



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Tammy A Unit #1

26 11s 23w Trego,KS

Start Date: 2013.03.19 @ 00:50:00

End Date: 2013.03.19 @ 08:55:00

Job Ticket #: 52065 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.25 @ 15:52:24



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52065

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.03.19 @ 00:50:00

GENERAL INFORMATION:

Formation: **LKC " C "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:31:50

Time Test Ended: 08:55:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 41

Interval: 3655.00 ft (KB) To 3676.00 ft (KB) (TVD)

Reference Elevations: 2392.00 ft (KB)

Total Depth: 3676.00 ft (KB) (TVD)

2384.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6752

Inside

Press @ RunDepth: 400.15 psig @ 3673.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.19

End Date:

2013.03.19

Last Calib.:

2013.03.19

Start Time: 00:50:01

End Time:

08:54:30

Time On Btm:

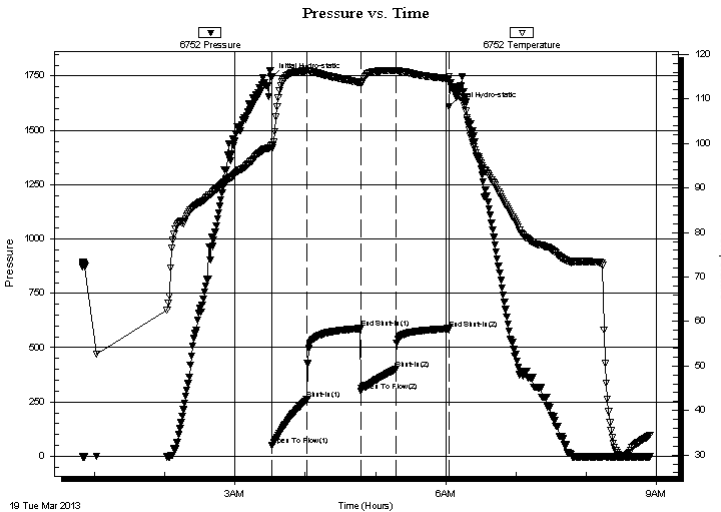
2013.03.19 @ 03:31:40

Time Off Btm:

2013.03.19 @ 06:03:00

TEST COMMENT: 30-IFP- BOB in 2 1/2 min.
45-ISIP- Surface Blow in 3 min. Building to 3 1/2".
30-FFP- BOB in 3 min.
45-FSIP- BOB in 12 min.

PRESSURE SUMMARY



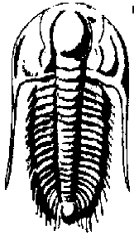
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1744.52	99.65	Initial Hydro-static
1	51.44	98.92	Open To Flow (1)
30	263.93	116.31	Shut-In(1)
76	588.07	113.69	End Shut-In(1)
76	298.84	113.50	Open To Flow (2)
106	400.15	116.39	Shut-In(2)
152	587.74	114.54	End Shut-In(2)
152	1609.13	114.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
595.00	MCW 5% m 95% w	8.07
210.00	Gassy O&MCW 7% o 15% g 20% m 58% w	2.95
40.00	GCO 30% g 70% o	0.56
0.00	700 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

ATTN: Ron Nelson

Job Ticket: 52065

DST#: 1

Test Start: 2013.03.19 @ 00:50:00

GENERAL INFORMATION:

Formation: **LKC " C "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:31:50

Time Test Ended: 08:55:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 41

Interval: 3655.00 ft (KB) To 3676.00 ft (KB) (TVD)

Total Depth: 3676.00 ft (KB) (TVD)

Hole Diameter: 7.88 inchesHole Condition: Fair

Reference Elevations: 2392.00 ft (KB)

2384.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8322 Outside

Press@RunDepth: psig @ 3673.00 ft (KB)

Start Date: 2013.03.19 End Date: 2013.03.19

Start Time: 00:50:01 End Time: 08:54:30

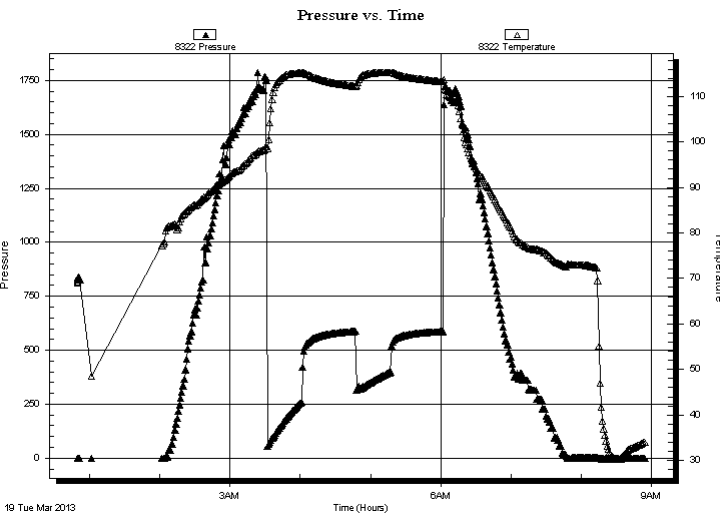
Capacity: 8000.00 psig

Last Calib.: 2013.03.19

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP- BOB in 2 1/2 min.
45-ISIP- Surface Blow in 3 min. Building to 3 1/2".
30-FFP- BOB in 3 min.
45-FSIP- BOB in 12 min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
595.00	MCW 5% <i>m</i> 95% <i>w</i>	8.07
210.00	Gassy O&MCW 7% <i>o</i> 15% <i>g</i> 20% <i>m</i> 58% <i>w</i>	2.95
40.00	GCO 30% <i>g</i> 70% <i>o</i>	0.56
0.00	700 GIP	0.00

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

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52065

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.03.19 @ 00:50:00

Tool Information

Drill Pipe:	Length: 3612.00 ft	Diameter: 3.80 inches	Volume: 50.67 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 50.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3655.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 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
Shut In Tool	5.00			3640.00	
Hydraulic tool	5.00			3645.00	
Packer	5.00			3650.00	20.00 Bottom Of Top Packer
Packer	5.00			3655.00	
Stubb	1.00			3656.00	
Perforations	17.00			3673.00	
Recorder	0.00	6752	Inside	3673.00	
Recorder	0.00	8322	Outside	3673.00	
Bullnose	3.00			3676.00	21.00 Bottom Packers & Anchor
Total Tool Length:	41.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52065

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.03.19 @ 00:50:00

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:

125000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.92 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
595.00	MCW 5% <i>m</i> 95% <i>w</i>	8.073
210.00	Gassy O&MCW 7% <i>o</i> 15% <i>g</i> 20% <i>m</i> 58% <i>w</i>	2.946
40.00	GCO 30% <i>g</i> 70% <i>o</i>	0.561
0.00	700 GIP	0.000

Total Length: 845.00 ft

Total Volume: 11.580 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .150 @ 32

Serial #: 6752

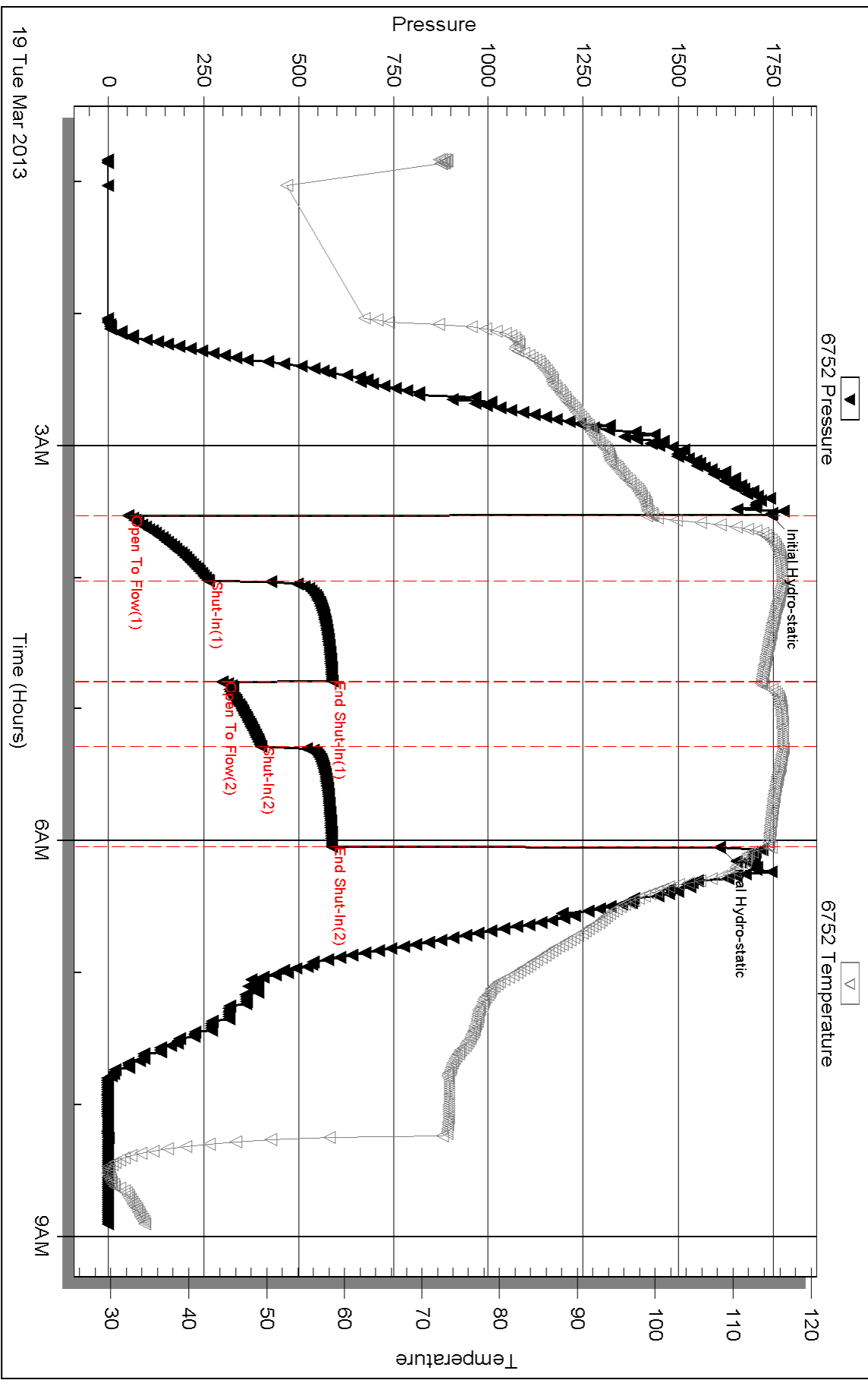
Inside

Dow n/ing-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 52065

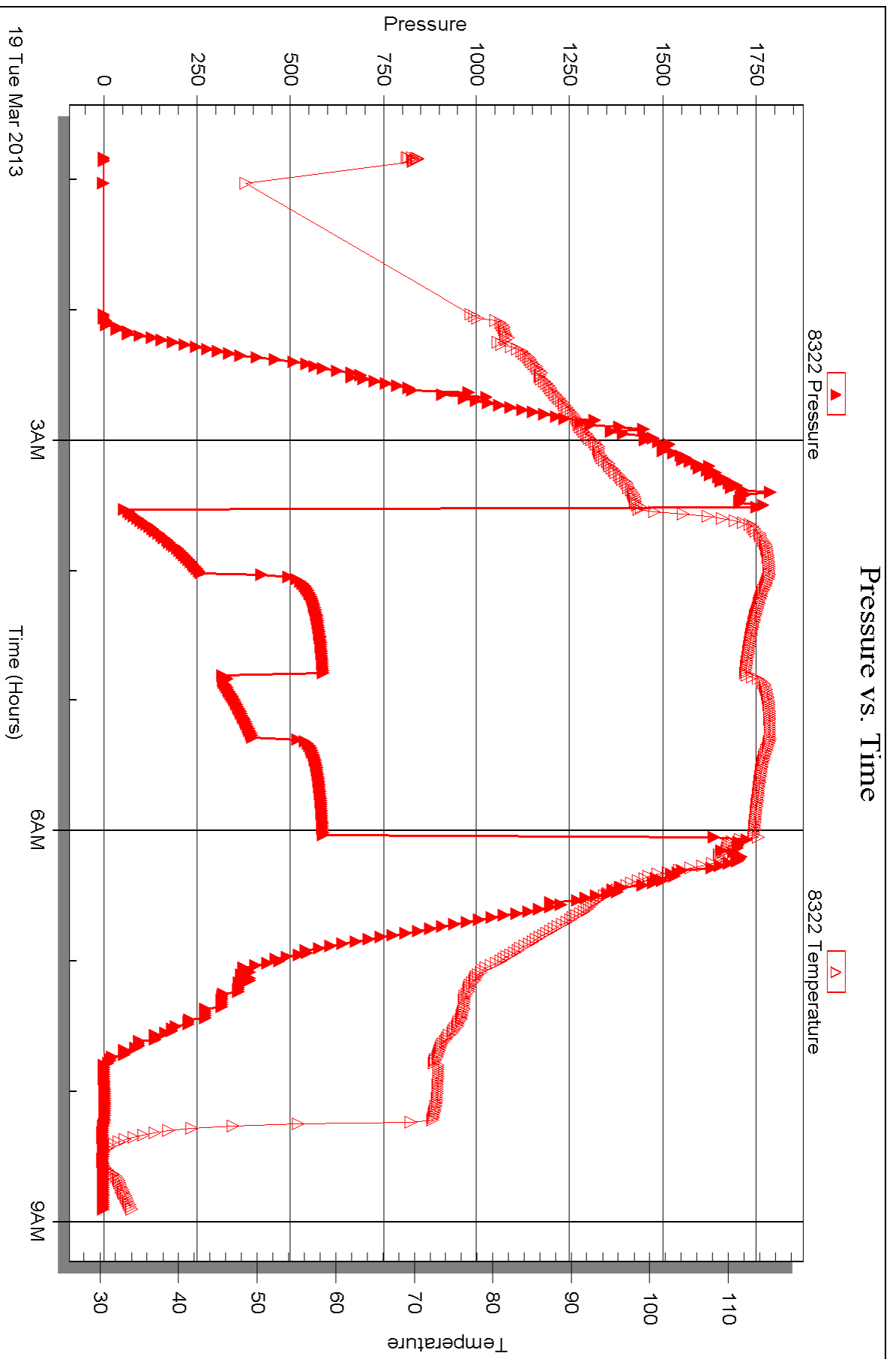
Printed: 2013.03.25 @ 15:52:26

Serial #: 8322

Outside Dow nting-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 1





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Tammy A Unit #1

26 11s 23w Trego,KS

Start Date: 2013.03.19 @ 14:49:00

End Date: 2013.03.19 @ 21:51:00

Job Ticket #: 52066 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.25 @ 15:51:39



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

ATTN: Ron Nelson

Job Ticket: 52066

DST#: 2

Test Start: 2013.03.19 @ 14:49:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:04:50

Time Test Ended: 21:51:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Interval: 3678.00 ft (KB) To 3699.00 ft (KB) (TVD)

Reference Elevations: 2392.00 ft (KB)

Total Depth: 3699.00 ft (KB) (TVD)

2384.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6752 Inside

Press @ Run Depth: 161.12 psig @ 3696.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.19

End Date:

2013.03.19

Last Calib.:

2013.03.19

Start Time: 14:49:01

End Time:

21:50:20

Time On Btm:

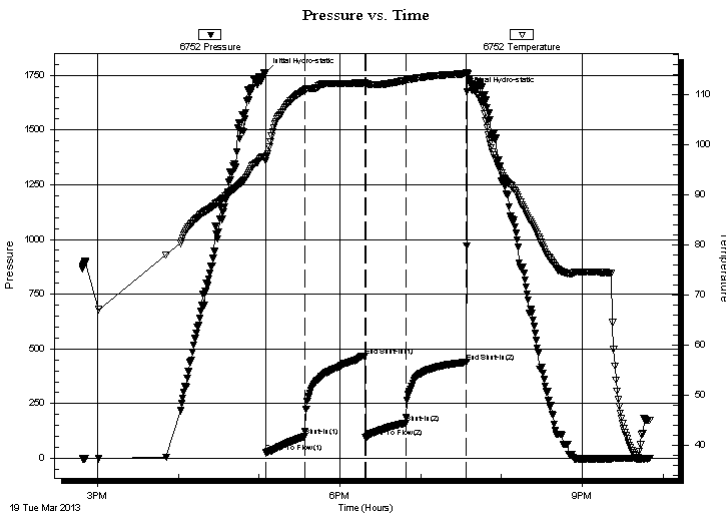
2013.03.19 @ 17:04:40

Time Off Btm:

2013.03.19 @ 19:34:20

TEST COMMENT: 30-IF- BOB in 3 min.
45-ISI- Surface Blow Building to 5 1/2"
30-FF- BOB in 3 min.
45-FSI- BOB in 14 min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.18	97.50	Initial Hydro-static
1	25.10	96.82	Open To Flow (1)
30	99.52	110.91	Shut-In(1)
74	467.56	112.30	End Shut-In(1)
75	94.26	112.21	Open To Flow (2)
105	161.12	112.83	Shut-In(2)
150	439.08	114.13	End Shut-In(2)
150	1674.43	114.32	Final Hydro-static

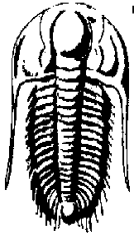
Recovery

Length (ft)	Description	Volume (bbl)
189.00	MCW 10%w 90%w	2.38
63.00	W&MCO 10%w 20%w 70%o	0.88
103.00	CO 100%	1.44
0.00	1217 GIP	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 Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52066 **DST#: 2**

ATTN: Ron Nelson

Test Start: 2013.03.19 @ 14:49:00

GENERAL INFORMATION:

Formation: **LKC " D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:04:50

Time Test Ended: 21:51:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Interval: 3678.00 ft (KB) To 3699.00 ft (KB) (TVD)

Reference Elevations: 2392.00 ft (KB)

Total Depth: 3699.00 ft (KB) (TVD)

2384.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8322

Outside

Press @ Run Depth: psig @ 3696.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.19

End Date:

2013.03.19

Last Calib.:

2013.03.19

Start Time: 14:49:01

End Time:

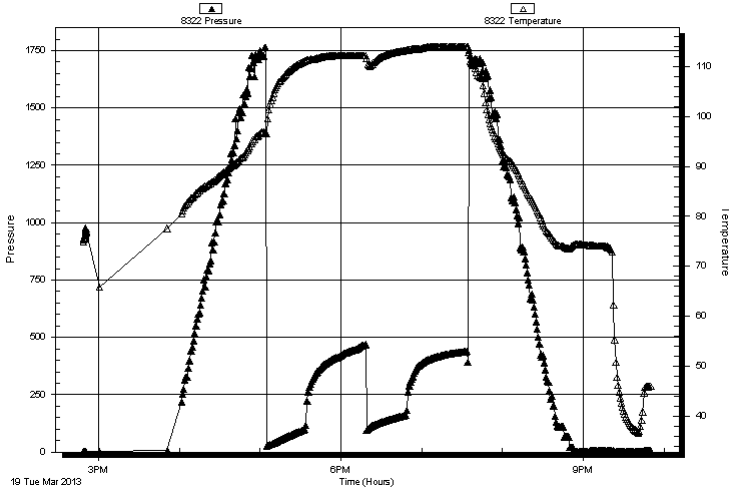
21:50:20

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF- BOB in 3 min.
45-IS- Surface Blow Building to 5 1/2"
30-FF- BOB in 3 min.
45-FS- BOB in 14 min.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
189.00	MCW 10%w 90%w	2.38
63.00	W&MCO 10%w 20%w 70%o	0.88
103.00	CO 100%	1.44
0.00	1217 GIP	0.00

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

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52066

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.03.19 @ 14:49:00

Tool Information

Drill Pipe:	Length: 3645.00 ft	Diameter: 3.80 inches	Volume: 51.13 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 61000.00 lb
			<u>Total Volume: 51.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3678.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	21.00 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
Shut In Tool	5.00			3663.00	
Hydraulic tool	5.00			3668.00	
Packer	5.00			3673.00	20.00 Bottom Of Top Packer
Packer	5.00			3678.00	
Stubb	1.00			3679.00	
Perforations	17.00			3696.00	
Recorder	0.00	6752	Inside	3696.00	
Recorder	0.00	8322	Outside	3696.00	
Bullnose	3.00			3699.00	21.00 Bottom Packers & Anchor
Total Tool Length:	41.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52066

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.03.19 @ 14:49:00

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:

41000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.94 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
189.00	MCW 10%m 90%w	2.378
63.00	W&MCO 10%w 20%m 70%o	0.884
103.00	CO 100%	1.445
0.00	1217 GIP	0.000

Total Length: 355.00 ft

Total Volume: 4.707 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .274 @ 45

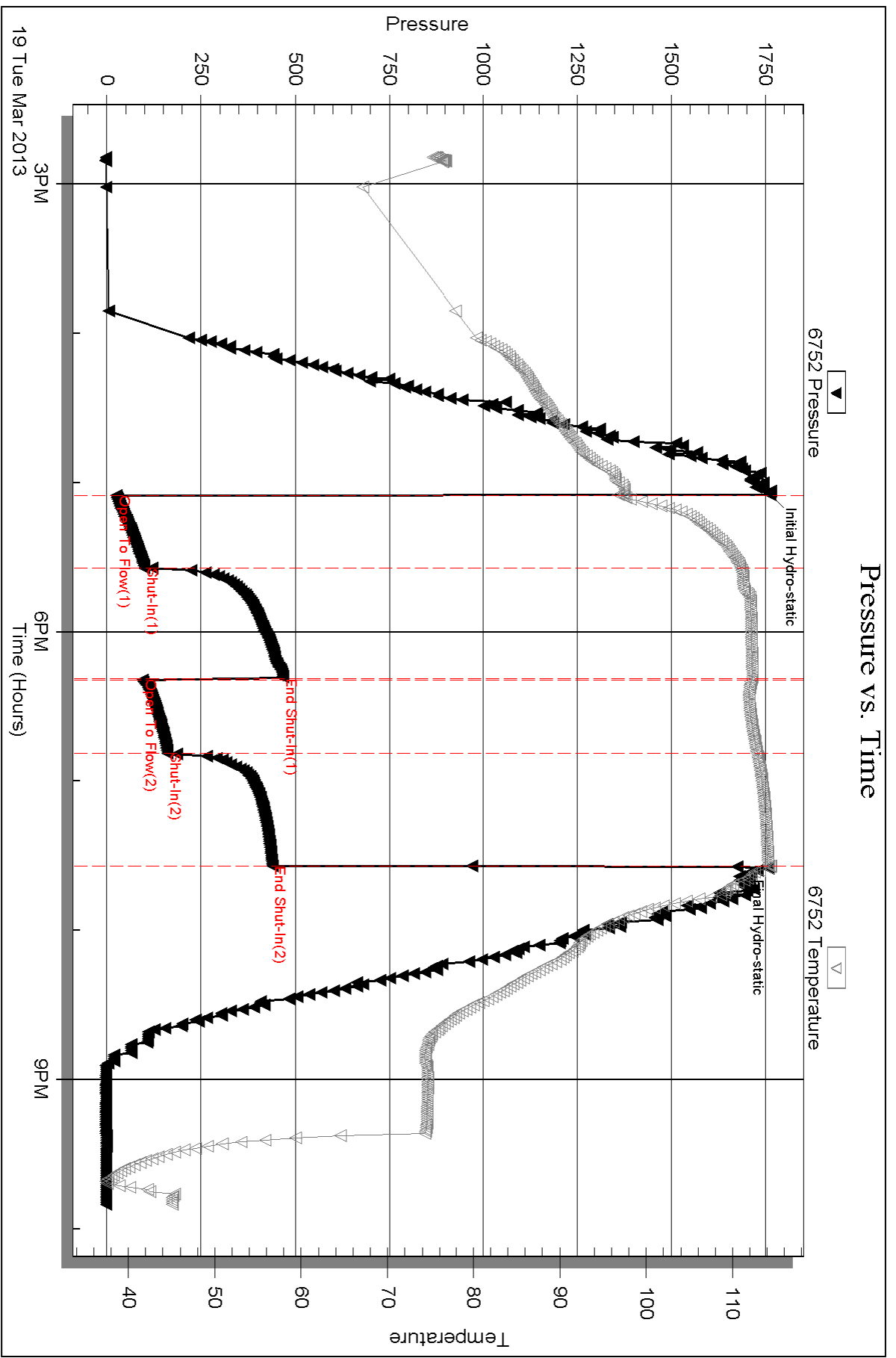
Serial #: 6752

Inside

Dow nung-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 52066

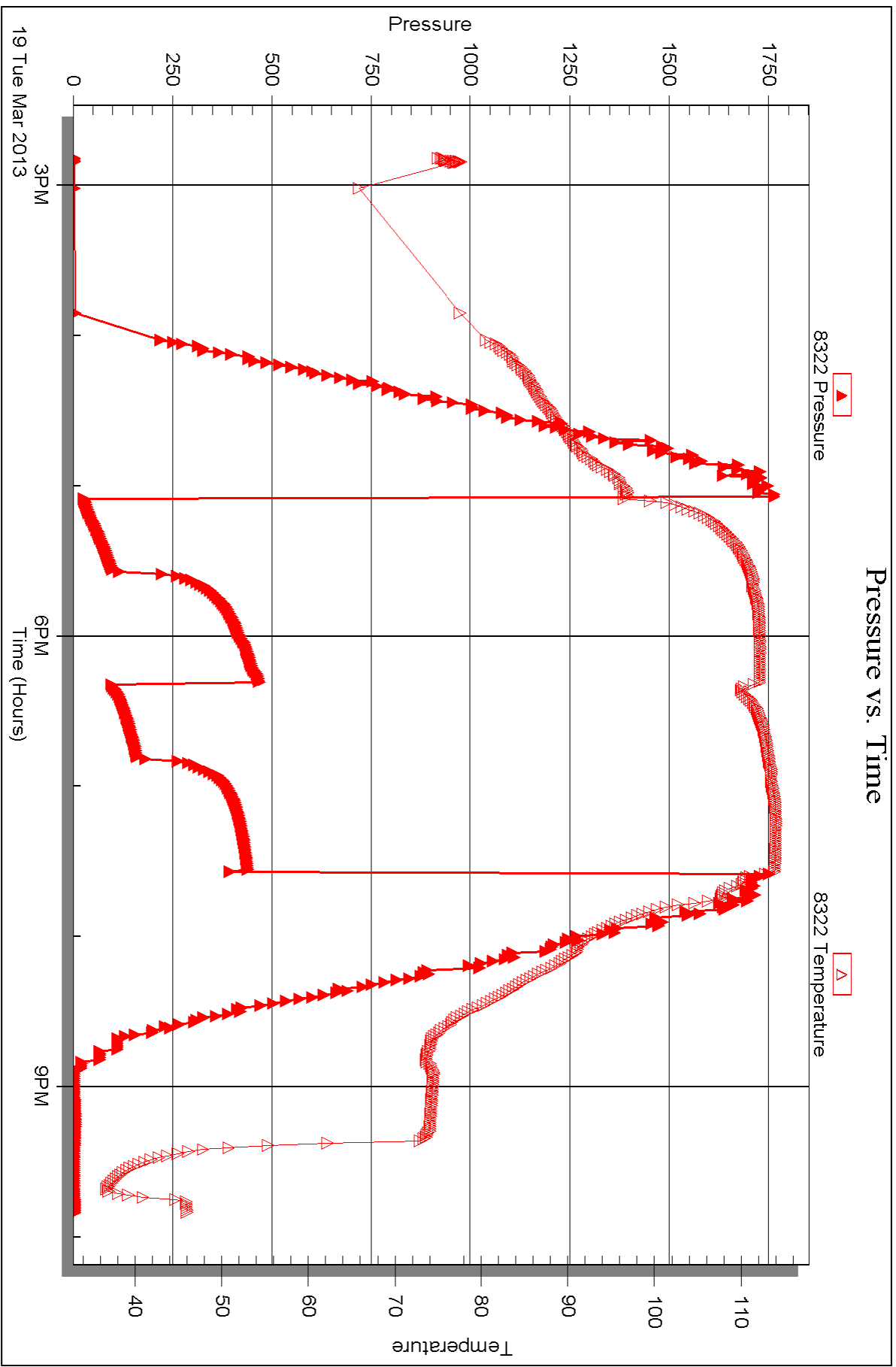
Printed: 2013.03.25 @ 15:51:42

Serial #: 8322

Outside Dow n/ing-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 2





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Tammy A Unit #1

26 11s 23w Trego,KS

Start Date: 2013.03.20 @ 06:42:00

End Date: 2013.03.20 @ 14:22:00

Job Ticket #: 52067 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.25 @ 15:51:06



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52067

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.03.20 @ 06:42:00

GENERAL INFORMATION:

Formation: **LKC " EF & G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:45:00

Time Test Ended: 14:22:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Interval: 3697.00 ft (KB) To 3752.00 ft (KB) (TVD)

Reference Elevations: 2392.00 ft (KB)

Total Depth: 3752.00 ft (KB) (TVD)

2384.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6752

Inside

Press @ RunDepth: 435.54 psig @ 3715.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.20

End Date:

2013.03.20

Last Calib.:

2013.03.20

Start Time: 06:42:01

End Time:

14:21:40

Time On Btm:

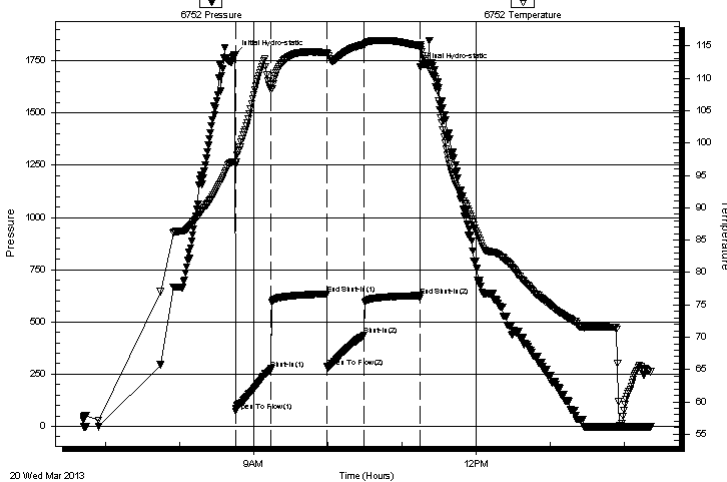
2013.03.20 @ 08:44:40

Time Off Btm:

2013.03.20 @ 11:14:50

TEST COMMENT: 30-IFP- BOB in 2 min.
45-ISIP- BOB in 6 min.
30-FFP- BOB in 2 min. Gas to Surface on Shut In
45-FSIP- BOB in 11 min.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1776.96	97.01	Initial Hydro-static
1	71.75	96.69	Open To Flow (1)
30	275.47	108.19	Shut-In(1)
75	633.53	113.90	End Shut-In(1)
75	285.28	113.75	Open To Flow (2)
105	435.54	115.25	Shut-In(2)
150	625.99	114.99	End Shut-In(2)
151	1719.37	115.17	Final Hydro-static

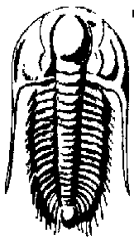
Recovery

Length (ft)	Description	Volume (bbl)
318.00	MCO 20% m 80% o	4.19
1036.00	GCO 20% g 80% o	14.53
0.00	Gas to Surface	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52067

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.03.20 @ 06:42:00

GENERAL INFORMATION:

Formation: **LKC " EF & G "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:45:00

Time Test Ended: 14:22:00

Interval: **3697.00 ft (KB) To 3752.00 ft (KB) (TVD)**

Total Depth: 3752.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Reference Elevations: 2392.00 ft (KB)

2384.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8322 Outside

Press @ Run Depth: psig @ 3715.00 ft (KB)

Start Date: 2013.03.20

End Date:

2013.03.20

Capacity: 8000.00 psig

Last Calib.:

2013.03.20

Start Time: 06:42:01

End Time:

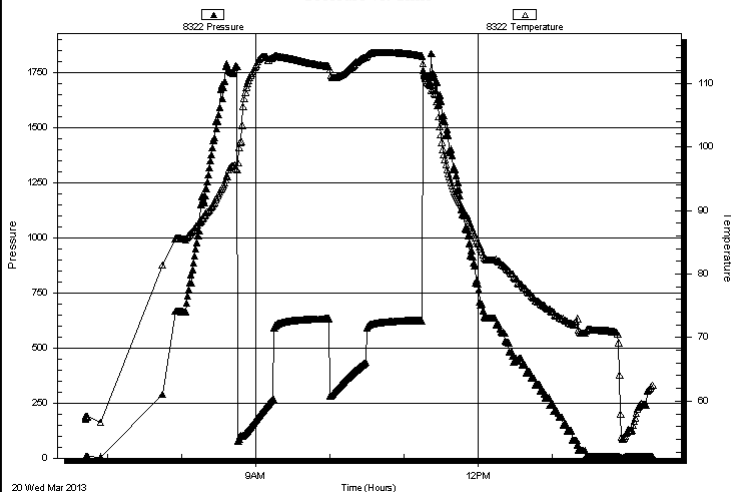
14:21:40

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP- BOB in 2 min.
45-ISIP- BOB in 6 min.
30-FFP- BOB in 2 min. Gas to Surface on Shut In
45-FSIP- BOB in 11 min.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
318.00	MCO 20% m 80% o	4.19
1036.00	GCO 20% g 80% o	14.53
0.00	Gas to Surface	0.00

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

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52067

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.03.20 @ 06:42:00

Tool Information

Drill Pipe:	Length: 3675.00 ft	Diameter: 3.80 inches	Volume: 51.55 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 51.70 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	3697.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	55.00 ft				
Tool Length:	75.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			3682.00	
Hydraulic tool	5.00			3687.00	
Packer	5.00			3692.00	20.00 Bottom Of Top Packer
Packer	5.00			3697.00	
Stubb	1.00			3698.00	
Perforations	17.00			3715.00	
Recorder	0.00	6752	Inside	3715.00	
Recorder	0.00	8322	Outside	3715.00	
Change Over Sub	1.00			3716.00	
Blank Spacing	32.00			3748.00	
Change Over Sub	1.00			3749.00	
Bullnose	3.00			3752.00	55.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52067

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.03.20 @ 06:42:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
318.00	MCO 20% _m 80% _o	4.187
1036.00	GCO 20% _g 80% _o	14.532
0.00	Gas to Surface	0.000

Total Length: 1354.00 ft Total Volume: 18.719 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6752

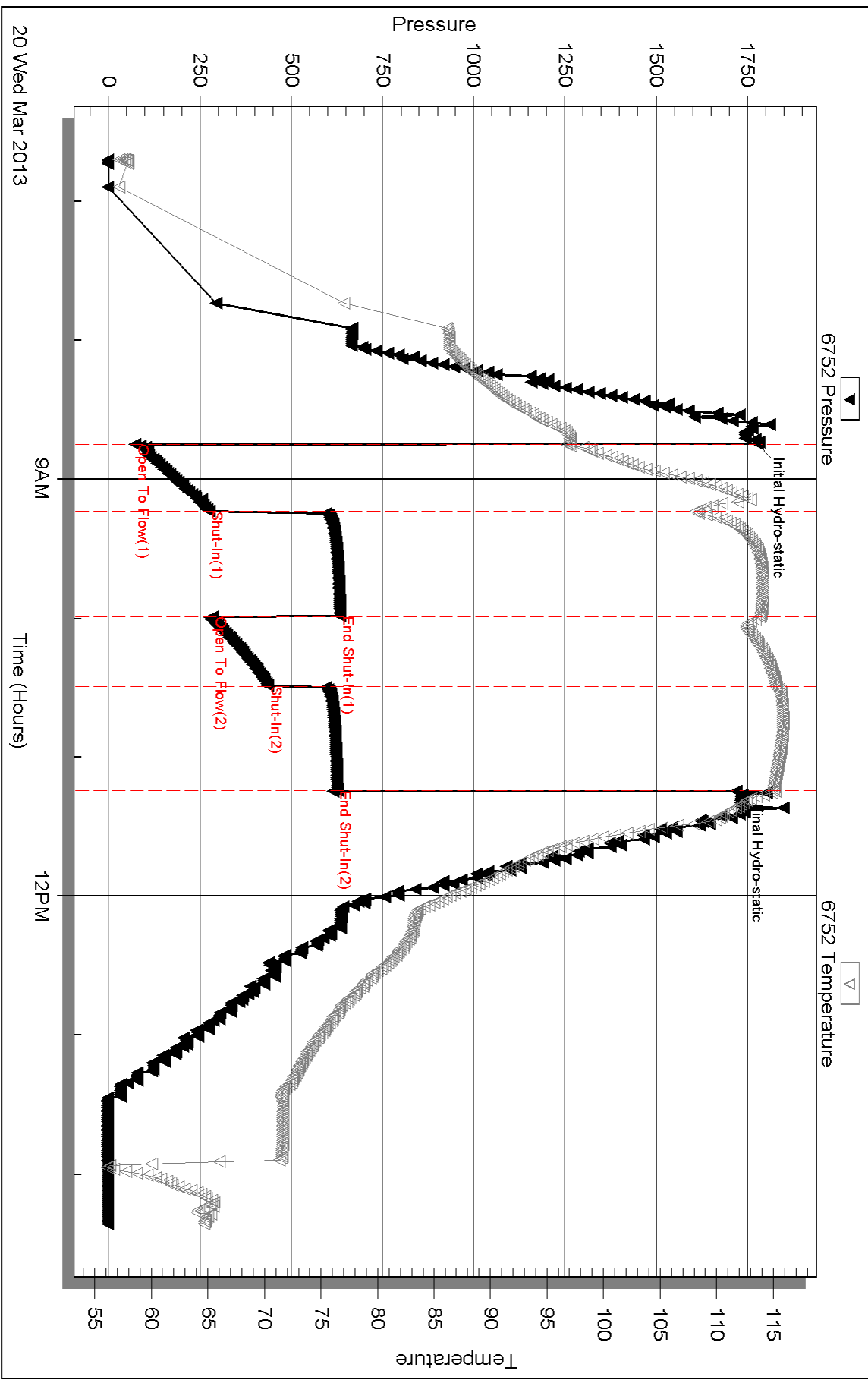
Inside

Dow n/g-nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 52067

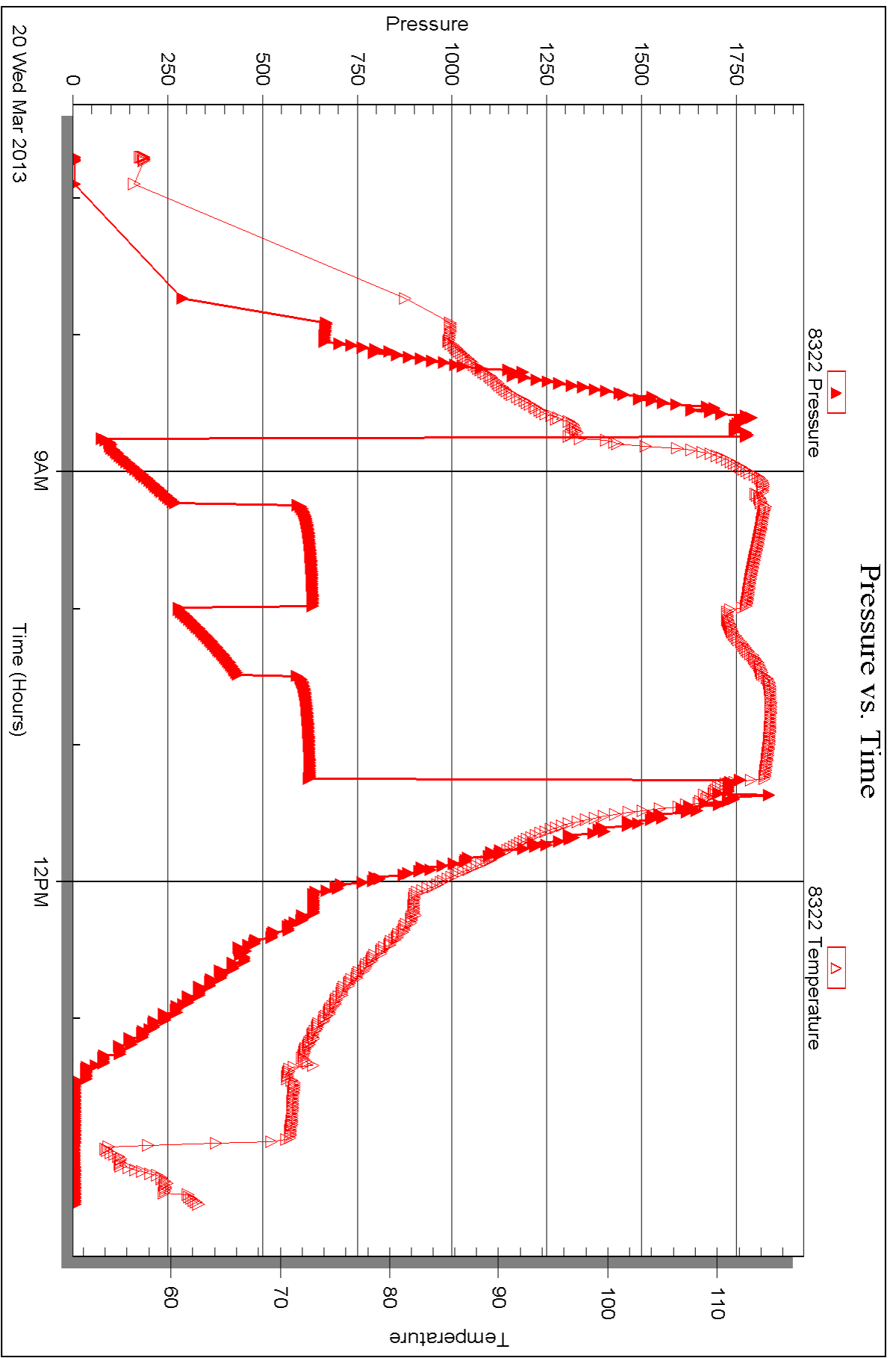
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Serial #: 8322

Outside Dow nting-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 52067

Printed: 2013.03.25 @ 15:51:09



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Tammy A Unit #1

26 11s 23w Trego,KS

Start Date: 2013.03.21 @ 02:45:00

End Date: 2013.03.21 @ 10:15:00

Job Ticket #: 52068 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.03.25 @ 15:50:27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

ATTN: Ron Nelson

Job Ticket: 52068

DST#: 4

Test Start: 2013.03.21 @ 02:45:00

GENERAL INFORMATION:

Formation: **LKC " H - K "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:31:30

Time Test Ended: 10:15:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Interval: 3781.00 ft (KB) To 3845.00 ft (KB) (TVD)

Reference Elevations: 2392.00 ft (KB)

Total Depth: 3845.00 ft (KB) (TVD)

2384.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6752 Inside

Press @ RunDepth: 51.89 psig @ 3808.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.21

End Date:

2013.03.21

Last Calib.: 2013.03.21

Start Time: 02:45:01

End Time:

10:14:20

Time On Btm: 2013.03.21 @ 05:31:20

Time Off Btm: 2013.03.21 @ 08:31:40

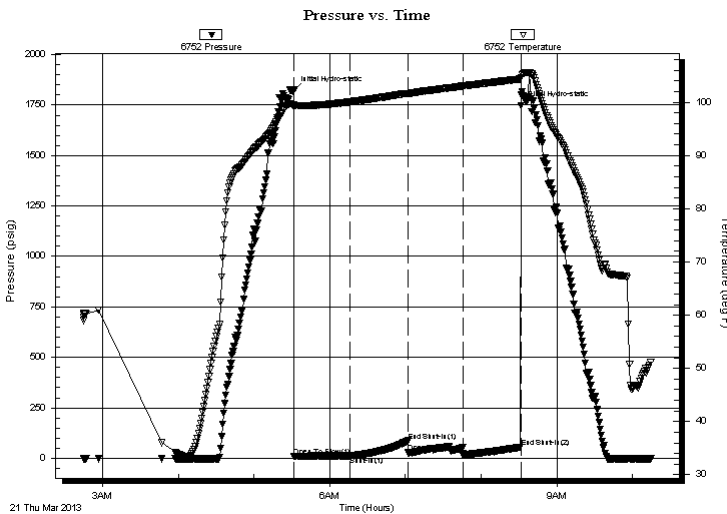
TEST COMMENT: 45-IFP- Surface Blow Building to 1" in 10 min.

45-ISIP- No Blow

45-FFP- No Blow

45-FSIP- No Blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1823.22	99.56	Initial Hydro-static
1	10.21	99.16	Open To Flow (1)
45	12.16	100.09	Shut-In(1)
91	86.24	101.70	End Shut-In(1)
91	27.54	101.68	Open To Flow (2)
135	51.89	103.06	Shut-In(2)
181	56.06	104.38	End Shut-In(2)
181	1746.46	104.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Oil Speck Mud 100%	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52068

DST#: 4

ATTN: Ron Nelson

Test Start: 2013.03.21 @ 02:45:00

GENERAL INFORMATION:

Formation: **LKC " H - K "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:31:30

Time Test Ended: 10:15:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 41

Interval: 3781.00 ft (KB) To 3845.00 ft (KB) (TVD)

Reference Elevations: 2392.00 ft (KB)

Total Depth: 3845.00 ft (KB) (TVD)

2384.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8322 Outside

Press @RunDepth: psig @ 3808.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.21

End Date:

2013.03.21

Last Calib.:

2013.03.21

Start Time: 02:45:01

End Time:

10:14:20

Time On Btm:

Time Off Btm:

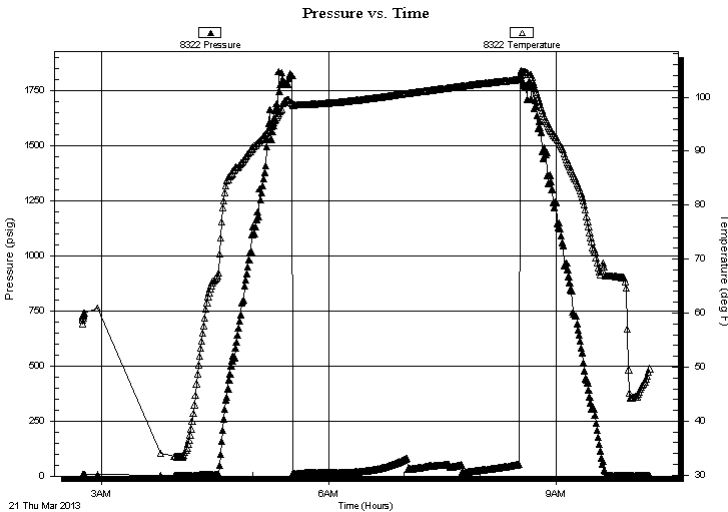
TEST COMMENT: 45-IFP- Surface Blow Building to 1" in 10 min.

45-ISIP- No Blow

45-FFP- No Blow

45-FSIP- No Blow

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Oil Speck Mud 100%	0.01

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52068

DST#: 4

ATTN: Ron Nelson

Test Start: 2013.03.21 @ 02:45:00

Tool Information

Drill Pipe:	Length: 3738.00 ft	Diameter: 3.80 inches	Volume: 52.43 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 62000.00 lb
			<u>Total Volume: 52.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3781.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	84.00 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			3766.00	
Hydraulic tool	5.00			3771.00	
Packer	5.00			3776.00	20.00 Bottom Of Top Packer
Packer	5.00			3781.00	
Stubb	1.00			3782.00	
Perforations	26.00			3808.00	
Recorder	0.00	6752	Inside	3808.00	
Recorder	0.00	8322	Outside	3808.00	
Change Over Sub	1.00			3809.00	
Blank Spacing	32.00			3841.00	
Change Over Sub	1.00			3842.00	
Bullnose	3.00			3845.00	64.00 Bottom Packers & Anchor

Total Tool Length: 84.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

26 11s 23w Trego,KS

PO Box 1019
Hays KS 67601

Tammy A Unit #1

Job Ticket: 52068

DST#: 4

ATTN: Ron Nelson

Test Start: 2013.03.21 @ 02:45:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Oil Speck Mud 100%	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

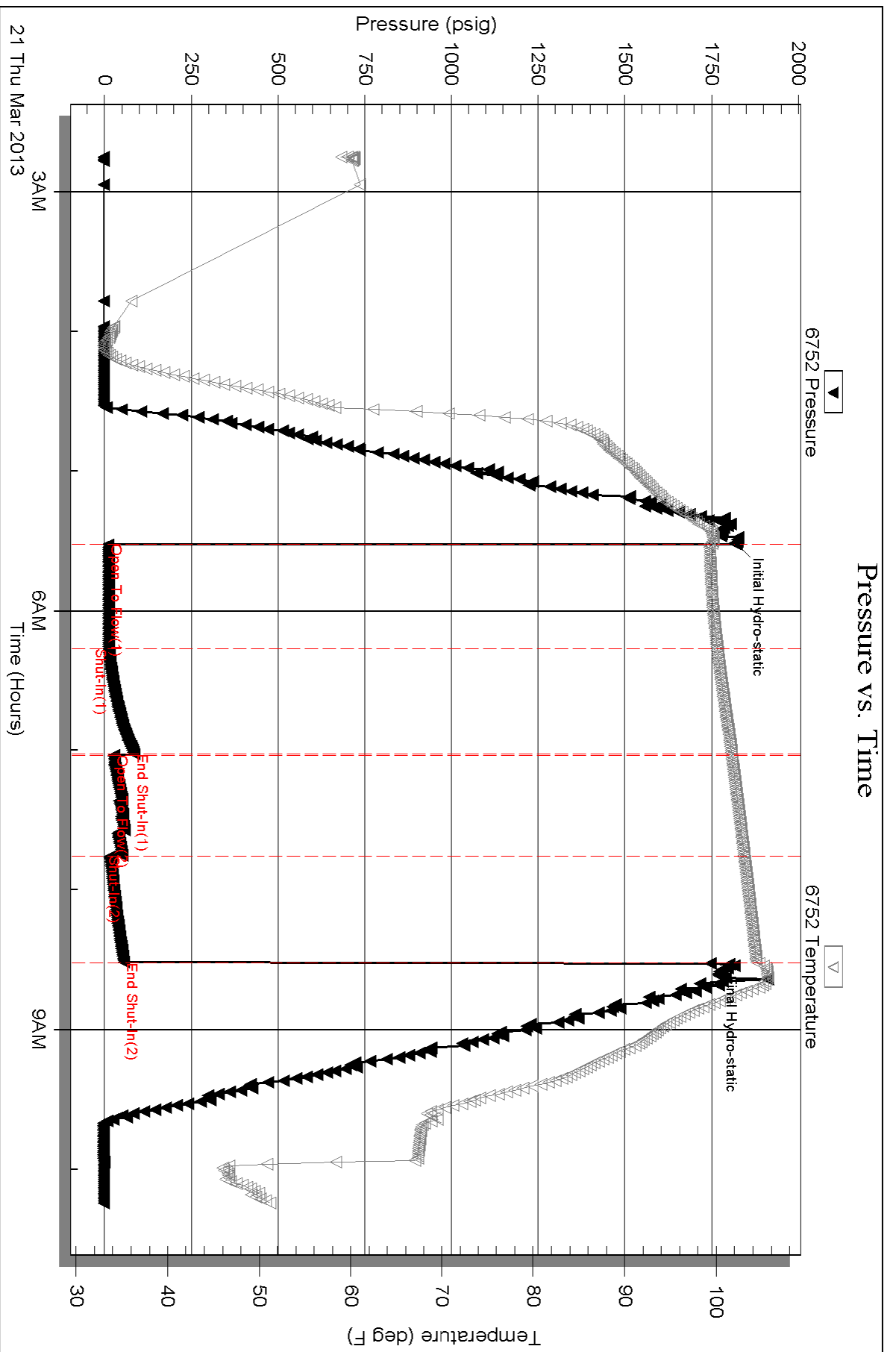
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Inside

Downing-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 4

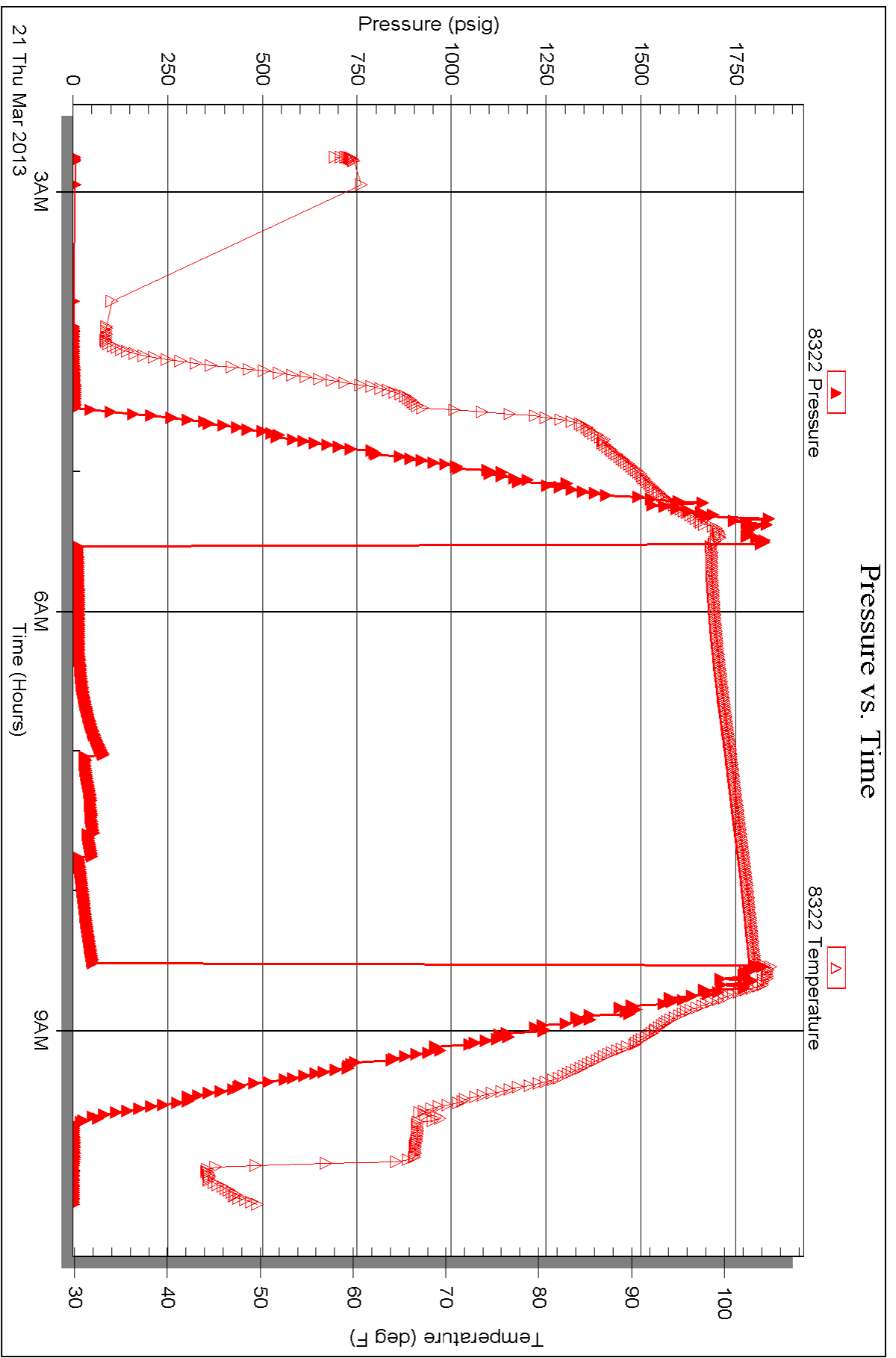


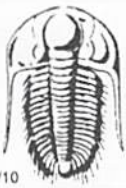
Serial #: 8322

Outside Dow nung-Nelson Oil Co Inc

Tammy A Unit #1

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52065

4/10

Well Name & No. Tammy A #1 Test No. 1 Date 3-18-13
 Company Downing-Nelson Oil Co. Inc. Elevation 2392 KB 2384 GL
 Address P.O. Box 1019 Hays KS. 67601
 Co. Rep / Geol Gator - 628 3449 623-3592 Rig Discovery #3
 Location: Sec. 26 Twp. 11^s Rge. 23^w Co. Trego State Ks.

Interval Tested 3655 - 3676 Zone Tested LKC "C"
 Anchor Length 21 Drill Pipe Run 3612 Mud Wt. 8.8
 Top Packer Depth 3650 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3655 Wt. Pipe Run 0 WL 8.0
 Total Depth 3676 Chlorides 2000 ppm System LCM 2

Blow Description IFP - BOB 2 1/2 min.
ISIP - Surface Blow in 3 min. Building to 3 1/2 in.
FFP - BOB in 3 min.
FSIP - BOB in 12 min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>595</u>	<u>MCW</u>		<u>95</u>	<u>5</u>	
<u>210</u>	<u>Lassy OMCW</u>	<u>15</u>	<u>7</u>	<u>58</u>	<u>20</u>
<u>40</u>	<u>Geo</u>	<u>30</u>	<u>70</u>		
	<u>700 AIP</u>				

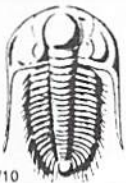
Rec Total 845 BHT 116 Gravity 39 API RW .150 @ 32 °F Chlorides 125000 ppm

(A) Initial Hydrostatic 1744 Test 23:55 T-On Location
 (B) First Initial Flow 51 Jars 00:50 T-Started
 (C) First Final Flow 263 Safety Joint 03:33 T-Open
 (D) Initial Shut-In 588 Circ Sub 06:03 T-Pulled
 (E) Second Initial Flow 298 Hourly Standby 08:55 T-Out
 (F) Second Final Flow 400 Mileage 78 RT Comments
 (G) Final Shut-In 587 Sampler
 (H) Final Hydrostatic 1609 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30 Sub Total
 Initial Shut-In 45 Total
 Final Flow 30 MP/DST Disc
 Final Shut-In 45

Approved By _____ Our Representative [Signature]
 785 639 5864

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52066

Well Name & No. Tammy A Unit #1 Test No. 2 Date 3-19-13
 Company Downing-Nelson Oil Co. Inc. Elevation 2392 KB 2384 GL
 Address P.O. Box 1019 Hays Ks. 67601
 Co. Rep / Geo. Dator Rig Discovery #3
 Location: Sec. 26 Twp. 11^s Rge. 23^w Co. Trego State KS

Interval Tested 3678 - 3699 Zone Tested LKC + DP
 Anchor Length 21 Drill Pipe Run 3645 Mud Wt. 9.0
 Top Packer Depth 3673 Drill Collars Run 30 Vis 57
 Bottom Packer Depth 3678 Wt. Pipe Run 0 WL 8.0
 Total Depth 3699 Chlorides 4000 ppm System LCM 2

Blow Description IF - BOB in 3min.
ISF - Surface Blow Building to 5 1/2 in. in 15min.
FF - BOB in 3min.
FSI - BOB in 14min.

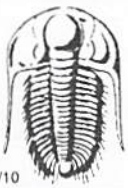
Rec	Feet of	%gas	%oil	%water	%mud
<u>189</u>	<u>mcw</u>		<u>90</u>	<u>10</u>	<u>0</u>
<u>63</u>	<u>w + mco</u>	<u>70</u>	<u>10</u>	<u>20</u>	<u>0</u>
<u>103</u>	<u>co</u>	<u>100</u>			
<u>—</u>	<u>1217 MTP</u>				

Rec Total 355 BHT 114 Gravity 38 API RW 274 @ 45 ° F Chlorides 41000 ppm

(A) Initial Hydrostatic 1762 Test 1150 T-On Location 14:48
 (B) First Initial Flow 25 Jars _____ T-Started 14:49
 (C) First Final Flow 99 Safety Joint _____ T-Open 17:05
 (D) Initial Shut-In 467 Circ Sub _____ T-Pulled 19:35
 (E) Second Initial Flow 94 Hourly Standby _____ T-Out 21:51
 (F) Second Final Flow 161 Mileage 78 RT 120.90 Comments _____
 (G) Final Shut-In 439 Sampler _____
 (H) Final Hydrostatic 1674 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 45 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 45 Extra Copies _____
 Sub Total 0
 Total 1270.90
 Sub Total 1270.90 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
 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. 52067

4/10

Well Name & No. Tammy A unit #1 Test No. 3 Date 3-20-13
 Company Downing-Nelson Oil Co Inc, Elevation 2392 KB 2384 GL
 Address P.O. Box 1019 Hays KS, 67601
 Co. Rep / Geo. Later Rig Discovery #3
 Location: Sec. 26 Twp. 11^s Rge. 23^w Co. Trego State KS

Interval Tested 3697-3752 Zone Tested LKC "EF+G"
 Anchor Length 55 Drill Pipe Run 3675 Mud Wt. 9.1
 Top Packer Depth 3692 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3697 Wt. Pipe Run 0 WL 7.6
 Total Depth 3752 Chlorides 6000 ppm System LCM 1.5

Blow Description IFP-BOB in 2min
ISIP-BOB in 6min
FFP-BOB in 2min Gas to surface on shut-in.
FSIP-BOB in 11min

Rec	Feet of	%gas	%oil	%water	%mud
<u>3/8</u>	<u>MCO</u>	<u>80</u>		<u>20</u>	
<u>1036</u>	<u>MCO</u>	<u>20</u>	<u>80</u>		
	<u>Gas to surface</u>				

Rec Total 1354 BHT 115 Gravity 37.37 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 1776 Test 1150 T-On Location 06:40
 (B) First Initial Flow 71 Jars T-Started 06:42
 (C) First Final Flow 275 Safety Joint T-Open 08:45
 (D) Initial Shut-In 633 Circ Sub T-Pulled 11:15
 (E) Second Initial Flow 285 Hourly Standby T-Out 14:22
 (F) Second Final Flow 435 Mileage 78 RT 120.90
 (G) Final Shut-In 625 Sampler
 (H) Final Hydrostatic 1719 Straddle
 Shale Packer
 Ruined Shale Packer
 Ruined Packer
 Extra Copies

Initial Open 30
 Initial Shut-In 45
 Final Flow 30
 Final Shut-In 45
 Sub Total 0
 Total 1270.90
 MP/DST Disc't
 Sub Total 1270.90

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52068

Well Name & No. Tammy A Unit #1 Test No. 4 Date 3-21-13
 Company Downing-Nelson Oil Co. Inc. Elevation 2392 KB 2384 GL
 Address P.O. Box 1019 Hays KS 67601
 Co. Rep / Geo. Nator Rig Discovery #3
 Location: Sec. 26 Twp. 11S Rge. 23W Co. Trego State KS

Interval Tested 3781 - 3845 Zone Tested LKC "H-K"
 Anchor Length 64 Drill Pipe Run 3738 Mud Wt. 9.1
 Top Packer Depth 3776 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3781 Wt. Pipe Run 0 WL 7.6
 Total Depth 3845 Chlorides 6000 ppm System LCM 1.5

Blow Description IFP - Surface Blow Building to 1hr. in 10min
ISIP - No Blow
FFP - No Blow
FSIP - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Oil Specr Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 2 BHT 104 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1823 Test 1150 T-On Location 02:45
 (B) First Initial Flow 10 Jars _____ T-Started 02:45
 (C) First Final Flow 12 Safety Joint _____ T-Open 05:32
 (D) Initial Shut-In 86 Circ Sub _____ T-Pulled 08:32
 (E) Second Initial Flow 51 Hourly Standby _____ T-Out 10:15
 (F) Second Final Flow 56 Mileage 78 RT 120.90 Comments _____
 (G) Final Shut-In 1746 Sampler _____
 (H) Final Hydrostatic _____ Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

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 1270.90
 MP/DST Disc't _____
 Sub Total 1270.90

Approved By _____ Our Representative [Signature]

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