

## DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum, Inc.**

4924 SE 84th St  
Newton KS 67114+8827

ATTN: Andrew Stenzel

**Popp #2**

**9-17s-26w Ness,KS**

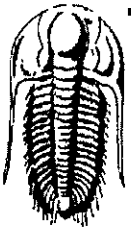
Start Date: 2018.12.02 @ 10:10:00

End Date: 2018.12.02 @ 18:50:45

Job Ticket #: 64768                      DST #: 1

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

Printed: 2018.12.06 @ 15:54:42



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Palomino Petroleum, Inc.  
 4924 SE 84th St  
 Newton KS 67114+8827  
 ATTN: Andrew Stenzel

**9-17s-26w Ness, KS**  
**Popp #2**  
 Job Ticket: 64768      DST#: 1  
 Test Start: 2018.12.02 @ 10:10:00

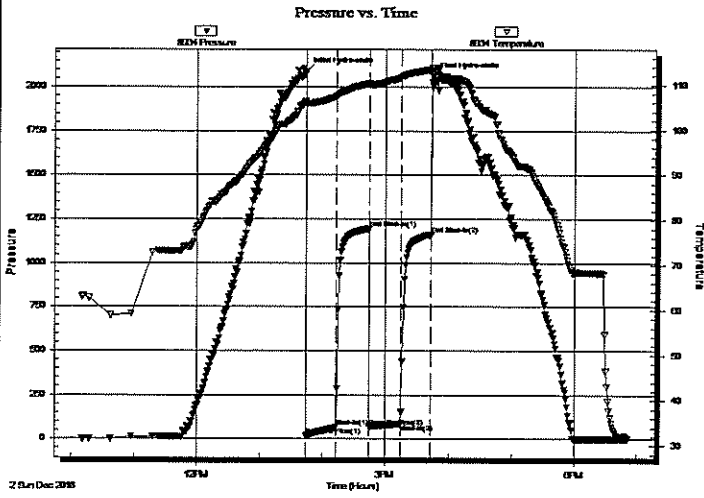
### GENERAL INFORMATION:

Formation: LKC 'K-L'  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:44:30  
 Time Test Ended: 18:50:45  
 Interval: 4167.00 ft (KB) To 4240.00 ft (KB) (TVD)  
 Total Depth: 4240.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2622.00 ft (KB)  
 2612.00 ft (CF)  
 KB to GR/CF: 10.00 ft

### Serial #: 8934

**Inside**  
 Press@RunDepth: 85.37 psig @ 4173.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2018.12.02      End Date: 2018.12.02      Last Calib.: 2018.12.02  
 Start Time: 10:10:15      End Time: 18:50:45      Time On Btm: 2018.12.02 @ 13:44:15  
 Time Off Btm: 2018.12.02 @ 15:45:00

TEST COMMENT: 30-IF-Weak; Built to 4 1/2"  
 30-IS-No Return  
 30-FF-Weak; Built to 3"  
 30-FSI-No Return



### PRESSURE SUMMARY

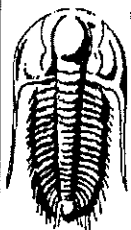
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2086.29	106.33	Initial Hydro-static
1	18.39	105.57	Open To Flow (1)
29	68.26	107.43	Shut-In(1)
60	1193.15	110.30	End Shut-In(1)
61	70.37	109.95	Open To Flow (2)
90	85.37	111.56	Shut-In(2)
119	1161.78	113.37	End Shut-In(2)
121	2057.81	113.32	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
150.00	Mud w /oil spots 100%M	1.06

### Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

Popp #2

Job Ticket: 64768

DST#: 1

ATTN: Andrew Stenzel

Test Start: 2018.12.02 @ 10:10:00

## GENERAL INFORMATION:

Formation: LKC 'K-L'

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:44:30

Time Test Ended: 18:50:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

Interval: 4167.00 ft (KB) To 4240.00 ft (KB) (TVD)

Reference Elevations: 2622.00 ft (KB)

Total Depth: 4240.00 ft (KB) (TVD)

2612.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8368

Outside

Press@RunDepth: psig @ 4173.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.12.02 End Date: 2018.12.02

Last Calib.: 2018.12.02

Start Time: 10:10:15 End Time: 18:50:45

Time On Btm:

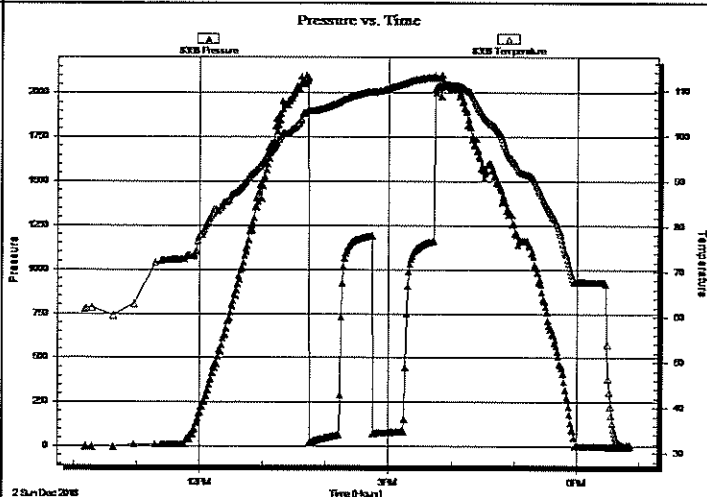
Time Off Btm:

TEST COMMENT: 30-IF-Weak; Built to 4 1/2"

30-ISI-No Return

30-FF-Weak; Built to 3"

30-FSI-No Return



## PRESSURE SUMMARY

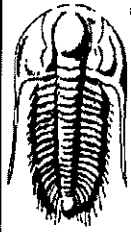
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	Mud w/oil spots 100%M	1.06

## Gas Rates

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



**TRILOBITE**  
TESTING, INC.

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

**Popp #2**

Job Ticket: 64768

DST#: 1

ATTN: Andrew Stenzel

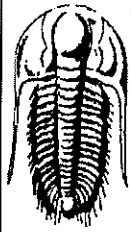
Test Start: 2018.12.02 @ 10:10:00

### Tool Information

Drill Pipe:	Length: 4031.00 ft	Diameter: 3.82 inches	Volume: 57.14 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4167.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	102.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4139.00	
Shut In Tool	5.00			4144.00	
Hydraulic tool	5.00			4149.00	
Jars	5.00			4154.00	
Safety Joint	3.00			4157.00	
Packer	5.00			4162.00	29.00 Bottom Of Top Packer
Packer	5.00			4167.00	
Stubb	1.00			4168.00	
Perforations	4.00			4172.00	
Change Over Sub	1.00			4173.00	
Recorder	0.00	8934	Inside	4173.00	
Recorder	0.00	8368	Outside	4173.00	
Drill Pipe	63.00			4236.00	
Change Over Sub	1.00			4237.00	
Bullnose	3.00			4240.00	73.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>102.00</b>				



**TRILOBITE**  
TESTING, INC.

## DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

Popp #2

Job Ticket: 64768

DST#: 1

ATTN: Andrew Stenzel

Test Start: 2018.12.02 @ 10:10:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	Mud w/oil spots 100%M	1.062

Total Length: 150.00 ft

Total Volume: 1.062 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM

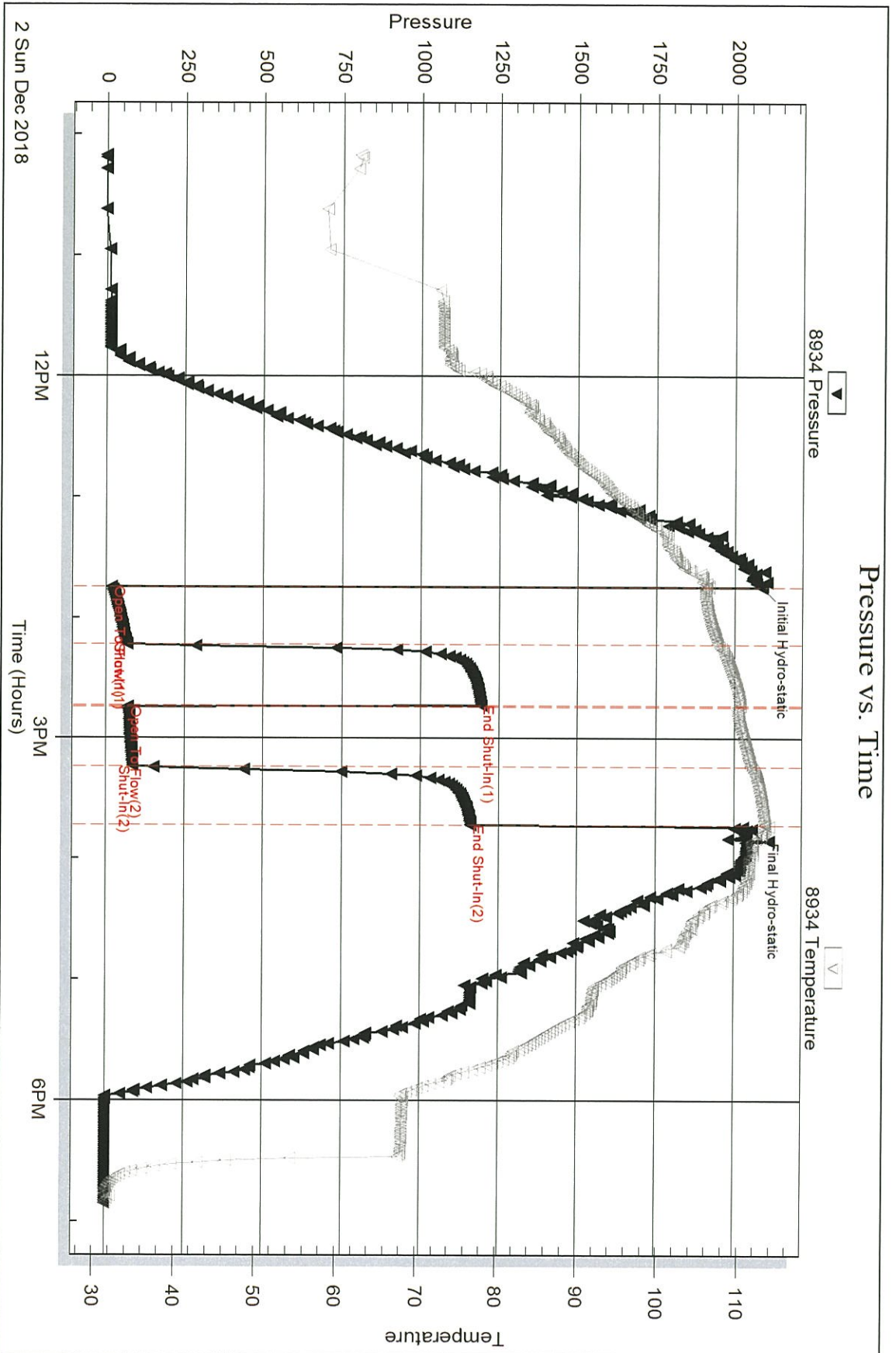
Serial #: 8934

Inside

Palomino Petroleum, Inc.

Popp #2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64768

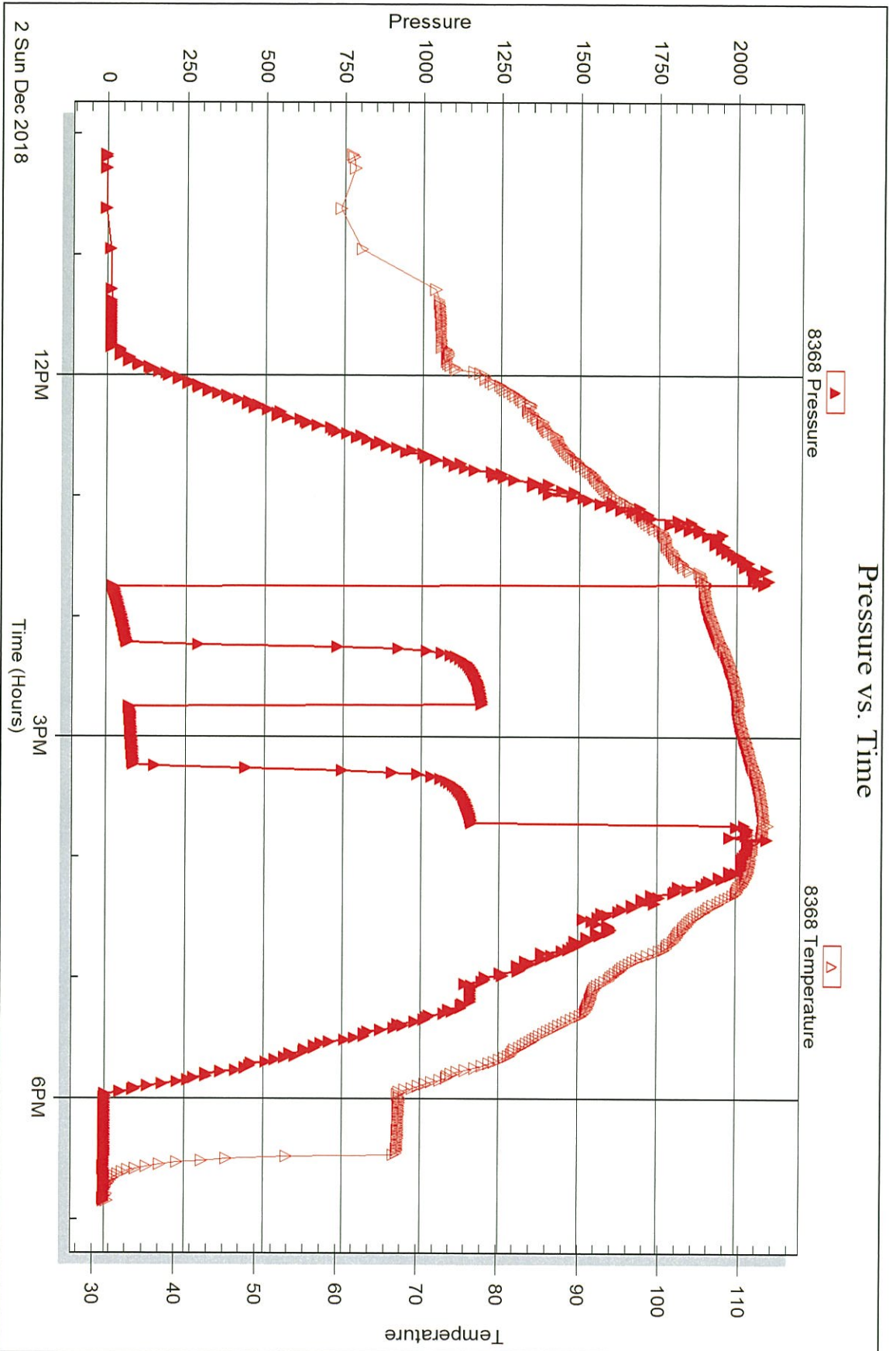
Printed: 2018.12.06 @ 15:54:42

Serial #: 8368

Outside Palomino Petroleum, Inc.

Popp #2

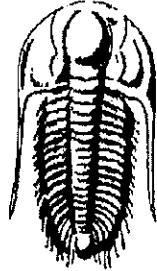
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 64768

Printed: 2018.12.06 @ 15:54:43



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum, Inc.**

4924 SE 84th St  
Newton KS 67114+8827

ATTN: Andrew Stenzel

### **Popp #2**

#### **9-17s-26w Ness,KS**

Start Date: 2018.12.04 @ 00:10:00

End Date: 2018.12.04 @ 12:24:45

Job Ticket #: 64769                      DST #: 2

Trilobite Testing, Inc

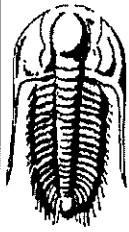
1515 Commerce Parkway Hays, KS 67601

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

Printed: 2018.12.06 @ 15:54:22

Palomino Petroleum, Inc. 9-17s-26w Ness,KS Popp #2 DST # 2 Mississipi 2018.12.04





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

**Popp #2**

Job Ticket: 64769

DST#: 2

ATTN: Andrew Stenzel

Test Start: 2018.12.04 @ 00:10:00

## GENERAL INFORMATION:

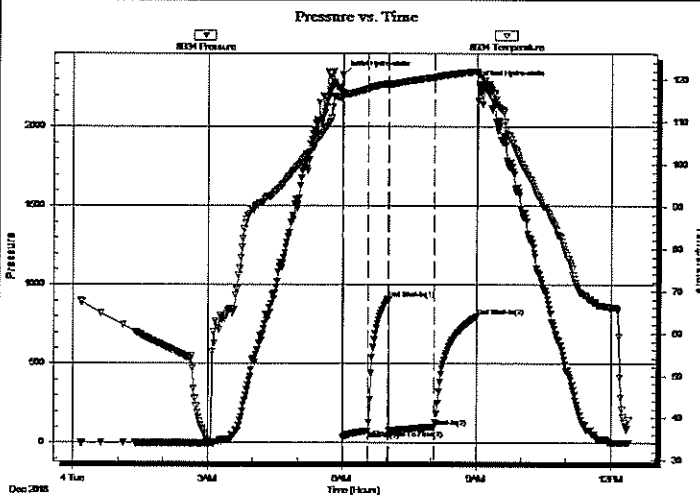
Formation: **Mississippi**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:01:00  
 Time Test Ended: 12:24:45  
 Interval: **4468.00 ft (KB) To 4563.00 ft (KB) (TVD)**  
 Total Depth: 4563.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J. Staab  
 Unit No: 84  
 Reference Elevations: 2622.00 ft (KB)  
 2612.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8934**

**Inside**

Press@RunDepth: 101.08 psig @ 4496.00 ft (KB)  
 Start Date: 2018.12.04 End Date: 2018.12.04  
 Start Time: 00:10:15 End Time: 12:24:45  
 Capacity: 8000.00 psig  
 Last Calib.: 2018.12.04  
 Time On Btm: 2018.12.04 @ 06:00:45  
 Time Off Btm: 2018.12.04 @ 09:02:45

TEST COMMENT: 30-IF-Weak-Fair; Built to 6 1/2"  
 30-ISI-No Return  
 60-FF-Weak-Fair; Built to 9"  
 60-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2330.17	117.06	Initial Hydro-static
1	34.01	116.05	Open To Flow (1)
33	76.33	117.90	Shut-In(1)
61	909.54	119.16	End Shut-In(1)
62	80.32	118.94	Open To Flow (2)
123	101.08	120.62	Shut-In(2)
180	799.37	121.97	End Shut-In(2)
182	2272.39	121.19	Final Hydro-static

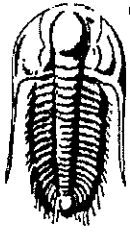
## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MO 50%M 50%O	0.64
90.00	Clean Oil 100%O	1.28

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

**Popp #2**

Job Ticket: 64769

DST#: 2

ATTN: Andrew Stenzel

Test Start: 2018.12.04 @ 00:10:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:01:00

Time Test Ended: 12:24:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

Interval: 4468.00 ft (KB) To 4563.00 ft (KB) (TVD)

Total Depth: 4563.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2622.00 ft (KB)

2612.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 8368** Inside

Press@RunDepth: psig @ 4496.00 ft (KB)

Start Date: 2018.12.04 End Date: 2018.12.04

Start Time: 00:10:15 End Time: 12:24:45

Capacity: 8000.00 psig

Last Calib.: 2018.12.04

Time On Btm:

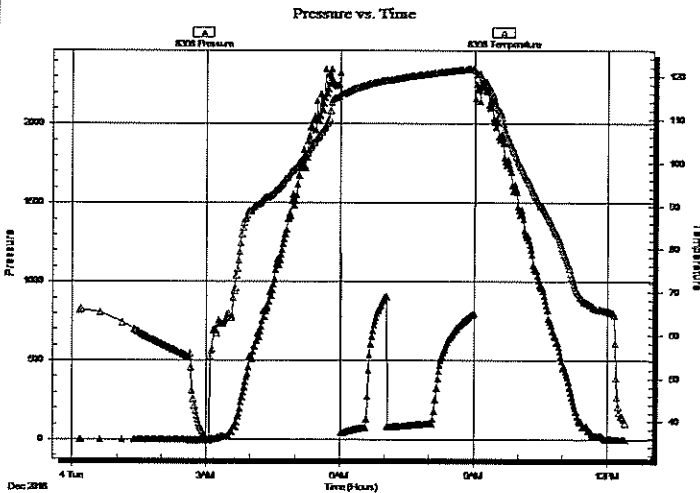
Time Off Btm:

TEST COMMENT: 30-IF-Weak-Fair; Built to 6 1/2"

30-ISI-No Return

60-FF-Weak-Fair; Built to 9"

60-FSI-No Return



## PRESSURE SUMMARY

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

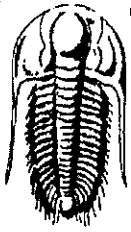
## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MO 50%M 50%O	0.64
90.00	Clean Oil 100%O	1.28

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Palomino Petroleum, Inc.

**9-17s-26w Ness, KS**

4924 SE 84th St  
New ton KS 67114+8827

**Popp #2**

Job Ticket: 64769

**DST#: 2**

ATTN: Andrew Stenzel

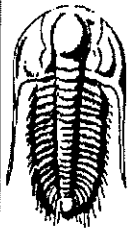
Test Start: 2018.12.04 @ 00:10:00

### Tool Information

Drill Pipe:	Length: 4343.00 ft	Diameter: 3.82 inches	Volume: 61.56 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	4468.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	95.00 ft			
Tool Length:	124.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4440.00	
Shut In Tool	5.00			4445.00	
Hydraulic tool	5.00			4450.00	
Jars	5.00			4455.00	
Safety Joint	3.00			4458.00	
Packer	5.00			4463.00	29.00 Bottom Of Top Packer
Packer	5.00			4468.00	
Stubb	1.00			4469.00	
Perforations	26.00			4495.00	
Change Over Sub	1.00			4496.00	
Recorder	0.00	8934	Inside	4496.00	
Recorder	0.00	8368	Inside	4496.00	
Drill Pipe	63.00			4559.00	
Change Over Sub	1.00			4560.00	
Bullnose	3.00			4563.00	95.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>124.00</b>				



**TRILOBITE**  
TESTING, INC.

## DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

Popp #2

Job Ticket: 64769

DST#: 2

ATTN: Andrew Stenzel

Test Start: 2018.12.04 @ 00:10:00

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 10.00 lb/gal

Viscosity: 49.00 sec/qt

Water Loss: 6.79 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 2700.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

36 deg API

Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MO 50%M 50%O	0.636
90.00	Clean Oil 100%O	1.276

Total Length: 210.00 ft      Total Volume: 1.912 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1#LCM

Serial #: 8934

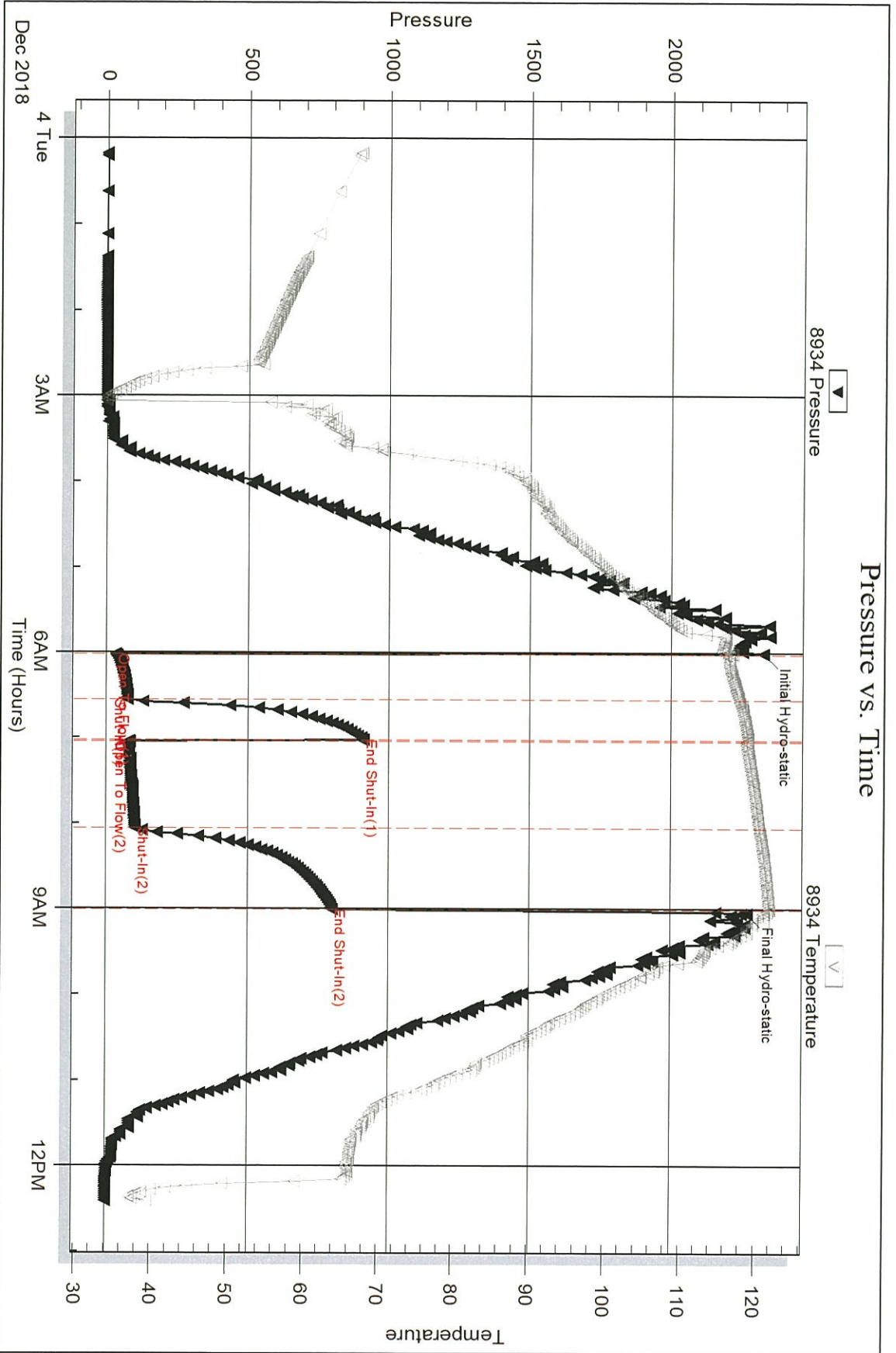
Inside

Palomino Petroleum, Inc.

Popp #2

DST Test Number: 2

### Pressure vs. Time



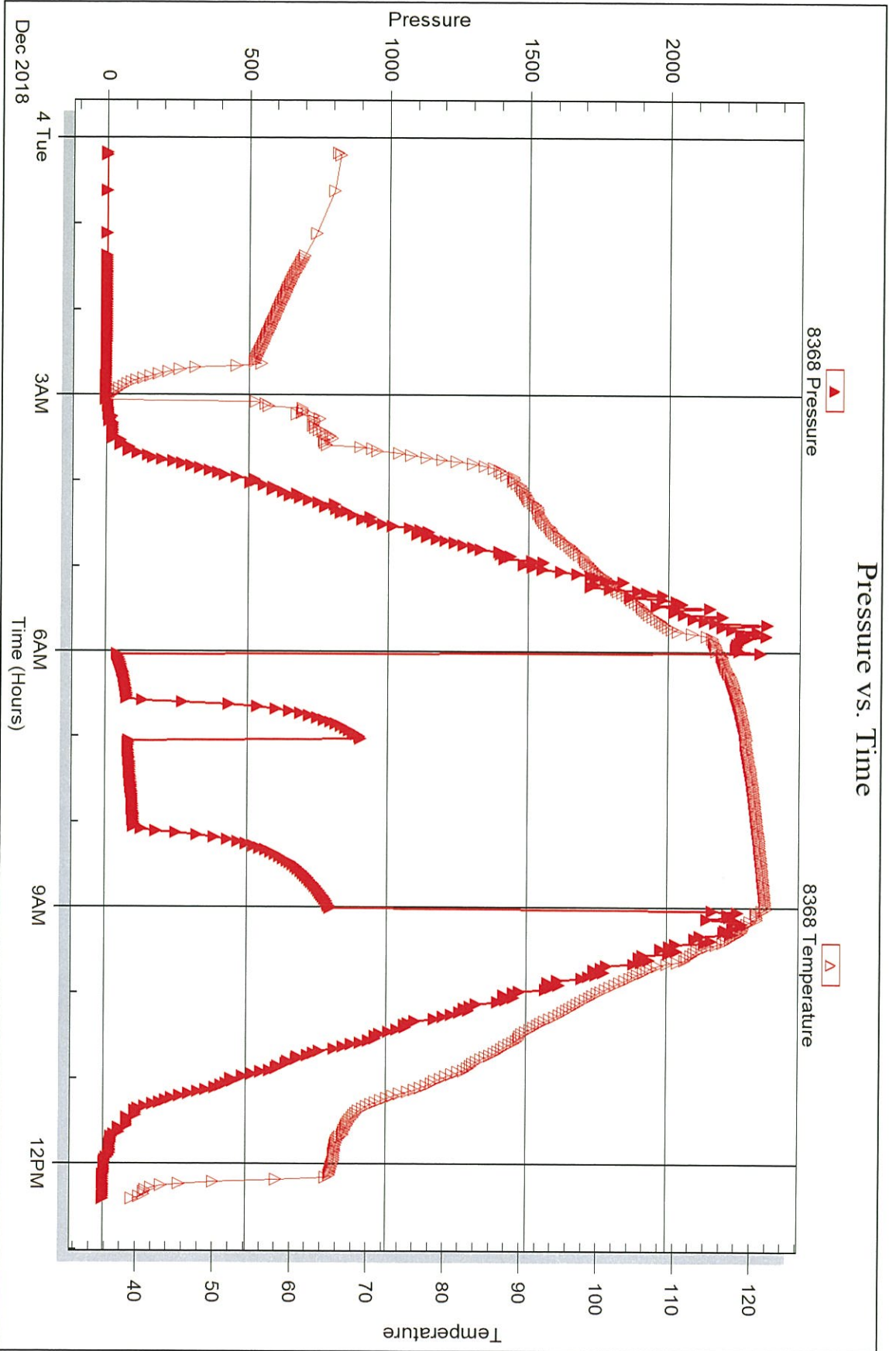
Serial #: 8368

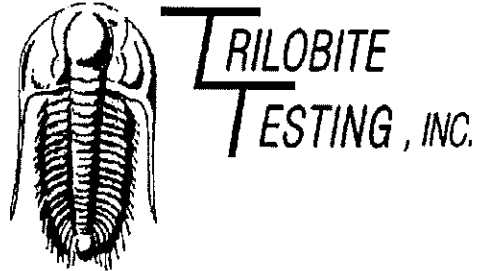
Inside

Palomino Petroleum, Inc.

Popp #2

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum, Inc.**

4924 SE 84th St  
Newton KS 67114+8827

ATTN: Andrew Stenzel

**Popp #2**

**9-17s-26w Ness,KS**

Start Date: 2018.12.05 @ 15:20:00

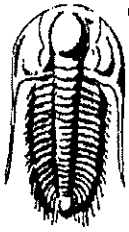
End Date: 2018.12.06 @ 02:31:30

Job Ticket #: 64770                      DST #: 3

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

Printed: 2018.12.06 @ 15:53:58

Palomino Petroleum, Inc. 9-17s-26w Ness,KS Popp #2 DST # 3 Mississippi 2018.12.05



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

**Popp #2**

Job Ticket: 64770

DST#: 3

ATTN: Andrew Stenzel

Test Start: 2018.12.05 @ 15:20:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:24:15

Time Test Ended: 02:31:30

Test Type: Conventional Straddle (Reset)

Tester: Spencer J. Staab

Unit No: 84

Interval: **4554.00 ft (KB) To 4582.00 ft (KB) (TVD)**

Reference Elevations: 2622.00 ft (KB)

Total Depth: 4554.00 ft (KB) (TVD)

2612.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8934** Inside

Press@RunDepth: 76.99 psig @ 4583.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.12.05 End Date: 2018.12.06

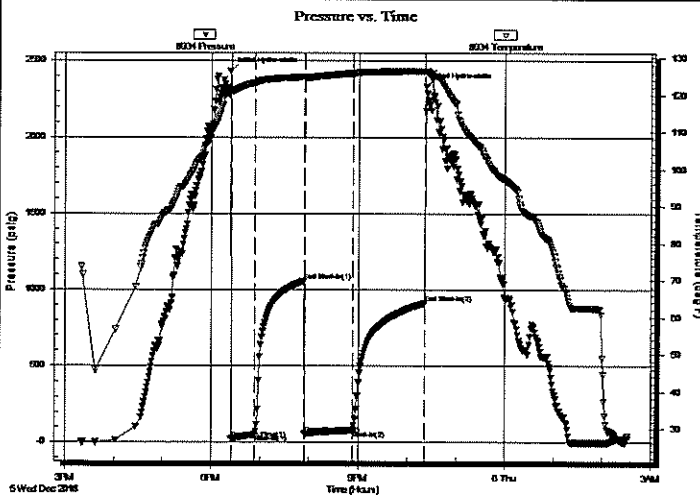
Last Calib.: 2018.12.06

Start Time: 15:20:15 End Time: 02:31:30

Time On Btm: 2018.12.05 @ 18:23:30

Time Off Btm: 2018.12.05 @ 22:23:15

TEST COMMENT: 30-IF-Weak; Built to 4 1/2"  
60-ISI-No Return  
60-FF-Weak; Built to 6 1/4"  
90-FSI-No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2431.24	121.57	Initial Hydro-static
1	20.21	121.01	Open To Flow (1)
30	49.69	123.33	Shut-In(1)
90	1055.37	124.86	End Shut-In(1)
91	54.72	124.59	Open To Flow (2)
149	76.99	125.80	Shut-In(2)
239	913.37	126.43	End Shut-In(2)
240	2331.58	126.36	Final Hydro-static

## Recovery

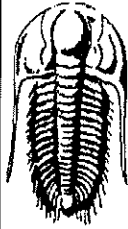
Length (ft)	Description	Volume (bbl)
70.00	OCM 10%O 90%M	0.34
80.00	CO 100%O	0.72

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Palomino Petroleum, Inc.  
4924 SE 84th St  
New ton KS 67114+8827  
ATTN: Andrew Stenzel

**9-17s-26w Ness,KS**

**Popp #2**

Job Ticket: 64770

**DST#: 3**

Test Start: 2018.12.05 @ 15:20:00

**GENERAL INFORMATION:**

Formation: **Mississippi**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 18:24:15  
Time Test Ended: 02:31:30

Test Type: Conventional Straddle (Reset)  
Tester: Spencer J. Staab  
Unit No: 84

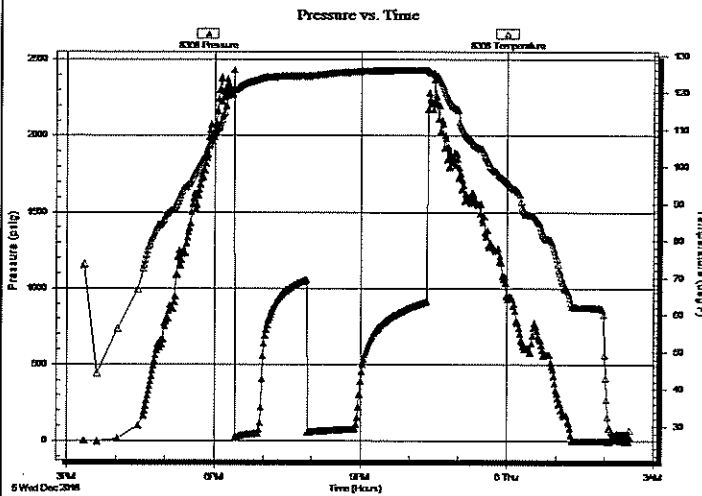
Interval: **4554.00 ft (KB) To 4582.00 ft (KB) (TVD)**  
Total Depth: 4554.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2622.00 ft (KB)  
2612.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8368 Outside**

Press@RunDepth: psig @ 4583.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2018.12.05	End Date: 2018.12.06
Start Time: 15:20:15	End Time: 02:31:30
	Time On Btm:
	Time Off Btm:

**TEST COMMENT:** 30-IF-Weak; Built to 4 1/2"  
60-ISI-No Return  
60-FF-Weak; Built to 6 1/4"  
90-FSI-No Return



### PRESSURE SUMMARY

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

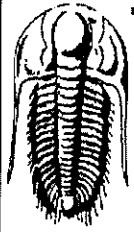
### Recovery

Length (ft)	Description	Volume (bbt)
70.00	OCM 10%O 90%M	0.34
80.00	CO 100%O	0.72

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Palomino Petroleum, Inc.

4924 SE 84th St  
New ton KS 67114+8827

ATTN: Andrew Stenzel

9-17s-26w Ness, KS

**Popp #2**

Job Ticket: 64770

DST#: 3

Test Start: 2018.12.05 @ 15:20:00

### GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:24:15

Time Test Ended: 02:31:30

Interval: **4554.00 ft (KB) To 4582.00 ft (KB) (TVD)**

Total Depth: **4554.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: Fair

Test Type: Conventional Straddle (Reset)

Tester: Spencer J. Staab

Unit No: 84

Reference Elevations: **2622.00 ft (KB)**

**2612.00 ft (CF)**

KB to GR/CF: **10.00 ft**

**Serial #: 9120 Below (Straddle)**

Press@RunDepth: psig @ **4608.00 ft (KB)**

Start Date: **2018.12.05** End Date: **2018.12.06**

Start Time: **15:20:15** End Time: **02:31:30**

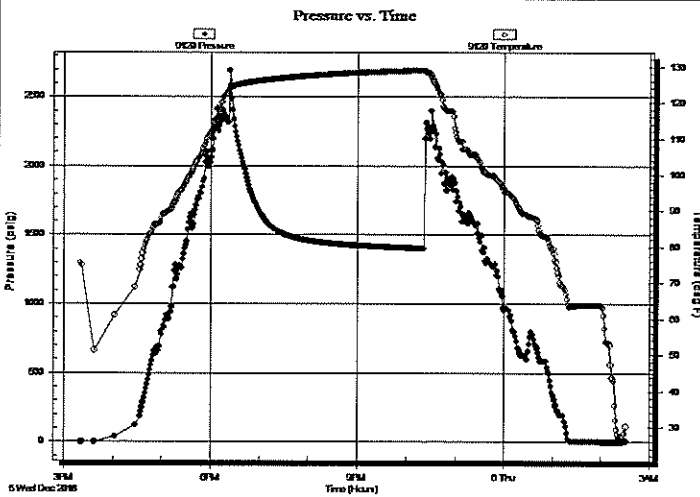
Capacity: **8000.00 psig**

Last Calib.: **2018.12.06**

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30-IF-Weak; Built to 4 1/2"  
60-ISI-No Return  
60-FF-Weak; Built to 6 1/4"  
90-FSI-No Return



### PRESSURE SUMMARY

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

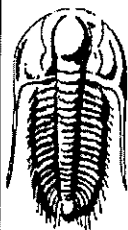
### Recovery

Length (ft)	Description	Volume (bbl)
70.00	OCC 10% O 90% M	0.34
80.00	CO 100% O	0.72

\* Recovery from multiple tests

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

**Popp #2**

Job Ticket: 64770

DST#: 3

ATTN: Andrew Stenzel

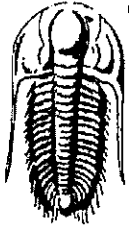
Test Start: 2018.12.05 @ 15:20:00

### Tool Information

Drill Pipe:	Length: 4428.00 ft	Diameter: 3.82 inches	Volume: 62.77 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 115.00 ft	Diameter: 2.25 inches	Volume: 0.57 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	4554.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	4676.00 ft			
Interval between Packers:	122.00 ft			
Tool Length:	151.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4526.00	
Shut In Tool	5.00			4531.00	
Hydraulic tool	5.00			4536.00	
Jars	5.00			4541.00	
Safety Joint	3.00			4544.00	
Packer	5.00			4549.00	29.00 Bottom Of Top Packer
Packer	5.00			4554.00	
Stubb	1.00			4555.00	
Perforations	23.00			4578.00	
Blank Off Sub	1.00			4579.00	
Top S. Packer	3.00			4582.00	
Straddle Packer	0.00			4582.00	
Stubb	1.00			4583.00	
Recorder	0.00	8934	Inside	4583.00	
Recorder	0.00	8368	Outside	4583.00	
Perforations	24.00			4607.00	
Change Over Sub	1.00			4608.00	
Recorder	0.00	9120	Below	4608.00	
Drill Pipe	64.00			4672.00	
Change Over Sub	1.00			4673.00	
Bullnose	3.00			4676.00	122.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>151.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Palomino Petroleum, Inc.

9-17s-26w Ness, KS

4924 SE 84th St  
New ton KS 67114+8827

Popp #2

Job Ticket: 64770

DST#: 3

ATTN: Andrew Stenzel

Test Start: 2018.12.05 @ 15:20:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>2</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2800.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
70.00	OCM 10%O 90%M	0.344
80.00	CO 100%O	0.717

Total Length: 150.00 ft

Total Volume: 1.061 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1#LCM

Serial #: 8934

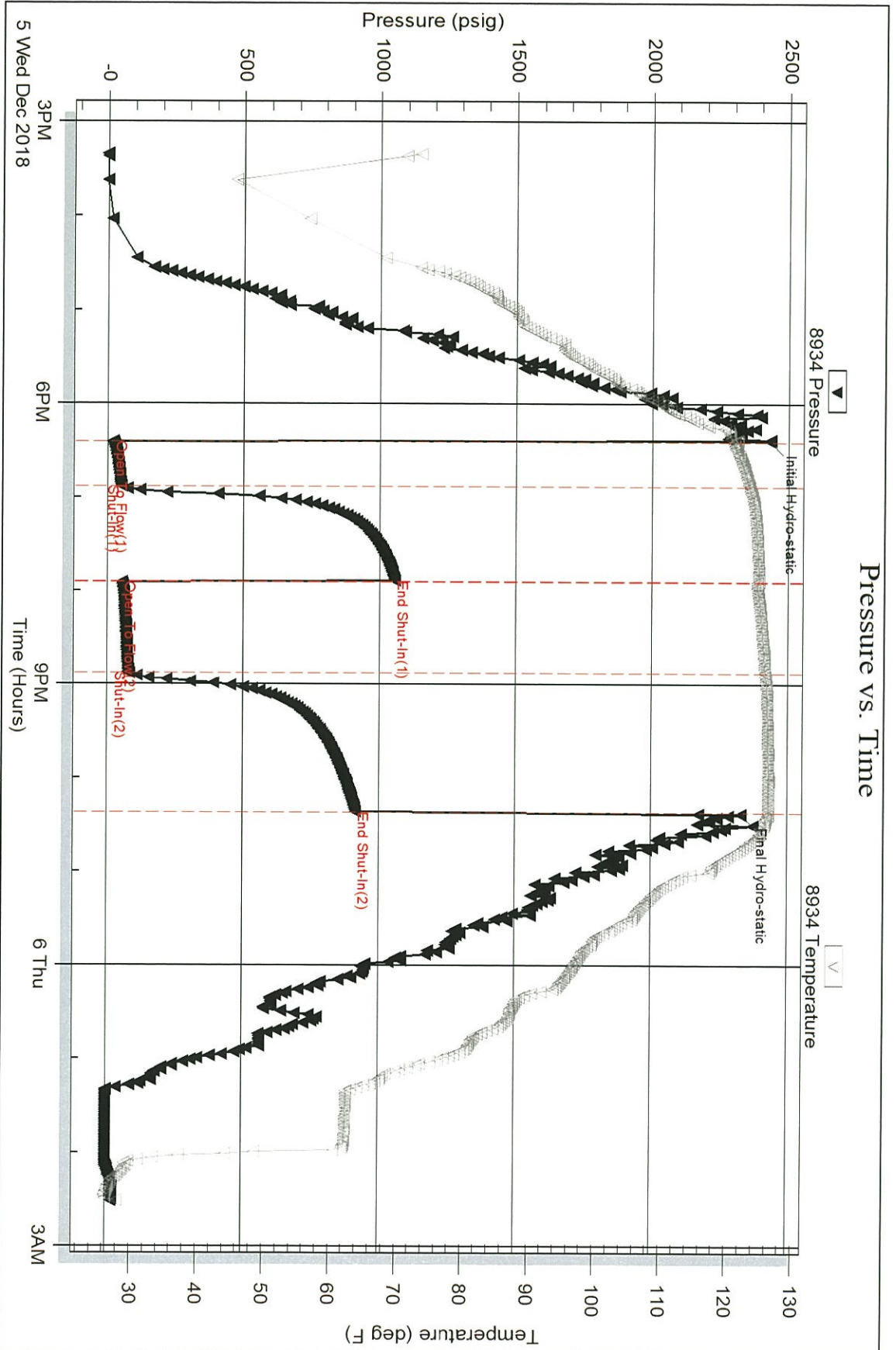
Inside

Palomino Petroleum, Inc.

Popp #2

DST Test Number: 3

### Pressure vs. Time



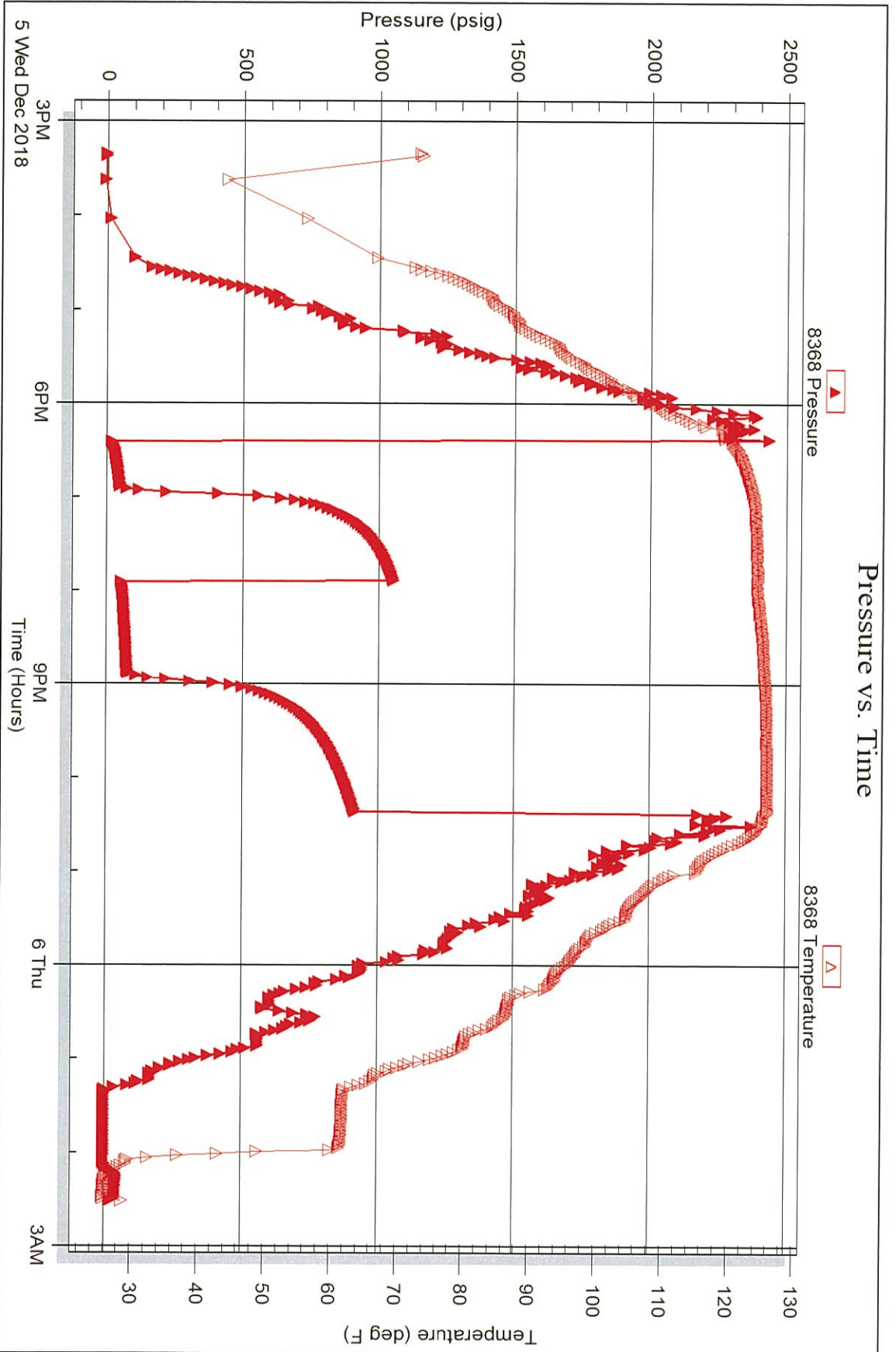
Serial #: 8368

Outside

Palomino Petroleum, Inc.

Popp #2

DST Test Number: 3

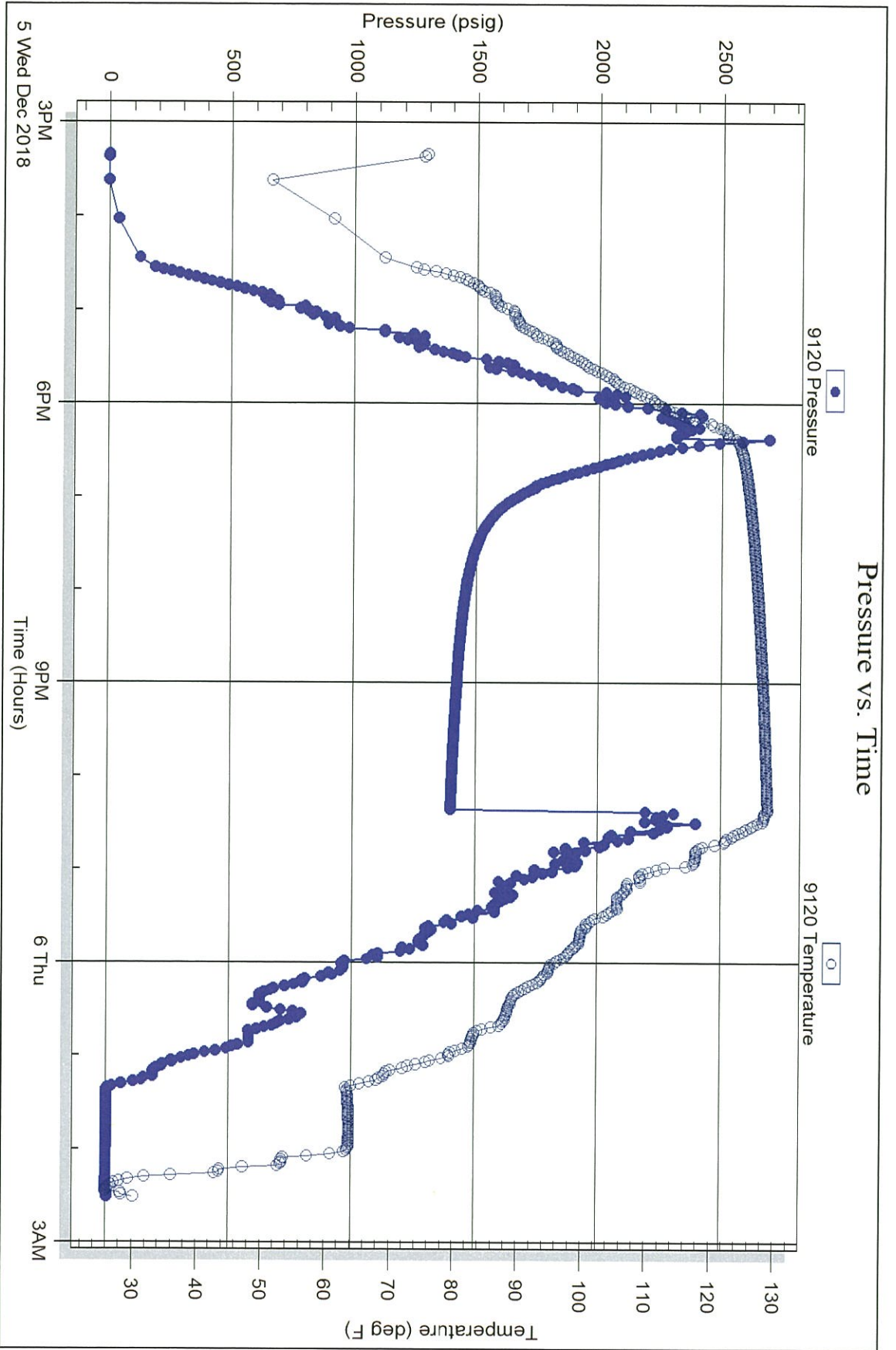


Serial #: 9120

Below (Straterra) Petroleum, Inc.

Popp #2

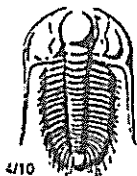
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 64770

Printed: 2018.12.06 @ 15:53:59



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64768

Well Name & No. Popp #2 Test No. 1 Date 12/2/2018  
 Company Palomares Petroleum, Inc. Elevation 2622 KB 268 GL  
 Address 4924 SE 84th St Newton KS 67114 + 8827  
 Co. Rep / Geo. Andrew Stimpel Rig 2121#22  
 Location: Sec. 9 Twp 17S Rge. 26W Co. Miss State Ks

Interval Tested 4167' - 4240' Zone Tested LHC 'H + L'  
 Anchor Length 73' Drill Pipe Run 403i Mud Wt. 9.0  
 Top Packer Depth 4162' Drill Collars Run 115' Vis .55  
 Bottom Packer Depth 4167' Wt. Pipe Run - WL 6.2  
 Total Depth 4240' Chlorides 2600 ppm System LCM 2#

Blow Description 77-Weak: Built to 4 1/2"  
151- No Return  
77-Weak: Built to 3"  
78- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>Mud w/ oil spots</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 Total 150' BHT 113° Gravity - API RW - @ - °F Chlorides - ppm

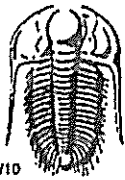
(A) Initial Hydrostatic <u>2086</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>08:47</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>10:10</u>
(C) First Final Flow <u>68</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>13:41</u>
(D) Initial Shut-In <u>1193</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>15:41</u>
(E) Second Initial Flow <u>70</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>18:48</u>
(F) Second Final Flow <u>85</u>	<input checked="" type="checkbox"/> Mileage <u>144R7</u> 144	Comments
(G) Final Shut-In <u>1161</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2057</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1619</u>
	Sub Total <u>1619</u>	MP/DST Disc'l

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

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.

785-259-0056





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64769

Well Name & No. Popp #2 Test No. 2 Date 12/03/2018  
 Company Palmira Petroleum, Inc Elevation 2622 KB 2662 GL  
 Address 4924 SE 84th St Newton KS 67114+8827  
 Co. Rep / Geo. Andrew Stempel Rig UW #22  
 Location: Sec. 9 Twp 17A Rge. 26W Co. Neos State KS

Interval Tested 4468' - 4563 Zone Tested Mississippi  
 Anchor Length 9.5' Drill Pipe Run 4343' Mud Wt. 9.7  
 Top Packer Depth 4463' Drill Collars Run 115' Vls 49  
 Bottom Packer Depth 4468' Wt. Pipe Run - WL 6.8  
 Total Depth 4563' Chlorides 2700 ppm System LCM 1#

Blow Description 77- Weak - Fair; Built to 63"  
ISO - No Return  
77- Weak - Fair; Built to 9"  
7.8d - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>120'</u>	<u>MO</u>	<u>50</u>		<u>50</u>	
<u>90'</u>	<u>CO</u>				

Rec Total 210' BHT 122° Gravity 36° API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

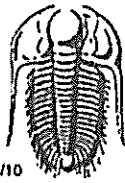
(A) Initial Hydrostatic 2330  Test 1150 T-On Location 23:50  
 (B) First Initial Flow 34  Jars 250 T-Started 00:10 12/04/2018  
 (C) First Final Flow 76  Safety Joint 75 T-Open 06:01  
 (D) Initial Shut-In 909  Circ Sub \_\_\_\_\_ T-Pulled 09:01  
 (E) Second Initial Flow 80  Hourly Standby x3 2.25h 180 T-Out 12:24  
 (F) Second Final Flow 101  Mileage 144 RT 144 Comments \_\_\_\_\_  
 (G) Final Shut-In 799  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2272  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 30  EM Tool \_\_\_\_\_  
 Initial Shut-In 30  Ruined Shale Packer \_\_\_\_\_  
 Final Flow 60  Ruined Packer \_\_\_\_\_  
 Final Shut-In 60  Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1799  
 Sub Total 1799 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Andrew Stempel

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.

785-259-0056



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64770

Well Name & No. Popp #2 Test No. 3 Date 12/5/2018  
 Company Palomine Petroleum, Inc Elevation 2622 KB 2612 GL  
 Address 4924 SE 84th St Newton KS 67114 18827  
 Co. Rep / Geo. Andrew Stempel Rig 2020#22  
 Location: Sec. 9 Twp 17N Rge. 26W Co. KS State KS

Interval Tested 4554' - 4582' Zone Tested Mississippi  
 Anchor Length 28' 94' tail Drill Pipe Run 4428' Mud Wt. 9.7  
 Top Packer Depth 4554' Drill Collars Run 115' Vis 47  
 Bottom Packer Depth 4582' Wt. Pipe Run - WL 6.8  
 Total Depth 4676' Chlorides 2800 ppm System LCM 1#

Blow Description 17' Weak; Built to 4 1/2"  
1st - No Return  
7' Weak; Built to 6 1/4"  
7st - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70'</u>	<u>CCM</u>	<u>10</u>		<u>90</u>	
<u>80'</u>	<u>CO</u>	<u>100</u>			

Rec Total 150' BHT 126' Gravity 36° API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2431  Test 1150 T-On Location 10:20  
 (B) First Initial Flow 80  Jars 250 T-Started 15:20  
 (C) First Final Flow 49  Safety Joint 75 T-Open 18:18  
 (D) Initial Shut-In 1055  Circ Sub \_\_\_\_\_ T-Pulled 22:18  
 (E) Second Initial Flow 54  Hourly Standby X7 1h 80 T-Out 02:25 12/06/2018  
 (F) Second Final Flow 76  Mileage 144 RT x 2 144+144 Comments went to hays for  
 (G) Final Shut-In 913  Sampler \_\_\_\_\_ 10 perf  
 (H) Final Hydrostatic 2331  Straddle 600  EM Tool \_\_\_\_\_

Initial Open 30  Shale Packer 250  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 60  Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Final Flow 60  Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Shut-In 90  Day Standby \_\_\_\_\_ Sub Total 0  
 Sub Total 2693  Accessibility \_\_\_\_\_ Total 2693  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Spencer J. Grant - Thanks!  
 TriLOBITE TESTING Inc. shall not be liable for damaged or 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.

785-259-056