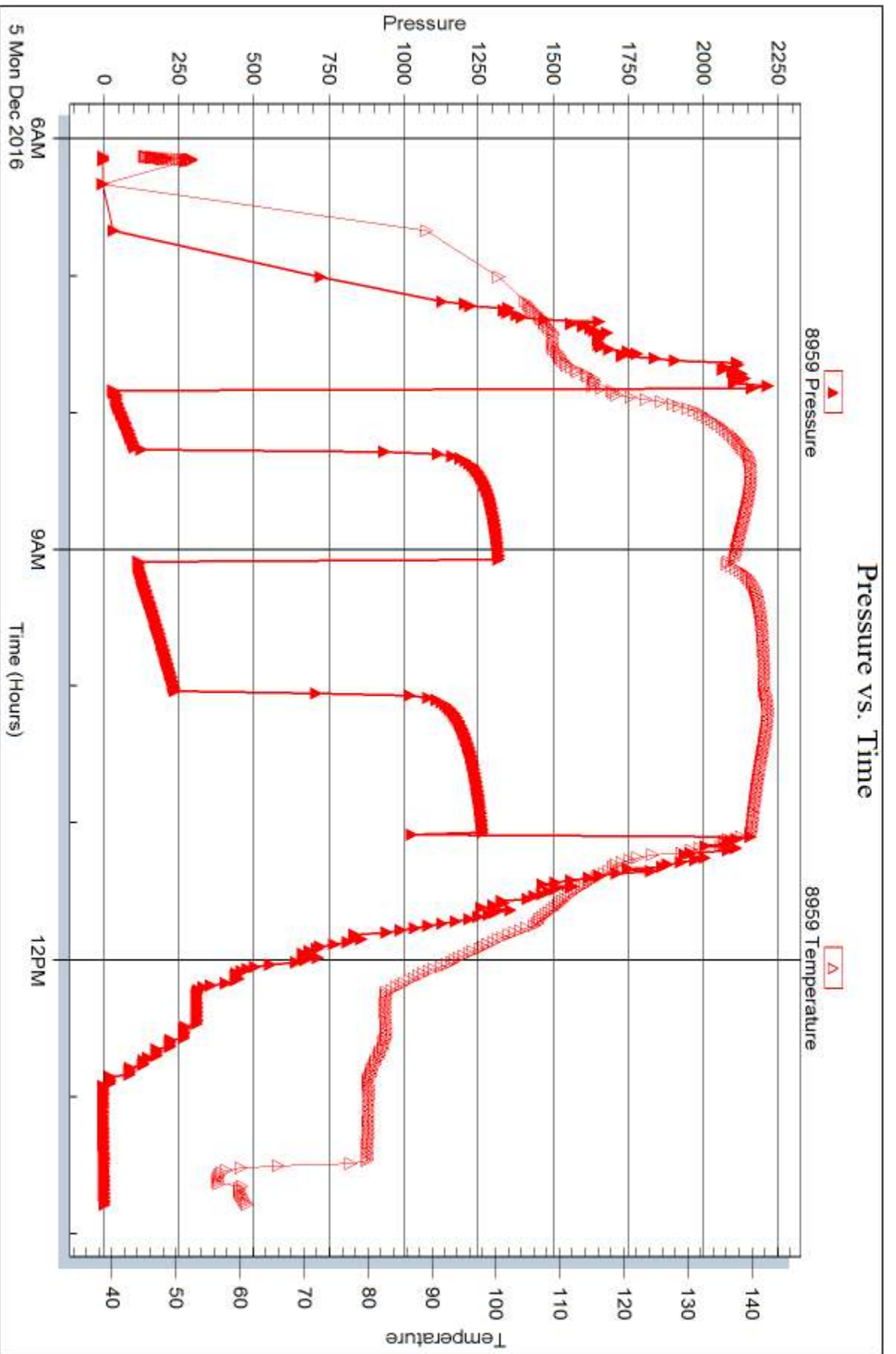
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.05 @ 20:43:37

End Date: 2016.12.06 @ 03:52:07

Job Ticket #: 58214                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.12.13 @ 09:05:59



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58214 **DST#: 4**  
 Test Start: 2016.12.05 @ 20:43:37

## GENERAL INFORMATION:

Formation: **LKC "K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 22:45:07  
 Time Test Ended: 03:52:07  
 Interval: **4380.00 ft (KB) To 4410.00 ft (KB) (TVD)**  
 Total Depth: 4410.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

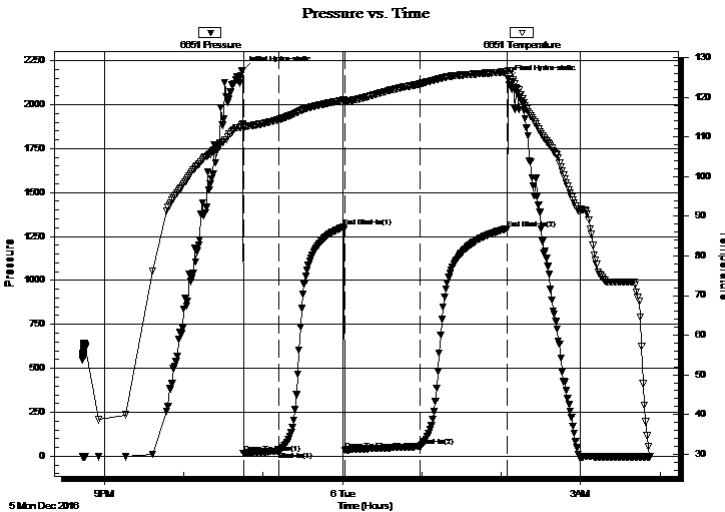
## Serial #: 6651

Inside

Press@RunDepth: 56.21 psig @ 4381.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.05 End Date: 2016.12.06 Last Calib.: 2016.12.06  
 Start Time: 20:43:38 End Time: 03:52:07 Time On Btm: 2016.12.05 @ 22:44:37  
 Time Off Btm: 2016.12.06 @ 02:05:07

TEST COMMENT: 30- IF- Slow ly built to 4"  
 45- IS- No blow  
 60- FF- Slow ly built to 5"  
 60- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2194.39	113.29	Initial Hydro-static
1	15.21	112.54	Open To Flow (1)
27	29.59	114.35	Shut-In(1)
76	1302.71	119.25	End Shut-In(1)
78	33.30	118.94	Open To Flow (2)
134	56.21	123.38	Shut-In(2)
200	1293.64	126.40	End Shut-In(2)
201	2144.85	126.74	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM, 25%O 75%M	0.30
31.00	GMCO, 10%G 45%M 45%O	0.15
0.00	31' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas, KS**  
Job Ticket: 58214      **DST#: 4**  
Test Start: 2016.12.05 @ 20:43:37

## GENERAL INFORMATION:

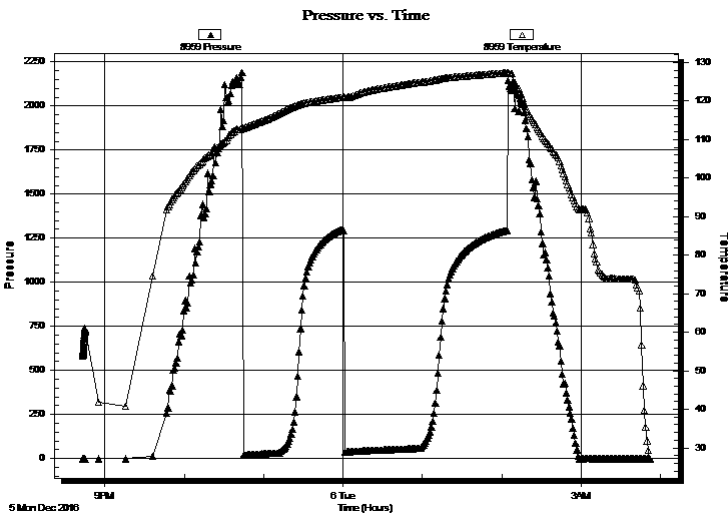
Formation: **LKC "K"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:45:07  
Time Test Ended: 03:52:07  
Interval: **4380.00 ft (KB) To 4410.00 ft (KB) (TVD)**  
Total Depth: 4410.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 3316.00 ft (KB)  
3311.00 ft (CF)  
KB to GR/CF: 5.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 73

## Serial #: 8959 Outside

Press@RunDepth:                      psig @ 4381.00 ft (KB)  
Start Date:                              2016.12.05                      End Date:                              2016.12.06  
Start Time:                              20:43:17                      End Time:                              03:52:16  
Capacity:    8000.00 psig  
Last Calib.:    2016.12.06  
Time On Btm:  
Time Off Btm:

TEST COMMENT: 30- IF- Slow ly built to 4"  
45- IS- No blow  
60- FF- Slow ly built to 5"  
60- FS- No blow

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM, 25%O 75%M	0.30
31.00	GMCO, 10%G 45%M 45%O	0.15
0.00	31' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58214

**DST#: 4**

ATTN: Tim Priest

Test Start: 2016.12.05 @ 20:43:37

## Tool Information

Drill Pipe:	Length: 4259.00 ft	Diameter: 3.82 inches	Volume: 60.37 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4380.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4361.00	
Shut In Tool	5.00			4366.00	
Hydraulic tool	5.00			4371.00	
Packer	5.00			4376.00	20.00 Bottom Of Top Packer
Packer	4.00			4380.00	
Stubb	1.00			4381.00	
Recorder	0.00	6651	Inside	4381.00	
Recorder	0.00	8959	Outside	4381.00	
Perforations	26.00			4407.00	
Bullnose	3.00			4410.00	30.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>50.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58214

**DST#: 4**

ATTN: Tim Priest

Test Start: 2016.12.05 @ 20:43:37

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	OCM, 25%O 75%M	0.305
31.00	GMCO, 10%G 45%M 45%O	0.152
0.00	31' GIP	0.000

Total Length: 93.00 ft      Total Volume: 0.457 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

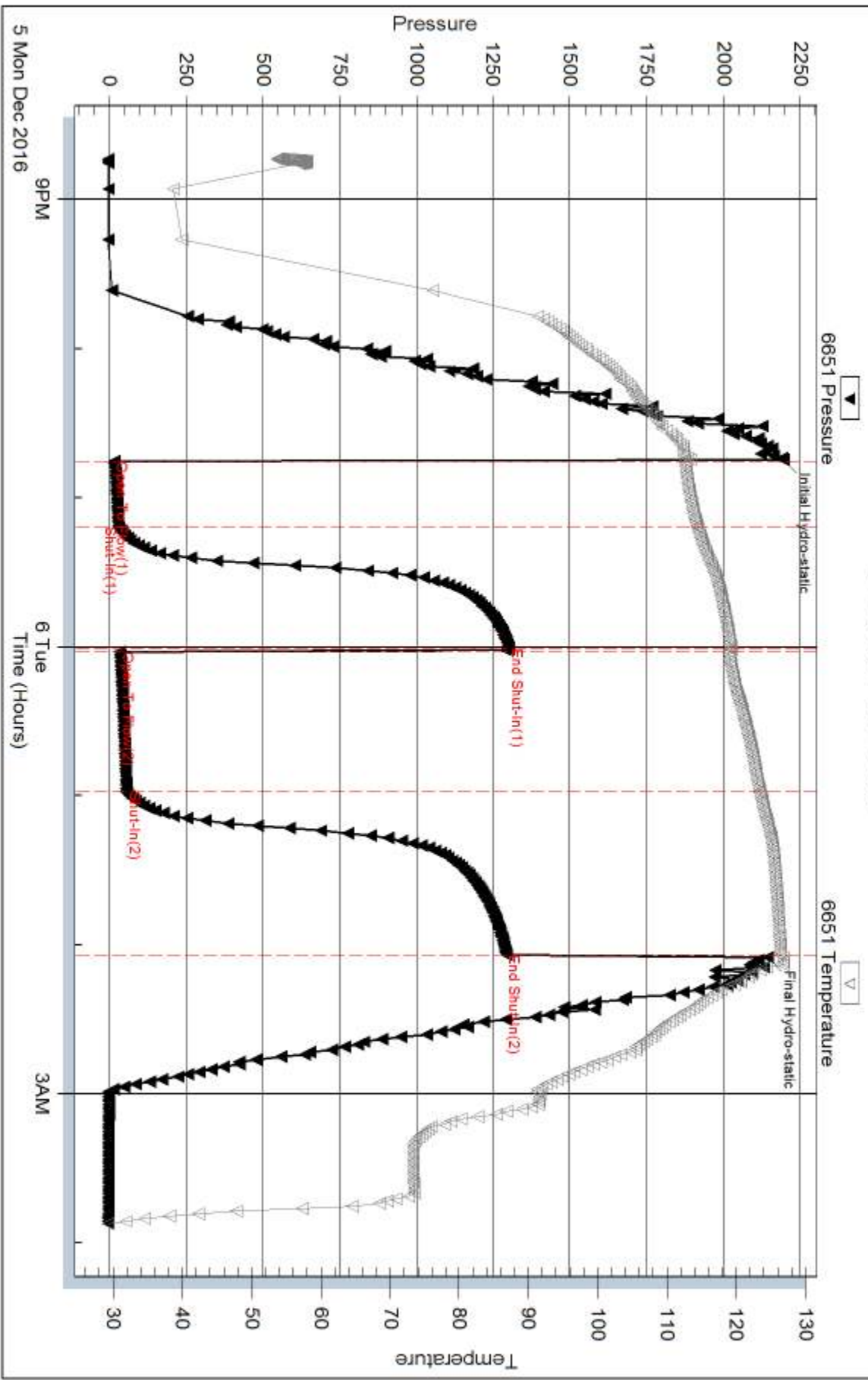
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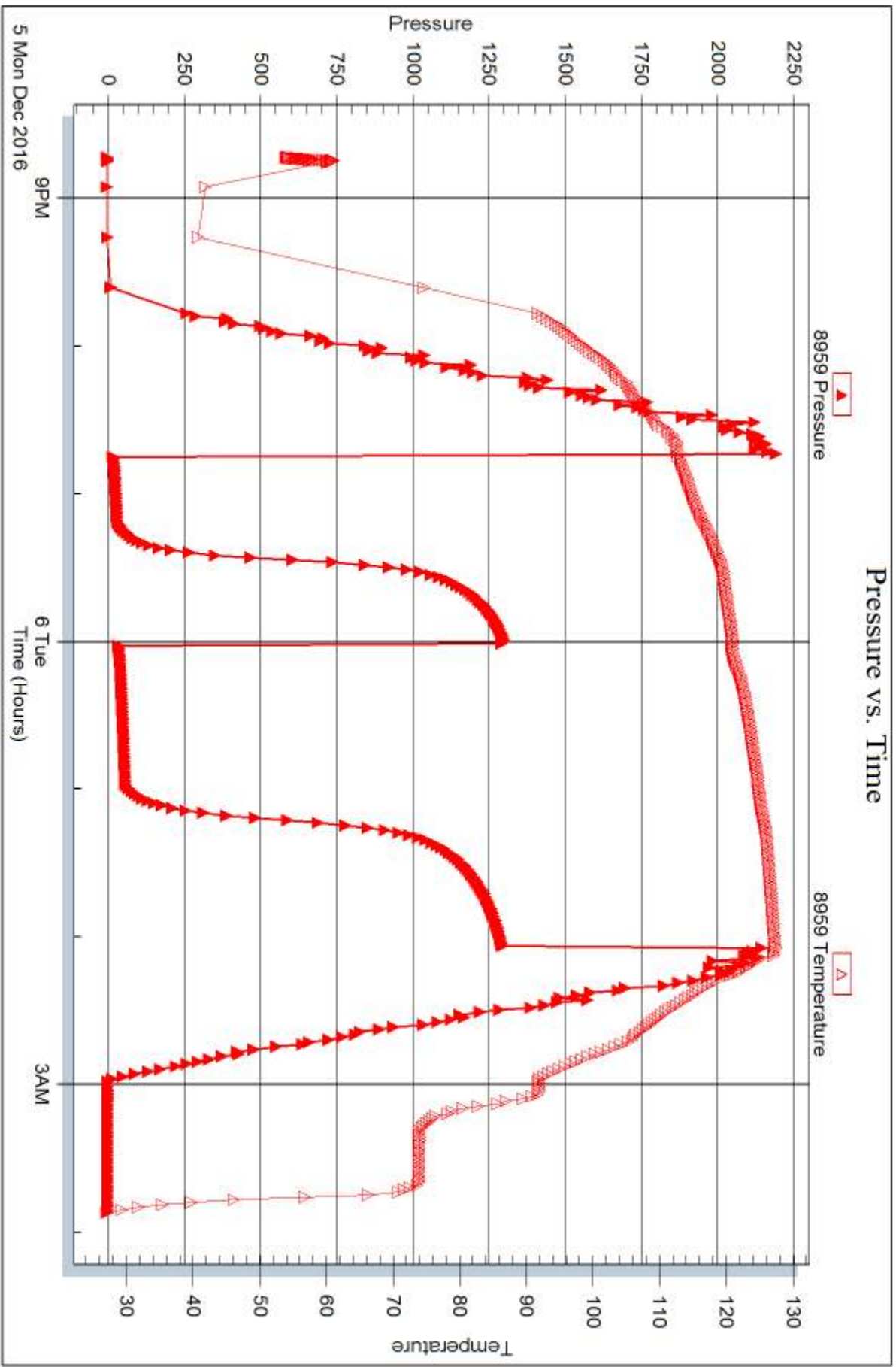
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.06 @ 16:44:08

End Date: 2016.12.07 @ 01:03:08

Job Ticket #: 58215                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.12.13 @ 09:05:37



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

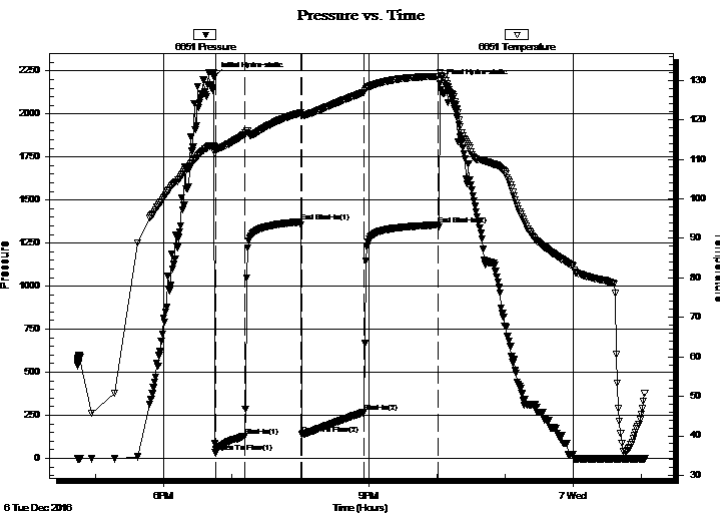
**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58215      **DST#: 5**  
Test Start: 2016.12.06 @ 16:44:08

## GENERAL INFORMATION:

Formation: **Pleasanton- Marmaton**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 18:45:08  
Time Test Ended: 01:03:08  
Interval: **4441.00 ft (KB) To 4515.00 ft (KB) (TVD)**  
Total Depth: 4515.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 73  
Reference Elevations: 3316.00 ft (KB)  
3311.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6651      Inside**  
Press@RunDepth: 266.47 psig @ 4442.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2016.12.06      End Date: 2016.12.07      Last Calib.: 2016.12.07  
Start Time: 16:44:09      End Time: 01:03:08      Time On Btm: 2016.12.06 @ 18:44:08  
Time Off Btm: 2016.12.06 @ 22:02:38

TEST COMMENT: 30- IF- BOB 4 mins  
45- IS- Slowly built to 9 1/2"  
60- FF- BOB 3 mins  
60- FSI- BOB 7 mins



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2214.21	113.21	Initial Hydro-static
1	31.99	112.59	Open To Flow (1)
27	128.86	116.32	Shut-In(1)
76	1372.22	121.78	End Shut-In(1)
78	140.73	121.12	Open To Flow (2)
132	266.47	126.94	Shut-In(2)
197	1355.41	131.03	End Shut-In(2)
199	2177.50	132.01	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
187.00	GOCM, 30%G 25%O 45%M	1.50
190.00	GMCO, 10%G 25%M 65%O	2.69
222.00	CGO, 15%G 85%O	3.15
0.00	2633' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58215 **DST#: 5**  
 Test Start: 2016.12.06 @ 16:44:08

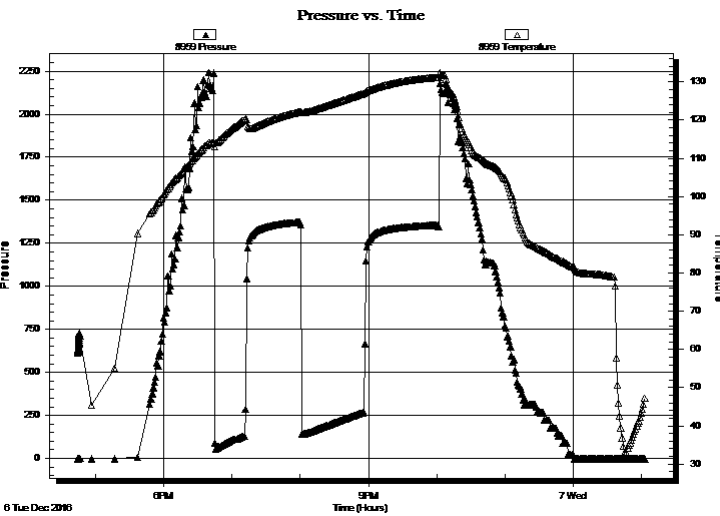
## GENERAL INFORMATION:

Formation: **Pleasanton- Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:45:08  
 Time Test Ended: 01:03:08  
 Interval: **4441.00 ft (KB) To 4515.00 ft (KB) (TVD)**  
 Total Depth: 4515.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8959 Outside

Press@RunDepth: psig @ 4442.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.06 End Date: 2016.12.07 Last Calib.: 2016.12.07  
 Start Time: 16:44:17 End Time: 01:03:16 Time On Btm:  
 Time Off Btm:

TEST COMMENT: 30- IF- BOB 4 mins  
 45- IS- Slowly built to 9 1/2"  
 60- FF- BOB 3 mins  
 60- FS- BOB 7 mins



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
187.00	GOCM, 30%G 25%O 45%M	1.50
190.00	GMCO, 10%G 25%M 65%O	2.69
222.00	CGO, 15%G 85%O	3.15
0.00	2633' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58215 **DST#: 5**  
Test Start: 2016.12.06 @ 16:44:08

**Tool Information**

Drill Pipe:	Length: 4321.00 ft	Diameter: 3.82 inches	Volume: 61.25 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	58000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	4441.00 ft			Final	55000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	74.00 ft				
Tool Length:	94.00 ft				
Number of Packers:	2	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			4422.00	
Shut In Tool	5.00			4427.00	
Hydraulic tool	5.00			4432.00	
Packer	5.00			4437.00	20.00 Bottom Of Top Packer
Packer	4.00			4441.00	
Stubb	1.00			4442.00	
Recorder	0.00	6651	Inside	4442.00	
Recorder	0.00	8959	Outside	4442.00	
Perforations	5.00			4447.00	
Change Over Sub	1.00			4448.00	
Drill Pipe	63.00			4511.00	
Change Over Sub	1.00			4512.00	
Bullnose	3.00			4515.00	74.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58215

**DST#: 5**

ATTN: Tim Priest

Test Start: 2016.12.06 @ 16:44:08

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6100.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
187.00	GOCM, 30%G 25%O 45%M	1.503
190.00	GMCO, 10%G 25%M 65%O	2.693
222.00	CGO, 15%G 85%O	3.147
0.00	2633' GIP	0.000

Total Length: 599.00 ft

Total Volume: 7.343 bbl

Num Fluid Samples: 0

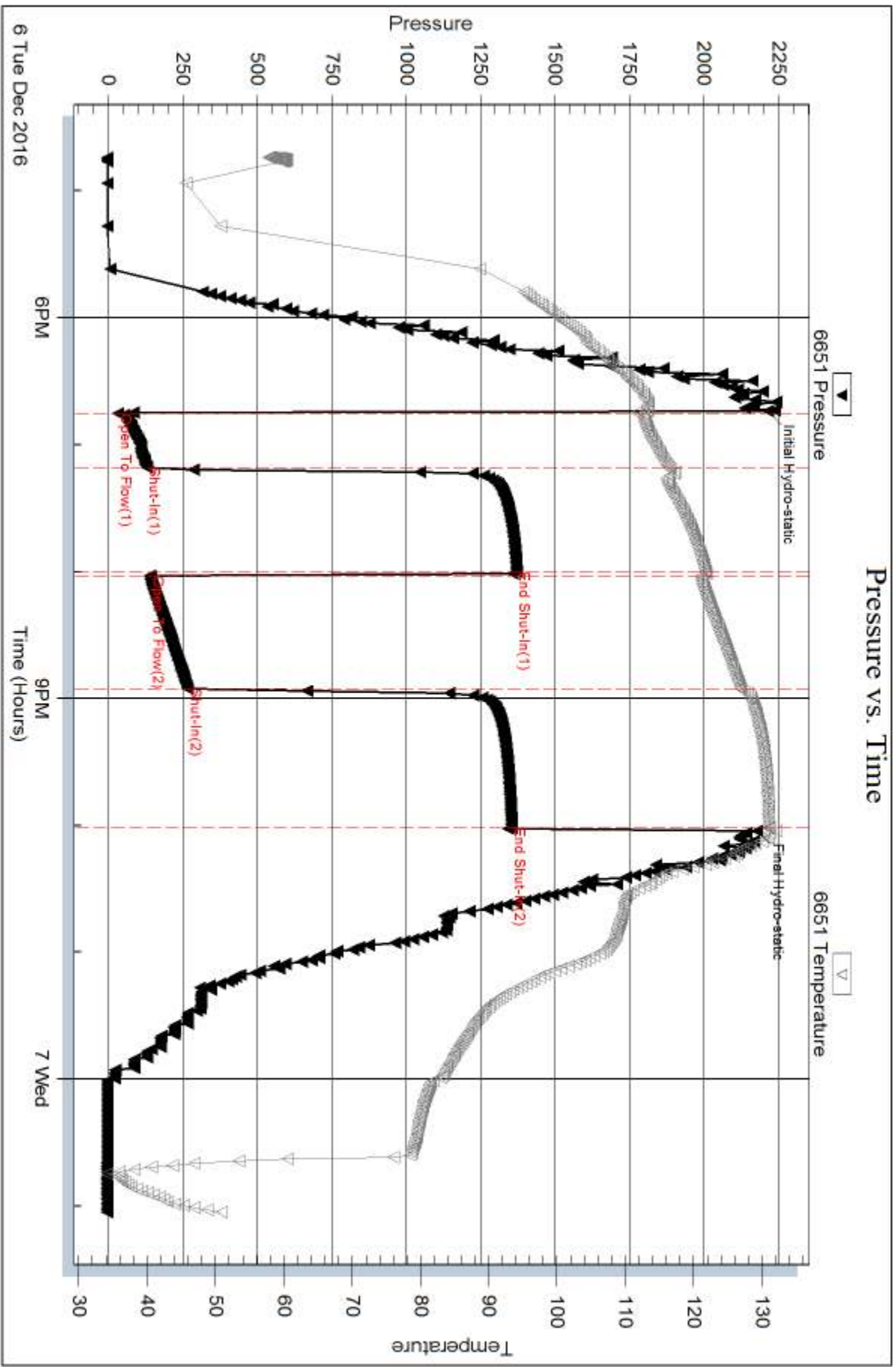
Num Gas Bombs: 0

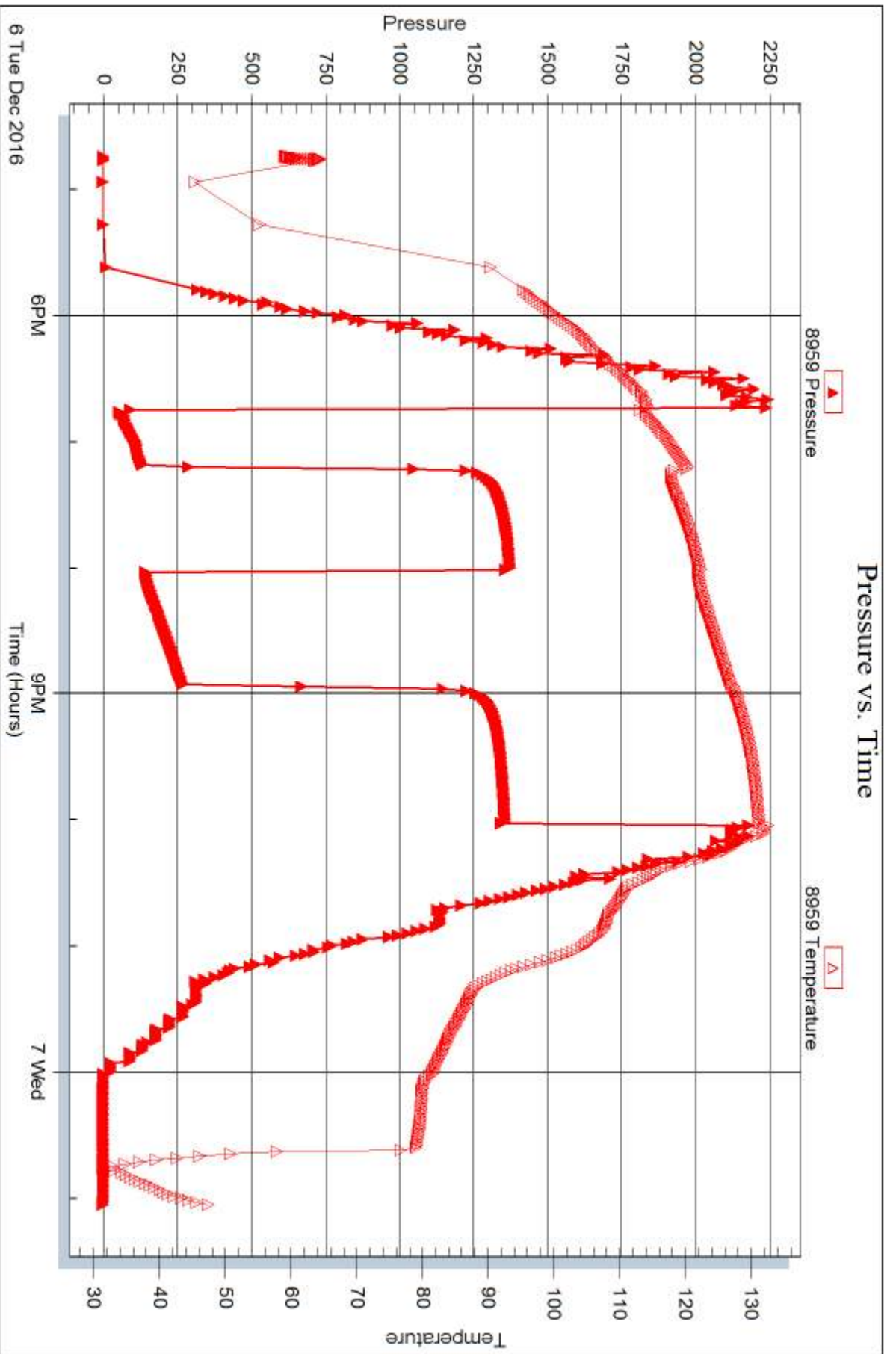
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.07 @ 12:10:02

End Date: 2016.12.07 @ 20:07:32

Job Ticket #: 58216                      DST #: 6

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 09:05:11



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58216 **DST#: 6**  
 Test Start: 2016.12.07 @ 12:10:02

## GENERAL INFORMATION:

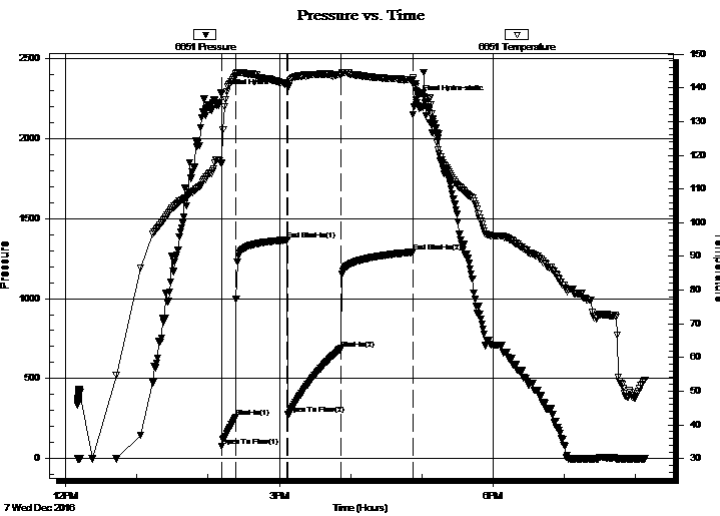
Formation: **Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:11:32  
 Time Test Ended: 20:07:32  
 Interval: **4556.00 ft (KB) To 4590.00 ft (KB) (TVD)**  
 Total Depth: 4590.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brannan Lonsdale  
 Unit No: 73  
 Reference Elevations: 3316.00 ft (KB)  
 3311.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 6651

Inside

Press@RunDepth: 685.80 psig @ 4557.00 ft (KB)  
 Start Date: 2016.12.07 End Date: 2016.12.07  
 Start Time: 12:10:03 End Time: 20:07:32  
 Capacity: 8000.00 psig  
 Last Calib.: 2016.12.07  
 Time On Btm: 2016.12.07 @ 14:11:02  
 Time Off Btm: 2016.12.07 @ 16:55:02

TEST COMMENT: 10- IF- BOB 1 min  
 45- IS- Slow ly built to 2"  
 45- FF- BOB 3 mins  
 60- FS- Slow ly built to 4"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2284.66	117.86	Initial Hydro-static
1	73.13	117.55	Open To Flow (1)
12	256.60	143.48	Shut-In(1)
56	1366.88	141.23	End Shut-In(1)
56	273.34	140.51	Open To Flow (2)
101	685.80	143.97	Shut-In(2)
161	1290.53	142.39	End Shut-In(2)
164	2242.86	139.09	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1473.00	MW, 20%M 80%W	19.73
15.00	CO	0.21
0.00	2960' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58216

**DST#: 6**

ATTN: Tim Priest

Test Start: 2016.12.07 @ 12:10:02

## Tool Information

Drill Pipe:	Length: 4448.00 ft	Diameter: 3.82 inches	Volume: 63.05 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
			- bbl	String Weight: Initial	55000.00 lb
Drill Pipe Above KB:	36.00 ft			Final	60000.00 lb
Depth to Top Packer:	4556.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4537.00	
Shut In Tool	5.00			4542.00	
Hydraulic tool	5.00			4547.00	
Packer	5.00			4552.00	20.00 Bottom Of Top Packer
Packer	4.00			4556.00	
Stubb	1.00			4557.00	
Recorder	0.00	6651	Inside	4557.00	
Recorder	0.00	8959	Outside	4557.00	
Perforations	30.00			4587.00	
Bullnose	3.00			4590.00	34.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>54.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58216

**DST#: 6**

ATTN: Tim Priest

Test Start: 2016.12.07 @ 12:10:02

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

72000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1473.00	MW, 20%M 80%W	19.732
15.00	CO	0.213
0.00	2960' GIP	0.000

Total Length: 1488.00 ft      Total Volume: 19.945 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

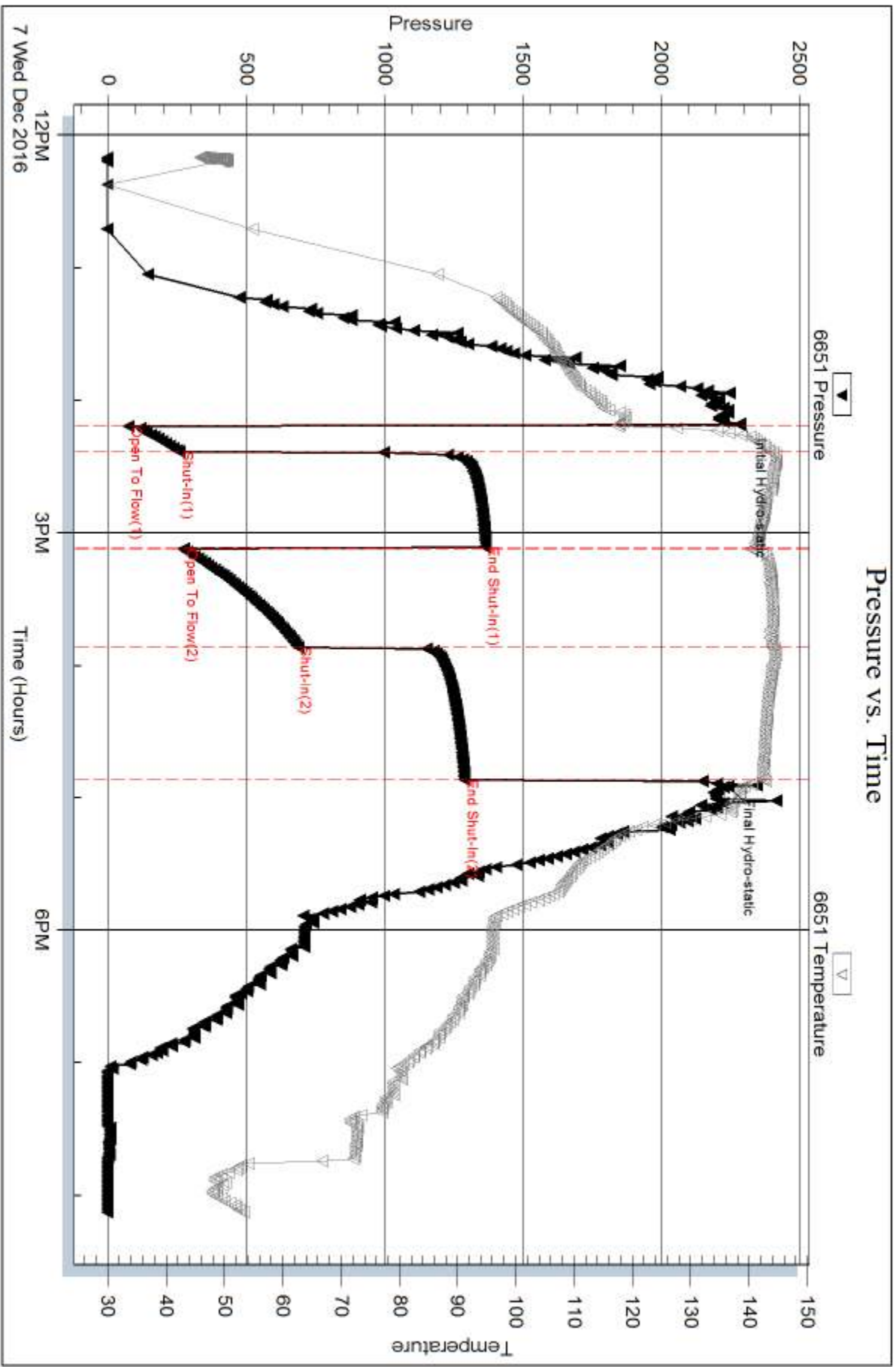
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .23@29deg



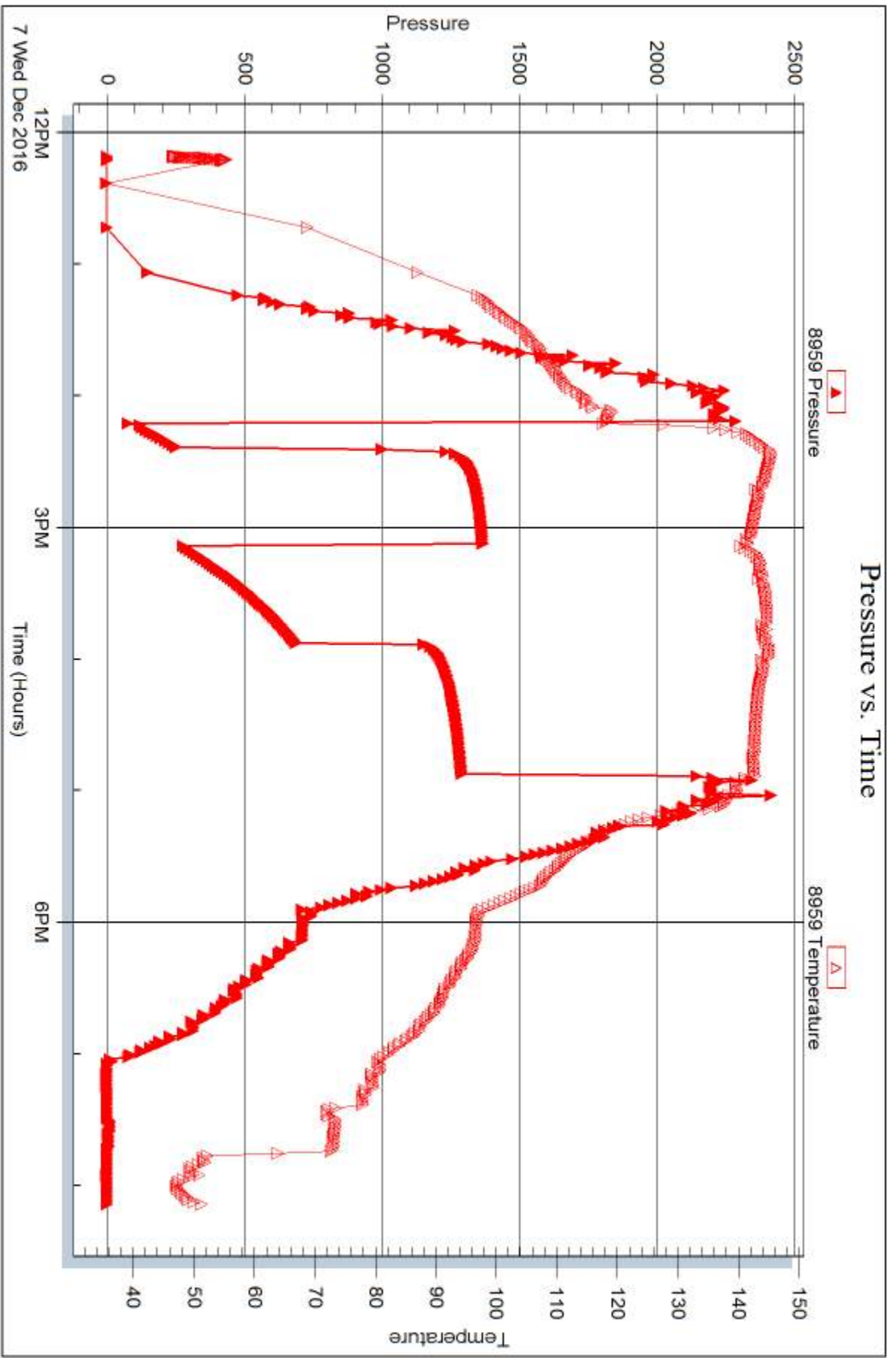


Serial #: 8959

Outside Val Energy, Inc.

4-8S-35W Thomas, KS

DST Test Number: 6



Trilobe Testing, Inc

Ref. No: 58216

Printed: 2016.12.13 @ 09:05:12



## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.08 @ 05:59:24

End Date: 2016.12.08 @ 12:30:24

Job Ticket #: 58217                      DST #: 7

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 09:03:26



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

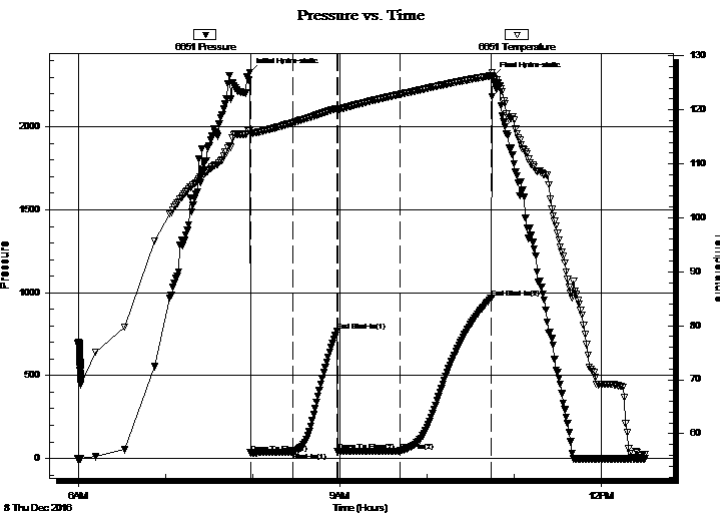
**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58217 **DST#: 7**  
Test Start: 2016.12.08 @ 05:59:24

## GENERAL INFORMATION:

Formation: **Myric & Ft. Scott**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 07:58:24  
Time Test Ended: 12:30:24  
Interval: **4586.00 ft (KB) To 4650.00 ft (KB) (TVD)**  
Total Depth: 4650.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brannan Lonsdale  
Unit No: 73  
Reference Elevations: 3316.00 ft (KB)  
3311.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6651 Inside**  
Press@RunDepth: 45.39 psig @ 4587.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2016.12.08 End Date: 2016.12.08 Last Calib.: 2016.12.08  
Start Time: 05:59:25 End Time: 12:30:24 Time On Btm: 2016.12.08 @ 07:57:54  
Time Off Btm: 2016.12.08 @ 10:45:24

TEST COMMENT: 30- IF- Slowly built to 2"  
30- IS- No blow  
45- FF- No blow  
60- FSI- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2329.64	116.15	Initial Hydro-static
1	32.98	115.55	Open To Flow (1)
30	38.27	117.61	Shut-In(1)
60	767.73	120.24	End Shut-In(1)
61	39.78	119.70	Open To Flow (2)
104	45.39	122.87	Shut-In(2)
167	968.81	126.35	End Shut-In(2)
168	2304.34	126.08	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	M	0.15

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

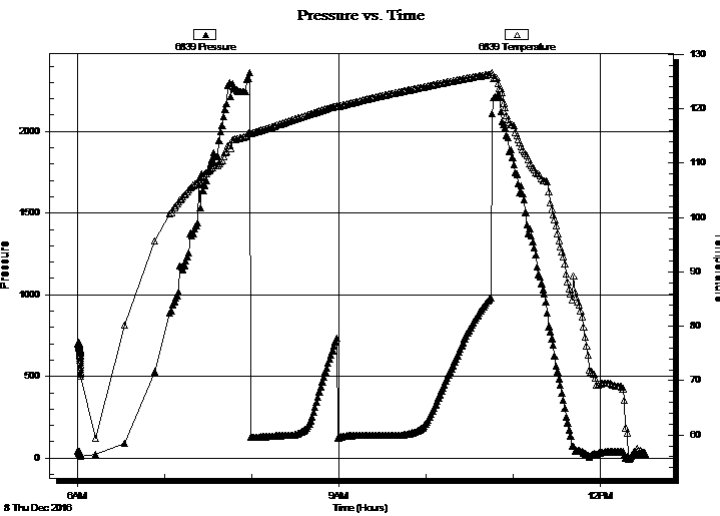
**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58217 **DST#: 7**  
 Test Start: 2016.12.08 @ 05:59:24

## GENERAL INFORMATION:

Formation: **Myric & Ft. Scott**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 07:58:24 Tester: Brannan Lonsdale  
 Time Test Ended: 12:30:24 Unit No: 73  
**Interval: 4586.00 ft (KB) To 4650.00 ft (KB) (TVD)** Reference Elevations: 3316.00 ft (KB)  
 Total Depth: 4650.00 ft (KB) (TVD) 3311.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 6839 Outside**  
 Press@RunDepth: psig @ 4587.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.08 End Date: 2016.12.08 Last Calib.: 2016.12.08  
 Start Time: 06:00:00 End Time: 12:30:59 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30- IF- Slowly built to 2"  
 30- IS- No blow  
 45- FF- No blow  
 60- FS- No blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	M	0.15

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58217

**DST#: 7**

ATTN: Tim Priest

Test Start: 2016.12.08 @ 05:59:24

## Tool Information

Drill Pipe:	Length: 4447.00 ft	Diameter: 3.82 inches	Volume: 63.04 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	4586.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	84.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4567.00	
Shut In Tool	5.00			4572.00	
Hydraulic tool	5.00			4577.00	
Packer	5.00			4582.00	20.00 Bottom Of Top Packer
Packer	4.00			4586.00	
Stubb	1.00			4587.00	
Recorder	0.00	6651	Inside	4587.00	
Recorder	0.00	6839	Outside	4587.00	
Perforations	27.00			4614.00	
Change Over Sub	1.00			4615.00	
Drill Pipe	31.00			4646.00	
Change Over Sub	1.00			4647.00	
Bullnose	3.00			4650.00	64.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58217

**DST#: 7**

ATTN: Tim Priest

Test Start: 2016.12.08 @ 05:59:24

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	M	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

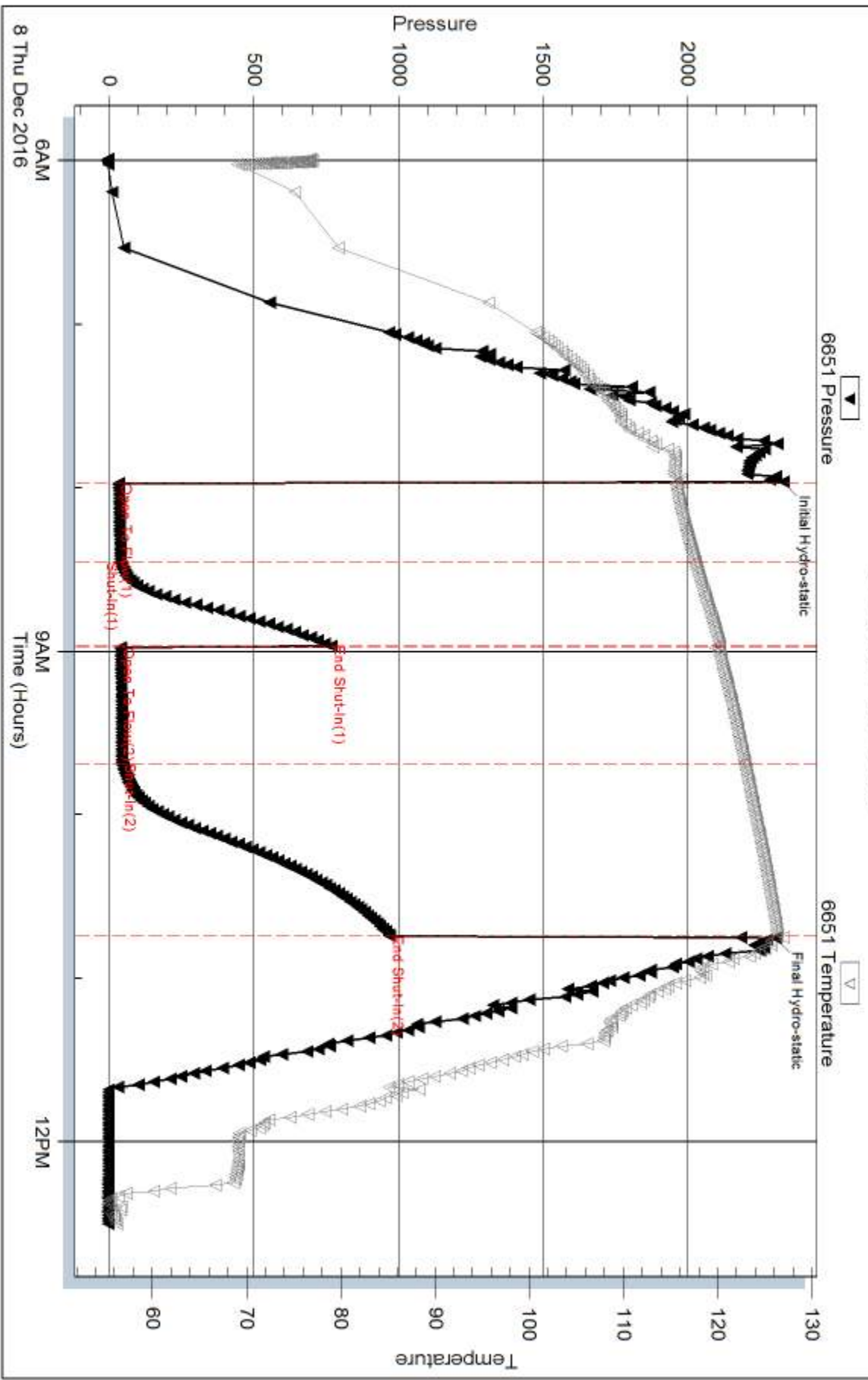
Serial #:

Laboratory Name:

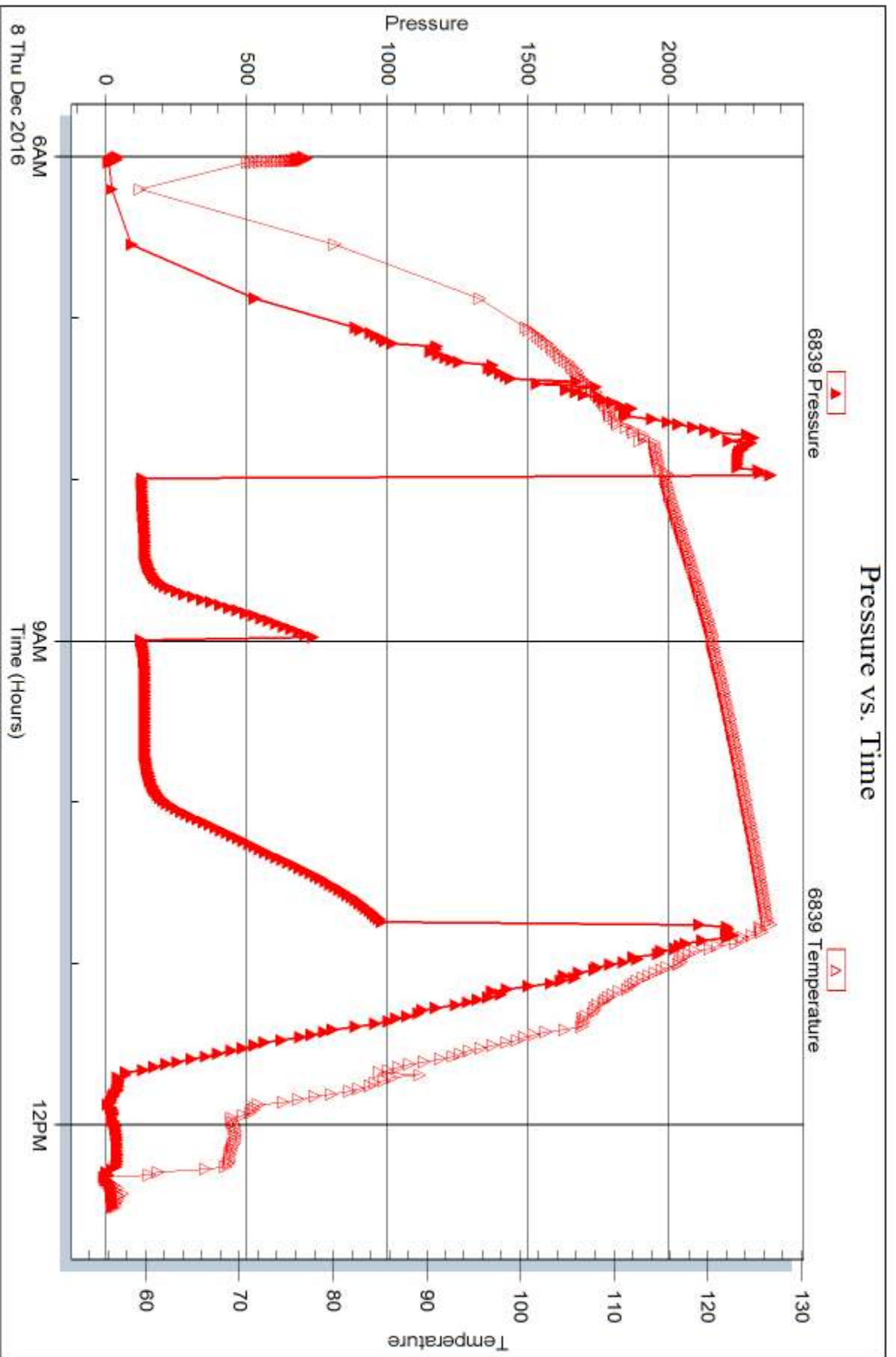
Laboratory Location:

Recovery Comments:

### Pressure vs. Time









## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.08 @ 20:16:15

End Date: 2016.12.09 @ 02:57:45

Job Ticket #: 58218                      DST #: 8

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 08:08:00



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58218 **DST#: 8**  
Test Start: 2016.12.08 @ 20:16:15

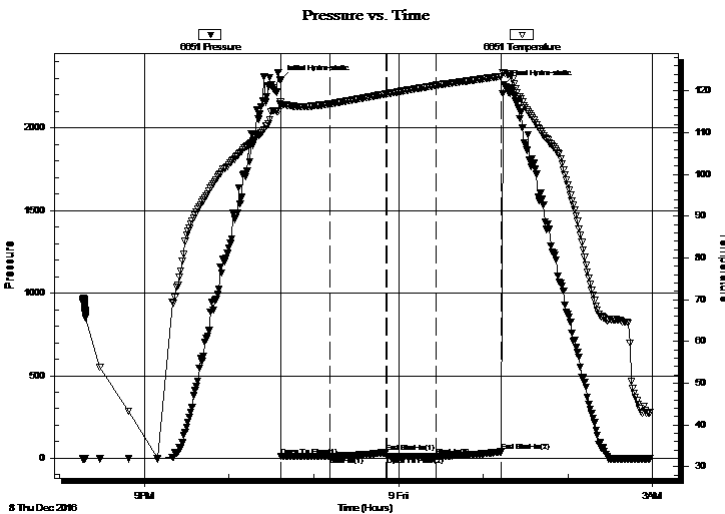
## GENERAL INFORMATION:

Formation: **Cherokee**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:36:45  
Time Test Ended: 02:57:45  
Interval: **4650.00 ft (KB) To 4675.00 ft (KB) (TVD)**  
Total Depth: 4675.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 3316.00 ft (KB)  
3311.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 6651 Inside**  
Press@RunDepth: 11.75 psig @ 4651.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2016.12.08 End Date: 2016.12.09 Last Calib.: 2016.12.09  
Start Time: 20:16:16 End Time: 02:57:45 Time On Btm: 2016.12.08 @ 22:36:15  
Time Off Btm: 2016.12.09 @ 01:14:45

TEST COMMENT: 30- IF- Slowly built to 1"  
45- IS- No blow  
30- FF- No blow  
45- FS- No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2291.39	117.34	Initial Hydro-static
1	10.04	116.78	Open To Flow (1)
35	11.52	116.93	Shut-In(1)
75	35.74	119.32	End Shut-In(1)
76	10.04	119.33	Open To Flow (2)
110	11.75	121.37	Shut-In(2)
157	39.36	123.54	End Shut-In(2)
159	2262.48	124.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
3.00	M	0.01

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

## DRILL STEM TEST REPORT

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

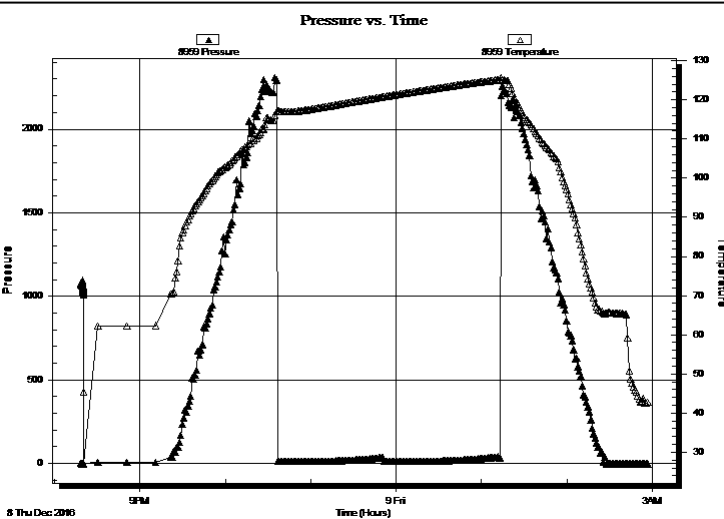
**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58218      **DST#: 8**  
Test Start: 2016.12.08 @ 20:16:15

### GENERAL INFORMATION:

Formation: **Cherokee**  
Deviated: No Whipstock:                      ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
Time Tool Opened: 22:36:45      Tester: Brannan Lonsdale  
Time Test Ended: 02:57:45      Unit No: 73  
**Interval: 4650.00 ft (KB) To 4675.00 ft (KB) (TVD)**      Reference Elevations: 3316.00 ft (KB)  
Total Depth: 4675.00 ft (KB) (TVD)      3311.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Fair      KB to GR/CF: 5.00 ft

**Serial #: 8959      Outside**  
Press@RunDepth:                      psig @ 4651.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2016.12.08      End Date: 2016.12.09      Last Calib.: 2016.12.09  
Start Time: 20:18:21      End Time: 02:57:20      Time On Btm:  
Time Off Btm:

TEST COMMENT: 30- IF- Slowly built to 1"  
45- IS- No blow  
30- FF- No blow  
45- FS- No blow



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
3.00	M	0.01

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.  
125 N. Market St. Ste. 1110  
Wichita, KS 67202  
ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
Job Ticket: 58218 **DST#: 8**  
Test Start: 2016.12.08 @ 20:16:15

## Tool Information

Drill Pipe:	Length: 4511.00 ft	Diameter: 3.82 inches	Volume: 63.95 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose:	66000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	53000.00 lb
Depth to Top Packer:	4650.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4631.00	
Shut In Tool	5.00			4636.00	
Hydraulic tool	5.00			4641.00	
Packer	5.00			4646.00	20.00 Bottom Of Top Packer
Packer	4.00			4650.00	
Stubb	1.00			4651.00	
Recorder	0.00	6651	Inside	4651.00	
Recorder	0.00	8959	Outside	4651.00	
Perforations	21.00			4672.00	
Bullnose	3.00			4675.00	25.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58218

**DST#: 8**

ATTN: Tim Priest

Test Start: 2016.12.08 @ 20:16:15

### 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	M	0.015

Total Length: 3.00 ft      Total Volume: 0.015 bbl

Num Fluid Samples: 0

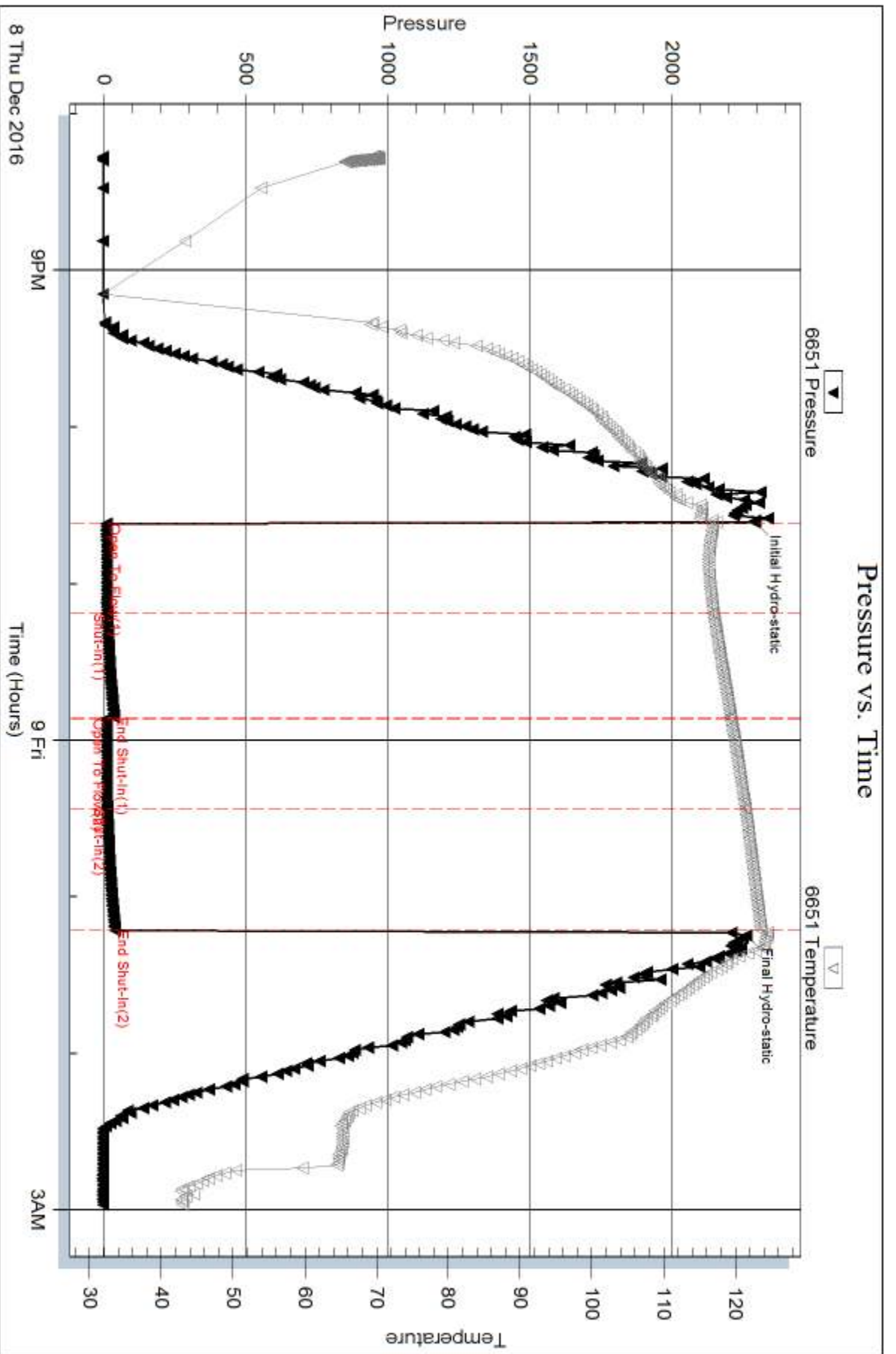
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

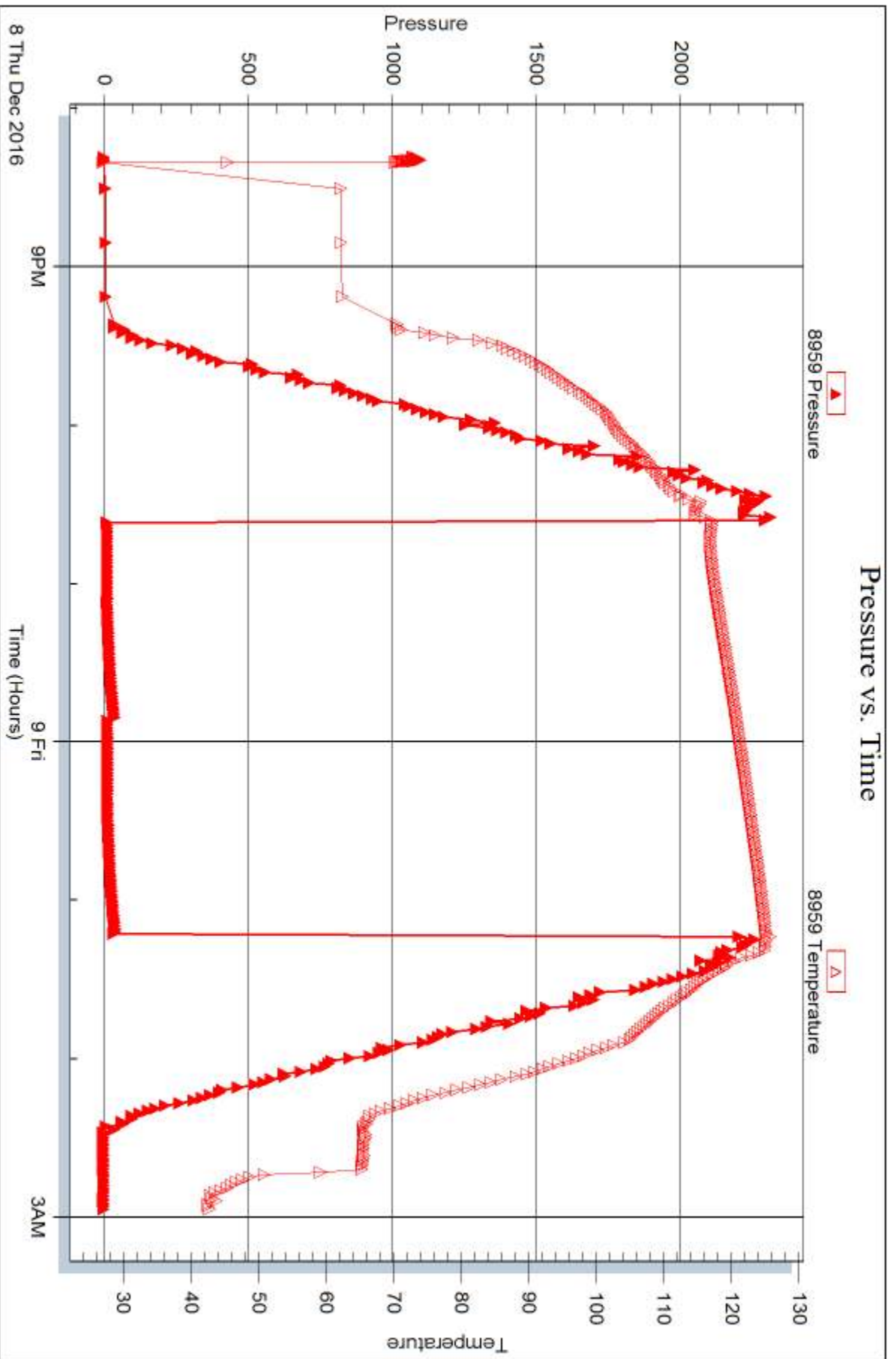


Serial #: 8959

Outside Val Energy, Inc.

4-8S-35W Thomas, KS

DST Test Number: 8



Tribble Testing, Inc

Ref. No: 58218

Printed: 2016.12.13 @ 08:08:03





## DRILL STEM TEST REPORT

Prepared For: **Val Energy, Inc.**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

ATTN: Tim Priest

**4-8S-35W Thomas,KS**

**Kough Mattson Unit #1-4**

Start Date: 2016.12.09 @ 10:49:22

End Date: 2016.12.09 @ 18:03:22

Job Ticket #: 58219                      DST #: 9

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.12.13 @ 08:07:21



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas,KS**  
 Job Ticket: 58219 **DST#: 9**  
 Test Start: 2016.12.09 @ 10:49:22

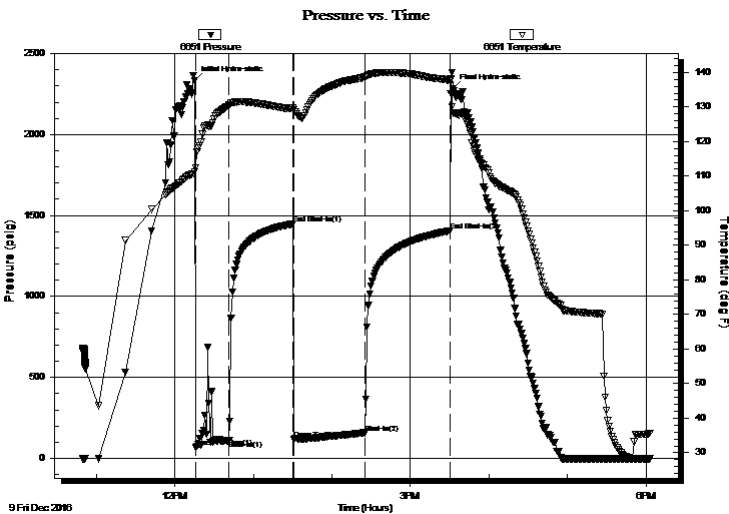
## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 12:15:52  
 Tester: Brannan Lonsdale  
 Time Test Ended: 18:03:22  
 Unit No: 73  
 Interval: **4674.00 ft (KB) To 4712.00 ft (KB) (TVD)**  
 Reference Elevations: 3316.00 ft (KB)  
 Total Depth: 4712.00 ft (KB) (TVD)  
 3311.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 5.00 ft

**Serial #: 6651 Inside**  
 Press@RunDepth: 157.61 psig @ 4675.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.12.09 End Date: 2016.12.09 Last Calib.: 2016.12.09  
 Start Time: 10:49:23 End Time: 18:03:22 Time On Btm: 2016.12.09 @ 12:14:52  
 Time Off Btm: 2016.12.09 @ 15:32:22

**TEST COMMENT:** 30- IF- Slowly built to 5"  
 45- IS- No blow  
 60- FF- BOB 34 mins  
 60- FSI- Very weak surface blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2334.27	111.35	Initial Hydro-static
1	65.88	112.48	Open To Flow (1)
27	110.81	130.55	Shut-In(1)
75	1447.92	129.65	End Shut-In(1)
76	116.86	129.14	Open To Flow (2)
131	157.61	138.69	Shut-In(2)
196	1405.22	137.72	End Shut-In(2)
198	2283.63	128.28	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
187.00	HOCM, 30%O 70%M	1.50
143.00	CO	2.03

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Val Energy, Inc.  
 125 N. Market St. Ste. 1110  
 Wichita, KS 67202  
 ATTN: Tim Priest

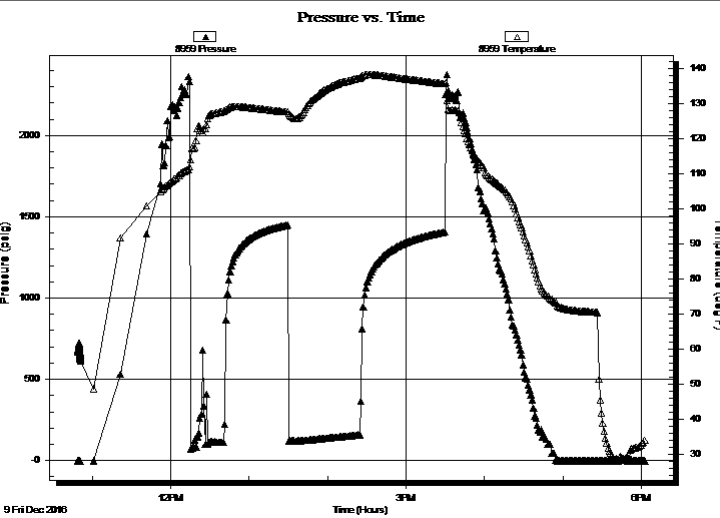
**Kough Mattson Unit #1-4**  
**4-8S-35W Thomas, KS**  
 Job Ticket: 58219 **DST#: 9**  
 Test Start: 2016.12.09 @ 10:49:22

## GENERAL INFORMATION:

Formation: <b>Johnson</b>			Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock:	ft (KB)		Tester: Brannan Lonsdale
Time Tool Opened: 12:15:52			Unit No: 73
Time Test Ended: 18:03:22			
<b>Interval: 4674.00 ft (KB) To 4712.00 ft (KB) (TVD)</b>		Reference Elevations:	3316.00 ft (KB)
Total Depth: 4712.00 ft (KB) (TVD)			3311.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF:	5.00 ft

<b>Serial #: 8959</b>	<b>Outside</b>				Capacity: 8000.00 psig
Press@RunDepth: psig @ 4675.00 ft (KB)					Last Calib.: 2016.12.09
Start Date: 2016.12.09	End Date: 2016.12.09				Time On Btm:
Start Time: 10:49:03	End Time: 18:03:02				Time Off Btm:

**TEST COMMENT:** 30- IF- Slowly built to 5"  
 45- IS- No blow  
 60- FF- BOB 34 mins  
 60- FS- Very weak surface blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
187.00	HOCM, 30%O 70%M	1.50
143.00	CO	2.03

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58219

**DST#: 9**

ATTN: Tim Priest

Test Start: 2016.12.09 @ 10:49:22

## Tool Information

Drill Pipe:	Length: 4543.00 ft	Diameter: 3.82 inches	Volume: 64.40 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 67000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4674.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4655.00	
Shut In Tool	5.00			4660.00	
Hydraulic tool	5.00			4665.00	
Packer	5.00			4670.00	20.00 Bottom Of Top Packer
Packer	4.00			4674.00	
Stubb	1.00			4675.00	
Recorder	0.00	6651	Inside	4675.00	
Recorder	0.00	8959	Outside	4675.00	
Perforations	2.00			4677.00	
Change Over Sub	1.00			4678.00	
Drill Pipe	30.00			4708.00	
Change Over Sub	1.00			4709.00	
Bullnose	3.00			4712.00	38.00 Bottom Packers & Anchor

**Total Tool Length: 58.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Val Energy, Inc.

**Kough Mattson Unit #1-4**

125 N. Market St. Ste. 1110  
Wichita, KS 67202

**4-8S-35W Thomas,KS**

Job Ticket: 58219

**DST#: 9**

ATTN: Tim Priest

Test Start: 2016.12.09 @ 10:49:22

## 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:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
187.00	HOCM, 30%O 70%M	1.503
143.00	CO	2.027

Total Length: 330.00 ft      Total Volume: 3.530 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 19-31 hydrometer sat on top of clean oil recovered

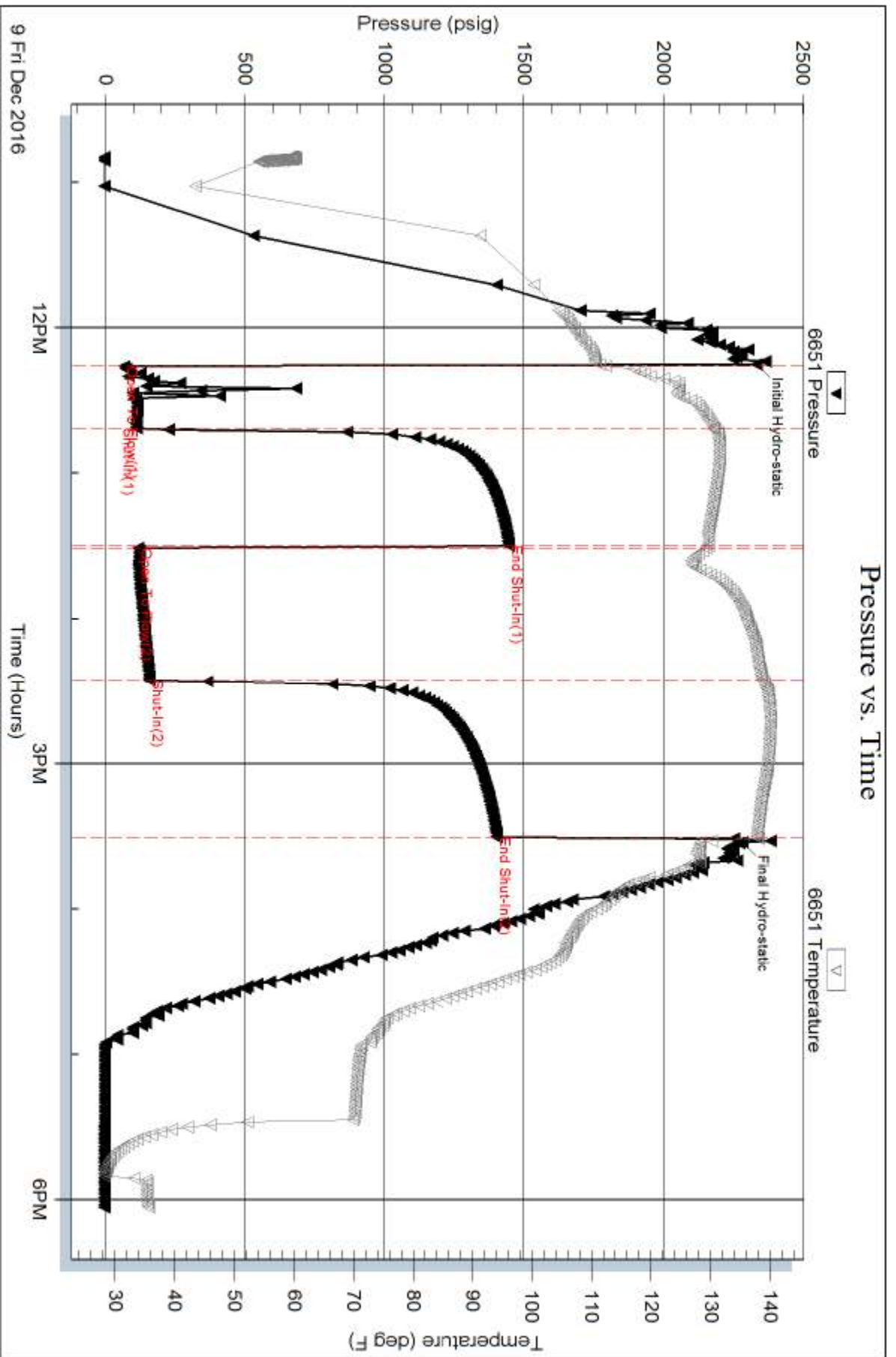
Serial #: 6651

Inside

Val Energy, Inc.

4-8S-35W Thomas, KS

DST Test Number: 9

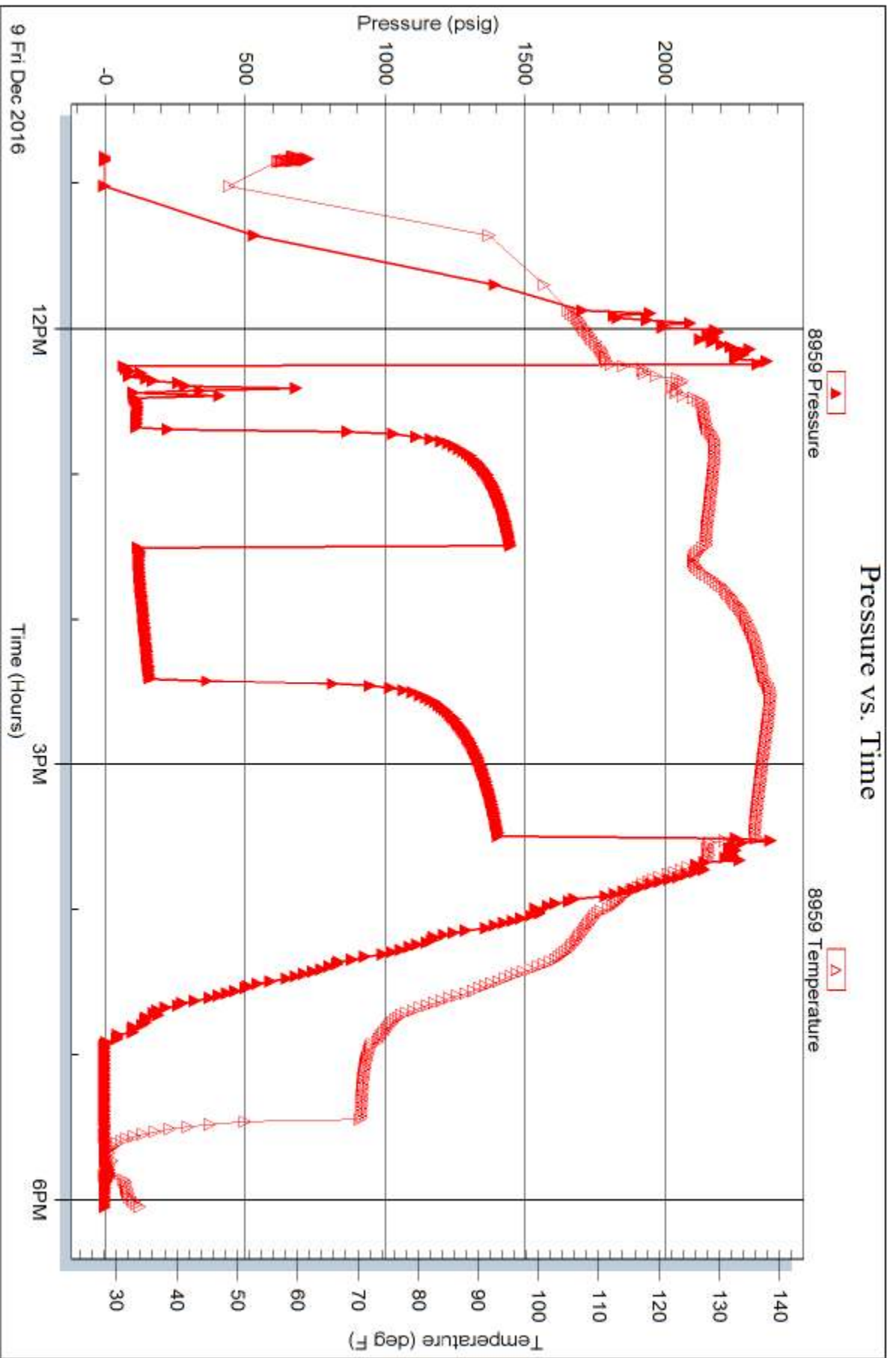


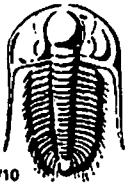
Serial #: 8959

Outside Val Energy, Inc.

4-8S-35W Thomas, KS

DST Test Number: 9





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58211

Well Name & No. Kaugh Mattson Unit #1-4 Test No. 1 Date 12/3/16  
 Company Val Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St., Ste. 1110 Wichita, KS 67202  
 Co. Rep / Geo. Tom Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

Interval Tested 4157-4201 Zone Tested Lansing "A+B"  
 Anchor Length 44' Drill Pipe Run 4037 Mud Wt. 9.0  
 Top Packer Depth 4152 Drill Collars Run 124 Vis 58  
 Bottom Packer Depth 4157 Wt. Pipe Run --- WL 8.8  
 Total Depth 4201 Chlorides 3,500 ppm System LCM 1#  
 Blow Description IF - BOB 22 mins  
EST - No Blow  
FP - BOB 27 mins  
FSI - No Blow

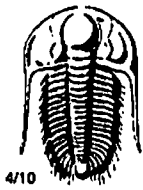
Rec	Feet of	%gas	%oil	%water	%mud
<u>469</u>	<u>MW</u>			<u>85</u>	<u>15</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 409' BHT 134° Gravity --- API RW .21 @ 36° F Chlorides 63,000 ppm  
 (A) Initial Hydrostatic 2067  Test 1150 T-On Location 1210  
 (B) First Initial Flow 16  Jars --- T-Started 1239  
 (C) First Final Flow 101  Safety Joint --- T-Open 1751  
 (D) Initial Shut-In 1277  Circ Sub --- T-Pulled 2106  
 (E) Second Initial Flow 104  Hourly Standby 1 hr 80 T-Out 2305  
 (F) Second Final Flow 198  Mileage 242 RT 158rt Comments ---  
 (G) Final Shut-In 1268  Sampler --- 118.50  
 (H) Final Hydrostatic 2038  Straddle ---  
 Shale Packer 250  Ruined Shale Packer ---  
 Extra Packer ---  Ruined Packer ---  
 Extra Recorder ---  Extra Copies ---  
 Day Standby --- Sub Total 0  
 Accessibility --- Total 1598.50  
 Sub Total 1598.50 MP/DST Disc't ---

Approved By \_\_\_\_\_ Our Representative Brennan Lonsdale

Tribolite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58212

Well Name & No. Kough Mattson Unit #1-4 Test No. 2 Date 12/4/16  
 Company Val Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St., Ste. 1110 Wichita, KS 67202  
 Co. Rep / Geo. Tim Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

Interval Tested 4239-4270 Zone Tested Lansing "E&F"  
 Anchor Length 31' Drill Pipe Run 4100 Mud Wt. 9.3  
 Top Packer Depth 4234 Drill Collars Run 124 Vis 59  
 Bottom Packer Depth 4239 Wt. Pipe Run \_\_\_\_\_ WL 8.8  
 Total Depth 4270 Chlorides 5000 ppm System LCM 1A

Blow Description IF - slowly built to 1"  
ISI - No blow  
FF - slowly built to 2 1/2"  
FST - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>MW w/ show of oil in tool</u>			<u>75</u>	<u>25</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

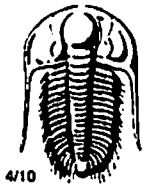
Rec Total 124' BHT 124° Gravity \_\_\_\_\_ API RW .22 @ 50° F Chlorides 42,000 ppm

(A) Initial Hydrostatic 2083  Test 1150 T-On Location 0905  
 (B) First Initial Flow 10  Jars \_\_\_\_\_ T-Started 0925  
 (C) First Final Flow 29  Safety Joint \_\_\_\_\_ T-Open 1118  
 (D) Initial Shut-In 1288  Circ Sub \_\_\_\_\_ T-Pulled 1518  
 (E) Second Initial Flow 32  Hourly Standby \_\_\_\_\_ T-Out 1701  
 (F) Second Final Flow 66  Mileage 242 RT <sup>118.50</sup> Comments \_\_\_\_\_  
 (G) Final Shut-In 1275  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2040  Straddle \_\_\_\_\_

Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1518.50

Approved By \_\_\_\_\_ Our Representative Brannon Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58213

Well Name & No. Kough Mattson Unit #1-4 Test No. 3 Date 12/5/16  
 Company Val Energy, Inc. Elevation 3316 KB 331 GL  
 Address 125 N. Market St, Ste. 110 Wichita, KS 67202  
 Co. Rep / Geo. Tim Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 85 W Co. Thomas State KS

Interval Tested 4362 - 4380 Zone Tested Lansing "J"  
 Anchor Length 18' Drill Pipe Run 4227 Mud Wt. 9.3  
 Top Packer Depth 4357 Drill Collars Run 124 Vis 59  
 Bottom Packer Depth 4362 Wt. Pipe Run          WL 8.8  
 Total Depth 4380 Chlorides 5,000 ppm System LCM 1#

Blow Description IF - BOB 3 mins  
ISI - BOB 11 mins  
FF - BOB instantly  
EIS - BOB 14 mins

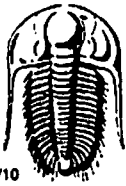
Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>AMCO</u>	<u>20</u>	<u>65</u>	<u>15</u>	<u>        </u>
<u>508</u>	<u>GD</u>	<u>25</u>	<u>25</u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>1650' GIP</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

Rec Total 632' BHT 139° Gravity 34 API RW          @          °F Chlorides          ppm  
 (A) Initial Hydrostatic 2160  Test 1150 T-On Location 0548  
 (B) First Initial Flow 25  Jars          T-Started 0607  
 (C) First Final Flow 104  Safety Joint          T-Open 0749  
 (D) Initial Shut-In 1318  Circ Sub          T-Pulled 1104  
 (E) Second Initial Flow 116  Hourly Standby          T-Out 1347  
 (F) Second Final Flow 237  Mileage 242 RT 118.50 Comments           
 (G) Final Shut-In 1265  Sampler           
 (H) Final Hydrostatic 2128  Straddle           Ruined Shale Packer         

Shale Packer 250  Ruined Packer           
 Extra Packer           Extra Copies           
 Initial Open 30  Extra Recorder          Sub Total 0  
 Initial Shut-In 4500  Day Standby          Total 1518.50  
 Final Flow 60  Accessibility          MP/DST Disc't           
 Final Shut-In 60 Sub Total 1518.50

Approved By          Our Representative Brian Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58214

Well Name & No. Kough Mattson Unit #1-4 Test No. 4 Date 12/5/16  
 Company Val Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St. Ste. 110 Wichita, KS 67262  
 Co. Rep / Geo. Tim Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

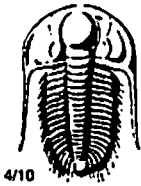
Interval Tested 4380-4410 Zone Tested Lansing "K"  
 Anchor Length 30' Drill Pipe Run 4259 Mud Wt. 9.4  
 Top Packer Depth 4375 Drill Collars Run 124 Vis 56  
 Bottom Packer Depth 4380 Wt. Pipe Run --- WL 8.0  
 Total Depth 4410 Chlorides 3,500 ppm System LCM 1#  
 Blow Description IF - slowly built to 4"  
ISI - No blow  
FF - slowly built to 5"  
FSD - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>OCM</u>	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>
<u>31</u>	<u>MCO</u>	<u>10</u>	<u>45</u>	<u>45</u>	<u>45</u>
<u>---</u>	<u>31' GIP</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

Rec Total 93' BHT 126° Gravity 30 API RW ---@ --- F Chlorides --- ppm

(A) Initial Hydrostatic 2194  Test 1150 T-On Location 2027  
 (B) First Initial Flow 15  Jars --- T-Started 2043  
 (C) First Final Flow 30  Safety Joint --- T-Open 2244  
 (D) Initial Shut-In 1303  Circ Sub --- T-Pulled 0159  
 (E) Second Initial Flow 33  Hourly Standby --- T-Out 0352  
 (F) Second Final Flow 56  Mileage 242 RT 118.50 Comments ---  
 (G) Final Shut-In 1294  Sampler ---  
 (H) Final Hydrostatic 2145  Straddle ---  Ruined Shale Packer ---  
 Shale Packer 250  Ruined Packer ---  
 Extra Packer ---  Extra Copies ---  
 Extra Recorder --- Sub Total 0  
 Day Standby --- Total 1518.50  
 Accessibility --- MP/DST Disc't ---  
 Sub Total 1518.50

Approved By \_\_\_\_\_ Our Representative Brennan Lonsdale  
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# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58215

Well Name & No. Kough Mattson Unit #1-4 Test No. 5 Date 12/6/16  
 Company Val Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St, Ste 1110 Wichita, KS 67202  
 Co. Rep / Geo. Tim Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

Interval Tested 4441-4515 Zone Tested Pleasanton - Marmaton "A+B"  
 Anchor Length 74' Drill Pipe Run 4321 Mud Wt. 9.2  
 Top Packer Depth 4436 Drill Collars Run 124 Vis 58  
 Bottom Packer Depth 4441 Wt. Pipe Run          WL 9.6  
 Total Depth 4515 Chlorides 6,100 ppm System LCM 1#

Blow Description IF- BOB 4mins  
ISI- Slowly built to 9 1/2"  
FF- BOB 3mins  
PSI- BOB 7mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>187</u>	<u>GOCM</u>	<u>30</u>	<u>25</u>	<u>45</u>	<u>        </u>
<u>190</u>	<u>G.M.G.O</u>	<u>10</u>	<u>65</u>	<u>25</u>	<u>        </u>
<u>222</u>	<u>C.G.O</u>	<u>15</u>	<u>85</u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>2633' CIP</u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>
<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>

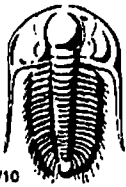
Rec Total 599 BHT 131° Gravity 31 API RW          @          °F Chlorides          ppm

(A) Initial Hydrostatic <u>2214</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1623</u>
(B) First Initial Flow <u>32</u>	<input type="checkbox"/> Jars <u>        </u>	T-Started <u>1644</u>
(C) First Final Flow <u>129</u>	<input type="checkbox"/> Safety Joint <u>        </u>	T-Open <u>1844</u>
(D) Initial Shut-In <u>1372</u>	<input type="checkbox"/> Circ Sub <u>        </u>	T-Pulled <u>2159</u>
(E) Second Initial Flow <u>141</u>	<input type="checkbox"/> Hourly Standby <u>        </u>	T-Out <u>12/7</u> <u>0103</u>
(F) Second Final Flow <u>266</u>	<input checked="" type="checkbox"/> Mileage <u>242 RT</u> <u>118.50</u>	Comments <u>        </u>
(G) Final Shut-In <u>1355</u>	<input type="checkbox"/> Sampler <u>        </u>	<u>        </u>
(H) Final Hydrostatic <u>2178</u>	<input type="checkbox"/> Straddle <u>        </u>	<input type="checkbox"/> Ruined Shale Packer <u>        </u>

Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer <u>        </u>	<input type="checkbox"/> Extra Copies <u>        </u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder <u>        </u>	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby <u>        </u>	Total <u>1518.50</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility <u>        </u>	MP/DST Disc't <u>        </u>
	Sub Total <u>1518.50</u>	

Approved By          Our Representative Brannon Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58216

Well Name & No. Kough Mattson Unit #1-4 Test No. 6 Date 12/7/16  
 Company Vul Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St., Ste. 110 Wichita, KS 67202  
 Co. Rep / Geo. Tim Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

Interval Tested 4556-4590 Zone Tested Pannoe  
 Anchor Length 34' Drill Pipe Run 4448 Mud Wt. 9.3  
 Top Packer Depth 4551 Drill Collars Run 124 Vis 49  
 Bottom Packer Depth 4556 Wt. Pipe Run --- WL 8.8  
 Total Depth 4590 Chlorides 5,200 ppm System LCM 1#

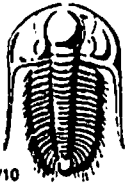
Blow Description IF- BOB 1min  
ISF- Slowly built to 2"  
PF- BOB 3mins  
FSF- Slowly built to 4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>1473</u>	<u>NAW</u>			<u>80</u>	<u>20</u>
<u>15</u>	<u>CO</u>				
	<u>2960 GIP</u>				

Rec Total 1488' BHT 142° Gravity 30 API RW .23 @ 29 °F Chlorides 22000 ppm  
 (A) Initial Hydrostatic 2285  Test 1150 T-On Location 1151  
 (B) First Initial Flow 73  Jars --- T-Started 1210  
 (C) First Final Flow 257  Safety Joint --- T-Open 1411  
 (D) Initial Shut-In 1367  Circ Sub --- T-Pulled 1651  
 (E) Second Initial Flow 273  Hourly Standby --- T-Out 2007  
 (F) Second Final Flow 686  Mileage 242 RT 118.50 Comments ---  
 (G) Final Shut-In 1291  Sampler ---  
 (H) Final Hydrostatic 2243  Straddle ---  
 Shale Packer 250  Ruined Shale Packer ---  
 Extra Packer ---  Ruined Packer ---  
 Extra Recorder ---  Extra Copies ---  
 Day Standby --- Sub Total 0  
 Accessibility --- Total 1518.50  
 Sub Total 1518.50 MP/DST Disc't ---

Approved By \_\_\_\_\_ Our Representative Braman Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58217

Well Name & No. Kang Mattson Unit #1-4 Test No. 7 Date 12/8/16  
 Company Val Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St., Ste. 1110 Wichita, KS 67202  
 Co. Rep / Geo. Tim Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 WCo. Thomas State KS

Interval Tested 4586-4650 Zone Tested Myric + Ft. Scott  
 Anchor Length 64' Drill Pipe Run 4447 Mud Wt. 9.2  
 Top Packer Depth 4581 Drill Collars Run 124 Vis 48  
 Bottom Packer Depth 4586 Wt. Pipe Run          WL 9.6  
 Total Depth 4650 Chlorides 6400 ppm System LCM 1P  
 Blow Description IF - Slowly built to 2"  
ISI - No blow  
FF - No blow  
FSI - No blow

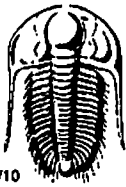
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>M</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30' BHT 126° Gravity          API RW          @          °F Chlorides          ppm

(A) Initial Hydrostatic <u>2330</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0521</u>
(B) First Initial Flow <u>33</u>	<input type="checkbox"/> Jars <u>        </u>	T-Started <u>0559</u>
(C) First Final Flow <u>38</u>	<input type="checkbox"/> Safety Joint <u>        </u>	T-Open <u>0758</u>
(D) Initial Shut-In <u>768</u>	<input type="checkbox"/> Circ Sub <u>        </u>	T-Pulled <u>1043</u>
(E) Second Initial Flow <u>40</u>	<input type="checkbox"/> Hourly Standby <u>        </u>	T-Out <u>1230</u>
(F) Second Final Flow <u>45</u>	<input checked="" type="checkbox"/> Mileage <u>242 RT</u> 118.50	Comments <u>        </u>
(G) Final Shut-In <u>969</u>	<input type="checkbox"/> Sampler <u>        </u>	
(H) Final Hydrostatic <u>2304</u>	<input type="checkbox"/> Straddle <u>        </u>	
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input checked="" type="checkbox"/> Ruined Shale Packer <u>320</u>
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer <u>        </u>	<input type="checkbox"/> Ruined Packer <u>        </u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder <u>        </u>	<input type="checkbox"/> Extra Copies <u>        </u>
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby <u>        </u>	Sub Total <u>320</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility <u>        </u>	Total <u>1838.50</u>
	Sub Total <u>1518.50</u>	MP/DST Disc't <u>        </u>

Approved By \_\_\_\_\_ Our Representative Brian Lonsdale

TriLOBite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58218

Well Name & No. Rough Mattson Unit #1-4 Test No. 8 Date 12/8/16  
 Company Val Energy, Inc. Elevation 3316 KB 3311 GL  
 Address 125 N. Market St., Ste. 110 Wichita, KS 67202  
 Co. Rep / Geo. D.M. Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

Interval Tested 4650-4675 Zone Tested Cherokee  
 Anchor Length 25' Drill Pipe Run 4511 Mud Wt. 9.2  
 Top Packer Depth 4645 Drill Collars Run 124 Vis 48  
 Bottom Packer Depth 4650 Wt. Pipe Run — WL 9.6  
 Total Depth 4675 Chlorides 6,000 ppm System LCM 1#  
 Blow Description IF - Slowly built to 1"  
ISI - No Blow  
PF - No Blow  
FSD - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>NA</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

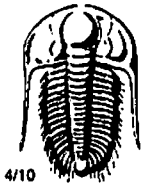
Rec Total 3 BHT 124° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2291</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2000</u>
(B) First Initial Flow <u>10</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>2016</u>
(C) First Final Flow <u>12</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>2236</u>
(D) Initial Shut-In <u>36</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>12/9</u> <u>0106</u>
(E) Second Initial Flow <u>10</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0257</u>
(F) Second Final Flow <u>12</u>	<input checked="" type="checkbox"/> Mileage <u>242 RT</u> <u>118.50</u>	Comments <u>—</u>
(G) Final Shut-In <u>39</u>	<input type="checkbox"/> Sampler <u>—</u>	
(H) Final Hydrostatic <u>2262</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1518.50</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1518.50</u>	

Approved By \_\_\_\_\_

Our Representative Brannon Lonsdale

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58219

Well Name & No. Lough Mattison Unit #1-4 Test No. 9 Date 12/9/16  
 Company Val Energy, Inc Elevation 3316 KB 3311 GL  
 Address 125 N. Market St, Ste. 1110 Wichita, KS 67202  
 Co. Rep / Geo. Tom Priest Rig WW #10  
 Location: Sec. 4 Twp. 8 S Rge. 35 W Co. Thomas State KS

Interval Tested 4674-4712 Zone Tested Johnson  
 Anchor Length 38' Drill Pipe Run 4543 Mud Wt. 9.2  
 Top Packer Depth 4669 Drill Collars Run 124 Vis 49  
 Bottom Packer Depth 4674 Wt. Pipe Run --- WL 8.0  
 Total Depth 4712 Chlorides 5500 ppm System LCM 1#  
 Blow Description IF - slowly built to 5"  
ISF - No blow  
FF - BOB 34 mins  
PSI - Very weak surface blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>137</u>	<u>Feet of AOCMA</u>		<u>30%</u>	<u>70%</u>	
<u>143</u>	<u>Feet of CO</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 330 BHT 138° Gravity <19 API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>2334</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1025</u>
(B) First Initial Flow <u>66</u>	<input type="checkbox"/> Jars <u>---</u>	T-Started <u>1049</u>
(C) First Final Flow <u>111</u>	<input type="checkbox"/> Safety Joint <u>---</u>	T-Open <u>1215</u>
(D) Initial Shut-In <u>1448</u>	<input type="checkbox"/> Circ Sub <u>---</u>	T-Pulled <u>1530</u>
(E) Second Initial Flow <u>117</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>1803</u>
(F) Second Final Flow <u>158</u>	<input checked="" type="checkbox"/> Mileage <u>242 RT</u> <u>118.50</u>	Comments <u>Stayed 6 nights</u>
(G) Final Shut-In <u>1405</u>	<input type="checkbox"/> Sampler <u>---</u>	<u>@ Quality Inn in</u>
(H) Final Hydrostatic <u>2284</u>	<input type="checkbox"/> Straddle <u>---</u>	<u>Colby, KS</u>
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer <u>---</u>	<input type="checkbox"/> Ruined Packer <u>---</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder <u>---</u>	<input type="checkbox"/> Extra Copies <u>---</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>---</u>	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility <u>---</u>	Total <u>1518.50</u>
	Sub Total <u>1518.50</u>	MP/DST Disc't <u>---</u>

Approved By \_\_\_\_\_ Our Representative Brennan Ionsdale  
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