



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

### **Hildebrand #4-19**

### **19-9s-23w Graham,KS**

Start Date: 2014.01.22 @ 06:18:00

End Date: 2014.01.22 @ 11:58:00

Job Ticket #: 53575                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.01.24 @ 13:57:55

Downing-Nelson Oil Co  
19-9s-23w Graham,KS  
Hildebrand #4-19  
DST # 1  
LKC "C & D"  
2014.01.22



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

ATTN: Marc Dow ning

Job Ticket: 53575

**DST#: 1**

Test Start: 2014.01.22 @ 06:18:00

## GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:12:40

Time Test Ended: 11:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack /Robert Z

Unit No: 66

**Interval: 3804.00 ft (KB) To 3845.00 ft (KB) (TVD)**

Reference Elevations: 2444.00 ft (KB)

Total Depth: 3845.00 ft (KB) (TVD)

2434.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8874**

**Inside**

Press@RunDepth: 27.26 psig @ 3805.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.22

End Date:

2014.01.22

Last Calib.:

2014.01.22

Start Time: 06:19:00

End Time:

11:58:00

Time On Btm:

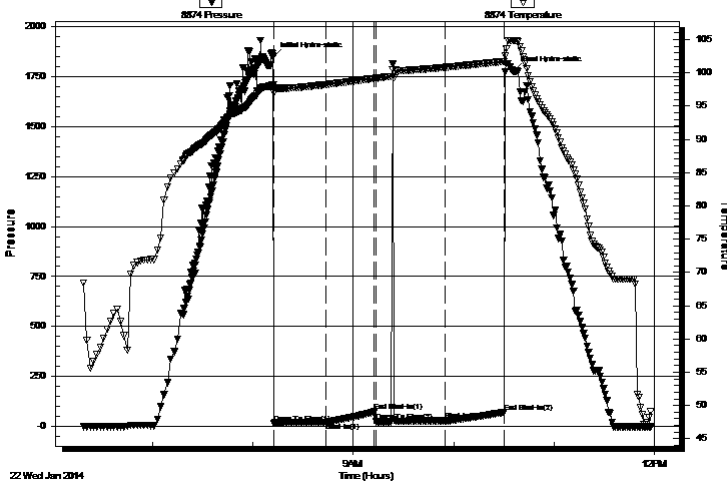
2014.01.22 @ 08:12:30

Time Off Btm:

2014.01.22 @ 10:36:00

**TEST COMMENT:** 30 - IF - 1/4" blow died in 10 min.  
30 - ISI - No Return  
30 - FF - No Blow - Flushed tool at 10 min. - No Blow  
30 - FSI - No Return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1852.33	98.20	Initial Hydro-static
1	15.37	96.96	Open To Flow (1)
31	20.65	98.24	Shut-In(1)
60	72.60	99.17	End Shut-In(1)
61	22.82	99.19	Open To Flow (2)
103	27.26	100.83	Shut-In(2)
138	70.06	101.72	End Shut-In(2)
144	1778.74	104.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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



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TESTING, INC

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19-9s-23w Graham,KS

PO Box 1019  
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Hildebrand #4-19

Job Ticket: 53575

DST#: 1

ATTN: Marc Dow ning

Test Start: 2014.01.22 @ 06:18:00

**GENERAL INFORMATION:**

Formation: LKC "C & D"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:12:40

Time Test Ended: 11:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack /Robert Z

Unit No: 66

Interval: 3804.00 ft (KB) To 3845.00 ft (KB) (TVD)

Reference Elevations: 2444.00 ft (KB)

Total Depth: 3845.00 ft (KB) (TVD)

2434.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8653 Outside**

Press@RunDepth: psig @ 3805.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.22 End Date: 2014.01.22

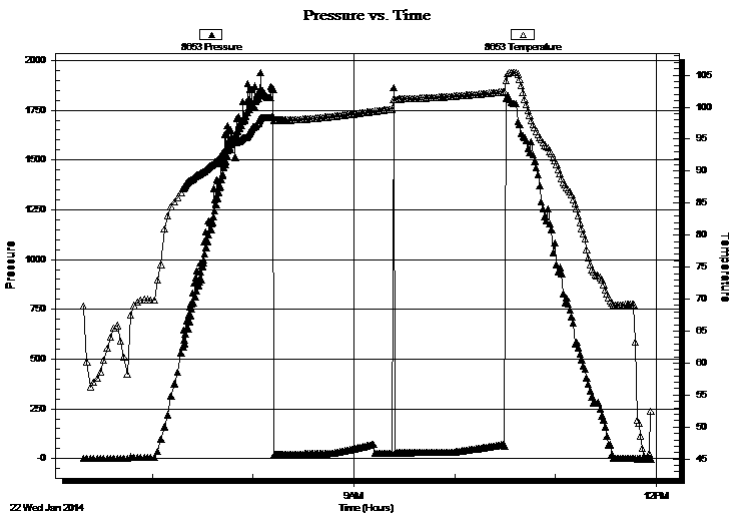
Last Calib.: 2014.01.22

Start Time: 06:19:00 End Time: 11:57:00

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF - 1/4" blow died in 10 min.  
30 - ISI - No Return  
30 - FF - No Blow - Flushed tool at 10 min. - No Blow  
30 - FSI - No Return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53575

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2014.01.22 @ 06:18:00

## Tool Information

Drill Pipe:	Length: 3790.00 ft	Diameter: 3.80 inches	Volume: 53.16 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 53.31 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	36.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3804.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	41.00 ft				
Tool Length:	61.00 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			3785.00	
Shut In Tool	5.00			3790.00	
Hydraulic tool	5.00			3795.00	
Packer	5.00			3800.00	20.00 Bottom Of Top Packer
Packer	4.00			3804.00	
Stubb	1.00			3805.00	
Recorder	0.00	8653	Outside	3805.00	
Recorder	0.00	8874	Inside	3805.00	
Perforations	2.00			3807.00	
Change Over Sub	1.00			3808.00	
Drill Pipe	31.00			3839.00	
Change Over Sub	1.00			3840.00	
Bullnose	5.00			3845.00	41.00 Bottom Packers & Anchor

**Total Tool Length: 61.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53575

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2014.01.22 @ 06:18:00

## 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:

bbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	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:

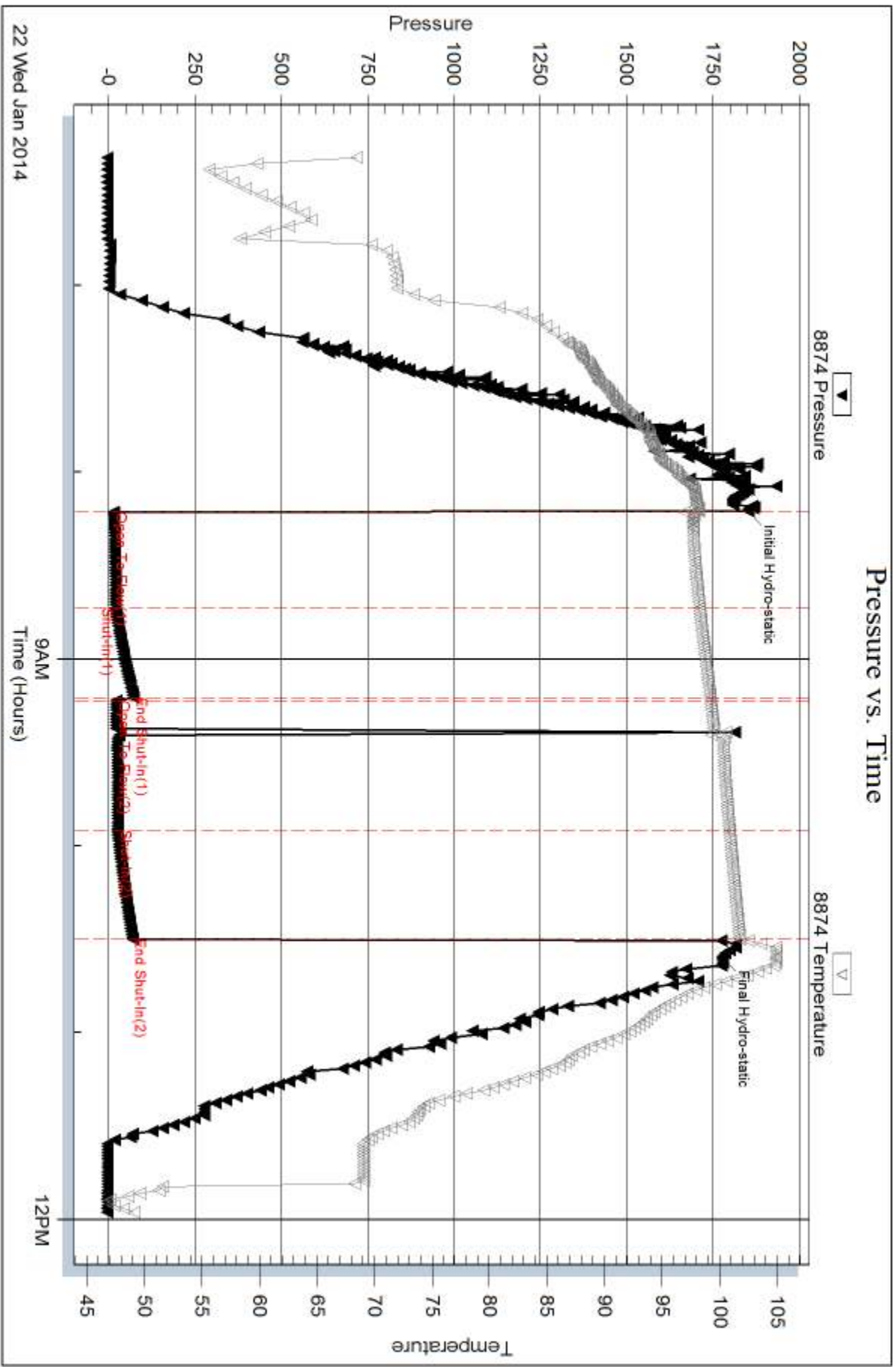
Serial #: 8874

Inside

Dow nrg-Nelson Oil Co

Hidebrand #4-19

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 53575

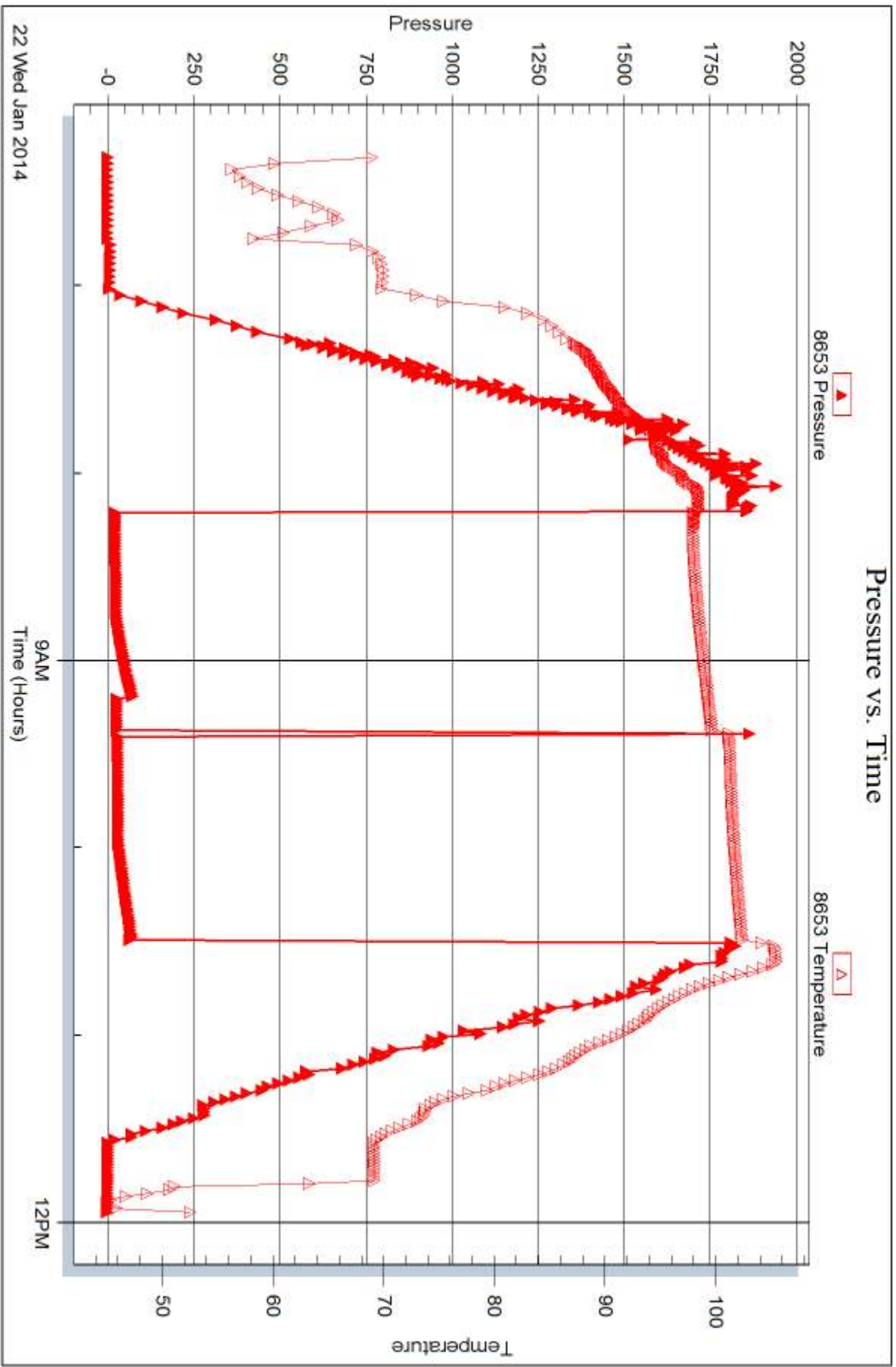
Printed: 2014.01.24 @ 13:57:57

Serial #: 8653

Outside Dow nrg-Nelson Oil Co

Hidebrand #4-19

DST Test Number: 1



22 Wed Jan 2014

9AM  
Time (Hours)

12PM

Triobite Testing, Inc

Ref. No: 53575

Printed: 2014.01.24 @ 13:57:57



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

### **Hildebrand #4-19**

### **19-9s-23w Graham,KS**

Start Date: 2014.01.22 @ 18:41:00

End Date: 2014.01.23 @ 02:28:30

Job Ticket #: 53376                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.24 @ 13:57:29

Downing-Nelson Oil Co

19-9s-23w Graham,KS

Hildebrand #4-19

DST # 2

LKC "E & F"

2014.01.22





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53376

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.01.22 @ 18:41:00

## GENERAL INFORMATION:

Formation: **LKC "E & F "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:33:30

Time Test Ended: 02:28:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack /Robert Z

Unit No: 66

**Interval: 3841.00 ft (KB) To 3870.00 ft (KB) (TVD)**

Reference Elevations: 2444.00 ft (KB)

Total Depth: 3870.00 ft (KB) (TVD)

2434.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8874 Inside**

Press@RunDepth: 76.57 psig @ 3842.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.22

End Date:

2014.01.23

Last Calib.:

2014.01.23

Start Time: 18:42:00

End Time:

02:28:30

Time On Btm:

2014.01.22 @ 21:31:30

Time Off Btm:

2014.01.23 @ 00:37:00

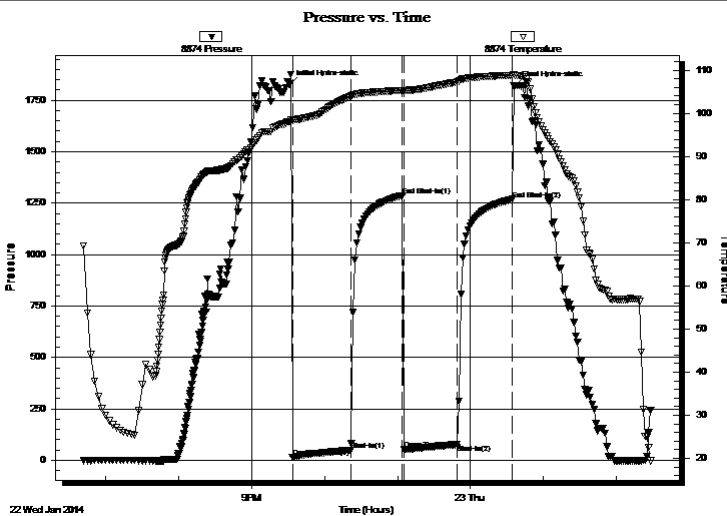
TEST COMMENT: 45 - IF- surface blow built to 6 "

45 - IS- no return

45 - FF- surface blow built to 4 1/4 "

45 - FS- no return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1828.91	98.15	Initial Hydro-static
2	13.43	98.43	Open To Flow (1)
50	48.79	103.96	Shut-In(1)
93	1287.48	105.32	End Shut-In(1)
94	50.77	105.02	Open To Flow (2)
138	76.57	107.30	Shut-In(2)
183	1268.43	108.84	End Shut-In(2)
186	1821.07	108.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
64.00	MW 10M 90W	0.62
79.00	OSMW 45M 55W (oil spots)	1.11

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Dow ning-Nelson Oil Co  
 PO Box 1019  
 Hays, KS 67601  
 ATTN: Marc Dow ning

**19-9s-23w Graham,KS**  
**Hildebrand #4-19**  
 Job Ticket: 53376 **DST#: 2**  
 Test Start: 2014.01.22 @ 18:41:00

**GENERAL INFORMATION:**

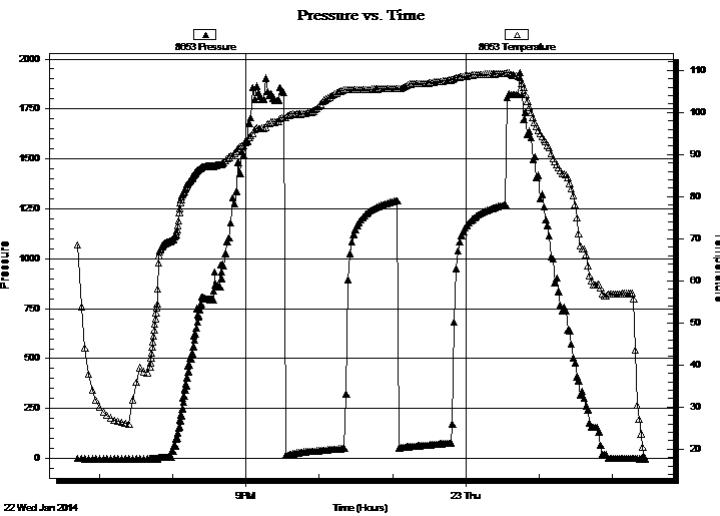
Formation: **LKC "E & F"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 21:33:30  
 Time Test Ended: 02:28:30  
 Interval: **3841.00 ft (KB) To 3870.00 ft (KB) (TVD)**  
 Total Depth: 3870.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Kevin Mack /Robert Z  
 Unit No: 66  
 Reference Elevations: 2444.00 ft (KB)  
 2434.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8653**

**Outside**

Press@RunDepth: psig @ 3842.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.01.22 End Date: 2014.01.23 Last Calib.: 2014.01.23  
 Start Time: 18:42:00 End Time: 02:27:00 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 45 - IF- surface blow built to 6 "  
 45 - IS- no return  
 45 - FF- surface blow built to 4 1/4 "  
 45 - FS- no return



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
64.00	MW 10M 90W	0.62
79.00	OSMW 45M 55W (oil spots)	1.11

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53376

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.01.22 @ 18:41:00

## Tool Information

Drill Pipe:	Length: 3823.00 ft	Diameter: 3.80 inches	Volume: 53.63 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 53.78 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3841.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	29.00 ft			
Tool Length:	49.00 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			3822.00	
Shut In Tool	5.00			3827.00	
Hydraulic tool	5.00			3832.00	
Packer	5.00			3837.00	20.00 Bottom Of Top Packer
Packer	4.00			3841.00	
Stubb	1.00			3842.00	
Recorder	0.00	8653	Outside	3842.00	
Recorder	0.00	8874	Inside	3842.00	
Perforations	23.00			3865.00	
Bullnose	5.00			3870.00	29.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>49.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53376

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2014.01.22 @ 18:41:00

## 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: 58.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
64.00	MW 10M 90W	0.624
79.00	OSMW 45M 55W (oil spots)	1.108

Total Length: 143.00 ft

Total Volume: 1.732 bbf

Num Fluid Samples: 0

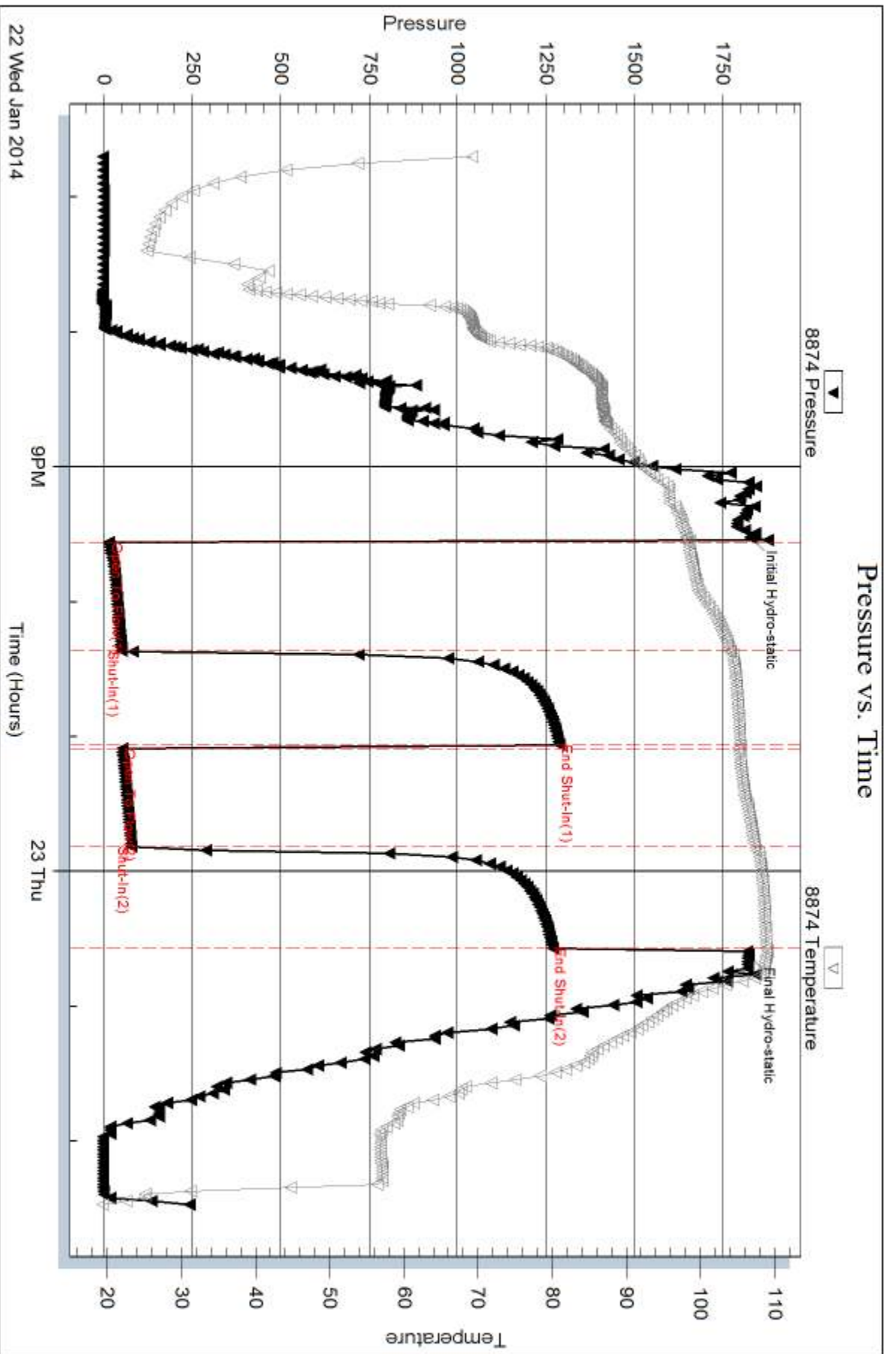
Num Gas Bombs: 0

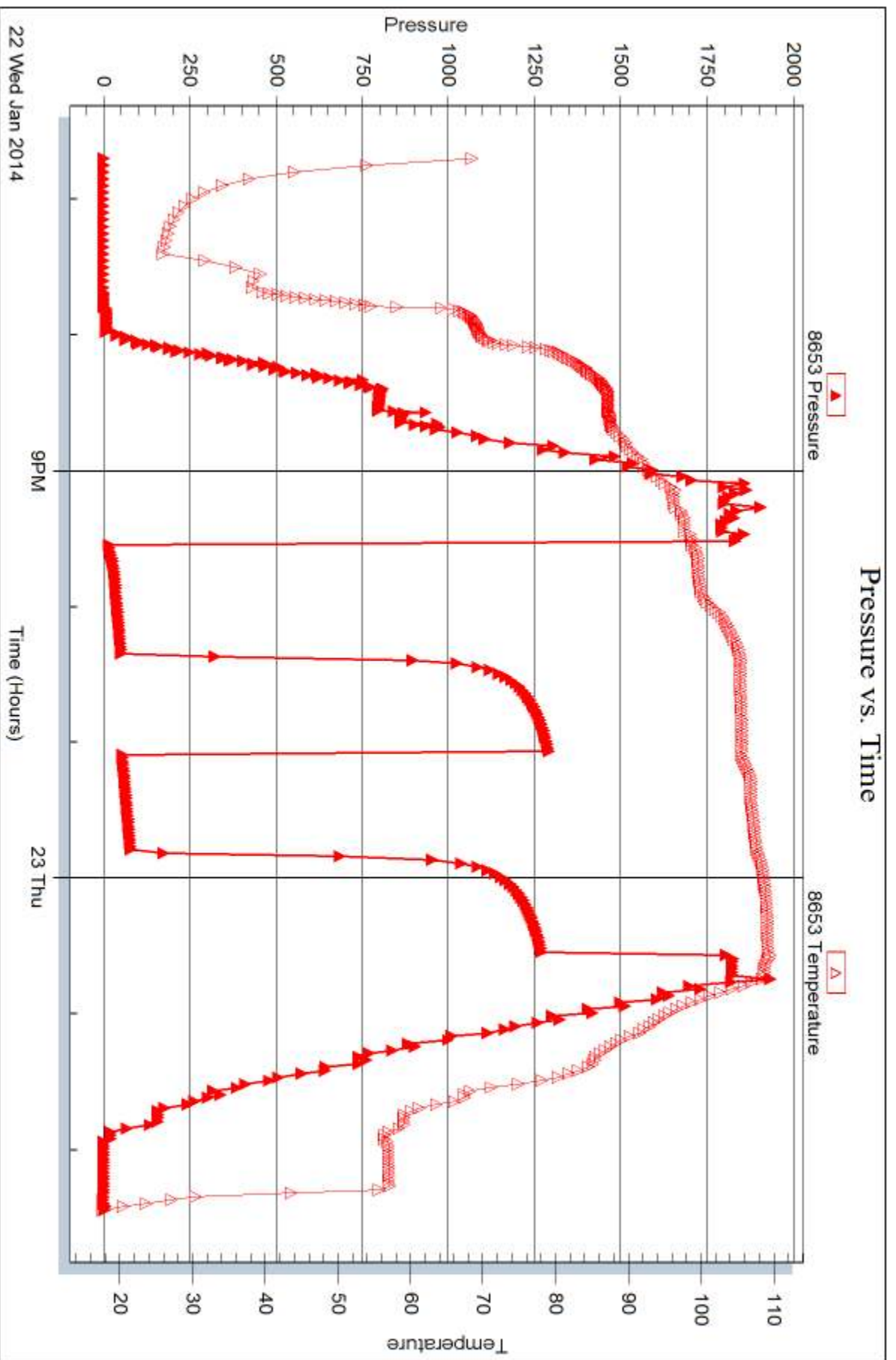
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

### **Hildebrand #4-19**

### **19-9s-23w Graham,KS**

Start Date: 2014.01.23 @ 15:10:00

End Date: 2014.01.23 @ 21:17:00

Job Ticket #: 53377                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.01.24 @ 13:56:43

Downing-Nelson Oil Co

19-9s-23w Graham,KS

Hildebrand #4-19

DST # 3

LKC "I - K"

2014.01.23



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53377

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2014.01.23 @ 15:10:00

## GENERAL INFORMATION:

Formation: **LKC "I - K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:14:30

Time Test Ended: 21:17:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack /Robert Z

Unit No: 66

**Interval: 3926.00 ft (KB) To 3986.00 ft (KB) (TVD)**

Reference Elevations: 2444.00 ft (KB)

Total Depth: 3986.00 ft (KB) (TVD)

2434.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8874**

**Inside**

Press@RunDepth: 17.49 psig @ 3927.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.23

End Date:

2014.01.23

Last Calib.:

2014.01.23

Start Time: 15:11:00

End Time:

21:17:00

Time On Btm:

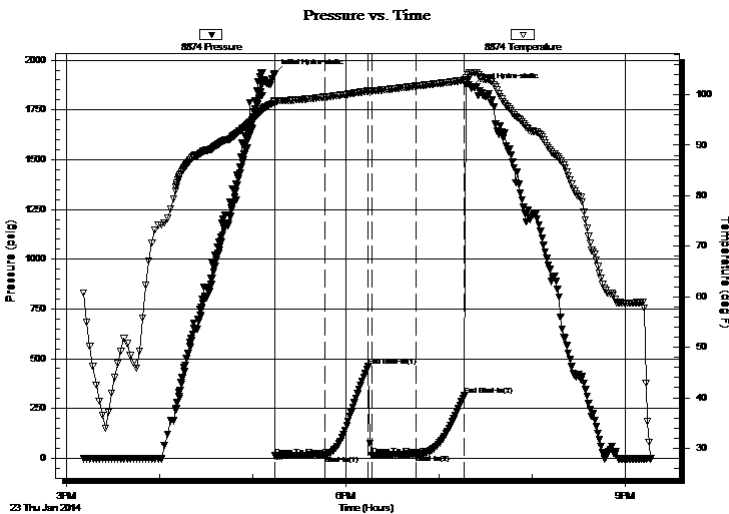
2014.01.23 @ 17:14:00

Time Off Btm:

2014.01.23 @ 19:21:00

TEST COMMENT: 30 - IF - Surface Blow built to 3/4"  
30 - IS- No Return  
30 - FF - Surface Blow built to 1/4"  
30 - FSI- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1930.19	98.73	Initial Hydro-static
1	12.31	98.50	Open To Flow (1)
33	15.32	99.53	Shut-In(1)
61	461.98	100.73	End Shut-In(1)
63	15.87	100.76	Open To Flow (2)
92	17.49	101.72	Shut-In(2)
123	316.18	102.87	End Shut-In(2)
127	1860.21	104.35	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100M	0.10

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53377

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2014.01.23 @ 15:10:00

### GENERAL INFORMATION:

Formation: **LKC "I - K"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:14:30

Time Test Ended: 21:17:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack /Robert Z

Unit No: 66

**Interval: 3926.00 ft (KB) To 3986.00 ft (KB) (TVD)**

Reference Elevations: 2444.00 ft (KB)

Total Depth: 3986.00 ft (KB) (TVD)

2434.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

**Serial #: 8653**

**Outside**

Press@RunDepth: psig @ 3927.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.23

End Date: 2014.01.23

Last Calib.: 1899.12.30

Start Time: 15:11:00

End Time: 21:16:00

Time On Btm:

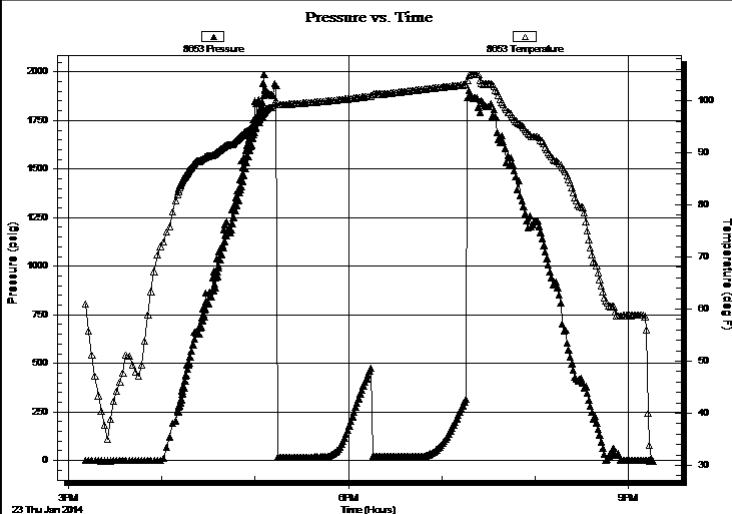
Time Off Btm:

TEST COMMENT: 30 - IF - Surface Blow built to 3/4"

30 - IS- No Return

30 - FF - Surface Blow built to 1/4"

30 - FS- No Return



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud 100M	0.10

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53377

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2014.01.23 @ 15:10:00

## Tool Information

Drill Pipe:	Length: 3886.00 ft	Diameter: 3.80 inches	Volume: 54.51 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 54.66 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3926.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	60.00 ft			
Tool Length:	80.00 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			3907.00	
Shut In Tool	5.00			3912.00	
Hydraulic tool	5.00			3917.00	
Packer	5.00			3922.00	20.00 Bottom Of Top Packer
Packer	4.00			3926.00	
Stubb	1.00			3927.00	
Recorder	0.00	8653	Outside	3927.00	
Recorder	0.00	8874	Inside	3927.00	
Perforations	20.00			3947.00	
Change Over Sub	1.00			3948.00	
Drill Pipe	32.00			3980.00	
Change Over Sub	1.00			3981.00	
Bullnose	5.00			3986.00	60.00 Bottom Packers & Anchor

**Total Tool Length: 80.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co

**19-9s-23w Graham,KS**

PO Box 1019  
Hays, KS 67601

**Hildebrand #4-19**

Job Ticket: 53377

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2014.01.23 @ 15:10:00

## 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: 51.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
20.00	Mud 100M	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8874

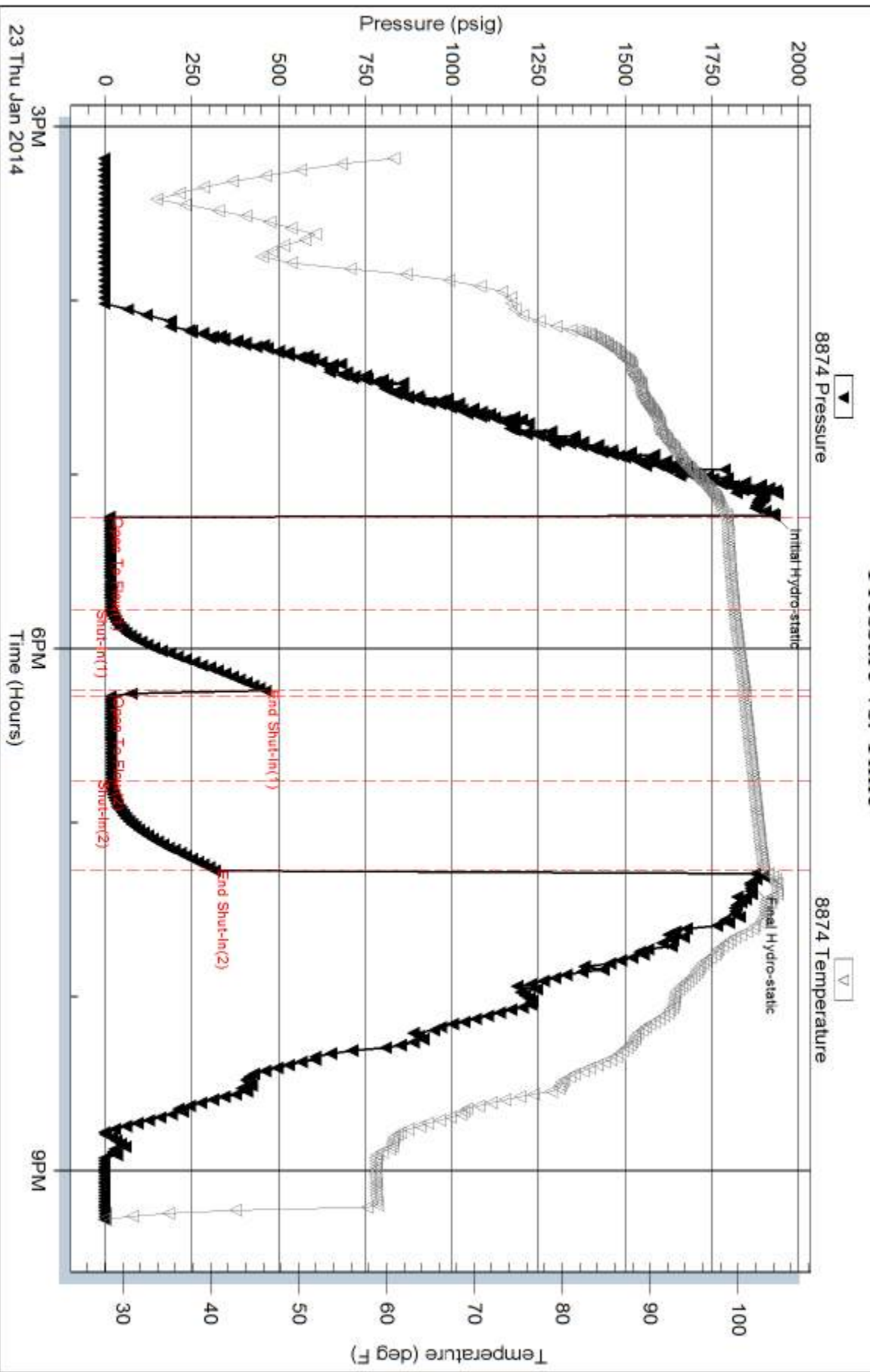
Inside

Dow n/g-Nelson Oil Co

Hidebrand #4-19

DST Test Number: 3

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 53377

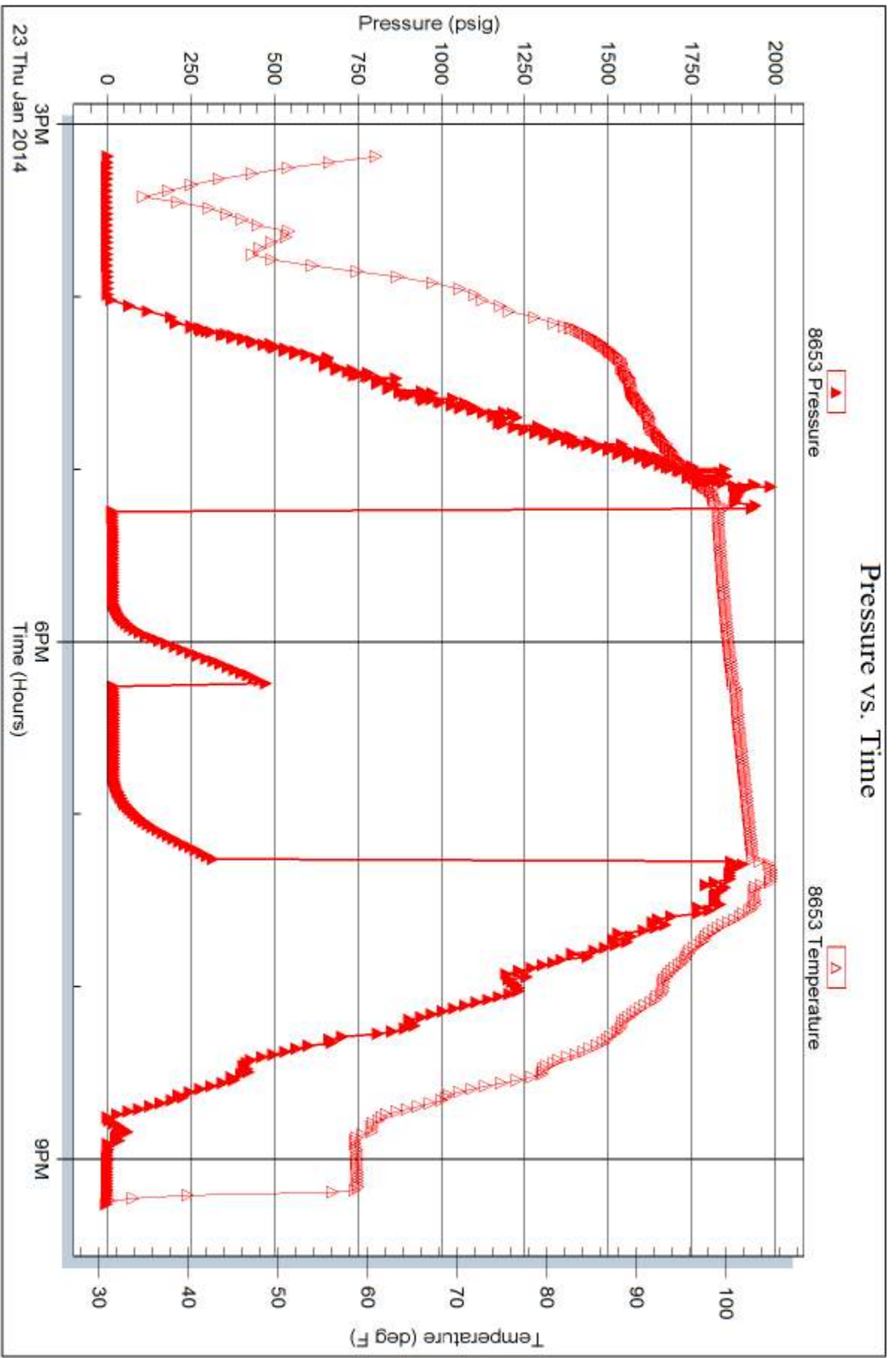
Printed: 2014.01.24 @ 13:56:45

Serial #: 8653

Outside Dow nrg-Nelson Oil Co

Hidebrand #4-19

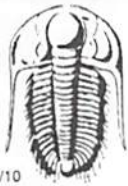
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 53377

Printed: 2014.01.24 @ 13:56:45



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53575

Well Name & No. Hildebrand #4-19 Test No. 1 Date 1-22-14  
 Company Downing-Nelson Oil, Inc Elevation 2484 KB ~~2434~~ 2434  
 Address P.O. Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #1  
 Location: Sec. 19 Twp. 9S Rge. 23W Co. Graham State K.S.

Interval Tested 3804-3845 Zone Tested LKC "C+D"  
 Anchor Length 41' Drill Pipe Run 3790 Mud Wt. 8.7  
 Top Packer Depth 3800 Drill Collars Run 30' Vis 53  
 Bottom Packer Depth 3804 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3845 Chlorides 2000 ppm System LCM 2

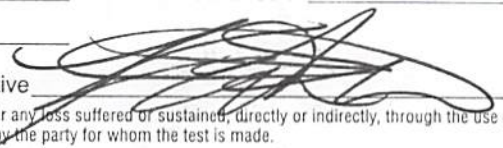
Blow Description IF - 1/4" Died in ten mins.  
ISI - no return  
FF - no blow Fleish Tool @ ten min NO BLOW  
FSI - NO return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>0.5m</u>	<u>spots</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	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 102 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1852  Test 1150 T-On Location 5:30 AM  
 (B) First Initial Flow 15  Jars \_\_\_\_\_ T-Started 6:18 AM  
 (C) First Final Flow 20  Safety Joint \_\_\_\_\_ T-Open 8:13 AM  
 (D) Initial Shut-In 72  Circ Sub NC T-Pulled 10:25 AM  
 (E) Second Initial Flow 22  Hourly Standby \_\_\_\_\_ T-Out 1:00 PM  
 (F) Second Final Flow 27  Mileage 172 110rt 170.50  
 (G) Final Shut-In 70  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1778  Straddle \_\_\_\_\_

Initial Open 30  Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Shale Packer \_\_\_\_\_  
 Final Flow 30  Extra Packer \_\_\_\_\_  
 Final Shut-In 30  Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1320.50 MP/DST Disc't \_\_\_\_\_

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

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. 53376

Well Name & No. Hildebrand # 4-19 Test No. 2 Date 1-22-14  
 Company Downing-Nelson Oil, Inc Elevation 2444 KB 2434 GL  
 Address P.O. Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery #1  
 Location: Sec. 19 Twp. 9S Rge. 23W Co. Graham State K.S.

Interval Tested 3841 - 3870 Zone Tested LKC "E & F"  
 Anchor Length 29 Drill Pipe Run 3823 Mud Wt. 9  
 Top Packer Depth 3837 Drill Collars Run 30 Vis 58  
 Bottom Packer Depth 3841 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3870 Chlorides 4000 ppm System LCM 1.5  
 Blow Description IF - surface blow built to 6"  
ISI - no Return  
FF - surface blow built to 4 1/4  
FSI - no Return

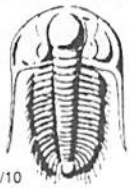
Rec	Feet of	%gas	%oil	%water	%mud
<u>79</u>	<u>0 smw</u>	<u>spots</u>	<u>55</u>	<u>45</u>	
<u>64</u>	<u>mw</u>		<u>90</u>	<u>10</u>	

Rec Total 143 BHT 109 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1828  Test 1150 T-On Location 5:45 pm  
 (B) First Initial Flow 13  Jars \_\_\_\_\_ T-Started 6:41 pm  
 (C) First Final Flow 48  Safety Joint \_\_\_\_\_ T-Open 9:35 pm  
 (D) Initial Shut-In 1287  Circ Sub N/C T-Pulled 12:35 AM  
 (E) Second Initial Flow 50  Hourly Standby \_\_\_\_\_ T-Out 2:30 AM  
 (F) Second Final Flow 26  Mileage 172 170.50 Comments split commission  
 (G) Final Shut-In 1268  Sampler \_\_\_\_\_ 75% Kevin  
 (H) Final Hydrostatic 1821  Straddle \_\_\_\_\_ 25% Robert  
 Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1320.50 MP/DST Disc't \_\_\_\_\_

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

Approved By \_\_\_\_\_ Our Representative [Signature] / Robert Zedler  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 53377

Well Name & No. Hildebrand # 4-19 Test No. 3 Date 1-23-14  
 Company Downing - Nelson Oil, Inc Elevation 2444 KB 2434 GL  
 Address P.O. Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery # 1  
 Location: Sec. 19 Twp. 9S Rge. 23W Co. Graham State KS

Interval Tested 3926 - 3986 Zone Tested LKC "I-K"  
 Anchor Length 60 Drill Pipe Run 3886 Mud Wt. 9.1  
 Top Packer Depth 3922 Drill Collars Run 38 Vis 51  
 Bottom Packer Depth 3926 Wt. Pipe Run 0 WL 8.4  
 Total Depth 3986 Chlorides 4000 ppm System LCM 1  
 Blow Description IF - surface blow built to 3/4"  
ISI - no return  
FF - surface blow built to 1/4"  
FSI - no return

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>m</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	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 104 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1930</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:45 PM</u>
(B) First Initial Flow <u>12</u>	<input type="checkbox"/> Jars	T-Started <u>3:10 PM</u>
(C) First Final Flow <u>15</u>	<input type="checkbox"/> Safety Joint	T-Open <u>5:15 PM</u>
(D) Initial Shut-In <u>461</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>7:15 PM</u>
(E) Second Initial Flow <u>15</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:00 PM</u>
(F) Second Final Flow <u>17</u>	<input checked="" type="checkbox"/> Mileage <u>172</u> 170.50	Comments <u>Please split</u>
(G) Final Shut-In <u>316</u>	<input type="checkbox"/> Sampler	<u>ticket 75% Kevin Mack</u>
(H) Final Hydrostatic <u>1860</u>	<input type="checkbox"/> Straddle	<u>25% Robert 2</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
	<input type="checkbox"/> Day Standby	Total <u>1320.50</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1320.50</u>	

Approved By \_\_\_\_\_ Our Representative Robert Zolner

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