

DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Herman #1-11

11-14s-21w Trego,KS

Start Date: 2013.02.05 @ 01:01:05

End Date: 2013.02.05 @ 08:03:09

Job Ticket #: 51469 DST #: 1

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

Printed: 2013.02.07 @ 15:26:22

Downing-Nelson Oil Co inc.
11-14s-21w Trego,KS
Herman #1-11
DST # 1
Marmaton
2013.02.05



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:57:40

Time Test Ended: 08:03:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3913.00 ft (KB) To 3930.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 3930.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 80.76 psig @ 3914.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.05 End Date: 2013.02.05

Last Calib.: 2013.02.05

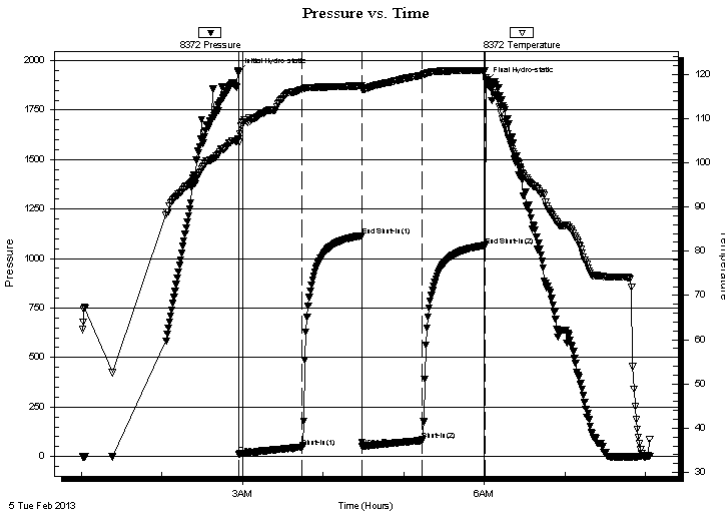
Start Time: 01:01:05 End Time: 08:03:10

Time On Btm: 2013.02.05 @ 02:56:40

Time Off Btm: 2013.02.05 @ 06:01:39

TEST COMMENT: IF:(45min) 1" blow in 1min. 3" in 8 min. 6" in 25 min. Built to 9"
ISl:(45min) No Return
FF:(45min) 1" blow in 5 min. 3" in 19 min. Built to 6"
FSl:(45min) No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1941.20	105.30	Initial Hydro-static
1	12.68	104.61	Open To Flow (1)
48	47.98	116.54	Shut-In(1)
93	1115.28	117.35	End Shut-In(1)
93	49.88	116.80	Open To Flow (2)
138	80.76	119.73	Shut-In(2)
184	1066.31	120.84	End Shut-In(2)
185	1893.21	118.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
150.00	Water	2.10

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

Tool Information

Drill Pipe:	Length: 3898.00 ft	Diameter: 3.80 inches	Volume: 54.68 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: 24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.68 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3913.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	37.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

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

Change Over Sub	1.00			3894.00	
Shut In Tool	5.00			3899.00	
Hydraulic tool	5.00			3904.00	
Packer	5.00			3909.00	20.00 Bottom Of Top Packer
Packer	4.00			3913.00	
Stubb	1.00			3914.00	
Recorder	0.00	8844	Inside	3914.00	
Recorder	0.00	8372	Outside	3914.00	
Perforations	13.00			3927.00	
Bullnose	3.00			3930.00	17.00 Bottom Packers & Anchor
Total Tool Length:	37.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

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:

36000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	Water	2.104

Total Length: 150.00 ft Total Volume: 2.104 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

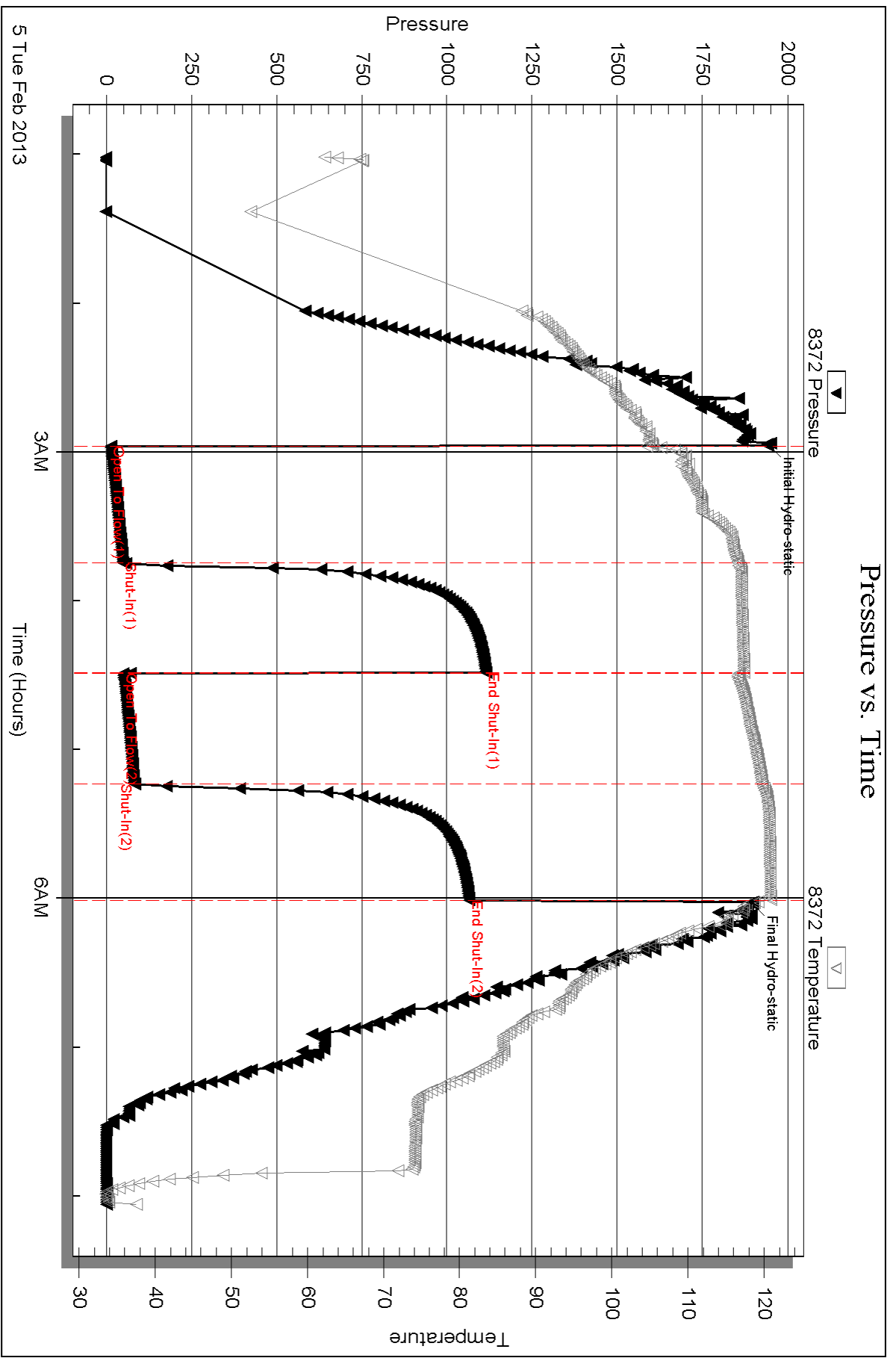
Recovery Comments:

Serial #: 8372

Outside Dow nting-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 1



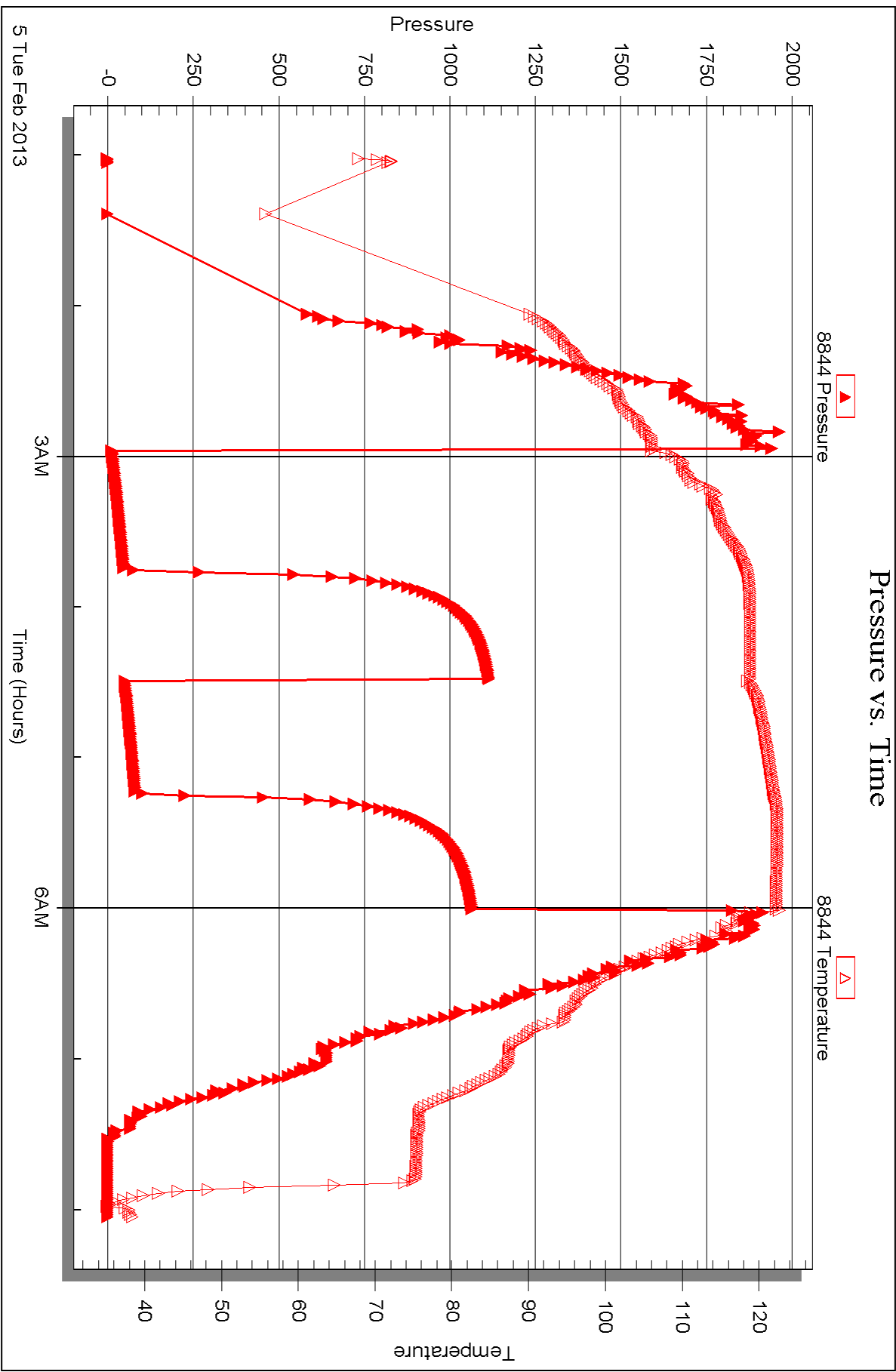
Serial #: 8844

Inside

Dow nging-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 1





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Herman #1-11

11-14s-21w Trego,KS

Start Date: 2013.02.05 @ 16:40:05

End Date: 2013.02.05 @ 23:25:39

Job Ticket #: 51470 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.02.07 @ 15:25:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51470

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 16:40:05

GENERAL INFORMATION:

Formation: **Cong. Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:29:00

Time Test Ended: 23:25:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3943.00 ft (KB) To 3990.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 3990.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 52.74 psig @ 3950.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.05 End Date: 2013.02.05

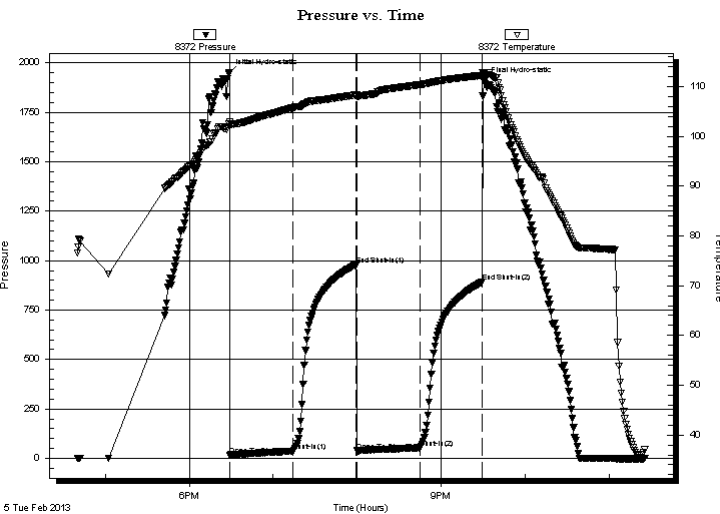
Last Calib.: 2013.02.05

Start Time: 16:40:05 End Time: 23:25:40

Time On Btm: 2013.02.05 @ 18:28:10

Time Off Btm: 2013.02.05 @ 21:30:39

TEST COMMENT: IF:(45min) 1" blow in 3 min. 3" in 15 min. 5" in 29 min. Built to 7"
IS:(45min) No Return
FF:(45min) 1" blow in 4 min. 3" in 21 min. 5" in 40 min. Built to 5.5"
FS:(45min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1946.21	102.58	Initial Hydro-static
1	16.28	101.90	Open To Flow (1)
46	35.81	105.76	Shut-In(1)
92	980.47	108.30	End Shut-In(1)
92	37.90	107.92	Open To Flow (2)
137	52.74	110.35	Shut-In(2)
182	892.57	112.24	End Shut-In(2)
183	1903.86	112.66	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OCM o=30% m=70%	0.84
30.00	MCO m=40% o=60%	0.42
5.00	CO o=100%	0.07

* 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 Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51470

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 16:40:05

Tool Information

Drill Pipe:	Length: 3928.00 ft	Diameter: 3.80 inches	Volume: 55.10 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:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 55.10 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3943.00 ft			Final	57000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	47.00 ft				
Tool Length:	67.00 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			3924.00	
Shut In Tool	5.00			3929.00	
Hydraulic tool	5.00			3934.00	
Packer	5.00			3939.00	20.00 Bottom Of Top Packer
Packer	4.00			3943.00	
Stubb	1.00			3944.00	
Perforations	5.00			3949.00	
Change Over Sub	1.00			3950.00	
Recorder	0.00	8844	Inside	3950.00	
Recorder	0.00	8372	Outside	3950.00	
Drill Pipe	32.00			3982.00	
Change Over Sub	1.00			3983.00	
Perforations	4.00			3987.00	
Bullnose	3.00			3990.00	47.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51470

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 16:40:05

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
60.00	OCM o=30% m=70%	0.842
30.00	MCO m=40% o=60%	0.421
5.00	CO o=100%	0.070

Total Length: 95.00 ft Total Volume: 1.333 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

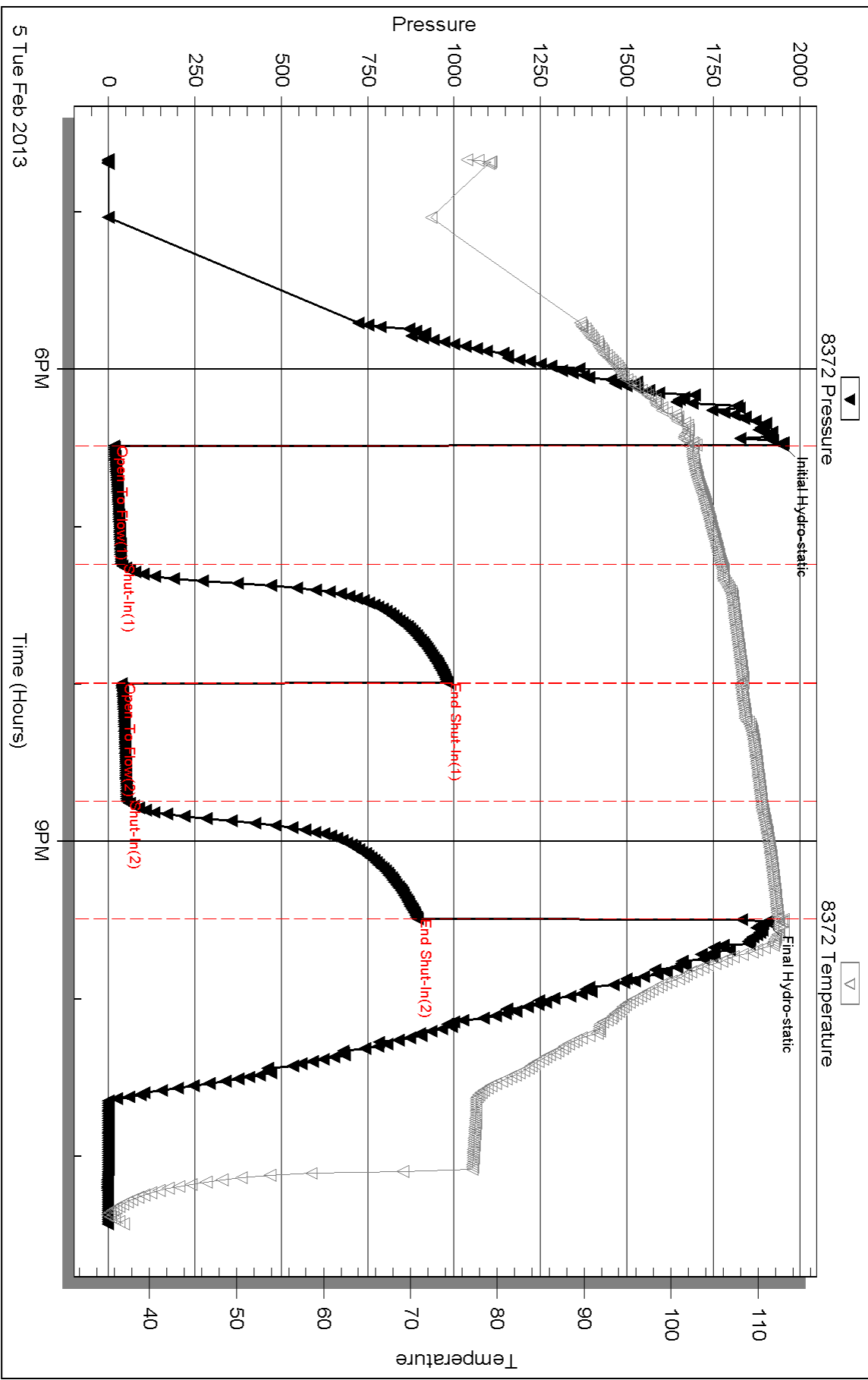
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



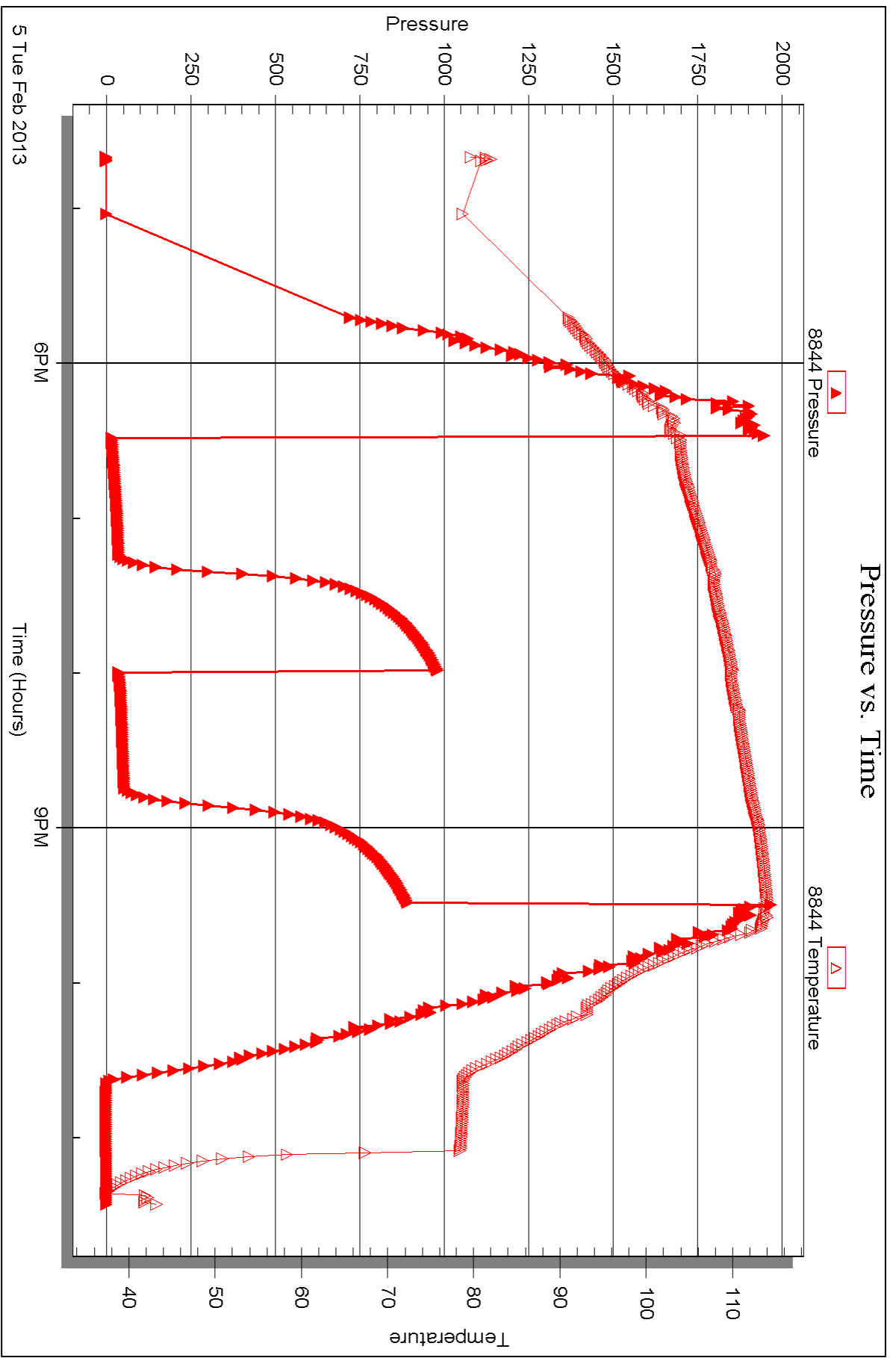
Serial #: 8844

Inside

Dow nging-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 2





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Herman #1-11

11-14s-21w Trego,KS

Start Date: 2013.02.06 @ 15:42:05

End Date: 2013.02.06 @ 21:54:39

Job Ticket #: 51471 DST #: 3

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

Printed: 2013.02.07 @ 15:25:00



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

ATTN: Ron Nelson

Job Ticket: 51471

DST#: 3

Test Start: 2013.02.06 @ 15:42:05

GENERAL INFORMATION:

Formation: **Lower Cong. Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:23:10

Time Test Ended: 21:54:39

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3994.00 ft (KB) To 4028.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 4112.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 37.26 psig @ 3995.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.06

End Date: 2013.02.06

Last Calib.: 2013.02.06

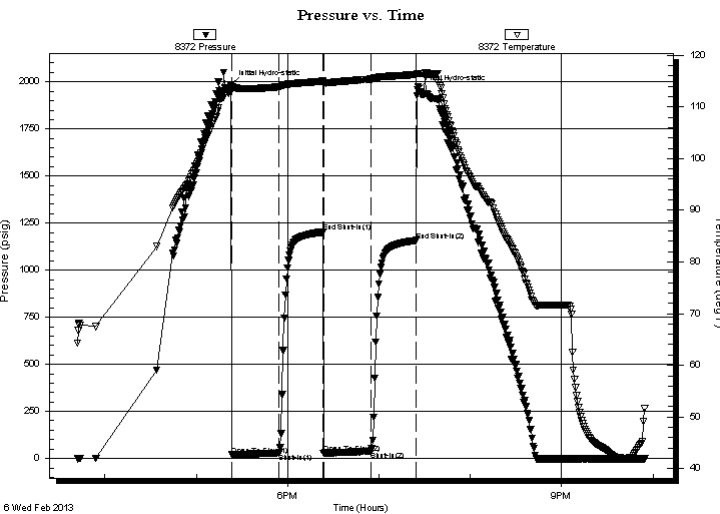
Start Time: 15:42:05

End Time: 21:54:40

Time On Btm: 2013.02.06 @ 17:23:00

Time Off Btm: 2013.02.06 @ 19:25:20

TEST COMMENT: IF:(30min) 1" blow in 9 min. Held at 1"
ISl:(30min) No Return
FF:(30min) Surface blow
FSl:(30min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1986.76	114.26	Initial Hydro-static
1	19.56	113.28	Open To Flow (1)
32	28.44	113.89	Shut-In(1)
61	1201.26	114.99	End Shut-In(1)
61	28.93	114.32	Open To Flow (2)
92	37.26	115.37	Shut-In(2)
122	1157.84	116.26	End Shut-In(2)
123	1958.93	116.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	WM w =35% m=65%	0.56

* 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 Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51471

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.02.06 @ 15:42:05

Tool Information

Drill Pipe:	Length: 3994.00 ft	Diameter: 3.80 inches	Volume: 56.03 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:	26000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	68000.00 lb
			<u>Total Volume: 56.03 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3994.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	4028.00 ft				
Interval between Packers:	34.00 ft				
Tool Length:	142.00 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			3975.00	
Shut In Tool	5.00			3980.00	
Hydraulic tool	5.00			3985.00	
Packer	5.00			3990.00	20.00 Bottom Of Top Packer
Packer	4.00			3994.00	
Stubb	1.00			3995.00	
Recorder	0.00	8844	Inside	3995.00	
Recorder	0.00	8372	Outside	3995.00	
Perforations	28.00			4023.00	
Blank Spacing	4.00			4027.00	
Blank Off Sub	1.00			4028.00	34.00 Tool Interval
Packer	4.00			4032.00	
Stubb	1.00			4033.00	
Perforations	15.00			4048.00	
Change Over Sub	1.00			4049.00	
Recorder	0.00	8647	Below	4049.00	
Drill Pipe	63.00			4112.00	
Change Over Sub	1.00			4113.00	
Bullnose	3.00			4116.00	88.00 Bottom Packers & Anchor

Total Tool Length: 142.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51471

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.02.06 @ 15:42:05

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:

19000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	WM w =35% m=65%	0.561

Total Length: 40.00 ft Total Volume: 0.561 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

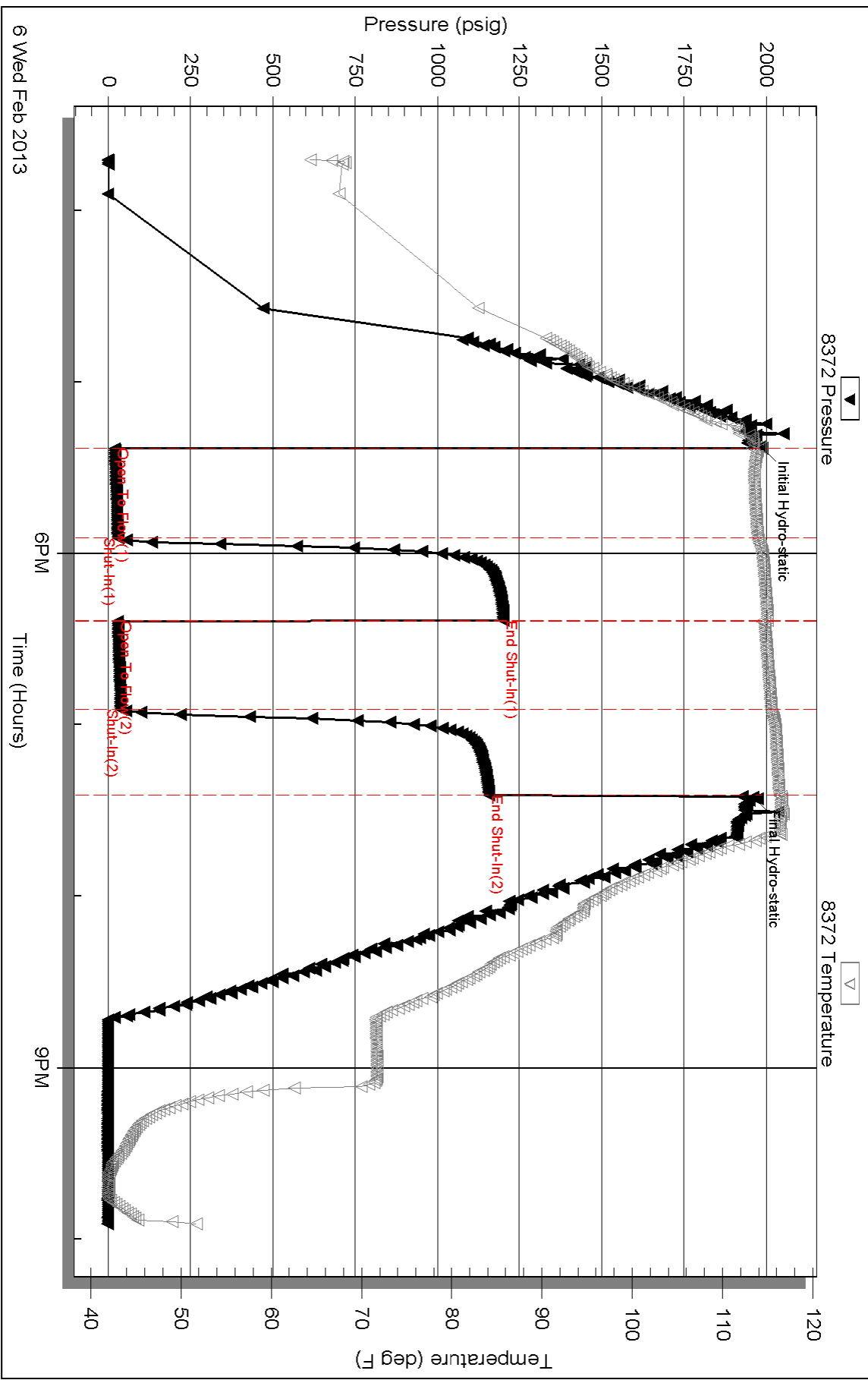
Serial #: 8372

Outside Dow nung-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 51471

Printed: 2013.02.07 @ 15:25:03

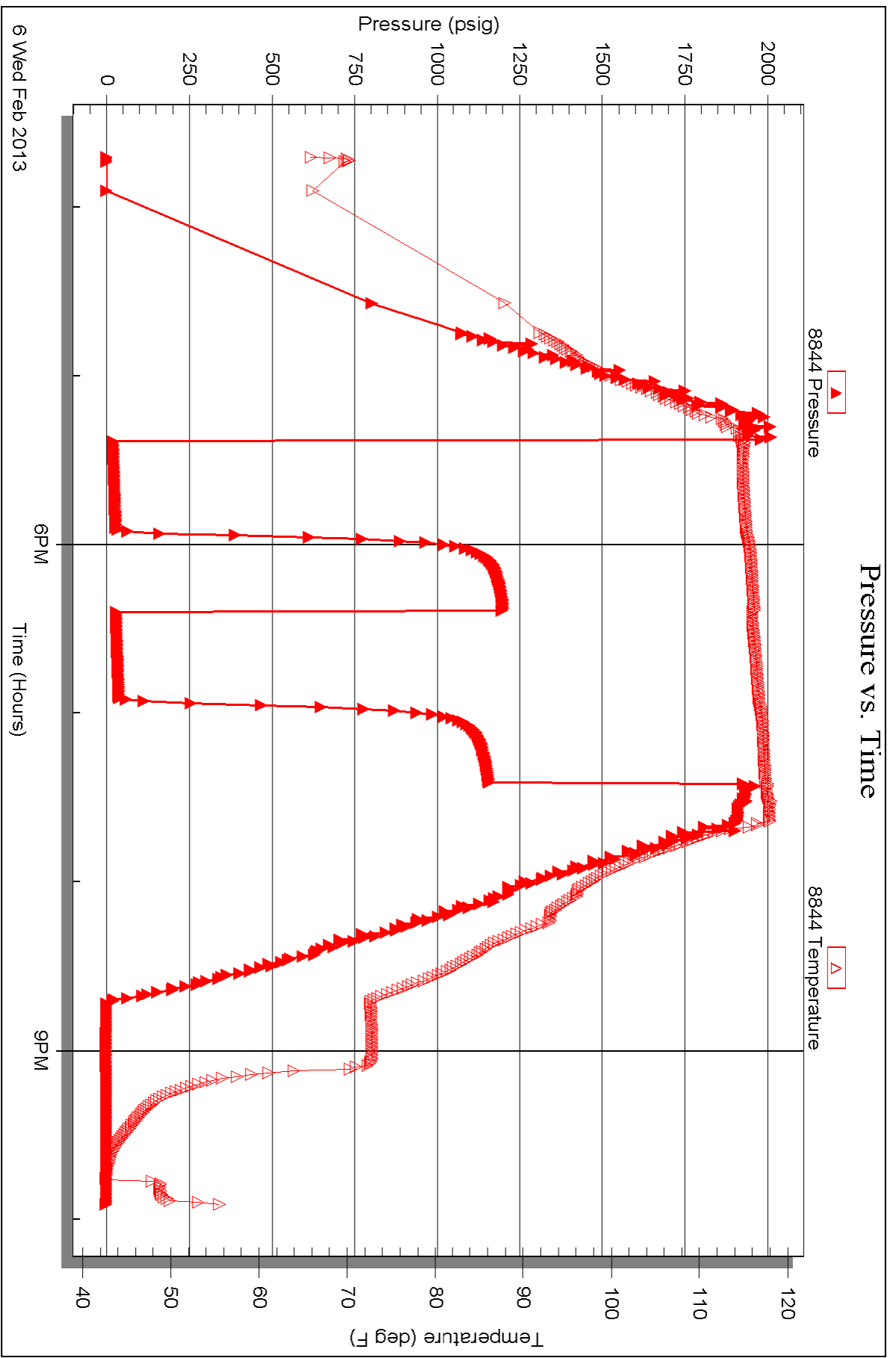
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Inside

Dow nging-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 3

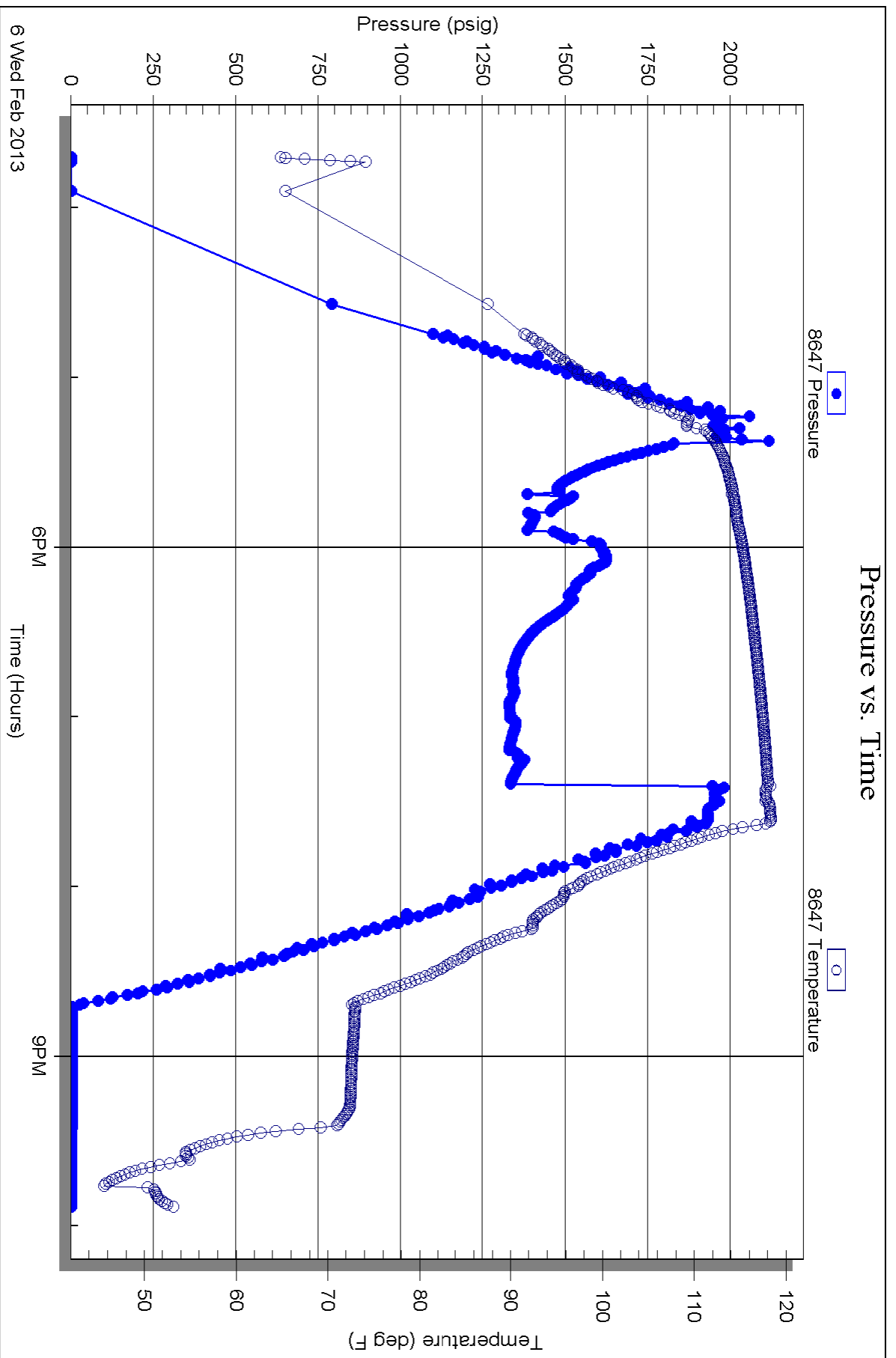


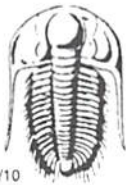
Serial #: 8647

Below (Stratton)ng-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51469

4/10

Well Name & No. HERMAN 1-11 Test No. 1 Date 2-4-13
 Company Downing-Nelson oil co. inc. Elevation 2232 KB 2224 GL
 Address PO BOX 1019 HAYS, KS 67601
 Co. Rep / Geo. RON NELSON Rig Discovery #3
 Location: Sec. 11 Twp. 14S Rge. 21W Co. 12E90 State KS

Interval Tested 3913-3930 Zone Tested MARMATON
 Anchor Length 17' Drill Pipe Run 3898 Mud Wt. 8.9
 Top Packer Depth 3908 Drill Collars Run 0 Vis 5.6
 Bottom Packer Depth 3913 Wt. Pipe Run 0 WL 8.8
 Total Depth 3930 Chlorides 1000 ppm System LCM 1#

Blow Description BF: 1" blow in 1 min, 3" in 8 min 6" in 25 min. built to 9"
FSD: NO RETURN
FP: 1" blow in 5 min, 3" in 19 min. built to 6"
FSD: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>water</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 150 BHT 120 Gravity _____ API RW .625 @ 21 °F Chlorides 36000 ppm

- (A) Initial Hydrostatic 1941
- (B) First Initial Flow 12
- (C) First Final Flow 47
- (D) Initial Shut-In 1115
- (E) Second Initial Flow 49
- (F) Second Final Flow 80
- (G) Final Shut-In 1066
- (H) Final Hydrostatic 1893

- Test 1150
- Jars _____
- Safety Joint _____
- Circ Sub _____
- Hourly Standby _____
- Mileage 56RT 86.80
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____
- Sub Total 1236.80

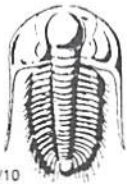
T-On Location 23:10
 T-Started 01:01
 T-Open 02:59
 T-Pulled 05:59
 T-Out 08:03

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1236.80

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

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. 51470

Well Name & No. Heeman 1-11 Test No. 2 Date 2-5-13
 Company DNUC Elevation 2232 KB 2224 GL
 Address PO Box 1019 Hays Ks 67601
 Co. Rep / Geo. RON NELSON Rig DISCOVERY #3
 Location: Sec. 11 Twp. 14S Rge. 21W Co. TR Ego State K5

Interval Tested 3943-3990 Zone Tested CONG. SAND
 Anchor Length 47' Drill Pipe Run 3928 Mud Wt. 9.1
 Top Packer Depth 3938 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 3943 Wt. Pipe Run 0 WL 8.8
 Total Depth 3990 Chlorides 1000 ppm System LCM 1/2#

Blow Description FF: 1" blow in 3 min. 3" in 15 min. 5" in 29 min. Built to 7"
FSI: NO RETURN
FF: 1" blow in 4 min. 3" in 21 min. 5" in 40 min. Built to 5 1/2"
FSI: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>CO</u>		<u>100</u>		
<u>30</u>	<u>MCO</u>		<u>60</u>		<u>40</u>
<u>60</u>	<u>OCM</u>		<u>30</u>		<u>70</u>

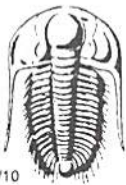
Rec Total 95 BHT 112° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1946 Test 1150 T-On Location 16:13
 (B) First Initial Flow 16 Jars _____ T-Started 16:40
 (C) First Final Flow 35 Safety Joint _____ T-Open 18:30
 (D) Initial Shut-In 980 Circ Sub _____ T-Pulled 21:30
 (E) Second Initial Flow 37 Hourly Standby _____ T-Out 23:26
 (F) Second Final Flow 52 Mileage 56RT 86.80 Comments _____
 (G) Final Shut-In 892 Sampler _____
 (H) Final Hydrostatic 1903 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 0
 Total 1236.80
 MP/DST Disc't _____
 Sub Total 1236.80

Approved By _____ Our Representative Andy Carr

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. 51471

Well Name & No. HERMAN 1-11 Test No. 3 Date 2-6-13
 Company DNO C Elevation 2232 KB 2224 GL
 Address PO Box 1019 Hays Ks. 67601
 Co. Rep / Geo. RON NELSON Rig DISCOVERY #3
 Location: Sec. 11 Twp. 14S Rge. 21W Co. 1R90 State K5

Interval Tested 3994-4028 Zone Tested LOWER CONG. SAND
 Anchor Length 34 Drill Pipe Run 3994 Mud Wt. 9.1
 Top Packer Depth 3994 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 4028 Wt. Pipe Run 0 WL 8.8
 Total Depth 4112 Chlorides 1000 ppm System LCM 1/2#
 Blow Description IF: 1" blow in 9 min. Held at 1"
ISI: NO RETURN
FF: Surface blow
FSL: NO RETURN

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>WM</u>			<u>35</u>	<u>65</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 40 BHT 116° Gravity _____ API RW .60 @ 39° F Chlorides 19000 ppm
 (A) Initial Hydrostatic 1986 Test ← 1250 T-On Location 14:22
 (B) First Initial Flow 19 Jars _____ T-Started 15:42
 (C) First Final Flow 28 Safety Joint _____ T-Open 17:24
 (D) Initial Shut-In 1201 Circ Sub _____ T-Pulled 19:24
 (E) Second Initial Flow 28 Hourly Standby _____ T-Out 21:55
 (F) Second Final Flow 37 Mileage SGRTR 86.80 Comments _____
 (G) Final Shut-In 1157 Sampler _____ 4028-4112 TD
 (H) Final Hydrostatic 1958 Straddle ← 600 Ruined Shale Packer _____
 Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1936.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1936.80

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.