



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil CO. Inc**

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

### **Horinek #1-10**

#### **10-1s-33w Rawlins,KS**

Start Date: 2014.08.11 @ 05:49:05

End Date: 2014.08.11 @ 11:07:30

Job Ticket #: 60126                      DST #: 1

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

Printed: 2014.08.14 @ 13:30:16

Downing-Nelson Oil CO. Inc  
10-1s-33w Rawlins,KS  
Horinek #1-10  
DST # 1  
LKC "C"  
2014.08.11



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO. Inc

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60126

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 05:49:05

## GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:30:15

Time Test Ended: 11:07:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 57

**Interval: 3930.00 ft (KB) To 3975.00 ft (KB) (TVD)**

Reference Elevations: 2945.00 ft (KB)

Total Depth: 3975.00 ft (KB) (TVD)

2940.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8366 Outside**

Press@RunDepth: 33.63 psig @ 3931.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.11

End Date:

2014.08.11

Last Calib.:

2014.08.11

Start Time:

05:49:05

End Time:

11:07:29

Time On Btm:

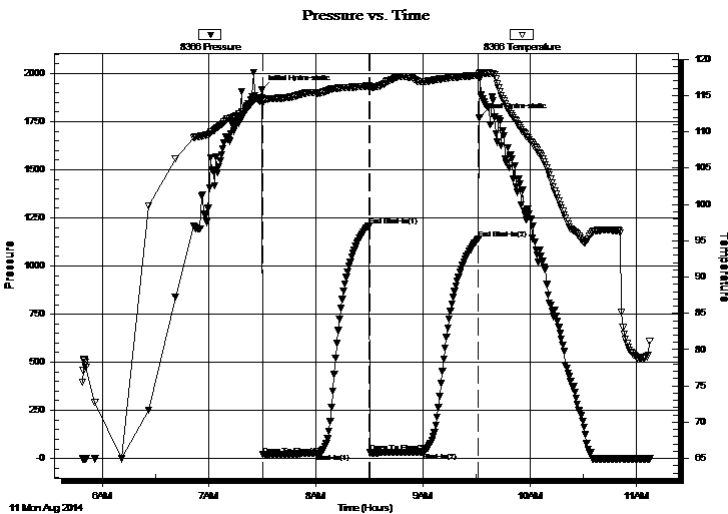
2014.08.11 @ 07:29:45

Time Off Btm:

2014.08.11 @ 09:31:45

TEST COMMENT: 30 - IF - Weak surface blow built to 3/4"  
30 - ISI - No return  
30 - FF - Weak surface blow  
30 - FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1915.47	114.69	Initial Hydro-static
1	18.45	113.88	Open To Flow (1)
31	27.32	115.36	Shut-In(1)
60	1206.40	116.30	End Shut-In(1)
61	29.86	116.02	Open To Flow (2)
91	33.63	116.91	Shut-In(2)
122	1142.48	117.79	End Shut-In(2)
122	1773.00	118.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
43.00	OCM - 80M - 20o	0.33

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO. Inc  
 PO Box 1019  
 Hays, KS 67601  
 ATTN: Marc Dow ning

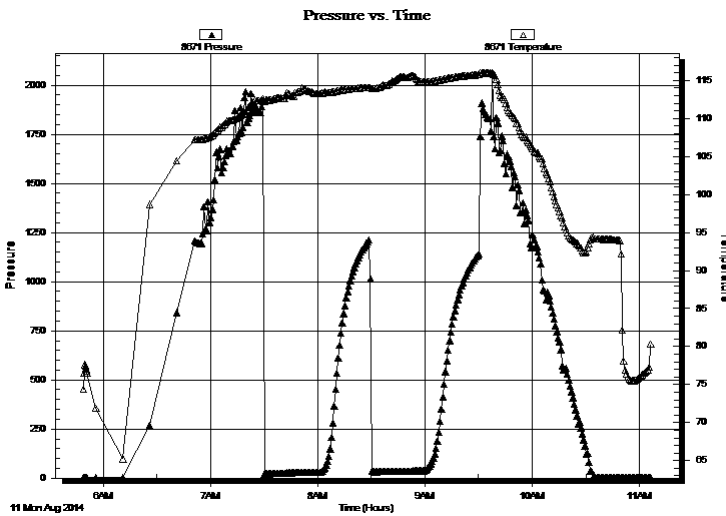
**10-1s-33w Rawlins,KS**  
**Horinek #1-10**  
 Job Ticket: 60126 **DST#: 1**  
 Test Start: 2014.08.11 @ 05:49:05

### GENERAL INFORMATION:

Formation: **LKC "C"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 07:30:15 Tester: Donovan Baumann  
 Time Test Ended: 11:07:30 Unit No: 57  
 Interval: **3930.00 ft (KB) To 3975.00 ft (KB) (TVD)** Reference Elevations: 2945.00 ft (KB)  
 Total Depth: 3975.00 ft (KB) (TVD) 2940.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

**Serial #: 8671 Inside**  
 Press@RunDepth: psig @ 3931.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.08.11 End Date: 2014.08.11 Last Calib.: 2014.08.11  
 Start Time: 05:49:05 End Time: 11:06:44 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 30 - IF - Weak surface blow built to 3/4"  
 30 - ISI - No return  
 30 - FF - Weak surface blow  
 30 - FSI -No return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
43.00	OCM - 80M - 20o	0.33

### 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

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60126

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 05:49:05

## Tool Information

Drill Pipe:	Length: 3879.00 ft	Diameter: 3.80 inches	Volume: 54.41 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 54.56 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3930.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	45.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3907.00	
Hydraulic tool	5.00			3912.00	
Jars	5.00			3917.00	
Safety Joint	3.00			3920.00	
Packer	5.00			3925.00	28.00 Bottom Of Top Packer
Packer	5.00			3930.00	
Stubb	1.00			3931.00	
Recorder	0.00	8671	Inside	3931.00	
Recorder	0.00	8366	Outside	3931.00	
Perforations	41.00			3972.00	
Bullnose	3.00			3975.00	45.00 Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
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# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil CO. Inc

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60126

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 05:49:05

### 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: 70.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 10.50 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
43.00	OCM - 80M - 20o	0.330

Total Length: 43.00 ft      Total Volume: 0.330 bbl

Num Fluid Samples: 0

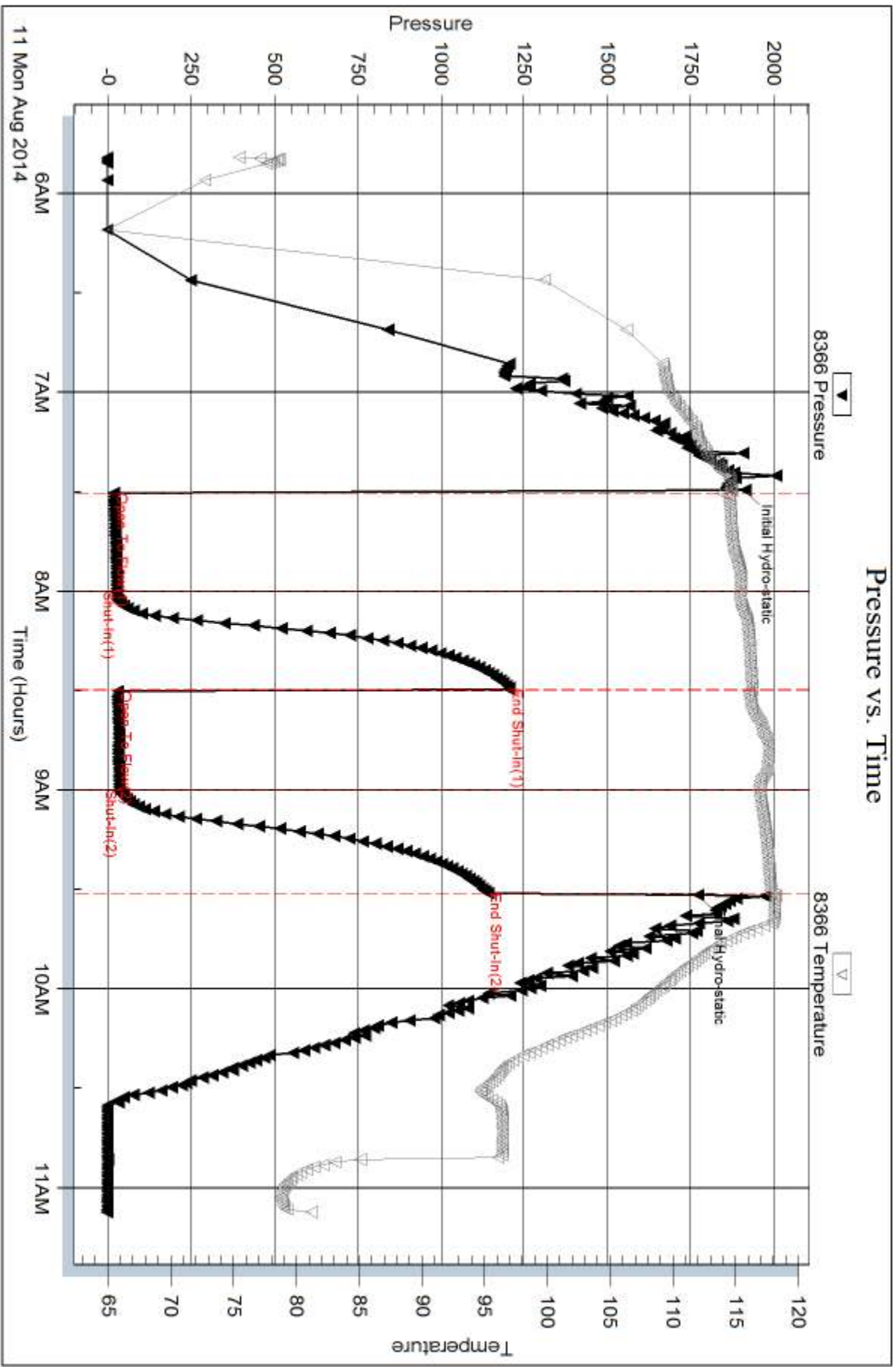
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



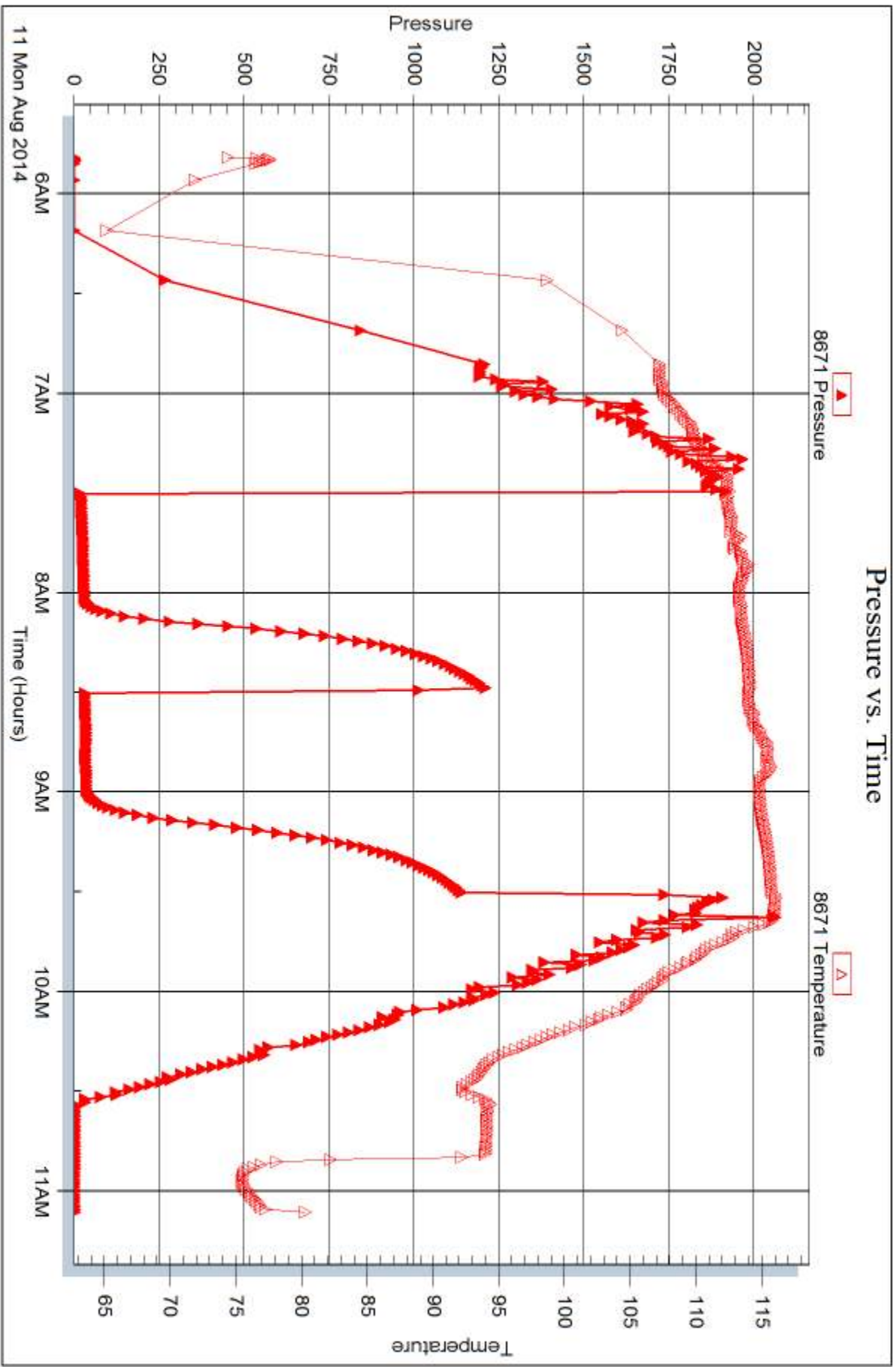
Serial #: 8671

Inside

Dow nrg-Nelson Oil CO, Inc

Hornek #1-10

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil CO. Inc**

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

### **Horinek #1-10**

#### **10-1s-33w Rawlins,KS**

Start Date: 2014.08.11 @ 23:01:00

End Date: 2014.08.12 @ 05:19:45

Job Ticket #: 60127                      DST #: 2

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

Printed: 2014.08.14 @ 13:29:38





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO. Inc

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60127

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 23:01:00

## GENERAL INFORMATION:

Formation: **LKC "D&E"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:37:00  
 Time Test Ended: 05:19:45  
 Interval: **3974.00 ft (KB) To 4076.00 ft (KB) (TVD)**  
 Total Depth: 4076.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Donovan Baumann  
 Unit No: 57  
 Reference Elevations: 2945.00 ft (KB)  
 2940.00 ft (CF)  
 KB to GR/CF: 5.00 ft

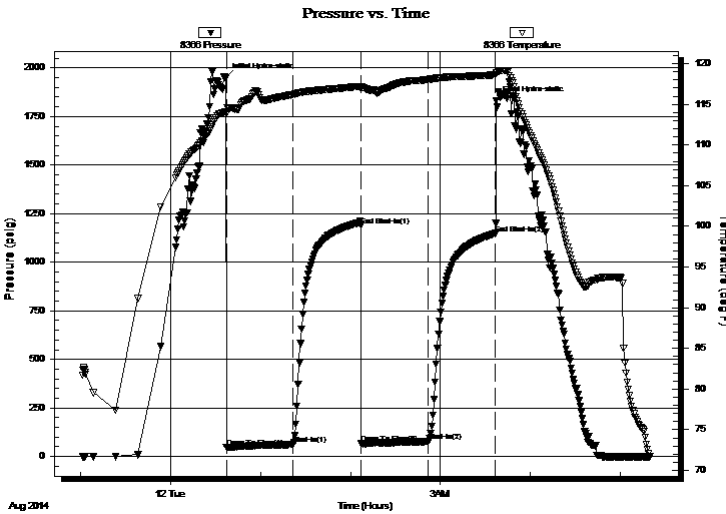
## Serial #: 8366

Outside

Press@RunDepth: 77.11 psig @ 3975.00 ft (KB)  
 Start Date: 2014.08.11 End Date: 2014.08.12  
 Start Time: 23:01:05 End Time: 05:19:44  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.08.12  
 Time On Btm: 2014.08.12 @ 00:36:30  
 Time Off Btm: 2014.08.12 @ 03:37:15

TEST COMMENT: 45 - IF - Surface blow built to 3 1/4"  
 45 - ISI - No return  
 45 - FF - Surface blow built to 2 3/4"  
 45 - FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1950.33	114.12	Initial Hydro-static
1	47.30	113.89	Open To Flow (1)
46	62.43	116.19	Shut-In(1)
91	1189.49	117.22	End Shut-In(1)
91	67.55	116.91	Open To Flow (2)
136	77.11	118.05	Shut-In(2)
181	1148.03	118.64	End Shut-In(2)
181	1833.44	118.93	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCM - 95M - 5o	1.49
10.00	OCM - 60M - 40o	0.14

## Gas Rates

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



**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO. Inc

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60127

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 23:01:00

## GENERAL INFORMATION:

Formation: **LKC "D&E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:37:00

Time Test Ended: 05:19:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 57

**Interval: 3974.00 ft (KB) To 4076.00 ft (KB) (TVD)**

Reference Elevations: 2945.00 ft (KB)

Total Depth: 4076.00 ft (KB) (TVD)

2940.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

**Serial #: 8671 Inside**

Press@RunDepth: psig @ 3975.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.11

End Date:

2014.08.12

Last Calib.:

2014.08.12

Start Time: 23:01:05

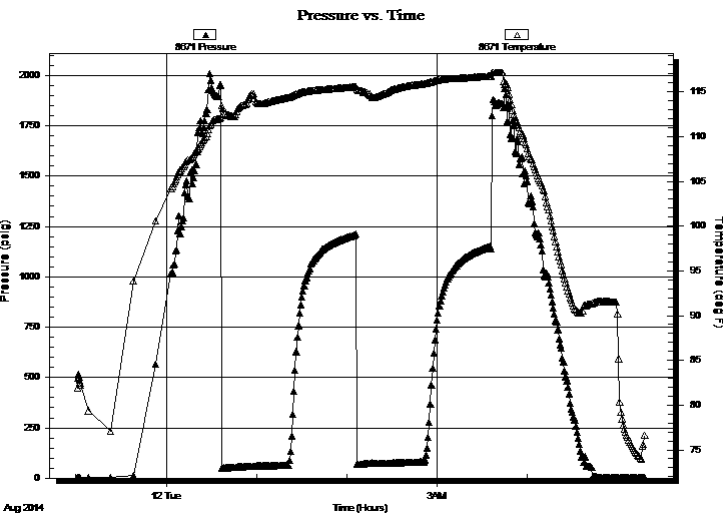
End Time:

05:18:44

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 45 - IF - Surface blow built to 3 1/4"  
45 - ISI - No return  
45 - FF - Surface blow built to 2 3/4"  
45 - FSI - No return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCM - 95M - 5o	1.49
10.00	OCM - 60M - 40o	0.14

## 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

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60127

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 23:01:00

## Tool Information

Drill Pipe:	Length: 3943.00 ft	Diameter: 3.80 inches	Volume: 55.31 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 55.46 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3974.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	102.00 ft			
Tool Length:	130.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3951.00	
Hydraulic tool	5.00			3956.00	
Jars	5.00			3961.00	
Safety Joint	3.00			3964.00	
Packer	5.00			3969.00	28.00 Bottom Of Top Packer
Packer	5.00			3974.00	
Stubb	1.00			3975.00	
Recorder	0.00	8671	Inside	3975.00	
Recorder	0.00	8366	Outside	3975.00	
Perforations	98.00			4073.00	
Bullnose	3.00			4076.00	102.00 Bottom Packers & Anchor

**Total Tool Length: 130.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil CO. Inc

**10-1s-33w Rawlins,KS**

PO Box 1019  
Hays, KS 67601

**Horinek #1-10**

Job Ticket: 60127

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.08.11 @ 23:01:00

## 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: 60.00 sec/qt

Cushion Volume: bbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure: psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	OCM - 95M - 5o	1.494
10.00	OCM - 60M - 40o	0.140

Total Length: 136.00 ft      Total Volume: 1.634 bbl

Num Fluid Samples: 0

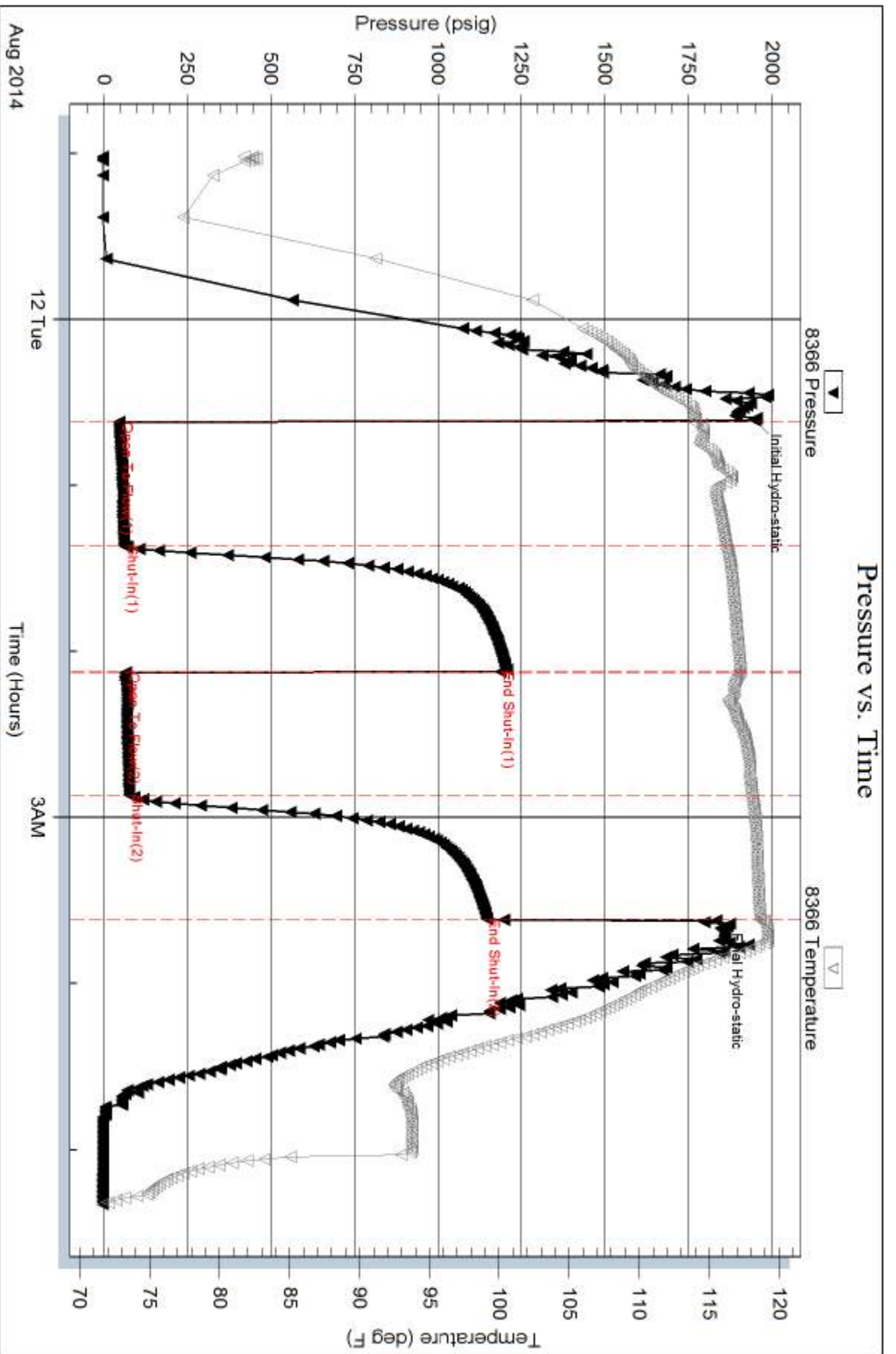
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



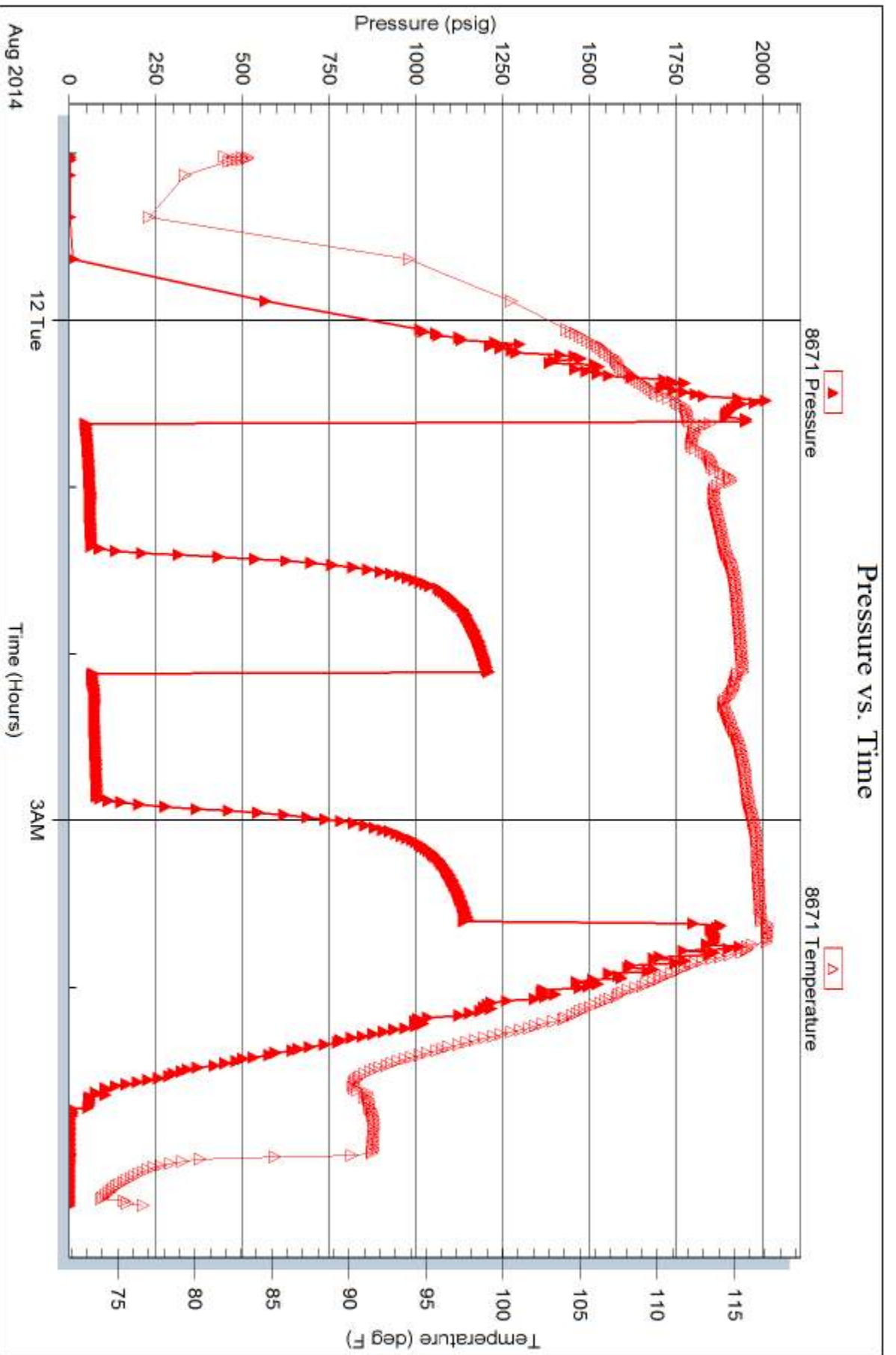
Serial #: 8671

Inside

Dow nging-Nelson Oil CO, Inc

Horinek #1-10

DST Test Number: 2







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 60126

Well Name & No. Hoginek #1-10 Test No. 1 Date 8-11-14  
 Company Downing-Nelson Oil Co, Inc Elevation 2945 KB 2940 GL  
 Address PO Box 1019 Hays, KS, 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #1  
 Location: Sec. 10 Twp. 15 Rge. 33 Co. Rawlins State KS

Interval Tested 3930' - 3975' Zone Tested LKC "C"  
 Anchor Length 45' Drill Pipe Run 3879' Mud Wt. 8.8  
 Top Packer Depth 3925' Drill Collars Run 30' Vis 70  
 Bottom Packer Depth 3930' Wt. Pipe Run Ø WL 8.8  
 Total Depth 3975' Chlorides 700 ppm System LCM #2

Blow Description IF - weak surface blow built to 3/4"  
ISI - NO return  
FF - weak surface blow  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>43</u>	<u>OCM</u>	<u>20</u>		<u>80</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 43 BHT 118 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1915  Test 1150 T-On Location ~~4:15~~ 4:25 a.m.  
 (B) First Initial Flow 18  Jars 250 T-Started 5:49 a.m.  
 (C) First Final Flow 27  Safety Joint 75 T-Open 7:30 a.m.  
 (D) Initial Shut-In 1206  Circ Sub N/C T-Pulled 9:30 a.m.  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 11:08 a.m.  
 (F) Second Final Flow 1142  Mileage 84 R/T 130.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 1142  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1773  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_

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

Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Sub Total 1605.20  
 Total 1605.20  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Danion Baumann

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. 60127

Well Name & No. Horinek #1-10 Test No. 2 Date 8-11-14  
 Company Downing-Nelson Oil Co. Inc Elevation 2945 KB 2940 GL  
 Address PO Box 1019 Hays, KS, 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #1  
 Location: Sec. 10 Twp. 45 Rge. 33 Co. Rawlins State KS

Interval Tested 3974'-4076' Zone Tested LKC "D+E"  
 Anchor Length 102' Drill Pipe Run 3943' Mud Wt. 9  
 Top Packer Depth 3969' Drill Collars Run 30 Vis 80  
 Bottom Packer Depth 3974' Wt. Pipe Run 0 WL 8.8  
 Total Depth 4076' Chlorides 500 ppm System LCM 1#

Blow Description IF - Surface blow built to 3 1/4"  
ISI - No return  
FF - Surface blow built to 2 3/4"  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OCM</u>	<u>40</u>		<u>60</u>	
<u>126</u>	<u>OCM</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 Total 136 BHT 119 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1950  Test 1250 T-On Location 10:00p.m.  
 (B) First Initial Flow 47  Jars 250 T-Started 11:01p.m.  
 (C) First Final Flow 62  Safety Joint 75 T-Open 12:37a.m.  
 (D) Initial Shut-In 1189  Circ Sub N/C T-Pulled 3:37am  
 (E) Second Initial Flow 68  Hourly Standby \_\_\_\_\_ T-Out 5:20am  
 (F) Second Final Flow 77  Mileage 84 R/T 130.20 Comments \_\_\_\_\_  
 (G) Final Shut-In 1148  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1833  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45

Sub Total 0  
 Total 1605.20  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1605.20

Approved By \_\_\_\_\_ Our Representative Robert M. Korman

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.