



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Al Downing , Marc Do

PBW #1-32

32-18s-17w Rush,KS

Start Date: 2015.09.23 @ 11:35:52

End Date: 2015.09.23 @ 17:40:01

Job Ticket #: 62668 DST #: 1

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

Printed: 2015.09.28 @ 09:47:47



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62668

DST#: 1

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.23 @ 11:35:52

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:49:47

Time Test Ended: 17:40:01

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schw ager

Unit No: 70

Interval: 3651.00 ft (KB) To 3765.00 ft (KB) (TVD)

Reference Elevations: 2014.00 ft (KB)

Total Depth: 3765.00 ft (KB) (TVD)

2006.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018 Inside

Press@RunDepth: 285.45 psig @ 3665.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.23

End Date:

2015.09.23

Last Calib.:

2015.09.23

Start Time:

11:35:52

End Time:

17:40:01

Time On Btm:

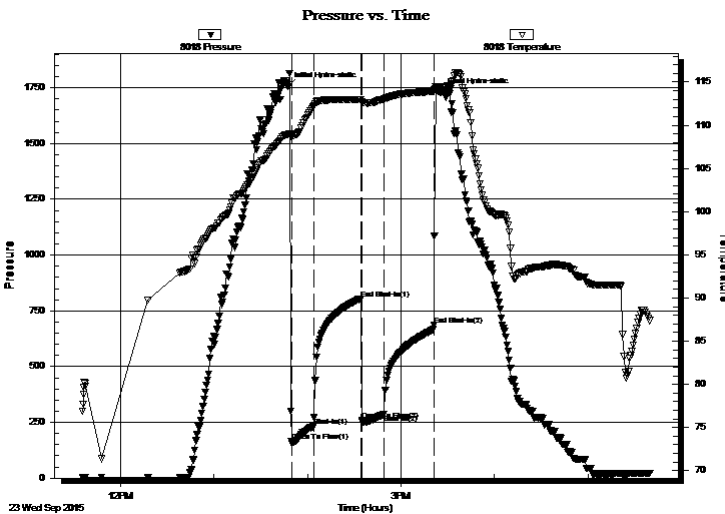
2015.09.23 @ 13:47:32

Time Off Btm:

2015.09.23 @ 15:25:47

TEST COMMENT: 15-IFP-strg bl in 45 sec
30-ISIP-1/4" bl bk
15-FFP-strg bl in 1 min 30 sec
30-FSIP-1/4" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1756.49	108.92	Initial Hydro-static
3	163.17	108.77	Open To Flow (1)
17	232.55	112.15	Shut-In(1)
47	804.07	112.93	End Shut-In(1)
48	261.11	112.73	Open To Flow (2)
62	285.45	113.01	Shut-In(2)
94	687.21	113.90	End Shut-In(2)
99	1730.32	114.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	150 'GIP	0.00
124.00	CO	1.47
62.00	MGO 20%G10%M70%O	0.87
215.00	HO&GCM 10%G40%O50%M	3.02
186.00	MGO 15%G30%M45%O	2.61

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson Oil Co Inc

32-18s-17w Rush, KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62668

DST#: 1

ATTN: Al Downing, Marc Do

Test Start: 2015.09.23 @ 11:35:52

Tool Information

Drill Pipe:	Length: 3620.00 ft	Diameter: 3.80 inches	Volume: 50.78 bbl	Tool Weight: 2200.00 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: 65000.00 lb
			<u>Total Volume: 50.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3651.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	114.00 ft			
Tool Length:	135.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3631.00	
Shut In Tool	5.00			3636.00	
Hydraulic tool	5.00			3641.00	
Packer	5.00			3646.00	21.00 Bottom Of Top Packer
Packer	5.00			3651.00	
Stubb	1.00			3652.00	
Perforations	13.00			3665.00	
Recorder	0.00	8018	Inside	3665.00	
Recorder	0.00	8700	Outside	3665.00	
Blank Spacing	97.00			3762.00	
Bullnose	3.00			3765.00	114.00 Bottom Packers & Anchor

Total Tool Length: 135.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62668

DST#: 1

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.23 @ 11:35:52

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.92 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	150 'GIP	0.000
124.00	CO	1.466
62.00	MGO 20%G10%M70%O	0.870
215.00	HO&GCM 10%G40%O50%M	3.016
186.00	MGO 15%G30%M45%O	2.609

Total Length: 587.00 ft

Total Volume: 7.961 bbl

Num Fluid Samples: 0

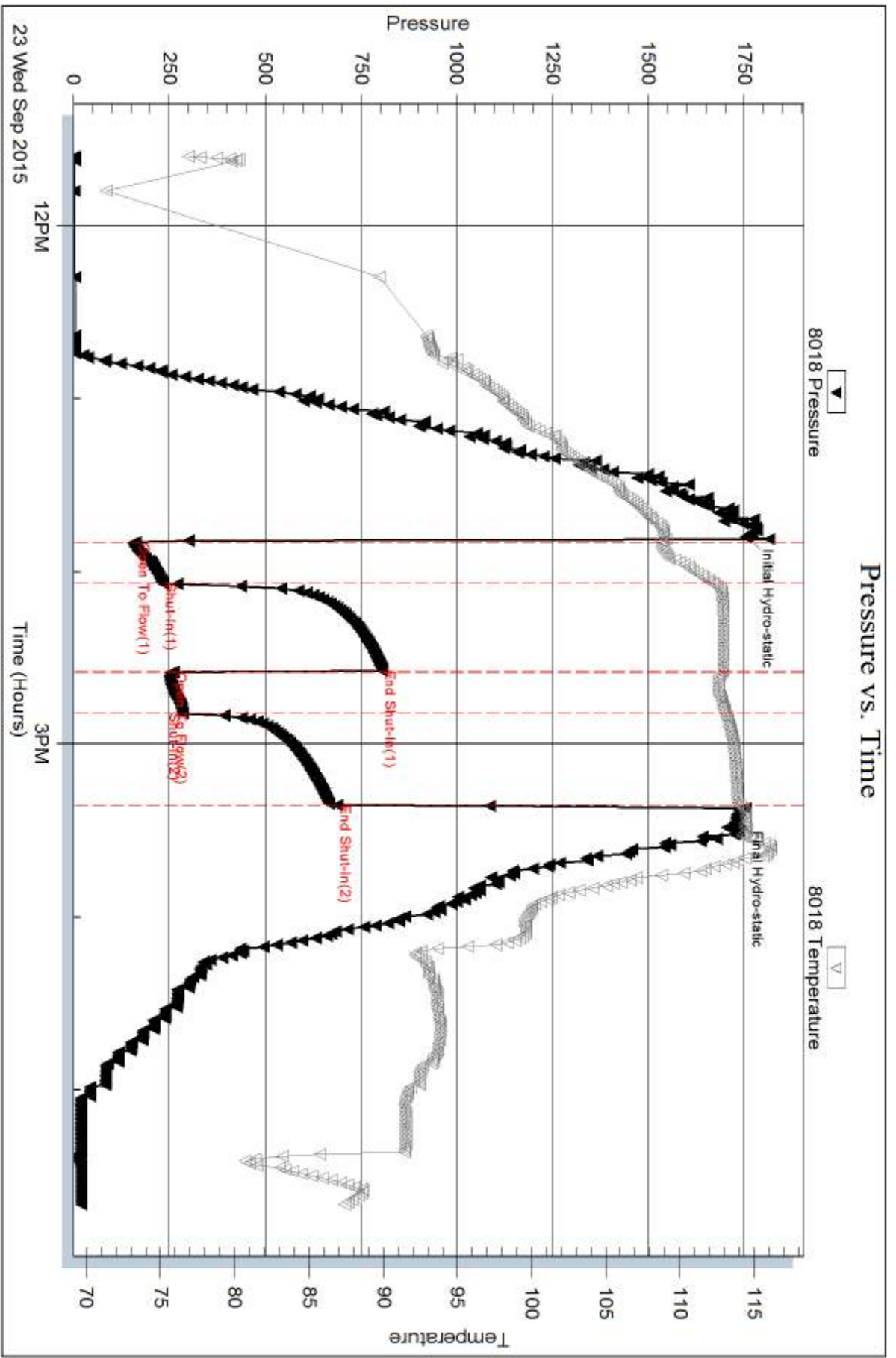
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

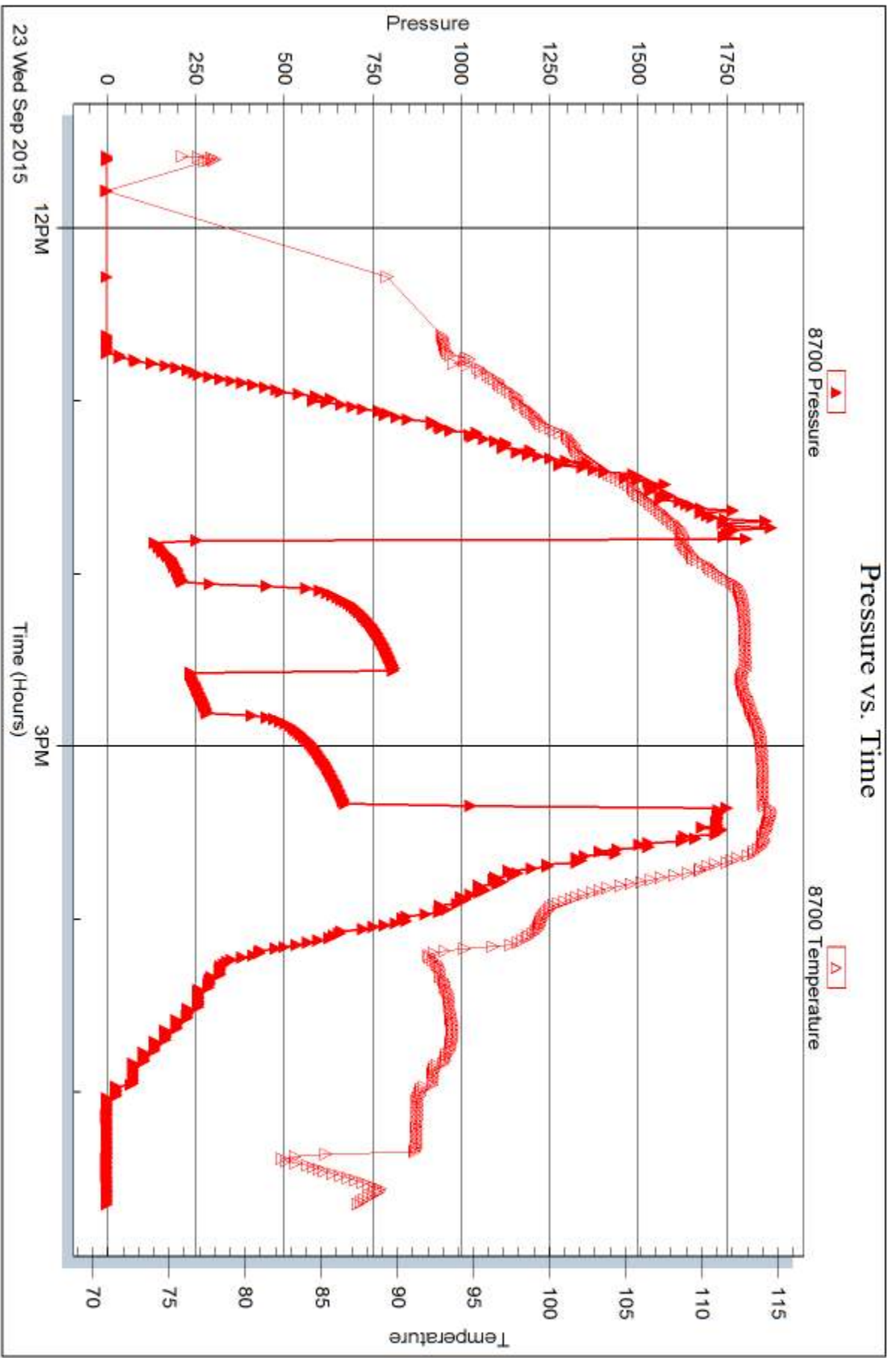


Serial #: 8700

Outside Dow n/ing-Nelson Oil Co Inc

FBW #1-32

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62668

Printed: 2015.09.28 @ 09:47:48



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Al Downing , Marc Do

PBW #1-32

32-18s-17w Rush,KS

Start Date: 2015.09.23 @ 23:40:07

End Date: 2015.09.24 @ 06:17:31

Job Ticket #: 62669 DST #: 2

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

Printed: 2015.09.28 @ 09:47:19



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62669

DST#: 2

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.23 @ 23:40:07

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:53:02

Time Test Ended: 06:17:31

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 70

Interval: 3763.00 ft (KB) To 3770.00 ft (KB) (TVD)

Reference Elevations: 2014.00 ft (KB)

Total Depth: 3770.00 ft (KB) (TVD)

2006.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 226.40 psig @ 3764.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.23

End Date:

2015.09.24

Last Calib.:

2015.09.24

Start Time:

23:40:07

End Time:

06:17:31

Time On Btm:

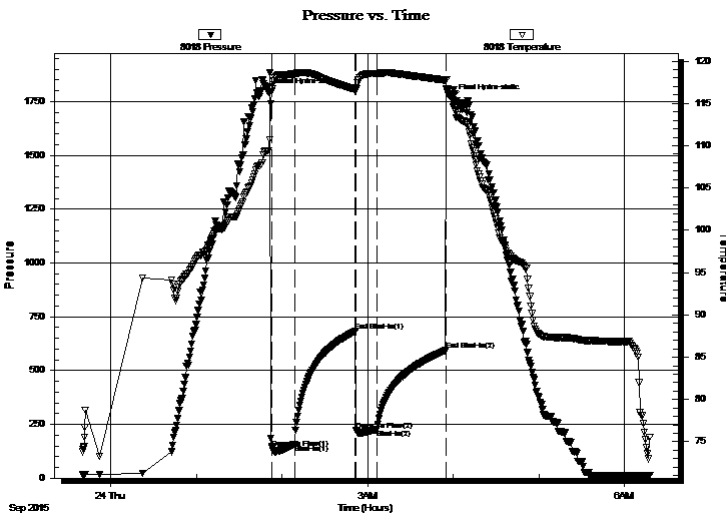
2015.09.24 @ 01:50:17

Time Off Btm:

2015.09.24 @ 03:59:01

TEST COMMENT: 15-IFP-strg bl in 30 sec
45-ISIP-surface bl bk
15-FFP-strg bl in 90 sec
45-FSIP-surface to 1 1/2" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1791.17	109.45	Initial Hydro-static
3	140.78	116.73	Open To Flow (1)
19	157.12	118.48	Shut-In(1)
61	682.63	116.68	End Shut-In(1)
62	223.72	116.57	Open To Flow (2)
77	226.40	118.52	Shut-In(2)
125	594.37	117.74	End Shut-In(2)
129	1764.11	115.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	345' GIP	0.00
62.00	MGO 20%G30%M50%O	0.60
521.00	CO	7.31

* Recovery from multiple tests

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

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62669

DST#: 2

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.23 @ 23:40:07

Tool Information

Drill Pipe:	Length: 3742.00 ft	Diameter: 3.80 inches	Volume: 52.49 bbl	Tool Weight:	2200.00 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:	65000.00 lb
			<u>Total Volume: 52.64 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3763.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	7.00 ft				
Tool Length:	28.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3743.00	
Shut In Tool	5.00			3748.00	
Hydraulic tool	5.00			3753.00	
Packer	5.00			3758.00	21.00 Bottom Of Top Packer
Packer	5.00			3763.00	
Stubb	1.00			3764.00	
Recorder	0.00	8018	Inside	3764.00	
Recorder	0.00	8700	Outside	3764.00	
Perforations	3.00			3767.00	
Bullnose	3.00			3770.00	7.00 Bottom Packers & Anchor
Total Tool Length:	28.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62669

DST#: 2

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.23 @ 23:40:07

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.89 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	345' GIP	0.000
62.00	MGO 20%G30%M50%O	0.596
521.00	CO	7.308

Total Length: 583.00 ft

Total Volume: 7.904 bbl

Num Fluid Samples: 0

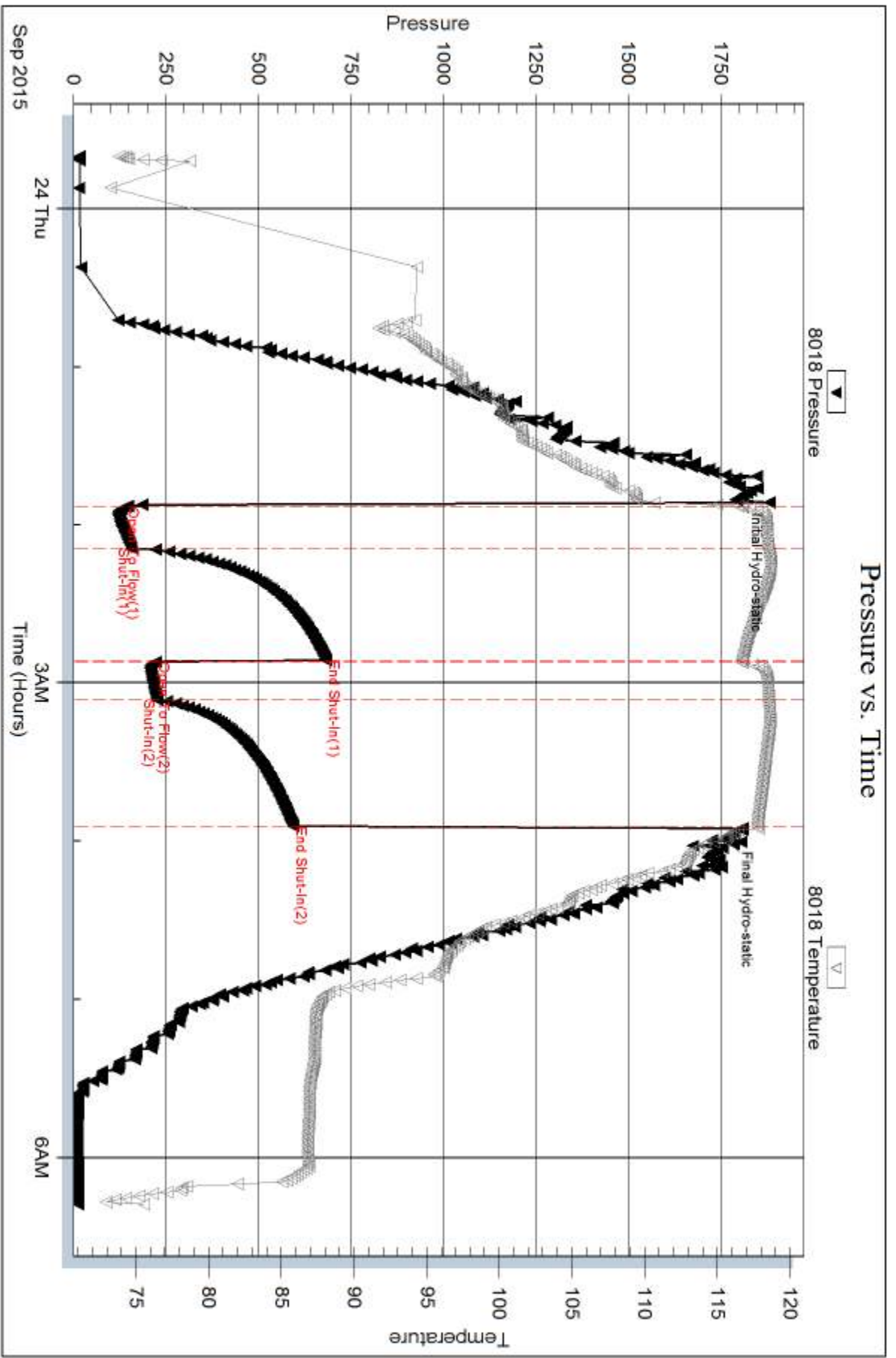
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

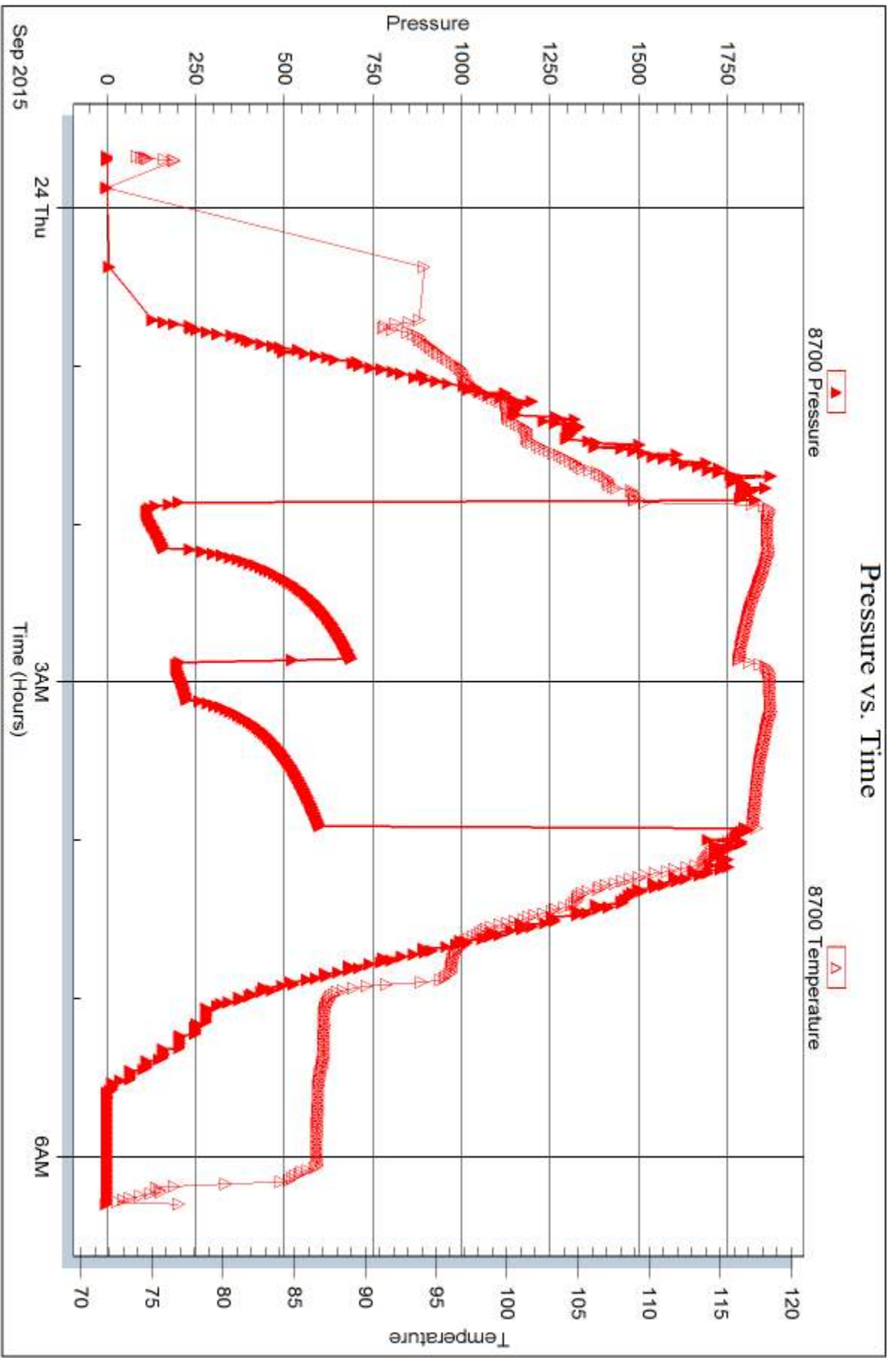


Serial #: 8700

Outside Dow nung-Nelson Oil Co Inc

FBW #1-32

DST Test Number: 2





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Al Downing , Marc Do

PBW #1-32

32-18s-17w Rush,KS

Start Date: 2015.09.24 @ 12:45:15

End Date: 2015.09.24 @ 18:56:39

Job Ticket #: 62670 DST #: 3

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

Printed: 2015.09.28 @ 09:46:56



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62670

DST#: 3

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.24 @ 12:45:15

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:40:40

Time Test Ended: 18:56:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 70

Interval: 3769.00 ft (KB) To 3775.00 ft (KB) (TVD)

Reference Elevations: 2014.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2006.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 200.38 psig @ 3770.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.24

End Date:

2015.09.24

Last Calib.:

2015.09.24

Start Time: 12:45:15

End Time:

18:56:39

Time On Btm:

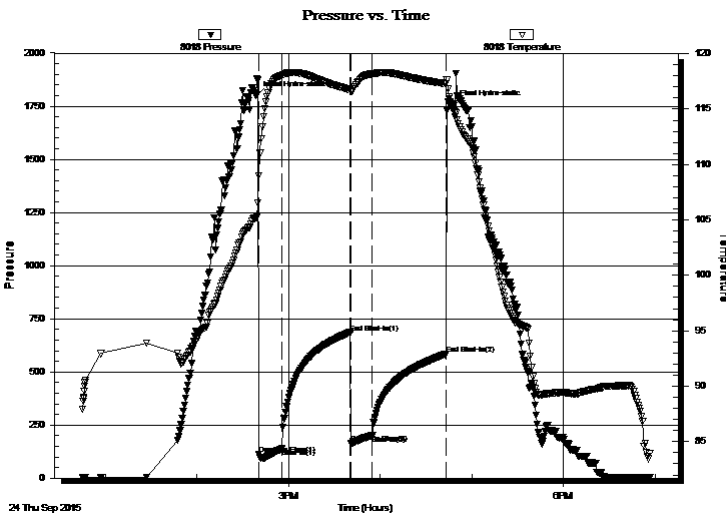
2015.09.24 @ 14:38:55

Time Off Btm:

2015.09.24 @ 16:47:25

TEST COMMENT: 15-IFP-strg bl in 1 min
45-ISIP-surface to 2" bl
15-FFP-strg bl in 2 min
45-FSIP-surface to 1/2" bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1799.68	105.18	Initial Hydro-static
2	113.27	108.95	Open To Flow (1)
17	138.82	118.04	Shut-In(1)
62	683.57	116.74	End Shut-In(1)
62	164.83	116.55	Open To Flow (2)
76	200.38	118.16	Shut-In(2)
124	583.50	117.29	End Shut-In(2)
129	1757.20	115.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	360' GIP	0.00
62.00	MGO 15%G10%M75%M	0.60
505.00	CO	7.08

* Recovery from multiple tests

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

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62670

DST#: 3

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.24 @ 12:45:15

Tool Information

Drill Pipe:	Length: 3743.00 ft	Diameter: 3.80 inches	Volume: 52.50 bbl	Tool Weight: 2200.00 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: 65000.00 lb
			<u>Total Volume: 52.65 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3769.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	6.00 ft			
Tool Length:	27.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3749.00	
Shut In Tool	5.00			3754.00	
Hydraulic tool	5.00			3759.00	
Packer	5.00			3764.00	21.00 Bottom Of Top Packer
Packer	5.00			3769.00	
Stubb	1.00			3770.00	
Recorder	0.00	8018	Inside	3770.00	
Recorder	0.00	8700	Outside	3770.00	
Perforations	2.00			3772.00	
Bullnose	3.00			3775.00	6.00 Bottom Packers & Anchor
Total Tool Length:	27.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62670

DST#: 3

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.24 @ 12:45:15

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.73 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	360' GIP	0.000
62.00	MGO 15%G10%M75%M	0.596
505.00	CO	7.084

Total Length: 567.00 ft

Total Volume: 7.680 bbl

Num Fluid Samples: 0

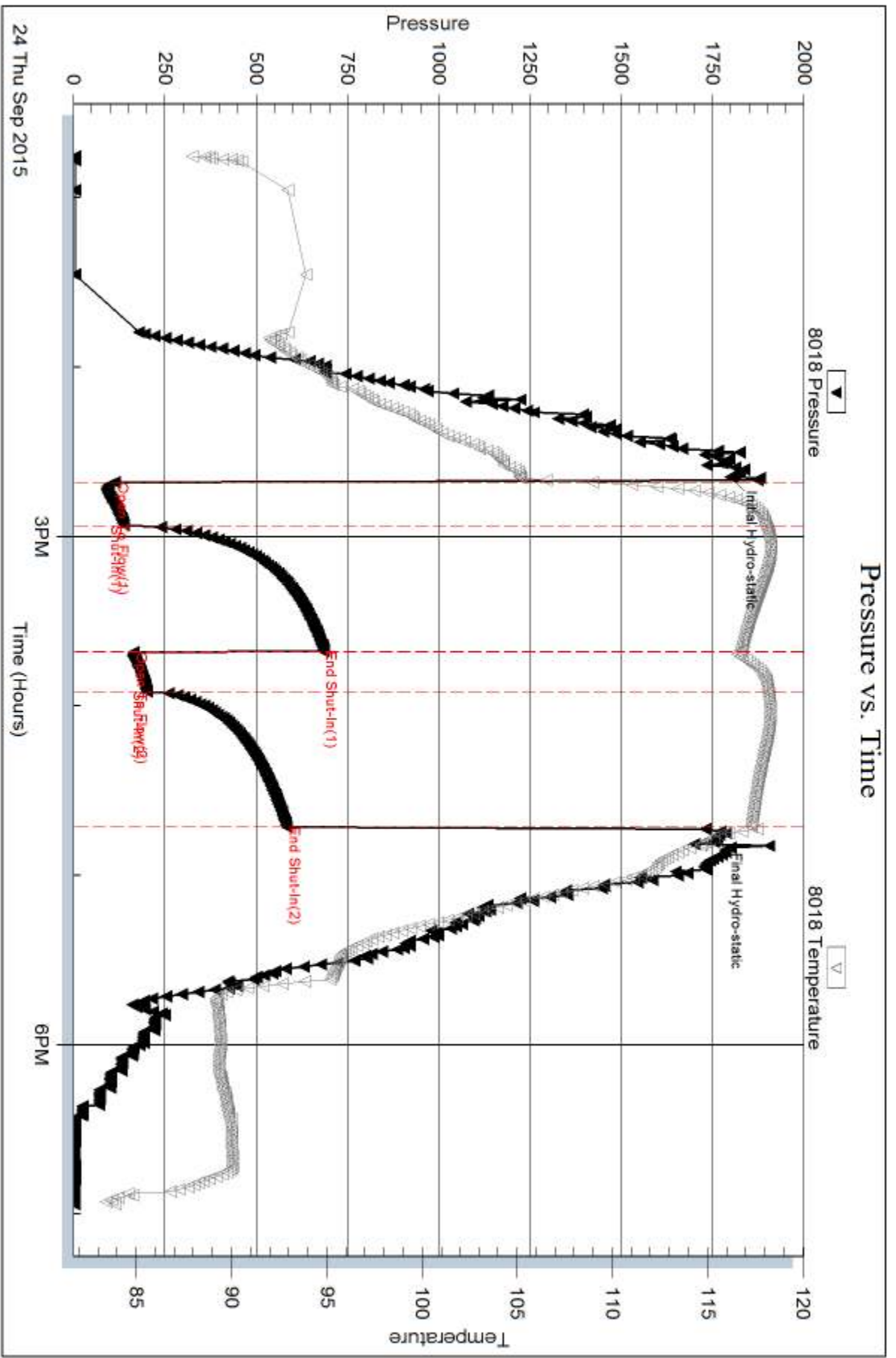
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

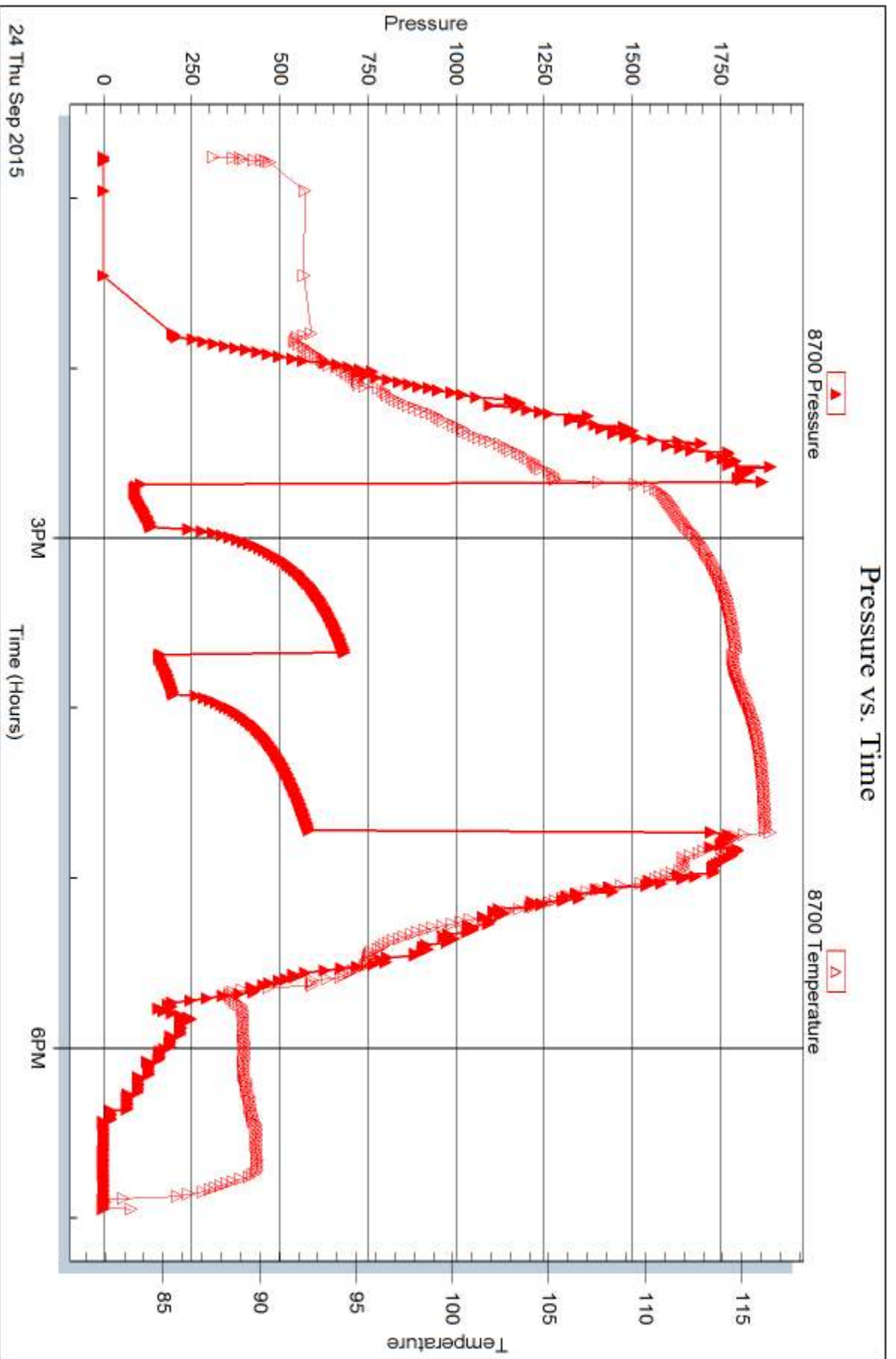


Serial #: 8700

Outside Dow n/ing-Nelson Oil Co Inc

FBW #1-32

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 62670

Printed: 2015.09.28 @ 09:46:58



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Al Downing , Marc Do

PBW #1-32

32-18s-17w Rush,KS

Start Date: 2015.09.25 @ 01:10:32

End Date: 2015.09.25 @ 06:59:56

Job Ticket #: 62671 DST #: 4

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

Printed: 2015.09.28 @ 09:46:24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62671

DST#: 4

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.25 @ 01:10:32

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:00:57

Time Test Ended: 06:59:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 70

Interval: 3775.00 ft (KB) To 3781.00 ft (KB) (TVD)

Reference Elevations: 2014.00 ft (KB)

Total Depth: 3781.00 ft (KB) (TVD)

2006.00 ft (CF)

Hole Diameter: 7.85 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018 Inside

Press@RunDepth: 155.24 psig @ 3776.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.09.25 End Date: 2015.09.25

Last Calib.: 2015.09.25

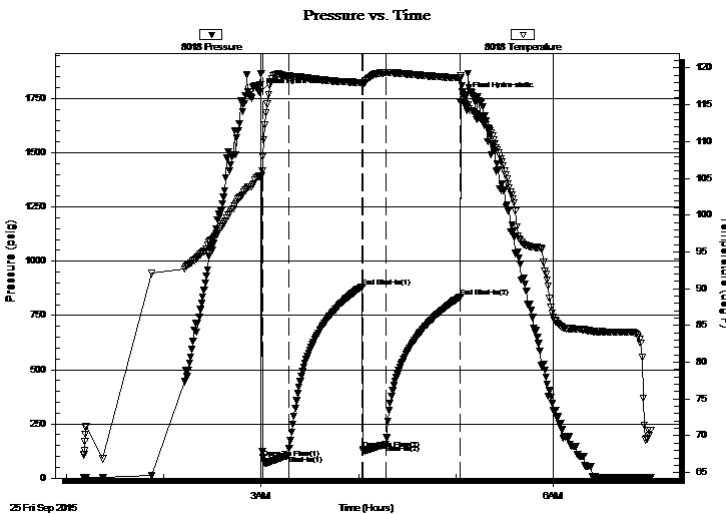
Start Time: 01:10:32 End Time: 06:59:56

Time On Btm: 2015.09.25 @ 02:58:57

Time Off Btm: 2015.09.25 @ 05:06:12

TEST COMMENT: 15-IFP-strg bl in 2 min
45-ISIP-1/4" bl bk
15-FFP-w k to strg in 10 min
45-FSIP-surface bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1777.50	105.30	Initial Hydro-static
2	93.48	107.91	Open To Flow (1)
18	105.00	118.88	Shut-In(1)
64	881.25	118.02	End Shut-In(1)
64	131.59	117.73	Open To Flow (2)
78	155.24	119.37	Shut-In(2)
124	835.80	118.65	End Shut-In(2)
128	1759.35	114.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	248' GIP	0.00
62.00	MGO 10%G10%W10%M70%O	0.60
315.00	CO	4.42

* Recovery from multiple tests

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

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62671

DST#: 4

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.25 @ 01:10:32

Tool Information

Drill Pipe:	Length: 3742.00 ft	Diameter: 3.80 inches	Volume: 52.49 bbl	Tool Weight:	2200.00 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: 52.64 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3775.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	6.00 ft				
Tool Length:	27.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3755.00	
Shut In Tool	5.00			3760.00	
Hydraulic tool	5.00			3765.00	
Packer	5.00			3770.00	21.00 Bottom Of Top Packer
Packer	5.00			3775.00	
Stubb	1.00			3776.00	
Recorder	0.00	8018	Inside	3776.00	
Recorder	0.00	8700	Outside	3776.00	
Perforations	2.00			3778.00	
Bullnose	3.00			3781.00	6.00 Bottom Packers & Anchor
Total Tool Length:	27.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

32-18s-17w Rush,KS

PO Box 1019
Hays KS 67601

PBW #1-32

Job Ticket: 62671

DST#: 4

ATTN: Al Dow ning , Marc Do

Test Start: 2015.09.25 @ 01:10:32

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	248' GIP	0.000
62.00	MGO 10%G10%W10%M70%O	0.596
315.00	CO	4.419

Total Length: 377.00 ft

Total Volume: 5.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

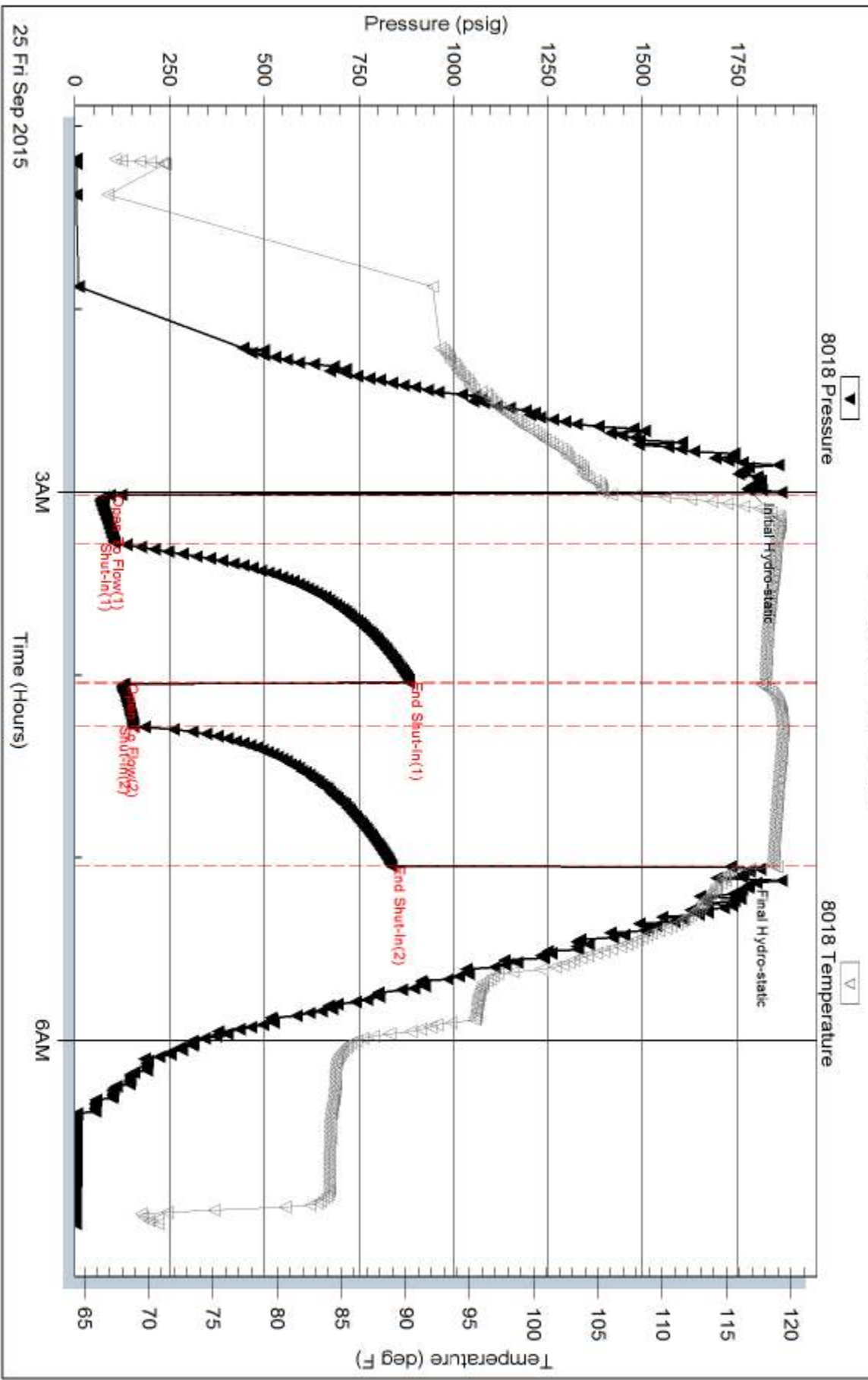
Serial #:

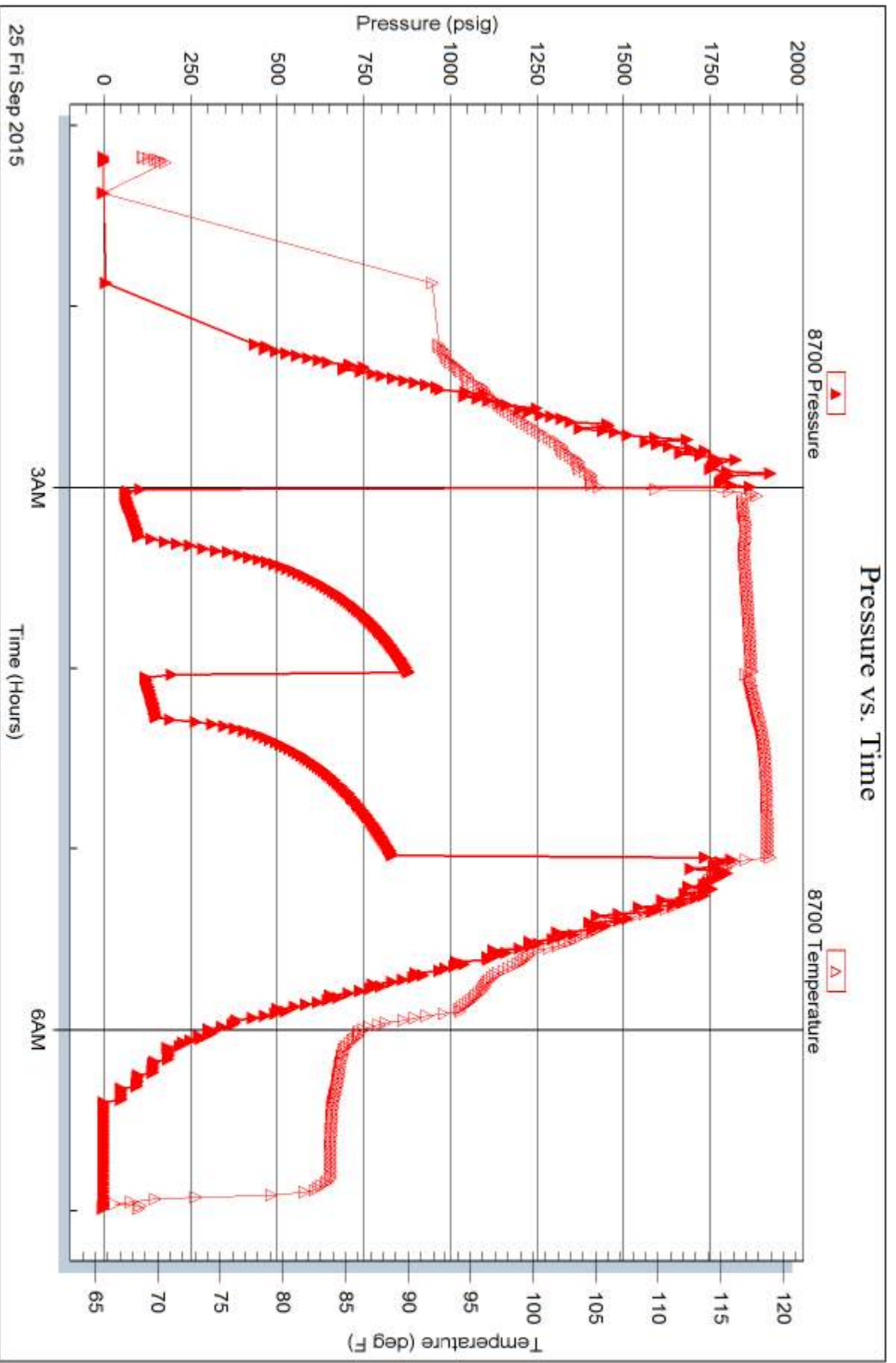
Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62668

Well Name & No. PBW 1-32 Test No. 1 Date 9-23-15
 Company Downing-Nelson O.I. Co Inc Elevation 2014 KB 2006 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery 1193
 Location: Sec. 32 Twp. 18^s Rge. 17^w Co. Rush State K

Interval Tested 3651-3765 Zone Tested Arbuckle
 Anchor Length 114 Drill Pipe Run 3620 Mud Wt. 9.1
 Top Packer Depth 3646 Drill Collars Run 30 Vis 54
 Bottom Packer Depth 3651 Wt. Pipe Run - WL 8
 Total Depth 3765 Chlorides 2500 ppm System LCM 1#
 Blow Description IFP - Strong Blow in 45 sec
TSTP - 1/4" Blow Back
FFP - Strong Blow in 1 min 30 sec
FSIP - 1/4" Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
150	GIP				
124	CO				
62	MGO	20	70	10	
215	HO+6CM	10	40	50	
186	MGO	15	45	30	

Rec Total 587 BHT 114 Gravity 34 API RW - @ - ° F Chlorides - ppm
 Test 1050
 Jars
 Safety Joint
 Circ Sub
 Hourly Standby
 Mileage 75RT
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility
 Sub Total 1125

T-On Location 1030
 T-Started 1135
 T-Open 1340
 T-Pulled 1510
 T-Out 1740
 Comments
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1125
 MP/DST Disc't

Initial Open 15
 Initial Shut-In 30
 Final Flow 15
 Final Shut-In 30

Approved By _____ Our Representative RAY SCHWAGN Thank you

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62669

Well Name & No. PBW 1-32 Test No. 2 Date 9-23-15
 Company Downing-Nelson Oil Co Inc Elevation 2014 KB 2006 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC DOWNING Rig DISCOVERY RIG 3
 Location: Sec. 32 Twp. 18^S Rge. 17^W Co. Rush State Ks

Interval Tested 3763-3770 Zone Tested Arbuckle
 Anchor Length 7 Drill Pipe Run 3742 Mud Wt. 9.1
 Top Packer Depth 3758 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3763 Wt. Pipe Run — WL 8
 Total Depth 3770 Chlorides 2500 ppm System LCM 1[#]

Blow Description IFP - STRONG BLOW IN 30 sec
TSIP - SURFACE BLOW BACK
FFP - STRONG BLOW IN 90 sec
FSIP - SURFACE TO 1 1/2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>345</u>	<u>GIA</u>				
<u>62</u>	<u>M 60</u>	<u>20</u>	<u>50</u>		<u>30</u>
<u>521</u>	<u>CO</u>				

Rec Total 583 BHT 117 Gravity 37 API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 1791 Test 1050 T-On Location 2100
 (B) First Initial Flow 140 Jars — T-Started 2340
 (C) First Final Flow 157 Safety Joint — T-Open 0150
 (D) Initial Shut-In 682 Circ Sub — T-Pulled 0350
 (E) Second Initial Flow 223 Hourly Standby — T-Out 0617
 (F) Second Final Flow 226 Mileage 75 Comments —
 (G) Final Shut-In 594 Sampler —
 (H) Final Hydrostatic 1764 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1125
 Accessibility — MP/DST Disc't —
 Sub Total 1125

Approved By _____ Our Representative RAY SCHWAGER *THANK YOU*

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62670

Well Name & No. PBW 1-32 Test No. 3 Date 9-24-15
 Company Downing-Nelson Oil Co Inc Elevation 2014 KB 2006 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 3
 Location: Sec. 32 Twp. 18⁵¹ Rge. 17^w Co. Rush State Ks

Interval Tested 3769-3775 Zone Tested Arbuckle
 Anchor Length 6 Drill Pipe Run 3743 Mud Wt. 9
 Top Packer Depth 3764 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3769 Wt. Pipe Run — WL 8.8
 Total Depth 3775 Chlorides 2500 ppm System LCM 1 1/2#

Blow Description TFP - STRONG BLOW IN 1 MIN
ISIP - SURFACE BLOW BACK TO 2" BLOW
FFP - STRONG BLOW IN 2 MIN
FSTP - SURFACE TO 1/2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>360</u>	<u>GTP</u>				
<u>505</u>	<u>CO</u>				
<u>60</u>	<u>MGO</u>	<u>15</u>	<u>75</u>		<u>10</u>

Rec Total 567 BHT 117 Gravity 39 API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 1799 Test 1050 T-On Location 0915
 (B) First Initial Flow 113 Jars — T-Started 1245
 (C) First Final Flow 138 Safety Joint — T-Open 1435
 (D) Initial Shut-In 683 Circ Sub — T-Pulled 1635
 (E) Second Initial Flow 164 Hourly Standby — T-Out 1856
 (F) Second Final Flow 200 Mileage — Comments Stayed on location
 (G) Final Shut-In 583 Sampler —
 (H) Final Hydrostatic 1757 Straddle — Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Initial Open 15 Extra Packer — Extra Copies —
 Initial Shut-In 45 Extra Recorder — Sub Total 0
 Final Flow 15 Day Standby — Total 1050
 Final Shut-In 45 Accessibility — MP/DST Disc't —
 Sub Total 1050

Approved By _____ Our Representative RAY SCHWAGG *Thank you*

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62671

Well Name & No. PBW 1-32 Test No. 4 Date 9-25-15
 Company Downing-Nelson Oil Co Inc Elevation 2014 KB 2006 GL
 Address PO Box 1019 Hays, KS 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 3
 Location: Sec. 32 Twp. 18^s Rge. 17^w Co. Rush State Ks

Interval Tested 3775-3781 Zone Tested Arkuckle
 Anchor Length 6 Drill Pipe Run 3742 Mud Wt. 9
 Top Packer Depth 3770 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3775 Wt. Pipe Run - WL 8.8
 Total Depth 3781 Chlorides 2500 ppm System LCM 1 1/2 #

Blow Description IFP - STRONG BLOW IN 2 min
ISTP - 1/4" BLOW BACK
FFP - WEAK TO STRONG IN 10 min
FSIP - SURFACE BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>248</u>	<u>GIP</u>				
<u>62</u>	<u>MGO</u>	<u>10</u>	<u>70</u>	<u>10</u>	<u>10</u>
<u>315</u>	<u>CO</u>				

Rec Total 377 BHT 118 Gravity 39 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1777 Test 1050 T-On Location 0050
 (B) First Initial Flow 93 Jars _____ T-Started 0110
 (C) First Final Flow 105 Safety Joint _____ T-Open 0300
 (D) Initial Shut-In 881 Circ Sub _____ T-Pulled 0500
 (E) Second Initial Flow 131 Hourly Standby _____ T-Out 0659
 (F) Second Final Flow 155 Mileage 75+75 Comments _____

(G) Final Shut-In 835 Sampler _____
 (H) Final Hydrostatic 1759 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____

Initial Open 15 Extra Packer _____
 Initial Shut-In 45 Extra Recorder _____
 Final Flow 15 Day Standby _____
 Final Shut-In 45 Accessibility _____
 Sub Total 1200 MP/DST Disc't _____

Approved By _____ Our Representative Ray Schwager Thank you

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.