



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Al Downing

Elsie Herman #1-32

32-17s-18w Rush,KS

Start Date: 2012.02.20 @ 19:21:39

End Date: 2012.02.21 @ 02:11:18

Job Ticket #: 45019 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.22 @ 14:52:19



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

32-17s-18w Rush,KS

PO Box 1019
Hays, KS 67601

Elsie Herman #1-32

Job Ticket: 45019

DST#: 1

ATTN: Al Dow ning

Test Start: 2012.02.20 @ 19:21:39

GENERAL INFORMATION:

Formation: **LKC-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:59:19

Time Test Ended: 02:11:18

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 60

Interval: 3489.00 ft (KB) To 3518.00 ft (KB) (TVD)

Reference Elevations: 2095.00 ft (KB)

Total Depth: 3518.00 ft (KB) (TVD)

2087.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8373 Inside

Press @ Run Depth: 73.84 psig @ 3490.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.20

End Date:

2012.02.21

Last Calib.: 2012.02.21

Start Time: 19:21:39

End Time:

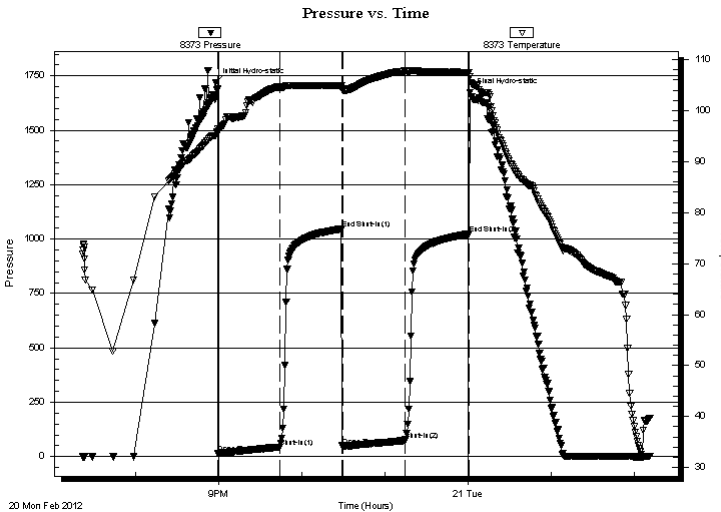
02:11:18

Time On Btm: 2012.02.20 @ 20:57:49

Time Off Btm: 2012.02.21 @ 00:01:18

TEST COMMENT: IF: BOB in 22 min.
IS: No return.
FF: Surface blow BOB in 38 min.
FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1718.74	95.18	Initial Hydro-static
2	14.07	95.93	Open To Flow (1)
47	44.35	104.61	Shut-In(1)
91	1046.18	104.83	End Shut-In(1)
92	45.68	103.93	Open To Flow (2)
137	73.84	107.72	Shut-In(2)
183	1023.19	107.51	End Shut-In(2)
184	1673.31	106.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	mcw 90%w 10%m	1.74
5.00	free oil 100%o	0.07
0.00	124 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.

32-17s-18w Rush,KS

PO Box 1019
Hays, KS 67601

Elsie Herman #1-32

Job Ticket: 45019

DST#: 1

ATTN: Al Dow ning

Test Start: 2012.02.20 @ 19:21:39

Tool Information

Drill Pipe:	Length: 3486.00 ft	Diameter: 3.80 inches	Volume: 48.90 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 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: 80000.00 lb
			<u>Total Volume: 48.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3489.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	29.00 ft			
Tool Length:	49.00 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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Stubb	1.00			3470.00	
Shut In Tool	5.00			3475.00	
Hydraulic tool	5.00			3480.00	
Packer	5.00			3485.00	20.00 Bottom Of Top Packer
Packer	4.00			3489.00	
Stubb	1.00			3490.00	
Recorder	0.00	8373	Inside	3490.00	
Recorder	0.00	8356	Outside	3490.00	
Perforations	23.00			3513.00	
Bullnose	5.00			3518.00	29.00 Bottom Packers & Anchor
Total Tool Length:	49.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

32-17s-18w Rush,KS

PO Box 1019
Hays, KS 67601

Elsie Herman #1-32

Job Ticket: 45019

DST#: 1

ATTN: Al Dow ning

Test Start: 2012.02.20 @ 19:21:39

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

160000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.14 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	mcw 90%w 10%m	1.739
5.00	free oil 100%o	0.070
0.00	124 GIP	0.000

Total Length: 129.00 ft Total Volume: 1.809 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

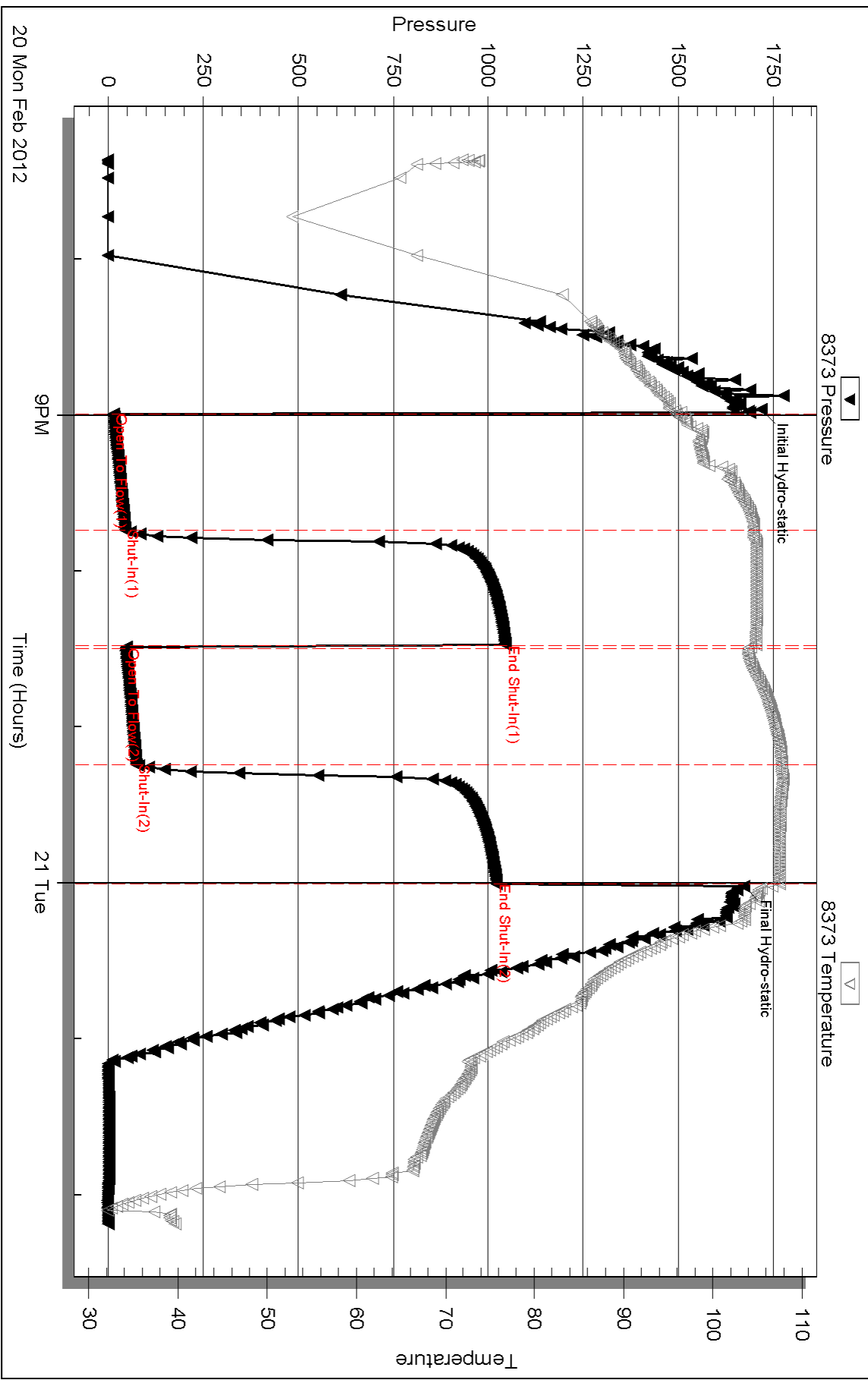
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .12@34=160000

Pressure vs. Time

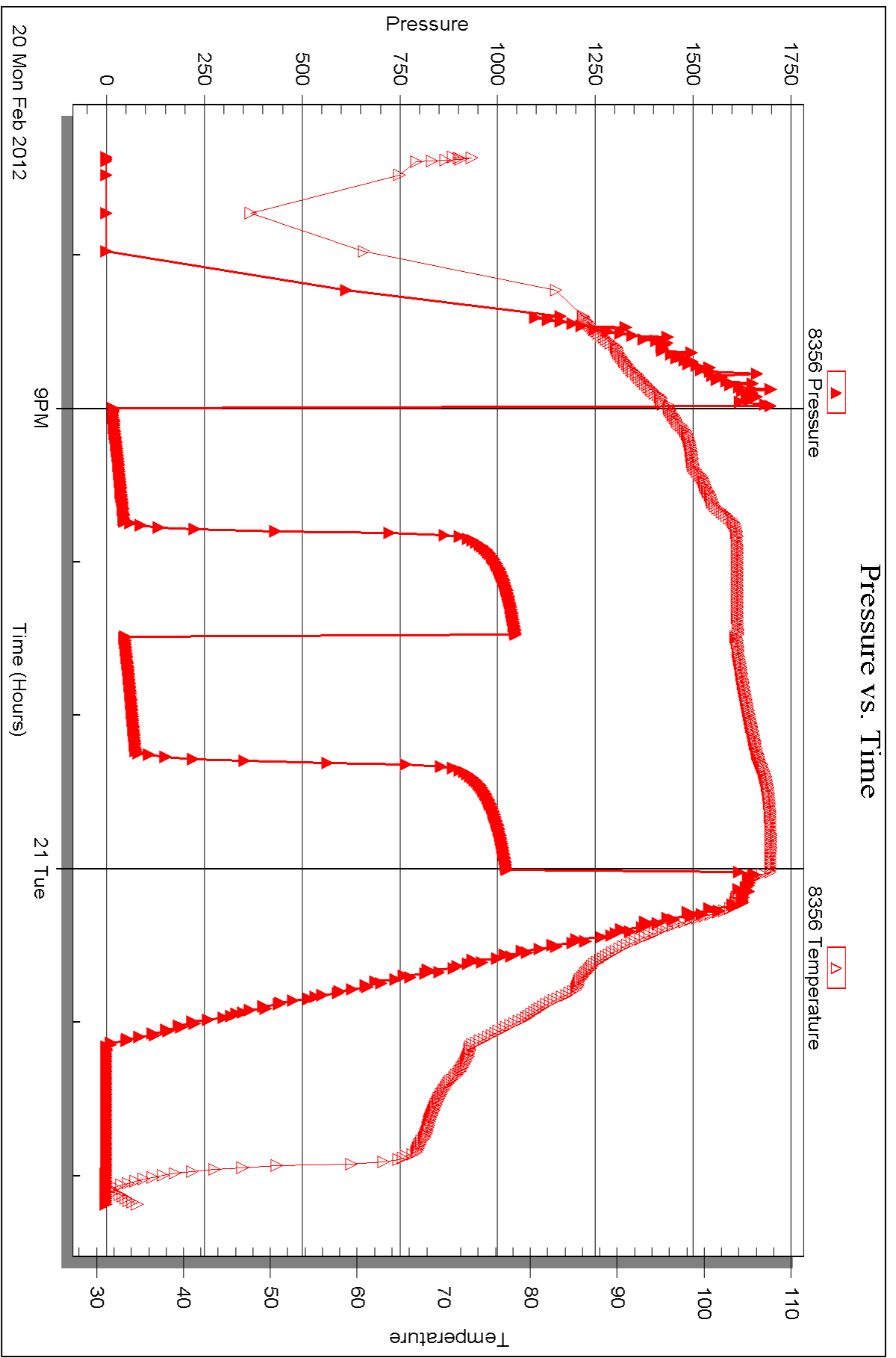


Serial #: 8356

Outside Dow nung-Nelson Oil Co.

Esie Herman #1-32

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 45019

Printed: 2012.02.22 @ 14:52:21



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Al Downing

Elsie Herman #1-32

32-17s-18w Rush,KS

Start Date: 2012.02.22 @ 03:15:10

End Date: 2012.02.22 @ 09:56:34

Job Ticket #: 46251 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.02.22 @ 14:51:27



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

32-17s-18w Rush,KS

PO Box 1019
Hays, KS 67601

Elsie Herman #1-32

Job Ticket: 46251

DST#: 2

ATTN: Al Dow ning

Test Start: 2012.02.22 @ 03:15:10

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:23:35

Time Test Ended: 09:56:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schw ager

Unit No: 42

Interval: 3815.00 ft (KB) To 3854.00 ft (KB) (TVD)

Reference Elevations: 2095.00 ft (KB)

Total Depth: 3854.00 ft (KB) (TVD)

2087.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6625

Inside

Press @RunDepth: 793.56 psig @ 3826.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.22

End Date:

2012.02.22

Last Calib.:

2012.02.22

Start Time: 03:15:10

End Time:

09:56:34

Time On Btm:

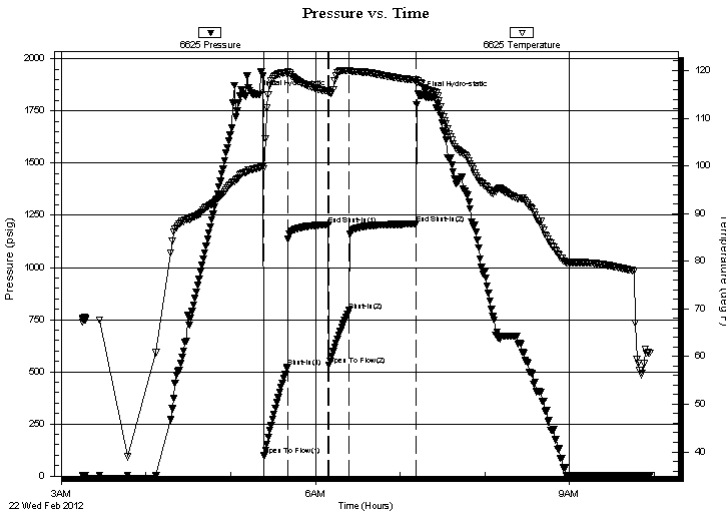
2012.02.22 @ 05:18:35

Time Off Btm:

2012.02.22 @ 07:14:05

TEST COMMENT: 15-IFP-strg bl in 1min
30-ISIP-no bl
15-FFP-strg bl in 2 min
45-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.01	99.48	Initial Hydro-static
5	98.15	99.45	Open To Flow (1)
22	523.15	119.51	Shut-In(1)
51	1205.31	115.66	End Shut-In(1)
51	533.03	115.42	Open To Flow (2)
65	793.56	119.99	Shut-In(2)
113	1208.75	118.00	End Shut-In(2)
116	1824.83	117.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
310.00	MW 15%M85%W	4.35
1290.00	Water	18.10

* 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.

32-17s-18w Rush,KS

PO Box 1019
Hays, KS 67601

Elsie Herman #1-32

Job Ticket: 46251

DST#: 2

ATTN: Al Dow ning

Test Start: 2012.02.22 @ 03:15:10

Tool Information

Drill Pipe:	Length: 3802.00 ft	Diameter: 3.80 inches	Volume: 53.33 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 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:	70000.00 lb
			<u>Total Volume: 53.33 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	51000.00 lb
Depth to Top Packer:	3815.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	39.00 ft				
Tool Length:	60.00 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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Stubb	1.00			3795.00	
Shut In Tool	5.00			3800.00	
Hydraulic tool	5.00			3805.00	
Packer	5.00			3810.00	21.00 Bottom Of Top Packer
Packer	5.00			3815.00	
Stubb	1.00			3816.00	
Perforations	10.00			3826.00	
Recorder	0.00	6625	Inside	3826.00	
Recorder	0.00	8700	Outside	3826.00	
Perforations	25.00			3851.00	
Bullnose	3.00			3854.00	39.00 Bottom Packers & Anchor

Total Tool Length: 60.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

32-17s-18w Rush,KS

PO Box 1019
Hays, KS 67601

Elsie Herman #1-32

Job Ticket: 46251

DST#: 2

ATTN: Al Dow ning

Test Start: 2012.02.22 @ 03:15:10

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:

31000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.75 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
310.00	MW 15%M85%W	4.348
1290.00	Water	18.095

Total Length: 1600.00 ft Total Volume: 22.443 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

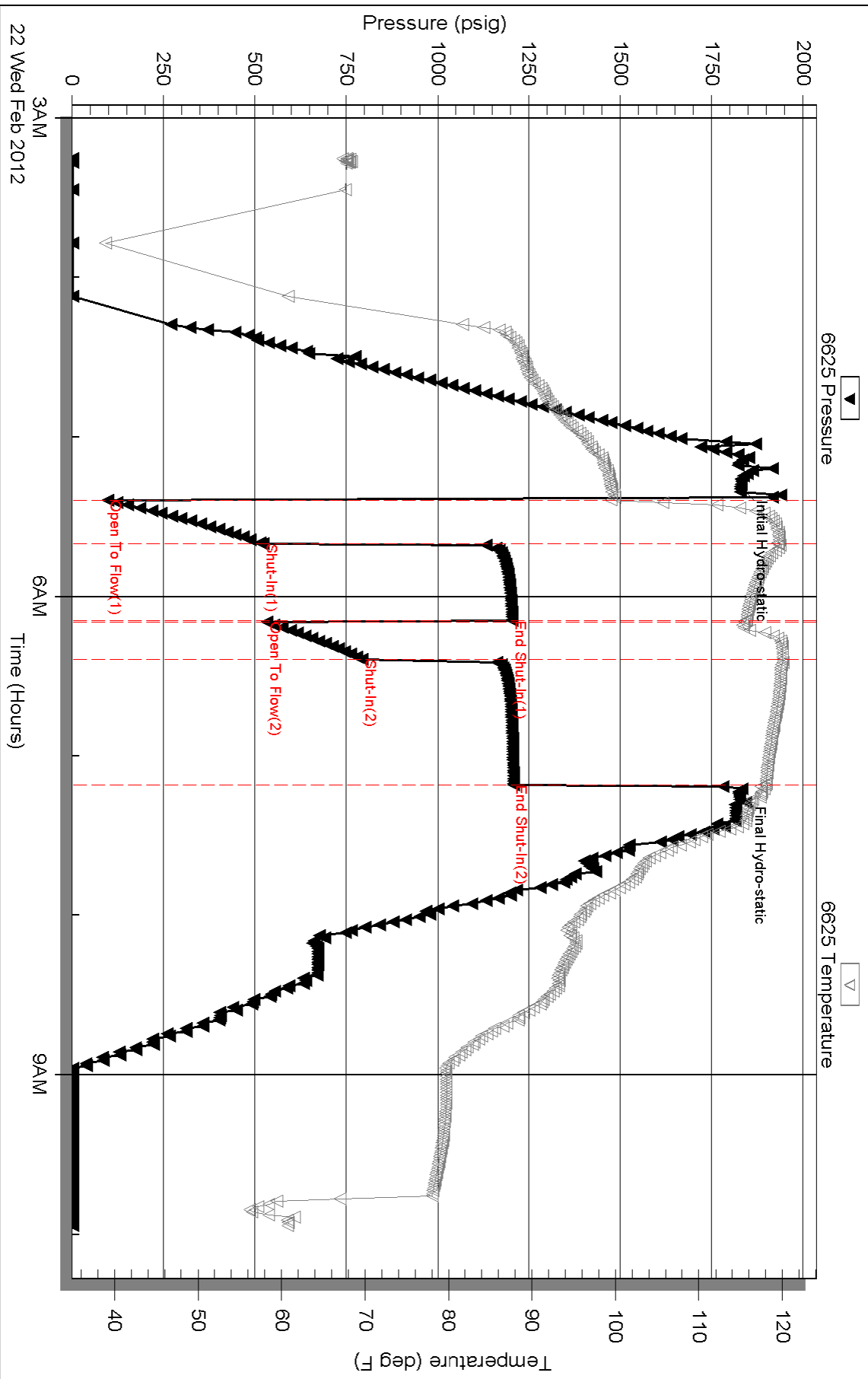
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .22@70F

Pressure vs. Time



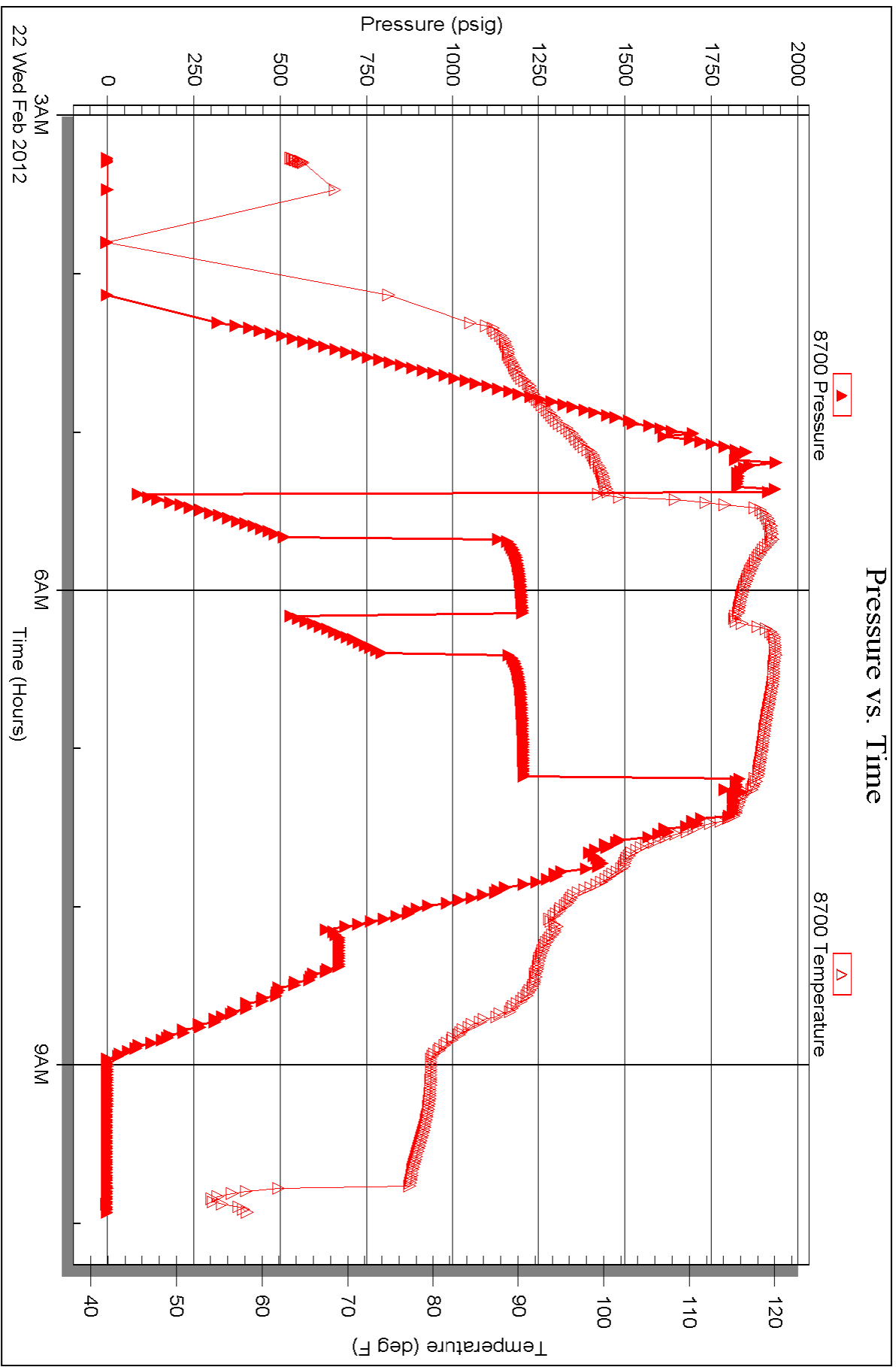
Serial #: 8700

Outside

Dow nung-Nelson Oil Co.

Esie Herman #1-32

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
FEB 22 2012

Test Ticket

NO. 45019

4/10

Well Name & No. Elsie Herman 1-32 Test No. 1 Date 2-26-12
 Company Downing-Nelson Oil Co. Elevation 2095 KB 2087 GL
 Address P.O. Box 1019 Hays, KS 67601
 Co. Rep / Geo. Mark Downing Rig DISO #3
 Location: Sec. 32 Twp. 17 Rge. 18 Co. Rush State KS

Interval Tested 3489 3518 Zone Tested LISC - C
 Anchor Length 29 Drill Pipe Run 3486 Mud Wt. 8.9
 Top Packer Depth 3484 Drill Collars Run — Vis 51
 Bottom Packer Depth 3489 Wt. Pipe Run — WL 8.2
 Total Depth 3518 Chlorides 2600 ppm System LCM 2

Blow Description FF! BoB in 22 min.
ISI NO return.
FF! surface blow BoB in 38 min.
FS! NO return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Free oil</u>	<u>100</u>			
<u>124</u>	<u>MCW</u>			<u>90</u>	<u>10</u>
	<u>124 GEP</u>				

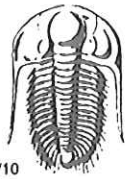
Rec Total 129 BHT 107 Gravity — API RW 12 @ 34° F Chlorides 160,000 ppm

(A) Initial Hydrostatic 1718 Test 1125 T-On Location 18:30
 (B) First Initial Flow 14 Jars — T-Started ~~18:45~~ 19:21
 (C) First Final Flow 44 Safety Joint — T-Open 21:00
 (D) Initial Shut-In 1046 Circ Sub W/C T-Pulled 00:00
 (E) Second Initial Flow 45 Hourly Standby — T-Out 2:15
 (F) Second Final Flow 73 Mileage 58 RT 81.20 Comments —
 (G) Final Shut-In 1023 Sampler —
 (H) Final Hydrostatic 1673 Straddle —
 Ruined Shale Packer —
 Ruined Packer —

Initial Open 45 Extra Packer — Extra Copies —
 Initial Shut-In 45 Extra Recorder — Sub Total 0
 Final Flow 45 Day Standby — Total 1206.20
 Final Shut-In 45 Accessibility — MP/DST Disc't —
 Sub Total 1206.20

Approved By _____ Our Representative

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

RECEIVED
FEB 22 2012

Test Ticket

NO. 46251

Well Name & No. Elsie Herman #1-32 BY: _____ Test No. 2 Date 2-22-12
 Company Downing-Nelson Oil Co Inc Elevation 2095 KB 2087 GL _____
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. AL Downing Rig Discovery rig 3
 Location: Sec. 32 Twp. 17^s Rge. 18^w Co. Rush State Ks

Interval Tested 3815-3854 Zone Tested Arbuckle
 Anchor Length 39 Drill Pipe Run 3802 Mud Wt. 9.1
 Top Packer Depth 3810 Drill Collars Run - Vis 53
 Bottom Packer Depth 3815 Wt. Pipe Run - WL 8.8
 Total Depth 3854 Chlorides 3000 ppm System LCM 2#
 Blow Description IFP - STRONG Blow 1w / min
ISTP - NO Blow
FFP - STRONG Blow 1w 2 min
FSTP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>MW</u>		<u>85</u>	<u>15</u>	
<u>1290</u>	<u>WATER</u>				

Rec Total 1600 BHT 118 Gravity - API RW .22 @ 70 °F Chlorides 31000 ppm
 (A) Initial Hydrostatic 1829 Test 1125 T-On Location 0035
 (B) First Initial Flow 98 Jars _____ T-Started 0315
 (C) First Final Flow 523 Safety Joint _____ T-Open 0525
 (D) Initial Shut-In 1205 Circ Sub _____ T-Pulled 0710
 (E) Second Initial Flow 533 Hourly Standby _____ T-Out 0958
 (F) Second Final Flow 793 Mileage 58RT 81.20 Comments _____
 (G) Final Shut-In 1208 Sampler _____
 (H) Final Hydrostatic 1824 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 15 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1206.20
 Final Flow 15 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1206.20

Approved By _____

Our Representative RAY Schwager 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.