



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Muhlheim AC #1-14

14-13s-21w Trego,KS

Start Date: 2012.05.03 @ 09:18:55

End Date: 2012.05.03 @ 16:44:55

Job Ticket #: 44786 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

14-13s-21w Trego,KS

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Job Ticket: 44786

DST#: 1

Test Start: 2012.05.03 @ 09:18:55

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:15:25

Time Test Ended: 16:44:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Jeff Brown

Unit No: 59

Interval: 3856.00 ft (KB) To 3881.00 ft (KB) (TVD)

Reference Elevations: 2240.00 ft (KB)

Total Depth: 3881.00 ft (KB) (TVD)

2234.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 6.00 ft

Serial #: 8319 Outside

Press @RunDepth: 284.15 psig @ 3858.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.05.03

End Date:

2012.05.03

Last Calib.:

2012.05.03

Start Time:

09:19:00

End Time:

16:45:54

Time On Btm:

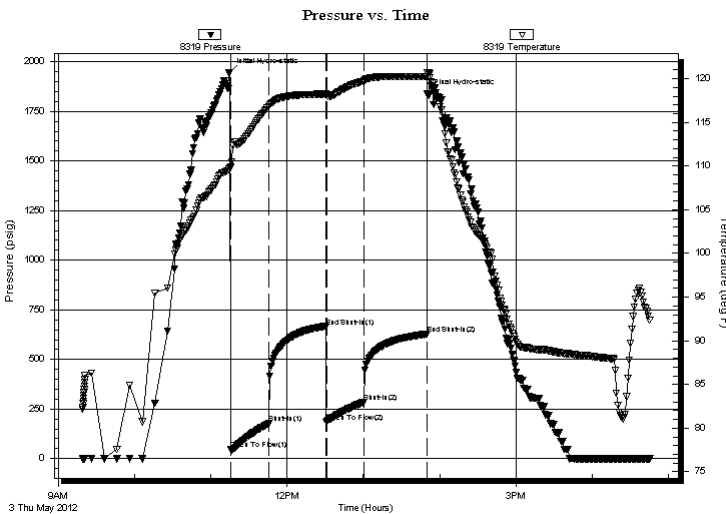
2012.05.03 @ 11:14:55

Time Off Btm:

2012.05.03 @ 13:50:25

TEST COMMENT: IFP-Strong blow BOB in 2 1/2 min
ISI-Good blow back BOB in 33 min
FFP-Strong blow BOB in 4 min
FSI-Fair blow back built to 5 in

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1946.54	109.75	Initial Hydro-static
1	46.32	109.86	Open To Flow (1)
31	176.55	116.81	Shut-In(1)
76	663.50	118.24	End Shut-In(1)
76	184.67	118.14	Open To Flow (2)
106	284.15	119.75	Shut-In(2)
155	627.09	120.26	End Shut-In(2)
156	1838.47	120.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	MCGO 20%G 25%M 55%O	0.28
736.00	Gassy Oil 45%G 55%O	10.32
0.00	704 GIP-	0.00

Gas Rates

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



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TESTING, INC**

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TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

14-13s-21w Trego,KS

PO Box 1019
Hays KS 67601

Muhlheim AC #1-14

Job Ticket: 44786

DST#: 1

ATTN: Ron Nelson

Test Start: 2012.05.03 @ 09:18:55

Tool Information

Drill Pipe:	Length: 3825.00 ft	Diameter: 3.80 inches	Volume: 53.65 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:	20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	74000.00 lb
			<u>Total Volume: 53.80 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	3856.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	46.00 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			3836.00	
Shut In Tool	5.00			3841.00	
Hydraulic tool	5.00			3846.00	
Packer	5.00			3851.00	21.00 Bottom Of Top Packer
Packer	5.00			3856.00	
Stubb	1.00			3857.00	
Perforations	1.00			3858.00	
Recorder	0.00	8369	Inside	3858.00	
Recorder	0.00	8319	Outside	3858.00	
Perforations	20.00			3878.00	
Bullnose	3.00			3881.00	25.00 Bottom Packers & Anchor

Total Tool Length: 46.00



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FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

14-13s-21w Trego,KS

PO Box 1019
Hays KS 67601

Muhlheim AC #1-14

Job Ticket: 44786

DST#: 1

ATTN: Ron Nelson

Test Start: 2012.05.03 @ 09:18:55

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 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
40.00	MCGO 20%G 25%M 55%O	0.279
736.00	Gassy Oil 45%G 55%O	10.324
0.00	704 GIP-	0.000

Total Length: 776.00 ft

Total Volume: 10.603 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

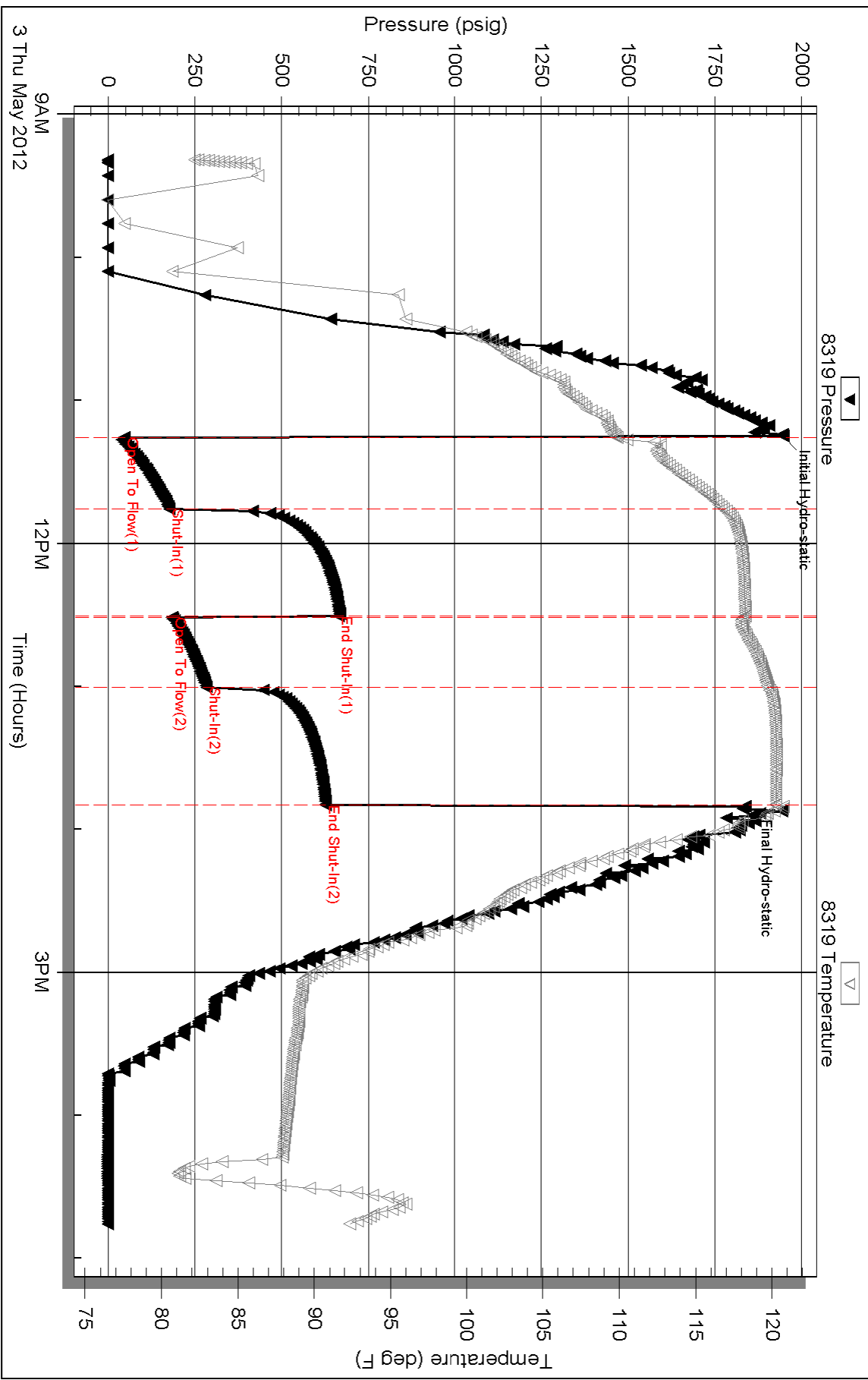
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



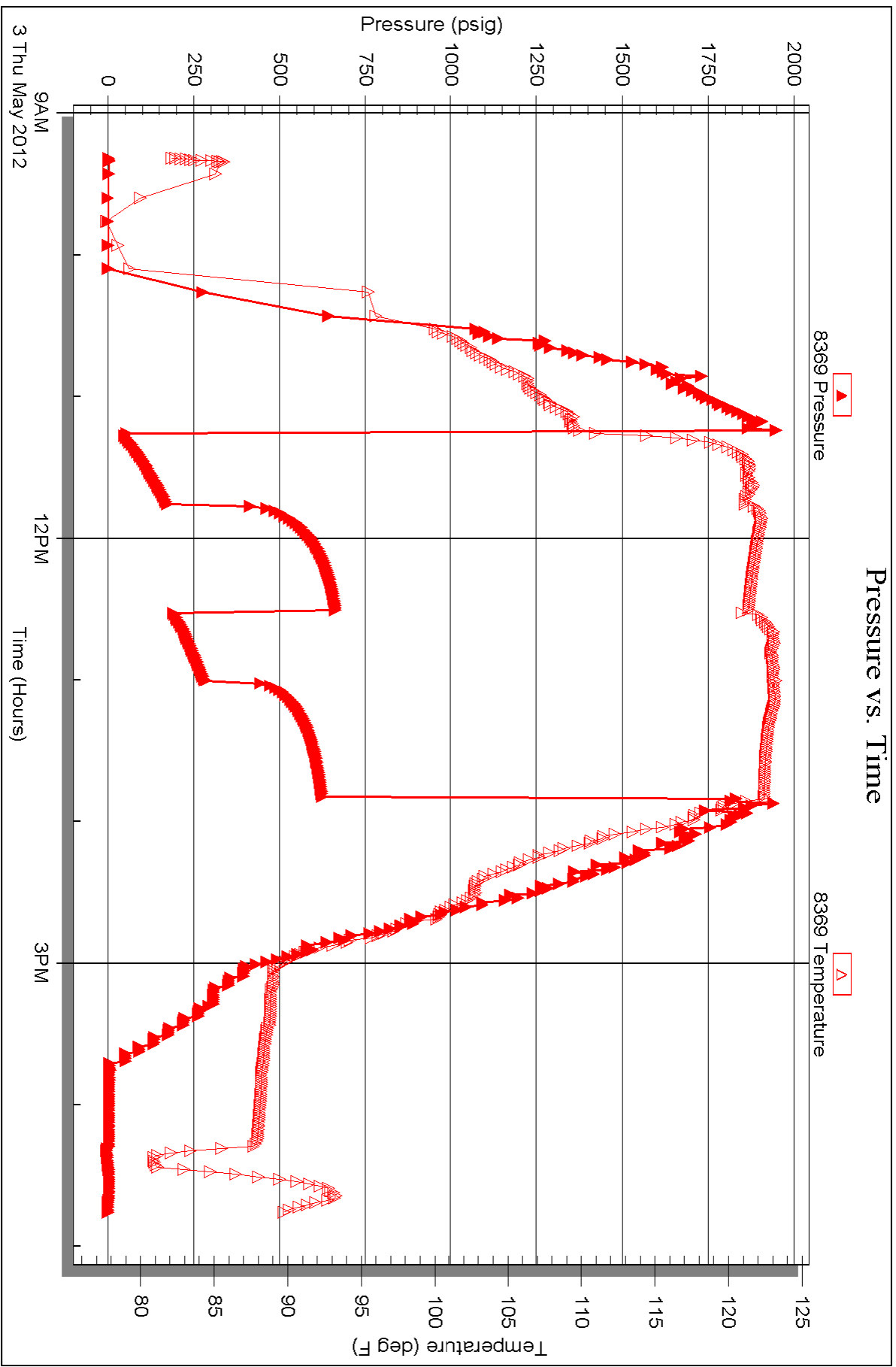
Serial #: 8369

Inside

Dow nung-Nelson Oil Co Inc

Muhlheim AC#1-14

DST Test Number: 1





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 44786

Well Name & No. Muhlheim AC 1-14 Test No. 1 Date 5-3-12
 Company Downing-Nelson Oil Co INC Elevation 2241 KB 2234 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #4
 Location: Sec. 14 Twp. 13 S Rge. 21 W Co. Trego State KS

Interval Tested 3856 - 3881 Zone Tested Margton
 Anchor Length 25 Drill Pipe Run 3825 Mud Wt. 89
 Top Packer Depth 3851 Drill Collars Run 31 Vis 560
 Bottom Packer Depth 3856 Wt. Pipe Run 0 WL 88
 Total Depth 3881 Chlorides 2800 ppm System LCM 2 1/2

Blow Description All-Strong Blow BOB IN 2 1/2 min
1st-Comb Blow Back BOB IN 33 min
All-Strong Blow BOB IN 4 min
1st-Fair Blow Back Built to 5 IN

Rec	Feet of	%gas	%oil	%water	%mud
40	MCGO	20	55		25
7320	CASSY OIL	45	55		
	704-GIP				

Rec Total 7720 BHT 120 Gravity 36 API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 1947 Test 1150 T-On Location 8:48
 (B) First Initial Flow 420 Jars T-Started 9:18
 (C) First Final Flow 177 Safety Joint T-Open 11:14
 (D) Initial Shut-In 2064 Circ Sub T-Pulled 13:44
 (E) Second Initial Flow 185 Hourly Standby T-Out 12:44
 (F) Second Final Flow 284 Mileage 42 RT 1650 Comments
 (G) Final Shut-In 2027 Sampler
 (H) Final Hydrostatic 1838 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder Sub Total 0
 Day Standby Total 1215.10
 Accessibility MP/DST Disc't
 Sub Total 1215.10

Initial Open 30
 Initial Shut-In 45
 Final Flow 30
 Final Shut-In 45

Approved By _____ Our Representative Jeff Brown

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