



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co, Inc**

PO Box 1017  
Hays, KS 67601

ATTN: Mark Downing

**29 9s 31w Thomas, KS**

**Hockersmith-Robben #2-29**

Start Date: 2013.09.25 @ 03:40:00

End Date: 2013.09.25 @ 10:54:00

Job Ticket #: 55501                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.01 @ 16:09:03



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55501

**DST#: 1**

Test Start: 2013.09.25 @ 03:40:00

## GENERAL INFORMATION:

Formation: **LKC - H, I, & J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:04:00

Time Test Ended: 10:54:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

**Interval: 4204.00 ft (KB) To 4295.00 ft (KB) (TVD)**

Reference Elevations: 3048.00 ft (KB)

Total Depth: 4295.00 ft (KB) (TVD)

3040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8677**

**Inside**

Press @ Run Depth: 67.76 psig @ 4205.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.09.25

End Date:

2013.09.25

Last Calib.:

2013.09.25

Start Time: 03:40:05

End Time:

10:53:59

Time On Btm:

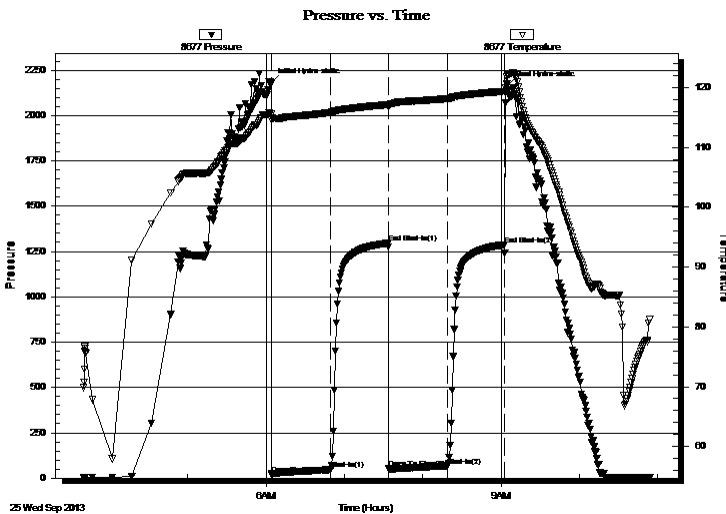
2013.09.25 @ 06:03:45

Time Off Btm:

2013.09.25 @ 09:04:45

**TEST COMMENT:** IF: 3 1/2" blow .  
IS: No return.  
FF: 3" blow .  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2179.31	115.54	Initial Hydro-static
1	21.61	114.68	Open To Flow (1)
46	47.23	115.84	Shut-In(1)
90	1296.08	117.14	End Shut-In(1)
91	51.77	116.77	Open To Flow (2)
136	67.76	118.13	Shut-In(2)
179	1288.01	119.36	End Shut-In(2)
181	2164.92	121.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	mcw 30m 70w (oil spots)	0.99
0.00	6 inches oil on top	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55501

**DST#: 1**

Test Start: 2013.09.25 @ 03:40:00

## Tool Information

Drill Pipe:	Length: 4172.00 ft	Diameter: 3.80 inches	Volume: 58.52 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 58.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	4204.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	91.00 ft			
Tool Length:	111.00 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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Change Over Sub	1.00			4185.00	
Shut In Tool	5.00			4190.00	
Hydraulic tool	5.00			4195.00	
Packer	5.00			4200.00	20.00 Bottom Of Top Packer
Packer	4.00			4204.00	
Stubb	1.00			4205.00	
Recorder	0.00	8677	Inside	4205.00	
Recorder	0.00	8522	Outside	4205.00	
Perforations	22.00			4227.00	
Change Over Sub	1.00			4228.00	
Drill Pipe	63.00			4291.00	
Change Over Sub	1.00			4292.00	
Bullnose	3.00			4295.00	91.00 Bottom Packers & Anchor

**Total Tool Length: 111.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

Job Ticket: 55501

**DST#: 1**

ATTN: Mark Dow ning

Test Start: 2013.09.25 @ 03:40:00

## 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:

70000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
90.00	mcw 30m 70w (oil spots)	0.989
0.00	6 inches oil on top	0.000

Total Length: 90.00 ft      Total Volume: 0.989 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .116 @ 64F = 70,000ppm

Serial #: 8677

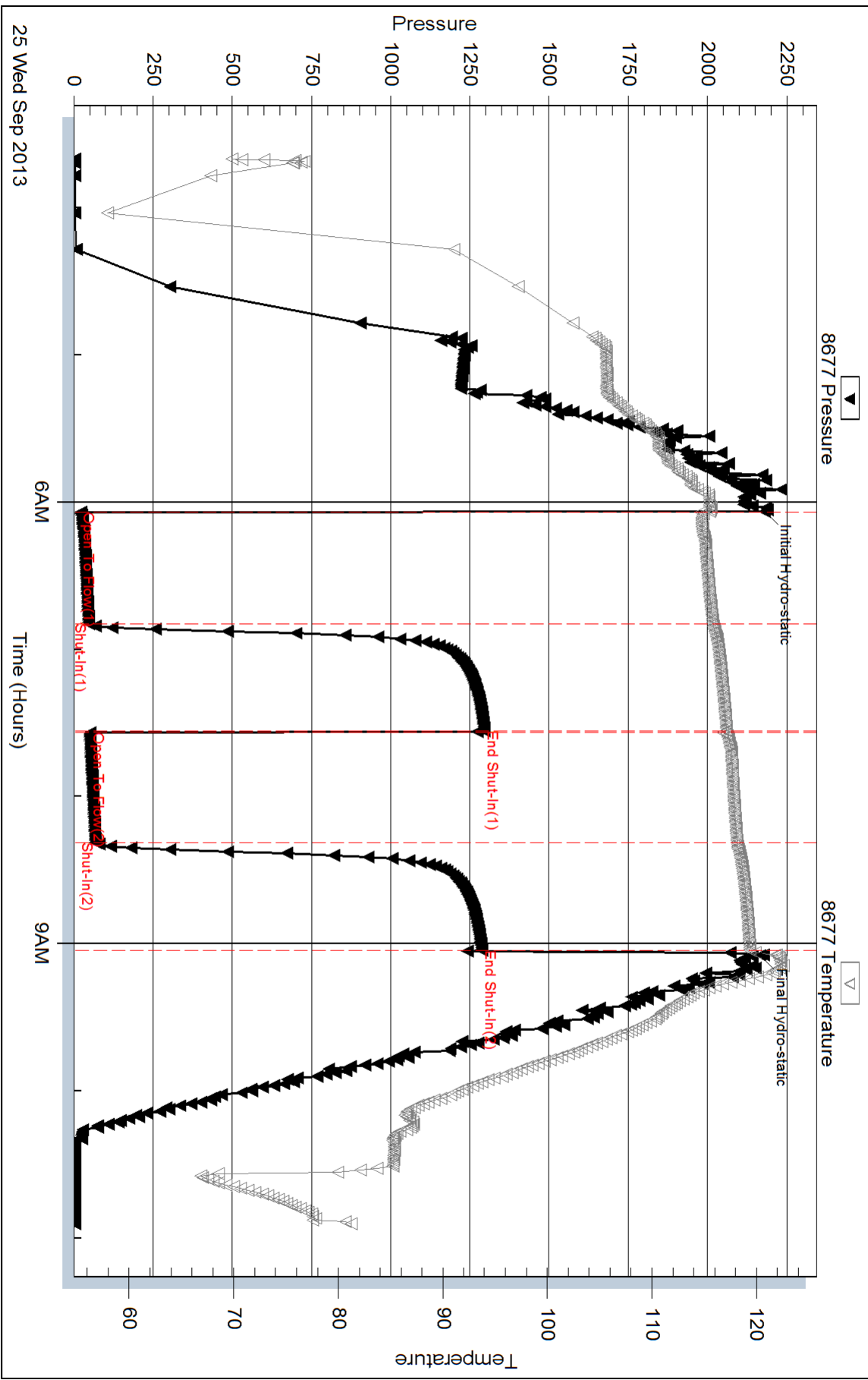
Inside

Dow nting-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 1

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 55501

Printed: 2013.10.01 @ 16:09:04

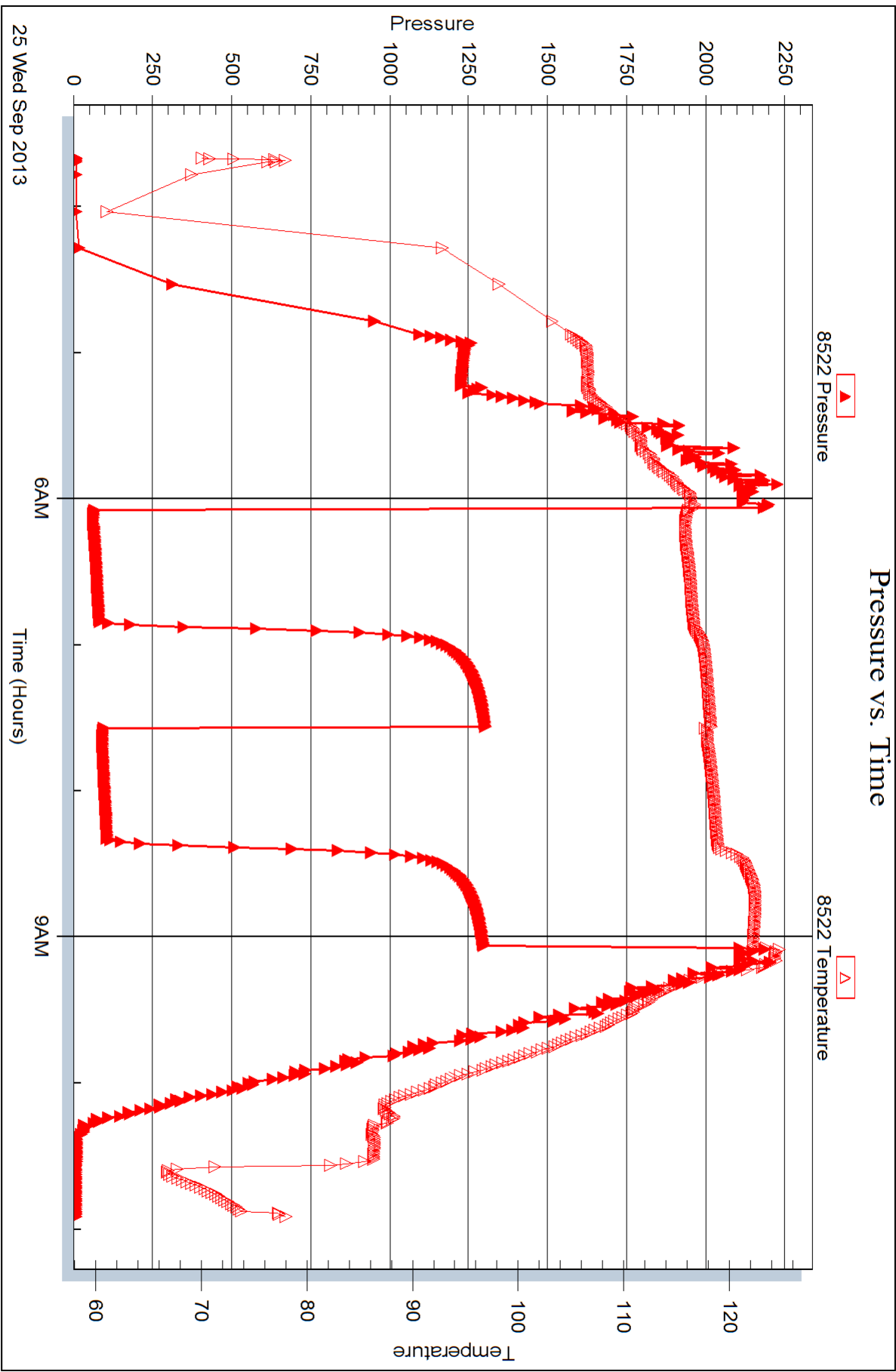
Serial #: 8522

Outside

Dow nting-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55501

Printed: 2013.10.01 @ 16:09:05



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co, Inc**

PO Box 1017  
Hays, KS 67601

ATTN: Mark Downing

**29 9s 31w Thomas, KS**

**Hockersmith-Robben #2-29**

Start Date: 2013.09.25 @ 21:17:00

End Date: 2013.09.26 @ 03:00:45

Job Ticket #: 55502                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.01 @ 16:05:16

Downing-Nelson Oil Co, Inc

Hockersmith-Robben #2-29

29 9s 31w Thomas, KS

DST # 2

LKC - L

2013.09.25





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55502

**DST#: 2**

Test Start: 2013.09.25 @ 21:17:00

## GENERAL INFORMATION:

Formation: **LKC - L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:17:15

Time Test Ended: 03:00:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4324.00 ft (KB) To 4354.00 ft (KB) (TVD)**

Reference Elevations: 3048.00 ft (KB)

Total Depth: 4354.00 ft (KB) (TVD)

3040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8677**

**Inside**

Press @ Run Depth: 23.50 psig @ 4325.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.09.25

End Date:

2013.09.26

Last Calib.:

2013.09.26

Start Time: 21:17:05

End Time:

03:00:44

Time On Btm:

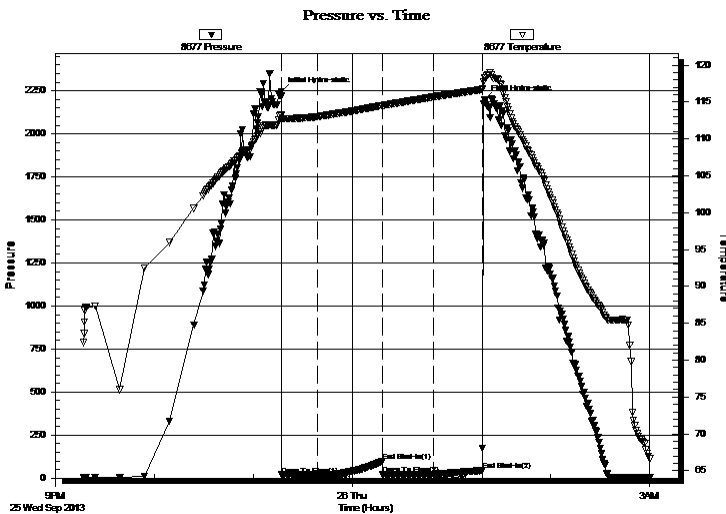
2013.09.25 @ 23:17:00

Time Off Btm:

2013.09.26 @ 01:20:15

**TEST COMMENT:** IF: Surface blow .  
IS: No return.  
FF: Surface blow .  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2243.76	113.27	Initial Hydro-static
1	19.16	112.61	Open To Flow (1)
22	19.44	113.01	Shut-In(1)
61	97.52	114.50	End Shut-In(1)
62	20.89	114.48	Open To Flow (2)
93	23.50	115.67	Shut-In(2)
122	43.43	116.69	End Shut-In(2)
124	2198.77	118.26	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	socm 2o 98m	0.07

## Gas Rates

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

\* Recovery from multiple tests



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# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55502

**DST#: 2**

Test Start: 2013.09.25 @ 21:17:00

## GENERAL INFORMATION:

Formation: **LKC - L**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 23:17:15  
 Time Test Ended: 03:00:45  
 Interval: **4324.00 ft (KB) To 4354.00 ft (KB) (TVD)**  
 Total Depth: 4354.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 69  
 Reference Elevations: 3048.00 ft (KB)  
 3040.00 ft (CF)  
 KB to GR/CF: 8.00 ft

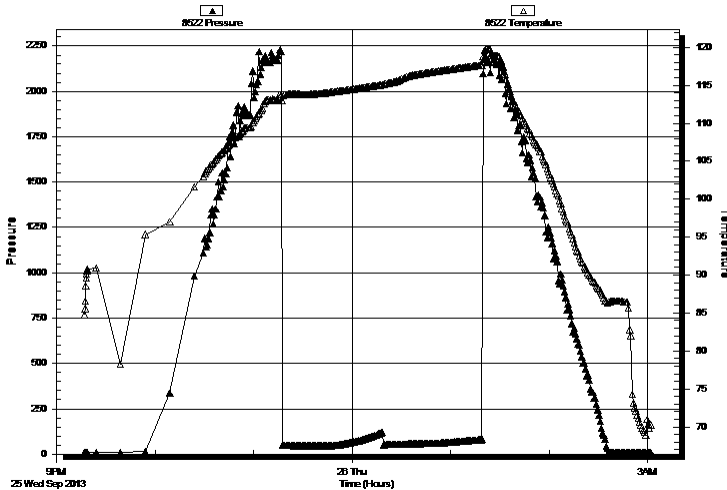
**Serial #: 8522 Outside**

Press @ RunDepth: psig @ 4325.00 ft (KB)  
 Start Date: 2013.09.25 End Date: 2013.09.26  
 Start Time: 21:17:05 End Time: 03:01:44

Capacity: 8000.00 psig  
 Last Calib.: 2013.09.26  
 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: Surface blow .  
 IS: No return.  
 FF: Surface blow .  
 FS: No return.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	socm 2o 98m	0.07

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

Job Ticket: 55502

**DST#: 2**

ATTN: Mark Dow ning

Test Start: 2013.09.25 @ 21:17:00

## Tool Information

Drill Pipe:	Length: 4299.00 ft	Diameter: 3.80 inches	Volume: 60.30 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			Total Volume: 60.45 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft	String Weight: Initial 50000.00 lb		
Depth to Top Packer:	4324.00 ft	Final 50000.00 lb		
Depth to Bottom Packer:	ft			
Interval betw een Packers:	30.00 ft			
Tool Length:	50.00 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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Change Over Sub	1.00			4305.00	
Shut In Tool	5.00			4310.00	
Hydraulic tool	5.00			4315.00	
Packer	5.00			4320.00	20.00 Bottom Of Top Packer
Packer	4.00			4324.00	
Stubb	1.00			4325.00	
Recorder	0.00	8677	Inside	4325.00	
Recorder	0.00	8522	Outside	4325.00	
Perforations	26.00			4351.00	
Bullnose	3.00			4354.00	30.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>50.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

Job Ticket: 55502

**DST#: 2**

ATTN: Mark Dow ning

Test Start: 2013.09.25 @ 21:17:00

## 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: 72.00 sec/qt

Cushion Volume:

bbf

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
15.00	socm 2o 98m	0.074

Total Length: 15.00 ft      Total Volume: 0.074 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8677

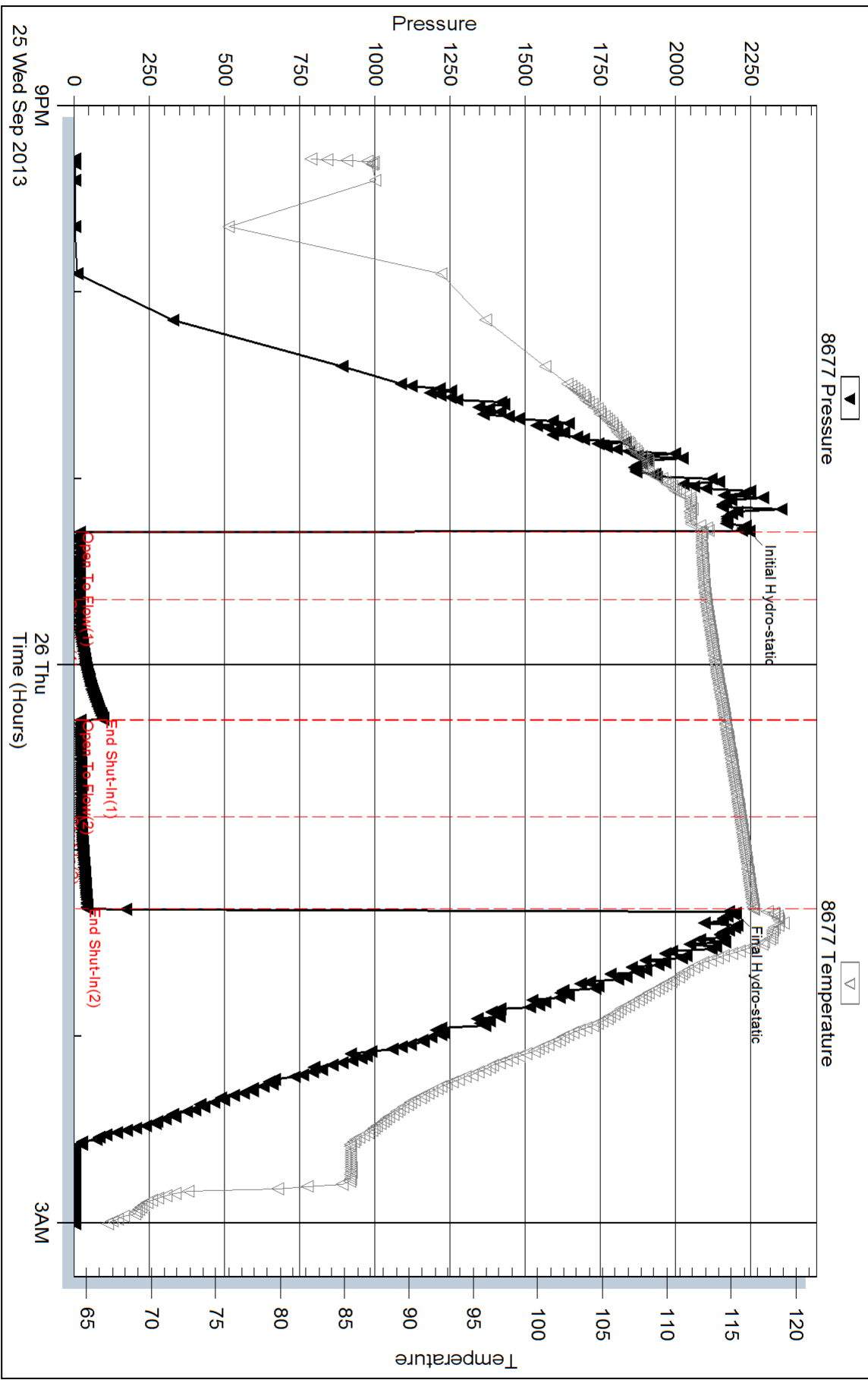
Inside

Dow nting-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 2

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 55502

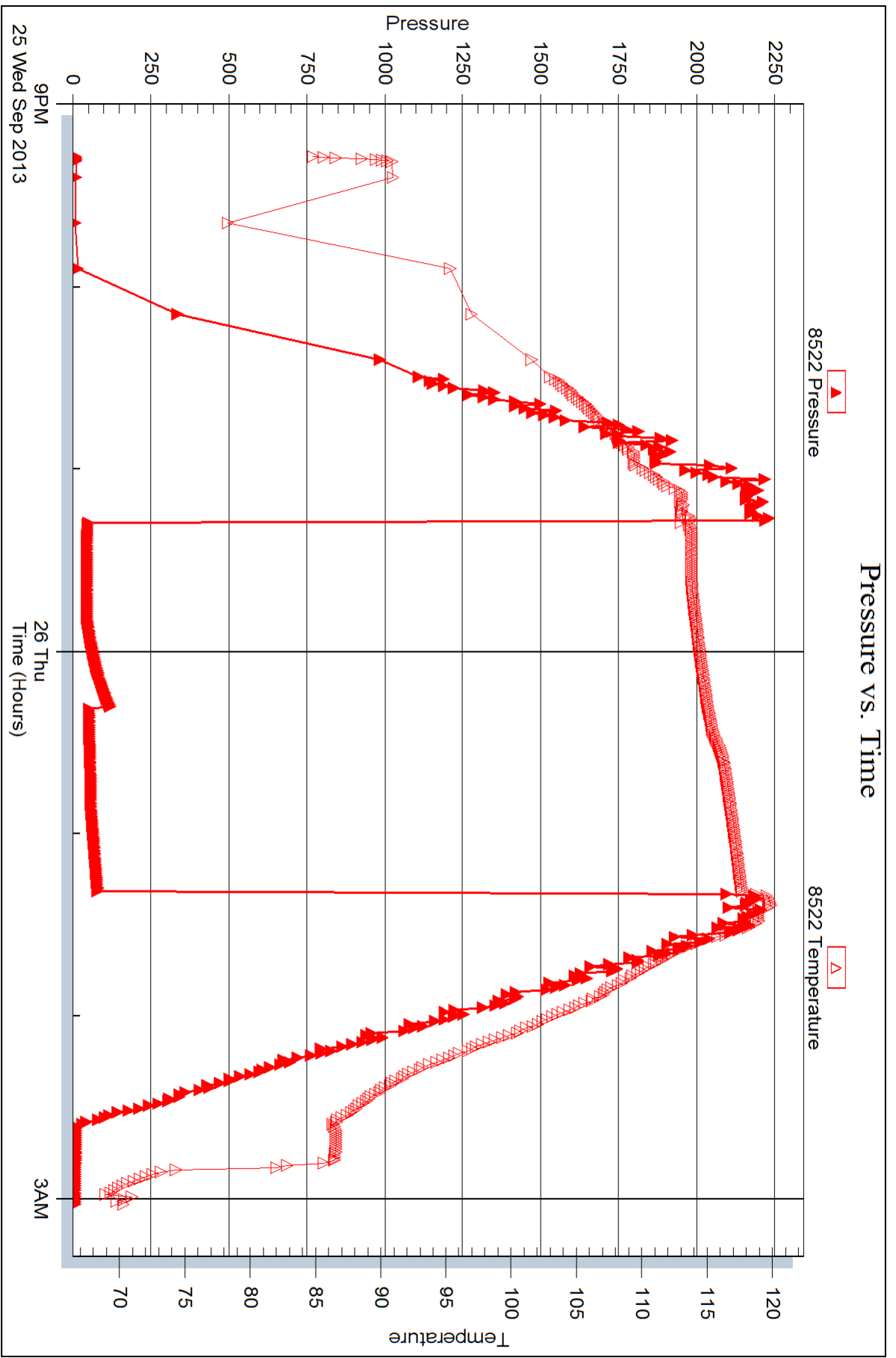
Printed: 2013.10.01 @ 16:05:17

Serial #: 8522

Outside Dow nting-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 55502

Printed: 2013.10.01 @ 16:05:17



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co, Inc**

PO Box 1017  
Hays, KS 67601

ATTN: Mark Downing

**29 9s 31w Thomas, KS**

**Hockersmith-Robben #2-29**

Start Date: 2013.09.27 @ 18:16:00

End Date: 2013.09.28 @ 02:45:00

Job Ticket #: 55503                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.01 @ 16:04:34

Downing-Nelson Oil Co, Inc

Hockersmith-Robben #2-29

29 9s 31w Thomas, KS

DST # 3

Pawnee Marmaton

2013.09.27



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55503

**DST#: 3**

Test Start: 2013.09.27 @ 18:16:00

## GENERAL INFORMATION:

Formation: **Pawnee Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:28:00

Time Test Ended: 02:45:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4320.00 ft (KB) To 4528.00 ft (KB) (TVD)**

Reference Elevations: 3048.00 ft (KB)

Total Depth: 4710.00 ft (KB) (TVD)

3040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8677**

**Inside**

Press @RunDepth: 431.43 psig @ 4321.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.09.27

End Date:

2013.09.28

Last Calib.:

2013.09.28

Start Time: 18:16:05

End Time:

02:44:59

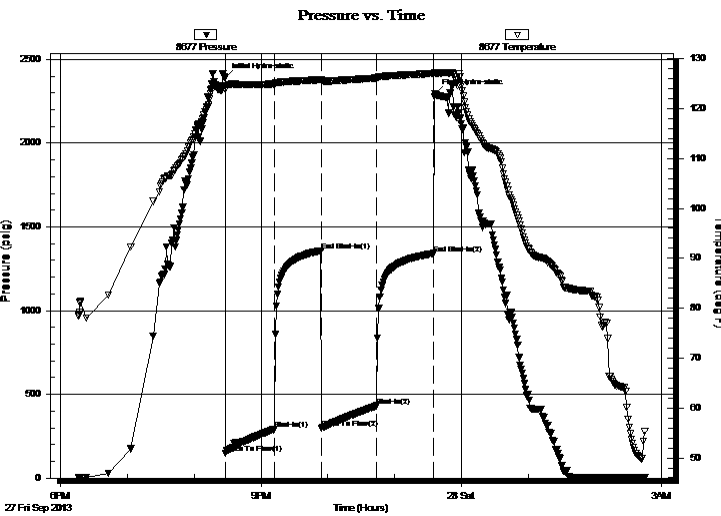
Time On Btm:

2013.09.27 @ 20:27:45

Time Off Btm:

2013.09.27 @ 23:36:30

**TEST COMMENT:** IF: BOB @ 12 min.  
IS: No return.  
FF: BOB @ 16 min.  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2389.58	124.56	Initial Hydro-static
1	148.59	123.76	Open To Flow (1)
44	292.87	124.94	Shut-In(1)
87	1358.64	125.80	End Shut-In(1)
87	299.58	125.48	Open To Flow (2)
136	431.43	126.12	Shut-In(2)
188	1340.99	127.03	End Shut-In(2)
189	2293.80	127.11	Final Hydro-static

## Recovery

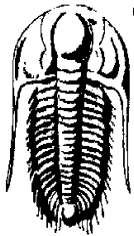
Length (ft)	Description	Volume (bbl)
510.00	mcw 15m 85w (oil spots in tool)	6.88
140.00	w cm 30w 70m	1.96

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55503

**DST#: 3**

Test Start: 2013.09.27 @ 18:16:00

## GENERAL INFORMATION:

Formation: **Pawnee Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:28:00

Time Test Ended: 02:45:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4320.00 ft (KB) To 4528.00 ft (KB) (TVD)**

Total Depth: 4710.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3048.00 ft (KB)

3040.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8522 Outside**

Press @RunDepth: psig @ 4321.00 ft (KB)

Start Date: 2013.09.27

End Date:

2013.09.28

Start Time: 18:16:05

End Time:

02:46:14

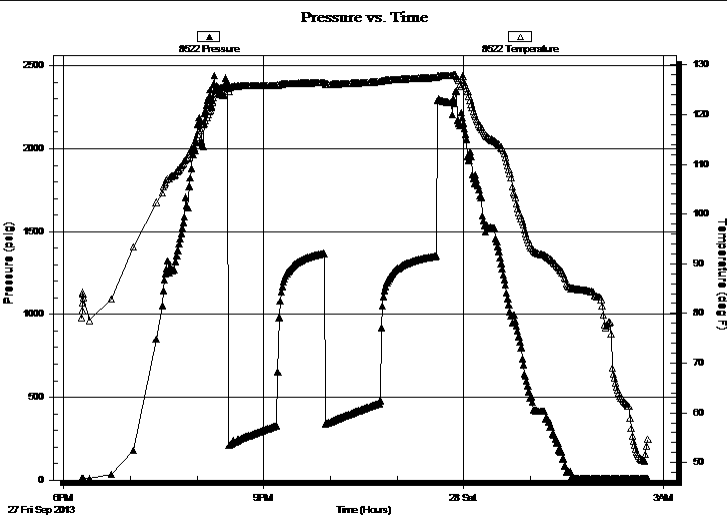
Capacity: 8000.00 psig

Last Calib.: 1899.12.30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB @ 12 min.  
IS: No return.  
FF: BOB @ 16 min.  
FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
510.00	mcw 15m 85w (oil spots in tool)	6.88
140.00	w cm 30w 70m	1.96

## Gas Rates

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

\* Recovery from multiple tests



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

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55503

**DST#: 3**

Test Start: 2013.09.27 @ 18:16:00

## GENERAL INFORMATION:

Formation: **Pawnee Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:28:00

Time Test Ended: 02:45:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 4320.00 ft (KB) To 4528.00 ft (KB) (TVD)**

Reference Elevations: 3048.00 ft (KB)

Total Depth: 4710.00 ft (KB) (TVD)

3040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8678 Below (Straddle)**

Press @ Run Depth: psig @ 4548.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.09.27 End Date: 2013.09.28

Last Calib.: 1899.12.30

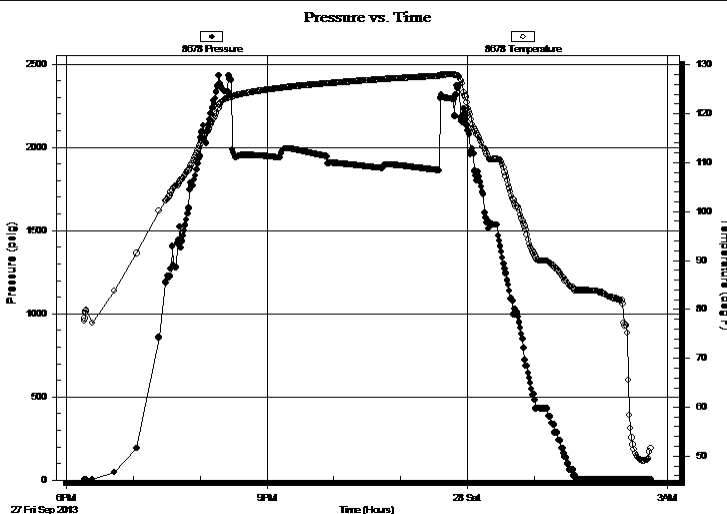
Start Time: 18:16:05 End Time: 02:44:59

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB @ 12 min.  
IS: No return.  
FF: BOB @ 16 min.  
FS: No return.

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
510.00	mcw 15m 85w (oil spots in tool)	6.88
140.00	w cm 30w 70m	1.96

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

ATTN: Mark Dow ning

Job Ticket: 55503

**DST#: 3**

Test Start: 2013.09.27 @ 18:16:00

## Tool Information

Drill Pipe:	Length: 4270.00 ft	Diameter: 3.80 inches	Volume: 59.90 bbl	Tool Weight: 2500.00 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 72000.00 lb
			<u>Total Volume: 60.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4320.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	390.00 ft			
Tool Length:	417.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Change Over Sub	1.00			4294.00	
Shut In Tool	5.00			4299.00	
Hydraulic tool	5.00			4304.00	
Jars	5.00			4309.00	
Safety Joint	2.00			4311.00	
Packer	5.00			4316.00	27.00 Bottom Of Top Packer
Packer	4.00			4320.00	
Stubb	1.00			4321.00	
Recorder	0.00	8677	Inside	4321.00	
Recorder	0.00	8522	Outside	4321.00	
Perforations	6.00			4327.00	
Change Over Sub	1.00			4328.00	
Drill Pipe	190.00			4518.00	
Change Over Sub	1.00			4519.00	
Perforations	5.00			4524.00	
Blank Off Sub	1.00			4525.00	390.00 Tool Interval
Packer	3.00			4528.00	
Blank Spacing	1.00			4529.00	
Perforations	18.00			4547.00	
Change Over Sub	1.00			4548.00	
Recorder	0.00	8678	Below	4548.00	
Drill Pipe	158.00			4706.00	
Change Over Sub	1.00			4707.00	
Bullnose	3.00			4710.00	1000416.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>417.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co, Inc

**Hockersmith-Robben #2-29**

PO Box 1017  
Hays, KS 67601

**29 9s 31w Thomas, KS**

Job Ticket: 55503

**DST#: 3**

ATTN: Mark Dow ning

Test Start: 2013.09.27 @ 18:16:00

## 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:

60000 ppm

Viscosity: 69.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
510.00	mcw 15m 85w (oil spots in tool)	6.881
140.00	w cm 30w 70m	1.964

Total Length: 650.00 ft      Total Volume: 8.845 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .180 @ 49F = 60,000ppm

Serial #: 8677

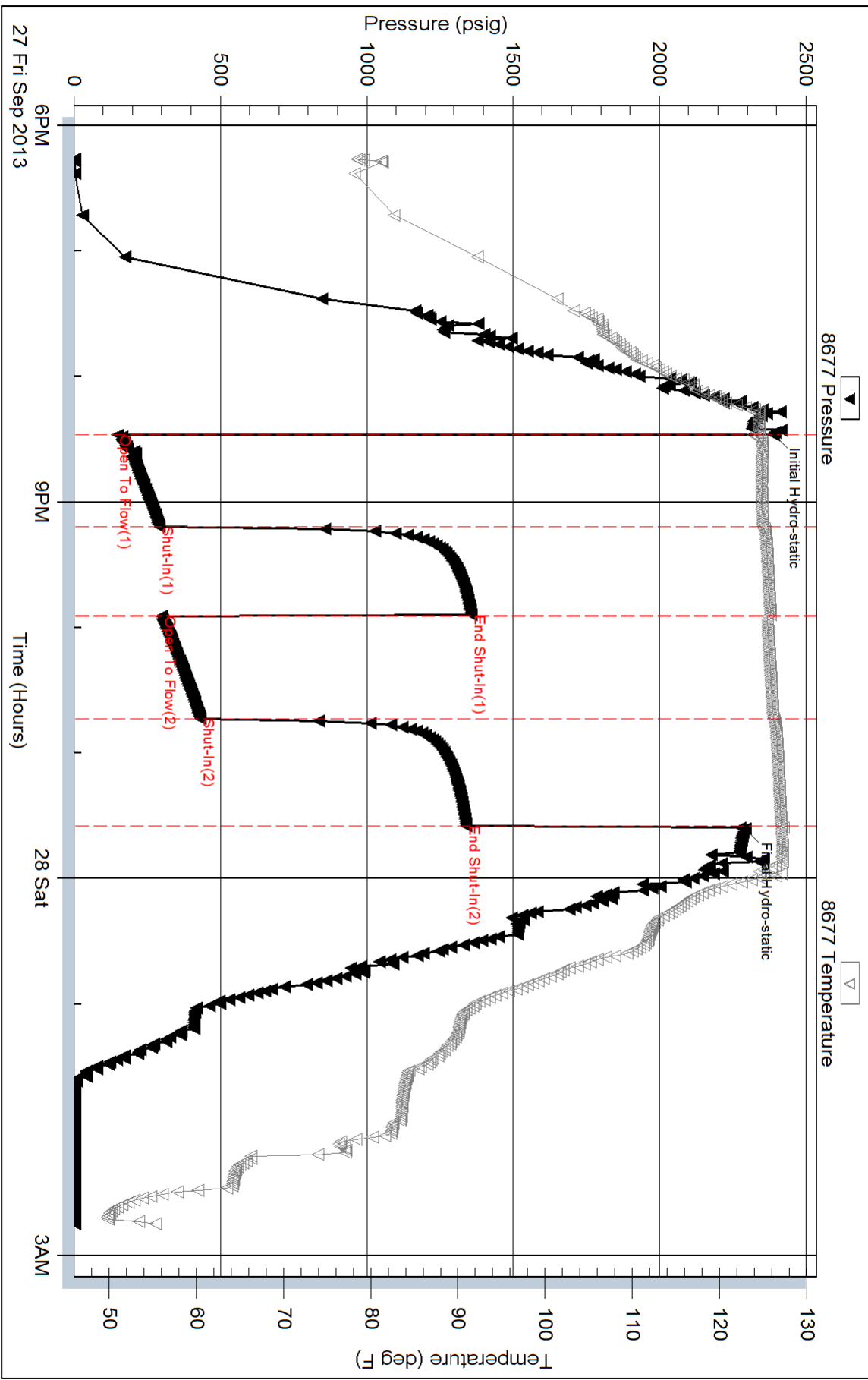
Inside

Dow n/mg-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 3

# Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 55503

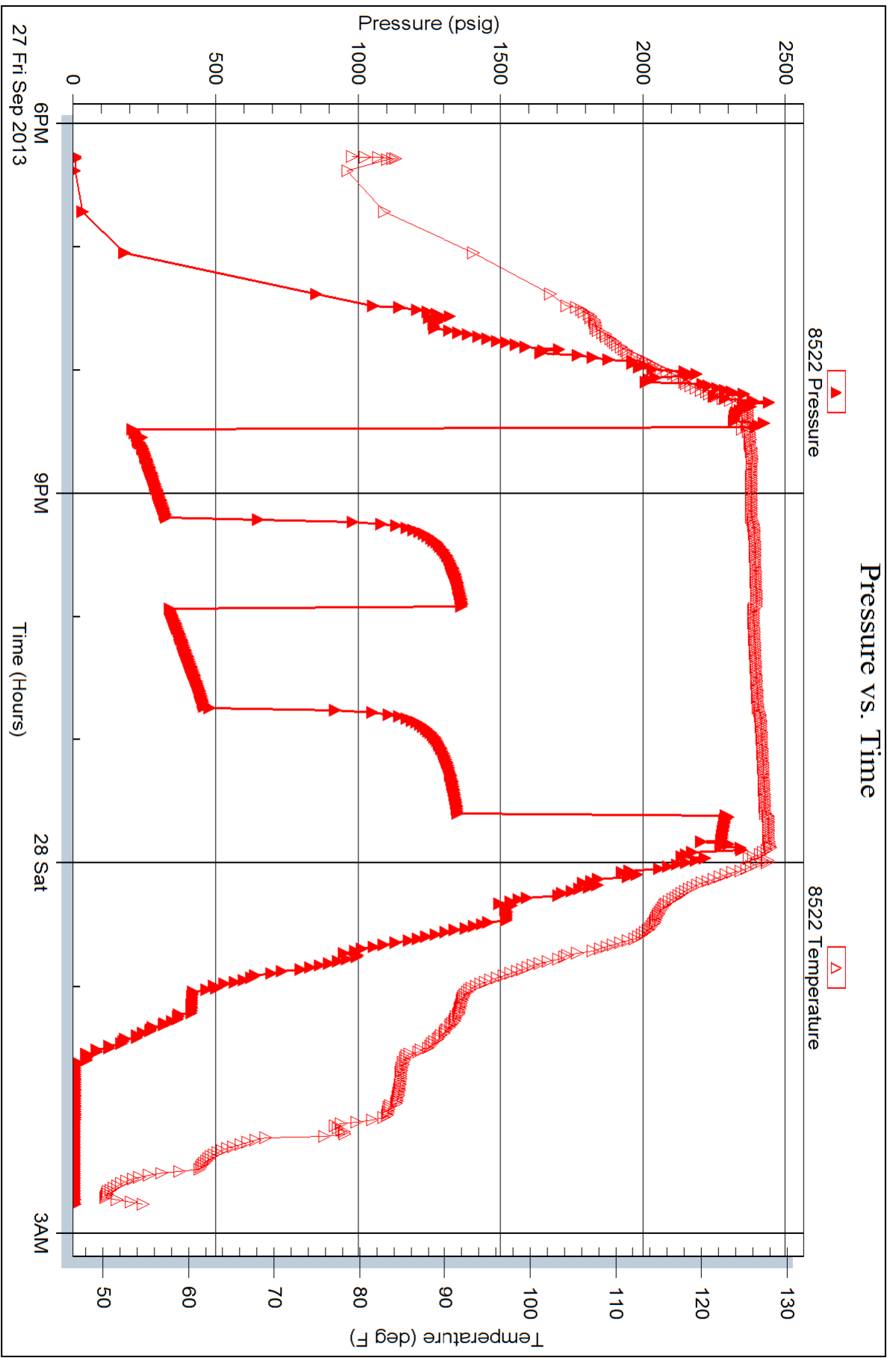
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Serial #: 8522

Outside Dow nting-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 3

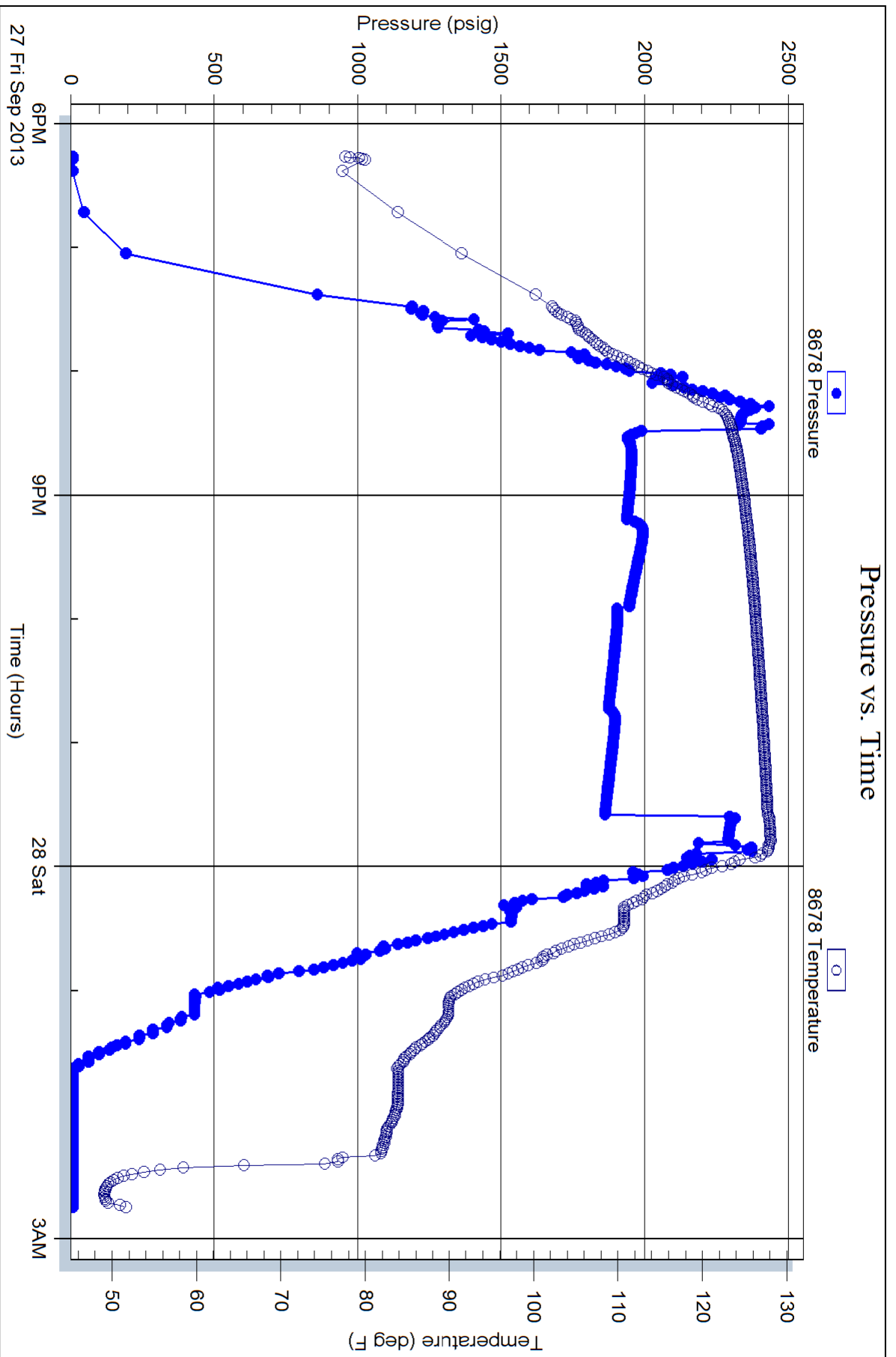


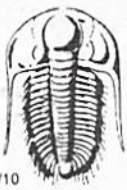
Serial #: 8678

Below (Stratton)ng-Nelson Oil Co, Inc

29 9s 31w Thomas, KS

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **55501**

Well Name & No. Hockersmith - Robben 2-29 Test No. 1 Date 9/25/13  
 Company Downing - Nelson Oil Co, Inc Elevation 3048 KB 3048 GL  
 Address PO Box 1019 Hays Ks 67601  
 Co. Rep / Geo. Mark Downing Rig Discovery #4  
 Location: Sec. 29 Twp. 9S Rge. 31W Co. Thomas State Ks

Interval Tested 4204 - 4295 Zone Tested LKC H-5  
 Anchor Length 91 Drill Pipe Run 4172 Mud Wt. 9.8  
 Top Packer Depth 4199 Drill Collars Run 30 Vis 5:5  
 Bottom Packer Depth 4204 Wt. Pipe Run \_\_\_\_\_ WL 8.8  
 Total Depth 4295 Chlorides 500 ppm System LCM 1.5

Blow Description IF: 3 1/2" blow  
TSI: No return  
FF: 3" blow  
FI: No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>MCW (oil spots)</u>		<u>70</u>	<u>30</u>	
	<u>6 inches oil on top</u>				

Rec Total 90 BHT 119 Gravity \_\_\_\_\_ API RW 116 @ 64 °F Chlorides 70,000 ppm

(A) Initial Hydrostatic <u>2179</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>0230</u>
(B) First Initial Flow <u>22</u>	<input type="checkbox"/> Jars _____	T-Started <u>0340</u>
(C) First Final Flow <u>47</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>0604</u>
(D) Initial Shut-In <u>1296</u>	<input checked="" type="checkbox"/> Circ Sub <u>NYC</u>	T-Pulled <u>0904</u>
(E) Second Initial Flow <u>52</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1055</u>
(F) Second Final Flow <u>68</u>	<input checked="" type="checkbox"/> Mileage <u>119 RT</u> 184.45	Comments <u>Stayed in Oakley</u>
(G) Final Shut-In <u>1288</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2165</u>	<input type="checkbox"/> Straddle _____	
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility _____	Total <u>1434.45</u>
	Sub Total <u>1434.45</u>	MP/DST Disc't _____

Approved By \_\_\_\_\_ Our Representative [Signature]

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.

785 623 1407





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **55502**

Well Name & No. Hockersmith - Robben2-29 Test No. 2 Date 9-26-13  
 Company Downing - Nelson Oil Co Elevation 3048 KB 3040 GL  
 Address P.O. Box 1019 Hays, Ks 67601  
 Co. Rep / Geo. Mark Downing Rig Discovery #4  
 Location: Sec. 29 Twp. 9s Rge. 31w Co. Thomas State Ks

Interval Tested 4324 - 4354 Zone Tested LKC - L  
 Anchor Length 30 Drill Pipe Run 4299 Mud Wt. 9.2  
 Top Packer Depth 4319 Drill Collars Run 30 Vis ??  
 Bottom Packer Depth 4324 Wt. Pipe Run 8 WL 8.8  
 Total Depth 4354 Chlorides 800 ppm System LCM 1.5

Blow Description TF: Surface blow  
TSJ: No return.  
FF: Surface blow  
FSJ: No return.

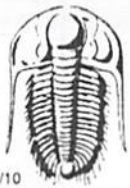
Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>50 cm</u>	<u>2</u>		<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 117 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2244</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>2020</u>
(B) First Initial Flow <u>19</u>	<input type="checkbox"/> Jars	T-Started <u>2117</u>
(C) First Final Flow <u>19</u>	<input type="checkbox"/> Safety Joint	T-Open <u>2319</u>
(D) Initial Shut-In <u>98</u>	<input checked="" type="checkbox"/> Circ Sub <u>14c</u>	T-Pulled <u>0119</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0301</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>119 RT</u> 184.45	Comments
(G) Final Shut-In <u>43</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2199</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</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>30</u>	<input type="checkbox"/> Day Standby	Total <u>1434.45</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1434.45</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **55503**

Well Name & No. Hockersmith - Robben 2-29 Test No. 3 Date 9/28/13  
 Company Downing - Nelson Oil Co, Inc Elevation 3048 KB 3040 GL  
 Address PO Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Mark Downing Rig Discovery #4  
 Location: Sec. 29 Twp. 9S Rge. SW Co. Thomas State Ks

Interval Tested 4320 4528 Zone Tested Pawnee Marmaton  
 Anchor Length 208 Tail - 182 Drill Pipe Run 4270 Mud Wt. 9.4  
 Top Packer Depth 4315 Drill Collars Run 30 Vis 69  
 Bottom Packer Depth 4320 str-4528 Wt. Pipe Run 8 WL 8.0  
 Total Depth 4710 Chlorides 800 ppm System LCM 1.5  
 Blow Description IFI: BOB @ 12 min  
ISI: No return  
FF: BOB @ 16 min.  
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>140</u>	<u>WCM</u>		<u>30</u>	<u>70</u>	
<u>510</u>	<u>mcw</u>		<u>85</u>	<u>15</u>	

Rec Total 650 BHT 127 Gravity — API RW 180 @ 49 °F Chlorides 60,000 ppm

(A) Initial Hydrostatic <u>2390</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1730</u>
(B) First Initial Flow <u>149</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1816</u>
(C) First Final Flow <u>293</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2028</u>
(D) Initial Shut-In <u>1359</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>2328</u>
(E) Second Initial Flow <u>300</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0245 9/28</u>
(F) Second Final Flow <u>1341 431</u>	<input checked="" type="checkbox"/> Mileage <u>119 RT 184.45</u>	Comments <u>Inc &amp; S-Joint were requested on this test.</u>
(G) Final Shut-In <u>1341</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2294</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>483.33</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	Total <u>2842.78</u>
Final Flow <u>45</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 14.5h</u>	MP/DST Disc't
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility	
	Sub Total <u>2359.45</u>	

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

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