



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Ron Nelson

### **Colberg #1-34**

### **34-12s-21w Trego,KS**

Start Date: 2012.11.07 @ 13:56:44

End Date: 2012.11.07 @ 21:21:58

Job Ticket #: 48726                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:14:11



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**34-12s-21w Trego, KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48726

**DST#: 1**

ATTN: Ron Nelson

Test Start: 2012.11.07 @ 13:56:44

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 16:08:28

Time Test Ended: 21:21:58

Test Type: Conventional Bottom Hole (Initial)

Tester: Jason McLemore

Unit No: 54

**Interval: 3863.00 ft (KB) To 3910.00 ft (KB) (TVD)**

Reference Elevations: 2183.00 ft (KB)

Total Depth: 3910.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8366**

**Inside**

Press @ Run Depth: 130.54 psig @ 3899.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.07

End Date:

2012.11.07

Last Calib.:

2012.11.07

Start Time:

13:56:46

End Time:

21:21:58

Time On Btm:

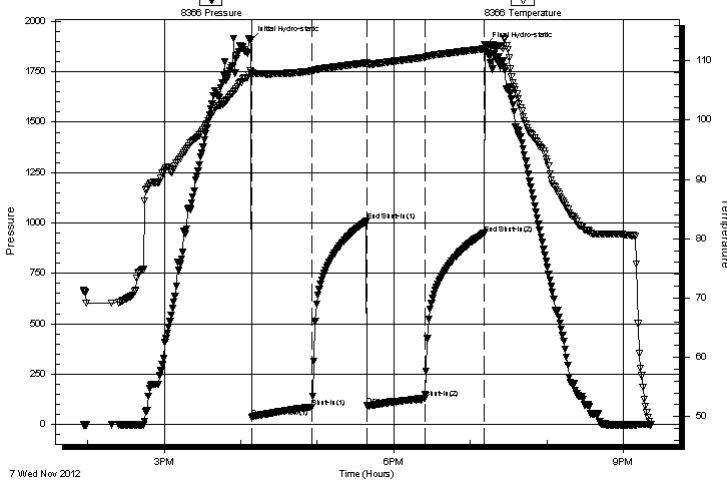
2012.11.07 @ 16:07:58

Time Off Btm:

2012.11.07 @ 19:11:28

**TEST COMMENT:** IFP-Good Blow , BOB in 18 Min.  
ISI-Blow back Built to 1"  
FFP-Good Blow , BOB in 24 Min.  
FSI-Blow back Built to 1-1/4"

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1906.01	108.32	Initial Hydro-static
1	35.35	107.46	Open To Flow (1)
48	86.90	108.23	Shut-In(1)
91	1008.25	109.64	End Shut-In(1)
92	93.58	109.33	Open To Flow (2)
137	130.54	110.55	Shut-In(2)
183	947.67	111.97	End Shut-In(2)
184	1877.52	112.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM-25%O-75%M	0.29
220.00	Free Oil	3.09

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**34-12s-21w Trego,KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48726

**DST#: 1**

ATTN: Ron Nelson

Test Start: 2012.11.07 @ 13:56:44

## GENERAL INFORMATION:

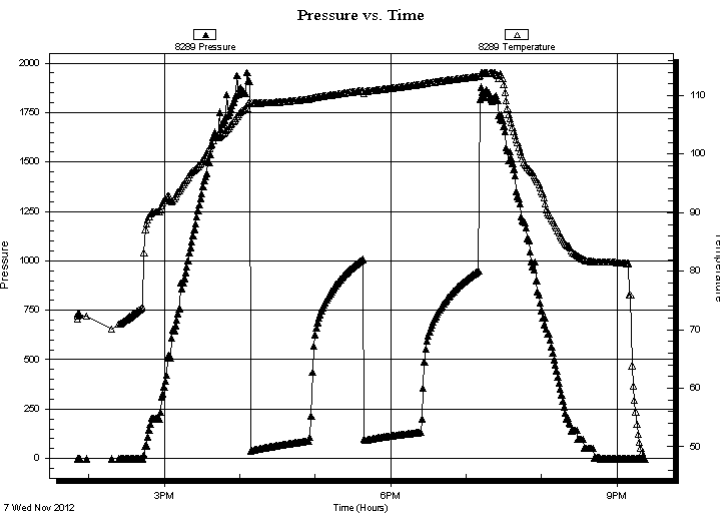
Formation: **Marmaton**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 16:08:28  
 Time Test Ended: 21:21:58  
**Interval: 3863.00 ft (KB) To 3910.00 ft (KB) (TVD)**  
 Total Depth: 3910.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jason McLemore  
 Unit No: 54  
 Reference Elevations: 2183.00 ft (KB)  
 2173.00 ft (CF)  
 KB to GR/CF: 10.00 ft

## Serial #: 8289 Outside

Press @ Run Depth: psig @ 3899.00 ft (KB)  
 Start Date: 2012.11.07 End Date: 2012.11.07  
 Start Time: 13:51:15 End Time: 21:22:13  
 Capacity: 8000.00 psig  
 Last Calib.: 2012.11.07  
 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IFP-Good Blow, BOB in 18 Min.  
 ISI-Blow back Built to 1"  
 FFP-Good Blow, BOB in 24 Min.  
 FSI-Blow back Built to 1-1/4"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	OCM-25%O-75%M	0.29
220.00	Free Oil	3.09

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Company

**34-12s-21w Trego,KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48726

**DST#: 1**

ATTN: Ron Nelson

Test Start: 2012.11.07 @ 13:56:44

## Tool Information

Drill Pipe:	Length: 3828.00 ft	Diameter: 3.80 inches	Volume: 53.70 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 53.85 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3863.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	75.00 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			3836.00	
Shut In Tool	5.00			3841.00	
Hydraulic tool	5.00			3846.00	
Jars	5.00			3851.00	
Safety Joint	2.00			3853.00	
Packer	5.00			3858.00	28.00 Bottom Of Top Packer
Packer	5.00			3863.00	
Stubb	1.00			3864.00	
Perforations	2.00			3866.00	
Change Over Sub	1.00			3867.00	
Blank Spacing	31.00			3898.00	
Change Over Sub	1.00			3899.00	
Recorder	0.00	8366	Inside	3899.00	
Recorder	0.00	8289	Outside	3899.00	
Perforations	8.00			3907.00	
Bullnose	3.00			3910.00	47.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>75.00</b>				



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Company

**34-12s-21w Trego, KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48726

**DST#: 1**

ATTN: Ron Nelson

Test Start: 2012.11.07 @ 13:56:44

### 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
40.00	OCM-25%O-75%M	0.288
220.00	Free Oil	3.086

Total Length: 260.00 ft      Total Volume: 3.374 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

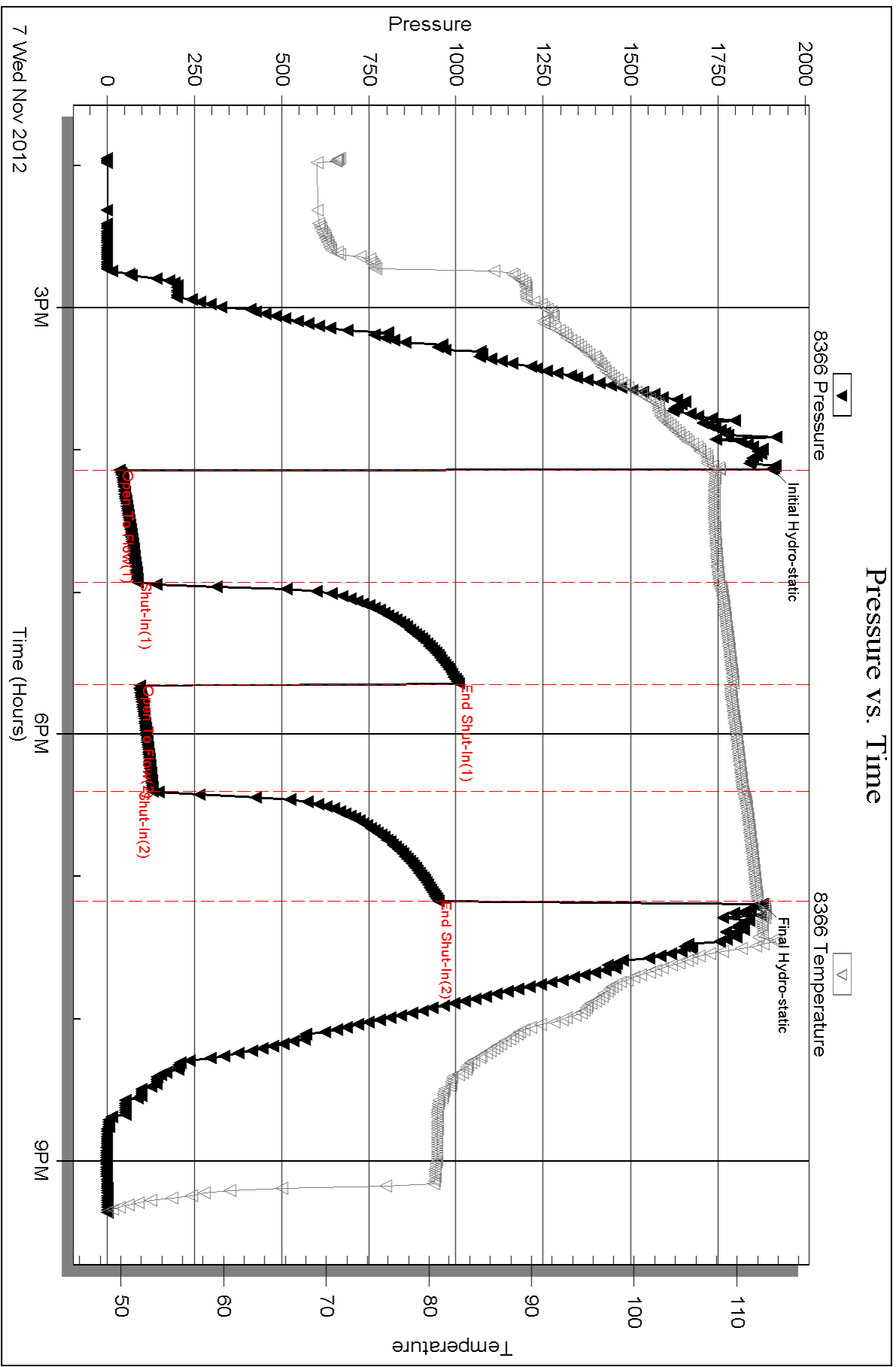
Serial #: 8366

Inside

Downing-Nelson Oil Company

Colberg #1-34

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 48726

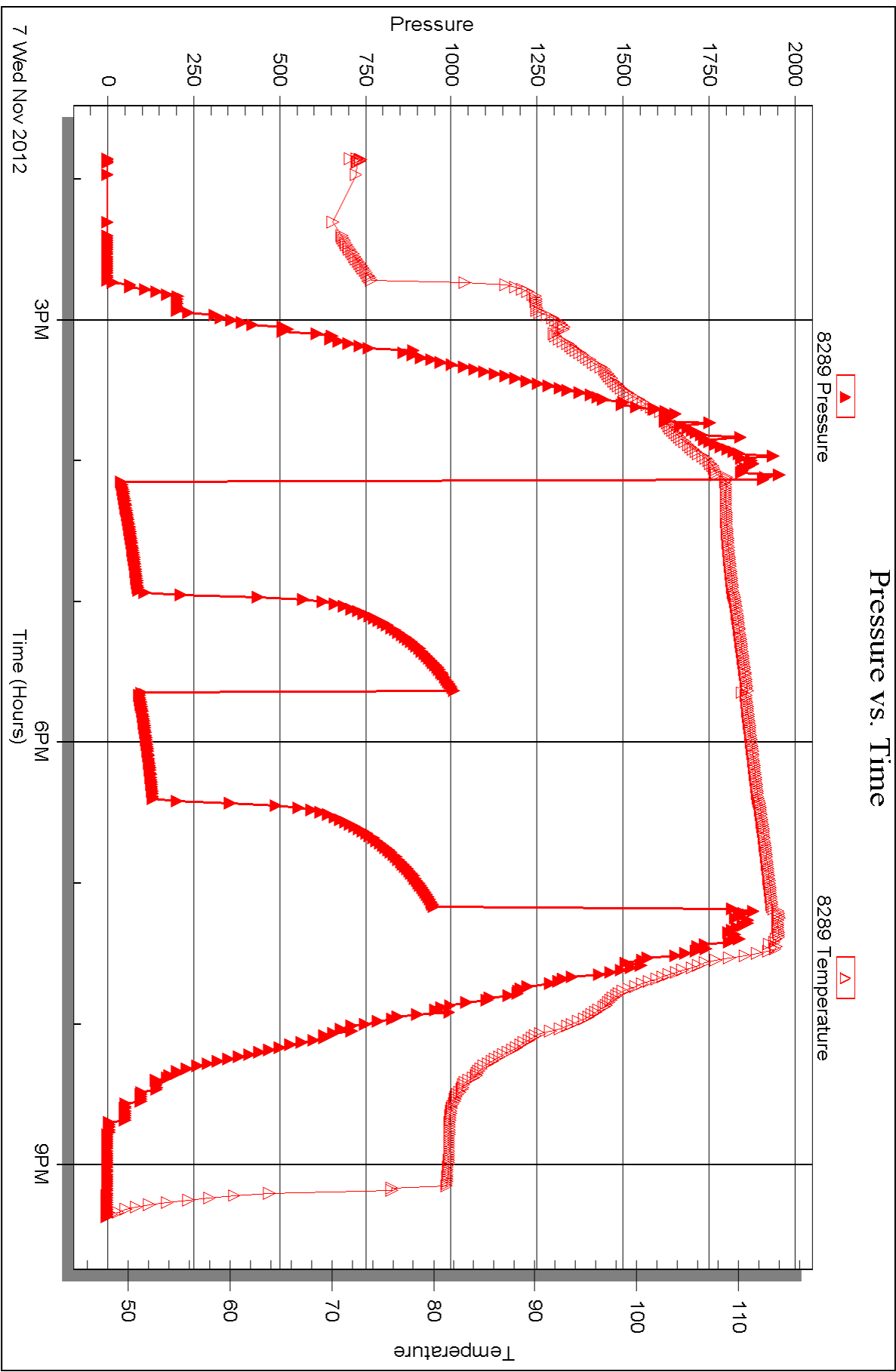
Printed: 2012.11.23 @ 09:14:15

Serial #: 8289

Outside Dow nging-Nelson Oil Company

Colberg #1-34

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 48726

Printed: 2012.11.23 @ 09:14:16



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Ron Nelson

### **Colberg #1-34**

### **34-12s-21w Trego,KS**

Start Date: 2012.11.08 @ 04:58:48

End Date: 2012.11.08 @ 12:25:33

Job Ticket #: 48727                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:13:02

Downing-Nelson Oil Company

34-12s-21w Trego,KS

Colberg #1-34

DST # 2

Sand

2012.11.08





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

**34-12s-21w Trego,KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48727

**DST#: 2**

ATTN: Ron Nelson

Test Start: 2012.11.08 @ 04:58:48

## GENERAL INFORMATION:

Formation: **Sand**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 07:13:33

Time Test Ended: 12:25:33

Test Type: Conventional Bottom Hole (Reset)

Tester: Jason McLemore

Unit No: 54

**Interval: 3893.00 ft (KB) To 3948.00 ft (KB) (TVD)**

Reference Elevations: 2183.00 ft (KB)

Total Depth: 3948.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8366**

**Inside**

Press @ Run Depth: 223.15 psig @ 3930.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.08

End Date:

2012.11.08

Last Calib.:

2012.11.08

Start Time: 04:58:50

End Time:

12:25:33

Time On Btm:

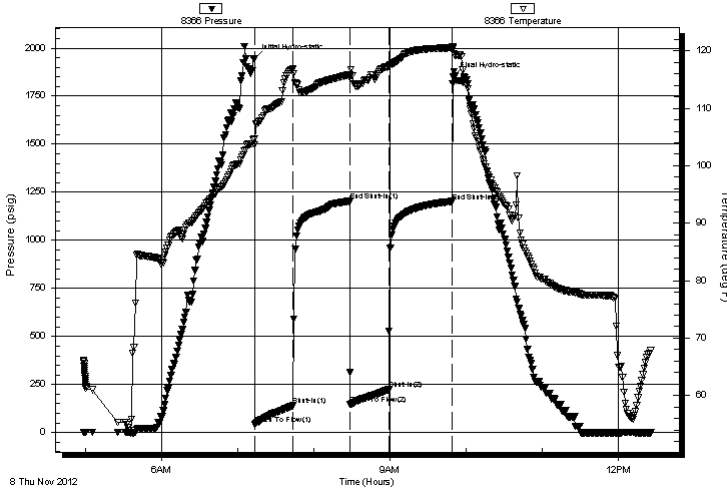
2012.11.08 @ 07:13:18

Time Off Btm:

2012.11.08 @ 09:49:48

**TEST COMMENT:** IFP-Good Blow , BOB in 10 Min.  
ISI-Blow back Built to 1"  
FFP-Good Blow , BOB in 9 Min.  
FSI-Blow back Built to 1"

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1944.45	104.76	Initial Hydro-static
1	42.84	103.67	Open To Flow (1)
31	140.01	116.81	Shut-In(1)
75	1202.94	115.85	End Shut-In(1)
76	147.16	115.62	Open To Flow (2)
106	223.15	117.27	Shut-In(2)
156	1202.43	120.56	End Shut-In(2)
157	1853.27	120.51	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
332.00	Gassy HOCM-25%G-40%O-35%M	4.38
180.00	Free Oil	2.52
0.00	180' Gas In Pipe	0.00

## Gas Rates

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

\* Recovery from multiple tests



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company

PO Box 1019  
Hays, KS 67601

ATTN: Ron Nelson

**34-12s-21w Trego, KS**

**Colberg #1-34**

Job Ticket: 48727

**DST#: 2**

Test Start: 2012.11.08 @ 04:58:48

### GENERAL INFORMATION:

Formation: **Sand**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 07:13:33

Time Test Ended: 12:25:33

Test Type: Conventional Bottom Hole (Reset)

Tester: Jason McLemore

Unit No: 54

**Interval: 3893.00 ft (KB) To 3948.00 ft (KB) (TVD)**

Reference Elevations: 2183.00 ft (KB)

Total Depth: 3948.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8289**

**Outside**

Press @ Run Depth: psig @ 3930.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.08

End Date:

2012.11.08

Last Calib.:

2012.11.08

Start Time:

04:58:35

End Time:

12:25:48

Time On Btm:

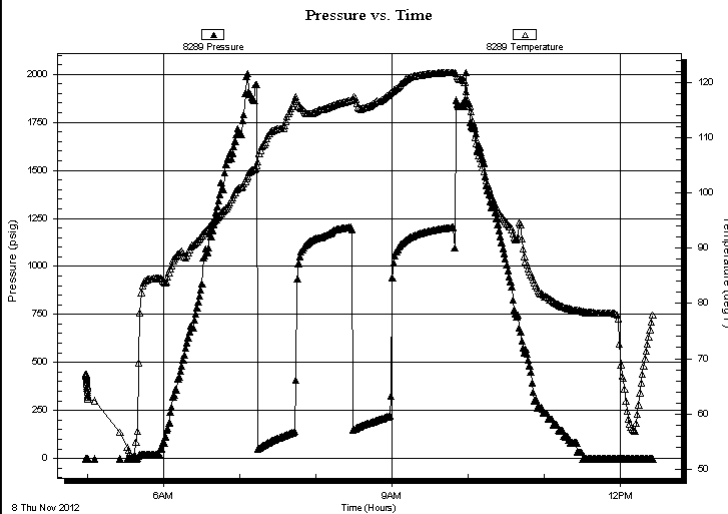
Time Off Btm:

TEST COMMENT: IFP-Good Blow , BOB in 10 Min.

ISI-Blow back Built to 1"

FFP-Good Blow , BOB in 9 Min.

FSI-Blow back Built to 1"



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
332.00	Gassy HOCM-25%G-40%O-35%M	4.38
180.00	Free Oil	2.52
0.00	180' Gas In Pipe	0.00

\* 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 Company

**34-12s-21w Trego,KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48727

**DST#: 2**

ATTN: Ron Nelson

Test Start: 2012.11.08 @ 04:58:48

## Tool Information

Drill Pipe:	Length: 3858.00 ft	Diameter: 3.80 inches	Volume: 54.12 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 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:	64000.00 lb
			<u>Total Volume: 54.27 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3893.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	83.00 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			3866.00	
Shut In Tool	5.00			3871.00	
Hydraulic tool	5.00			3876.00	
Jars	5.00			3881.00	
Safety Joint	2.00			3883.00	
Packer	5.00			3888.00	28.00 Bottom Of Top Packer
Packer	5.00			3893.00	
Stubb	1.00			3894.00	
Perforations	3.00			3897.00	
Change Over Sub	1.00			3898.00	
Blank Spacing	31.00			3929.00	
Change Over Sub	1.00			3930.00	
Recorder	0.00	8366	Inside	3930.00	
Recorder	0.00	8289	Outside	3930.00	
Perforations	15.00			3945.00	
Bullnose	3.00			3948.00	55.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>83.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Company

**34-12s-21w Trego,KS**

PO Box 1019  
Hays, KS 67601

**Colberg #1-34**

Job Ticket: 48727

**DST#: 2**

ATTN: Ron Nelson

Test Start: 2012.11.08 @ 04:58:48

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
332.00	Gassy HOcm-25%G-40%O-35%M	4.384
180.00	Free Oil	2.525
0.00	180' Gas In Pipe	0.000

Total Length: 512.00 ft

Total Volume: 6.909 bbl

Num Fluid Samples: 0

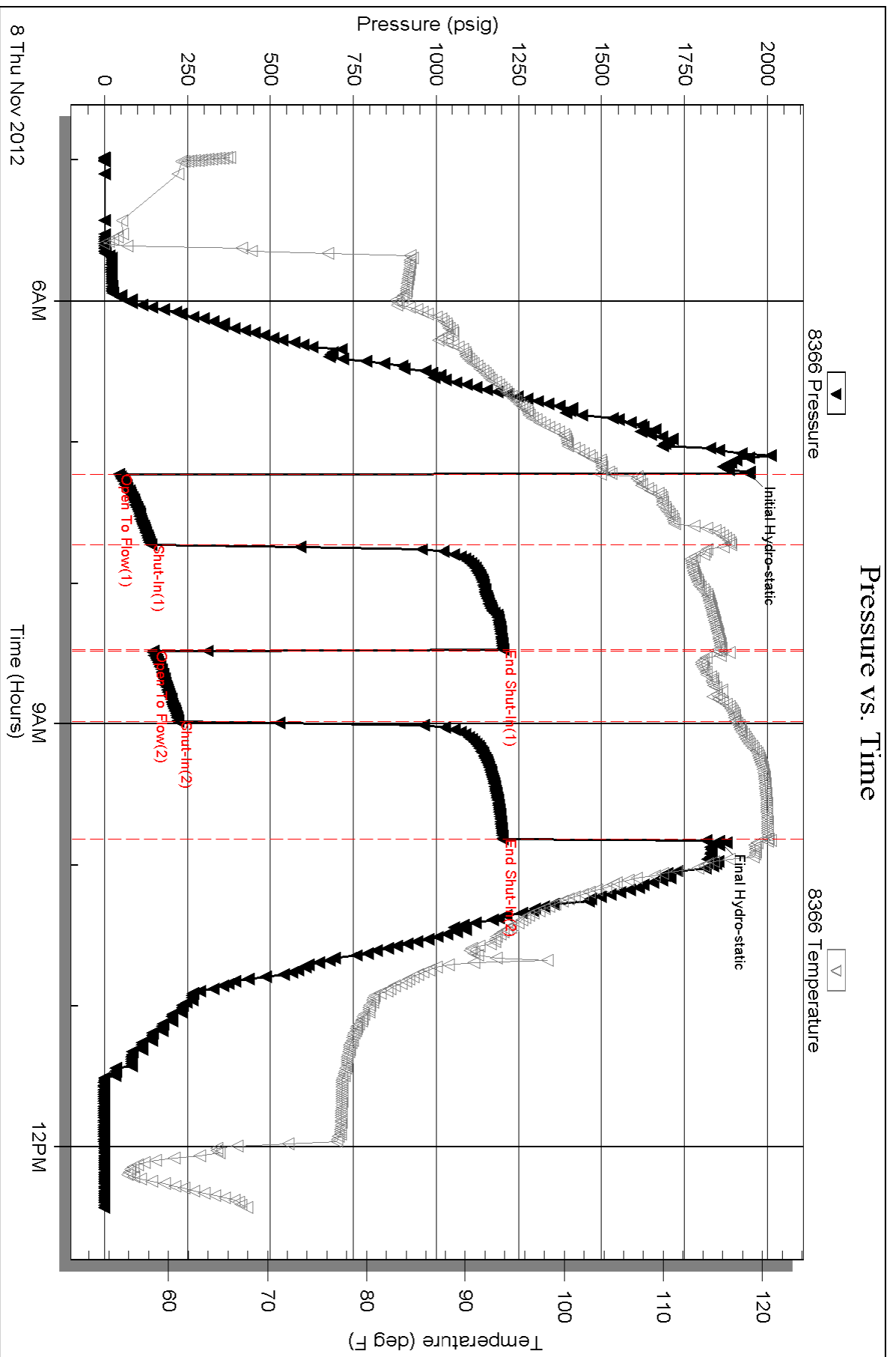
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

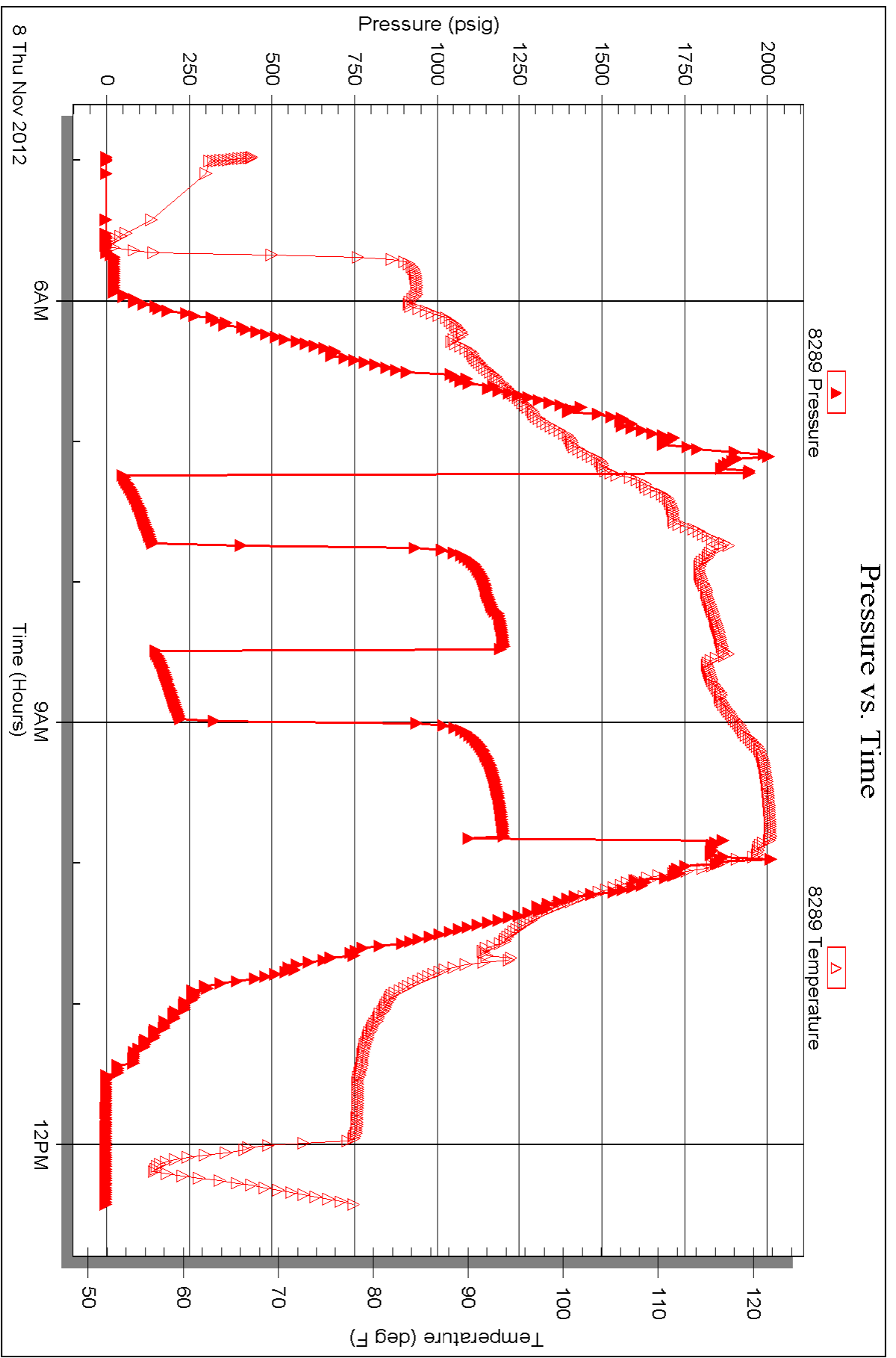


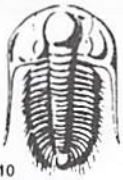
Serial #: 8289

Outside Dow n/wg-Nelson Oil Company

Colberg #1-34

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48726

4/10

Well Name & No. Colberg #1-38 Test No. 1 Date 11-7-12  
 Company Downing and Nelson Oil Company Elevation 2183 KB 2173 GL  
 Address PO Box 1019, Hays, KS. 67601  
 Co. Rep / Geo. Ron Nelson Rig Discovery #3  
 Location: Sec. 34 Twp. 12s Rge. 21w Co. Trego State KS

Interval Tested 3863-3910 Zone Tested Marmaton  
 Anchor Length 47 Drill Pipe Run 3828 Mud Wt. 9.0  
 Top Packer Depth 3858 Drill Collars Run 30 Vis 51  
 Bottom Packer Depth 3863 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3910 Chlorides 2500 ppm System LCM 1 1/2 #  
 Blow Description IFP - Good Blow, BOB in 18 min.  
ISI - Blowback Built to 1"  
FFP - Good Blow, BOB in 24 min.  
FSI - Blowback Built to 1 1/4"

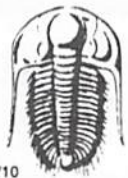
Rec	Feet of	%gas	%oil	%water	%mud
<u>220</u>	<u>Free Oil</u>				
<u>40</u>	<u>OCM</u>		<u>25</u>		<u>75</u>
	<u>220<sup>th</sup> Gas In Pipe</u>				

Rec Total 260 BHT 112 Gravity 36 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1906  Test 1150 T-On Location 12:54  
 (B) First Initial Flow 35  Jars \_\_\_\_\_ T-Started 13:54  
 (C) First Final Flow 87  Safety Joint \_\_\_\_\_ T-Open 16:13  
 (D) Initial Shut-In 1008  Circ Sub \_\_\_\_\_ T-Pulled 19:13  
 (E) Second Initial Flow 94  Hourly Standby \_\_\_\_\_ T-Out 21:25  
 (F) Second Final Flow 131  Mileage 62rt 96.10 Comments \_\_\_\_\_  
 (G) Final Shut-In 948  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1878  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1246.10  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1246.10

Approved By \_\_\_\_\_ Our Representative Jason Mc Lennan *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.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 48727

4/10

Well Name & No. Colberg # 1-~~34~~ 34 Test No. 2 Date 11-8-12  
 Company Downing and Nelson Oil Company Elevation 2183 KB 2173 GL  
 Address PO Box 1019, Hays, KS. 67601  
 Co. Rep / Geo. Ron Nelson Rig Discovery #3  
 Location: Sec. 34 Twp. 12s Rge. 21w Co. Trego State Ks

Interval Tested 3893 - 3948 Zone Tested Sand  
 Anchor Length 55' Drill Pipe Run 3858 Mud Wt. 9.0  
 Top Packer Depth 3888 Drill Collars Run 30 Vis 51  
 Bottom Packer Depth 3893 Wt. Pipe Run \_\_\_\_\_ WL 7.6  
 Total Depth 3948 Chlorides 2500 ppm System LCM 1 1/2 #  
 Blow Description IFP - Good Blow, BOB in 10 min.  
ISI - ~~Blow~~ Blowback Built to 1"  
FFP - Good Blow, BOB in 9 min  
FSI - Blowback Built to 1"

Rec	Feet of	%gas	%oil	%water	%mud
180	Free Oil				
332	Gassy HOCM	25	40 <del>30</del>		35
	180' GIP				

Rec Total 512 BHT \_\_\_\_\_ Gravity 38 API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1944  Test 1150 T-On Location 4:34  
 (B) First Initial Flow 43  Jars \_\_\_\_\_ T-Started 4:56  
 (C) First Final Flow 140  Safety Joint \_\_\_\_\_ T-Open 7:12  
 (D) Initial Shut-In 1203  Circ Sub \_\_\_\_\_ T-Pulled 9:42  
 (E) Second Initial Flow 147  Hourly Standby \_\_\_\_\_ T-Out 12:23  
 (F) Second Final Flow 223  Mileage 96.10 Comments \_\_\_\_\_  
 (G) Final Shut-In 1202  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1853  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1246.10  
 Final Flow 30  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1246.10

Approved By \_\_\_\_\_ Our Representative Jeanne Mc Lamore 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.