



## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #3-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.03.11 @ 21:08:52

End Date: 2018.03.12 @ 05:00:22

Job Ticket #: 64311                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.14 @ 14:58:24



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64311

**DST#: 1**

ATTN: Steve Davis

Test Start: 2018.03.11 @ 21:08:52

## GENERAL INFORMATION:

Formation: **Marmaton A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:00:22

Time Test Ended: 05:00:22

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 4374.00 ft (KB) To 4442.00 ft (KB) (TVD)**

Reference Elevations: 3336.00 ft (KB)

Total Depth: 4442.00 ft (KB) (TVD)

3326.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 21.96 psig @ 4375.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.11

End Date:

2018.03.12

Last Calib.: 2018.03.12

Start Time: 21:08:57

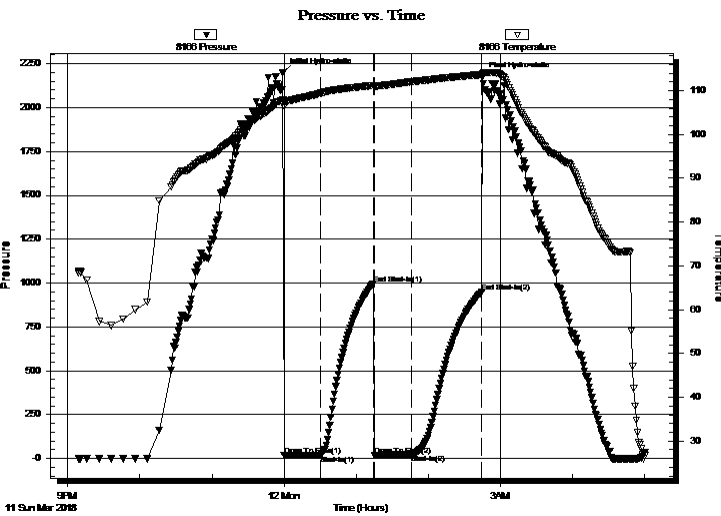
End Time:

05:00:21

Time On Btm: 2018.03.11 @ 23:58:52

Time Off Btm: 2018.03.12 @ 02:44:52

**TEST COMMENT:** IF: 1/4" blow built to 1"  
IS: No return.  
FF: No blow.  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.38	107.84	Initial Hydro-static
2	17.90	107.48	Open To Flow (1)
32	18.94	109.40	Shut-In(1)
75	995.07	111.19	End Shut-In(1)
76	19.88	110.99	Open To Flow (2)
107	21.96	112.05	Shut-In(2)
166	949.26	113.65	End Shut-In(2)
166	2173.66	113.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.14

## Gas Rates

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



**TRILOBITE**  
TESTING, INC.

**DRILL STEM TEST REPORT**

Lario Oil & Gas  
301 S Market St  
Wichita, KS 67202  
ATTN: Steve Davis

**4-19s-37w Wichita,KS**

**Knobbe #3-4**

Job Ticket: 64311      **DST#: 1**  
Test Start: 2018.03.11 @ 21:08:52

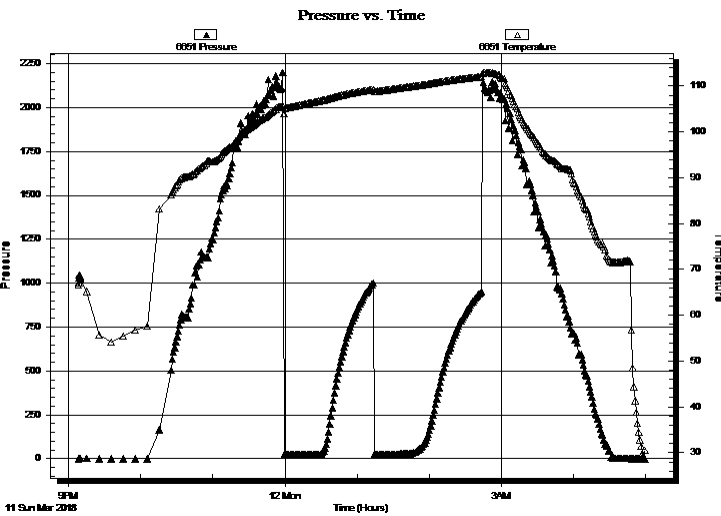
**GENERAL INFORMATION:**

Formation: **Marmaton A**  
Deviated: No Whipstock: ft (KB)      Test Type: Conventional Bottom Hole (Initial)  
Time Tool Opened: 00:00:22      Tester: Brandon Turley  
Time Test Ended: 05:00:22      Unit No: 79  
**Interval: 4374.00 ft (KB) To 4442.00 ft (KB) (TVD)**      Reference Elevations: 3336.00 ft (KB)  
Total Depth: 4442.00 ft (KB) (TVD)      3326.00 ft (CF)  
Hole Diameter: 7.88 inchesHole Condition: Good      KB to GR/CF: 10.00 ft

**Serial #: 6651      Inside**

Press@RunDepth:      psig @ 4375.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2018.03.11      End Date: 2018.03.12      Last Calib.: 2018.03.12  
Start Time: 21:08:16      End Time: 04:59:40      Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF: 1/4" blow built to 1"  
IS: No return.  
FF: No blow.  
FS: No return.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
10.00	mud 100% m	0.14

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64311

**DST#: 1**

ATTN: Steve Davis

Test Start: 2018.03.11 @ 21:08:52

## Tool Information

Drill Pipe:	Length: 4377.00 ft	Diameter: 3.80 inches	Volume: 61.40 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 61.40 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4374.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	68.00 ft			
Tool Length:	95.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4348.00	
Shut In Tool	5.00			4353.00	
Hydraulic tool	5.00			4358.00	
Jars	5.00			4363.00	
Safety Joint	2.00			4365.00	
Packer	5.00			4370.00	27.00 Bottom Of Top Packer
Packer	4.00			4374.00	
Stubb	1.00			4375.00	
Recorder	0.00	6651	Inside	4375.00	
Recorder	0.00	8166	Outside	4375.00	
Perforations	1.00			4376.00	
Change Over Sub	1.00			4377.00	
Drill Pipe	62.00			4439.00	
Change Over Sub	1.00			4440.00	
Bullnose	2.00			4442.00	68.00 Bottom Packers & Anchor

**Total Tool Length: 95.00**



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64311

**DST#: 1**

ATTN: Steve Davis

Test Start: 2018.03.11 @ 21:08:52

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 64.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.39 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

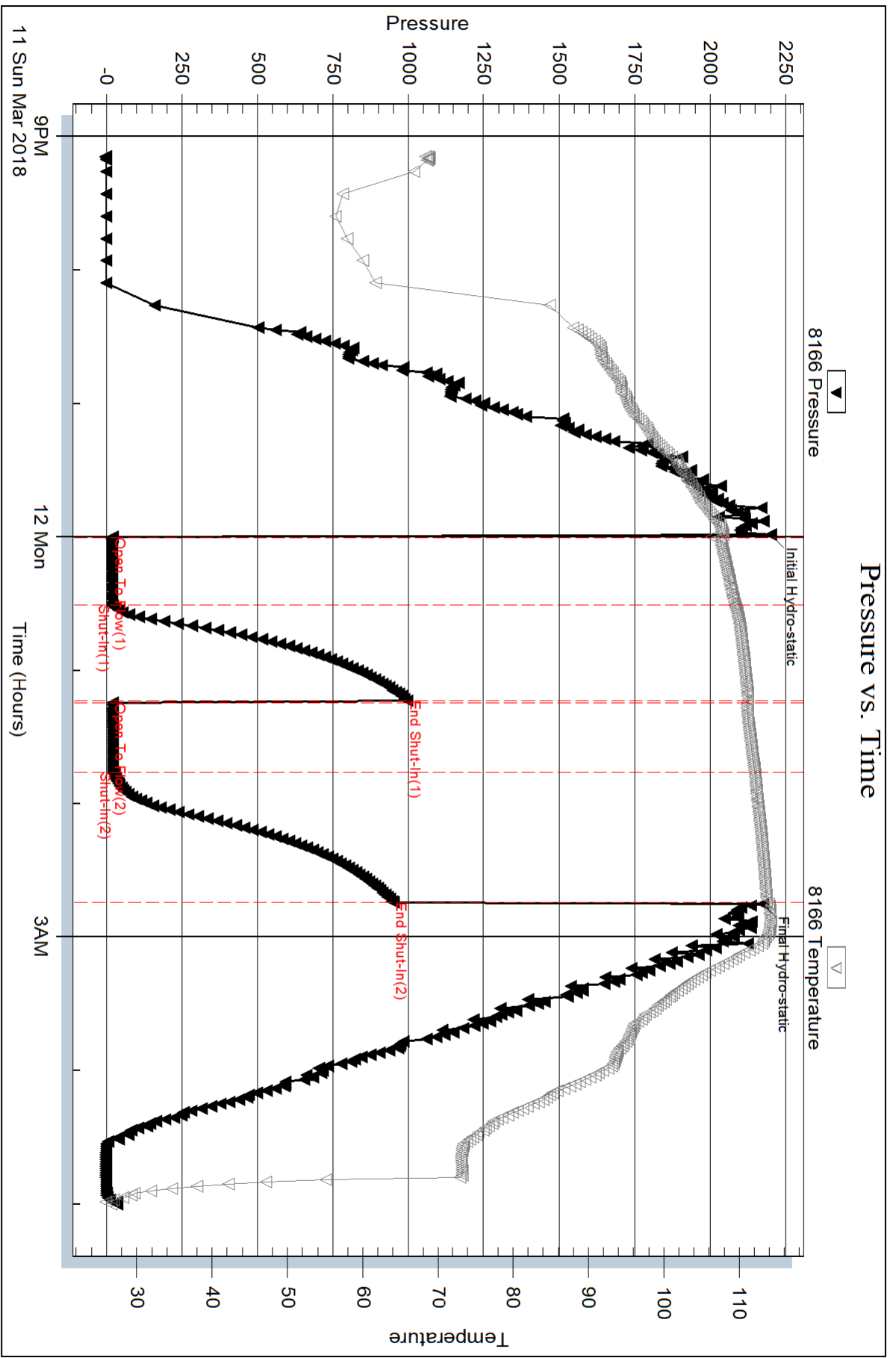
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



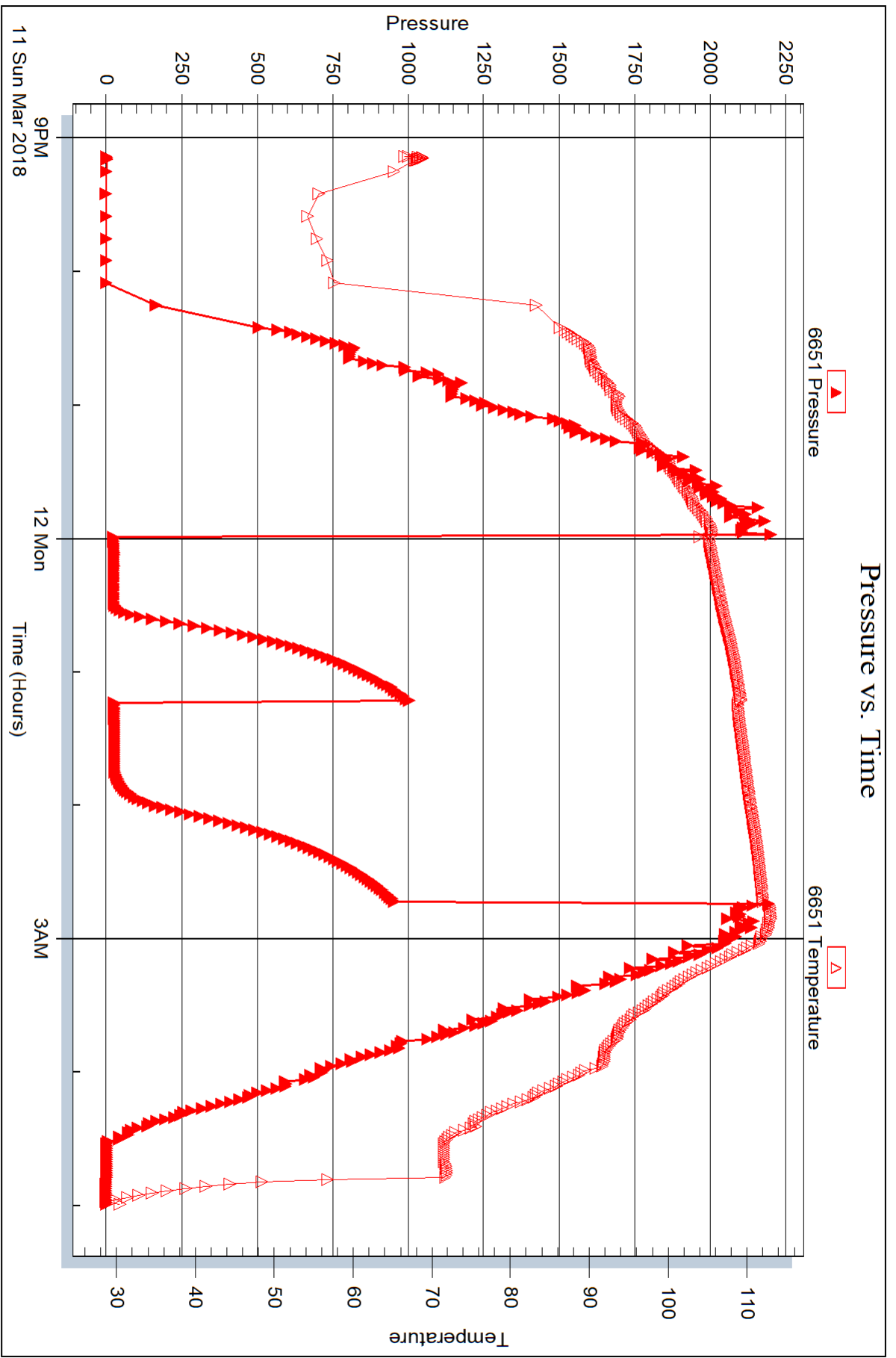
Serial #: 6651

Inside

Lario Oil & Gas

Knobbe #3-4

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #3-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.03.12 @ 19:45:48

End Date: 2018.03.13 @ 02:42:18

Job Ticket #: 64312                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.14 @ 14:58:00





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64312

**DST#: 2**

ATTN: Steve Davis

Test Start: 2018.03.12 @ 19:45:48

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:19:48

Time Test Ended: 02:42:18

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4485.00 ft (KB) To 4515.00 ft (KB) (TVD)**

Reference Elevations: 3336.00 ft (KB)

Total Depth: 4515.00 ft (KB) (TVD)

3326.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 18.96 psig @ 4486.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.12

End Date:

2018.03.13

Last Calib.:

2018.03.13

Start Time: 19:45:53

End Time:

02:42:17

Time On Btm:

2018.03.12 @ 22:18:18

Time Off Btm:

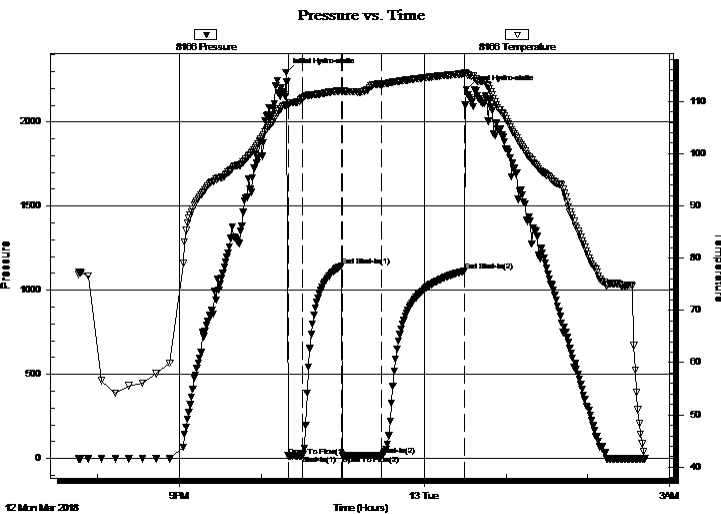
2018.03.13 @ 00:30:48

TEST COMMENT: IF: Surface blow died in 8 min.

IS: No return.

FF: No blow.

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2294.50	109.33	Initial Hydro-static
2	15.78	109.13	Open To Flow (1)
12	17.00	110.57	Shut-In(1)
41	1145.08	112.02	End Shut-In(1)
42	16.82	111.82	Open To Flow (2)
70	18.96	113.30	Shut-In(2)
131	1113.80	115.28	End Shut-In(2)
133	2192.99	115.37	Final Hydro-static

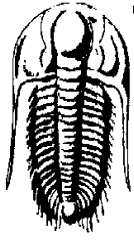
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.14

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

**4-19s-37w Wichita, KS**

**Knobbe #3-4**

Job Ticket: 64312

**DST#: 2**

Test Start: 2018.03.12 @ 19:45:48

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:19:48

Time Test Ended: 02:42:18

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4485.00 ft (KB) To 4515.00 ft (KB) (TVD)**

Reference Elevations: 3336.00 ft (KB)

Total Depth: 4515.00 ft (KB) (TVD)

3326.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 6651 Inside**

Press@RunDepth: psig @ 4486.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.12

End Date:

2018.03.13

Last Calib.:

2018.03.13

Start Time: 19:45:40

End Time:

02:42:04

Time On Btm:

Time Off Btm:

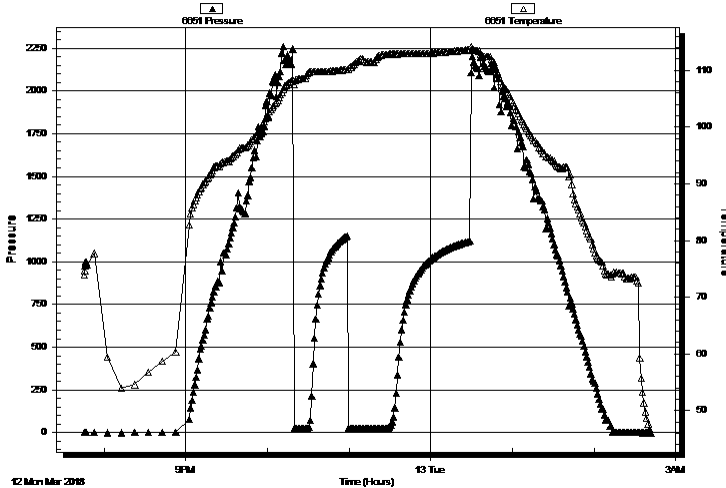
**TEST COMMENT:** IF: Surface blow died in 8 min.

IS: No return.

FF: No blow .

FS: No return.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud 100%m	0.14

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64312

**DST#: 2**

ATTN: Steve Davis

Test Start: 2018.03.12 @ 19:45:48

## Tool Information

Drill Pipe:	Length: 4470.00 ft	Diameter: 3.80 inches	Volume: 62.70 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 62.70 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4485.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			4459.00	
Shut In Tool	5.00			4464.00	
Hydraulic tool	5.00			4469.00	
Jars	5.00			4474.00	
Safety Joint	2.00			4476.00	
Packer	5.00			4481.00	27.00 Bottom Of Top Packer
Packer	4.00			4485.00	
Stubb	1.00			4486.00	
Recorder	0.00	6651	Inside	4486.00	
Recorder	0.00	8166	Outside	4486.00	
Perforations	24.00			4510.00	
Bullnose	5.00			4515.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 57.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64312

**DST#: 2**

ATTN: Steve Davis

Test Start: 2018.03.12 @ 19:45:48

### 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: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud 100%m	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

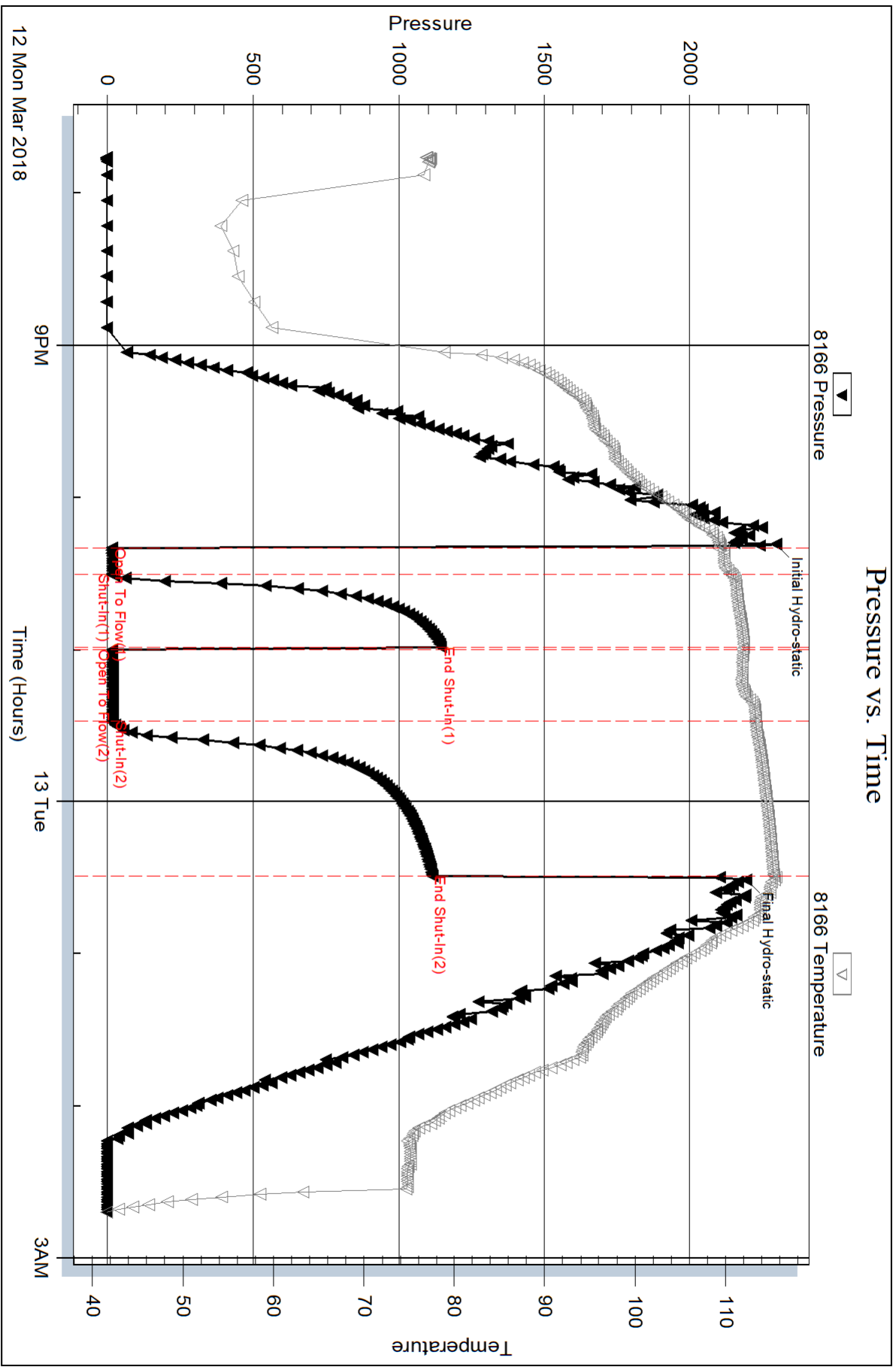
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



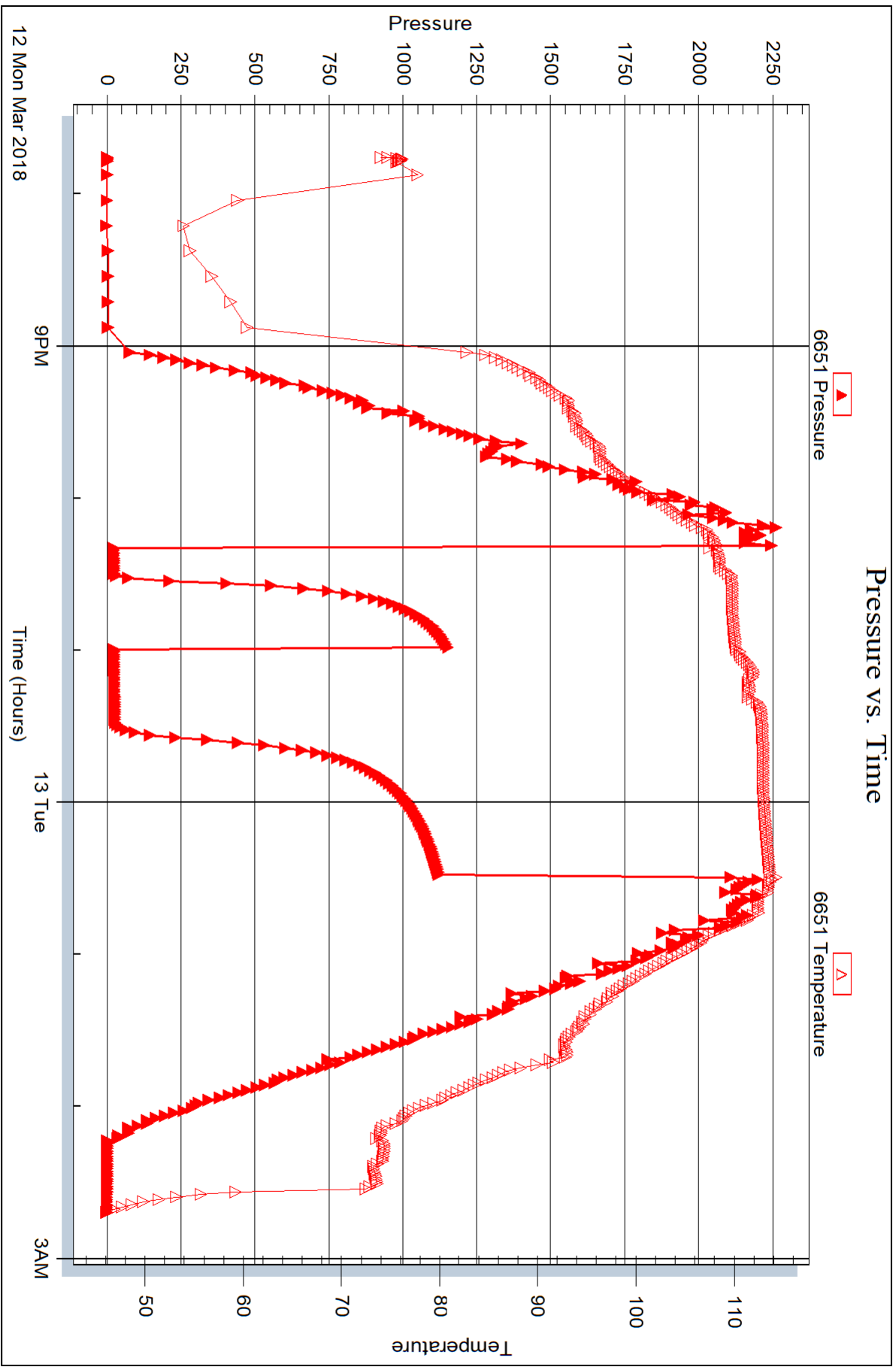
Serial #: 6651

Inside

Lario Oil & Gas

Knobbe #3-4

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #3-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.03.13 @ 13:24:20

End Date: 2018.03.13 @ 19:40:20

Job Ticket #: 64313                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.14 @ 14:57:38



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64313

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.03.13 @ 13:24:20

## GENERAL INFORMATION:

Formation: **Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:54:20

Time Test Ended: 19:40:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4520.00 ft (KB) To 4546.00 ft (KB) (TVD)**

Reference Elevations: 3336.00 ft (KB)

Total Depth: 4546.00 ft (KB) (TVD)

3326.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 23.97 psig @ 4521.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.13

End Date:

2018.03.13

Last Calib.:

2018.03.13

Start Time: 13:24:25

End Time:

19:40:19

Time On Btm:

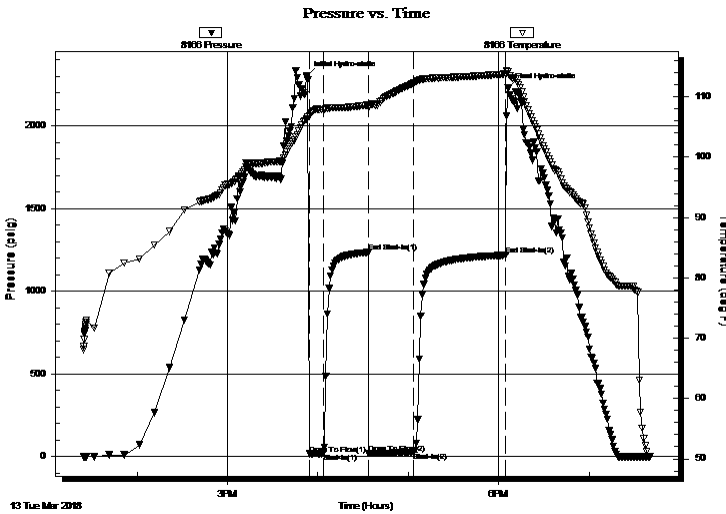
2018.03.13 @ 15:52:50

Time Off Btm:

2018.03.13 @ 18:06:20

**TEST COMMENT:** IF: Surface blow never built.  
IS: No return.  
FF: Surface blow built to 1/4"  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2303.25	106.38	Initial Hydro-static
2	15.53	106.82	Open To Flow (1)
11	17.20	107.85	Shut-In(1)
41	1234.57	108.66	End Shut-In(1)
41	18.17	108.26	Open To Flow (2)
71	23.97	112.24	Shut-In(2)
132	1217.39	113.79	End Shut-In(2)
134	2228.02	114.16	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100%m	0.28

\* Recovery from multiple tests

## Gas Rates

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





# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Lario Oil & Gas  
301 S Market St  
Wichita, KS 67202  
ATTN: Steve Davis

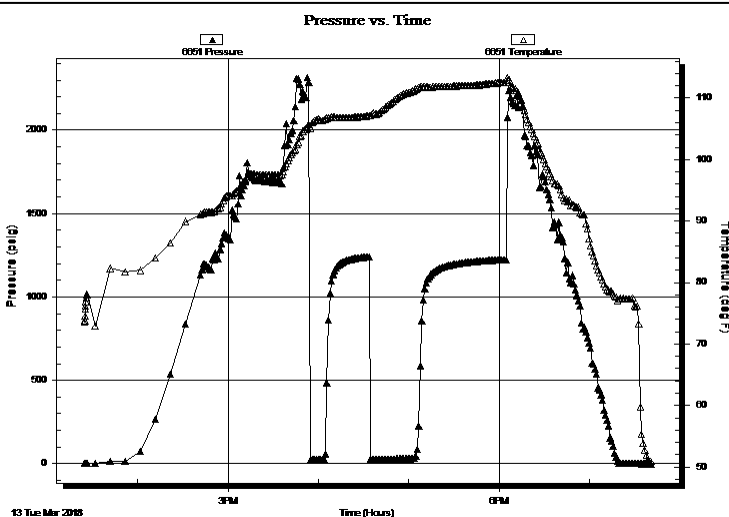
**4-19s-37w Wichita,KS**  
**Knobbe #3-4**  
Job Ticket: 64313      **DST#: 3**  
Test Start: 2018.03.13 @ 13:24:20

### GENERAL INFORMATION:

Formation:	<b>Ft Scott</b>	Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No Whipstock:	ft (KB)	
Time Tool Opened:	15:54:20	Tester:	Brandon Turley
Time Test Ended:	19:40:20	Unit No:	79
Interval:	<b>4520.00 ft (KB) To 4546.00 ft (KB) (TVD)</b>	Reference Elevations:	3336.00 ft (KB)
Total Depth:	4546.00 ft (KB) (TVD)		3326.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	Good
		KB to GR/CF:	10.00 ft

<b>Serial #: 6651</b>	<b>Inside</b>				
Press@RunDepth:	psig @	4521.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2018.03.13	End Date:	2018.03.13	Last Calib.:	2018.03.13
Start Time:	13:24:39	End Time:	19:40:33	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: Surface blow never built.  
IS: No return.  
FF: Surface blow built to 1/4"  
FS: No return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% <sub>m</sub>	0.28

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64313

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.03.13 @ 13:24:20

## Tool Information

Drill Pipe:	Length: 4502.00 ft	Diameter: 3.80 inches	Volume: 63.15 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 63.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4520.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4494.00	
Shut In Tool	5.00			4499.00	
Hydraulic tool	5.00			4504.00	
Jars	5.00			4509.00	
Safety Joint	2.00			4511.00	
Packer	5.00			4516.00	27.00 Bottom Of Top Packer
Packer	4.00			4520.00	
Stubb	1.00			4521.00	
Recorder	0.00	6651	Inside	4521.00	
Recorder	0.00	8166	Outside	4521.00	
Perforations	20.00			4541.00	
Bullnose	5.00			4546.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64313

**DST#: 3**

ATTN: Steve Davis

Test Start: 2018.03.13 @ 13:24:20

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud 100%m	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

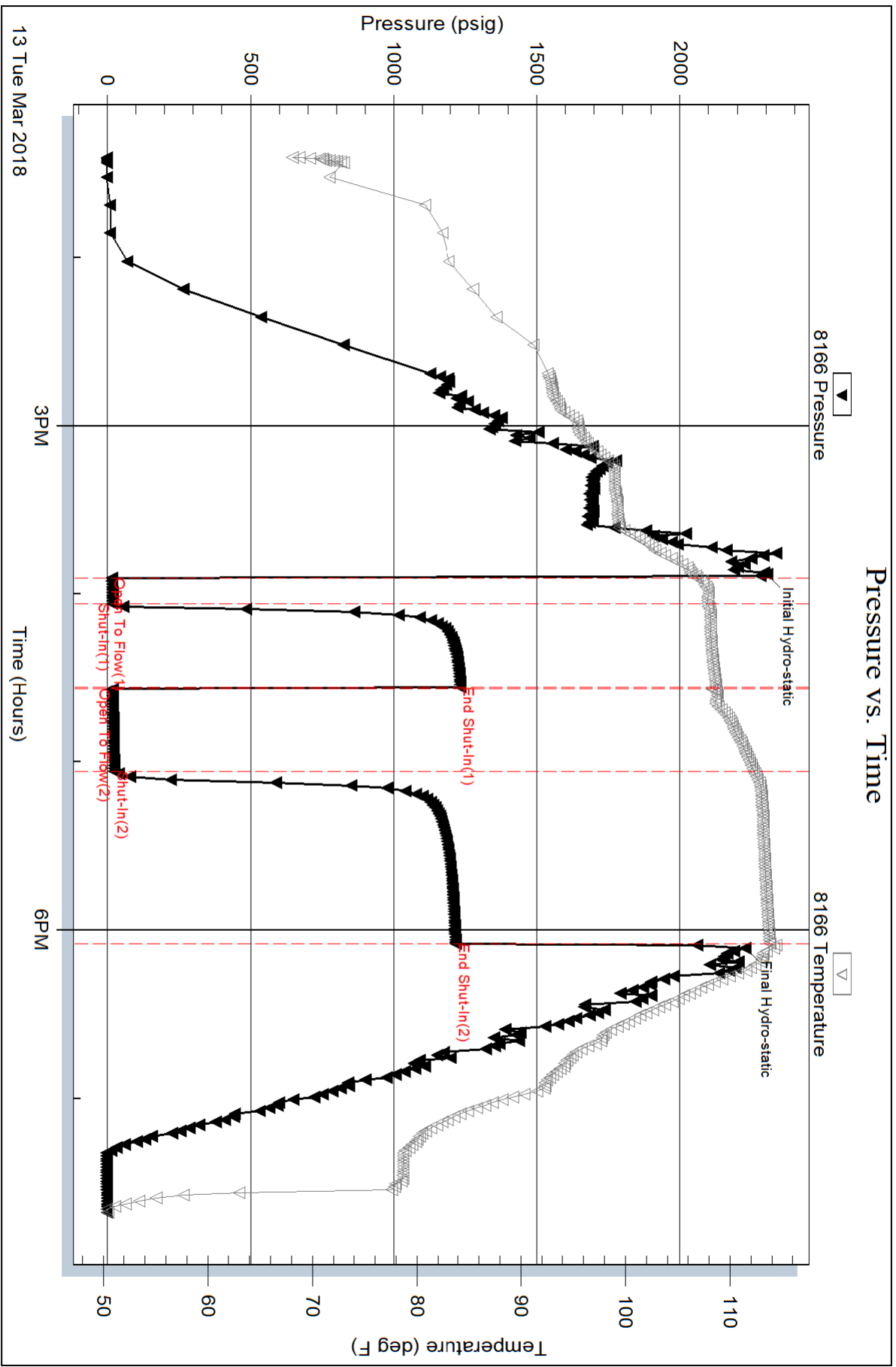
Recovery Comments:

Serial #: 8166

Outside Lario Oil & Gas

Knobbe #3-4

DST Test Number: 3



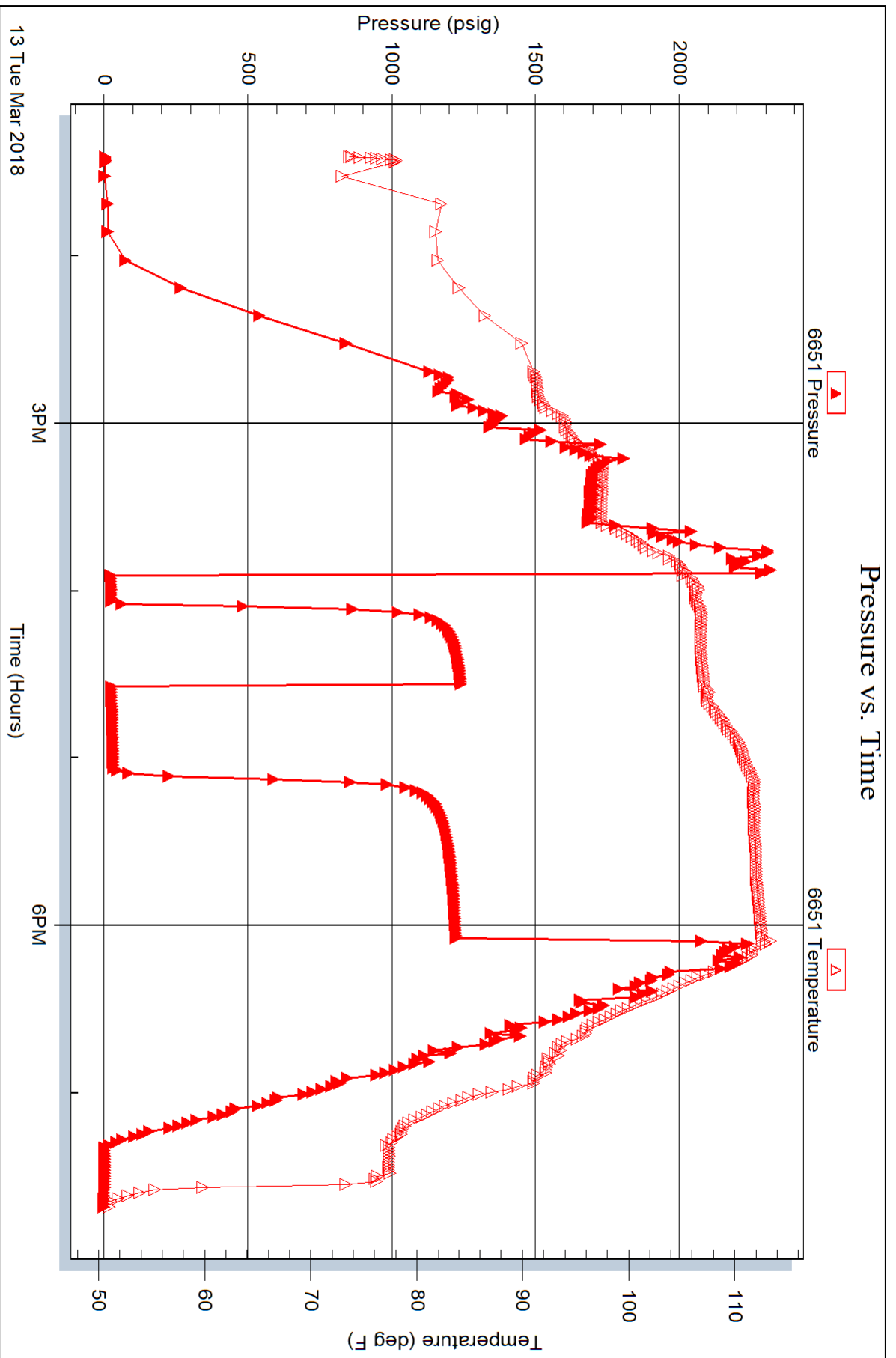
Serial #: 6651

Inside

Lario Oil & Gas

Knobbe #3-4

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Lario Oil & Gas**

301 S Market St  
Wichita, KS 67202

ATTN: Steve Davis

### **Knobbe #3-4**

#### **4-19s-37w Wichita,KS**

Start Date: 2018.03.15 @ 06:15:18

End Date: 2018.03.15 @ 13:54:48

Job Ticket #: 64314                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.16 @ 09:27:23



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64314

**DST#: 4**

ATTN: Steve Davis

Test Start: 2018.03.15 @ 06:15:18

## GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:22:18

Time Test Ended: 13:54:48

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 4710.00 ft (KB) To 4790.00 ft (KB) (TVD)**

Reference Elevations: 3336.00 ft (KB)

Total Depth: 4790.00 ft (KB) (TVD)

3326.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 2011.72 psig @ 4711.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.15

End Date:

2018.03.15

Last Calib.:

2018.03.15

Start Time: 06:15:23

End Time:

13:54:47

Time On Btm:

2018.03.15 @ 09:19:18

Time Off Btm:

2018.03.15 @ 11:07:48

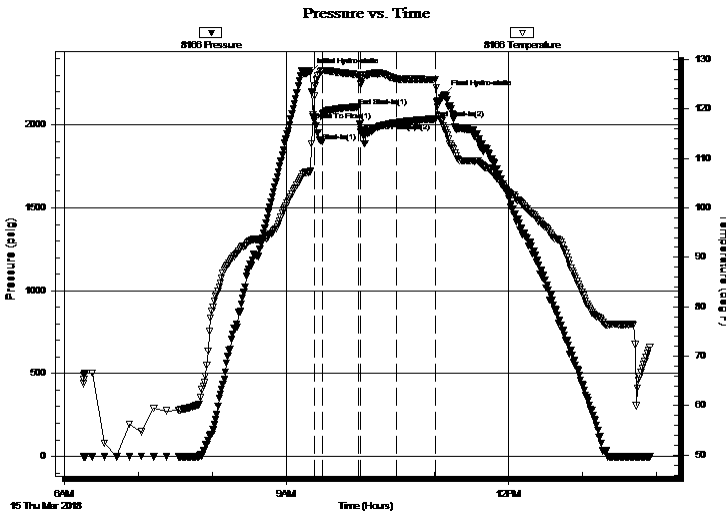
TEST COMMENT: IF: BOB as soon as opened the tool.

IS: No return.

FF: BOB died after 25 min.

FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2315.09	107.41	Initial Hydro-static
3	2025.33	122.58	Open To Flow (1)
10	1896.94	127.69	Shut-In(1)
39	2108.39	126.92	End Shut-In(1)
41	1958.46	125.05	Open To Flow (2)
70	2011.72	126.02	Shut-In(2)
101	2035.50	125.86	End Shut-In(2)
109	2181.34	116.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
4221.00	mud 100% <sub>m</sub>	59.21

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Lario Oil & Gas

**4-19s-37w Wichita, KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64314

**DST#: 4**

ATTN: Steve Davis

Test Start: 2018.03.15 @ 06:15:18

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:22:18  
 Time Test Ended: 13:54:48  
 Interval: **4710.00 ft (KB) To 4790.00 ft (KB) (TVD)**  
 Total Depth: 4790.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 3336.00 ft (KB)  
 3326.00 ft (CF)  
 KB to GR/CF: 10.00 ft

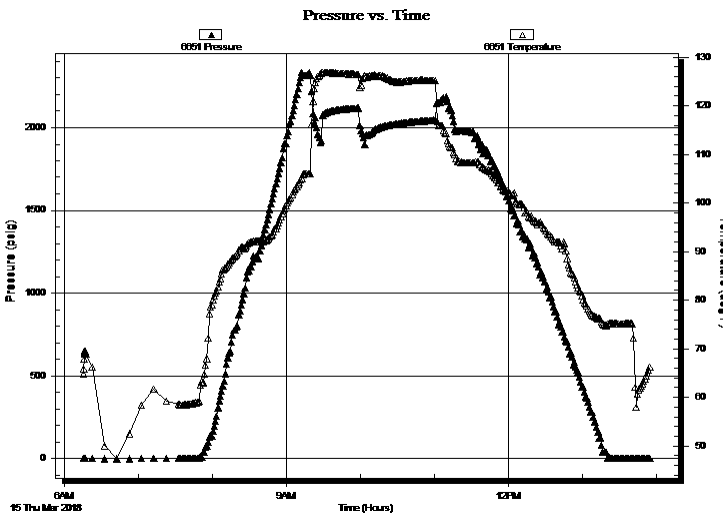
**Serial #: 6651**

**Inside**

Press@RunDepth: psig @ 4711.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.03.15 End Date: 2018.03.15 Last Calib.: 2018.03.15  
 Start Time: 06:15:44 End Time: 13:55:08 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: BOB as soon as opened the tool.  
 IS: No return.  
 FF: BOB died after 25 min.  
 FS: No return.

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
4221.00	mud 100% <sub>m</sub>	59.21

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64314

**DST#: 4**

ATTN: Steve Davis

Test Start: 2018.03.15 @ 06:15:18

## Tool Information

Drill Pipe:	Length: 4690.00 ft	Diameter: 3.80 inches	Volume: 65.79 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	110000.0 lb
			<u>Total Volume: 65.79 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	65000.00 lb
Depth to Top Packer:	4710.00 ft			Final	98000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	80.00 ft				
Tool Length:	107.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4684.00	
Shut In Tool	5.00			4689.00	
Hydraulic tool	5.00			4694.00	
Jars	5.00			4699.00	
Safety Joint	2.00			4701.00	
Packer	5.00			4706.00	27.00 Bottom Of Top Packer
Packer	4.00			4710.00	
Stubb	1.00			4711.00	
Recorder	0.00	6651	Inside	4711.00	
Recorder	0.00	8166	Outside	4711.00	
Perforations	10.00			4721.00	
Change Over Sub	1.00			4722.00	
Drill Pipe	62.00			4784.00	
Change Over Sub	1.00			4785.00	
Bullnose	5.00			4790.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 107.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Lario Oil & Gas

**4-19s-37w Wichita,KS**

301 S Market St  
Wichita, KS 67202

**Knobbe #3-4**

Job Ticket: 64314

**DST#: 4**

ATTN: Steve Davis

Test Start: 2018.03.15 @ 06:15:18

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4221.00	mud 100%m	59.210

Total Length: 4221.00 ft      Total Volume: 59.210 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

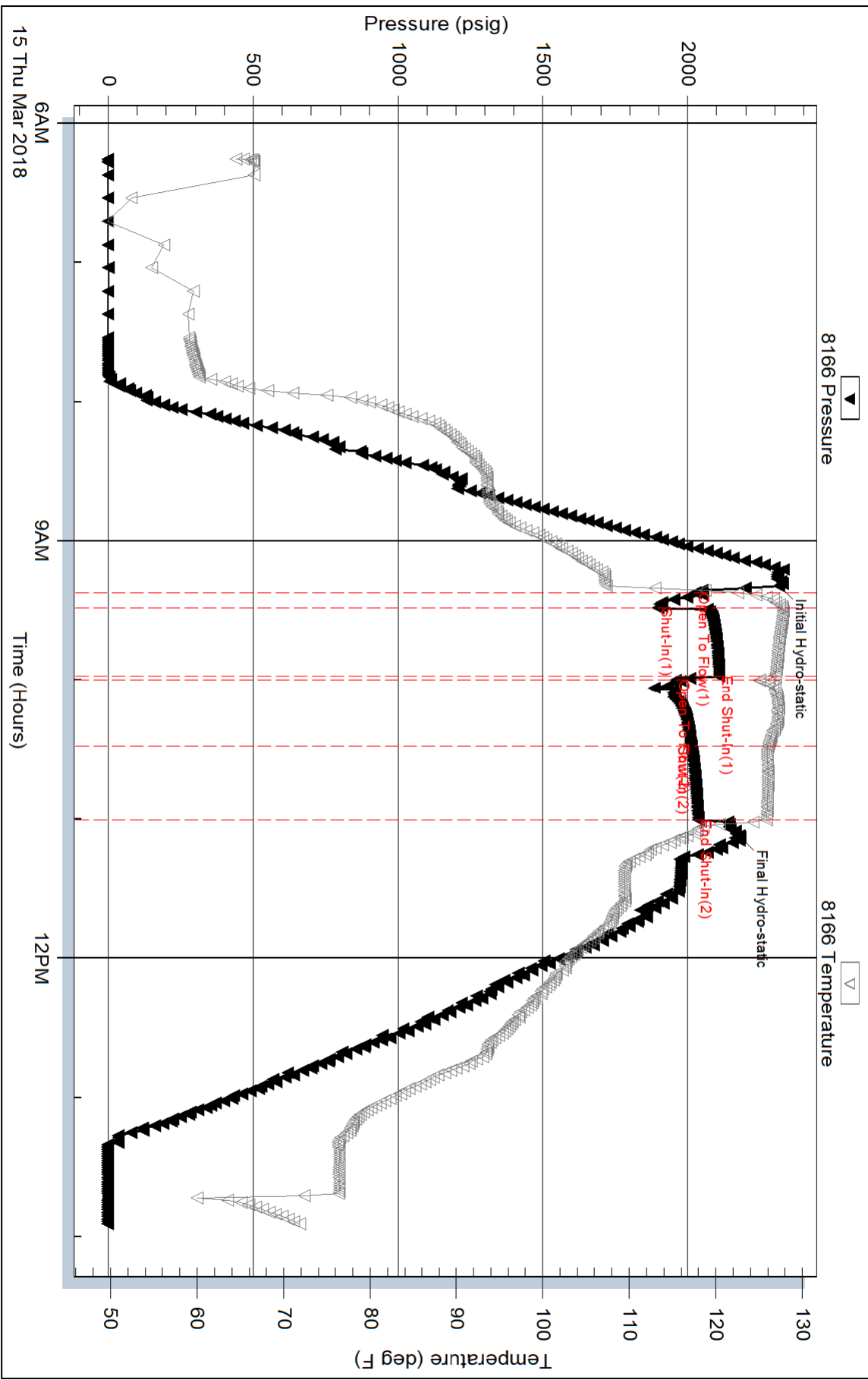
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time



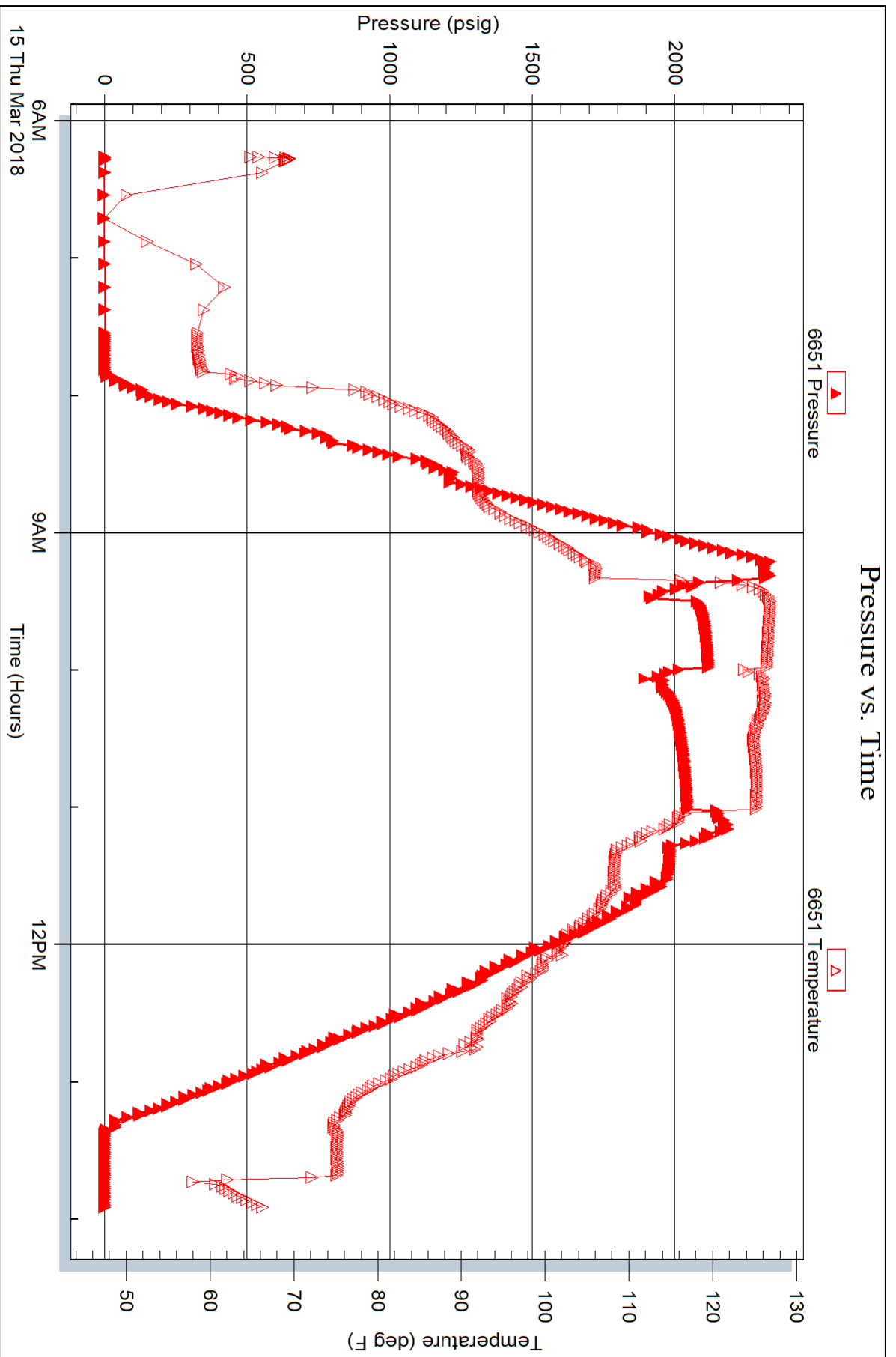
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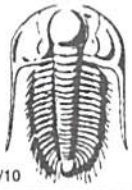
Inside

Lario Oil & Gas

Knobbe #3-4

DST Test Number: 4





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64311**

Well Name & No. Knobbe 3-4 Test No. 1 Date 3-11-18  
 Company Lario oil & Gas Elevation 3336 KB 3326 GL  
 Address 301 S Market st Wichita, KS 67202  
 Co. Rep / Geo. Steve Davis Rig Duke 4  
 Location: Sec. 4 Twp. 19 Rge. 37 Co. Wichita State KS

Interval Tested 4374 4442 Zone Tested Morrison A  
 Anchor Length 68 Drill Pipe Run 4377 Mud Wt. 9.1  
 Top Packer Depth 4369 Drill Collars Run — Vis 64  
 Bottom Packer Depth 4374 Wt. Pipe Run — WL 6.4  
 Total Depth 4442 Chlorides 3000 ppm System LCM 2  
 Blow Description IF! 1/4 blow built to 1.  
IS! No return.  
FF! NO blow.  
FS! No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 1173 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>2206</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>19:15</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:08</u>
(C) First Final Flow <u>18</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:00</u>
(D) Initial Shut-In <u>995</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>2:45</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>5:00</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>70-70</u>	Comments
(G) Final Shut-In <u>949</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2173</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	Total <u>1545</u>
	Sub Total <u>1545</u>	MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64312**

Well Name & No. Knobbe 3-4 Test No. 2 Date 3-12-18  
 Company Lario oil & Gas Elevation 3336 KB 3326 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Steve Davis Rig Duke 4  
 Location: Sec. 4 Twp. 19 Rge. 37 Co. Wichita State KS

Interval Tested 4485 4515 Zone Tested Pawnee  
 Anchor Length \_\_\_\_\_ 30 Drill Pipe Run 4470 Mud Wt. 9.0  
 Top Packer Depth \_\_\_\_\_ 4480 Drill Collars Run \_\_\_\_\_ Vis 63  
 Bottom Packer Depth \_\_\_\_\_ 4485 Wt. Pipe Run \_\_\_\_\_ WL 7.2  
 Total Depth \_\_\_\_\_ 4515 Chlorides 4000 ppm System LCM 2

Blow Description IF: Surface blow died in 8 min.  
#5i No return.  
FF: No blow.  
F5i No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>mud</u>			<u>100</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 10 BHT 115 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2294</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>18:50</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:45</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:18</u>
(D) Initial Shut-In <u>1145</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>00:28</u>
(E) Second Initial Flow <u>16</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2:42</u>
(F) Second Final Flow <u>18</u>	<input checked="" type="checkbox"/> Mileage <u>70-</u> <u>70</u>	Comments _____
(G) Final Shut-In <u>1113</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2192</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1545</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1545</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64313**

Well Name & No. Knobbe 3-4 Test No. 3 Date 3-13-18  
 Company Lario oil & Gas Elevation 3336 KB 3326 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Steve Davis Rig Duke 4  
 Location: Sec. 4 Twp. 19 Rge. 37 Co. Wichita State KS

Interval Tested 4520 4546 Zone Tested F7 Scott  
 Anchor Length 26 Drill Pipe Run 4502 Mud Wt. 8.9  
 Top Packer Depth 4515 Drill Collars Run \_\_\_\_\_ Vis 68  
 Bottom Packer Depth 4520 Wt. Pipe Run \_\_\_\_\_ WL 8.8  
 Total Depth 4546 Chlorides 6000 ppm System LCM 1

Blow Description IF: ~~Surface blow~~ ~~never built~~ Surface blow never built.  
IS: No return.  
FF: surface blow built to 1/4.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>mud</u>			<u>100</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 20 BHT 113 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>2303</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>13:00</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:24</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:54</u>
(D) Initial Shut-In <u>1234</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>18:04</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>19:40</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>76 - 70</u>	Comments _____
(G) Final Shut-In <u>1217</u>	<input type="checkbox"/> Sampler _____	_____
(H) Final Hydrostatic <u>2228</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1545</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1545</u>	

Approved By [Signature] Our Representative [Signature]  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64314**

Well Name & No. Knobbe 3-4 Test No. 4 Date 3-15-18  
 Company Larib oil & gas Elevation 3336 KB 3326 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Steve Davis Rig Duke 4  
 Location: Sec. 4 Twp. 19 Rge. 37 Co. Wichita State KS

Interval Tested 4710 4790 Zone Tested Johnson  
 Anchor Length 80 Drill Pipe Run 4690 Mud Wt. 9.1  
 Top Packer Depth 4765 Drill Collars Run \_\_\_\_\_ Vis 55  
 Bottom Packer Depth 4710 Wt. Pipe Run \_\_\_\_\_ WL 8.8  
 Total Depth 4790 Chlorides 5500 ppm System LCM 2

Blow Description IF: BoB 95 soon 95 tool opened.  
IS: No return.  
FF: BoB died after 25 min.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>4221</u>	<u>mud</u>			<u>100</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 4221 BHT 116 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2315  Test 1150 T-On Location 5:30  
 (B) First Initial Flow 2025  Jars 250 T-Started 6:15  
 (C) First Final Flow 1896  Safety Joint 75 T-Open 9:19  
 (D) Initial Shut-In 2108  Circ Sub \_\_\_\_\_ T-Pulled 10:59  
 (E) Second Initial Flow 1958  Hourly Standby \_\_\_\_\_ T-Out 13:57  
 (F) Second Final Flow 2011  Mileage 70 - 70 Comments \_\_\_\_\_  
 (G) Final Shut-In 2035  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2181  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 10  
 Initial Shut-In 30  
 Final Flow 30  
 Final Shut-In 30

Sub Total 1545  
 Total 1545  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]

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