



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Mary Pearson #2-25

25-13S-22W Trego,KS

Start Date: 2018.07.04 @ 14:06:00

End Date: 2018.07.04 @ 19:55:45

Job Ticket #: 63914 DST #: 1

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

Printed: 2018.07.11 @ 11:08:06

Downing Nelson Oil Co
25-13S-22W Trego,KS
Mary Pearson #2-25
DST # 1
LKC 'C - D'
2018.07.04



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing Nelson Oil Co

25-13S-22W Trego, KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

ATTN: Marc Downing

Job Ticket: 63914

DST#: 1

Test Start: 2018.07.04 @ 14:06:00

GENERAL INFORMATION:

Formation: **LKC 'C - D'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:27:30

Time Test Ended: 19:55:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Spencer J. Staab

Unit No: 84

Interval: 3632.00 ft (KB) To 3676.00 ft (KB) (TVD)

Reference Elevations: 2263.00 ft (KB)

Total Depth: 3676.00 ft (KB) (TVD)

2255.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8368

Inside

Press@RunDepth: 17.31 psig @ 3640.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.04

End Date:

2018.07.04

Last Calib.: 2018.07.04

Start Time: 14:06:15

End Time:

19:55:45

Time On Btm: 2018.07.04 @ 16:27:15

Time Off Btm: 2018.07.04 @ 18:29:00

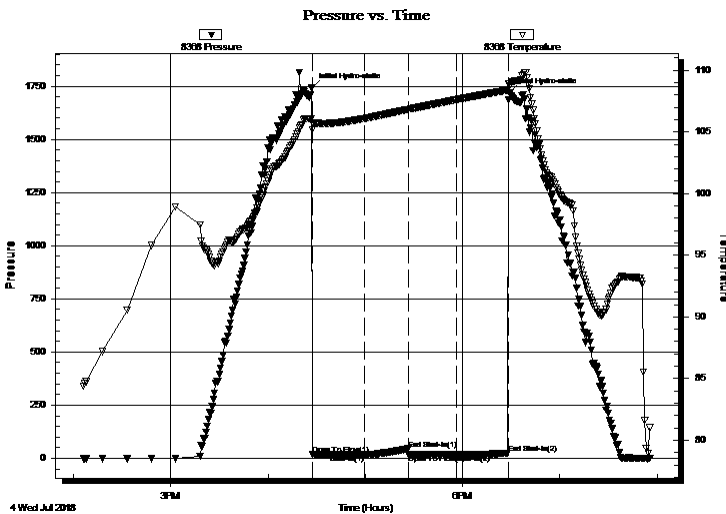
TEST COMMENT: 30-IF-Weak Blow ; Built to 1/4"

30-ISI-No Return

30-FF-No Blow

30-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1741.43	106.10	Initial Hydro-static
1	18.68	105.19	Open To Flow (1)
32	16.60	106.08	Shut-In(1)
60	43.90	106.83	End Shut-In(1)
60	18.09	106.83	Open To Flow (2)
89	17.31	107.61	Shut-In(2)
121	23.85	108.39	End Shut-In(2)
122	1721.52	108.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	OSM 100%M	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63914

DST#: 1

ATTN: Marc Downing

Test Start: 2018.07.04 @ 14:06:00

Tool Information

Drill Pipe:	Length: 3613.00 ft	Diameter: 3.82 inches	Volume: 51.22 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 63000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3632.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3613.00	
Shut In Tool	5.00			3618.00	
Hydraulic tool	5.00			3623.00	
Packer	5.00			3628.00	20.00 Bottom Of Top Packer
Packer	4.00			3632.00	
Stubb	1.00			3633.00	
Perforations	6.00			3639.00	
Change Over Sub	1.00			3640.00	
Recorder	0.00	8368	Inside	3640.00	
Recorder	0.00	9120	Inside	3640.00	
Drill Pipe	32.00			3672.00	
Change Over Sub	1.00			3673.00	
Bullnose	3.00			3676.00	44.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63914

DST#: 1

ATTN: Marc Downing

Test Start: 2018.07.04 @ 14:06:00

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: 6.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	OSM 100%M	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1&1/2#LCM

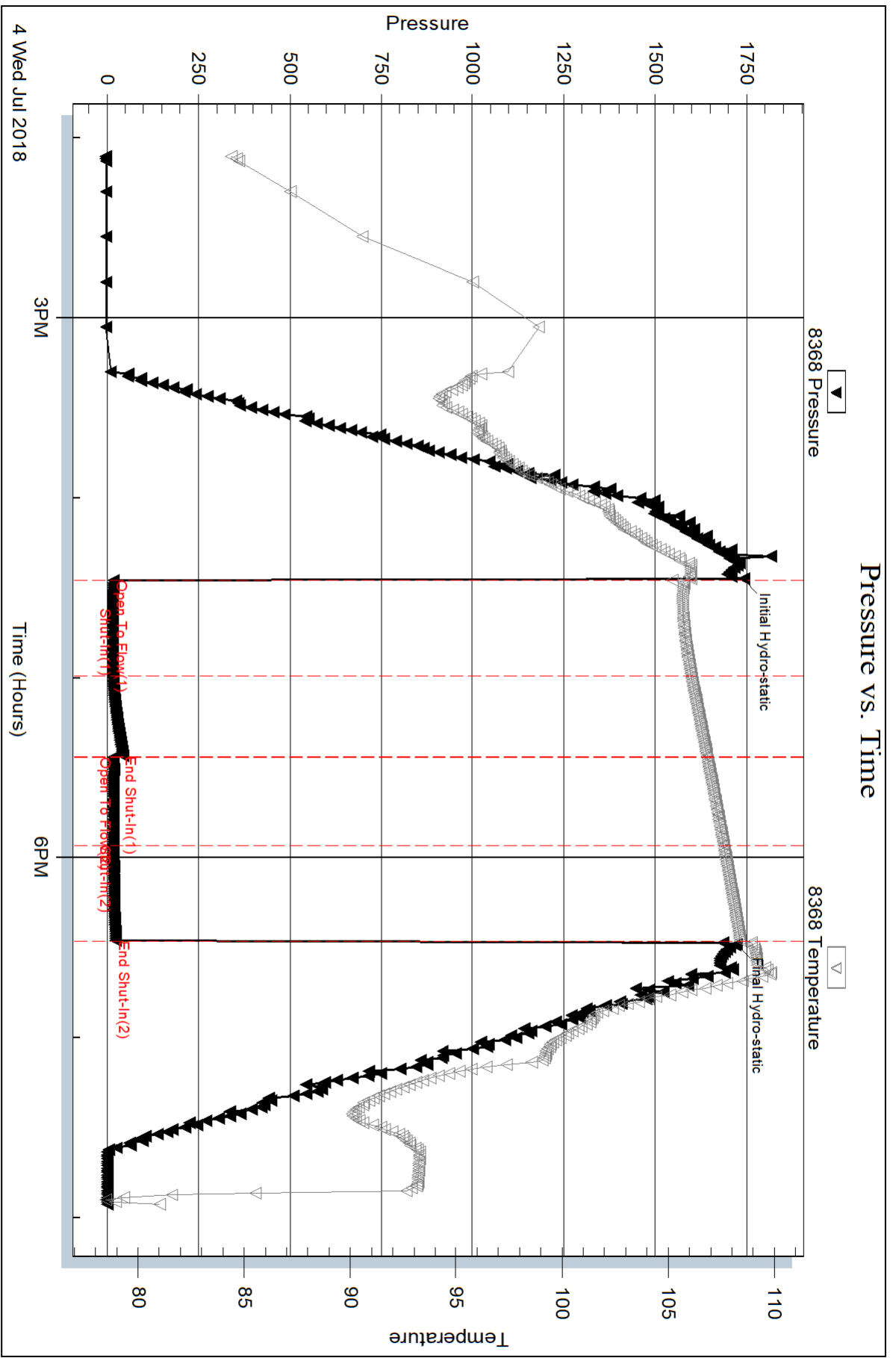
Serial #: 8368

Inside

Downing Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 63914

Printed: 2018.07.11 @ 11:08:07

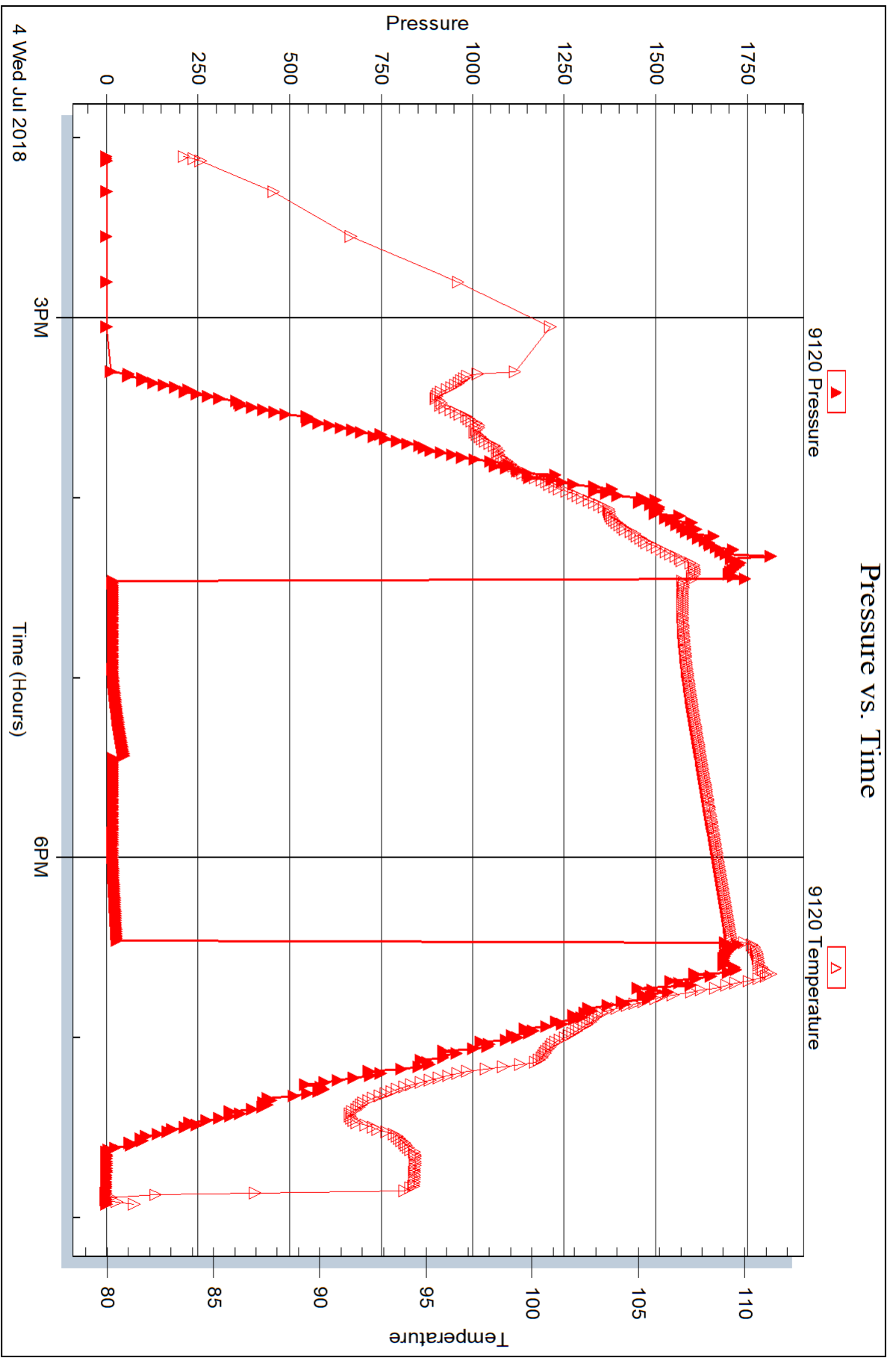
Serial #: 9120

Inside

Downing Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 63914

Printed: 2018.07.11 @ 11:08:07



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Mary Pearson #2-25

25-13S-22W Trego,KS

Start Date: 2018.07.05 @ 09:58:00

End Date: 2018.07.05 @ 15:34:15

Job Ticket #: 63915 DST #: 2

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

Printed: 2018.07.11 @ 11:07:47



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing Nelson Oil Co

25-13S-22W Trego, KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63915

DST#: 2

ATTN: Marc Downing

Test Start: 2018.07.05 @ 09:58:00

GENERAL INFORMATION:

Formation: **LKC 'H - J'**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:04:30
 Time Test Ended: 15:34:15
 Interval: **3736.00 ft (KB) To 3813.00 ft (KB) (TVD)**
 Total Depth: 3676.00 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: 2263.00 ft (KB)
 2255.00 ft (CF)
 KB to GR/CF: 8.00 ft

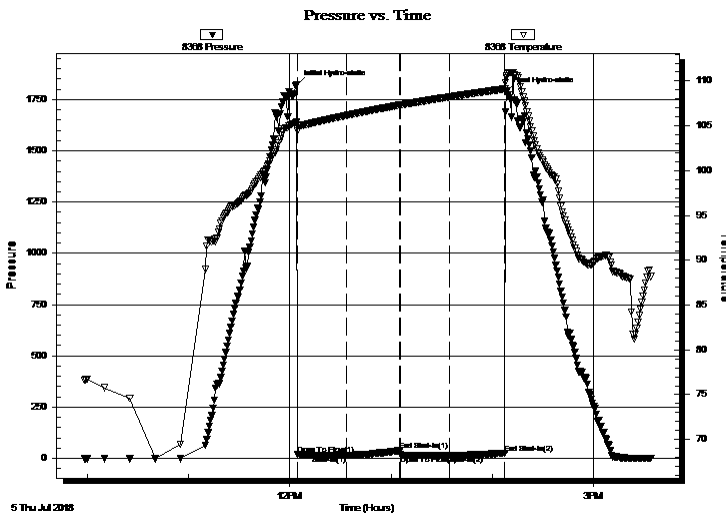
Serial #: 8368

Inside

Press@RunDepth: 15.57 psig @ 3739.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.07.05 End Date: 2018.07.05 Last Calib.: 2018.07.05
 Start Time: 09:58:15 End Time: 15:34:15 Time On Btm: 2018.07.05 @ 12:04:15
 Time Off Btm: 2018.07.05 @ 14:08:15

TEST COMMENT: 30-IF-Weak Blow ; Built to 1/4"
 30-ISI-No Return
 30-FF-No Blow
 30-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1820.94	105.42	Initial Hydro-static
1	19.19	104.39	Open To Flow (1)
29	14.15	106.15	Shut-In(1)
61	37.54	107.31	End Shut-In(1)
62	16.83	107.31	Open To Flow (2)
91	15.57	108.22	Shut-In(2)
124	25.83	109.11	End Shut-In(2)
124	1790.90	110.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	OSM 100%M	0.01

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63915

DST#: 2

ATTN: Marc Downing

Test Start: 2018.07.05 @ 09:58:00

Tool Information

Drill Pipe:	Length: 3708.00 ft	Diameter: 3.82 inches	Volume: 52.56 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	61000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3736.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	77.00 ft				
Tool Length:	97.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3717.00	
Shut In Tool	5.00			3722.00	
Hydraulic tool	5.00			3727.00	
Packer	5.00			3732.00	20.00 Bottom Of Top Packer
Packer	4.00			3736.00	
Stubb	1.00			3737.00	
Perforations	1.00			3738.00	
Change Over Sub	1.00			3739.00	
Recorder	0.00	8368	Inside	3739.00	
Recorder	0.00	9120	Inside	3739.00	
Drill Pipe	63.00			3802.00	
Change Over Sub	1.00			3803.00	
Perforations	7.00			3810.00	
Bullnose	3.00			3813.00	77.00 Bottom Packers & Anchor

Total Tool Length: 97.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63915

DST#: 2

ATTN: Marc Downing

Test Start: 2018.07.05 @ 09:58:00

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: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	OSM 100%M	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1&1/2"LCM

Serial #: 8368

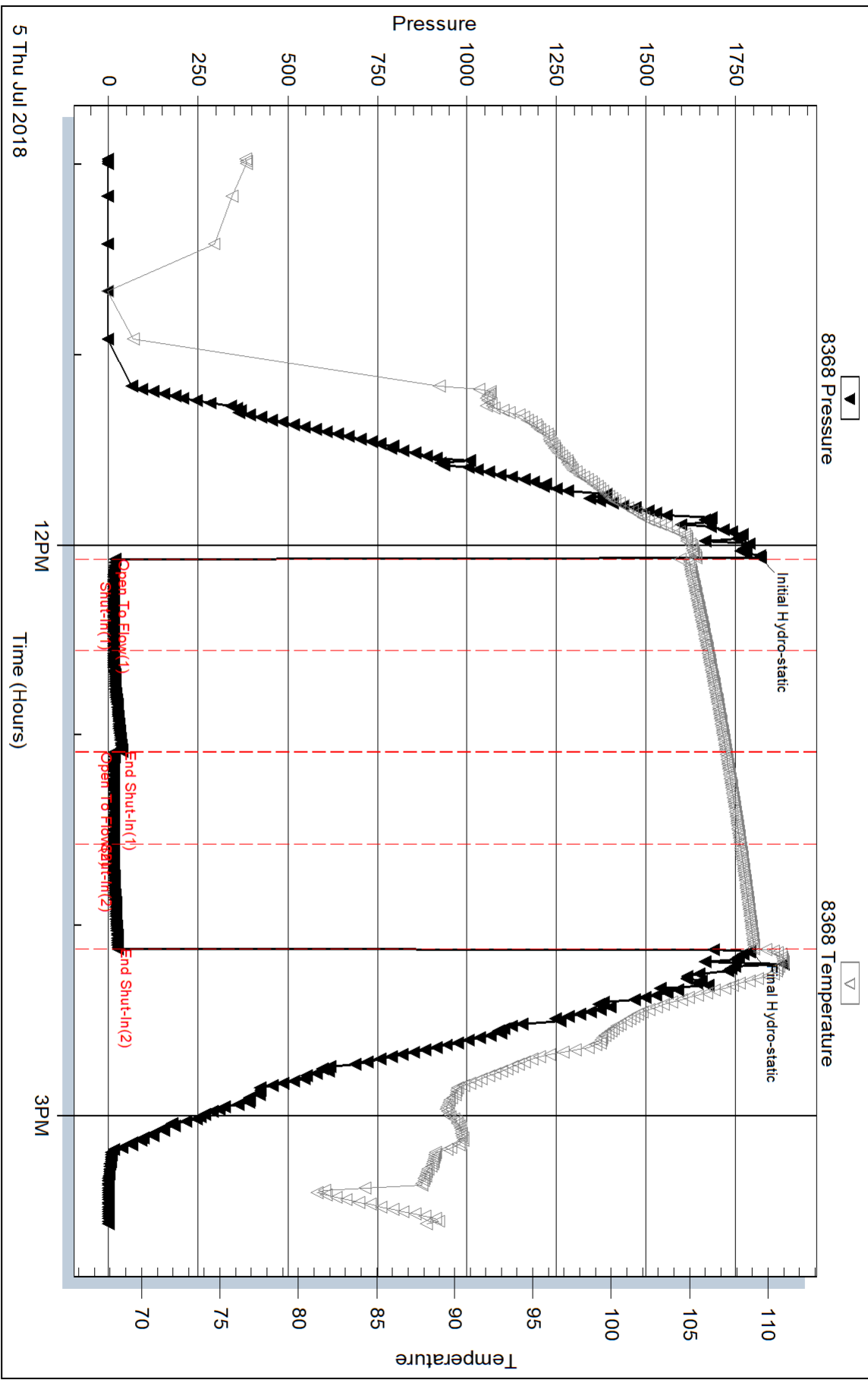
Inside

Downing Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63915

Printed: 2018.07.11 @ 11:07:48



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Mary Pearson #2-25

25-13S-22W Trego,KS

Start Date: 2018.07.06 @ 13:32:00

End Date: 2018.07.06 @ 19:06:45

Job Ticket #: 63916 DST #: 3

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

Printed: 2018.07.11 @ 11:07:18



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Co

25-13S-22W Trego, KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63916

DST#: 3

ATTN: Marc Downing

Test Start: 2018.07.06 @ 13:32:00

GENERAL INFORMATION:

Formation: **Cherokee Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:20:15

Time Test Ended: 19:06:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J. Staab

Unit No: 84

Interval: **3990.00 ft (KB) To 4045.00 ft (KB) (TVD)**

Reference Elevations: 2263.00 ft (KB)

Total Depth: 4045.00 ft (KB) (TVD)

2255.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8368

Inside

Press@RunDepth: 21.30 psig @ 3993.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.06

End Date:

2018.07.06

Last Calib.:

2018.07.06

Start Time:

13:32:15

End Time:

19:06:45

Time On Btm:

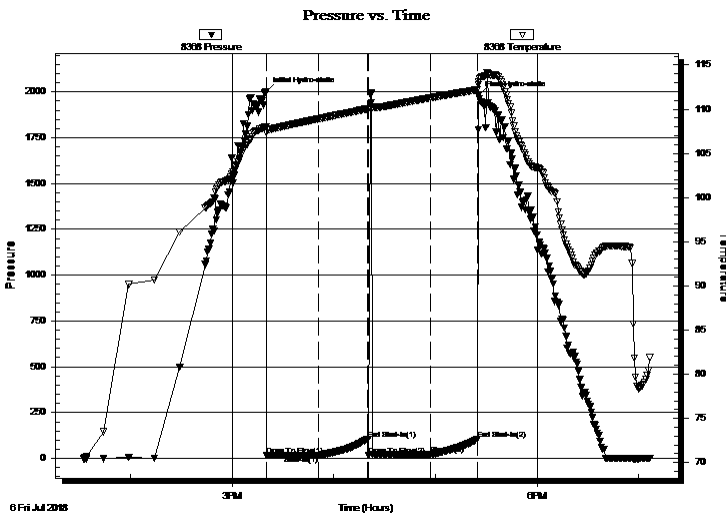
2018.07.06 @ 15:20:00

Time Off Btm:

2018.07.06 @ 17:25:30

TEST COMMENT: 30-IF-Weak Surface Blow
30-ISI-No Return
30-FF-No Blow ; Flushed tool; Built to 1/4"
30-FSI-No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2002.54	108.04	Initial Hydro-static
1	17.25	107.33	Open To Flow (1)
31	16.15	108.91	Shut-In(1)
60	105.73	110.05	End Shut-In(1)
61	18.53	110.02	Open To Flow (2)
98	21.30	111.30	Shut-In(2)
125	104.87	112.20	End Shut-In(2)
126	1978.93	113.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	SOCM 5%O 95%M	0.07

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63916

DST#: 3

ATTN: Marc Downing

Test Start: 2018.07.06 @ 13:32:00

Tool Information

Drill Pipe:	Length: 3963.00 ft	Diameter: 3.82 inches	Volume: 56.18 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	63000.00 lb
			<u>Total Volume:</u>	Tool Chased	ft
			- bbl	String Weight: Initial	54000.00 lb
Drill Pipe Above KB:	24.00 ft			Final	54000.00 lb
Depth to Top Packer:	3990.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	75.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3971.00	
Shut In Tool	5.00			3976.00	
Hydraulic tool	5.00			3981.00	
Packer	5.00			3986.00	20.00 Bottom Of Top Packer
Packer	4.00			3990.00	
Stubb	1.00			3991.00	
Perforations	1.00			3992.00	
Change Over Sub	1.00			3993.00	
Recorder	0.00	8368	Inside	3993.00	
Recorder	0.00	9120	Inside	3993.00	
Drill Pipe	32.00			4025.00	
Change Over Sub	1.00			4026.00	
Perforations	16.00			4042.00	
Bullnose	3.00			4045.00	55.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63916

DST#: 3

ATTN: Marc Downing

Test Start: 2018.07.06 @ 13:32:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	SOCM 5%O 95%M	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

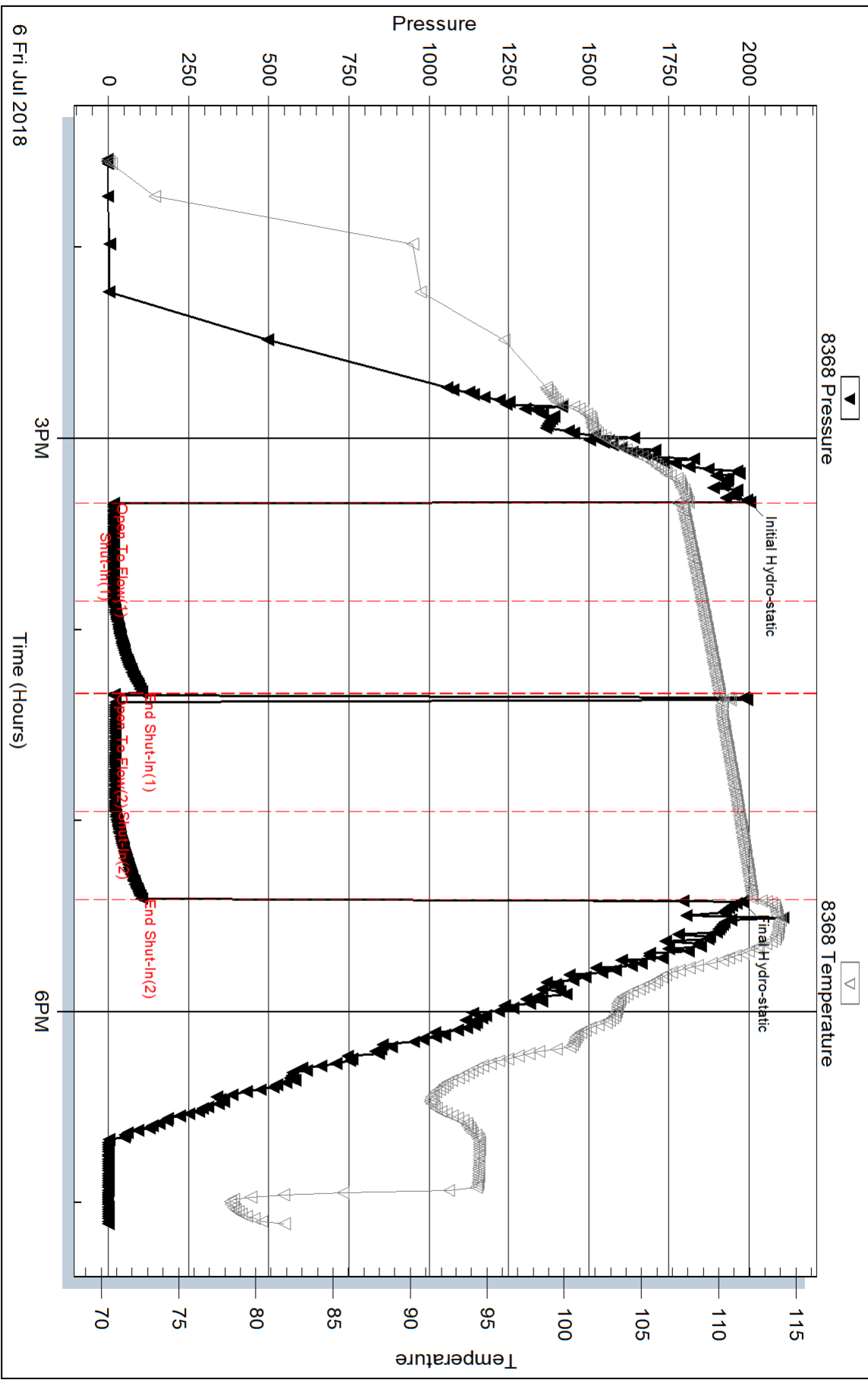
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1#LCM

Pressure vs. Time



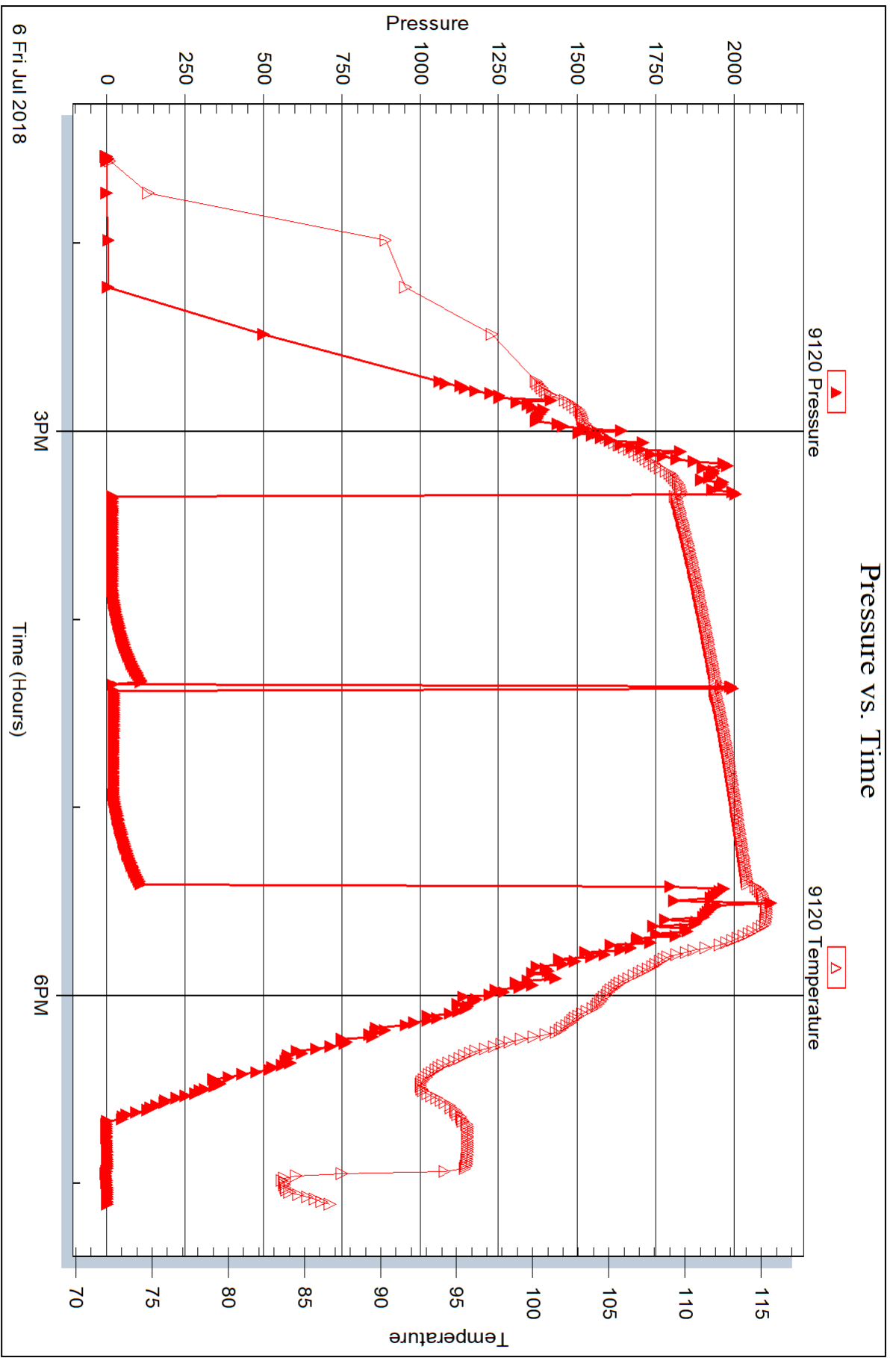
Serial #: 9120

Inside

Dow n/ing Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63916

Printed: 2018.07.11 @ 11:07:19



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Mary Pearson #2-25

25-13S-22W Trego,KS

Start Date: 2018.07.07 @ 09:56:13

End Date: 2018.07.07 @ 16:51:34

Job Ticket #: 63129 DST #: 4

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

Printed: 2018.07.11 @ 11:05:52



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Co

25-13S-22W Trego, KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63129

DST#: 4

ATTN: Marc Downing

Test Start: 2018.07.07 @ 09:56:13

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:47:49

Time Test Ended: 16:51:34

Test Type: Conventional Straddle (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: **3987.00 ft (KB) To 4056.00 ft (KB) (TVD)**

Reference Elevations: 2263.00 ft (KB)

Total Depth: 4134.00 ft (KB) (TVD)

2255.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6771

Inside

Press@RunDepth: 42.48 psig @ 3988.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.07.07 End Date: 2018.07.07

Last Calib.: 2018.07.07

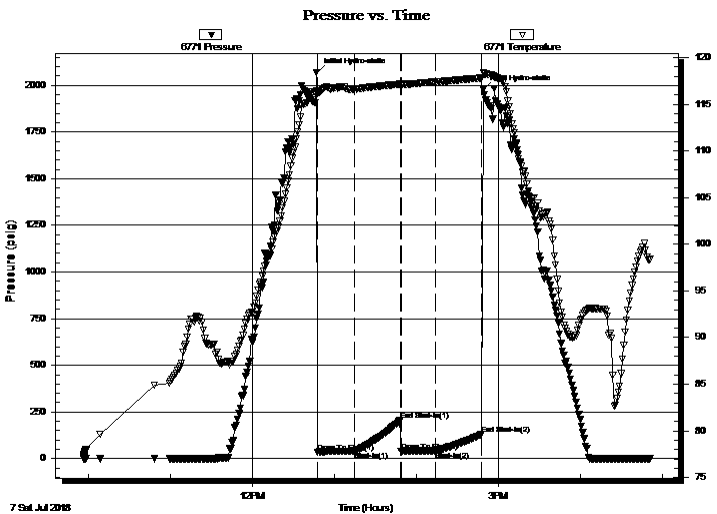
Start Time: 09:56:14 End Time: 16:51:34

Time On Btm: 2018.07.07 @ 12:47:19

Time Off Btm: 2018.07.07 @ 14:49:04

TEST COMMENT: 30- IF- 1/4" blow
30- IS- No blow
30- FF- No blow
30- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2069.11	116.41	Initial Hydro-static
1	35.74	116.14	Open To Flow (1)
28	40.06	116.61	Shut-In(1)
61	206.20	117.14	End Shut-In(1)
62	40.80	117.06	Open To Flow (2)
87	42.48	117.39	Shut-In(2)
121	129.99	117.80	End Shut-In(2)
122	1977.91	118.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	M	0.05

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing Nelson Oil Co

25-13S-22W Trego, KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63129

DST#: 4

ATTN: Marc Downing

Test Start: 2018.07.07 @ 09:56:13

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:47:49

Time Test Ended: 16:51:34

Interval: 3987.00 ft (KB) To 4056.00 ft (KB) (TVD)

Total Depth: 4134.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Straddle (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Reference Elevations: 2263.00 ft (KB)

2255.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8367 Below (Straddle)

Press@RunDepth: psig @ 4058.00 ft (KB)

Start Date: 2018.07.07

End Date:

2018.07.07

Start Time: 09:56:23

End Time:

16:51:43

Capacity: 8000.00 psig

Last Calib.:

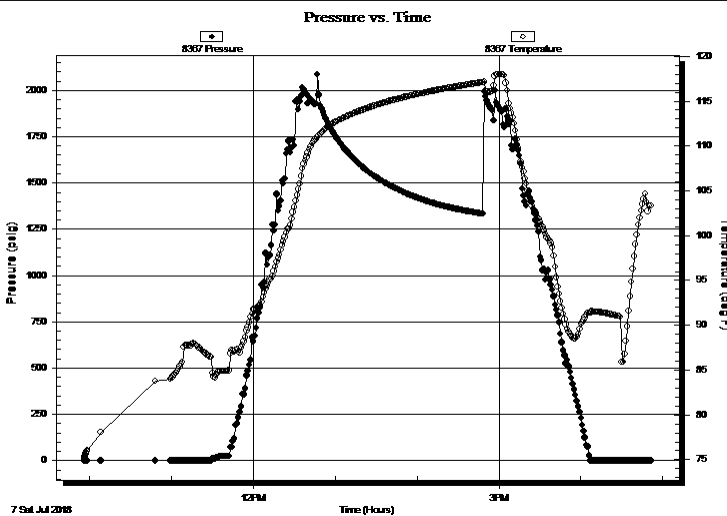
2018.07.07

Time On Btm:

Time Off Btm:

TEST COMMENT: 30- IF- 1/4" blow
30- IS- No blow
30- FF- No blow
30- FS- No blow

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	M	0.05

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

25-13S-22W Trego,KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

ATTN: Marc Downing

Job Ticket: 63129

DST#: 4

Test Start: 2018.07.07 @ 09:56:13

Tool Information

Drill Pipe:	Length: 3963.00 ft	Diameter: 3.82 inches	Volume: 56.18 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 32.00 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	58000.00 lb
Drill Pipe Above KB:	28.00 ft			Final	58000.00 lb
Depth to Top Packer:	3987.00 ft				
Depth to Bottom Packer:	4056.00 ft				
Interval between Packers:	69.00 ft				
Tool Length:	167.00 ft				
Number of Packers:	3	Diameter:	6.75 inches		
Tool Comments:					

Tool Description

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

Change Over Sub	1.00			3968.00	
Shut In Tool	5.00			3973.00	
Hydraulic tool	5.00			3978.00	
Packer	5.00			3983.00	20.00 Bottom Of Top Packer
Packer	4.00			3987.00	
Stubb	1.00			3988.00	
Recorder	0.00	6771	Inside	3988.00	
Recorder	0.00	6753	Outside	3988.00	
Perforations	5.00			3993.00	
Change Over Sub	1.00			3994.00	
Drill Pipe	32.00			4026.00	
Change Over Sub	1.00			4027.00	
Perforations	25.00			4052.00	
Blank Off Sub	1.00			4053.00	
Blank Spacing	3.00			4056.00	69.00 Tool Interval
Packer	1.00			4057.00	
Stubb	1.00			4058.00	
Recorder	0.00	8367	Below	4058.00	
Perforations	8.00			4066.00	
Change Over Sub	1.00			4067.00	
Drill Pipe	63.00			4130.00	
Change Over Sub	1.00			4131.00	
Bullnose	3.00			4134.00	78.00 Bottom Packers & Anchor
Total Tool Length:	167.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

25-13S-22W Trego, KS

PO Box 1019
Hays KS 67601

Mary Pearson #2-25

Job Ticket: 63129

DST#: 4

ATTN: Marc Downing

Test Start: 2018.07.07 @ 09:56:13

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

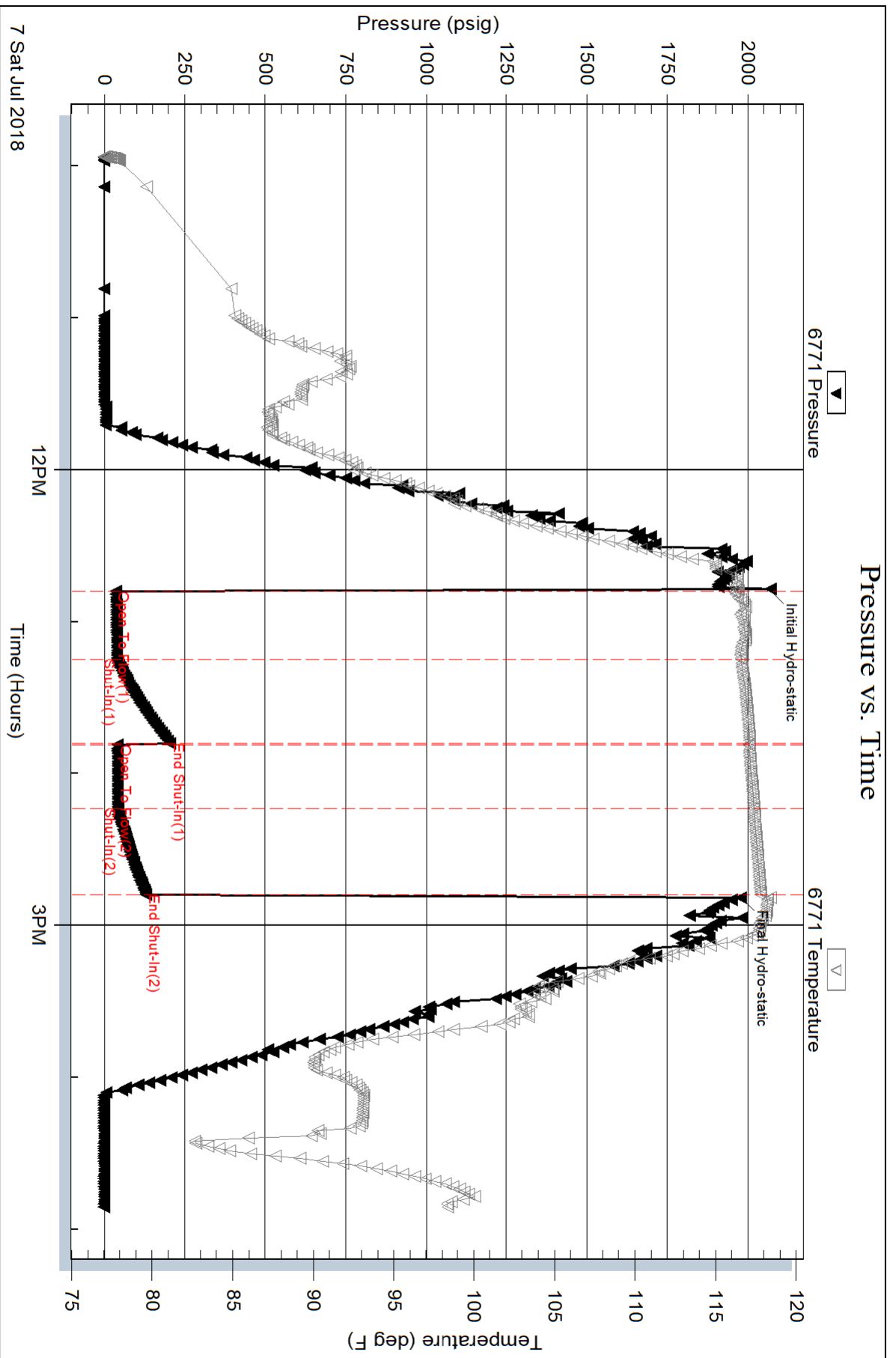
Serial #: 6771

Inside

Downing Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 4

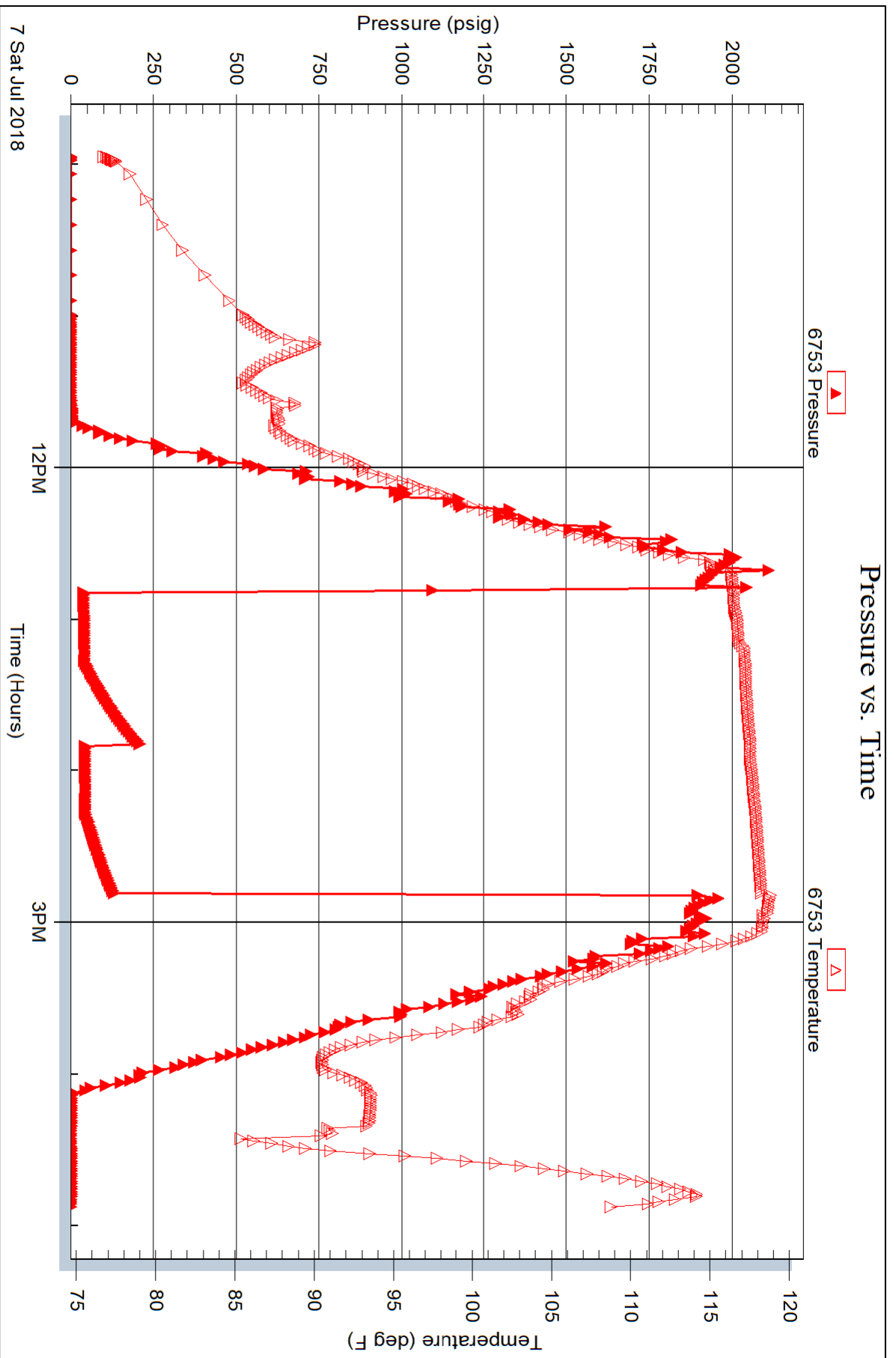


Serial #: 6753

Outside Dow n ing Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 4

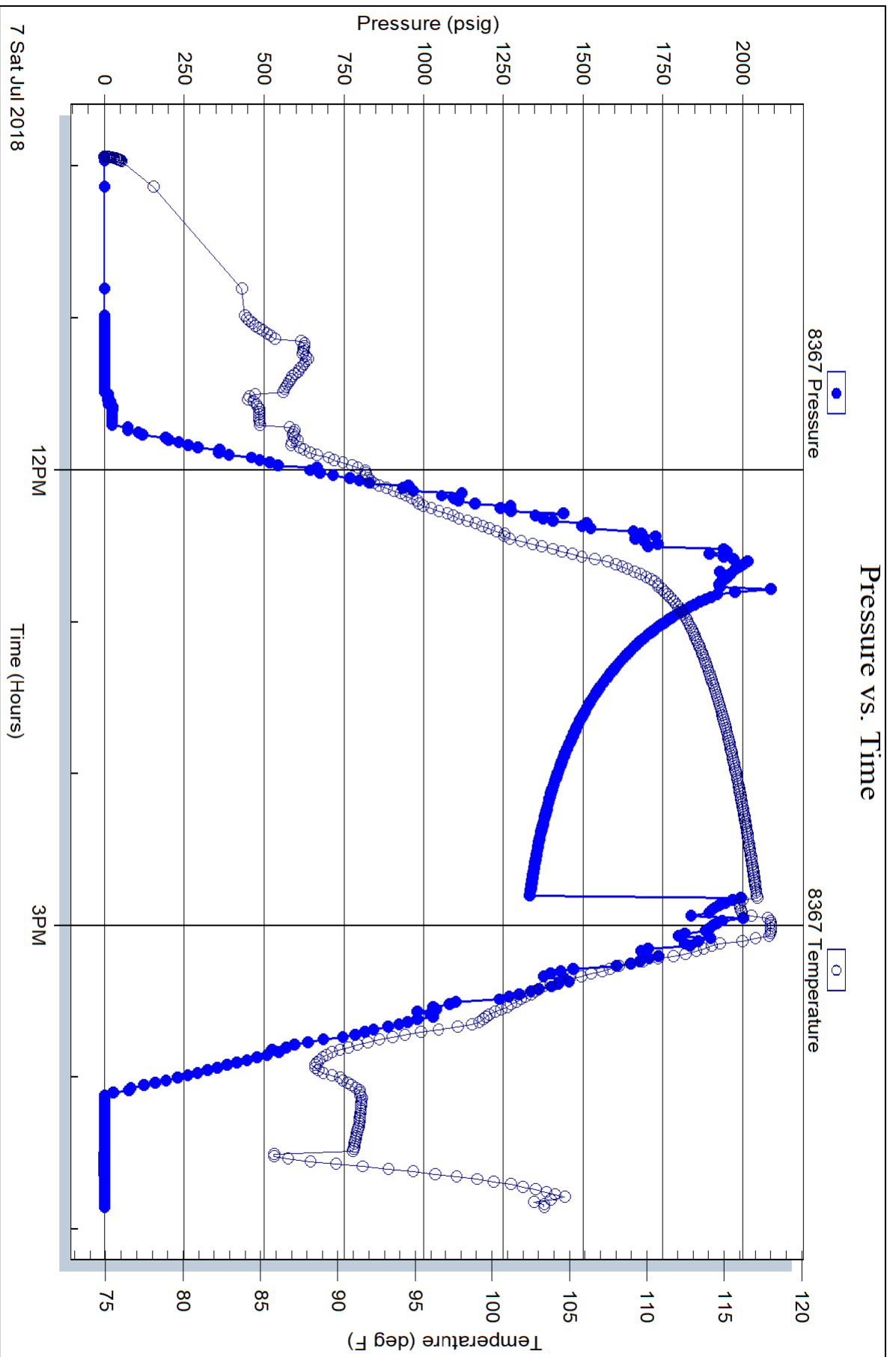


Serial #: 8367

Below (Stratton)ng Nelson Oil Co

Mary Pearson #2-25

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63914

4/10

Well Name & No. Mary Pearson #2-25 Test No. 1 Date 07/01/2018
 Company DMOC Elevation 2263 KB 2255 GL
 Address PO BOX 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 25 Twp Bs Rge. 22w Co. Trego State Ks

Interval Tested 3632'-3676' Zone Tested LHC 'C+D'
 Anchor Length 44' Drill Pipe Run 3613' Mud Wt. 9.0
 Top Packer Depth 3627' Drill Collars Run 31' Vis 6.0
 Bottom Packer Depth 3632' Wt. Pipe Run - WL 8.8
 Total Depth 3676' Chlorides 2000 ppm System LCM 1 1/2#

Blow Description 77-Weak Blow; Built to 1/4"
75- No Return
77- No Blow
75- No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>3'</u>	<u>OSM</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 3' BHT 108° Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1741 Test 1050 T-On Location 13:40
 (B) First Initial Flow 18 Jars _____ T-Started 14:06
 (C) First Final Flow 16 Safety Joint _____ T-Open 16:25
 (D) Initial Shut-In 43 Circ Sub _____ T-Pulled 18:25
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 19:53
 (F) Second Final Flow 17 Mileage 70.87 70 Comments _____
 (G) Final Shut-In 23 Sampler _____
 (H) Final Hydrostatic 1721 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 30 Shale Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 30 Extra Recorder _____
 Sub Total 0
 Total 1120
 MP/DST Disc't _____

Approved By _____ Our Representative Spencer J. Staab Thanks!

Triobite 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. 63915

Well Name & No. Mary Pearson #2-25 Test No. 2 Date 07/05/2018
 Company DNOC Elevation 2263 KB 2255 GL
 Address PO BOX 1019 Hays KS 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 25 Twp 33s Rge. 22w Co. Wago State Ks

Interval Tested 3736'-3813' Zone Tested LHC 'H-D-J'
 Anchor Length 77' Drill Pipe Run 3708' Mud Wt. 9.1
 Top Packer Depth 3731' Drill Collars Run 31' Vis 52
 Bottom Packer Depth 3736' Wt. Pipe Run - WL 8.0
 Total Depth 3813' Chlorides 3000 ppm System LCM 1 1/2#

Blow Description 17-Weak Blow Built to
151-No Return
77-No Blow
751-No Return

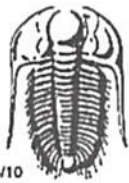
Rec	Feet of	%gas	%oil	%water	%mud
2'	OSM			120	

Rec Total 2' BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1820 Test 1050 T-On Location 09:30
 (B) First Initial Flow 19 Jars _____ T-Started 09:58
 (C) First Final Flow 14 Safety Joint _____ T-Open 12:03
 (D) Initial Shut-In 37 Circ Sub _____ T-Pulled 14:03
 (E) Second Initial Flow 16 Hourly Standby _____ T-Out 15:32
 (F) Second Final Flow 15 Mileage 70.87 70 Comments _____
 (G) Final Shut-In 25 Sampler _____
 (H) Final Hydrostatic 1790 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____

Initial Open 30 Extra Packer _____
 Initial Shut-In 30 Extra Recorder _____
 Final Flow 30 Day Standby _____
 Final Shut-In 30 Accessibility _____
 Sub Total 1120 Sub Total _____
 Total 1120 MP/DST Disc't _____

Approved By _____ Our Representative Spencer J. Paul 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. 63916

Well Name & No. Mary Pearson #2-25 Test No. 3 Date 07/06/2018
 Company DNOCS Elevation 2263 KB 2255 GL
 Address PO BOX 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 25 Twp 13s Rge. 22w Co. Trego State Ks

Interval Tested 3990 - 4045' Zone Tested Cherokee Sand
 Anchor Length 55' Drill Pipe Run 3963' Mud Wt. 9.2
 Top Packer Depth 3985' Drill Collars Run 32' Vis 53
 Bottom Packer Depth 3990' Wt. Pipe Run - WL 8.4
 Total Depth 4045' Chlorides 3000 ppm System LCM 1#

Blow Description 07- Weak Surface Blow
150- No Return
47- No Blow, Flushed tool ~~and~~ Built to 1/4"
750 No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>15'</u>	<u>SOX M</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15' BHT 112° Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2002 Test 1150 T-On Location 13:00
 (B) First Initial Flow 17 Jars _____ T-Started 13:32
 (C) First Final Flow 16 Safety Joint _____ T-Open 15:18
 (D) Initial Shut-In 105 Circ Sub _____ T-Pulled 17:18
 (E) Second Initial Flow 18 Hourly Standby _____ T-Out 19:05
 (F) Second Final Flow 21 Mileage 70 RM 70 Comments Loaded tools after test
 (G) Final Shut-In 104 Sampler _____
 (H) Final Hydrostatic 1978 Straddle _____

Initial Open 30 Shale Packer _____ Ruined Shale Packer _____
 Initial Shut-In 30 Extra Packer _____ Ruined Packer _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1220
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1220

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. **63129**

Well Name & No. Mary Pearson #2-25 Test No. 4 Date 7/7/18
 Company Downing-Nelson Oil Co., Inc. Elevation 2263KB 2255GL
 Address PO Box 019 Hays, KS 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 25 Twp. 13 S Rge. 22 W Co. Trego State KS

Interval Tested 3987-4056 Zone Tested _____
 Anchor Length 69' Tail: 78' Drill Pipe Run 3963 Mud Wt. 9.2
 Top Packer Depth 3982-3987 Drill Collars Run 32 Vis 53
 Bottom Packer Depth 4056 Wt. Pipe Run _____ WL 8.4
 Total Depth 4134 Chlorides 3,000 ppm System LCM 1#

Blow Description IF - 1/4" blow
ISI - No blow
FF - No blow
FST - No blow

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

Rec Total 10' BHT 1180 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2069 Test 1150 T-On Location 0930
 (B) First Initial Flow 36 Jars _____ T-Started 0956
 (C) First Final Flow 40 Safety Joint _____ T-Open 1248
 (D) Initial Shut-In 206 Circ Sub _____ T-Pulled 1448
 (E) Second Initial Flow 41 Hourly Standby _____ T-Out 1652
 (F) Second Final Flow 42 Mileage 70 RT 70 Comments _____
 (G) Final Shut-In 130 Sampler _____
 (H) Final Hydrostatic 1978 Straddle 600

Initial Open 30 Shale Packer _____
 Initial Shut-In 30 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 30 Extra Recorder _____
 Sub Total 0
 Total 1820
 MP/DST Disc't _____
 Sub Total 1820

Approved By _____ Our Representative Brannan Lonsdale