



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

3-13s-21w Trego,KS

Deutscher- Schoenthaler #1-3

Start Date: 2016.06.29 @ 15:04:34

End Date: 2016.06.30 @ 00:18:04

Job Ticket #: 58095 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.07.05 @ 08:46:19

Downing- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

3-13s-21w Trego,KS

DST # 1

LKC "C&D"

2016.06.29



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 58095

DST#: 1

ATTN: Marc Dow ning

Test Start: 2016.06.29 @ 15:04:34

GENERAL INFORMATION:

Formation: **LKC "C&D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:09:34

Time Test Ended: 00:18:04

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3507.00 ft (KB) To 3552.00 ft (KB) (TVD)

Reference Elevations: 2203.00 ft (KB)

Total Depth: 3552.00 ft (KB) (TVD)

2195.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6651

Inside

Press@RunDepth: 127.38 psig @ 3516.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.06.29

End Date:

2016.06.30

Last Calib.:

2016.06.30

Start Time:

15:04:35

End Time:

00:18:04

Time On Btm:

2016.06.29 @ 18:08:34

Time Off Btm:

2016.06.29 @ 21:11:04

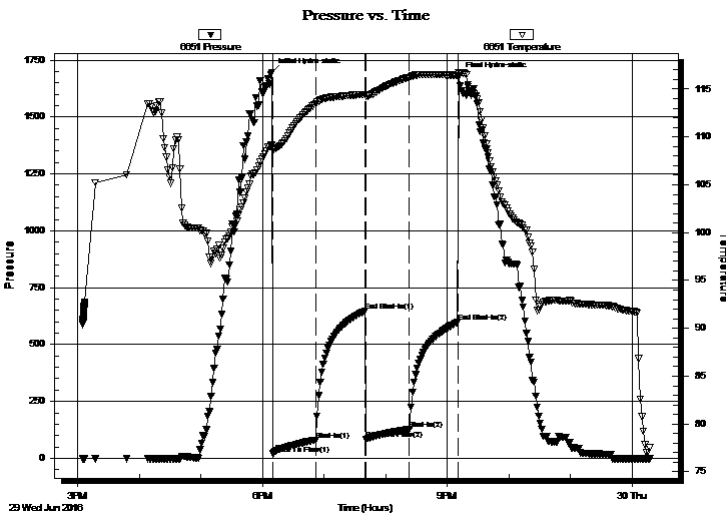
TEST COMMENT: 45- IF- Slow ly built to 7 1/2"

45- IS- No blow

45- FF- Slow ly built to 4"

45- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1696.35	109.12	Initial Hydro-static
1	19.18	108.69	Open To Flow (1)
43	80.64	113.46	Shut-In(1)
92	648.74	114.43	End Shut-In(1)
93	85.14	114.26	Open To Flow (2)
135	127.38	116.23	Shut-In(2)
182	597.81	116.42	End Shut-In(2)
183	1676.62	116.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
218.00	MW, 25%M 75%W	1.60
1.00	CO	0.01

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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 58095

DST#: 1

ATTN: Marc Dow ning

Test Start: 2016.06.29 @ 15:04:34

Tool Information

Drill Pipe:	Length: 3189.00 ft	Diameter: 3.82 inches	Volume: 45.21 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 311.00 ft	Diameter: 2.75 inches	Volume: 2.28 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3507.00 ft			Final 47000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	45.00 ft			
Tool Length:	65.00 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			3488.00	
Shut In Tool	5.00			3493.00	
Hydraulic tool	5.00			3498.00	
Packer	5.00			3503.00	20.00 Bottom Of Top Packer
Packer	4.00			3507.00	
Stubb	1.00			3508.00	
Perforations	8.00			3516.00	
Recorder	0.00	6651	Inside	3516.00	
Recorder	0.00	6839	Outside	3516.00	
Change Over Sub	1.00			3517.00	
Drill Pipe	31.00			3548.00	
Change Over Sub	1.00			3549.00	
Bullnose	3.00			3552.00	45.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 58095

DST#: 1

ATTN: Marc Dow ning

Test Start: 2016.06.29 @ 15:04:34

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:

85000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.70 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
218.00	MW, 25%M 75%W	1.602
1.00	CO	0.007

Total Length: 219.00 ft

Total Volume: 1.609 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6651

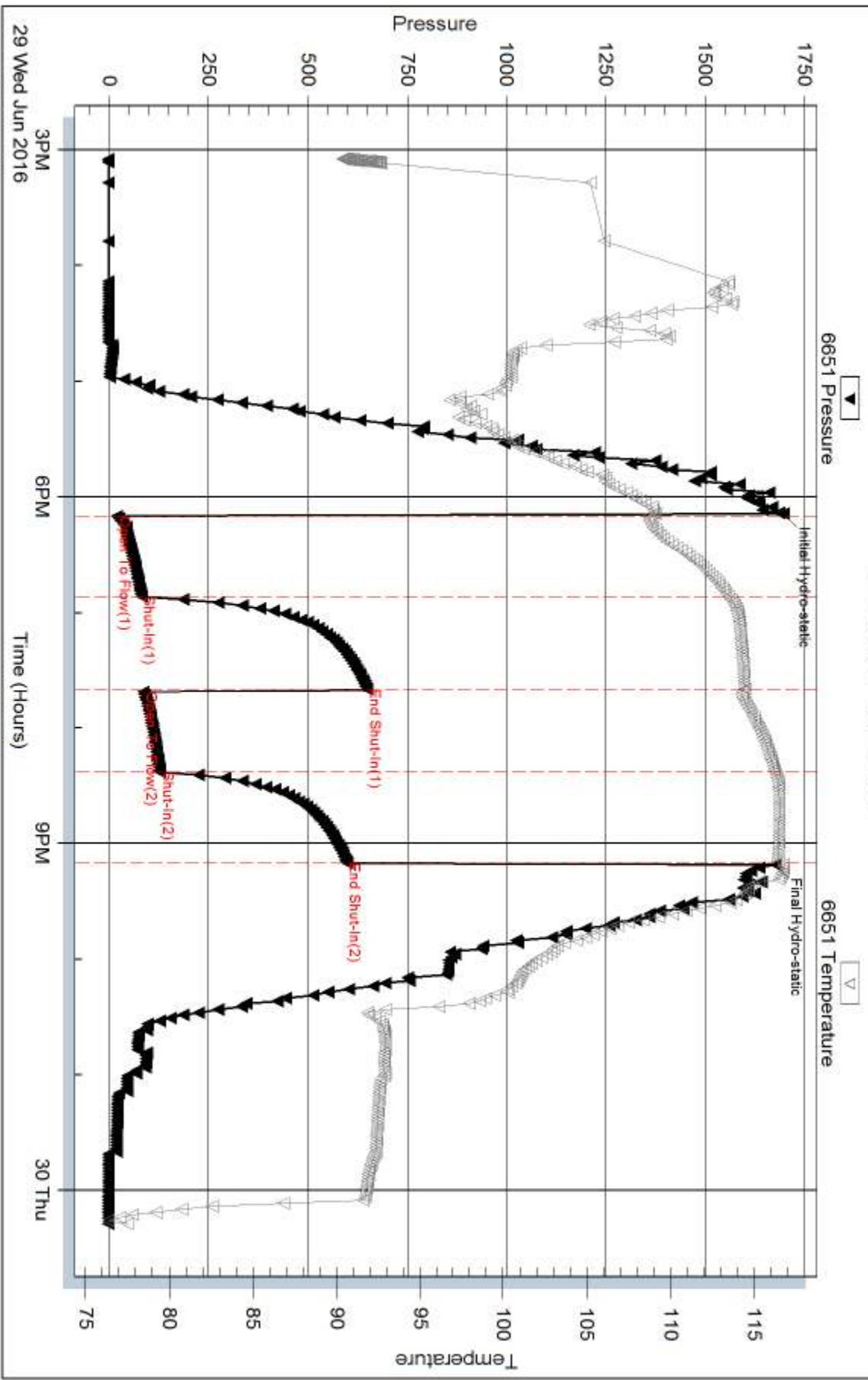
Inside

Downing-Nelson Oil Co., Inc.

3-13s-21w Trego, KS

DST Test Number: 1

Pressure vs. Time

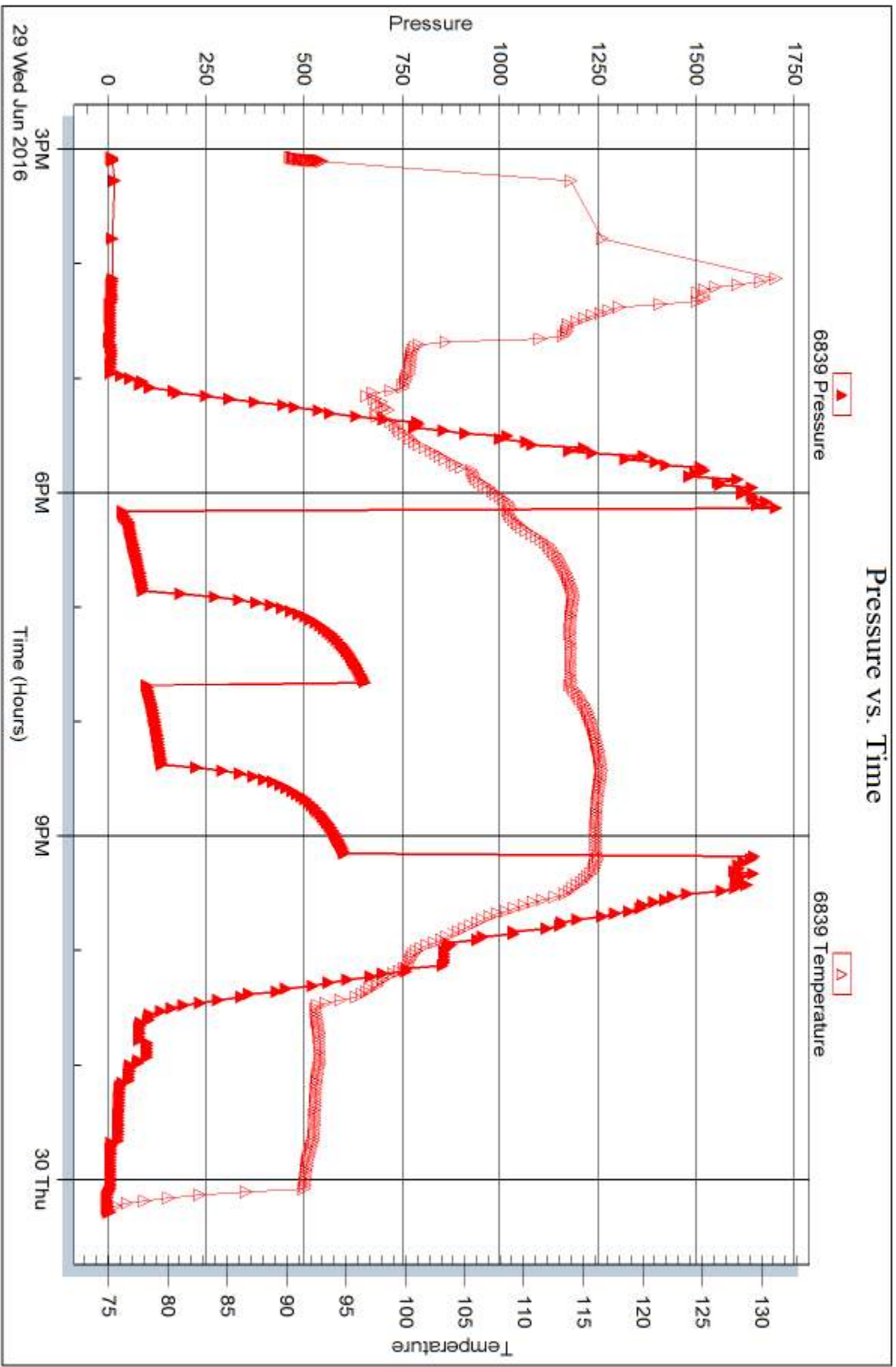


Serial #: 6839

Outside Dow nging- Nelson Oil Co., Inc.

3-13s-21w Trego,KS

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58095

Printed: 2016.07.05 @ 08:46:21



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

3-13s-21w Trego,KS

Deutscher- Schoenthaler #1-3

Start Date: 2016.06.30 @ 07:25:54

End Date: 2016.06.30 @ 13:25:53

Job Ticket #: 58096 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.07.05 @ 08:45:47

Downing- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

3-13s-21w Trego,KS

DST # 2

LKC "E"

2016.06.30



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 58096

DST#: 2

ATTN: Marc Dow ning

Test Start: 2016.06.30 @ 07:25:54

GENERAL INFORMATION:

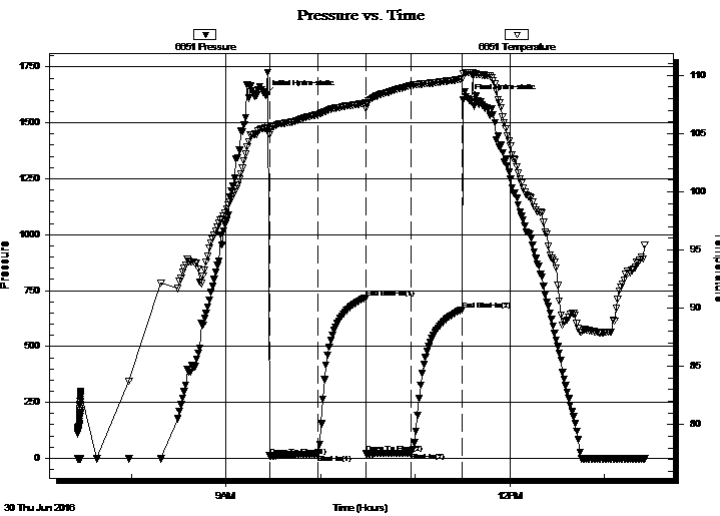
Formation: **LKC "E"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:27:23
 Time Test Ended: 13:25:53
 Interval: **3547.00 ft (KB) To 3567.00 ft (KB) (TVD)**
 Total Depth: 3567.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schw ager
 Unit No: 77
 Reference Elevations: 2203.00 ft (KB)
 2195.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6651

Inside

Press@RunDepth: 24.96 psig @ 3548.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.06.30 End Date: 2016.06.30 Last Calib.: 2016.06.30
 Start Time: 07:25:54 End Time: 13:25:53 Time On Btm: 2016.06.30 @ 09:24:53
 Time Off Btm: 2016.06.30 @ 11:33:23

TEST COMMENT: 30-IFP-very w k surface bl thru-out
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.93	105.45	Initial Hydro-static
3	10.42	104.88	Open To Flow (1)
33	17.87	106.62	Shut-In(1)
64	717.60	107.61	End Shut-In(1)
64	19.98	107.16	Open To Flow (2)
93	24.96	109.14	Shut-In(2)
125	662.94	109.66	End Shut-In(2)
129	1609.72	110.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mudw /show of oil	0.11

* 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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 58096

DST#: 2

ATTN: Marc Dow ning

Test Start: 2016.06.30 @ 07:25:54

Tool Information

Drill Pipe:	Length: 3347.00 ft	Diameter: 3.82 inches	Volume: 47.45 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 186.00 ft	Diameter: 2.75 inches	Volume: 1.37 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 48.82 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	44000.00 lb
Depth to Top Packer:	3547.00 ft			Final	44000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	20.00 ft				
Tool Length:	41.00 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			3527.00	
Shut In Tool	5.00			3532.00	
Hydraulic tool	5.00			3537.00	
Packer	5.00			3542.00	21.00 Bottom Of Top Packer
Packer	5.00			3547.00	
Stubb	1.00			3548.00	
Recorder	0.00	6651	Inside	3548.00	
Recorder	0.00	6839	Outside	3548.00	
Perforations	16.00			3564.00	
Bullnose	3.00			3567.00	20.00 Bottom Packers & Anchor
Total Tool Length:	41.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 58096

DST#: 2

ATTN: Marc Dow ning

Test Start: 2016.06.30 @ 07:25:54

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:

bbbl

Water Loss: 8.68 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	Mudw/show of oil	0.110

Total Length: 15.00 ft Total Volume: 0.110 bbl

Num Fluid Samples: 0

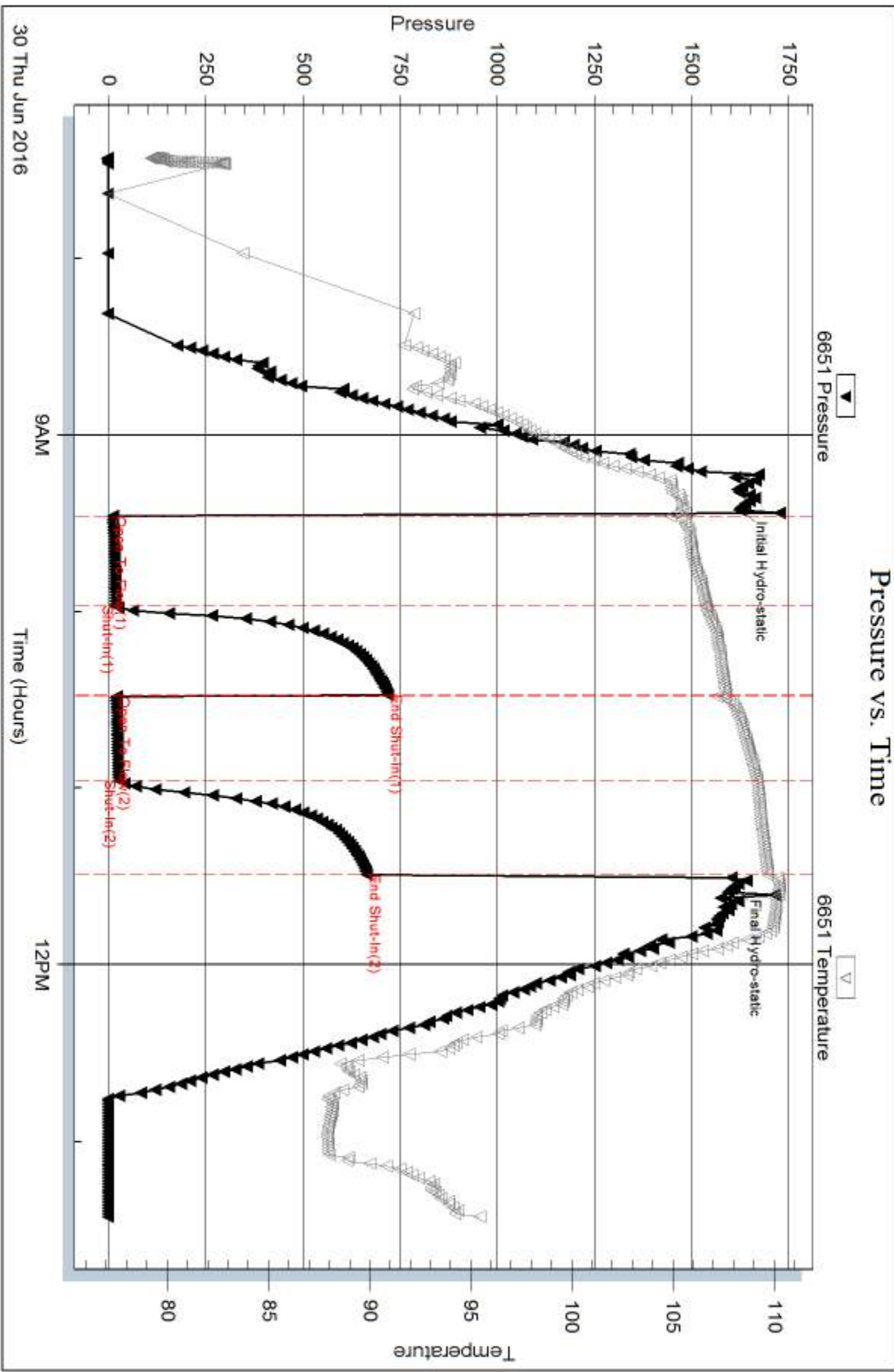
Num Gas Bombs: 0

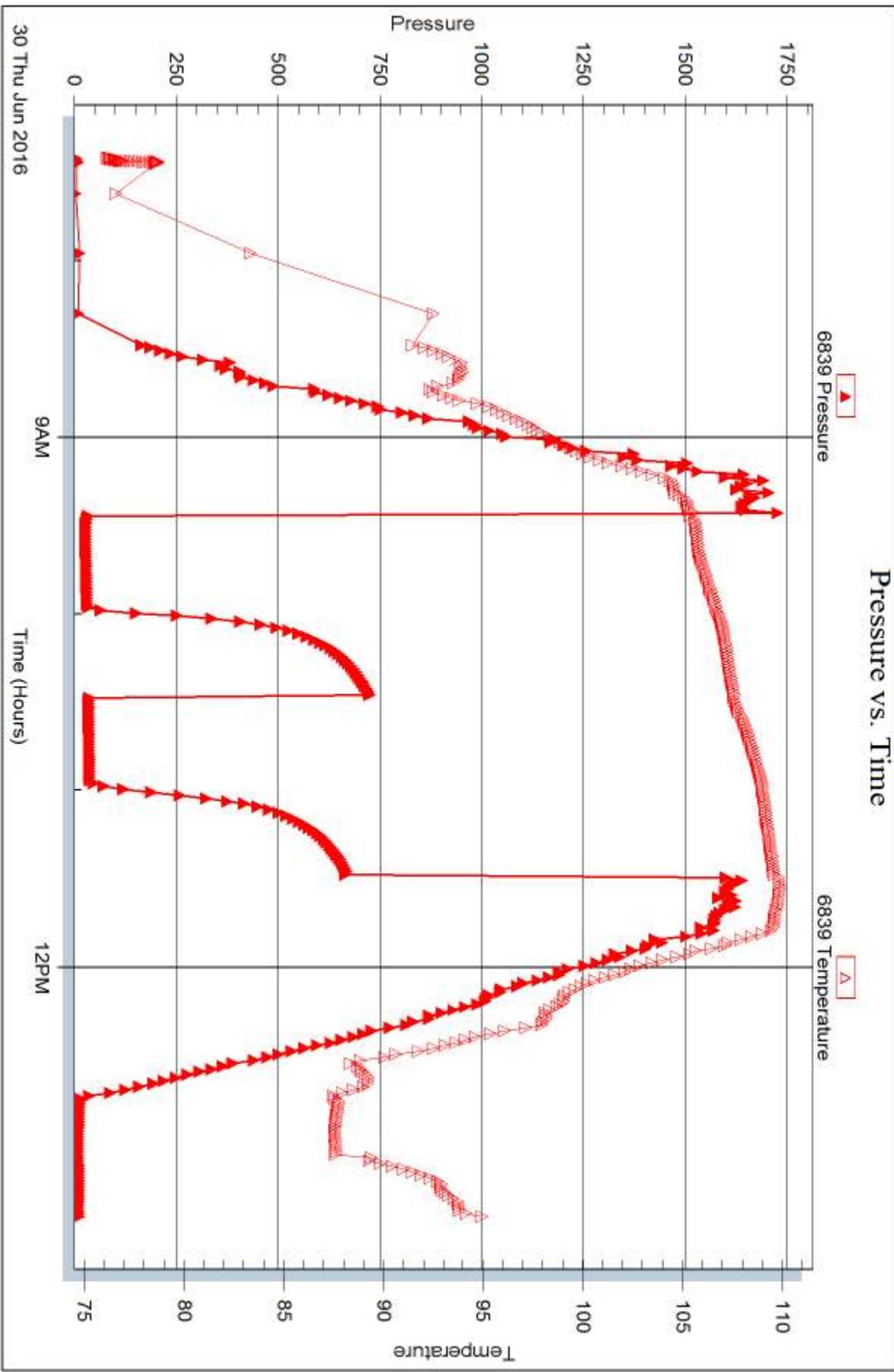
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

3-13s-21w Trego,KS

Deutscher- Schoenthaler #1-3

Start Date: 2016.07.01 @ 12:30:09

End Date: 2016.07.01 @ 19:23:18

Job Ticket #: 65469 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.07.05 @ 08:45:26

Downing- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

3-13s-21w Trego,KS

DST # 3

Marmaton

2016.07.01



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65469

DST#: 3

ATTN: Marc Dow ning

Test Start: 2016.07.01 @ 12:30:09

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:30:19

Time Test Ended: 19:23:18

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 77

Interval: 3791.00 ft (KB) To 3823.00 ft (KB) (TVD)

Reference Elevations: 2203.00 ft (KB)

Total Depth: 3823.00 ft (KB) (TVD)

2195.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 72.30 psig @ 3795.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.01

End Date:

2016.07.01

Last Calib.:

2016.07.01

Start Time: 12:30:09

End Time:

19:23:18

Time On Btm:

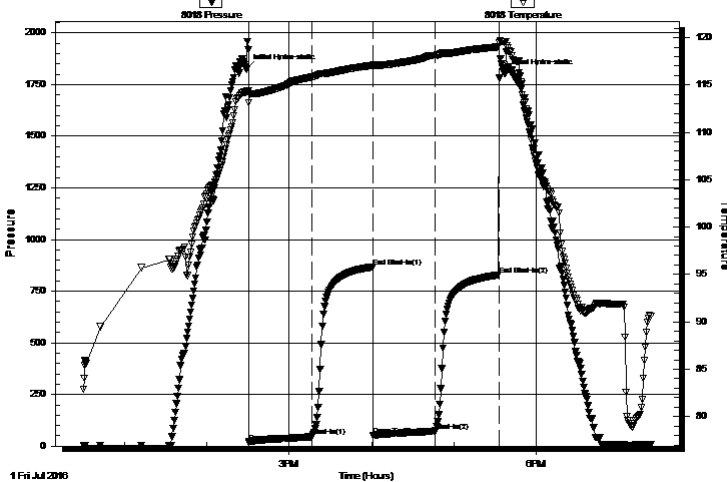
2016.07.01 @ 14:28:49

Time Off Btm:

2016.07.01 @ 17:37:03

TEST COMMENT: 45-IFP-w k to a fr bl 1/4" to 4 1/2" bl
45-ISIP-no bl
45-FFP-w k to a fr bl 1/4" to 3 1/2" bl
45-FSIP-no bl

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1825.88	114.25	Initial Hydro-static
2	19.48	113.10	Open To Flow (1)
48	45.85	115.85	Shut-In(1)
92	867.60	117.08	End Shut-In(1)
93	51.72	116.91	Open To Flow (2)
138	72.30	118.11	Shut-In(2)
184	828.42	119.03	End Shut-In(2)
189	1802.60	119.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90'GIP	0.00
62.00	MGO 20%G15%M65%O	0.46
105.00	CO	0.77

* 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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65469

DST#: 3

ATTN: Marc Dow ning

Test Start: 2016.07.01 @ 12:30:09

Tool Information

Drill Pipe:	Length: 3598.00 ft	Diameter: 3.82 inches	Volume: 51.00 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 186.00 ft	Diameter: 2.75 inches	Volume: 1.37 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 52.37 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3791.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	32.00 ft				
Tool Length:	53.00 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			3771.00	
Shut In Tool	5.00			3776.00	
Hydraulic tool	5.00			3781.00	
Packer	5.00			3786.00	21.00 Bottom Of Top Packer
Packer	5.00			3791.00	
Stubb	1.00			3792.00	
Perforations	3.00			3795.00	
Recorder	0.00	8018	Inside	3795.00	
Recorder	0.00	8700	Outside	3795.00	
Perforations	25.00			3820.00	
Bullnose	3.00			3823.00	32.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65469

DST#: 3

ATTN: Marc Dow ning

Test Start: 2016.07.01 @ 12:30:09

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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.66 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	90'GIP	0.000
62.00	MGO 20%G15%M65%O	0.455
105.00	CO	0.771

Total Length: 167.00 ft

Total Volume: 1.226 bbl

Num Fluid Samples: 0

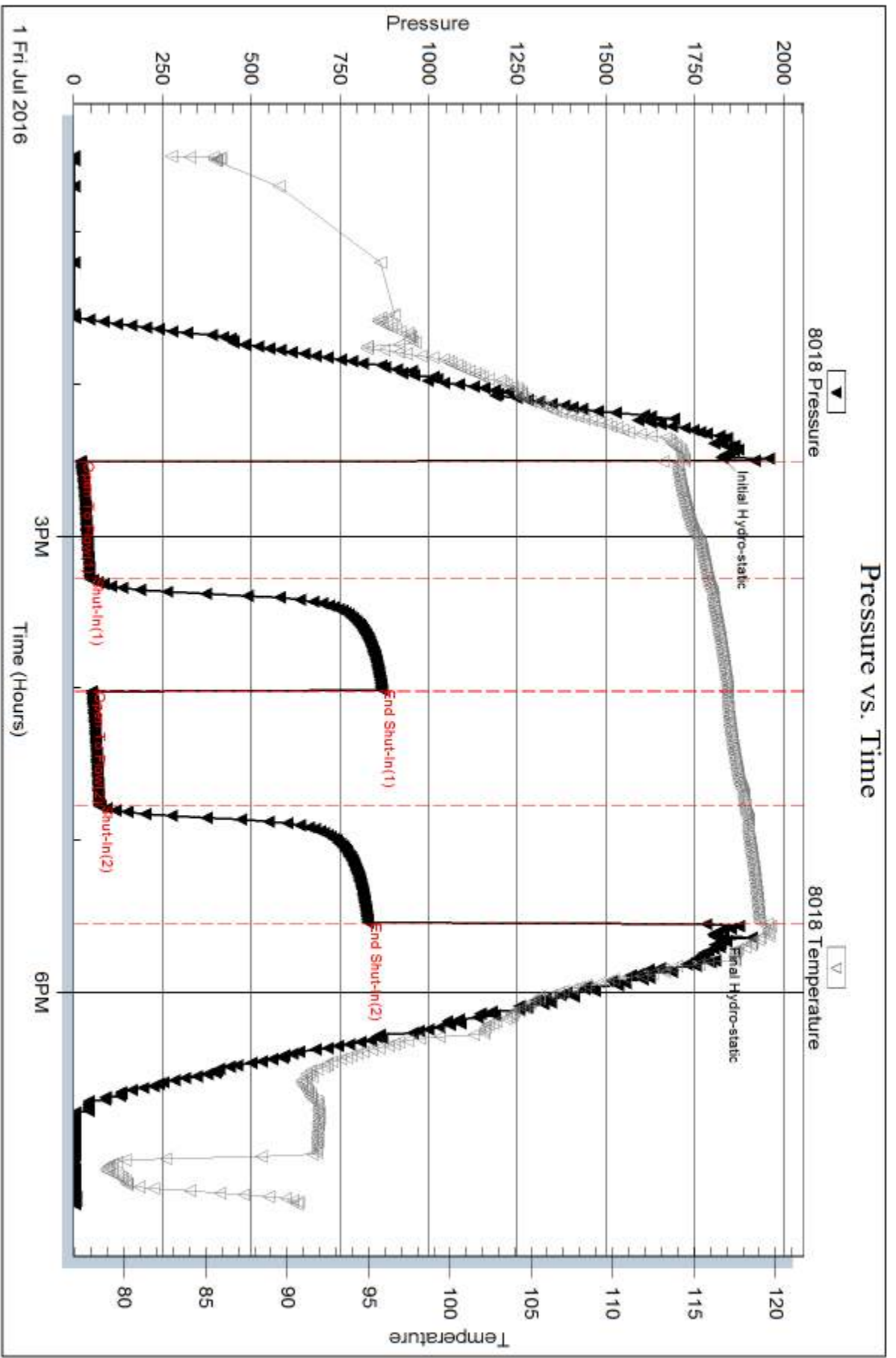
Num Gas Bombs: 0

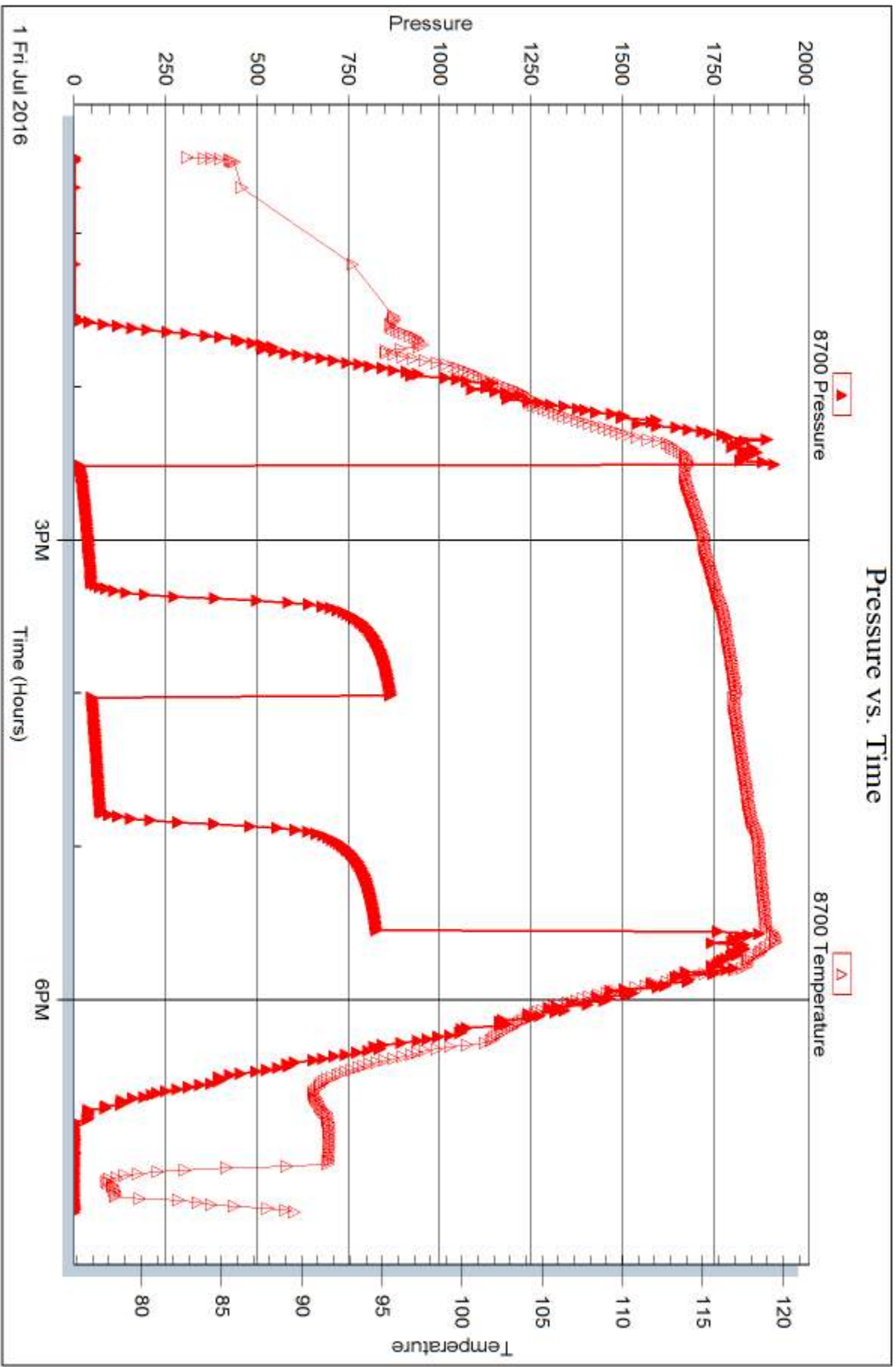
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

3-13s-21w Trego,KS

Deutscher- Schoenthaler #1-3

Start Date: 2016.07.02 @ 03:30:05

End Date: 2016.07.02 @ 11:20:14

Job Ticket #: 65470 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.07.05 @ 08:45:02

Downing- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

3-13s-21w Trego,KS

DST # 4

Arbuckle

2016.07.02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65470

DST#: 4

ATTN: Marc Dow ning

Test Start: 2016.07.02 @ 03:30:05

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:58:15

Time Test Ended: 11:20:14

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 77

Interval: 3817.00 ft (KB) To 3862.00 ft (KB) (TVD)

Reference Elevations: 2203.00 ft (KB)

Total Depth: 3862.00 ft (KB) (TVD)

2195.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 62.64 psig @ 3826.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.02

End Date:

2016.07.02

Last Calib.:

2016.07.02

Start Time:

03:30:05

End Time:

11:20:14

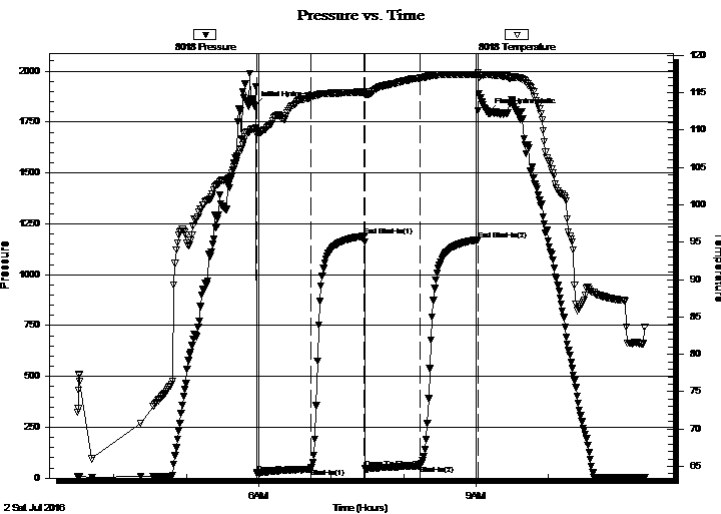
Time On Btm:

2016.07.02 @ 05:56:30

Time Off Btm:

2016.07.02 @ 09:10:14

TEST COMMENT: 45-IFP-w k bl thru-out 1/4" to 1 1/2" bl
45-ISIP-no bl
45-FFP-w k bl thru-out surface to 1/2" bl
45-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1828.85	110.19	Initial Hydro-static
2	23.87	109.35	Open To Flow (1)
47	50.51	114.36	Shut-In(1)
91	1189.65	115.11	End Shut-In(1)
92	45.76	114.78	Open To Flow (2)
138	62.64	117.00	Shut-In(2)
185	1172.16	117.47	End Shut-In(2)
194	1793.70	117.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	30'GIP	0.00
60.00	HO&GCM 10%G25%O65%M	0.44
30.00	CO	0.22

* 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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65470

DST#: 4

ATTN: Marc Dow ning

Test Start: 2016.07.02 @ 03:30:05

Tool Information

Drill Pipe:	Length: 3627.00 ft	Diameter: 3.82 inches	Volume: 51.41 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 186.00 ft	Diameter: 2.75 inches	Volume: 1.37 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	50000.00 lb
			<u>Total Volume: 52.78 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3817.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	45.00 ft				
Tool Length:	66.00 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			3797.00	
Shut In Tool	5.00			3802.00	
Hydraulic tool	5.00			3807.00	
Packer	5.00			3812.00	21.00 Bottom Of Top Packer
Packer	5.00			3817.00	
Stubb	1.00			3818.00	
Perforations	8.00			3826.00	
Recorder	0.00	8018	Inside	3826.00	
Recorder	0.00	8700	Outside	3826.00	
Drill Pipe	33.00			3859.00	
Bullnose	3.00			3862.00	45.00 Bottom Packers & Anchor

Total Tool Length: 66.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65470

DST#: 4

ATTN: Marc Dow ning

Test Start: 2016.07.02 @ 03:30:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.67 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	30'GIP	0.000
60.00	HO&GCM 10%G25%O65%M	0.441
30.00	CO	0.220

Total Length: 90.00 ft Total Volume: 0.661 bbl

Num Fluid Samples: 0

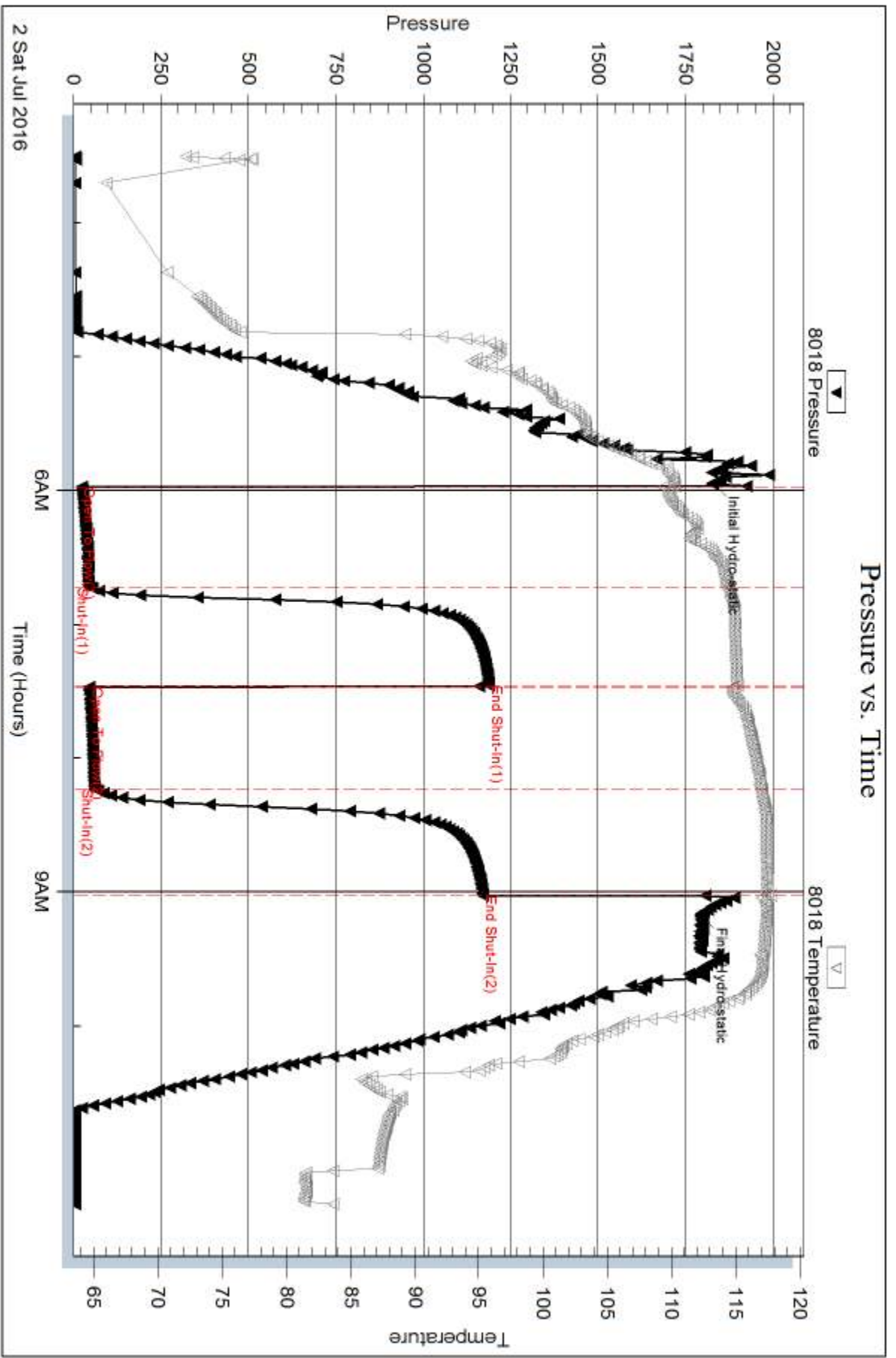
Num Gas Bombs: 0

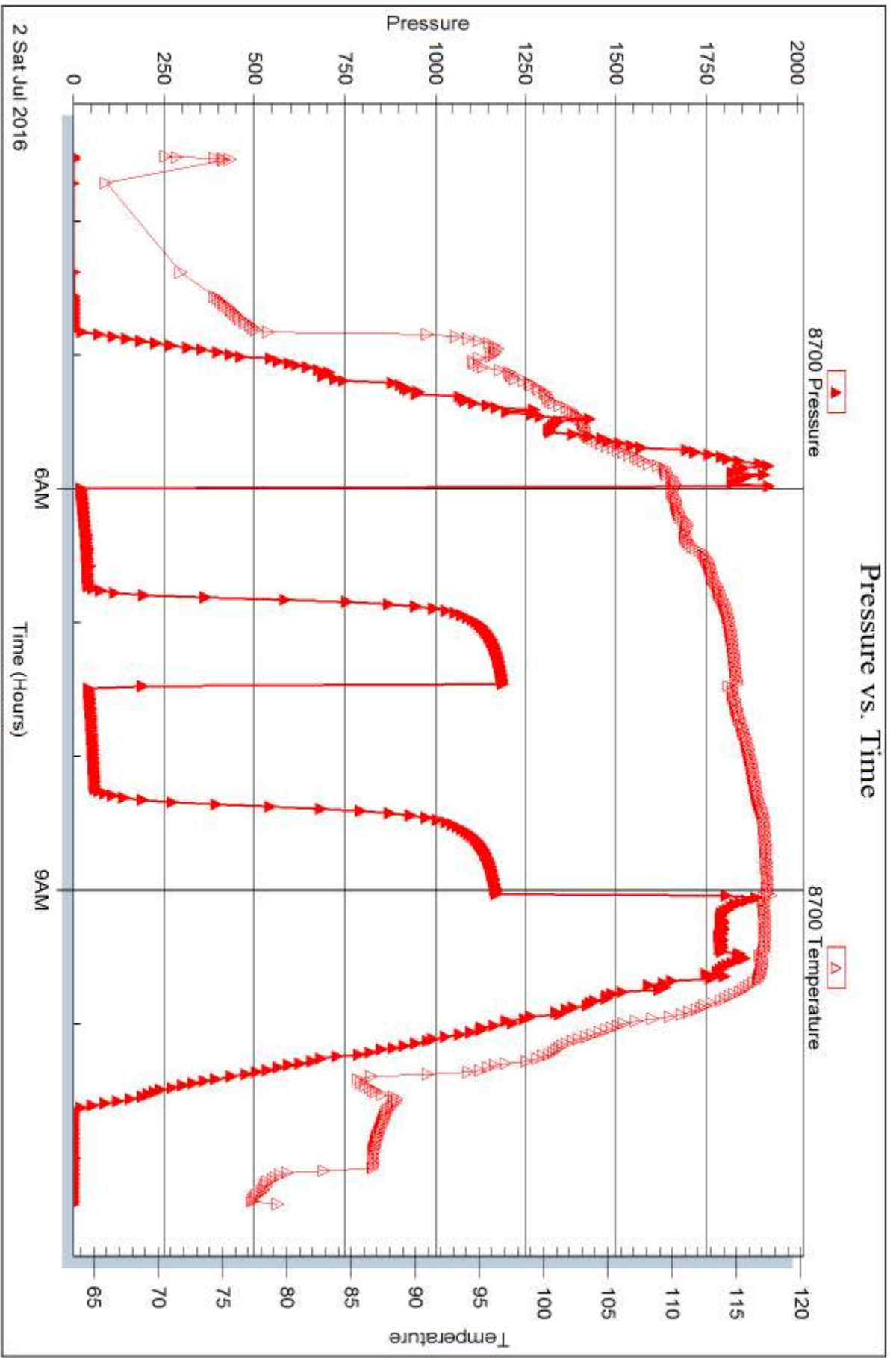
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

3-13s-21w Trego,KS

Deutscher- Schoenthaler #1-3

Start Date: 2016.07.02 @ 18:10:12

End Date: 2016.07.03 @ 00:42:57

Job Ticket #: 65471 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.07.05 @ 08:44:33

Downing- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

3-13s-21w Trego,KS

DST # 5

Arbuckle

2016.07.02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65471

DST#: 5

ATTN: Marc Dow ning

Test Start: 2016.07.02 @ 18:10:12

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:34:42

Time Test Ended: 00:42:57

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 77

Interval: 3862.00 ft (KB) To 3869.00 ft (KB) (TVD)

Reference Elevations: 2203.00 ft (KB)

Total Depth: 3869.00 ft (KB) (TVD)

2195.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 23.73 psig @ 3863.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.02

End Date:

2016.07.03

Last Calib.:

2016.07.03

Start Time:

18:10:17

End Time:

00:42:56

Time On Btm:

2016.07.02 @ 20:32:42

Time Off Btm:

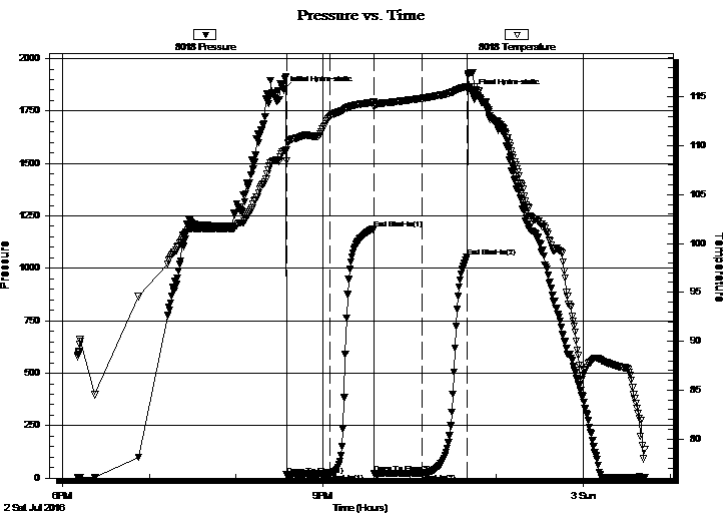
2016.07.02 @ 22:43:12

TEST COMMENT: 30-IFP-surface bl thru-out

30-ISIP-no bl

30-FFP-no bl

30FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1849.57	109.50	Initial Hydro-static
2	15.66	108.43	Open To Flow (1)
33	21.40	112.98	Shut-In(1)
63	1189.67	114.45	End Shut-In(1)
63	21.84	113.97	Open To Flow (2)
96	23.73	114.86	Shut-In(2)
127	1054.54	116.03	End Shut-In(2)
131	1832.39	117.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	CO	0.01
10.00	SOCM 3%O97%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

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65471

DST#: 5

ATTN: Marc Dow ning

Test Start: 2016.07.02 @ 18:10:12

Tool Information

Drill Pipe:	Length: 3660.00 ft	Diameter: 3.82 inches	Volume: 51.88 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 186.00 ft	Diameter: 2.75 inches	Volume: 1.37 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 53.25 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3862.00 ft			Final	46000.00 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			3842.00	
Shut In Tool	5.00			3847.00	
Hydraulic tool	5.00			3852.00	
Packer	5.00			3857.00	21.00 Bottom Of Top Packer
Packer	5.00			3862.00	
Stubb	1.00			3863.00	
Recorder	0.00	8018	Inside	3863.00	
Recorder	0.00	8700	Outside	3863.00	
Perforations	3.00			3866.00	
Bullnose	3.00			3869.00	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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65471

DST#: 5

ATTN: Marc Dow ning

Test Start: 2016.07.02 @ 18:10:12

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:

bbf

Water Loss: 9.14 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
1.00	CO	0.007
10.00	SOCM 3%O97%M	0.073

Total Length: 11.00 ft Total Volume: 0.080 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

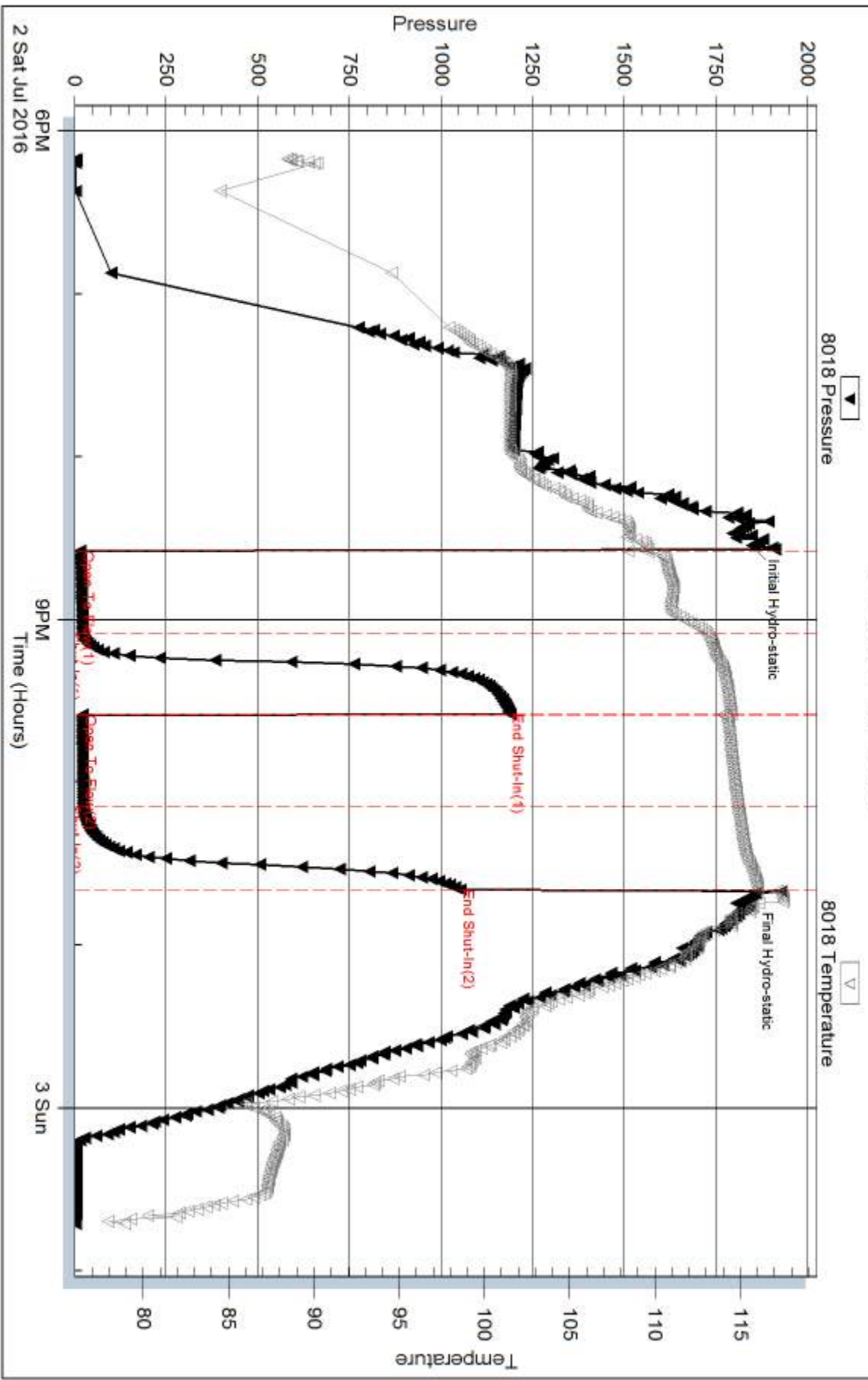
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

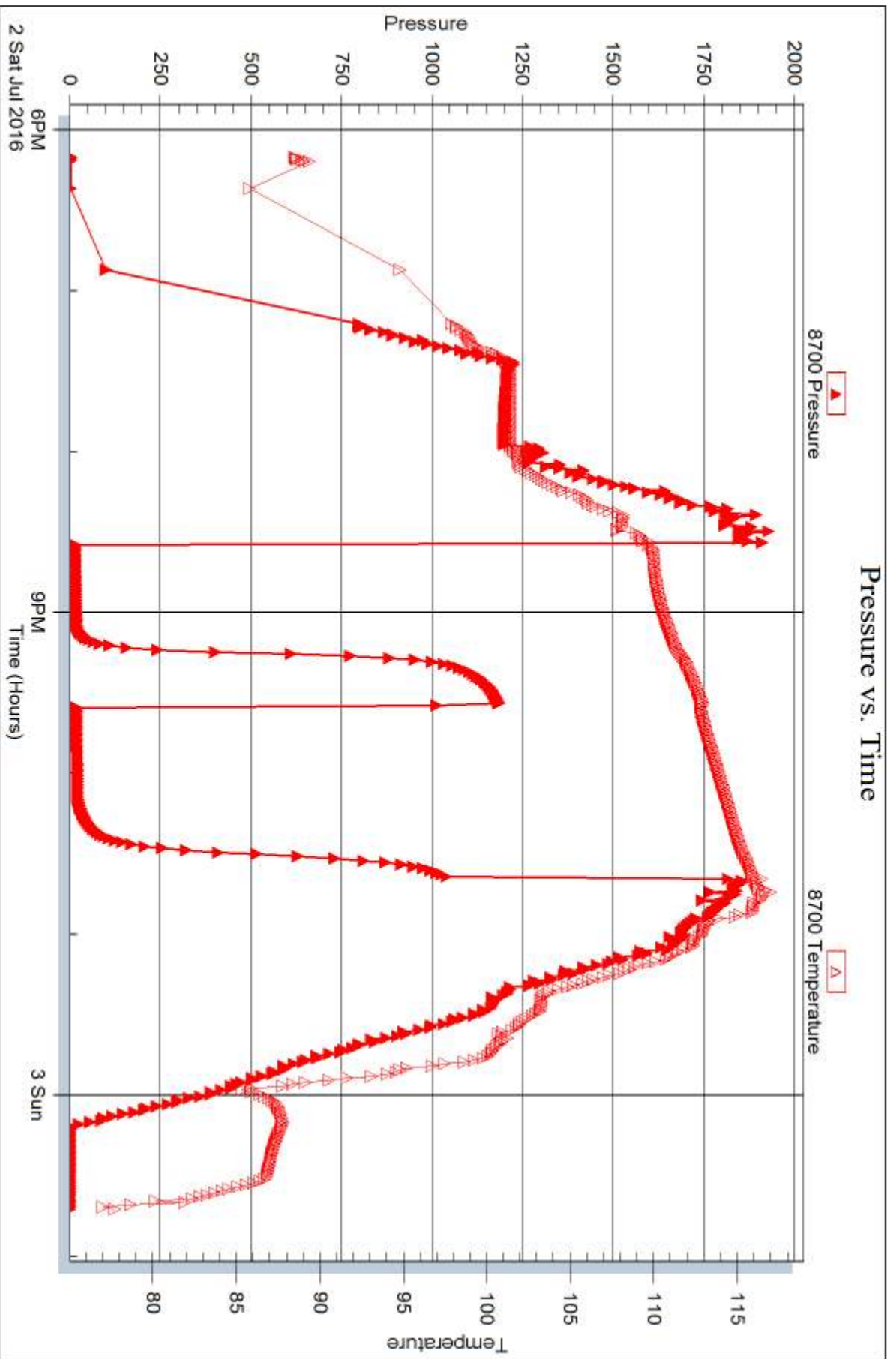


Serial #: 8700

Outside Dow nng- Nelson Oil Co., Inc.

3-13s-21w Trego,KS

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 65471

Printed: 2016.07.05 @ 08:44:35



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

3-13s-21w Trego,KS

Deutscher- Schoenthaler #1-3

Start Date: 2016.07.03 @ 07:20:42

End Date: 2016.07.03 @ 13:21:36

Job Ticket #: 65472 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.07.05 @ 08:43:25

Downing- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

3-13s-21w Trego,KS

DST # 6

Arbuckle

2016.07.03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65472

DST#: 6

ATTN: Marc Dow ning

Test Start: 2016.07.03 @ 07:20:42

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:32:22

Time Test Ended: 13:21:36

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 77

Interval: 3869.00 ft (KB) To 3876.00 ft (KB) (TVD)

Reference Elevations: 2203.00 ft (KB)

Total Depth: 3876.00 ft (KB) (TVD)

2195.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 44.81 psig @ 3870.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.07.03

End Date:

2016.07.03

Last Calib.:

2016.07.03

Start Time:

07:20:42

End Time:

13:21:36

Time On Btm:

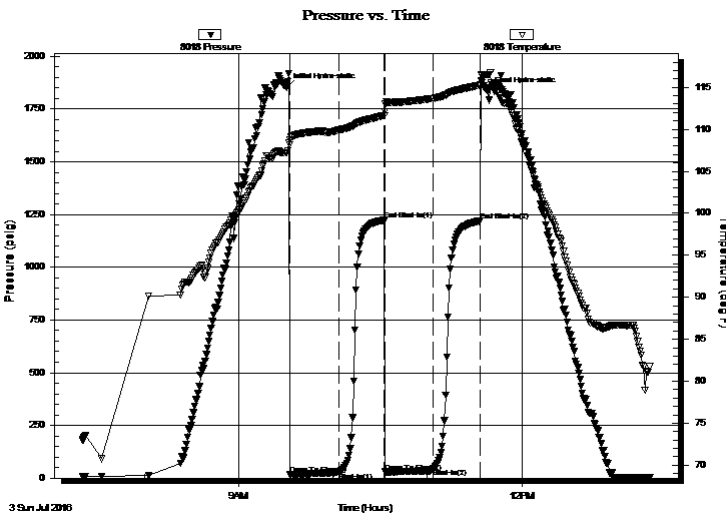
2016.07.03 @ 09:30:22

Time Off Btm:

2016.07.03 @ 11:38:36

TEST COMMENT: 30-IFP-w k bl thru-out surface to 1/2" bl
30-ISIP-no bl
30-FFP-w k bl thru-out 1/4"to 3/4" bl
30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1850.57	107.22	Initial Hydro-static
2	17.34	108.20	Open To Flow (1)
33	26.53	109.88	Shut-In(1)
63	1223.09	111.65	End Shut-In(1)
63	29.53	112.07	Open To Flow (2)
94	44.81	113.69	Shut-In(2)
123	1218.88	115.25	End Shut-In(2)
129	1831.48	116.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	CO	0.22
20.00	HOCM	0.15

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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65472

DST#: 6

ATTN: Marc Dow ning

Test Start: 2016.07.03 @ 07:20:42

Tool Information

Drill Pipe:	Length: 3690.00 ft	Diameter: 3.82 inches	Volume: 52.31 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 186.00 ft	Diameter: 2.75 inches	Volume: 1.37 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 53.68 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3869.00 ft			Final	46000.00 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			3849.00	
Shut In Tool	5.00			3854.00	
Hydraulic tool	5.00			3859.00	
Packer	5.00			3864.00	21.00 Bottom Of Top Packer
Packer	5.00			3869.00	
Stubb	1.00			3870.00	
Recorder	0.00	8018	Inside	3870.00	
Recorder	0.00	8700	Outside	3870.00	
Perforations	3.00			3873.00	
Safety Joint	3.00			3876.00	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.

Deutscher- Schoenthaler #1-3

PO Box 1019
Hays, KS 67601

3-13s-21w Trego,KS

Job Ticket: 65472

DST#: 6

ATTN: Marc Dow ning

Test Start: 2016.07.03 @ 07:20:42

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.17 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
30.00	CO	0.220
20.00	HOCM	0.147

Total Length: 50.00 ft Total Volume: 0.367 bbf

Num Fluid Samples: 0

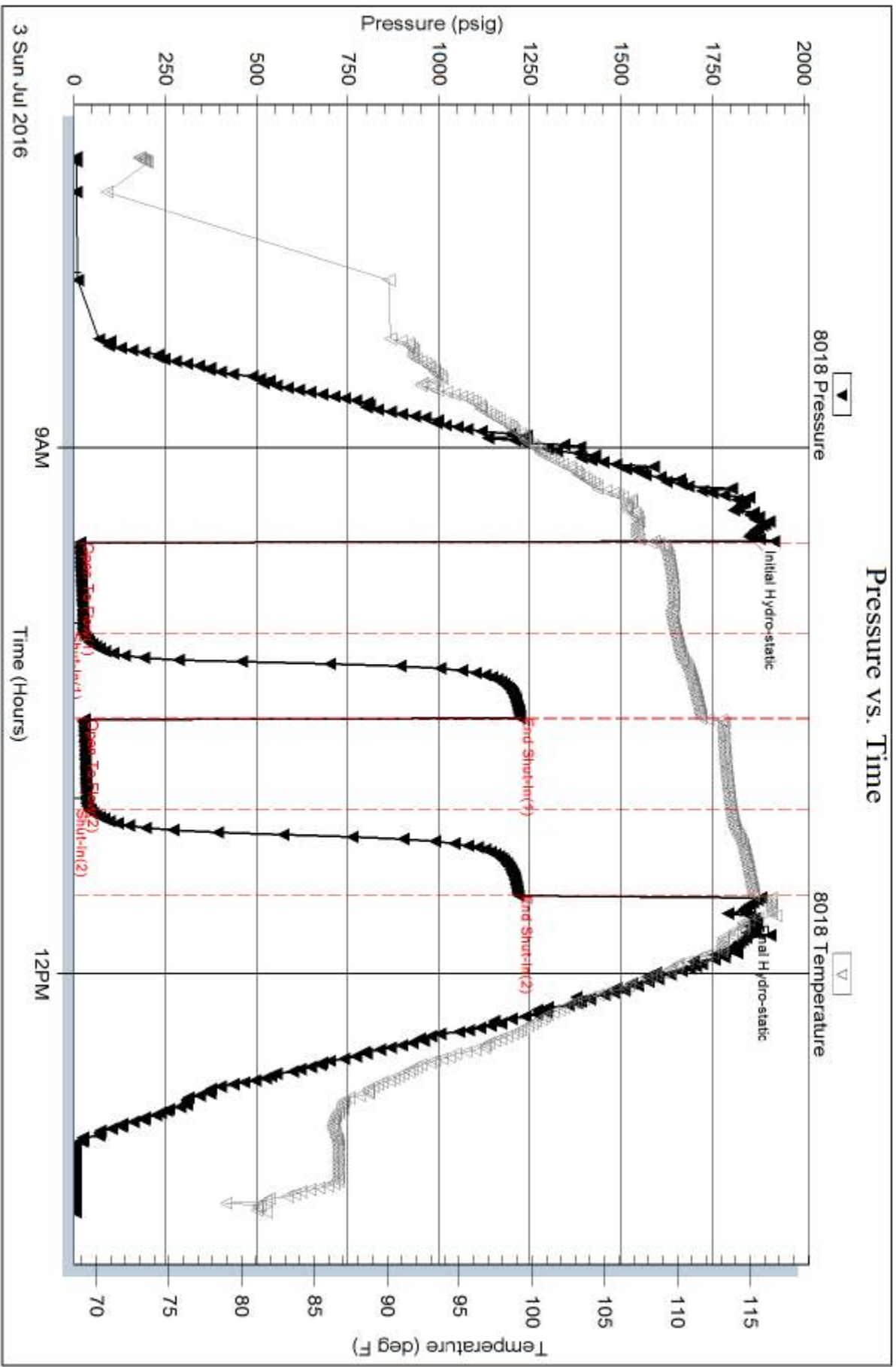
Num Gas Bombs: 0

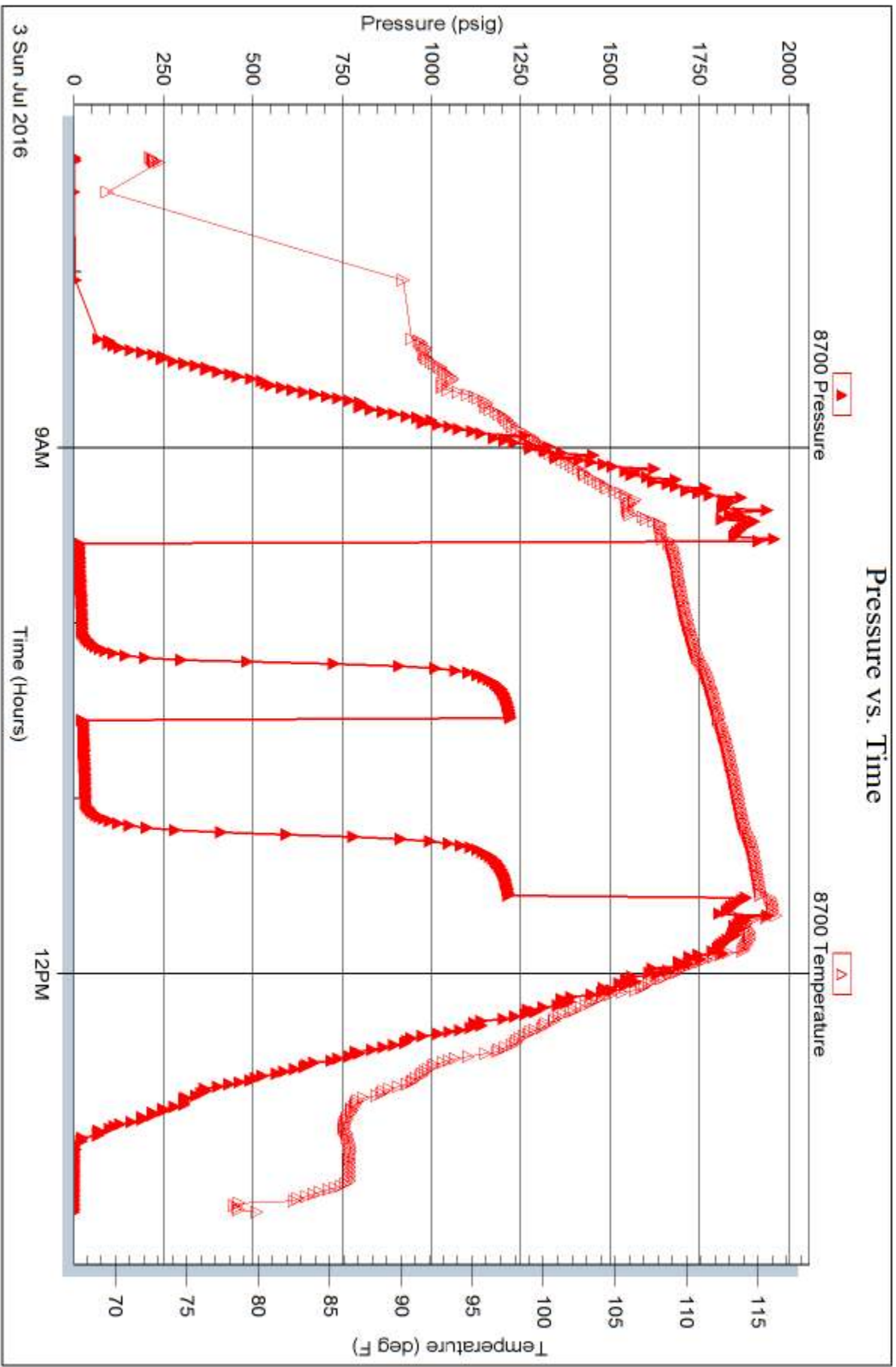
Serial #:

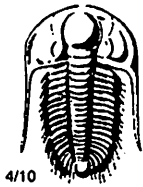
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58095

Well Name & No. Deutcher-Schoenthaeder #1-3 Test No. 1 Date 6/29/16
 Company Dunning-Nelson Oil Co., Inc. Elevation 2203 KB 2195 GL
 Address PO Box 1019 Hays, KS 67601
 Co. Rep / Geo. Marc Dunning Rig Discovery #2
 Location: Sec. 3 Twp. 13 S Rge. 21 W Co. Trego State KS

Interval Tested 3507-3552 Zone Tested LKC "C+D"
 Anchor Length 45' Drill Pipe Run 3189 Mud Wt. 8.9
 Top Packer Depth 3502 Drill Collars Run — Vis 47
 Bottom Packer Depth 3507 Wt. Pipe Run 311 WL 8.8
 Total Depth 3552 Chlorides 5,500 ppm System LCM 2nd

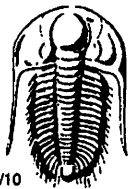
Blow Description IF - Slowly built to 7 1/2"
±SI - No blow
FF - Slowly built to 4"
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>218</u>	<u>MW</u>			<u>75</u>	<u>25</u>
<u>1</u>	<u>CO</u>				

Rec Total 219' BHT 116° Gravity _____ API RW 07 @ 76° F Chlorides 85,000 ppm
 (A) Initial Hydrostatic 1696 Test 1050 T-On Location 1423
 (B) First Initial Flow 19 Jars _____ T-Started 1504
 (C) First Final Flow 81 Safety Joint _____ T-Open 1809
 (D) Initial Shut-In 649 Circ Sub _____ T-Pulled 2109
 (E) Second Initial Flow 80 Hourly Standby _____ T-Out 6/30 0017
 (F) Second Final Flow 127 Mileage 54 RT 40.50 Comments _____
 (G) Final Shut-In 598 Sampler _____
 (H) Final Hydrostatic 1677 Straddle _____
 Ruined Shale Packer _____
 Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1090.50 Total 1090.50 MP/DST Disc't _____

Approved By _____ Our Representative Bryan Condale

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. 58096

Well Name & No. Deutscher-Schoenthaler 1-3 Test No. 2 Date 6-30-16
 Company Downing-Nelson Oil Co Inc Elevation 2203 KB 2195 GL
 Address Po Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery 2
 Location: Sec. 3 Twp. 13^s Rge. 21^w Co. Trego State Ks

Interval Tested 3547-3567 Zone Tested LKC E
 Anchor Length 20 Drill Pipe Run 3347 Mud Wt. 8.8
 Top Packer Depth 3542 Drill Collars Run - Vis 55
 Bottom Packer Depth 3547 Wt. Pipe Run 186 WL 8.8
 Total Depth 3567 Chlorides 5500 ppm System LCM 2#

Blow Description I FP - VERY WEAK SURFACE BLOW THRU-OUT
T SIP - NO BLOW
F FP - NO BLOW
F SIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud</u>				
	<u>w/show of oil</u>				

Rec Total 15 BHT 109 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1625 Test 1050 T-On Location 0645
 (B) First Initial Flow 10 Jars T-Started 0725
 (C) First Final Flow 17 Safety Joint T-Open 0925
 (D) Initial Shut-In 717 Circ Sub T-Pulled 1125
 (E) Second Initial Flow 19 Hourly Standby T-Out 1325
 (F) Second Final Flow 24 Mileage 54 RT 40.50 Comments _____
 (G) Final Shut-In 662 Sampler _____
 (H) Final Hydrostatic 1609 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

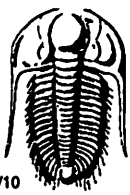
Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Sub Total 1090.50

Sub Total 1090.50

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. 65469

Well Name & No. Deutscher-Schoenthaler 1-3 Test No. 3 Date 7-1-2016
 Company Downing-Nelson Oil Co Inc Elevation 2203 KB 2195 GL
 Address PO Box 1019 Hays, Mo 67601
 Co. Rep / Geo. MARC DOWNING Rig Discovery rig 2
 Location: Sec. 3 Twp. 13^s Rge. 21^w Co. Trego State Mo

Interval Tested 3791-3823 Zone Tested MARMATON
 Anchor Length 32 Drill Pipe Run 3598 Mud Wt. 9.3
 Top Packer Depth 3786 Drill Collars Run - Vis 51
 Bottom Packer Depth 3791 Wt. Pipe Run 186 WL 8.8
 Total Depth 3823 Chlorides 9500 ppm System LCM 1 1/2 #
 Blow Description IFP - WEAK TO A FAIR BLOW 1/4" TO 4 1/2" BLOW
ISIP - NO BLOW
FFP - WEAK TO A FAIR BLOW 1/4" TO 3 1/2" BLOW
FSIP - NO BLOW

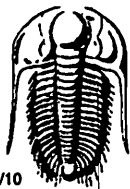
Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>GTP</u>				
<u>105</u>	<u>CO</u>				
<u>62</u>	<u>MGO</u>	<u>20</u>	<u>65</u>		<u>15</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec Total <u>167</u>	BHT <u>119</u>	Gravity <u>39</u>	API RW <u>-</u>	@ <u>-</u> °F	Chlorides <u>-</u> ppm

(A) Initial Hydrostatic 1825 Test 1050 T-On Location 1015
 (B) First Initial Flow 19 Jars _____ T-Started 1230
 (C) First Final Flow 45 Safety Joint _____ T-Open 1430
 (D) Initial Shut-In 867 Circ Sub _____ T-Pulled 1730
 (E) Second Initial Flow 51 Hourly Standby _____ T-Out 1923
 (F) Second Final Flow 72 Mileage 54 RT 40.50 Comments _____
 (G) Final Shut-In 828 Sampler _____
 (H) Final Hydrostatic 1802 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1090.50

Initial Open 45 Ruined Shale Packer _____
 Initial Shut-In 45 Ruined Packer _____
 Final Flow 45 Extra Copies _____
 Final Shut-In 45 Sub Total 0
 Total 1090.50
 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65470

Well Name & No. Deutscher-Schoenthaler 1-3 Test No. 4 Date 7-2-2016
 Company Downing-Nelson OIL Co. Inc Elevation 2203 KB 2195 GL
 Address PO Box 1019 Hays, Ko 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 2
 Location: Sec. 3 Twp. 13^s Rge. 21^w Co. ELLIS State K

Interval Tested 3817-3862 Zone Tested Arbuckle
 Anchor Length 45 Drill Pipe Run 3627 Mud Wt. 9.2
 Top Packer Depth 3812 Drill Collars Run - Vis 49
 Bottom Packer Depth 3817 Wt. Pipe Run 186 WL 8.8
 Total Depth 3862 Chlorides 9500 ppm System LCM 1 1/2 #
 Blow Description IFP - WEAK Blow thru-out 1/4" TO 1/2" Blow
ISIP - NO Blow
FFP - WEAK Blow thru-out, surface TO 1/2" Blow
FSIP - NO Blow

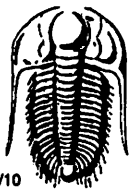
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>GIP</u>				
<u>30</u>	<u>CO</u>				
<u>60</u>	<u>H₂O + GCM</u>	<u>10</u>	<u>25</u>		<u>65</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 90 BHT 117 Gravity 36 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1828 Test 1050 T-On Location 0300
 (B) First Initial Flow 23 Jars _____ T-Started 0330
 (C) First Final Flow 50 Safety Joint _____ T-Open 0600
 (D) Initial Shut-In 1189 Circ Sub _____ T-Pulled 0900
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 1120
 (F) Second Final Flow 62 Mileage 54RT 40.50 Comments _____
 (G) Final Shut-In 1172 Sampler _____
 (H) Final Hydrostatic 1793 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 45 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Accessibility _____
 Sub Total 1090.50 Total 1090.50 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65471

Well Name & No. Deutscher-Schoenthaler 1-3 Test No. 5 Date 7-2-2016
 Company Downing-Nelson Oil Co Inc Elevation 2203 KB 2195 GL
 Address PO Box 1019 Hays, Ko 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 2
 Location: Sec. 3 Twp. 13^s Rge. 21^w Co. ELLIS State Ko

Interval Tested 3862-3869 Zone Tested Arbuckle
 Anchor Length 7 Drill Pipe Run 3660 Mud Wt. 9.3
 Top Packer Depth 3857 Drill Collars Run - Vis 55
 Bottom Packer Depth 3862 Wt. Pipe Run 186 WL 9.2
 Total Depth 3869 Chlorides 10000 ppm System LCM 1 1/2 #

Blow Description TFP - SURFACE Blow Thru-out
ISTP - NO Blow
FFP - NO Blow
FSTP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Co</u>				
<u>10</u>	<u>50CM</u>		<u>3</u>		<u>97</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 11 BHT 116 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1849 Test 1050 T-On Location 1650
 (B) First Initial Flow 15 Jars _____ T-Started 1810
 (C) First Final Flow 21 Safety Joint _____ T-Open 2035
 (D) Initial Shut-In 1189 Circ Sub _____ T-Pulled 2235
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 0042
 (F) Second Final Flow 23 Mileage N/C Comments STAYED AT RIG mudded IN
 (G) Final Shut-In 1054 Sampler _____
 (H) Final Hydrostatic 1832 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

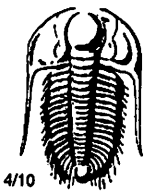
Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Sub Total 1050

Sub Total 1050

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. 65472

Well Name & No. Deutscher-Schoenthaler 1-3 Test No. 6 Date 7-3-2016
 Company Downing-Nelson O.I.L Co Inc Elevation 2203 KB 2195 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC DOWNING Rig DISCOVERY rig 2
 Location: Sec. 3 Twp. 13ⁿ Rge. 21^w Co. ELLIS State Ks

Interval Tested 3869-3876 Zone Tested Arbuckle
 Anchor Length 7 Drill Pipe Run 3690 Mud Wt. 8.9
 Top Packer Depth 3864 Drill Collars Run - Vis 59
 Bottom Packer Depth 3869 Wt. Pipe Run 186 WL 9.2
 Total Depth 3876 Chlorides 10000 ppm System LCM 1 1/2 #
 Blow Description IFP - Weak Blow thru-out surface to 1/2" Blow
ISIP - NO Blow
FFP - Weak Blow thru-out 1/4" to 3/4" Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>CO</u>				
<u>20</u>	<u>HOCM</u>		<u>40</u>		<u>60</u>

Rec Total 50 BHT 115 Gravity 36 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1850 Test 1050 T-On Location 0650
 (B) First Initial Flow 17 Jars - T-Started 0720
 (C) First Final Flow 26 Safety Joint - T-Open 0930
 (D) Initial Shut-In 1223 Circ Sub - T-Pulled 1130
 (E) Second Initial Flow 29 Hourly Standby - T-Out 1321
 (F) Second Final Flow 44 Mileage N/C Comments Stayed AT Rig
 (G) Final Shut-In 1218 Sampler -
 (H) Final Hydrostatic 1831 Straddle - Ruined Shale Packer -
 Shale Packer - Ruined Packer -
 Extra Packer - Extra Copies -
 Extra Recorder - Sub Total 0
 Day Standby - Total 1050
 Accessibility - MP/DST Disc't -
 Sub Total 1050

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

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.