



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Company, Inc**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Wilma Shoendaller #1

24-14s-19w Ellis,KS

Start Date: 2013.06.24 @ 00:37:00

End Date: 2013.06.24 @ 06:54:00

Job Ticket #: 50435 DST #: 1

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

Printed: 2013.06.28 @ 08:16:07



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Company, Inc

24-14s-19w Ellis, KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

Job Ticket: 50435 **DST#: 1**

ATTN: Marc Downing

Test Start: 2013.06.24 @ 00:37:00

GENERAL INFORMATION:

Formation: **LKC D**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 02:39:15
 Tester: Jason McLemore
 Time Test Ended: 06:54:00
 Unit No: 54
 Interval: **3453.00 ft (KB) To 3477.00 ft (KB) (TVD)**
 Reference Elevations: 2100.00 ft (KB)
 Total Depth: 3477.00 ft (KB) (TVD) 2092.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

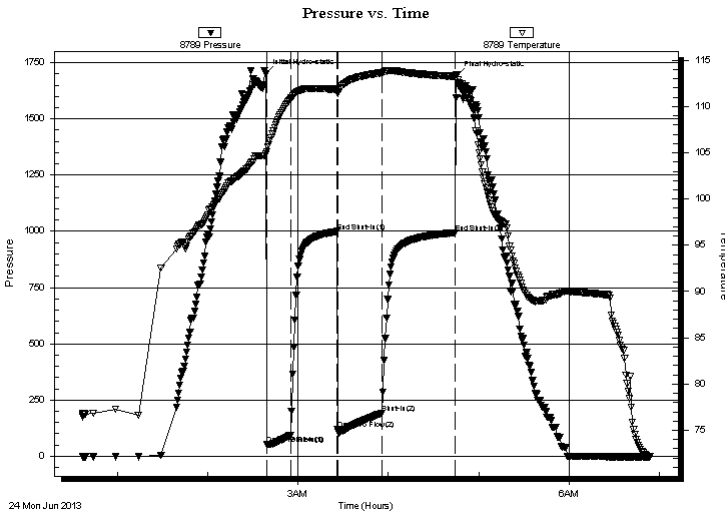
Serial #: 8789

Inside

Press @ Run Depth: 193.08 psig @ 3456.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.06.24 End Date: 2013.06.24 Last Calib.: 2013.06.24
 Start Time: 00:37:02 End Time: 06:54:00 Time On Btm: 2013.06.24 @ 02:38:30
 Time Off Btm: 2013.06.24 @ 04:45:30

TEST COMMENT: IFP-Strong, BOB in 1 Min.
 ISI-Blow back built to 3 1/2"
 FFP-Strong, BOB in 2 Min.
 FSI-Blow back BOB in 12 Min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1699.64	104.84	Initial Hydro-static
1	54.22	105.12	Open To Flow (1)
17	93.73	110.81	Shut-In(1)
48	999.35	111.84	End Shut-In(1)
48	120.11	111.37	Open To Flow (2)
78	193.08	113.65	Shut-In(2)
126	994.34	113.26	End Shut-In(2)
127	1693.65	113.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Salt Water	1.68
300.00	Free Oil	4.21
0.00	1860' Gas In Pipe	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Company, Inc

24-14s-19w Ellis, KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

Job Ticket: 50435 **DST#: 1**

ATTN: Marc Downing

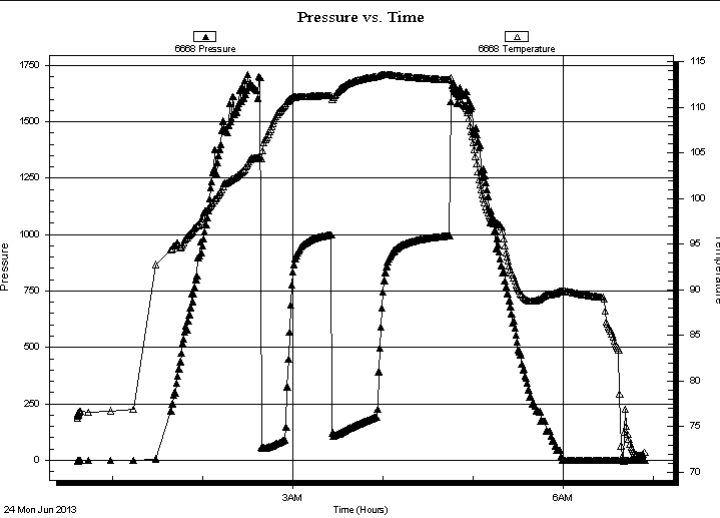
Test Start: 2013.06.24 @ 00:37:00

GENERAL INFORMATION:

Formation: LKC D		Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock:	ft (KB)	Tester: Jason McLemore
Time Tool Opened: 02:39:15		Unit No: 54
Time Test Ended: 06:54:00		Reference Elevations: 2100.00 ft (KB)
Interval: 3453.00 ft (KB) To 3477.00 ft (KB) (TVD)		2092.00 ft (CF)
Total Depth: 3477.00 ft (KB) (TVD)		KB to GR/CF: 8.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good	

Serial #: 6668	Outside		
Press @ Run Depth: psig @	3456.00 ft (KB)	Capacity:	8000.00 psig
Start Date: 2013.06.24	End Date: 2013.06.24	Last Calib.:	2013.06.24
Start Time: 00:36:48	End Time: 06:54:16	Time On Btm:	
		Time Off Btm:	

TEST COMMENT: IFP-Strong, BOB in 1 Min.
 ISI-Blow back built to 3 1/2"
 FFP-Strong, BOB in 2 Min.
 FSI-Blow back BOB in 12 Min.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Salt Water	1.68
300.00	Free Oil	4.21
0.00	1860' Gas In Pipe	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 Company, Inc

24-14s-19w Ellis,KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

Job Ticket: 50435

DST#: 1

ATTN: Marc Dow ning

Test Start: 2013.06.24 @ 00:37:00

Tool Information

Drill Pipe:	Length: 3455.00 ft	Diameter: 3.80 inches	Volume: 48.46 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume: 48.46 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	35000.00 lb
Depth to Top Packer:	3453.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	24.00 ft				
Tool Length:	45.00 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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Change Over Sub	1.00			3433.00	
Shut In Tool	5.00			3438.00	
Hydraulic tool	5.00			3443.00	
Packer	5.00			3448.00	21.00 Bottom Of Top Packer
Packer	5.00			3453.00	
Stubb	1.00			3454.00	
Perforations	2.00			3456.00	
Recorder	0.00	8789	Inside	3456.00	
Recorder	0.00	6668	Outside	3456.00	
Perforations	18.00			3474.00	
Bullnose	3.00			3477.00	24.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Company, Inc

24-14s-19w Ellis,KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

Job Ticket: 50435

DST#: 1

ATTN: Marc Downing

Test Start: 2013.06.24 @ 00:37:00

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:

38000 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

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 bbl
120.00	Salt Water	1.683
300.00	Free Oil	4.208
0.00	1860' Gas In Pipe	0.000

Total Length: 420.00 ft

Total Volume: 5.891 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8789

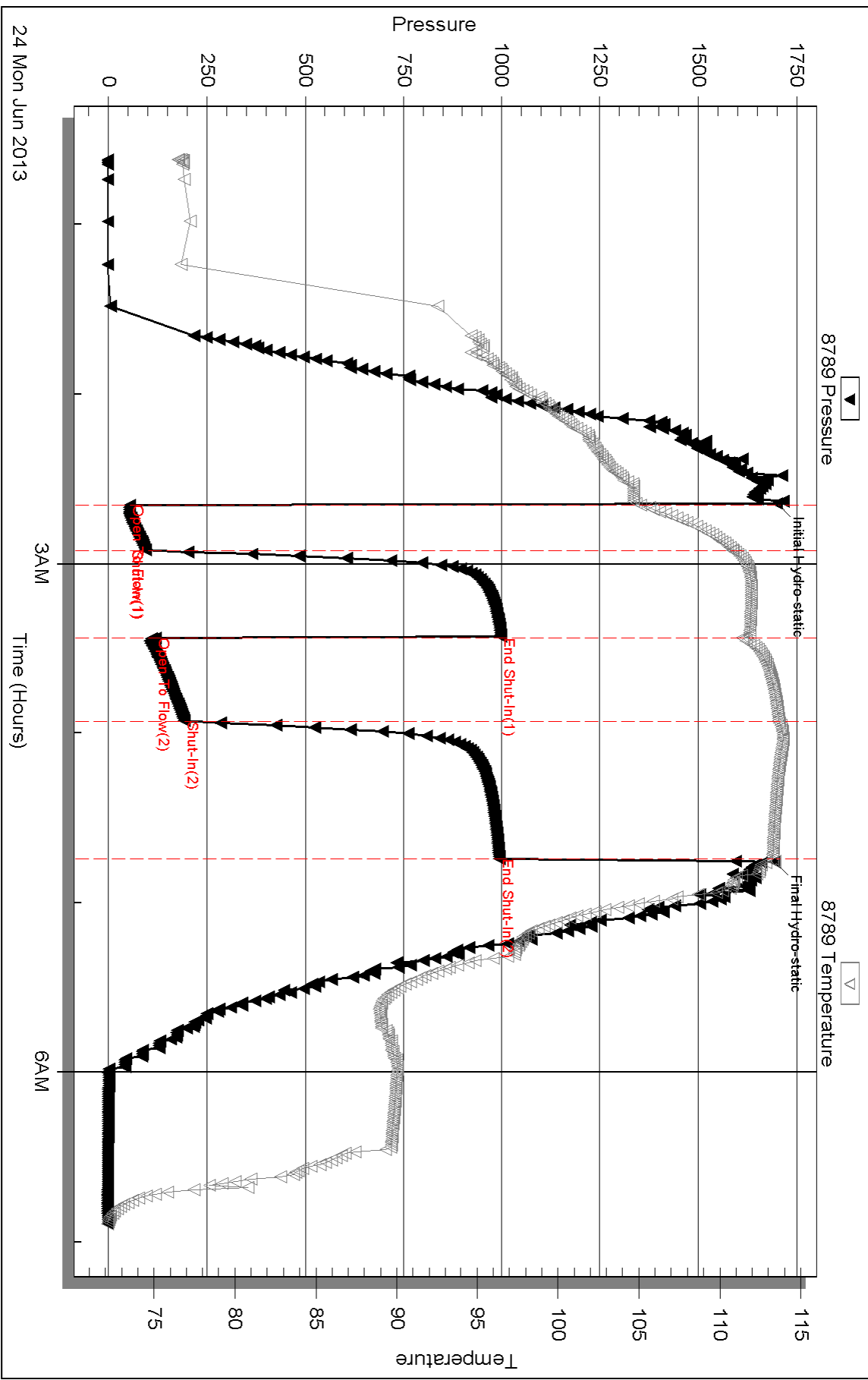
Inside

Downing Nelson Oil Company, Inc

Wilma Shoendaller #1

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50435

Printed: 2013.06.28 @ 08:16:10

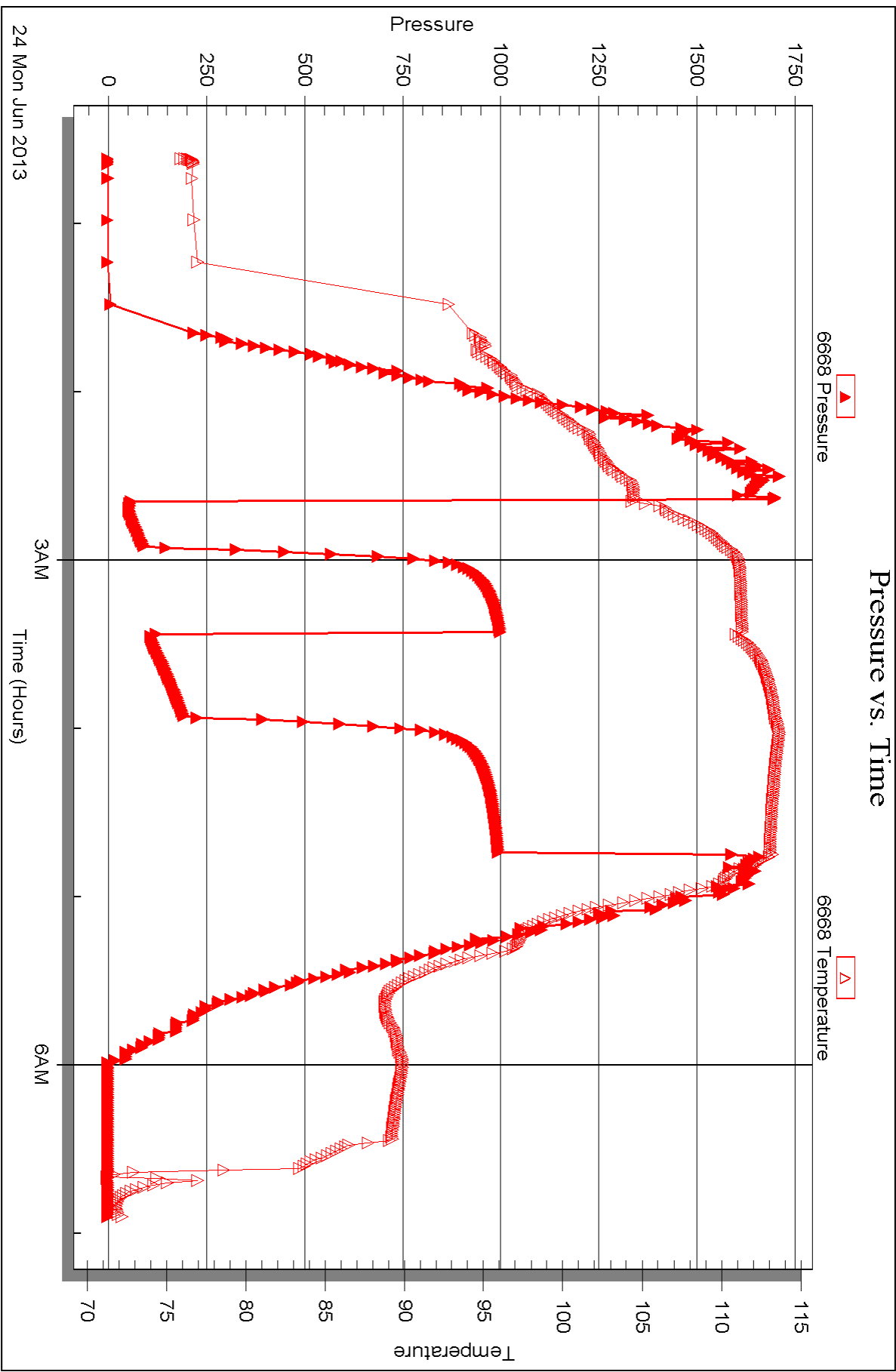
Serial #: 6668

Outside

Downing Nelson Oil Company, Inc

Wilma Shoendaller #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Company, Inc**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Wilma Shoendaller #1

24-14s-19w Ellis,KS

Start Date: 2013.06.24 @ 19:34:05

End Date: 2013.06.25 @ 02:59:50

Job Ticket #: 50436 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.06.28 @ 08:15:16

Downing Nelson Oil Company, Inc
24-14s-19w Ellis,KS
Wilma Shoendaller #1
DST # 2
LKC-H-J
2013.06.24



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Company, Inc

24-14s-19w Ellis, KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

ATTN: Marc Downing

Job Ticket: 50436

DST#: 2

Test Start: 2013.06.24 @ 19:34:05

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 21:09:50
 Tester: Jason McLemore
 Time Test Ended: 02:59:50
 Unit No: 54
 Interval: **3528.00 ft (KB) To 3599.00 ft (KB) (TVD)**
 Reference Elevations: 2100.00 ft (KB)
 Total Depth: 3599.00 ft (KB) (TVD)
 2092.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Good
 KB to GR/CF: 8.00 ft

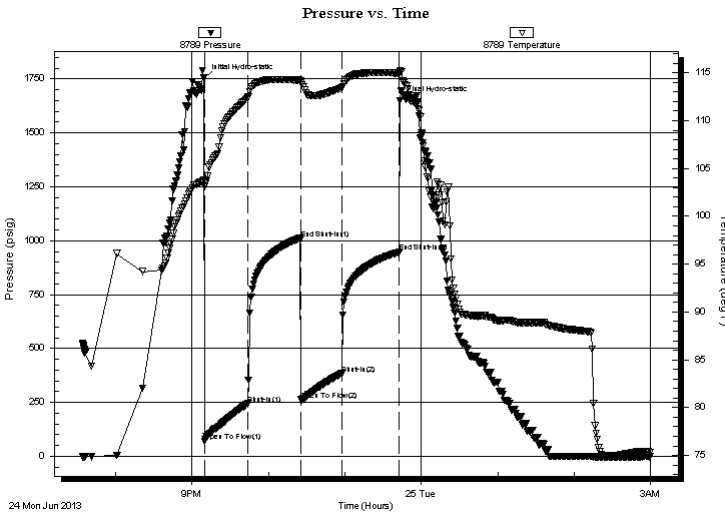
Serial #: 8789

Inside

Press @ Run Depth: 382.85 psig @ 3596.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.06.24 End Date: 2013.06.25 Last Calib.: 2013.06.25
 Start Time: 19:34:07 End Time: 02:59:50 Time On Btm: 2013.06.24 @ 21:09:35
 Time Off Btm: 2013.06.24 @ 23:43:20

TEST COMMENT: IFP-Strong, BOB in 2 1/2 Min
 ISI-Blow back BOB in 9 Min.
 FFP-Strong, BOB in 2 Min.
 FSI-Blow back BOB in 6 Min., GTS on Shut In

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1753.73	103.85	Initial Hydro-static
1	70.88	103.10	Open To Flow (1)
35	243.76	112.35	Shut-In(1)
76	1007.45	114.23	End Shut-In(1)
76	261.66	113.93	Open To Flow (2)
108	382.85	113.43	Shut-In(2)
154	947.62	114.97	End Shut-In(2)
154	1648.30	115.26	Final Hydro-static

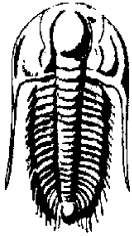
Recovery

Length (ft)	Description	Volume (bbl)
60.00	Muddy Oil 60%O-40%M	0.84
900.00	Free Oil	12.62

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Company, Inc

24-14s-19w Ellis,KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

ATTN: Marc Downing

Job Ticket: 50436

DST#: 2

Test Start: 2013.06.24 @ 19:34:05

GENERAL INFORMATION:

Formation: **LKC H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:09:50
 Time Test Ended: 02:59:50
Interval: 3528.00 ft (KB) To 3599.00 ft (KB) (TVD)
 Total Depth: 3599.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches
 Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)
 Tester: Jason McLemore
 Unit No: 54
 Reference Elevations: 2100.00 ft (KB)
 2092.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6668

Outside

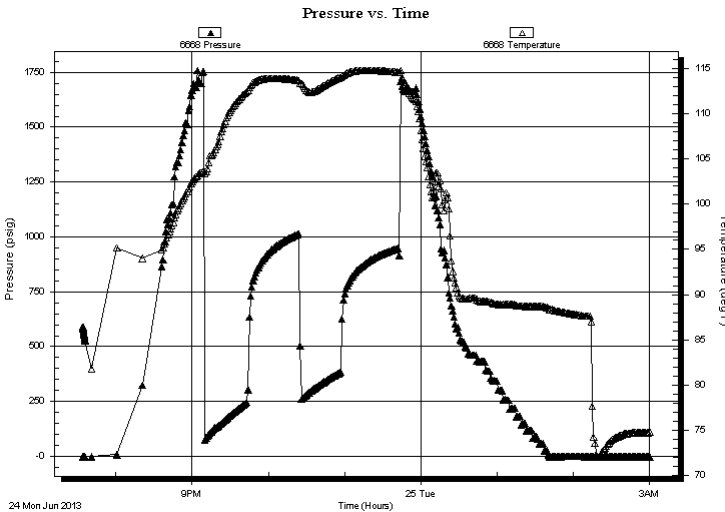
Press @ Run Depth: psig @ 3596.00 ft (KB)
 Start Date: 2013.06.24
 Start Time: 19:33:50

End Date: 2013.06.25
 End Time: 03:00:03

Capacity: 8000.00 psig
 Last Calib.: 2013.06.25
 Time On Btm:
 Time Off Btm:

TEST COMMENT: IFP-Strong, BOB in 2 1/2 Min
 ISI-Blow back BOB in 9 Min.
 FFP-Strong, BOB in 2 Min.
 FSI-Blow back BOB in 6 Min., GTS on Shut In

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	Muddy Oil 60%O-40%M	0.84
900.00	Free Oil	12.62

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Company, Inc

24-14s-19w Ellis,KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

Job Ticket: 50436

DST#: 2

ATTN: Marc Downing

Test Start: 2013.06.24 @ 19:34:05

Tool Information

Drill Pipe:	Length: 3510.00 ft	Diameter: 3.80 inches	Volume: 49.24 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 46000.00 lb
			<u>Total Volume: 49.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3528.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	71.00 ft			
Tool Length:	99.00 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			3501.00	
Shut In Tool	5.00			3506.00	
Hydraulic tool	5.00			3511.00	
Jars	5.00			3516.00	
Safety Joint	2.00			3518.00	
Packer	5.00			3523.00	28.00 Bottom Of Top Packer
Packer	5.00			3528.00	
Stubb	1.00			3529.00	
Perforations	3.00			3532.00	
Change Over Sub	1.00			3533.00	
Blank Spacing	62.00			3595.00	
Change Over Sub	1.00			3596.00	
Recorder	0.00	8789	Inside	3596.00	
Recorder	0.00	6668	Outside	3596.00	
Bullnose	3.00			3599.00	71.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Company, Inc

24-14s-19w Ellis,KS

PO Box 1019
Hays, KS 67601

Wilma Shoendaller #1

Job Ticket: 50436

DST#: 2

ATTN: Marc Downing

Test Start: 2013.06.24 @ 19:34:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

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 bbl
60.00	Muddy Oil 60%O-40%M	0.842
900.00	Free Oil	12.625

Total Length: 960.00 ft Total Volume: 13.467 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8789

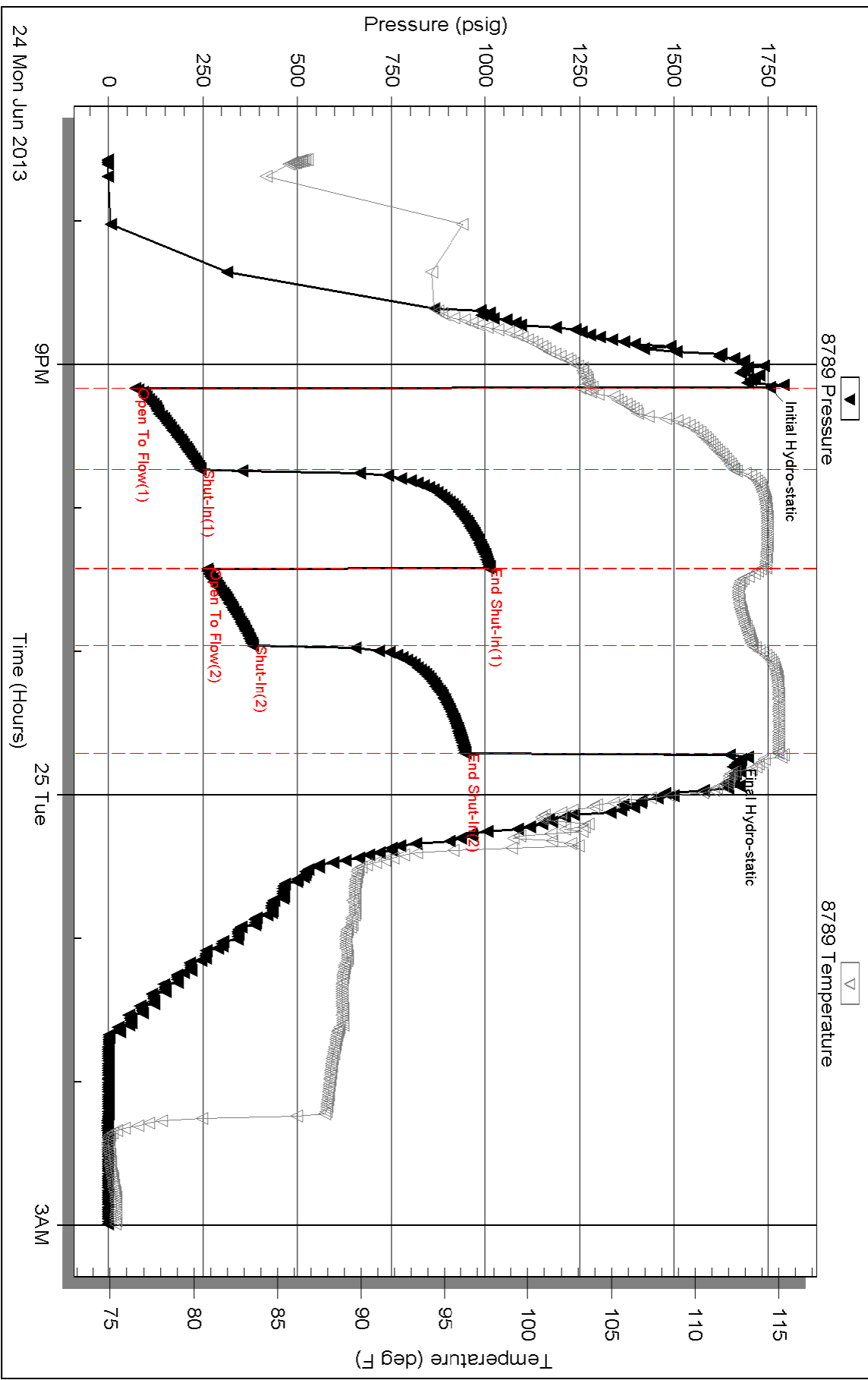
Inside

Downing Nelson Oil Company, Inc

Wilma Shoendaller #1

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50436

Printed: 2013.06.28 @ 08:15:19

Serial #: 6668

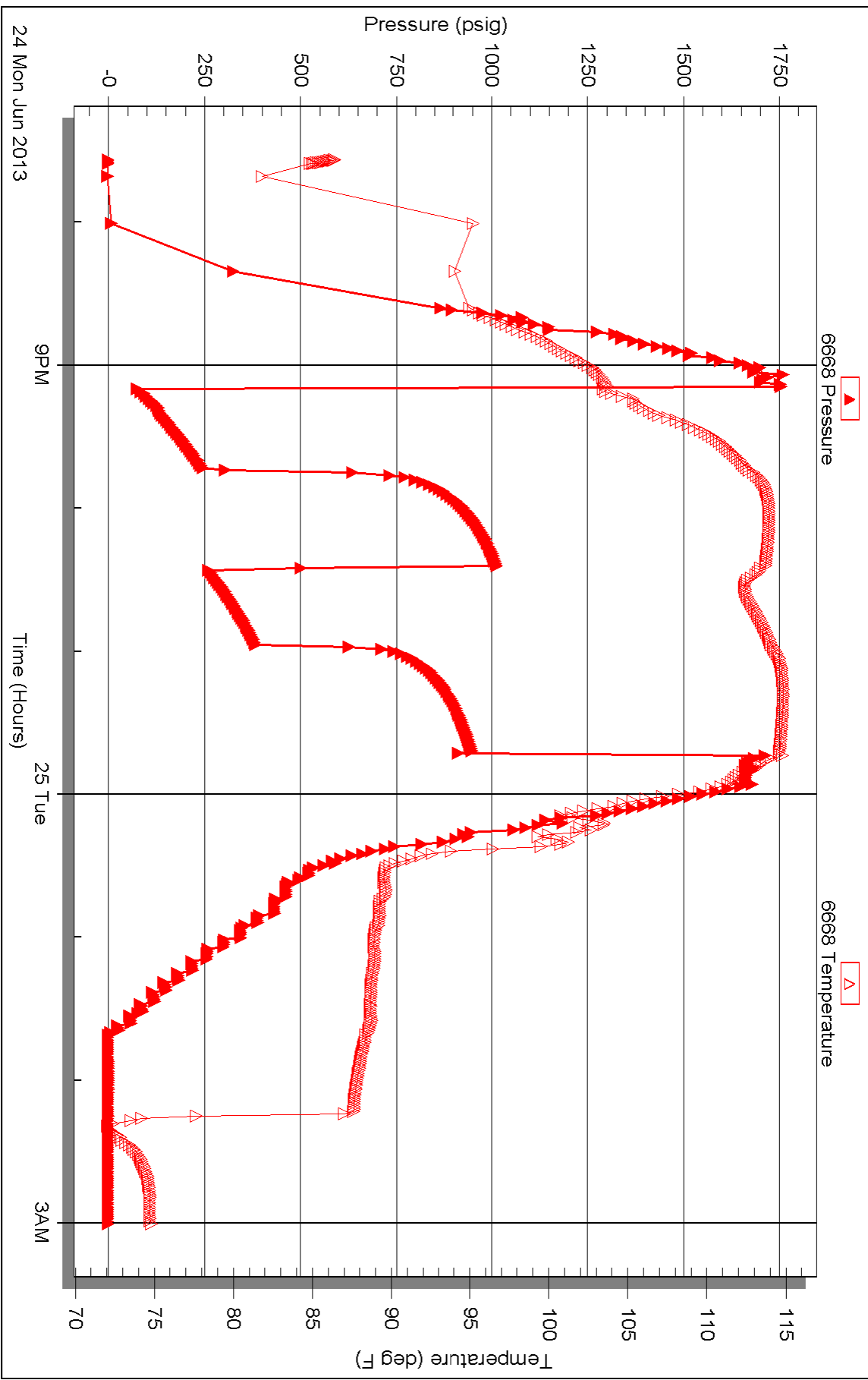
Outside

Downing Nelson Oil Company, Inc

Wilma Shoendaller #1

DST Test Number: 2

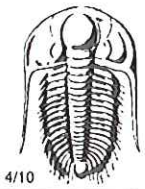
Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50436

Printed: 2013.06.28 @ 08:15:20



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50435

Well Name & No. Wilma Schoendaller # 1-24 Test No. 1 Date 6-24-13
 Company Downing Nelson Oil Company, Inc. Elevation 2100 KB 2092 GL
 Address PO Box 1019, Hays, KS. 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #1
 Location: Sec. 24 Twp. 14s Rge. 19w Co. Ellis State KS

Interval Tested 3453-3477 Zone Tested 'D'
 Anchor Length 24 Drill Pipe Run 3455 Mud Wt. 8.6
 Top Packer Depth 3448 Drill Collars Run 0 Vis 62
 Bottom Packer Depth 3453 Wt. Pipe Run 0 WL 7.6
 Total Depth 3477 Chlorides 2500 ppm System LCM 2 #

Blow Description IFP - Strong, BOB in 1 min.
ISI - Blowback Built to 3 1/2"
FFP - Strong, BOB in 2 min
FSI - Blowback BOB in 12 min.

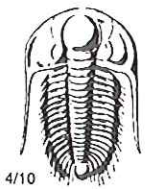
Rec	Feet of	%gas	%oil	%water	%mud
<u>300</u>	<u>Free Oil</u>				
<u>120</u>	<u>Salt Water</u>				
	<u>1860' GIP</u>				

Rec Total 420 BHT _____ Gravity 36 API RW .174 @ 74 °F Chlorides 38,006 ppm

(A) Initial Hydrostatic 1700 Test 1150 T-On Location 23:32
 (B) First Initial Flow 54 Jars _____ T-Started 24:35
 (C) First Final Flow 94 Safety Joint _____ T-Open 2:39
 (D) Initial Shut-In 999 Circ Sub _____ T-Pulled 4:39
 (E) Second Initial Flow 120 Hourly Standby _____ T-Out 6:55
 (F) Second Final Flow 193 Mileage 18 rt 27.90 Comments _____
 (G) Final Shut-In 994 Sampler _____
 (H) Final Hydrostatic 1694 Straddle _____ Ruined Shale Packer _____

Initial Open 15 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 45 Day Standby _____ Total 1177.90
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1177.90

Approved By _____ Our Representative Jana McLean Thank You
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50436

Well Name & No. Wilma Schoendaller #1-24 Test No. 2 Date 6-24-13
 Company DNOC Elevation 2100 KB 2092 GL
 Address PO Box 1019, Hays, Ks. 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #1
 Location: Sec. 24 Twp. 14s Rge. 19w Co. Ellis State Ks

Interval Tested 3528-3599 Zone Tested H-J
 Anchor Length 71' Drill Pipe Run 3510 Mud Wt. 8.6
 Top Packer Depth 3523 Drill Collars Run 0 Vis 62
 Bottom Packer Depth 3528 Wt. Pipe Run 0 WL 7.6
 Total Depth 3599 Chlorides 2500 ppm System LCM 2 #
 Blow Description IFP - Strong, BOB in 2 1/2 min.
ISI - Blowback BOB in 9 min
FFP - Strong, BOB in 2 min.
FSI - Blowback BOB in 6 min, Gas To Surface

Rec	Feet of	%gas	%oil	%water	%mud
900	Free Oil				
60	Muddy Oil		60		40

Rec Total 960 BHT _____ Gravity 34 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1754 Test 1150 T-On Location 19:07
 (B) First Initial Flow 71 Jars _____ T-Started 19:32
 (C) First Final Flow 244 Safety Joint _____ T-Open 21:09
 (D) Initial Shut-In 1007 Circ Sub _____ T-Pulled 23:39
 (E) Second Initial Flow 262 Hourly Standby _____ T-Out 3:00
 (F) Second Final Flow 383 Mileage 27.90 Comments _____
 (G) Final Shut-In 948 Sampler _____
 (H) Final Hydrostatic 1648 Straddle _____
 Ruined Shale Packer _____
 Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1177.90 Sub Total 0
 Total 1177.90 MP/DST Disc't _____

Approved By _____ Our Representative Jason McLenore *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.