



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Chas-Mar #1-13

13-13s-19w Ellis,KS

Start Date: 2012.11.14 @ 01:30:00

End Date: 2012.11.14 @ 07:33:30

Job Ticket #: 50796 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:05:05



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50796

DST#: 1

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 01:30:00

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:49:00

Time Test Ended: 07:33:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Brett Dickinson

Unit No: 59

Interval: 4107.00 ft (KB) To 3150.00 ft (KB) (TVD)

Reference Elevations: 2082.00 ft (KB)

Total Depth: 3150.00 ft (KB) (TVD)

2074.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6753 Inside

Press @ Run Depth: 45.51 psig @ 3108.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.14

End Date:

2012.11.14

Last Calib.: 2012.11.14

Start Time: 01:30:05

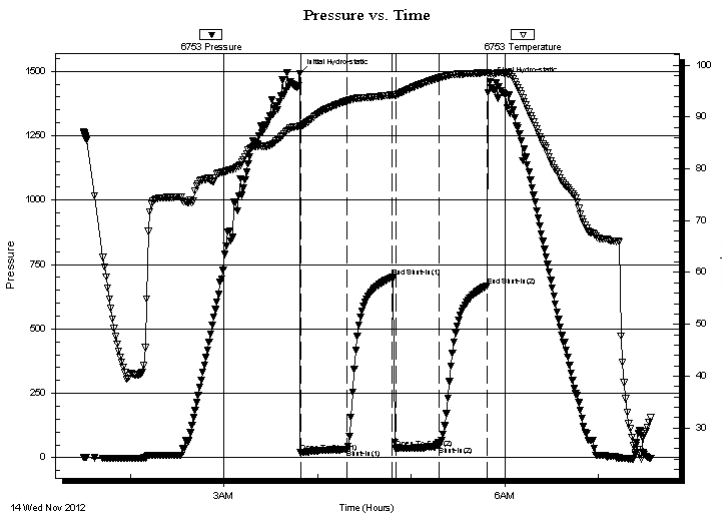
End Time:

07:33:29

Time On Btm: 2012.11.14 @ 03:48:30

Time Off Btm: 2012.11.14 @ 05:50:30

TEST COMMENT: IF-Very weak surface blow
ISI-No blow
FF-Very weak surface blow died in 10 min
FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1490.87	88.37	Initial Hydro-static
1	20.05	88.12	Open To Flow (1)
31	33.63	93.08	Shut-In(1)
60	700.16	94.23	End Shut-In(1)
62	35.43	94.20	Open To Flow (2)
90	45.51	97.55	Shut-In(2)
120	666.50	98.59	End Shut-In(2)
122	1460.67	98.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Oil spotted WCM 40%W 60%M	0.43

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50796

DST#: 1

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 01:30:00

Tool Information

Drill Pipe:	Length: 3074.00 ft	Diameter: 3.80 inches	Volume: 43.12 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - 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: 60000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3107.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	64.00 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			3087.00	
Shut In Tool	5.00			3092.00	
Hydraulic tool	5.00			3097.00	
Packer	5.00			3102.00	21.00 Bottom Of Top Packer
Packer	5.00			3107.00	
Stubb	1.00			3108.00	
Recorder	0.00	6753	Inside	3108.00	
Recorder	0.00	8166	Outside	3108.00	
Perforations	5.00			3113.00	
Change Over Sub	1.00			3114.00	
Drill Pipe	32.00			3146.00	
Change Over Sub	1.00			3147.00	
Bullnose	3.00			3150.00	43.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50796

DST#: 1

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 01:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: sec/qt

Cushion Volume:

bbf

Water Loss: in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
50.00	Oil spotted WCM 40%W 60%M	0.428

Total Length: 50.00 ft Total Volume: 0.428 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6753

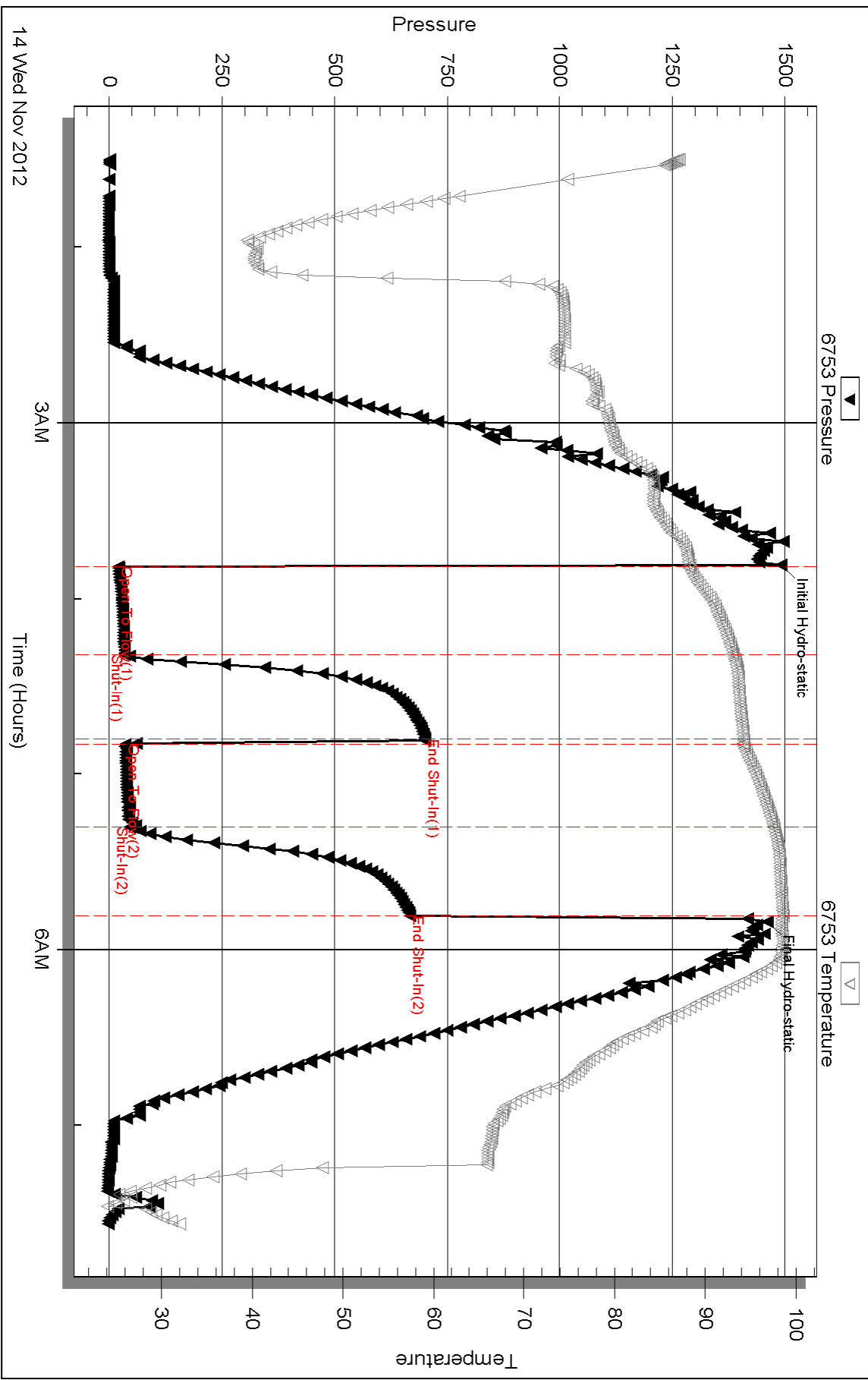
Inside

Dow nung-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 50796

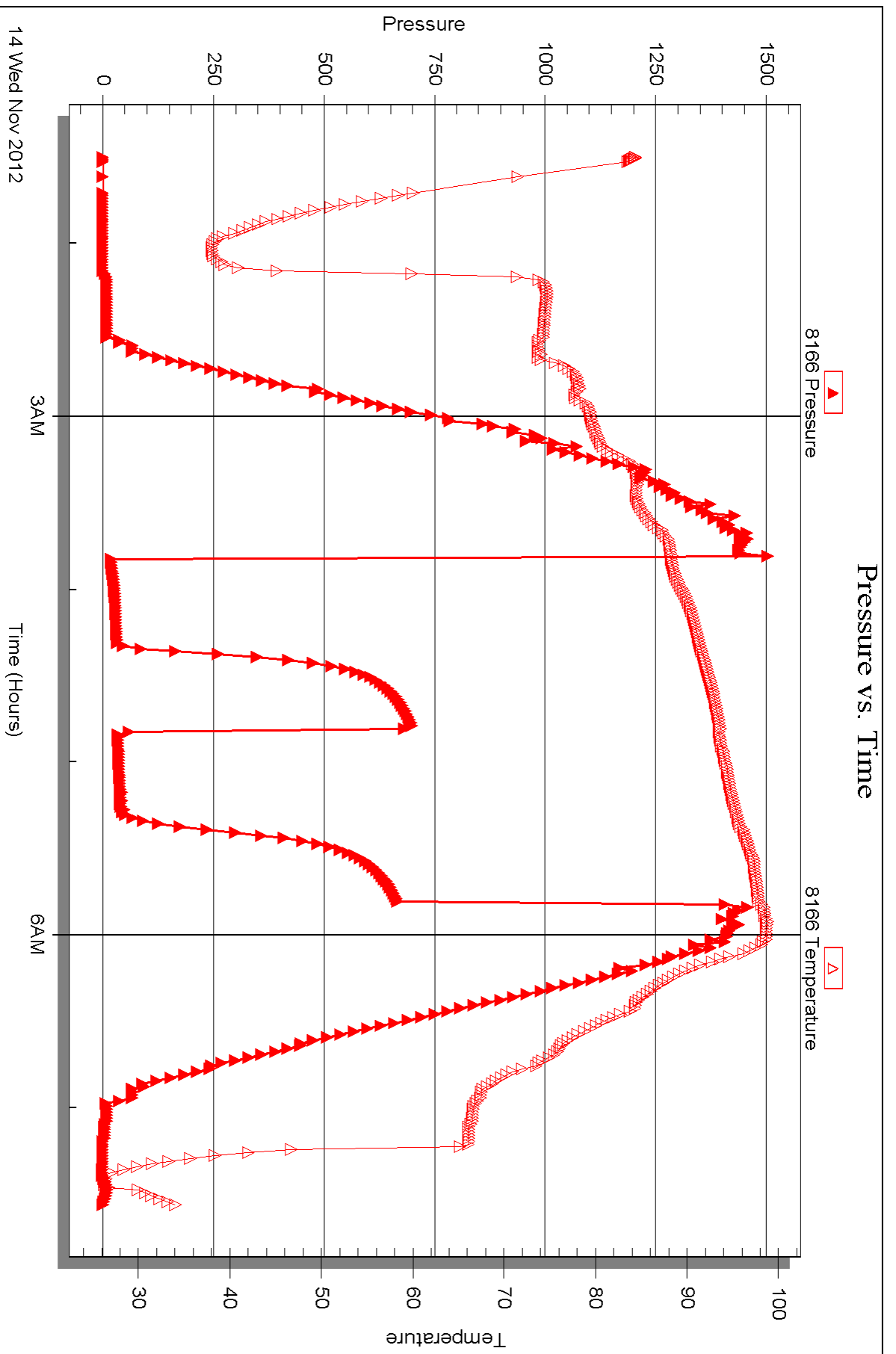
Printed: 2012.11.23 @ 09:05:09

Serial #: 8166

Outside Dow nmg-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 50796

Printed: 2012.11.23 @ 09:05:10



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Chas-Mar #1-13

13-13s-19w Ellis,KS

Start Date: 2012.11.14 @ 22:55:00

End Date: 2012.11.15 @ 05:39:00

Job Ticket #: 50797 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:04:15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50797

DST#: 2

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 22:55:00

GENERAL INFORMATION:

Formation: **Toronto-KC"A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:57:30

Time Test Ended: 05:39:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3320.00 ft (KB) To 3381.00 ft (KB) (TVD)

Reference Elevations: 2082.00 ft (KB)

Total Depth: 3381.00 ft (KB) (TVD)

2074.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6753

Inside

Press @ Run Depth: 24.51 psig @ 3321.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.14

End Date:

2012.11.15

Last Calib.: 2012.11.15

Start Time: 22:55:05

End Time:

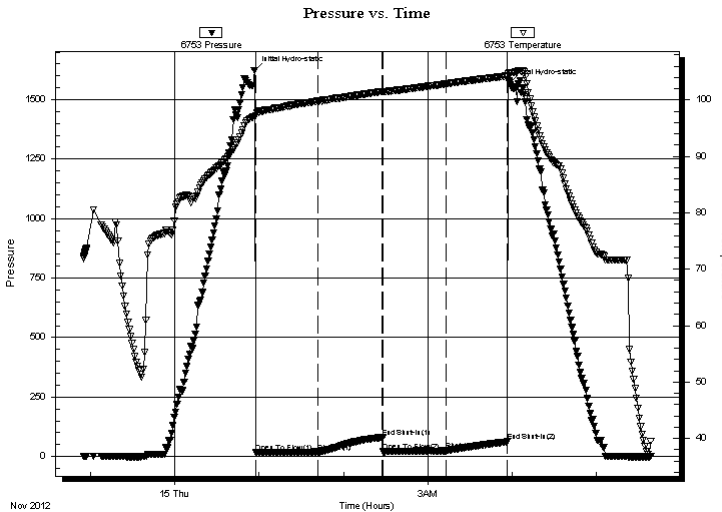
05:38:59

Time On Btm: 2012.11.15 @ 00:56:30

Time Off Btm: 2012.11.15 @ 03:58:00

TEST COMMENT: IF-1 1/4" blow
IS-No blow
FF-Very weak surface blow
FS-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1622.81	97.06	Initial Hydro-static
1	16.36	97.23	Open To Flow (1)
46	19.04	99.71	Shut-In(1)
91	79.49	101.49	End Shut-In(1)
92	20.20	101.50	Open To Flow (2)
137	24.51	102.86	Shut-In(2)
180	61.74	104.24	End Shut-In(2)
182	1569.05	104.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud	0.02

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.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50797

DST#: 2

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 22:55:00

GENERAL INFORMATION:

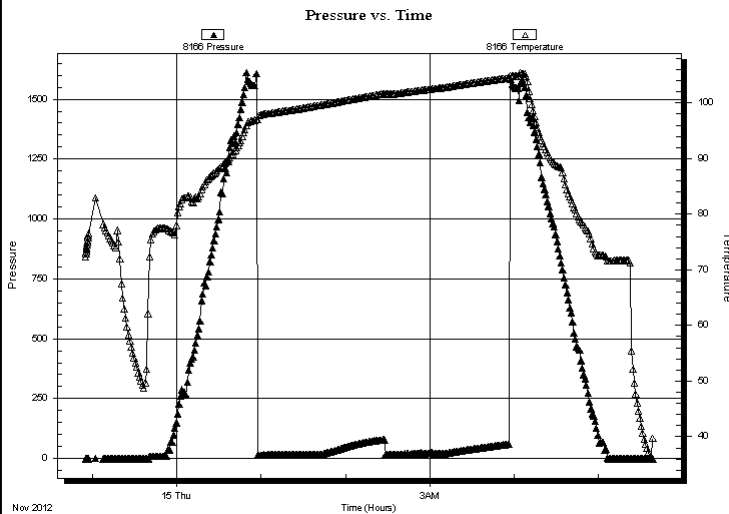
Formation: **Toronto-KC"A"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 00:57:30
 Tester: Brett Dickinson
 Time Test Ended: 05:39:00
 Unit No: 59
Interval: 3320.00 ft (KB) To 3381.00 ft (KB) (TVD)
 Reference Elevations: 2082.00 ft (KB)
 Total Depth: 3381.00 ft (KB) (TVD)
 2074.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 8.00 ft

Serial #: 8166

Outside

Press @ RunDepth: psig @ 3321.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.14 End Date: 2012.11.15 Last Calib.: 2012.11.15
 Start Time: 22:55:05 End Time: 05:38:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-1 1/4" blow
 IS-No blow
 FF-Very weak surface blow
 FS-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud	0.02

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.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50797

DST#: 2

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 22:55:00

Tool Information

Drill Pipe:	Length: 3294.00 ft	Diameter: 3.80 inches	Volume: 46.21 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - 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: 60000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3320.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	82.00 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			3300.00	
Shut In Tool	5.00			3305.00	
Hydraulic tool	5.00			3310.00	
Packer	5.00			3315.00	21.00 Bottom Of Top Packer
Packer	5.00			3320.00	
Stubb	1.00			3321.00	
Recorder	0.00	6753	Inside	3321.00	
Recorder	0.00	8166	Outside	3321.00	
Perforations	23.00			3344.00	
Change Over Sub	1.00			3345.00	
Drill Pipe	32.00			3377.00	
Change Over Sub	1.00			3378.00	
Bullnose	3.00			3381.00	61.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50797

DST#: 2

ATTN: Ron Nelson

Test Start: 2012.11.14 @ 22:55:00

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 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
5.00	mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

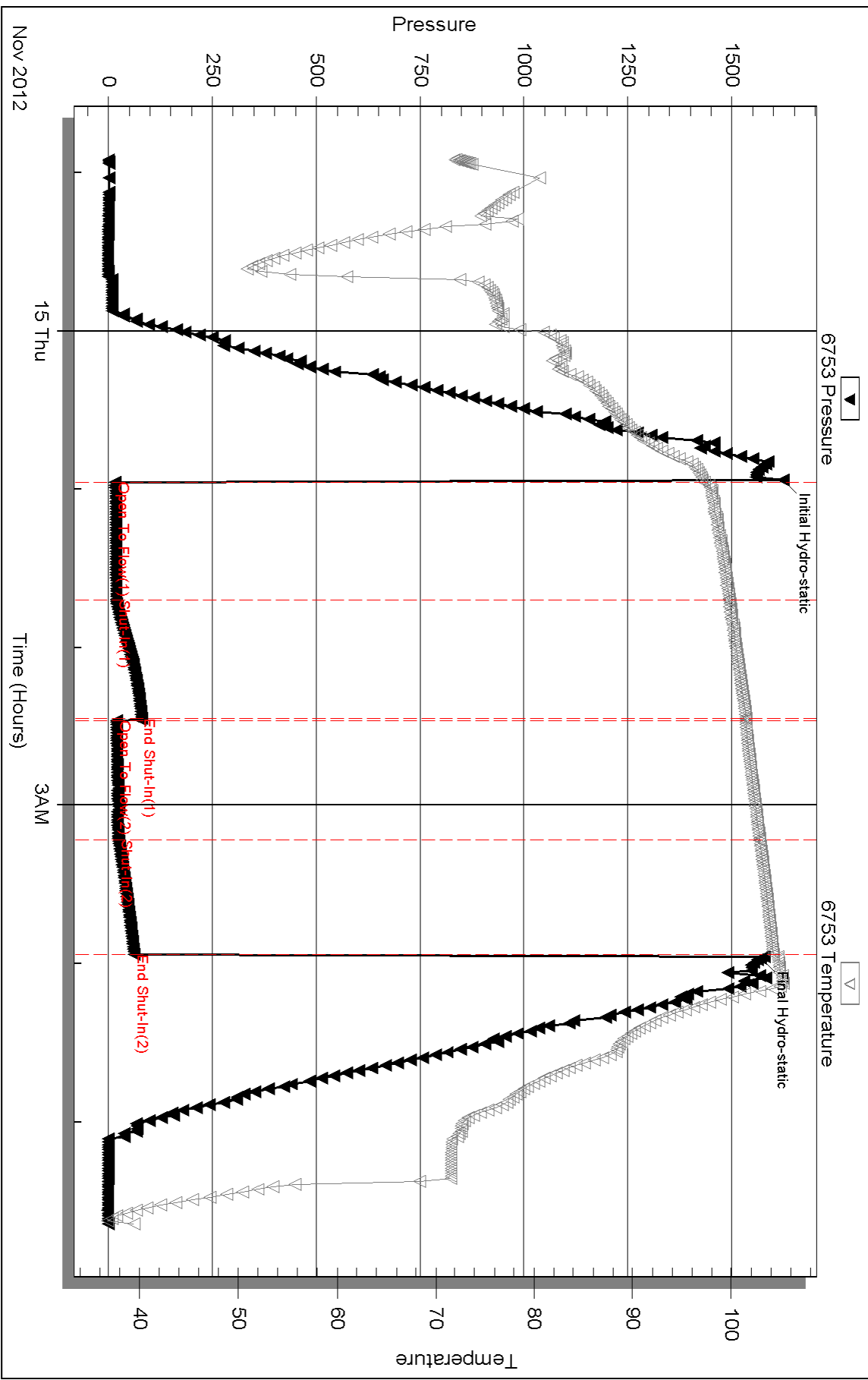
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

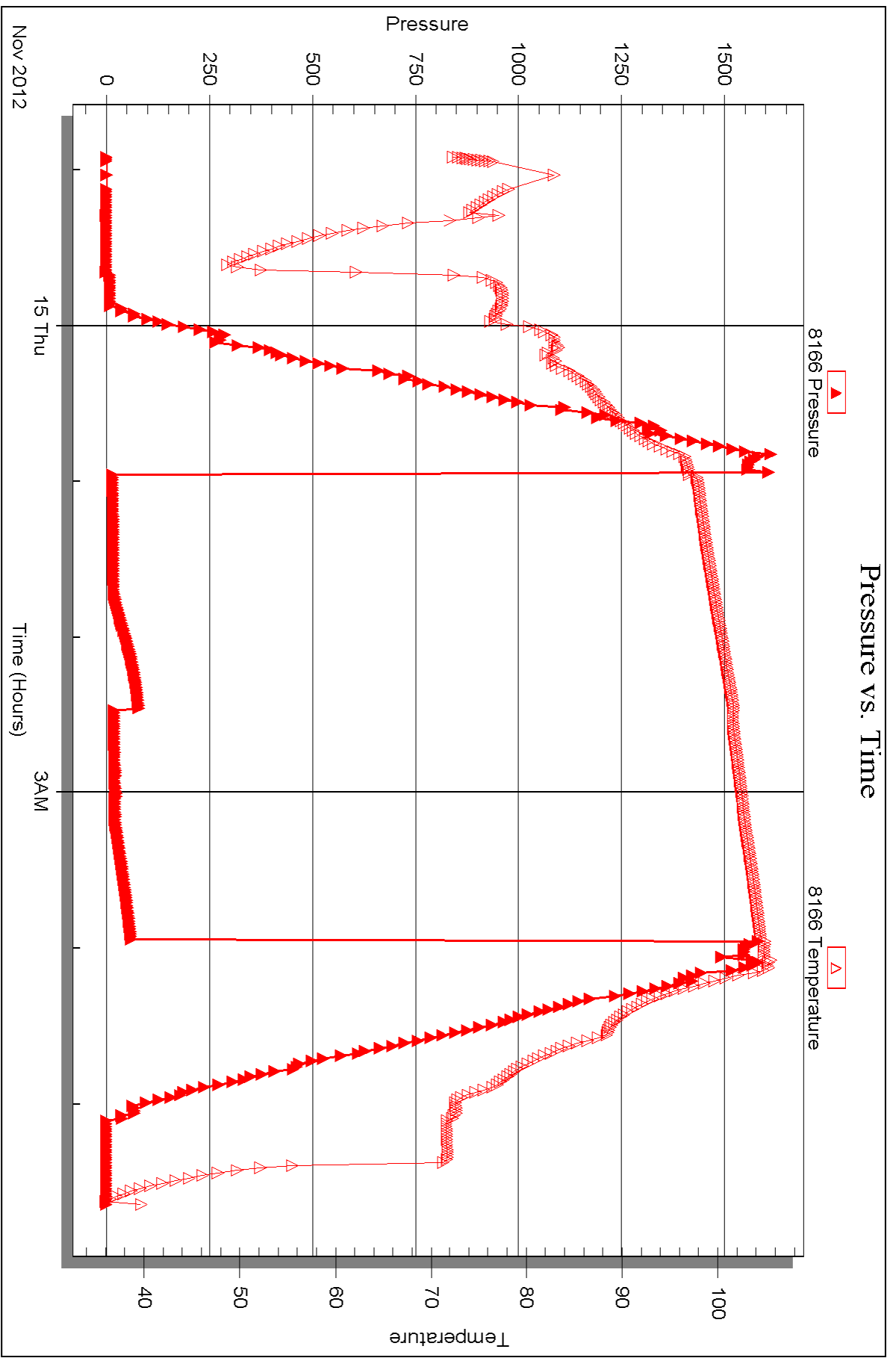


Serial #: 8166

Outside Dow nging-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 2





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Chas-Mar #1-13

13-13s-19w Ellis,KS

Start Date: 2012.11.15 @ 13:10:00

End Date: 2012.11.15 @ 20:27:00

Job Ticket #: 50798 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:03:32



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50798

DST#: 3

ATTN: Ron Nelson

Test Start: 2012.11.15 @ 13:10:00

GENERAL INFORMATION:

Formation: **KC"C,D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:16:30

Time Test Ended: 20:27:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3386.00 ft (KB) To 3432.00 ft (KB) (TVD)

Reference Elevations: 2082.00 ft (KB)

Total Depth: 3432.00 ft (KB) (TVD)

2074.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6753

Inside

Press @ Run Depth: 785.38 psig @ 3387.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.15

End Date: 2012.11.15

Last Calib.: 2012.11.15

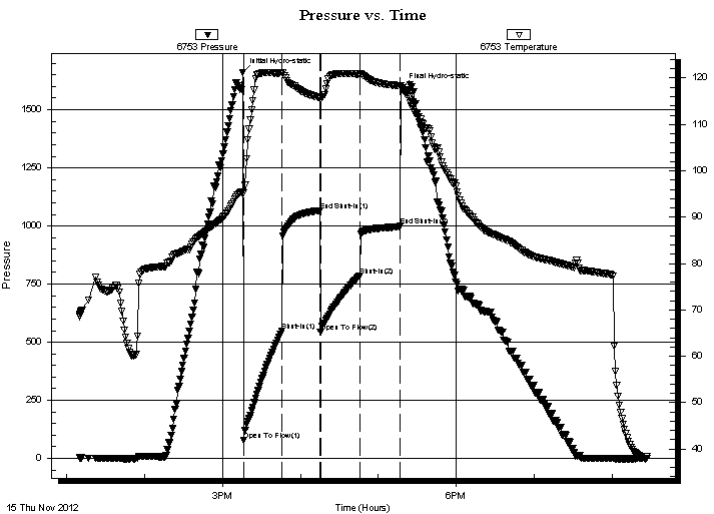
Start Time: 13:10:05

End Time: 20:26:59

Time On Btm: 2012.11.15 @ 15:15:30

Time Off Btm: 2012.11.15 @ 17:18:30

TEST COMMENT: IF-BOB in 2 min
ISI-No blow
FF-BOB Immediately
FSI-BOB in 18 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1660.75	95.51	Initial Hydro-static
1	78.42	95.17	Open To Flow (1)
30	547.84	121.16	Shut-In(1)
60	1065.20	115.74	End Shut-In(1)
60	544.29	115.49	Open To Flow (2)
90	785.38	120.87	Shut-In(2)
121	998.88	118.36	End Shut-In(2)
123	1595.47	117.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
430.00	water	5.76
340.00	GOCW 10%G 20%O 70%W	4.77
245.00	GSOCW 10%G 5%O 85%W	3.44
185.00	GSOCW 40%G 10%O 50%W	2.60
310.00	GSMOCW 30%G 5%M 20%O 45%W	4.35
40.00	GO 40%G 60%O	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.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50798

DST#: 3

ATTN: Ron Nelson

Test Start: 2012.11.15 @ 13:10:00

Tool Information

Drill Pipe:	Length: 3358.00 ft	Diameter: 3.80 inches	Volume: 47.10 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - 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:	60000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3386.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	46.00 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			3366.00	
Shut In Tool	5.00			3371.00	
Hydraulic tool	5.00			3376.00	
Packer	5.00			3381.00	21.00 Bottom Of Top Packer
Packer	5.00			3386.00	
Stubb	1.00			3387.00	
Recorder	0.00	6753	Inside	3387.00	
Recorder	0.00	8166	Outside	3387.00	
Perforations	5.00			3392.00	
Change Over Sub	1.00			3393.00	
Drill Pipe	32.00			3425.00	
Change Over Sub	1.00			3426.00	
Perforations	3.00			3429.00	
Bullnose	3.00			3432.00	46.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50798

DST#: 3

ATTN: Ron Nelson

Test Start: 2012.11.15 @ 13:10:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: lb/gal

Cushion Length:

ft

Water Salinity:

130000 ppm

Viscosity: sec/qt

Cushion Volume:

bbbl

Water Loss: in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
430.00	water	5.758
340.00	GOCW 10%G 20%O 70%W	4.769
245.00	GSOCW 10%G 5%O 85%W	3.437
185.00	GSOCW 40%G 10%O 50%W	2.595
310.00	GSMOCW 30%G 5%M 20%O 45%W	4.348
40.00	GO 40%G 60%O	0.561
0.00	440ft GIP	0.000

Total Length: 1550.00 ft

Total Volume: 21.468 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

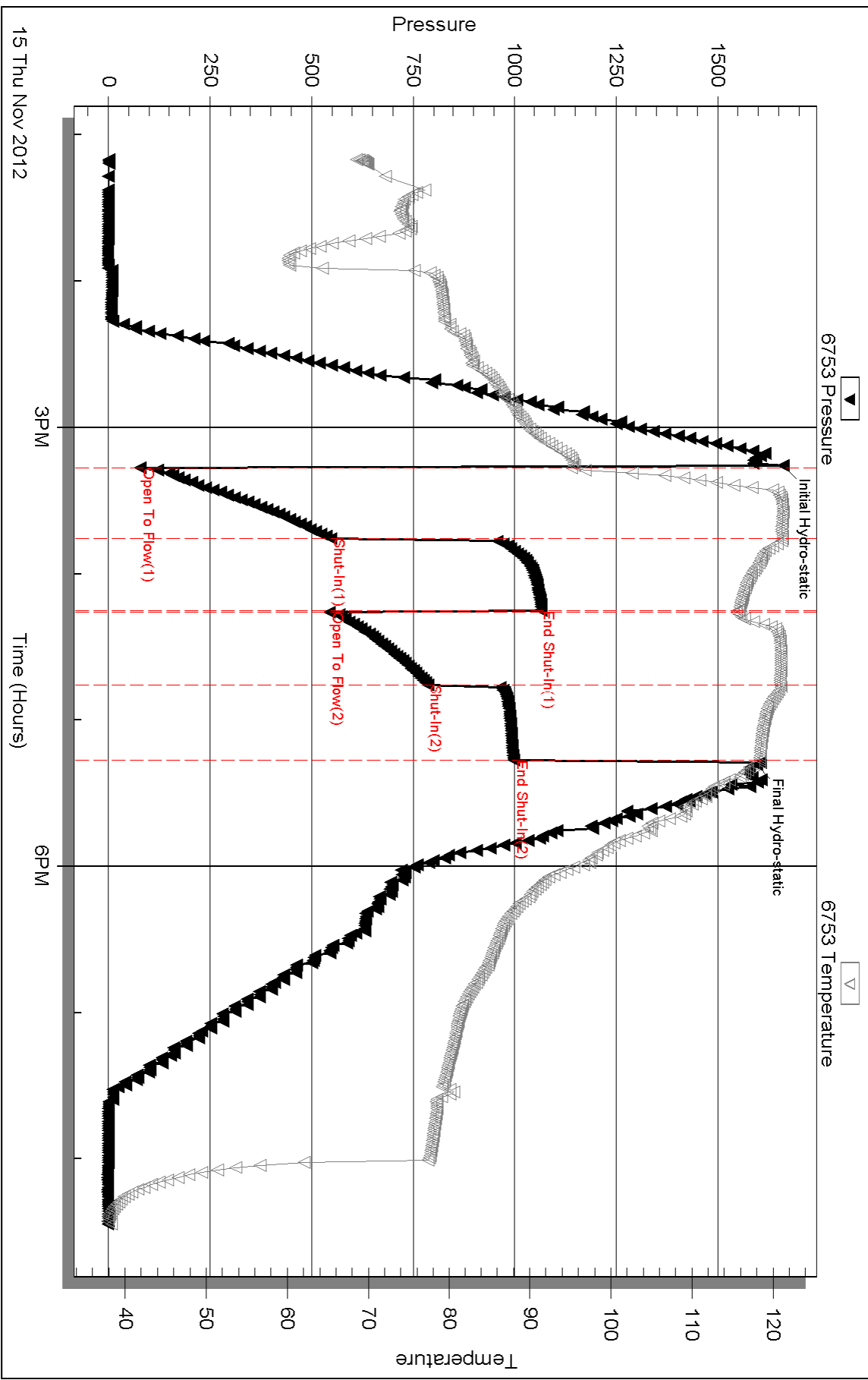
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

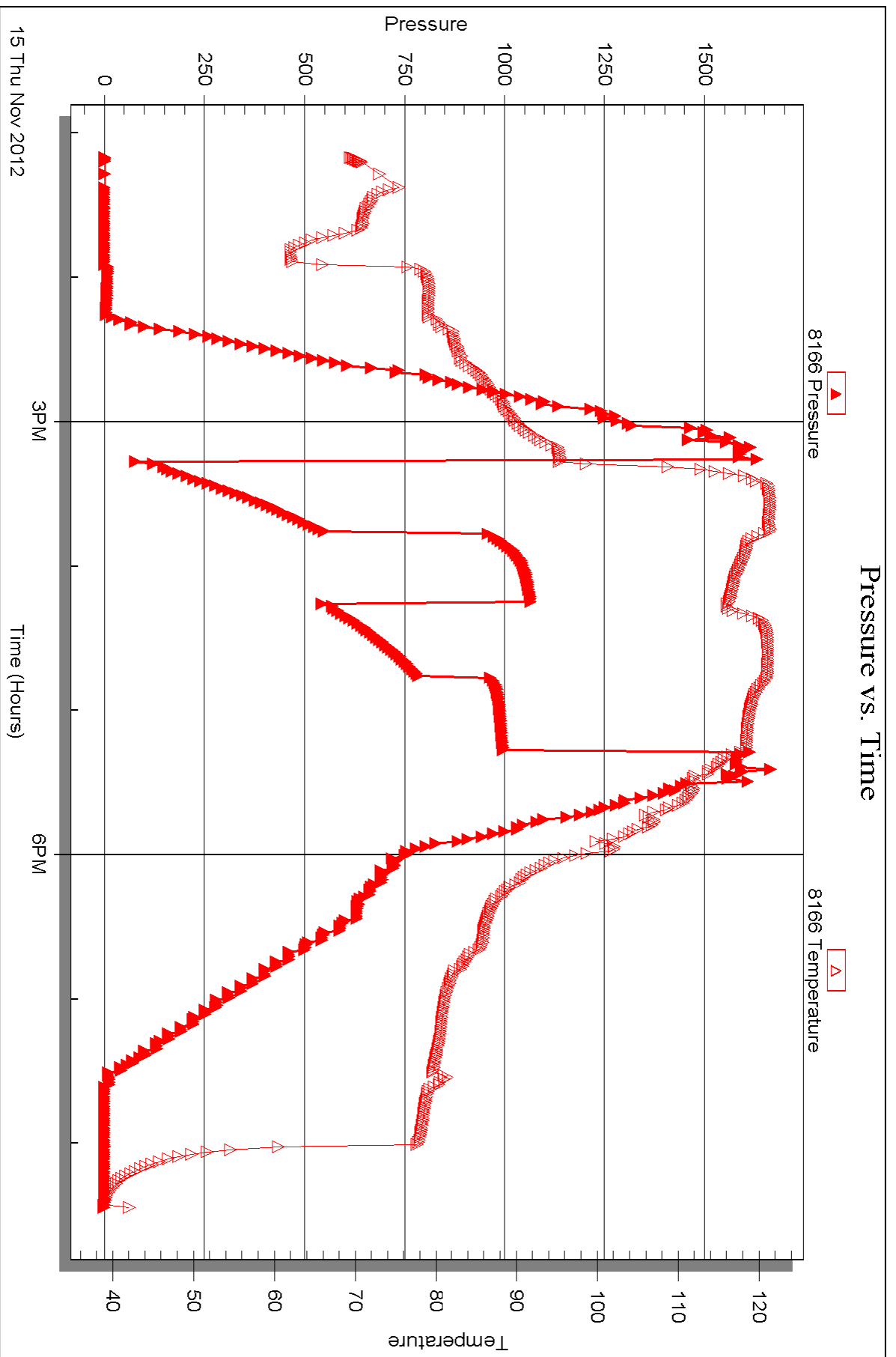


Serial #: 8166

Outside Dow nigg-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50798

Printed: 2012.11.23 @ 09:03:37



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Chas-Mar #1-13

13-13s-19w Ellis,KS

Start Date: 2012.11.16 @ 02:20:00

End Date: 2012.11.16 @ 09:37:30

Job Ticket #: 50799 DST #: 4

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

Printed: 2012.11.23 @ 09:02:31



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50799

DST#: 4

ATTN: Ron Nelson

Test Start: 2012.11.16 @ 02:20:00

GENERAL INFORMATION:

Formation: **KC**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:27:30
 Time Test Ended: 09:37:30
 Interval: **3426.00 ft (KB) To 3444.00 ft (KB) (TVD)**
 Total Depth: 3444.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 59
 Reference Elevations: 2082.00 ft (KB)
 2074.00 ft (CF)
 KB to GR/CF: 8.00 ft

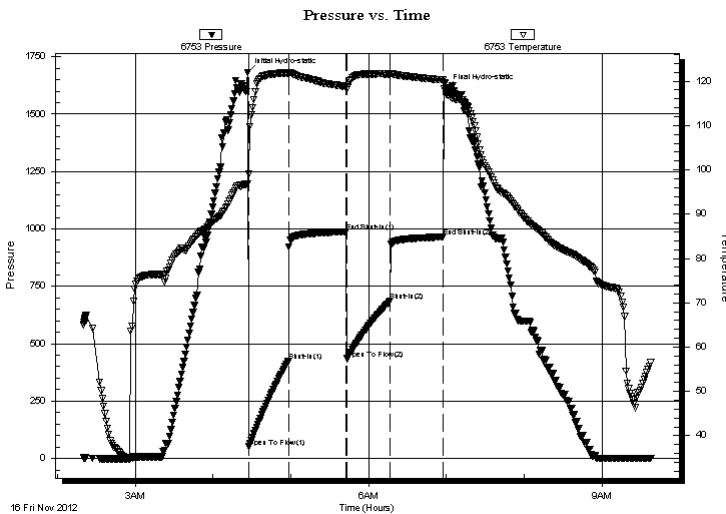
Serial #: 6753

Inside

Press @ Run Depth: 685.27 psig @ 3427.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.11.16 End Date: 2012.11.16 Last Calib.: 2012.11.16
 Start Time: 02:20:05 End Time: 09:37:29 Time On Btm: 2012.11.16 @ 04:26:30
 Time Off Btm: 2012.11.16 @ 07:00:00

TEST COMMENT: IF-BOB in 2 1/2 min
 IS- No blow
 FF-BOB in 3 1/2 min
 FS- 1/2" blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1681.77	96.82	Initial Hydro-static
1	50.65	98.98	Open To Flow (1)
32	424.40	121.82	Shut-In(1)
76	988.32	118.81	End Shut-In(1)
77	434.37	118.47	Open To Flow (2)
110	685.27	121.60	Shut-In(2)
151	965.16	120.26	End Shut-In(2)
154	1609.56	117.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
435.00	Water	5.83
794.00	VSOCW 2%O 98%W	11.14
1.00	Free Oil	0.01

* 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.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50799

DST#: 4

ATTN: Ron Nelson

Test Start: 2012.11.16 @ 02:20:00

Tool Information

Drill Pipe:	Length: 3391.00 ft	Diameter: 3.80 inches	Volume: 47.57 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - 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:	60000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
			- bbl	String Weight: Initial	50000.00 lb
Drill Pipe Above KB:	16.00 ft			Final	58000.00 lb
Depth to Top Packer:	3426.00 ft				
Depth to Bottom Packer:	ft				
Interval betw een Packers:	18.00 ft				
Tool Length:	39.00 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			3406.00	
Shut In Tool	5.00			3411.00	
Hydraulic tool	5.00			3416.00	
Packer	5.00			3421.00	21.00 Bottom Of Top Packer
Packer	5.00			3426.00	
Stubb	1.00			3427.00	
Recorder	0.00	6753	Inside	3427.00	
Recorder	0.00	8166	Outside	3427.00	
Perforations	14.00			3441.00	
Bullnose	3.00			3444.00	18.00 Bottom Packers & Anchor
Total Tool Length:	39.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50799

DST#: 4

ATTN: Ron Nelson

Test Start: 2012.11.16 @ 02:20:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
435.00	Water	5.829
794.00	VSOCW 2%O 98%W	11.138
1.00	Free Oil	0.014

Total Length: 1230.00 ft Total Volume: 16.981 bbl

Num Fluid Samples: 0

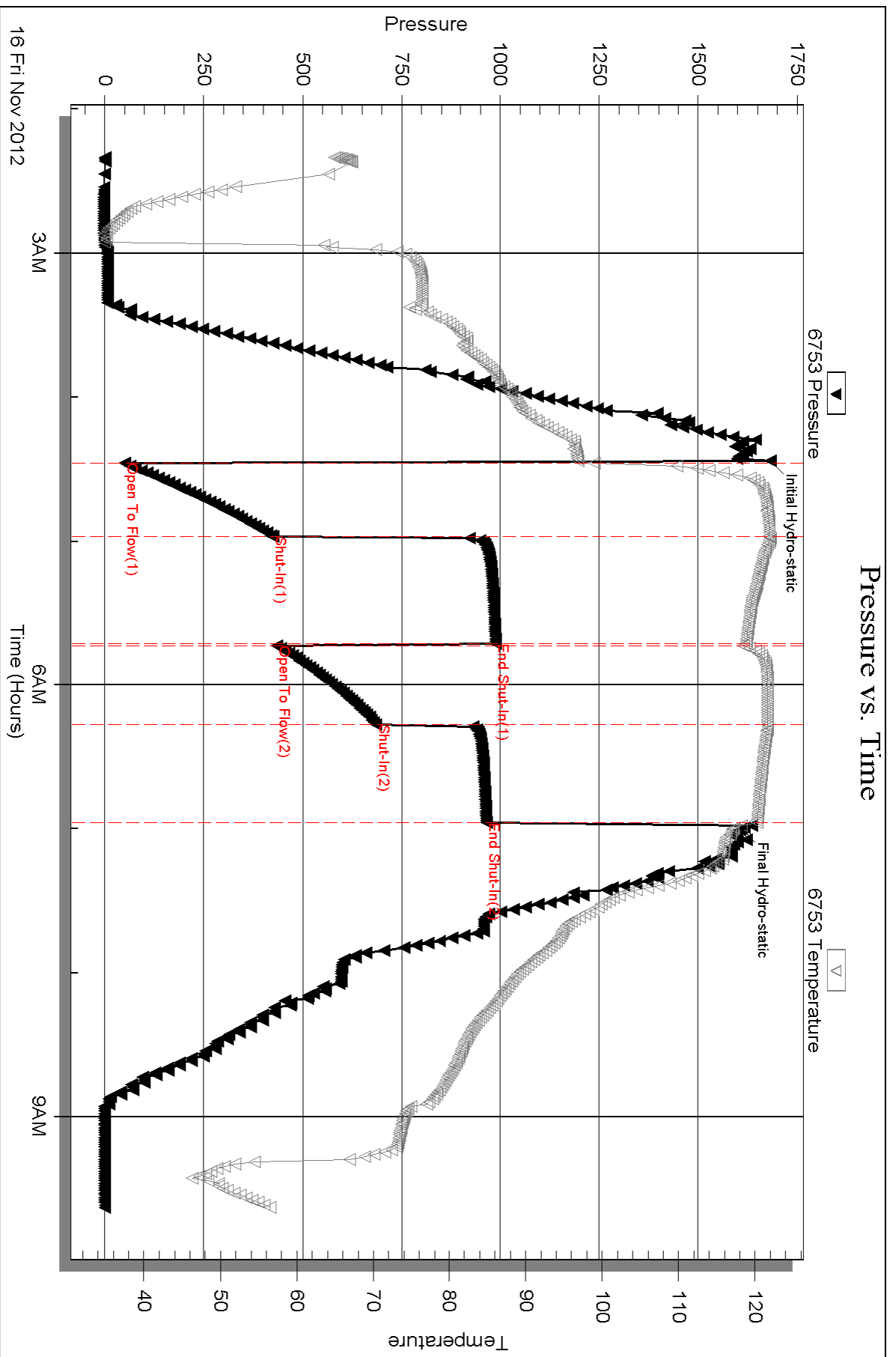
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



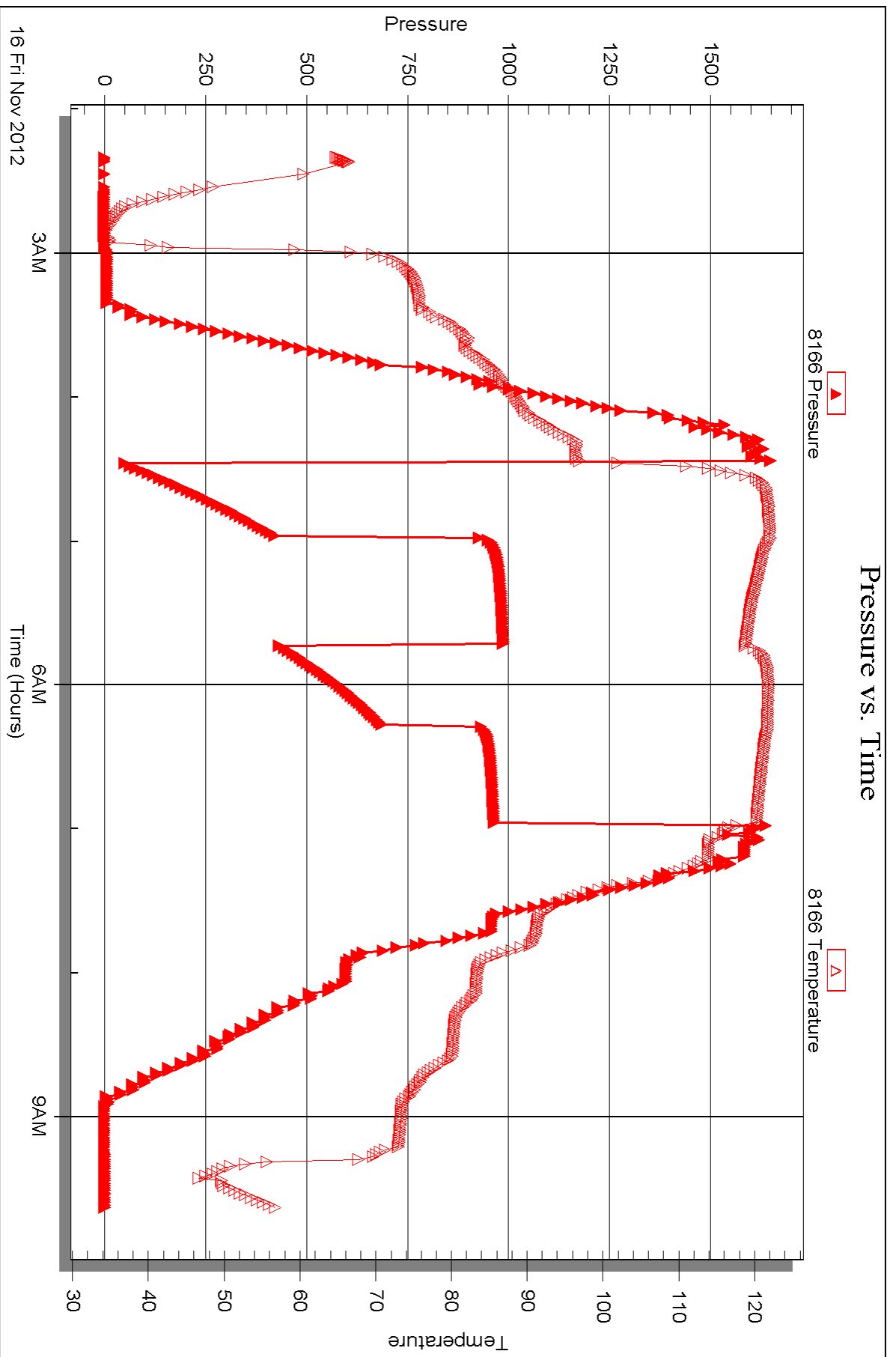
Serial #: 8166

Outside

Dow nting-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 4





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Chas-Mar #1-13

13-13s-19w Ellis,KS

Start Date: 2012.11.16 @ 19:40:00

End Date: 2012.11.17 @ 01:04:00

Job Ticket #: 50800 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:01:49

Downing-Nelson Oil Co. 13-13s-19w Ellis,KS Chas-Mar #1-13 DST # 5 KC"J" 2012.11.16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50800

DST#: 5

ATTN: Ron Nelson

Test Start: 2012.11.16 @ 19:40:00

GENERAL INFORMATION:

Formation: **KC"J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:23:00

Time Test Ended: 01:04:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3536.00 ft (KB) To 3555.00 ft (KB) (TVD)

Reference Elevations: 2082.00 ft (KB)

Total Depth: 3555.00 ft (KB) (TVD)

2074.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6753 Inside

Press @ RunDepth: 26.99 psig @ 3537.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.16

End Date:

2012.11.17

Last Calib.: 2012.11.17

Start Time: 19:40:05

End Time:

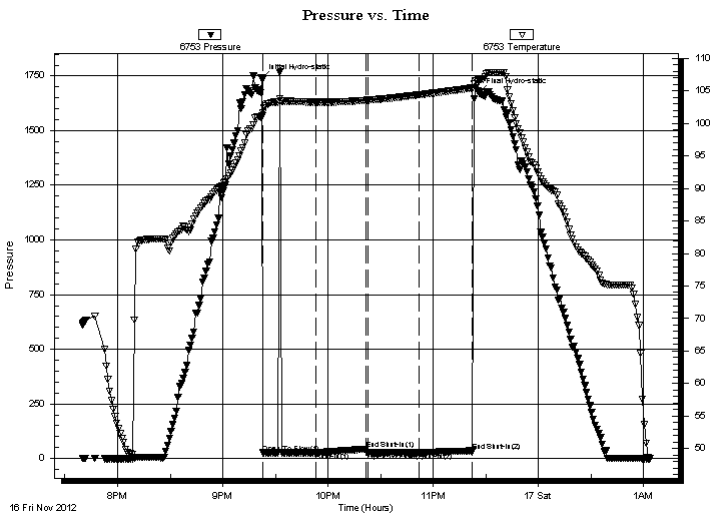
01:03:59

Time On Btm: 2012.11.16 @ 21:22:00

Time Off Btm: 2012.11.16 @ 23:26:00

TEST COMMENT: IF-1 1/2" blow
ISI-No Blow
FF-Very weak surface blow
FSI-No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1740.34	101.04	Initial Hydro-static
1	26.15	101.60	Open To Flow (1)
31	26.31	103.28	Shut-In(1)
60	43.37	103.57	End Shut-In(1)
61	27.30	103.59	Open To Flow (2)
90	26.99	104.40	Shut-In(2)
121	35.28	105.46	End Shut-In(2)
124	1676.29	106.67	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Oil spotted mud	0.10

* 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.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50800

DST#: 5

ATTN: Ron Nelson

Test Start: 2012.11.16 @ 19:40:00

Tool Information

Drill Pipe:	Length: 3515.00 ft	Diameter: 3.80 inches	Volume: 49.31 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - 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: - bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3536.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	40.00 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			3516.00	
Shut In Tool	5.00			3521.00	
Hydraulic tool	5.00			3526.00	
Packer	5.00			3531.00	21.00 Bottom Of Top Packer
Packer	5.00			3536.00	
Stubb	1.00			3537.00	
Recorder	0.00	6753	Inside	3537.00	
Recorder	0.00	8166	Outside	3537.00	
Perforations	15.00			3552.00	
Bullnose	3.00			3555.00	19.00 Bottom Packers & Anchor
Total Tool Length:	40.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 50800

DST#: 5

ATTN: Ron Nelson

Test Start: 2012.11.16 @ 19:40:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 11000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Oil spotted mud	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

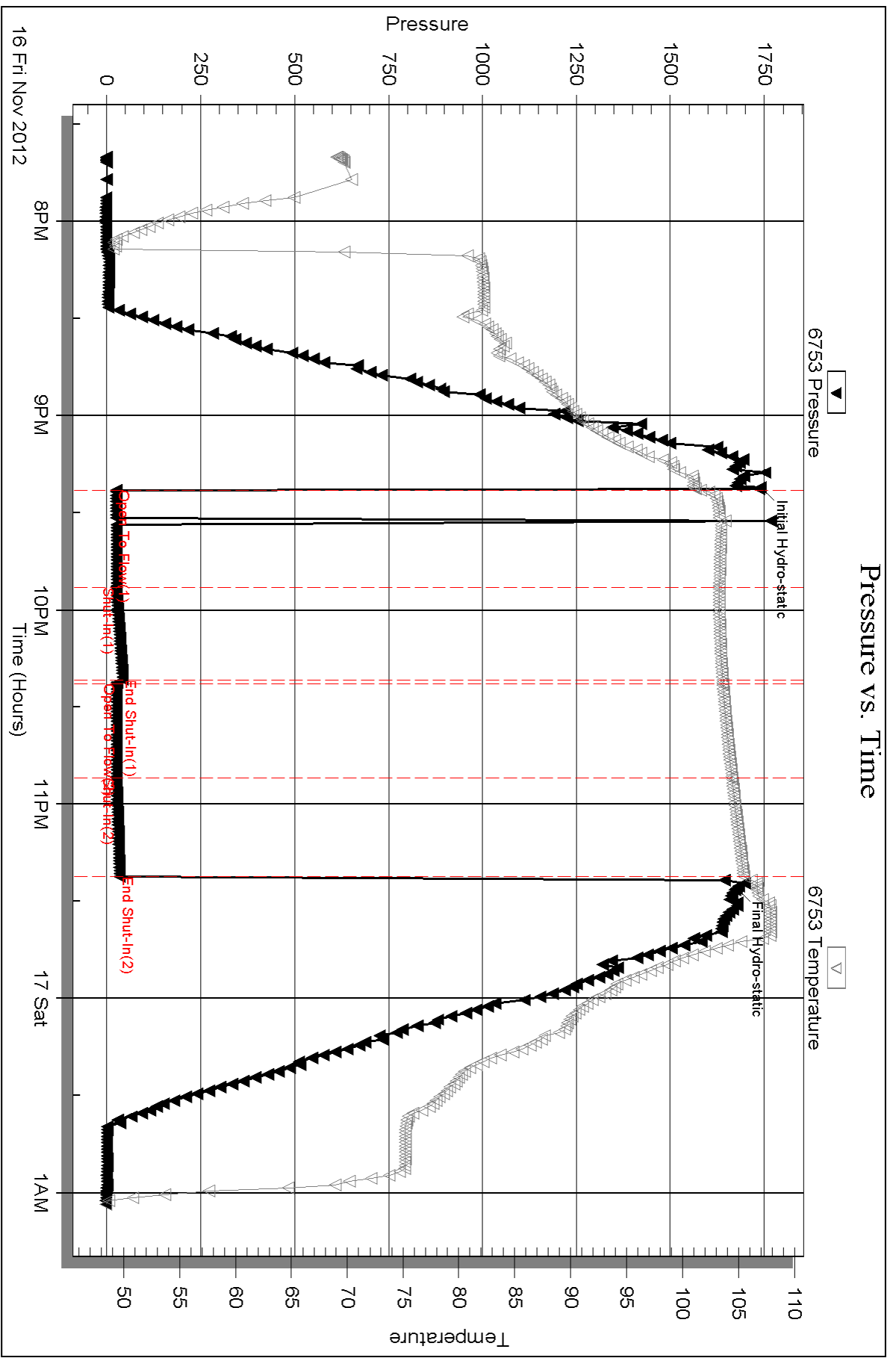
Serial #: 6753

Inside

Dow nung-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 5

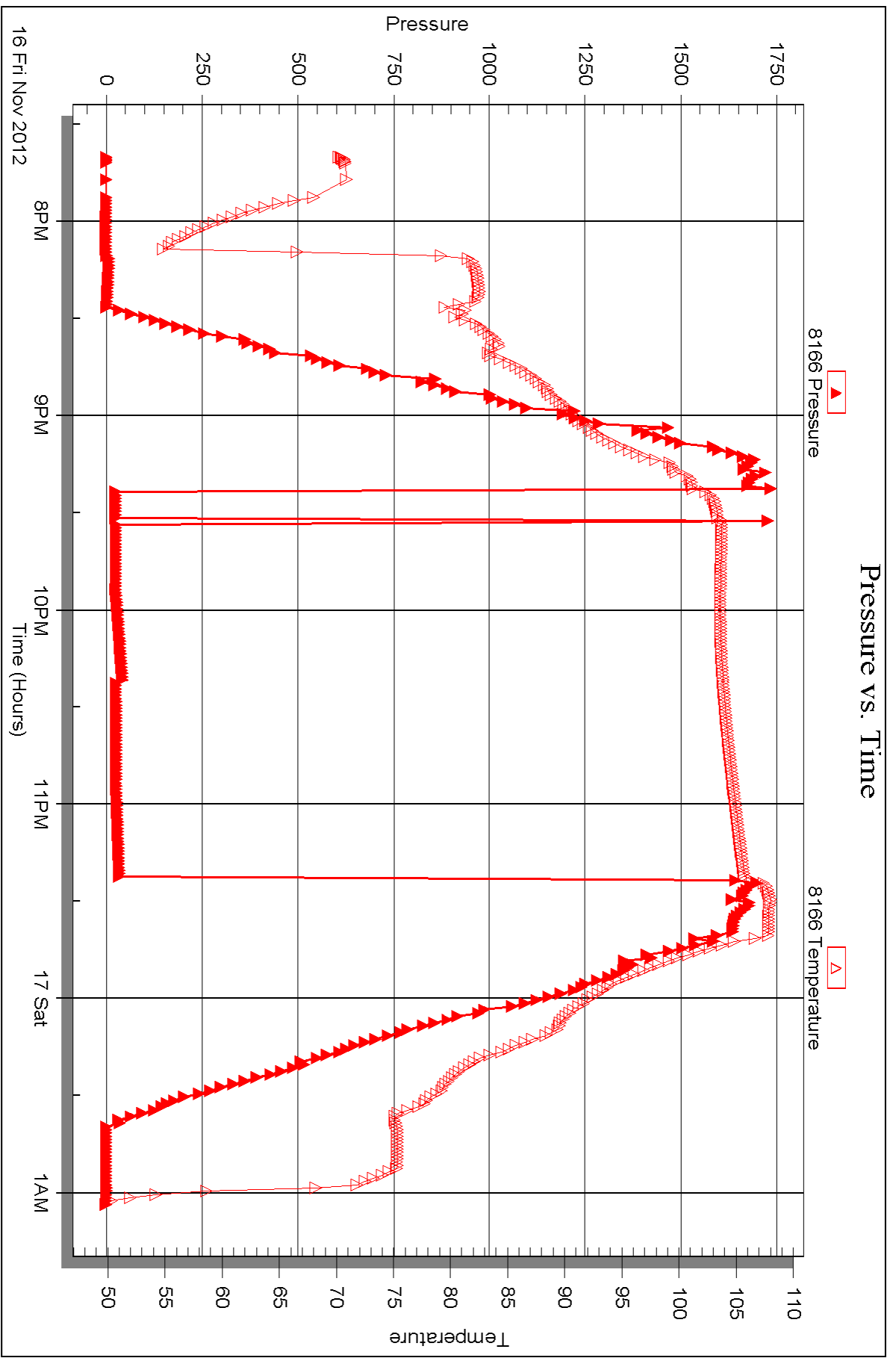


Serial #: 8166

Outside Dow n/ing-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 5





DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Chas-Mar #1-13

13-13s-19w Ellis,KS

Start Date: 2012.11.17 @ 13:30:00

End Date: 2012.11.17 @ 20:23:00

Job Ticket #: 51227 DST #: 6

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.11.23 @ 09:01:05



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

ATTN: Ron Nelson

Job Ticket: 51227

DST#: 6

Test Start: 2012.11.17 @ 13:30:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:29:30

Time Test Ended: 20:23:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brett Dickinson

Unit No: 59

Interval: 3623.00 ft (KB) To 3684.00 ft (KB) (TVD)

Reference Elevations: 2082.00 ft (KB)

Total Depth: 3684.00 ft (KB) (TVD)

2074.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6753 Inside

Press @ Run Depth: 45.22 psig @ 3624.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.11.17 End Date: 2012.11.17

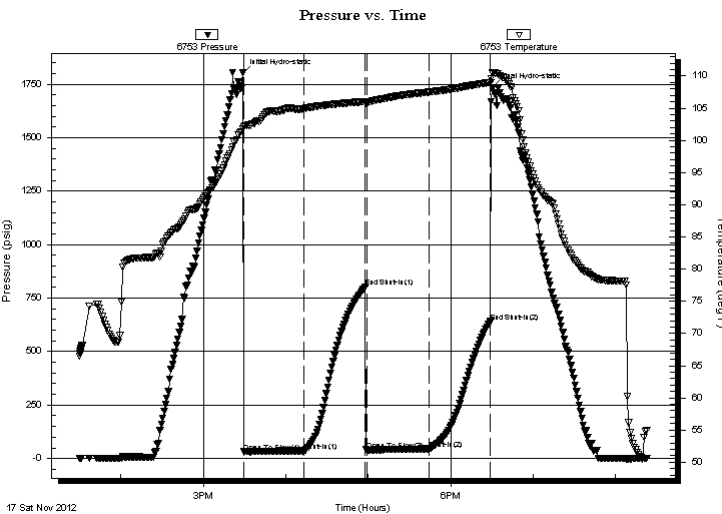
Last Calib.: 2012.11.17

Start Time: 13:30:05 End Time: 20:22:59

Time On Btm: 2012.11.17 @ 15:28:30

Time Off Btm: 2012.11.17 @ 18:30:30

TEST COMMENT: IF-1 1/4" blow
IS-No blow
FF-1 1/2" blow
FS-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1802.19	101.82	Initial Hydro-static
1	31.10	102.05	Open To Flow (1)
45	36.05	104.96	Shut-In(1)
90	800.58	106.02	End Shut-In(1)
91	38.50	105.82	Open To Flow (2)
136	45.22	107.50	Shut-In(2)
181	640.08	108.99	End Shut-In(2)
182	1732.30	110.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
55.00	SOCM 20%O 80%M	0.50
15.00	SGO 5%G 95%O	0.21

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.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 51227

DST#: 6

ATTN: Ron Nelson

Test Start: 2012.11.17 @ 13:30:00

Tool Information

Drill Pipe:	Length: 3582.00 ft	Diameter: 3.80 inches	Volume: 50.25 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - 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: 60000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3623.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	82.00 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			3603.00	
Shut In Tool	5.00			3608.00	
Hydraulic tool	5.00			3613.00	
Packer	5.00			3618.00	21.00 Bottom Of Top Packer
Packer	5.00			3623.00	
Stubb	1.00			3624.00	
Recorder	0.00	6753	Inside	3624.00	
Recorder	0.00	8166	Outside	3624.00	
Perforations	23.00			3647.00	
Change Over Sub	1.00			3648.00	
Drill Pipe	32.00			3680.00	
Change Over Sub	1.00			3681.00	
Bullnose	3.00			3684.00	61.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co.

13-13s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Chas-Mar #1-13

Job Ticket: 51227

DST#: 6

ATTN: Ron Nelson

Test Start: 2012.11.17 @ 13:30:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

33 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
55.00	SOCM 20%O 80%M	0.498
15.00	SGO 5%G 95%O	0.210

Total Length: 70.00 ft Total Volume: 0.708 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

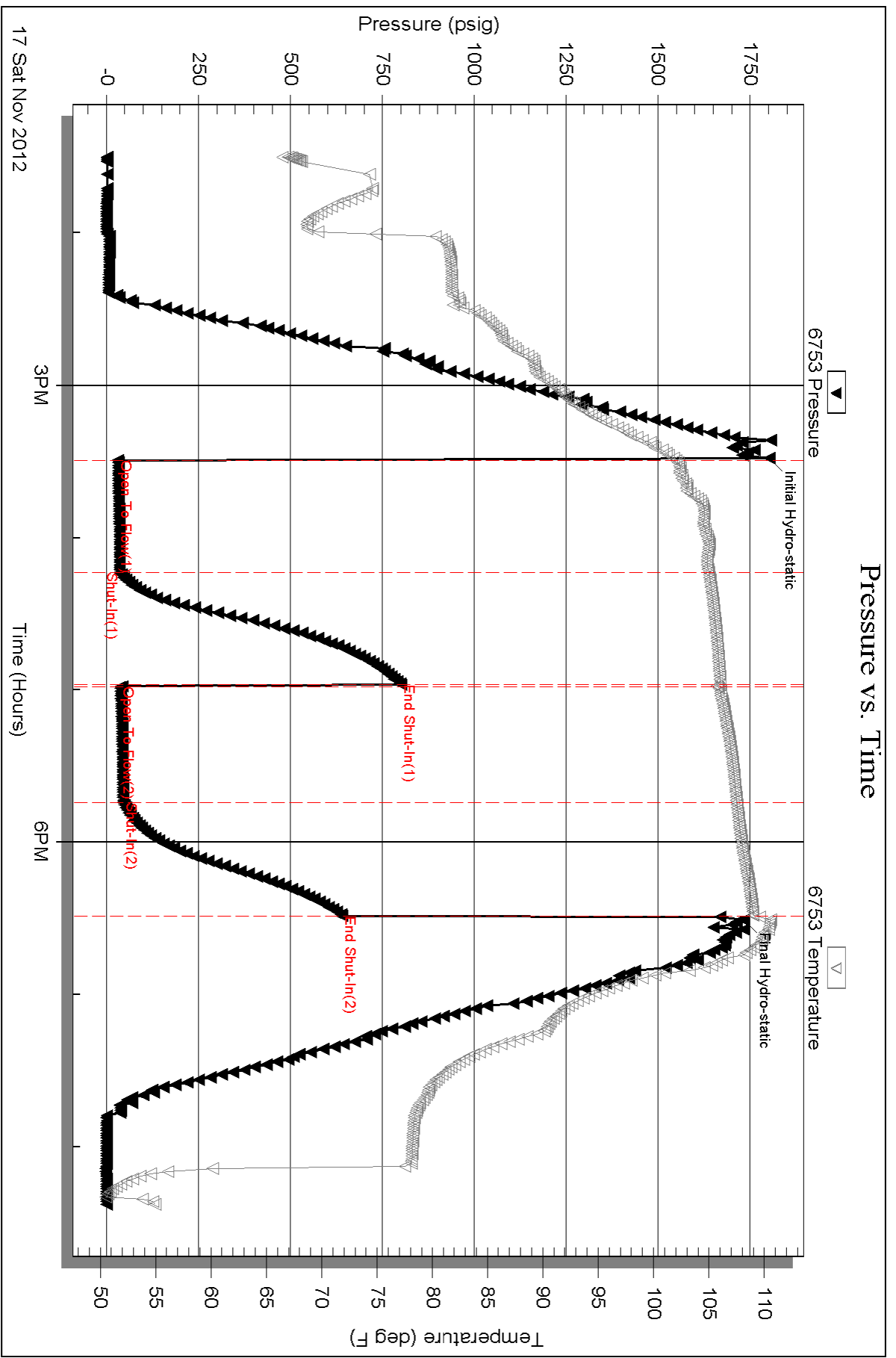
Serial #: 6753

Inside

Dow nng-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 6

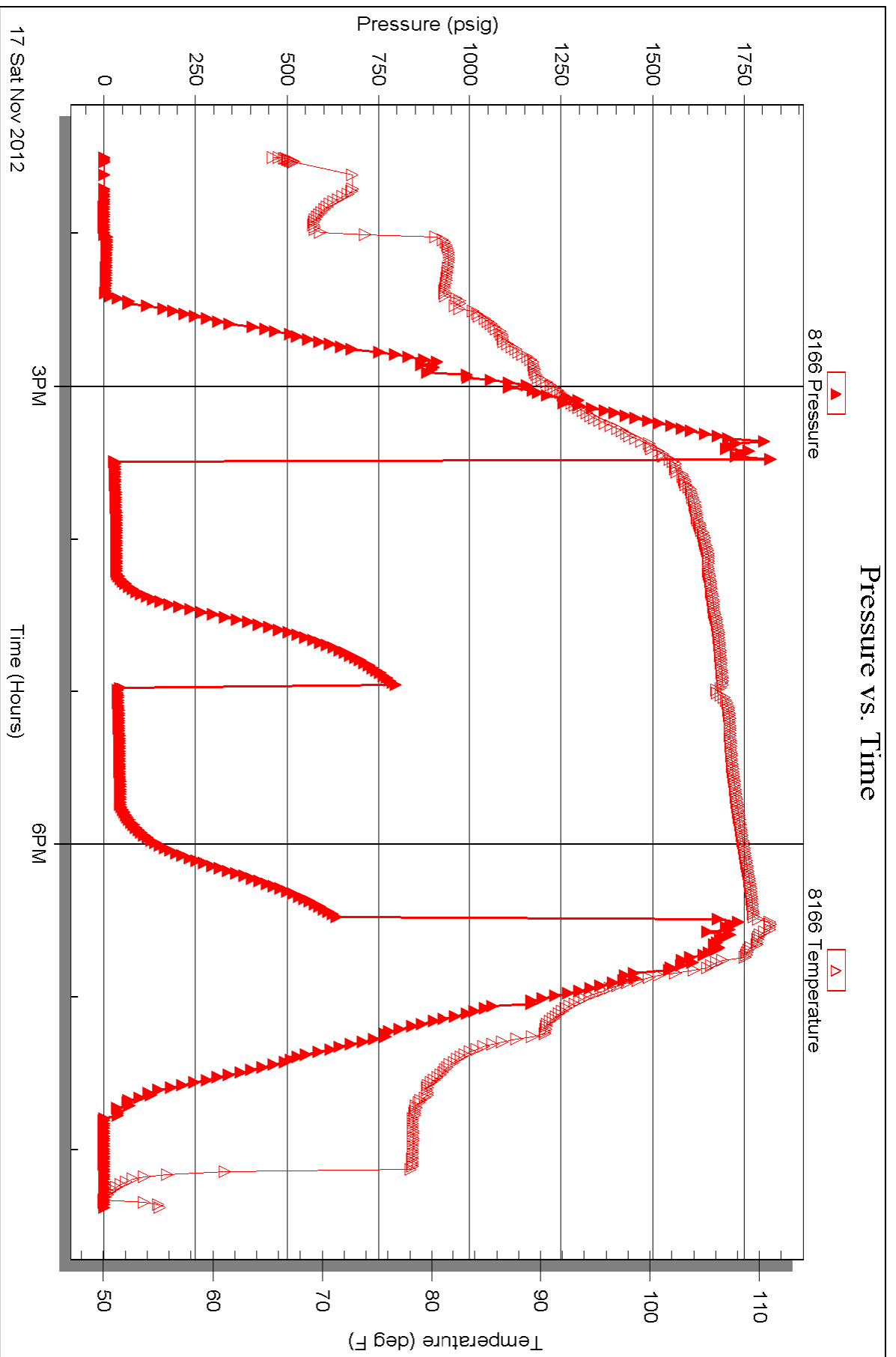


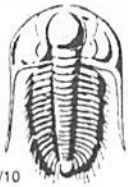
Serial #: 8166

Outside Dow n/ing-Nelson Oil Co.

Chas-Mar #1-13

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50796

Well Name & No. chas-Mar #1-13 Test No. 1 Date 11/14/12
 Company Downing-Nelson Oil Co Inc. Elevation 2082 KB 2074 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #3
 Location: Sec. 13 Twp. 13 Rge. 19 Co. Ellis State KS

Interval Tested 3107 - 3150 Zone Tested ~~Topack~~
 Anchor Length 43 Drill Pipe Run _____ Mud Wt. _____
 Top Packer Depth 3102 Drill Collars Run 30 Vis _____
 Bottom Packer Depth 3107 Wt. Pipe Run _____ WL _____
 Total Depth 3150 Chlorides _____ ppm System LCM _____

Blow Description IF - very weak surface blow
IS2 - No blow
FF - very weak surface blow died in 10 min
FS2 - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>oil spotted wcm</u>		<u>40</u>	<u>60</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 50 BHT 99 Gravity _____ API RW 155 @ 35 °F Chlorides 25,000 ppm

(A) Initial Hydrostatic <u>1,491</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1:05</u>
(B) First Initial Flow <u>20</u>	<input type="checkbox"/> Jars _____	T-Started <u>1:30</u>
(C) First Final Flow <u>34</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>3:48</u>
(D) Initial Shut-In <u>700</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>5:48</u>
(E) Second Initial Flow <u>35</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>7:35</u>
(F) Second Final Flow <u>46</u>	<input checked="" type="checkbox"/> Mileage <u>20.7</u> 31	Comments _____
(G) Final Shut-In <u>667</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1,461</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

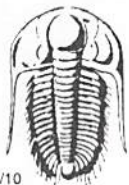
Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Sub Total 1181
 Total 1181
 MP/DST Disc't _____

Approved By _____ Our Representative Butt Dred

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. 50797

4/10

Well Name & No. chas-Mar # 1-13 Test No. 2 Date 11/14/12
 Company Rowning-Nelson Oil Co Inc. Elevation 2082 KB 2074 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #3
 Location: Sec. 13 Twp. 13 Rge. 19 Co. Ellis State KS

Interval Tested 3320 - 3381 Zone Tested Toronto - KC "A"
 Anchor Length 61 Drill Pipe Run _____ Mud Wt. 8.7
 Top Packer Depth 3315 Drill Collars Run 30 Vis 46
 Bottom Packer Depth 3320 Wt. Pipe Run — WL 8.0
 Total Depth 3381 Chlorides 1,000 ppm System LCM _____
 Blow Description IF - 1 1/4 in blow
ISL - No blow
FF - Very weak surface blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>Mud</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 5 BHT 104 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1623</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>22:10</u>
(B) First Initial Flow <u>16</u>	<input type="checkbox"/> Jars _____	T-Started <u>22:53</u>
(C) First Final Flow <u>19</u>	<input type="checkbox"/> Safety Joint _____	T-Open <u>00:35</u>
(D) Initial Shut-In <u>79</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>3:55</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>5:40</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>20 RT</u> 31	Comments _____
(G) Final Shut-In <u>62</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1569</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby _____	Total <u>1181</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1181</u>	

Approved By _____

Our Representative Bud [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. **50798**

4/10

Well Name & No. chas-Mar # 1-13 Test No. 3 Date 11/15/12
 Company Downing-Nelson Oil Co Inc. Elevation 2082 KB 2074 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #3
 Location: Sec. 13 Twp. 13 Rge. 19 Co. Ellis State KS

Interval Tested 3386 - ~~3402~~ 3432 Zone Tested KC^uC, D^u
 Anchor Length 46 Drill Pipe Run 3358 Mud Wt. _____
 Top Packer Depth 3381 Drill Collars Run 30 Vis _____
 Bottom Packer Depth 3386 Wt. Pipe Run — WL _____
 Total Depth 3436 Chlorides _____ ppm System LCM _____
 Blow Description IF - BOB in 2 min
IF - No blow
FF - BOB Immediately
FST - BOB 18 min

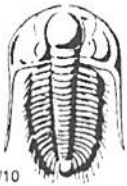
Rec	Feet of	%gas	%oil	%water	%mud
<u>310</u>	<u>40</u> Feet of <u>6500CW</u>	<u>30%</u>	<u>20%</u>	<u>45%</u>	<u>5%</u>
<u>185</u>	Feet of <u>6500CW</u>	<u>40%</u>	<u>10%</u>	<u>50%</u>	<u>%</u>
<u>243</u>	Feet of <u>6500CW</u>	<u>10%</u>	<u>5%</u>	<u>85%</u>	<u>%</u>
<u>390</u>	Feet of <u>600CW</u>	<u>10%</u>	<u>20%</u>	<u>70%</u>	<u>%</u>
<u>430</u>	Feet of <u>water</u>	<u>440-467</u>	<u>GTP</u>	<u>%</u>	<u>%</u>

Rec Total 1550 BHT 118 Gravity 38 API RW .07 @ 65 °F Chlorides 130,000 ppm

(A) Initial Hydrostatic 1,660 Test 1150 T-On Location 12:50
 (B) First Initial Flow 78 Jars _____ T-Started 13:10
 (C) First Final Flow 548 Safety Joint _____ T-Open 15:15
 (D) Initial Shut-In 1,065 Circ Sub _____ T-Pulled 17:15
 (E) Second Initial Flow 544 Hourly Standby _____ T-Out 20:25
 (F) Second Final Flow 785 Mileage 20.1 31 Comments _____
 (G) Final Shut-In 999 Sampler _____
 (H) Final Hydrostatic 1,595 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1181

Initial Open 30
 Initial Shut-In 4530
 Final Flow 30
 Final Shut-In 4530
 Approved By _____ Our Representative Bruce D...

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. 50799

Well Name & No. Chas-Mar #1-13 Test No. 4 Date 11/16/12
 Company Downing - Nelson Oil Co Inc Elevation 2082 KB 2074 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #3
 Location: Sec. 13 Twp. 13 Rge. 19 Co. Ellis State KS

Interval Tested 3426 - 3444 Zone Tested KC"E"
 Anchor Length 18 Drill Pipe Run _____ Mud Wt. 8.7
 Top Packer Depth 3421 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3426 Wt. Pipe Run _____ WL 8.8
 Total Depth 3444 Chlorides 2000 ppm System LCM 1 1/2

Blow Description IF - BOB in 2 1/2 min
ISI - No blow
FF - BOB in 3 1/2 min
FSI - 1/2 in blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free Oil</u>				
<u>794</u>	<u>VSO CW</u>		<u>2</u>	<u>98</u>	
<u>435</u>	<u>water</u>				
	<u>304 GIP</u>				

Rec Total 1230 BHT _____ Gravity _____ API RW .06 @ 55° F Chlorides 200,000 ppm

(A) Initial Hydrostatic 1,682 Test 1150 T-On Location 2:05
 (B) First Initial Flow 51 Jars _____ T-Started 2:20
 (C) First Final Flow 424 Safety Joint _____ T-Open 4:28
 (D) Initial Shut-In 988 Circ Sub _____ T-Pulled 6:58
 (E) Second Initial Flow 434 Hourly Standby _____ T-Out 9:39
 (F) Second Final Flow 685 Mileage 20 RT 31 Comments _____
 (G) Final Shut-In 965 Sampler _____
 (H) Final Hydrostatic 1,610 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1181
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 30
 Final Shut-In 45
 Sub Total 1181

Approved By _____ Our Representative Burdaw

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 50800

4/10

Well Name & No. chas-Mar #1-13 Test No. 5 Date 11/16/12
 Company Downing-Nelson Oil Co Inc. Elevation 2082 KB 2074 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #3
 Location: Sec. 13 Twp. 13 Rge. 19 Co. Ellis State KS

Interval Tested 3536-3555 Zone Tested AC"J"
 Anchor Length 19 Drill Pipe Run 3515 Mud Wt. 8.9
 Top Packer Depth 3531 Drill Collars Run 30 Vis 48
 Bottom Packer Depth 3536 Wt. Pipe Run — WL 10.8
 Total Depth 3555 Chlorides 11,000 ppm System LCM 1 1/2

Blow Description IF - 1 1/2 in blow
ISI - No blow
FF - Very weak surface blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Oil Spilled Mud</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

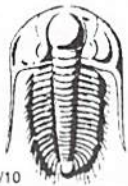
Rec Total 20 BHT 105 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1740 Test 1150 T-On Location 19:15
 (B) First Initial Flow 26 Jars _____ T-Started 19:40
 (C) First Final Flow 26 Safety Joint _____ T-Open 21:20
 (D) Initial Shut-In 43 Circ Sub _____ T-Pulled 23:20
 (E) Second Initial Flow 27 Hourly Standby _____ T-Out 1:00
 (F) Second Final Flow 27 Mileage 20 RT 31 Comments _____
 (G) Final Shut-In 35 Sampler _____
 (H) Final Hydrostatic 1,676 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 1181
 Total 1181
 MP/DST Disc't _____

Approved By _____ Our Representative Burt Jani

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51227

4/10

Well Name & No. Chas-Mar #1-13 Test No. 6 Date 11/12/12
 Company Downing-Nelson Oil Co Inc. Elevation 2082 KB 2074 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Ron Nelson Rig Discovery #3
 Location: Sec. 13 Twp. 13 Rge. 19 Co. Ellis State KS

Interval Tested 3623-3684 Zone Tested A-b
 Anchor Length 61 Drill Pipe Run 3582 Mud Wt. 9.1
 Top Packer Depth 3618 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3623 Wt. Pipe Run - WL 10.8
 Total Depth 3684 Chlorides 8,000 ppm System LCM #1
 Blow Description IF - 1 1/4 in blow
FSI - No blow
FF - 1 1/2 in blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>SGO</u>	<u>5</u>	<u>95</u>		
<u>55</u>	<u>SOCM</u>		<u>20</u>		<u>80</u>

Rec Total 70 BHT _____ Gravity 33 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1802 Test 1150 T-On Location 13:00
 (B) First Initial Flow 31 Jars _____ T-Started 13:30
 (C) First Final Flow 36 Safety Joint _____ T-Open 15:30
 (D) Initial Shut-In 801 Circ Sub _____ T-Pulled 18:30
 (E) Second Initial Flow 38 Hourly Standby _____ T-Out 20:20
 (F) Second Final Flow 45 Mileage 20-T x 2 ⁶² Comments pick up tools
 (G) Final Shut-In 640 Sampler _____
 (H) Final Hydrostatic 1,732 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1212
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1212

Approved By _____ Our Representative [Signature]

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