



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

KoBoDo #1-34

34-15s-19w Ellis KS

Start Date: 2013.10.25 @ 13:27:00

End Date: 2013.10.25 @ 20:21:00

Job Ticket #: 54485 DST #: 1

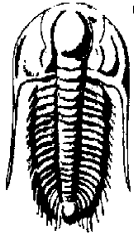
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.29 @ 13:32:50

Downing Nelson Oil Co
34-15s-19w Ellis KS
KoBoDo #1-34
DST # 1
Plattsmouth
2013.10.25



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54485

DST#: 1

ATTN: Marc Downing

Test Start: 2013.10.25 @ 13:27:00

GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:32:45

Time Test Ended: 20:21:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3229.00 ft (KB) To 3280.00 ft (KB) (TVD)

Reference Elevations: 2048.00 ft (KB)

Total Depth: 3280.00 ft (KB) (TVD)

2040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 111.54 psig @ 3265.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.25

End Date:

2013.10.25

Last Calib.:

2013.10.25

Start Time: 13:27:05

End Time:

20:20:59

Time On Btm:

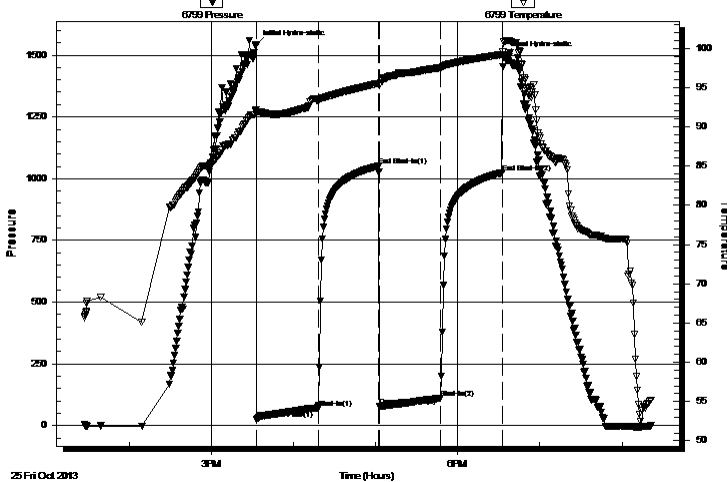
2013.10.25 @ 15:32:30

Time Off Btm:

2013.10.25 @ 18:33:45

TEST COMMENT: 45 - IF- 8" blow
45 - IS- No return
45 - FF- 4" blow
45 - FS- No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1542.41	92.15	Initial Hydro-static
1	26.58	91.89	Open To Flow (1)
46	72.80	93.39	Shut-In(1)
90	1050.71	95.54	End Shut-In(1)
90	76.61	95.26	Open To Flow (2)
135	111.54	97.53	Shut-In(2)
180	1024.08	99.21	End Shut-In(2)
182	1500.08	100.80	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	WM, 40%W, 60%M	0.15
161.00	MW, 10%M, 90%W	2.26

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54485

DST#: 1

ATTN: Marc Downing

Test Start: 2013.10.25 @ 13:27:00

Tool Information

Drill Pipe:	Length: 3201.00 ft	Diameter: 3.80 inches	Volume: 44.90 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 45.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3229.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	51.00 ft			
Tool Length:	72.00 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			3209.00	
Shut In Tool	5.00			3214.00	
Hydraulic tool	5.00			3219.00	
Packer	5.00			3224.00	21.00 Bottom Of Top Packer
Packer	5.00			3229.00	
Stubb	1.00			3230.00	
Perforations	3.00			3233.00	
Drill Pipe	31.00			3264.00	
Change Over Sub	1.00			3265.00	
Recorder	0.00	6799	Inside	3265.00	
Recorder	0.00	8648	Outside	3265.00	
Perforations	12.00			3277.00	
Bullnose	3.00			3280.00	51.00 Bottom Packers & Anchor

Total Tool Length: 72.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54485

DST#: 1

ATTN: Marc Downing

Test Start: 2013.10.25 @ 13:27:00

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: 6.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
30.00	WM, 40%W, 60%M	0.148
161.00	MW, 10%M, 90%W	2.258

Total Length: 191.00 ft Total Volume: 2.406 bbl

Num Fluid Samples: 0

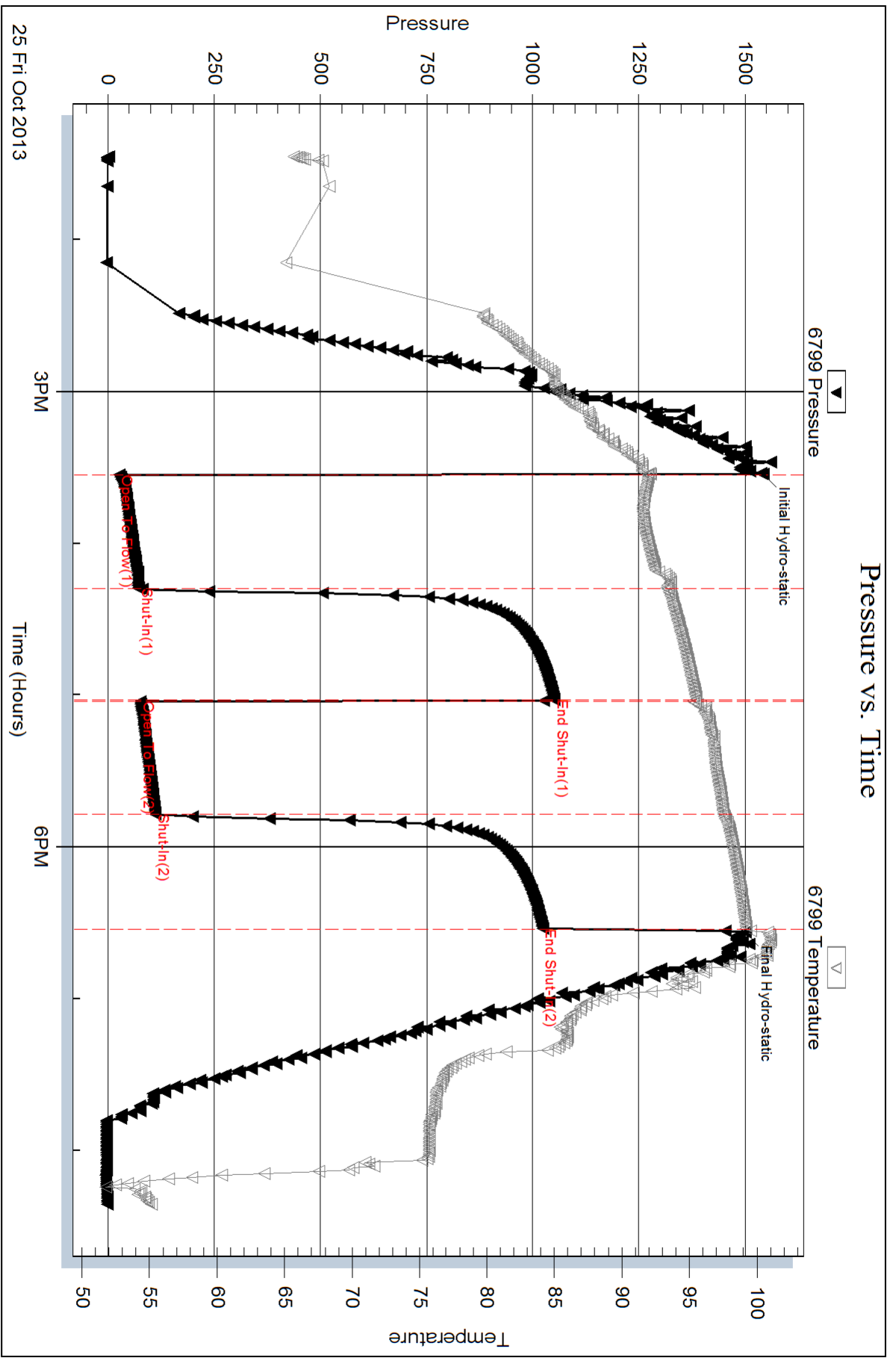
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .25 @ 60 Degrees = 38000

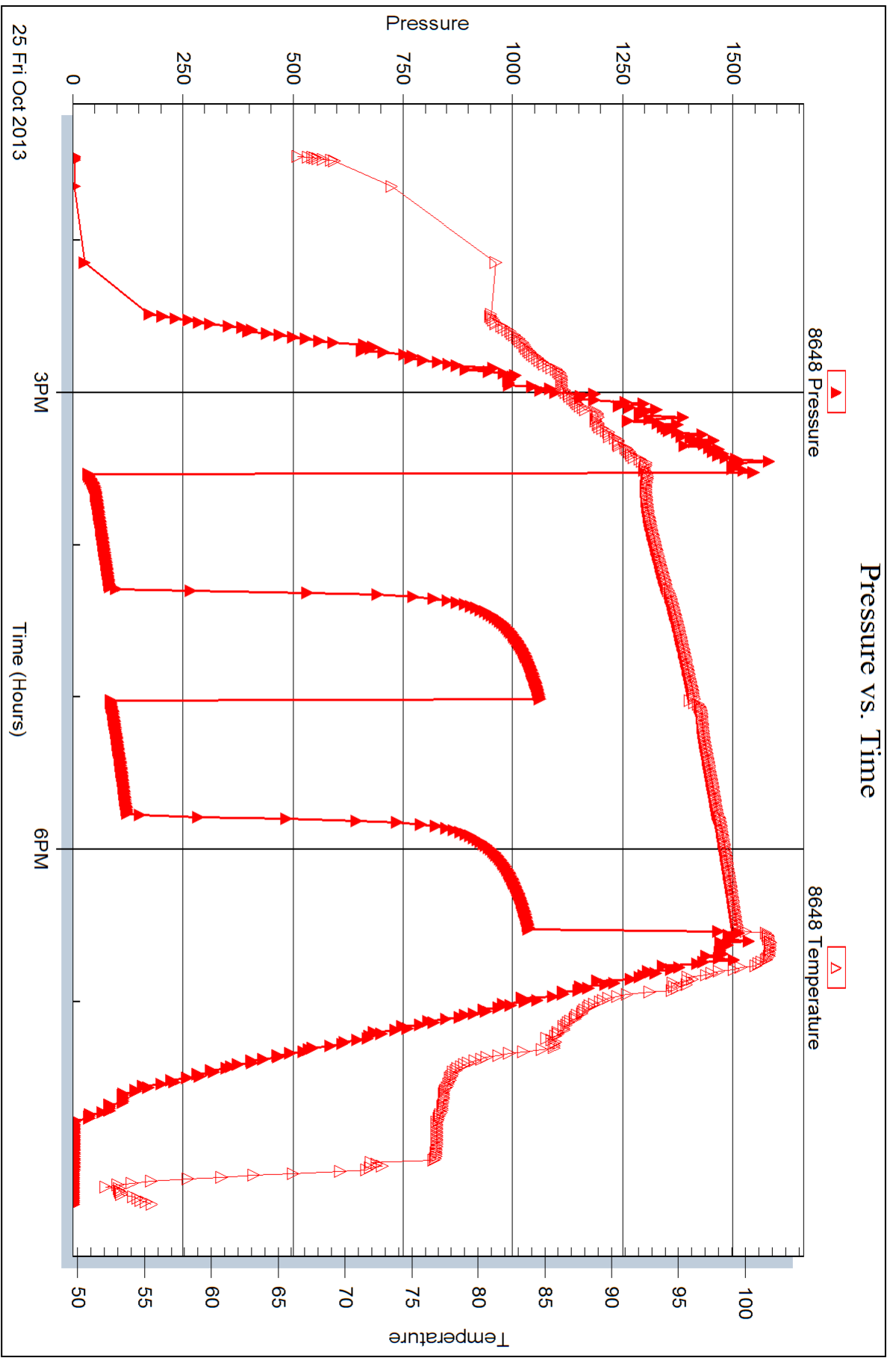


Serial #: 8648

Outside Dow n ing Nelson Oil Co

KoBoDo #1-34

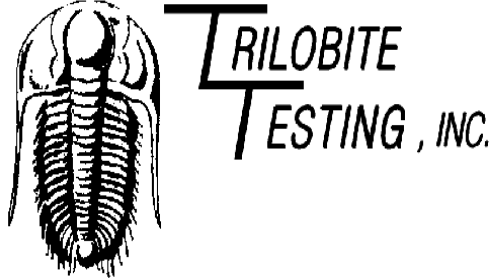
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 54485

Printed: 2013.10.29 @ 13:32:52



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

KoBoDo #1-34

34-15s-19w Ellis KS

Start Date: 2013.10.26 @ 05:21:00

End Date: 2013.10.26 @ 11:50:30

Job Ticket #: 54486 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.29 @ 13:32:05



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54486

DST#: 2

ATTN: Marc Downing

Test Start: 2013.10.26 @ 05:21:00

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:22:45

Time Test Ended: 11:50:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3336.00 ft (KB) To 3370.00 ft (KB) (TVD)

Reference Elevations: 2048.00 ft (KB)

Total Depth: 3370.00 ft (KB) (TVD)

2040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6799

Inside

Press @ Run Depth: 48.16 psig @ 3340.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.26

End Date:

2013.10.26

Last Calib.:

2013.10.26

Start Time: 05:21:05

End Time:

11:50:29

Time On Btm:

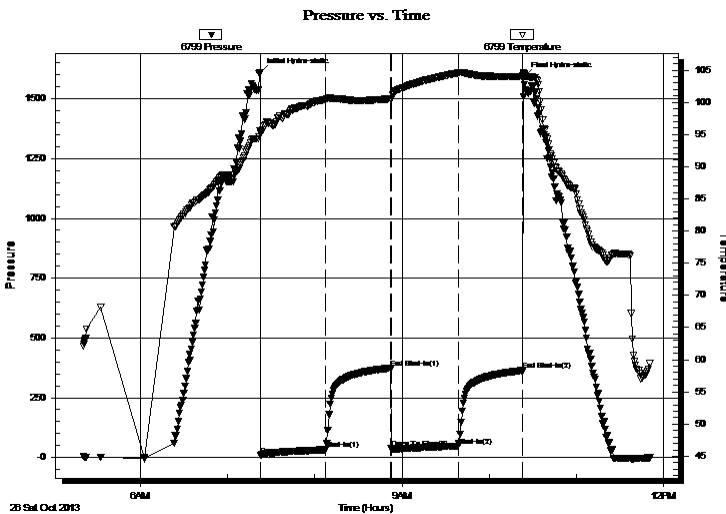
2013.10.26 @ 07:22:30

Time Off Btm:

2013.10.26 @ 10:23:45

TEST COMMENT: 45 - IF- 2" blow
45 - IS- No return
45 - FF- 1/4" blow
45 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1610.69	95.58	Initial Hydro-static
1	10.10	95.31	Open To Flow (1)
45	32.57	100.46	Shut-In(1)
90	372.11	100.54	End Shut-In(1)
90	36.57	100.40	Open To Flow (2)
136	48.16	104.55	Shut-In(2)
181	363.71	104.04	End Shut-In(2)
182	1593.37	104.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	MW, 20%M, 80%W	0.60
20.00	WM, 40%W, 60%M	0.28

* 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 Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54486

DST#: 2

ATTN: Marc Downing

Test Start: 2013.10.26 @ 05:21:00

Tool Information

Drill Pipe:	Length: 3296.00 ft	Diameter: 3.80 inches	Volume: 46.23 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 46.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3336.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	55.00 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			3316.00	
Shut In Tool	5.00			3321.00	
Hydraulic tool	5.00			3326.00	
Packer	5.00			3331.00	21.00 Bottom Of Top Packer
Packer	5.00			3336.00	
Stubb	1.00			3337.00	
Perforations	3.00			3340.00	
Recorder	0.00	6799	Inside	3340.00	
Recorder	0.00	8648	Outside	3340.00	
Perforations	27.00			3367.00	
Bullnose	3.00			3370.00	34.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54486

DST#: 2

ATTN: Marc Downing

Test Start: 2013.10.26 @ 05:21:00

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:

31000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	MW, 20%M, 80%W	0.596
20.00	WM, 40%W, 60%M	0.281

Total Length: 82.00 ft Total Volume: 0.877 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

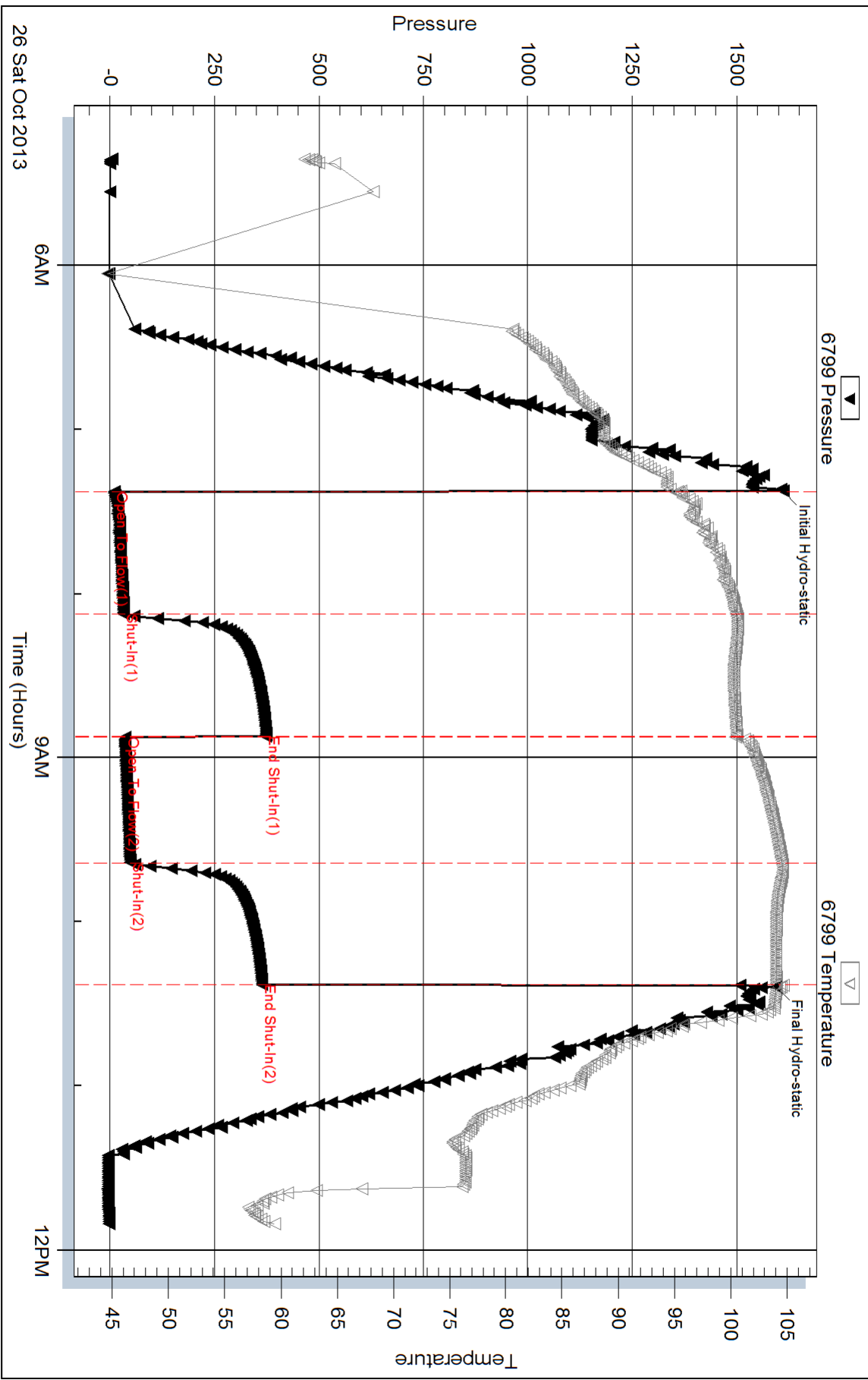
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .31 @ 50 Degrees = 31000

Pressure vs. Time

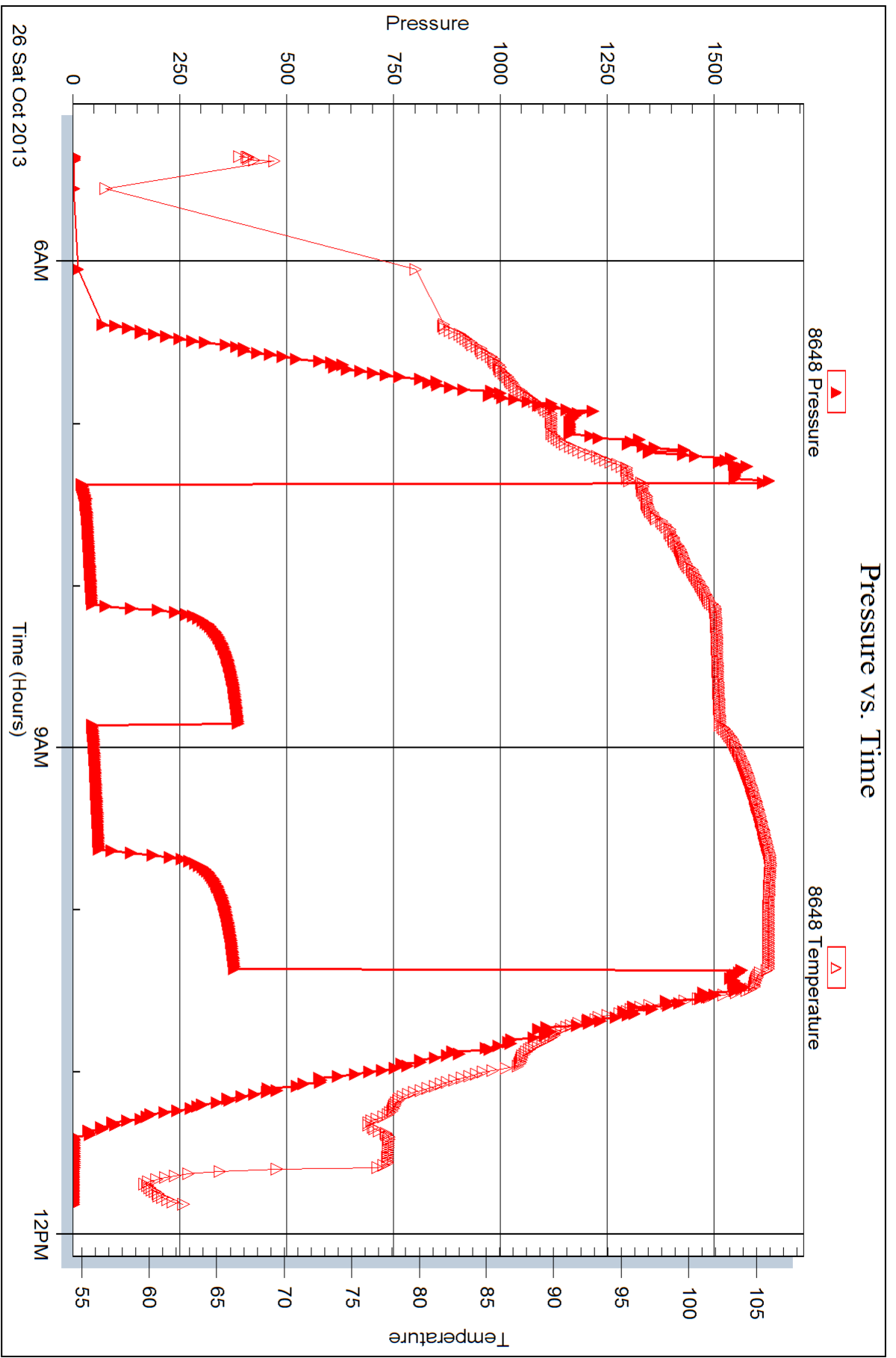


Serial #: 8648

Outside Dow ning Nelson Oil Co

KoBoDo #1-34

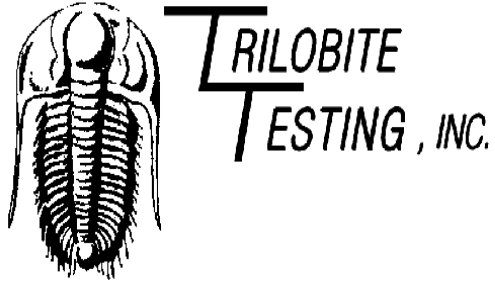
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 54486

Printed: 2013.10.29 @ 13:32:07



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

KoBoDo #1-34

34-15s-19w Ellis KS

Start Date: 2013.10.27 @ 03:22:00

End Date: 2013.10.27 @ 10:21:45

Job Ticket #: 54487 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.29 @ 13:31:31

Downing Nelson Oil Co
34-15s-19w Ellis KS
KoBoDo #1-34
DST # 3
LKC "H-J"
2013.10.27



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54487

DST#: 3

ATTN: Marc Dow ning

Test Start: 2013.10.27 @ 03:22:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 05:21:45
 Tester: Cody Bloedorn
 Time Test Ended: 10:21:45
 Unit No: 53
 Interval: **3448.00 ft (KB) To 3525.00 ft (KB) (TVD)**
 Reference Elevations: 2048.00 ft (KB)
 Total Depth: 3525.00 ft (KB) (TVD)
 2040.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 8.00 ft

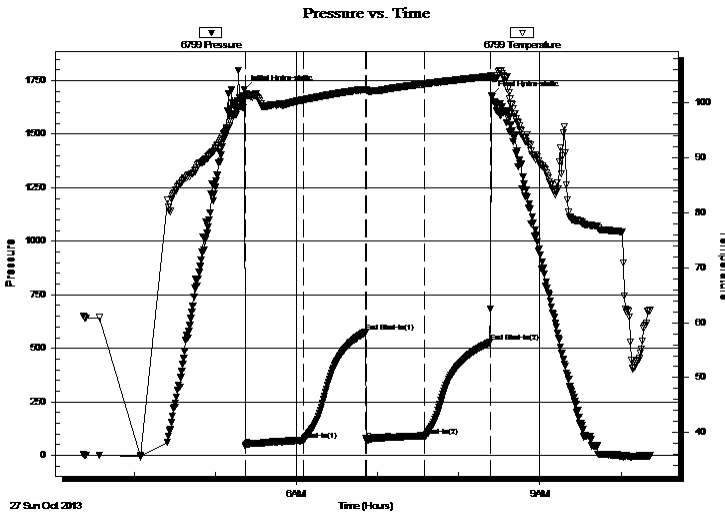
Serial #: 6799

Inside

Press @ Run Depth: 92.01 psig @ 3516.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.10.27 End Date: 2013.10.27 Last Calib.: 2013.10.27
 Start Time: 03:22:05 End Time: 10:21:44 Time On Btm: 2013.10.27 @ 05:21:15
 Time Off Btm: 2013.10.27 @ 08:24:15

TEST COMMENT: 45 - IF- B.O.B. in 14 minutes
 45 - IS- Surface return
 45 - FF- B.O.B. in 6 minutes
 45 - FS- Surface return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1707.09	100.75	Initial Hydro-static
1	44.57	101.00	Open To Flow (1)
44	72.64	100.53	Shut-In(1)
90	574.18	102.46	End Shut-In(1)
91	69.10	102.39	Open To Flow (2)
134	92.01	103.45	Shut-In(2)
182	527.55	104.80	End Shut-In(2)
183	1679.30	104.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
134.00	GHOCM, 20%G, 40%O, 40%M	1.61
20.00	GO, 85%O, 15%G	0.28
0.00	961' of G.I.P.	0.00

* 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 Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54487

DST#: 3

ATTN: Marc Downing

Test Start: 2013.10.27 @ 03:22:00

Tool Information

Drill Pipe:	Length: 3422.00 ft	Diameter: 3.80 inches	Volume: 48.00 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 48.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3448.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	98.00 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			3428.00	
Shut In Tool	5.00			3433.00	
Hydraulic tool	5.00			3438.00	
Packer	5.00			3443.00	21.00 Bottom Of Top Packer
Packer	5.00			3448.00	
Stubb	1.00			3449.00	
Perforations	3.00			3452.00	
Change Over Sub	1.00			3453.00	
Drill Pipe	62.00			3515.00	
Change Over Sub	1.00			3516.00	
Recorder	0.00	6799	Inside	3516.00	
Recorder	0.00	8648	Outside	3516.00	
Perforations	6.00			3522.00	
Bullnose	3.00			3525.00	77.00 Bottom Packers & Anchor

Total Tool Length: 98.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54487

DST#: 3

ATTN: Marc Downing

Test Start: 2013.10.27 @ 03:22:00

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: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
134.00	GHOCM, 20%G, 40%O, 40%M	1.606
20.00	GO, 85%O, 15%G	0.281
0.00	961' of G.I.P.	0.000

Total Length: 154.00 ft Total Volume: 1.887 bbl

Num Fluid Samples: 0

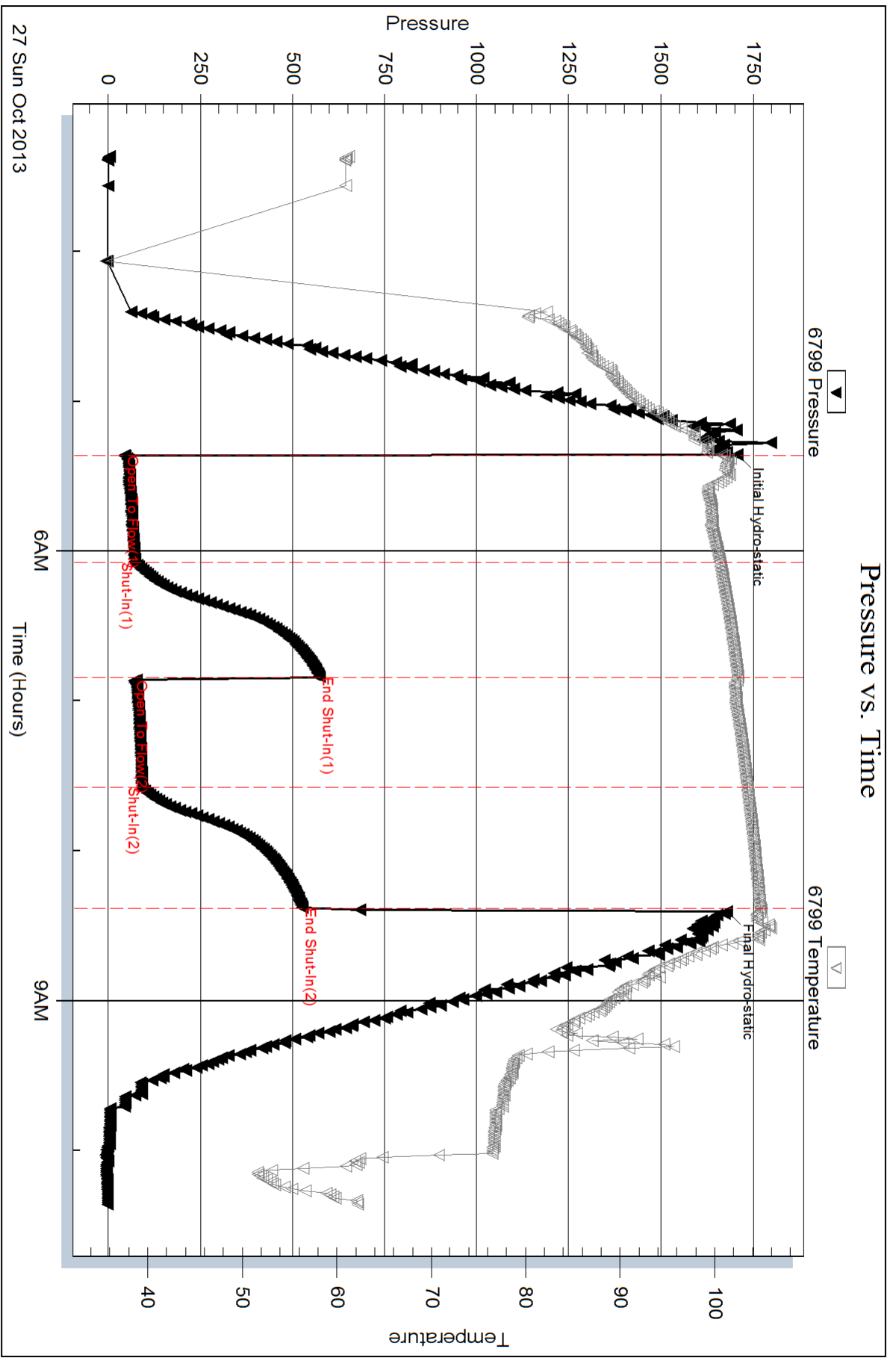
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 35 @ 80 Degrees = 33 Gravity

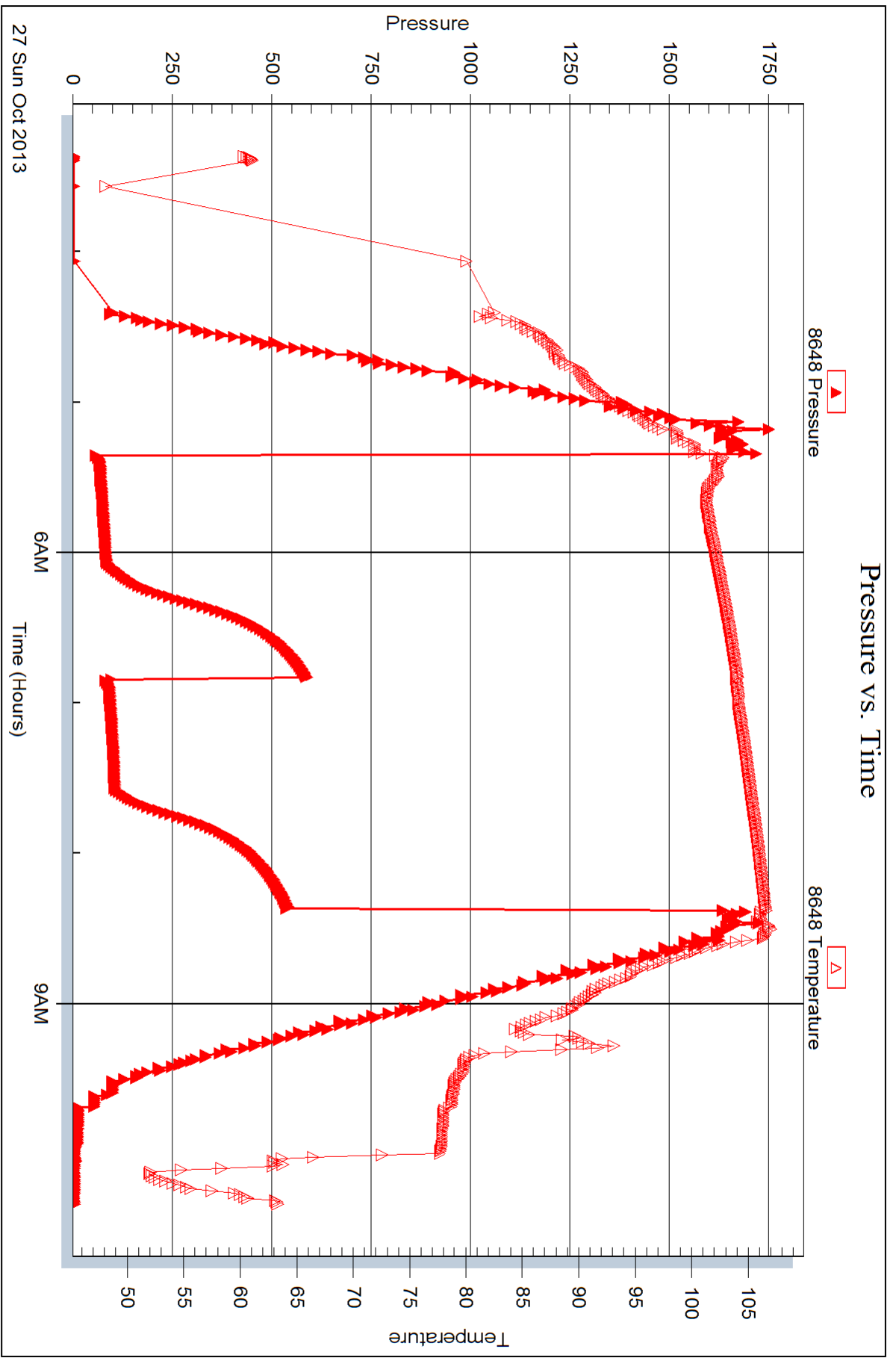


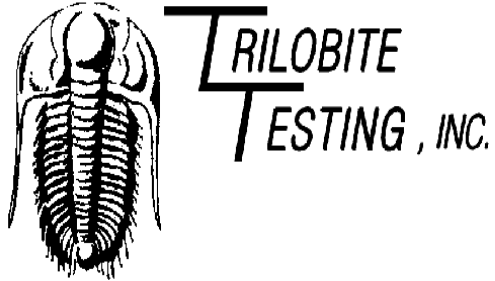
Serial #: 8648

Outside Dow n/ing Nelson Oil Co

KoBoDo #1-34

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

KoBoDo #1-34

34-15s-19w Ellis KS

Start Date: 2013.10.27 @ 22:32:00

End Date: 2013.10.28 @ 05:02:15

Job Ticket #: 54488 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.29 @ 13:30:48



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54488

DST#: 4

ATTN: Marc Downing

Test Start: 2013.10.27 @ 22:32:00

GENERAL INFORMATION:

Formation: **Reagan Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:28:15

Time Test Ended: 05:02:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3623.00 ft (KB) To 3649.00 ft (KB) (TVD)

Reference Elevations: 2048.00 ft (KB)

Total Depth: 3649.00 ft (KB) (TVD)

2040.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6799 Inside

Press @ Run Depth: 325.26 psig @ 3627.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.27 End Date: 2013.10.28

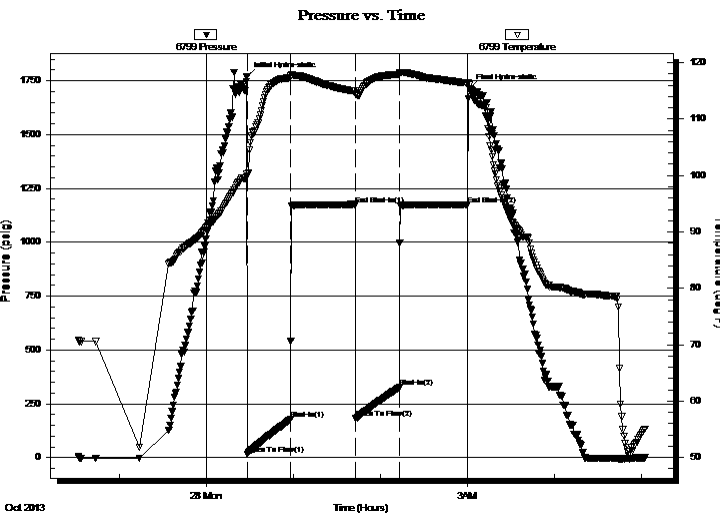
Last Calib.: 2013.10.28

Start Time: 22:32:05 End Time: 05:02:14

Time On Btm: 2013.10.28 @ 00:28:00

Time Off Btm: 2013.10.28 @ 03:01:15

TEST COMMENT: 30 - IF- B.O.B. in 8 minutes
45 - IS- Weak surface return
30 - FF- B.O.B. in 9 minutes
45 - FS- Weak return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1768.75	100.22	Initial Hydro-static
1	14.34	99.93	Open To Flow (1)
30	177.39	117.37	Shut-In(1)
75	1173.74	114.92	End Shut-In(1)
75	183.46	114.45	Open To Flow (2)
105	325.26	117.90	Shut-In(2)
152	1175.17	116.39	End Shut-In(2)
154	1712.60	116.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
496.00	MW, 5%M, 95%W	6.68
186.00	MW, 40%M, 60%W	2.61
124.00	Mud with oil spots, 100%M	1.74
0.00	1240' of G.I.P.	0.00

* 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 Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54488

DST#: 4

ATTN: Marc Downing

Test Start: 2013.10.27 @ 22:32:00

Tool Information

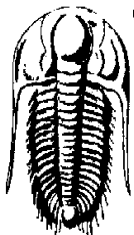
Drill Pipe:	Length: 3580.00 ft	Diameter: 3.80 inches	Volume: 50.22 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 50.37 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3623.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	26.00 ft				
Tool Length:	47.00 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			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	
Perforations	3.00			3627.00	
Recorder	0.00	6799	Inside	3627.00	
Recorder	0.00	8648	Outside	3627.00	
Perforations	19.00			3646.00	
Bullnose	3.00			3649.00	26.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

34-15s-19w Ellis KS

PO Box 1019
Hays KS 67601

KoBoDo #1-34

Job Ticket: 54488

DST#: 4

ATTN: Marc Downing

Test Start: 2013.10.27 @ 22:32:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
496.00	MW, 5%M, 95%W	6.684
186.00	MW, 40%M, 60%W	2.609
124.00	Mud with oil spots, 100%M	1.739
0.00	1240' of G.I.P.	0.000

Total Length: 806.00 ft

Total Volume: 11.032 bbl

Num Fluid Samples: 0

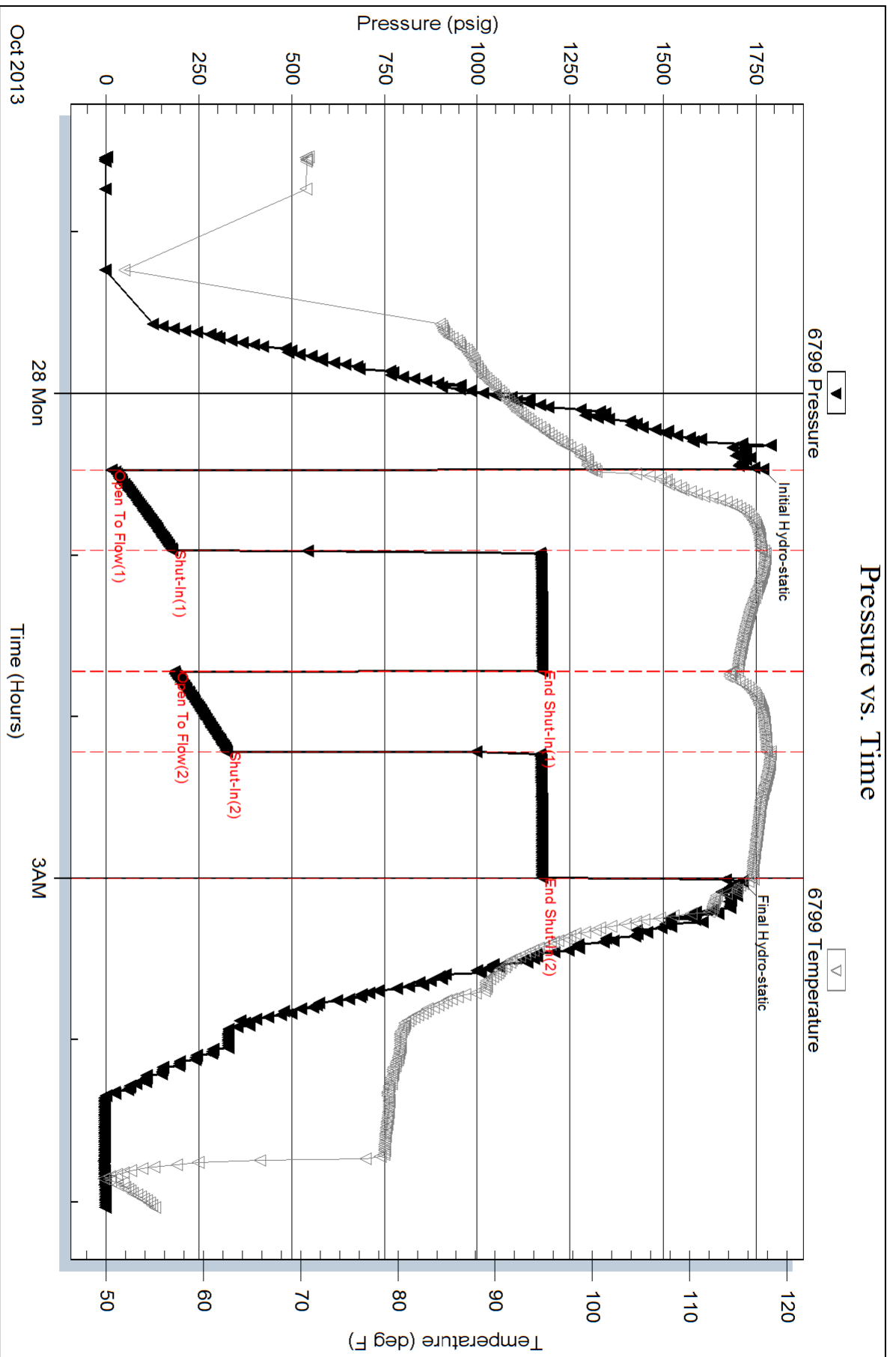
Num Gas Bombs: 0

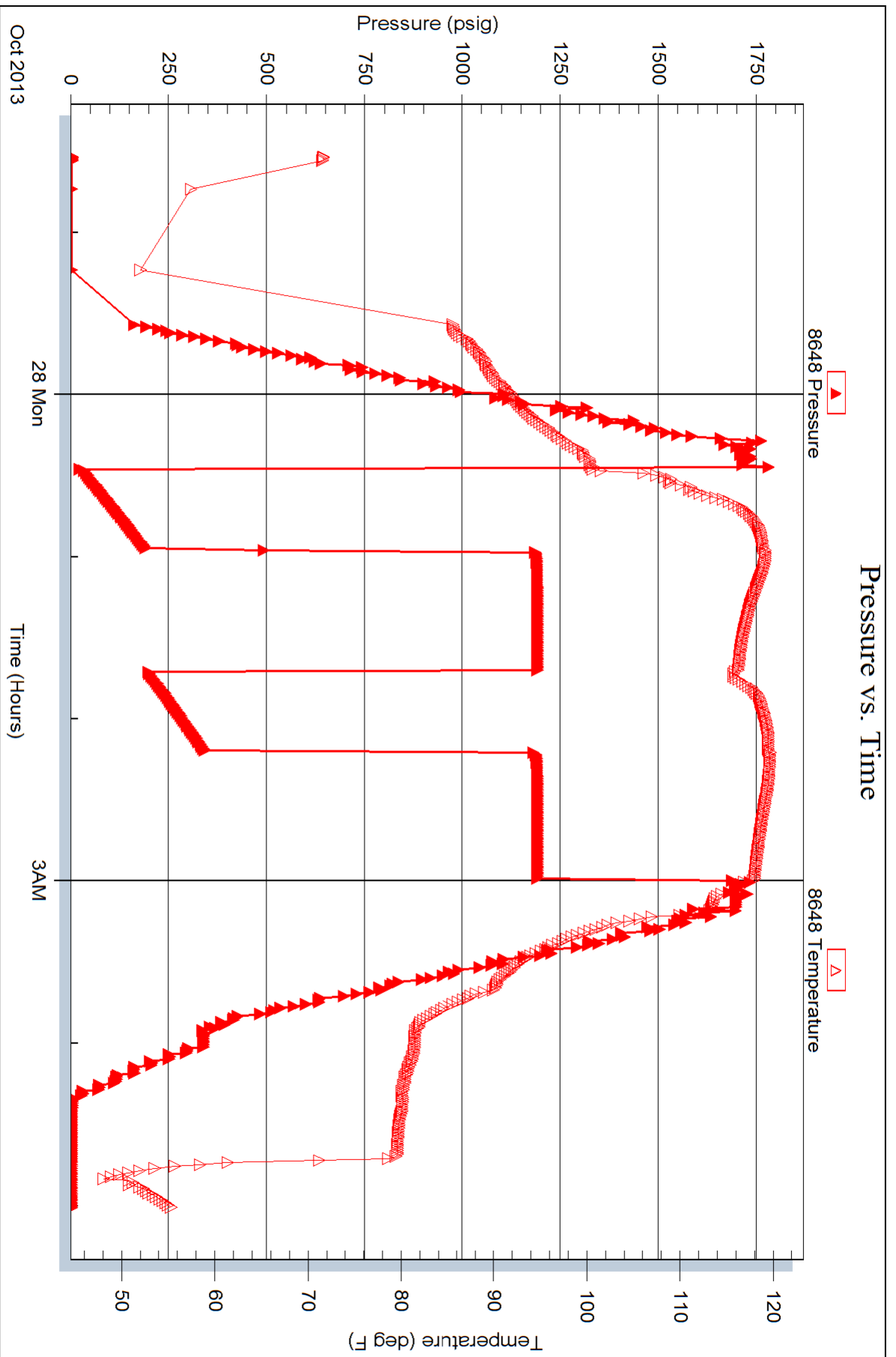
Serial #:

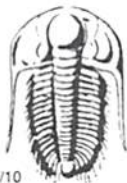
Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54485**

Well Name & No. KoBoDo #1734 Test No. 1 Date 10-25-13
 Company Downing-Nelson Oil Co Inc Elevation 2048 KB 2040 GL
 Address Po Box 1019, Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 34 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3229 - 3280 Zone Tested Plattsmouth
 Anchor Length 51' Drill Pipe Run 3201' Mud Wt. 9.6
 Top Packer Depth 3224 Drill Collars Run 30' Vis 48
 Bottom Packer Depth 3229 Wt. Pipe Run - WL 6.4
 Total Depth 3280 Chlorides 2,000 ppm System LCM -

Blow Description IF- 8" blow
ISI- No return
FF- 4" blow
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>WM</u>		<u>40</u>	<u>60</u>	
<u>161</u>	<u>MW</u>		<u>90</u>	<u>10</u>	
Rec Total	<u>191'</u>				

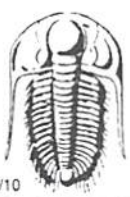
BHT 990 Gravity - API RW .25 @ 60 ° F Chlorides 38,000 ppm

(A) Initial Hydrostatic 1542 Test 1150 T-On Location 11:15 am
 (B) First Initial Flow 26 Jars _____ T-Started 1:27 pm
 (C) First Final Flow 72 Safety Joint _____ T-Open 3:33 pm
 (D) Initial Shut-In 1050 Circ Sub _____ T-Pulled 6:33 pm
 (E) Second Initial Flow 76 Hourly Standby _____ T-Out 8:22 pm
 (F) Second Final Flow 111 Mileage 39 RT 60.45
 (G) Final Shut-In 1024 Sampler _____
 (H) Final Hydrostatic 1500 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 45 Ruined Shale Packer _____
 Initial Shut-In 45 Ruined Packer _____
 Final Flow 45 Extra Copies _____
 Final Shut-In 45 Sub Total 0
 Total 1210.45
 MP/DST Disc't _____
 Sub Total 1210.45

Approved By _____ Our Representative Cody Blah

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO.

54486

Well Name & No. KoBoDo #1-34 Test No. 2 Date 10-26-13
 Company Downing - Nelson Oil Co Inc Elevation 2048 KB 2040 GL
 Address Po Box 1019, Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 34 Twp. 15S Rge. 19W Co. Ellis State ks

Interval Tested 3336 - 3370 Zone Tested LKC "C"
 Anchor Length 34' Drill Pipe Run 3296' Mud Wt. 8.6
 Top Packer Depth 3331 Drill Collars Run 30' Vis 48
 Bottom Packer Depth 3336 Wt. Pipe Run — WL 6.4
 Total Depth 3370 Chlorides 2,000 ppm System LCM —

Blow Description IF - 2" blow
ISI - No return
FF - 1/4" blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>MW</u>		<u>80</u>	<u>20</u>	
<u>20</u>	<u>WM</u>		<u>40</u>	<u>60</u>	

Rec Total 82' BHT 104° Gravity — API RW .31 @ 50° F Chlorides 31,000 ppm

(A) Initial Hydrostatic 1610 Test 1150 T-On Location 5:00 am
 (B) First Initial Flow 10 Jars _____ T-Started 5:21 am
 (C) First Final Flow 32 Safety Joint _____ T-Open 7:23 am
 (D) Initial Shut-In 372 Circ Sub _____ T-Pulled 10:23 am
 (E) Second Initial Flow 36 Hourly Standby _____ T-Out 11:51 am
 (F) Second Final Flow 48 Mileage 39 RT 60.45
 (G) Final Shut-In 363 Sampler _____
 (H) Final Hydrostatic 1593 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Day Standby _____
 Accessibility _____

Sub Total 1210.45 Sub Total 0 Total 1210.45 MP/DST Disc't _____

Approved By _____ Our Representative Cody Bloodorn

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54487**

Well Name & No. KoBoDo #1-34 Test No. 3 Date 10-27-13
 Company Downing-Nelson Oil Co Inc Elevation 2048 KB 2040 GL
 Address Po Box 1019 Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 34 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3448 - 3525 Zone Tested LKC "H-J"
 Anchor Length 77' Drill Pipe Run 3422' Mud Wt. 8.7
 Top Packer Depth 3443 Drill Collars Run 30' Vis 53
 Bottom Packer Depth 3448 Wt. Pipe Run — WL 7.2
 Total Depth 3525 Chlorides 3,000 ppm System LCM —

Blow Description IF - B.O.B. in 14 minutes
ISI - Surface return
FF - B.O.B. in 6 minutes
FSI - Surface return

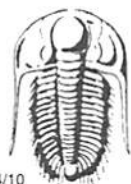
Rec	Feet of	%gas	%oil	%water	%mud
<u>134</u>	<u>6HOCM</u>	<u>20</u>	<u>40</u>	<u>40</u>	<u>—</u>
<u>20</u>	<u>60</u>	<u>15</u>	<u>85</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>961' of G.I.P.</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Rec Total 154' BHT 104° Gravity 33 API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic <u>1707</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2:46am</u>
(B) First Initial Flow <u>44</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>3:22am</u>
(C) First Final Flow <u>72</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>5:21am</u>
(D) Initial Shut-In <u>574</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>8:21am</u>
(E) Second Initial Flow <u>69</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>10:22am</u>
(F) Second Final Flow <u>92</u>	<input checked="" type="checkbox"/> Mileage <u>39RT 60.45</u>	Comments <u>—</u>
(G) Final Shut-In <u>527</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
(H) Final Hydrostatic <u>1679</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer <u>—</u>	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Total <u>1210.45</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby <u>—</u>	MP/DST Disc't <u>—</u>
	<input type="checkbox"/> Accessibility <u>—</u>	
	Sub Total <u>1210.45</u>	

Approved By _____ Our Representative Cody Plack

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54488**

Well Name & No. KoBoDo #1-34 Test No. 4 Date 10-27-13
 Company Downing - Nelson Oil Co IHC Elevation 2048 KB 2040 GL
 Address Po Box 1019 Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 34 Twp. 15s Rge. 19w Co. Ellis State KS

Interval Tested 3623 - 3649 Zone Tested Reagan Sand
 Anchor Length 26' Drill Pipe Run 3580' Mud Wt. 9.1
 Top Packer Depth 3618 Drill Collars Run 30' Vis 56
 Bottom Packer Depth 3623 Wt. Pipe Run — WL 8.8
 Total Depth 3649 Chlorides 4,000 ppm System LCM —

Blow Description IF - B.O.B. in 8 minutes
ISI - Weak surface return
FF - B.O.B. in 9 minutes
FSI - Weak return

Rec	Feet of	%gas	%oil	%water	%mud
<u>496</u>	<u>186 Spots MW</u>		<u>95</u>	<u>5</u>	<u>—</u>
<u>186</u>	<u>MW</u>		<u>60</u>	<u>40</u>	<u>—</u>
<u>124</u>	<u>Mud with oil spots</u>		<u>—</u>	<u>100</u>	<u>—</u>
	<u>1240 G.I.P.</u>				

Rec Total 806' BHT 116° Gravity — API RW 1.23 @ 52° F Chlorides 44,000 ppm

(A) Initial Hydrostatic <u>1768</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>10:09 pm</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars	T-Started <u>10:32 pm</u>
(C) First Final Flow <u>177</u>	<input type="checkbox"/> Safety Joint	T-Open <u>12:28 am</u>
(D) Initial Shut-In <u>1173</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2:58 am</u>
(E) Second Initial Flow <u>183</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>5:02 am</u>
(F) Second Final Flow <u>325</u>	<input checked="" type="checkbox"/> Mileage <u>39 RT</u> 60.45	Comments
(G) Final Shut-In <u>1175</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1712</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

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

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1210.45

Approved By _____ Our Representative Cody Bloodorn

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