

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

**Drilling Fluid Management Plan**

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

**KCC Office Use ONLY**

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to [kcc-well-logs@kcc.ks.gov](mailto:kcc-well-logs@kcc.ks.gov). Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

American Warrior Inc

**22-14s-35w Logan Ks**

P.O. Box 399  
Garden City KS 67846

**Dirks 1-22**

Job Ticket: 64264

**DST#: 1**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 03:12:38

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:51:38

Time Test Ended: 09:49:38

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 4304.00 ft (KB) To 4371.00 ft (KB) (TVD)**

Reference Elevations: 3129.00 ft (KB)

Total Depth: 4371.00 ft (KB) (TVD)

3122.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 26.61 psig @ 4305.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.18

End Date:

2017.10.18

Last Calib.: 2017.10.18

Start Time: 03:12:43

End Time:

09:49:37

Time On Btm: 2017.10.18 @ 05:50:08

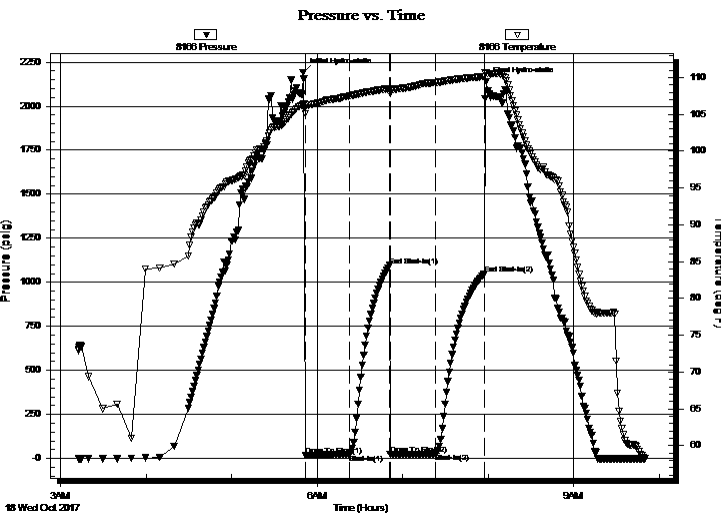
Time Off Btm: 2017.10.18 @ 07:58:38

TEST COMMENT: IF: 1/4 blow built to 1 1/4.

IS: No return.

FF: Surface blow built to 1/4.

FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2191.44	106.31	Initial Hydro-static
2	18.31	105.12	Open To Flow (1)
33	23.40	107.51	Shut-In(1)
61	1095.35	108.51	End Shut-In(1)
61	23.22	107.82	Open To Flow (2)
93	26.61	109.31	Shut-In(2)
127	1048.72	110.13	End Shut-In(2)
129	2138.29	110.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	wcm 5%w 95%m	0.15

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior Inc

**22-14s-35w Logan Ks**

P.O. Box 399  
Garden City KS 67846

**Dirks 1-22**

Job Ticket: 64264

**DST#: 1**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 03:12:38

## 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:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	w cm 5%w 95%m	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

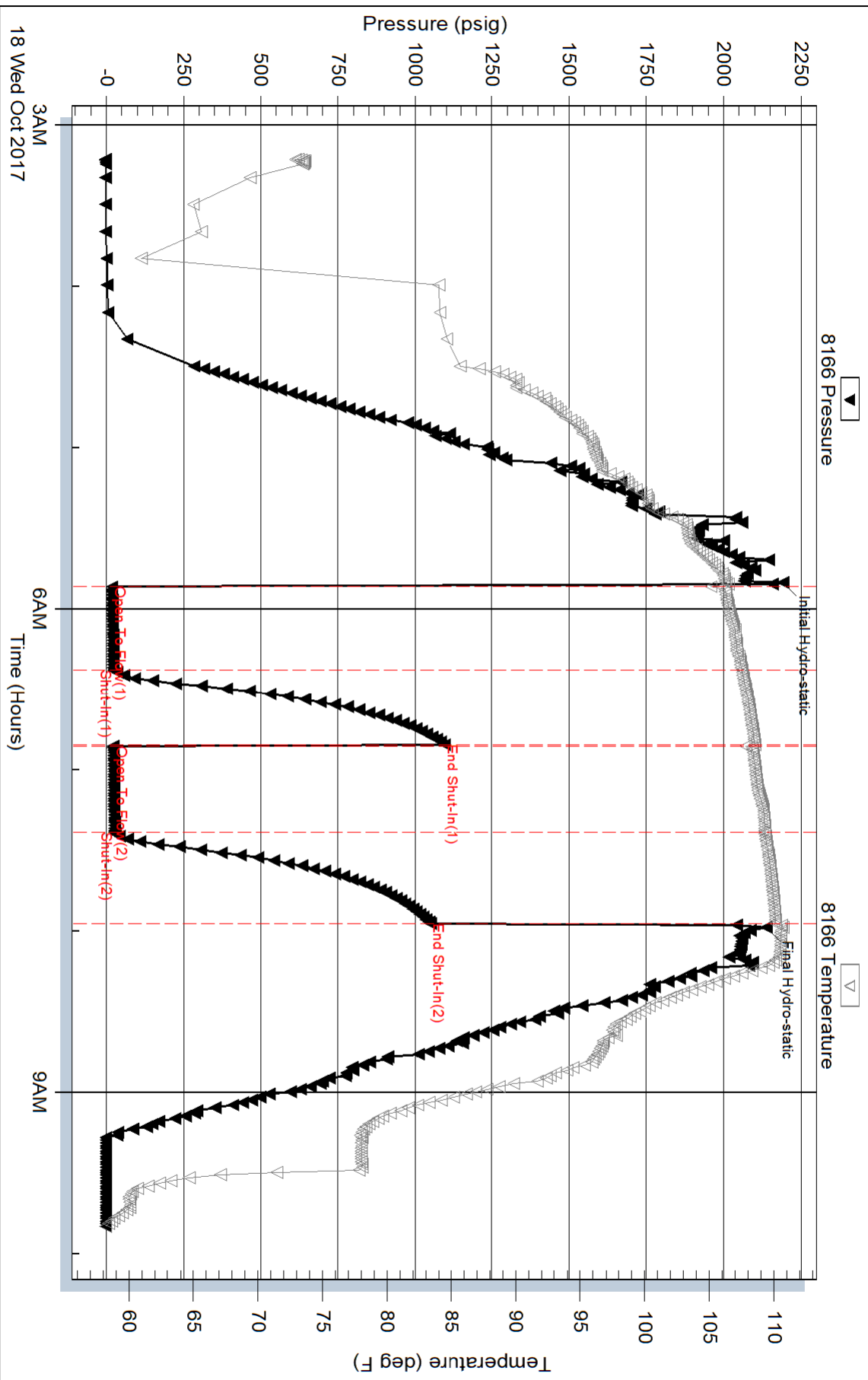
Serial #:

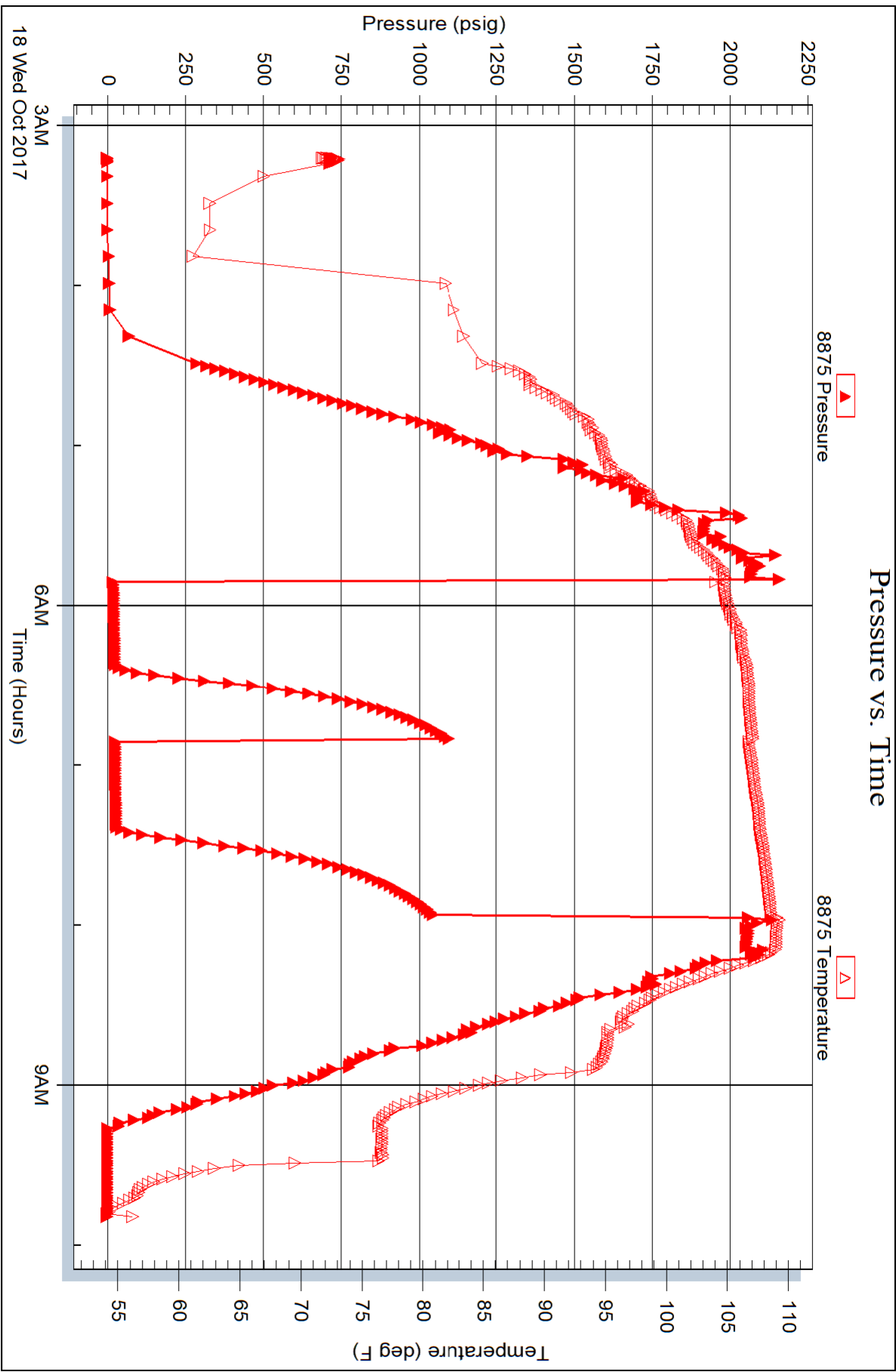
Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **American Warrior Inc**

PO Box 399  
Garden City KS 67846

ATTN: Luke Thompson

### **Dirks #1-22**

#### **22-14s-35w Logan,KS**

Start Date: 2017.10.18 @ 03:12:38

End Date: 2017.10.18 @ 09:49:38

Job Ticket #: 64264                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.10.23 @ 08:44:17



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

American Warrior Inc

**22-14s-35w Logan,KS**

PO Box 399  
Garden City KS 67846

**Dirks #1-22**

Job Ticket: 64264

**DST#: 1**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 03:12:38

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:51:38

Time Test Ended: 09:49:38

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 4304.00 ft (KB) To 4371.00 ft (KB) (TVD)**

Reference Elevations: 3129.00 ft (KB)

Total Depth: 4371.00 ft (KB) (TVD)

3122.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 26.61 psig @ 4305.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.18

End Date:

2017.10.18

Last Calib.: 2017.10.18

Start Time: 03:12:43

End Time:

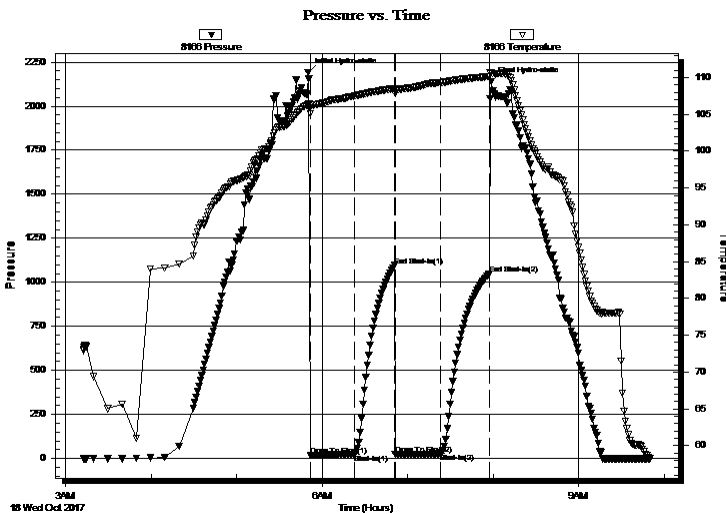
09:49:37

Time On Btm: 2017.10.18 @ 05:50:08

Time Off Btm: 2017.10.18 @ 07:58:38

**TEST COMMENT:** IF: 1/4" blow built to 1 1/4"  
IS: No return.  
FF: Surface blow built to 1/4"  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2191.44	106.31	Initial Hydro-static
2	18.31	105.12	Open To Flow (1)
33	23.40	107.51	Shut-In(1)
61	1095.35	108.51	End Shut-In(1)
61	23.22	107.82	Open To Flow (2)
93	26.61	109.31	Shut-In(2)
127	1048.72	110.13	End Shut-In(2)
129	2138.29	110.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	wcm 5%w 95%m	0.15

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

American Warrior Inc

**22-14s-35w Logan,KS**

PO Box 399  
Garden City KS 67846

**Dirks #1-22**

Job Ticket: 64264

**DST#: 1**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 03:12:38

## Tool Information

Drill Pipe:	Length: 3979.00 ft	Diameter: 3.38 inches	Volume: 44.16 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.25 inches	Volume: 1.52 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 45.68 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	68000.00 lb
Depth to Top Packer:	4304.00 ft			Final	68000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	67.00 ft				
Tool Length:	94.00 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			4278.00	
Shut In Tool	5.00			4283.00	
Hydraulic tool	5.00			4288.00	
Jars	5.00			4293.00	
Safety Joint	2.00			4295.00	
Packer	5.00			4300.00	27.00 Bottom Of Top Packer
Packer	4.00			4304.00	
Stubb	1.00			4305.00	
Recorder	0.00	8875	Inside	4305.00	
Recorder	0.00	8166	Outside	4305.00	
Perforations	27.00			4332.00	
Change Over Sub	1.00			4333.00	
Drill Pipe	32.00			4365.00	
Change Over Sub	1.00			4366.00	
Bullnose	5.00			4371.00	67.00 Bottom Packers & Anchor

**Total Tool Length: 94.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior Inc

**22-14s-35w Logan,KS**

PO Box 399  
Garden City KS 67846

**Dirks #1-22**

Job Ticket: 64264

**DST#: 1**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 03:12:38

## 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:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	w cm 5%w 95%m	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

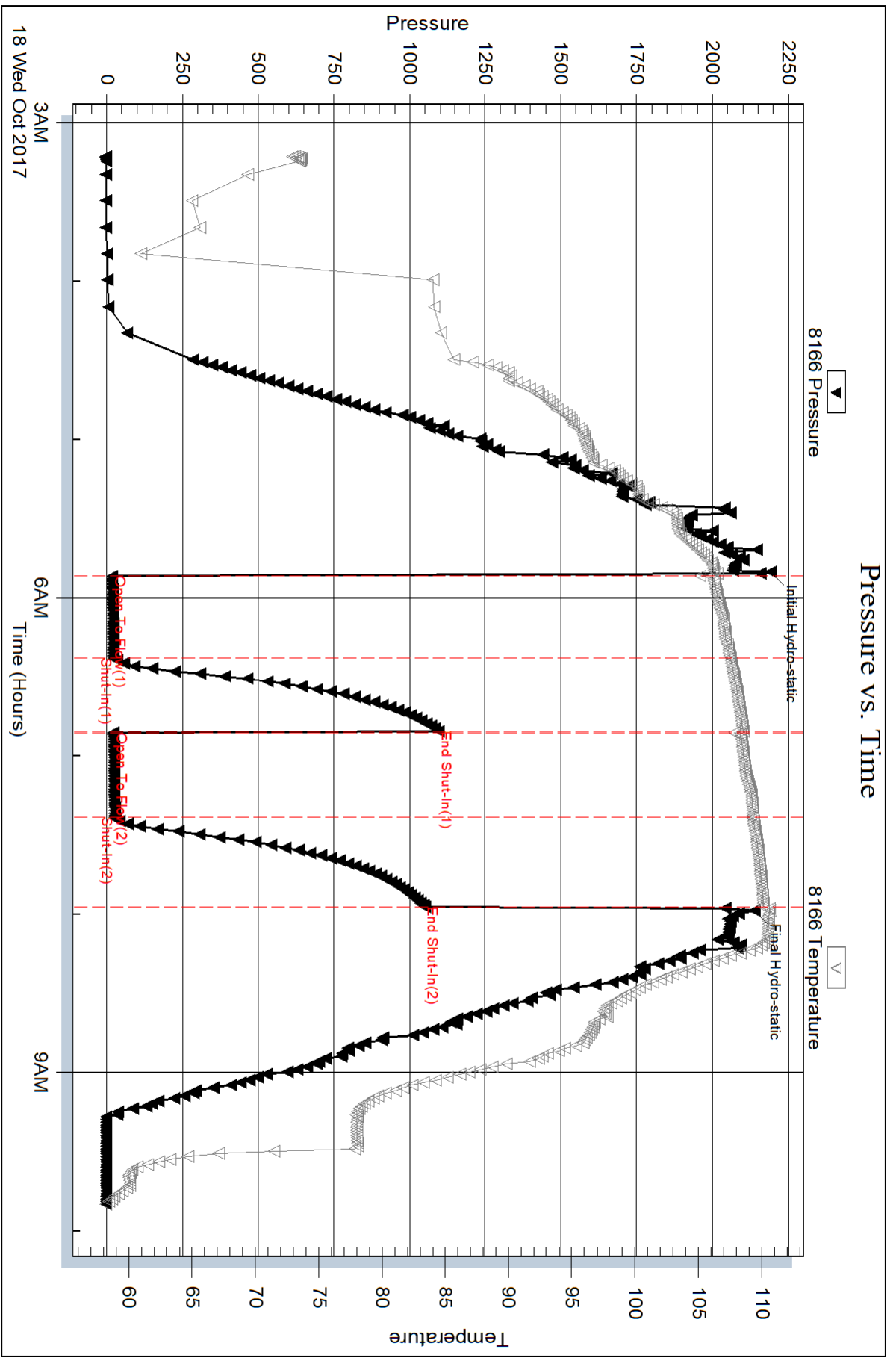
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



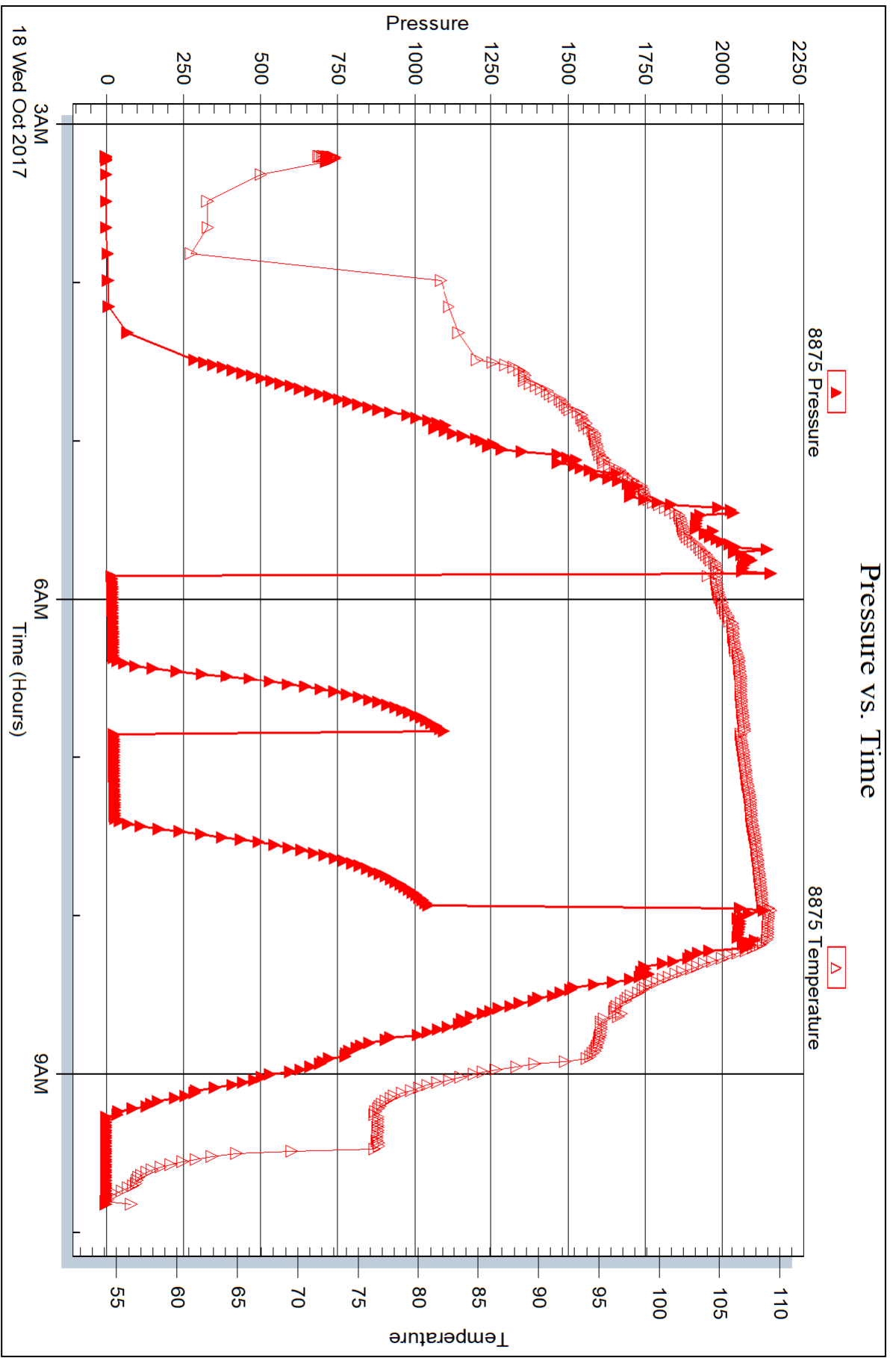
Serial #: 8875

Inside

American Warrior Inc

Dirks #1-22

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **American Warrior Inc**

PO Box 399  
Garden City KS 67846

ATTN: Luke Thompson

### **Dirks #1-22**

#### **22-14s-35w Logan,KS**

Start Date: 2017.10.18 @ 10:02:20

End Date: 2017.10.18 @ 16:14:50

Job Ticket #: 64265                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.10.23 @ 08:43:40



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

American Warrior Inc  
 PO Box 399  
 Garden City KS 67846  
 ATTN: Luke Thompson

**22-14s-35w Logan,KS**

**Dirks #1-22**

Job Ticket: 64265

**DST#: 2**

Test Start: 2017.10.18 @ 10:02:20

## GENERAL INFORMATION:

Formation: **Toronto**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:05:50  
 Time Test Ended: 16:14:50  
 Interval: **3894.00 ft (KB) To 3924.00 ft (KB) (TVD)**  
 Total Depth: 4371.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 79  
 Reference Elevations: 3129.00 ft (KB)  
 3122.00 ft (CF)  
 KB to GR/CF: 7.00 ft

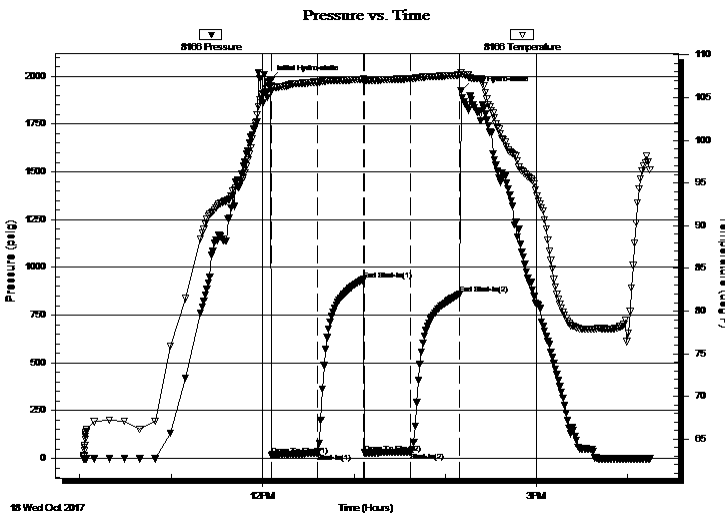
## Serial #: 8166

**Outside**

Press@RunDepth: 34.36 psig @ 3895.00 ft (KB)  
 Start Date: 2017.10.18 End Date: 2017.10.18  
 Start Time: 10:02:25 End Time: 16:14:49  
 Capacity: 8000.00 psig  
 Last Calib.: 2017.10.18  
 Time On Btm: 2017.10.18 @ 12:04:50  
 Time Off Btm: 2017.10.18 @ 14:10:20

TEST COMMENT: IF: 1/4" blow built to 1 1/4"  
 IS: No return.  
 FF: Surface blow built to 1/8"  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.45	106.39	Initial Hydro-static
1	18.02	105.71	Open To Flow (1)
31	27.77	106.78	Shut-In(1)
62	936.10	107.15	End Shut-In(1)
62	29.24	106.90	Open To Flow (2)
93	34.36	107.21	Shut-In(2)
125	858.46	107.62	End Shut-In(2)
126	1924.54	107.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 10%o 90%m	0.15

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

American Warrior Inc

**22-14s-35w Logan,KS**

PO Box 399  
Garden City KS 67846

**Dirks #1-22**

Job Ticket: 64265

**DST#: 2**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 10:02:20

## Tool Information

Drill Pipe:	Length: 3571.00 ft	Diameter: 3.38 inches	Volume: 39.63 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 310.00 ft	Diameter: 2.25 inches	Volume: 1.52 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 41.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3894.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	477.00 ft			
Tool Length:	499.00 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			3873.00	
Shut In Tool	5.00			3878.00	
Hydraulic tool	5.00			3883.00	
Safety Joint	2.00			3885.00	
Packer	5.00			3890.00	22.00 Bottom Of Top Packer
Packer	4.00			3894.00	
Stubb	1.00			3895.00	
Recorder	0.00	8875	Inside	3895.00	
Recorder	0.00	8166	Outside	3895.00	
Perforations	24.00			3919.00	
Blank Off Sub	1.00			3920.00	
Packer - Shale	4.00			3924.00	
Stubb	1.00			3925.00	
Change Over Sub	1.00			3926.00	
Recorder	0.00	8650	Below	3926.00	
Drill Pipe	445.00			4371.00	477.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>499.00</b>				





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

American Warrior Inc

**22-14s-35w Logan,KS**

PO Box 399  
Garden City KS 67846

**Dirks #1-22**

Job Ticket: 64265

**DST#: 2**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 10:02:20

### 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:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	ocm 10%o 90%m	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

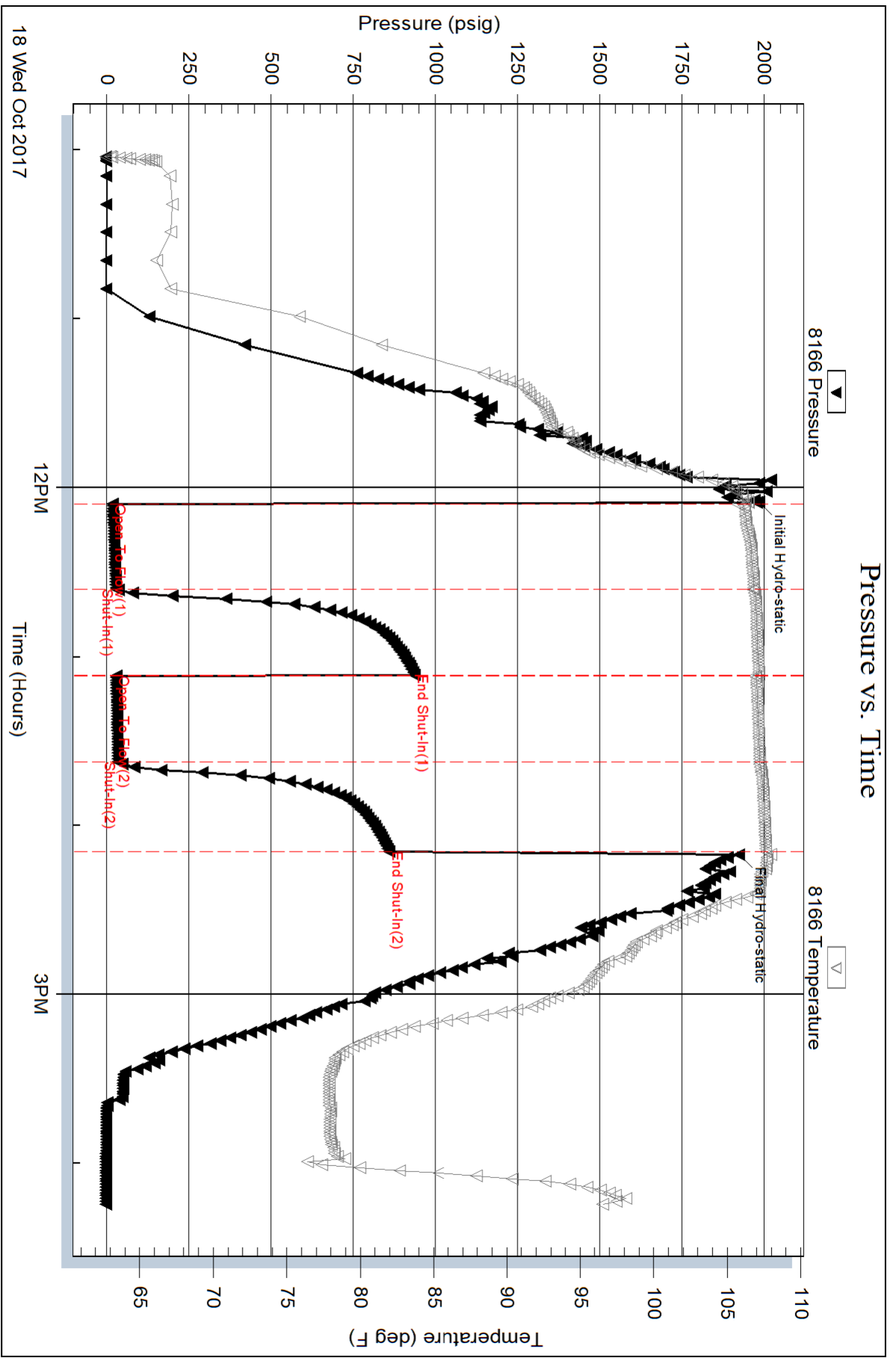
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



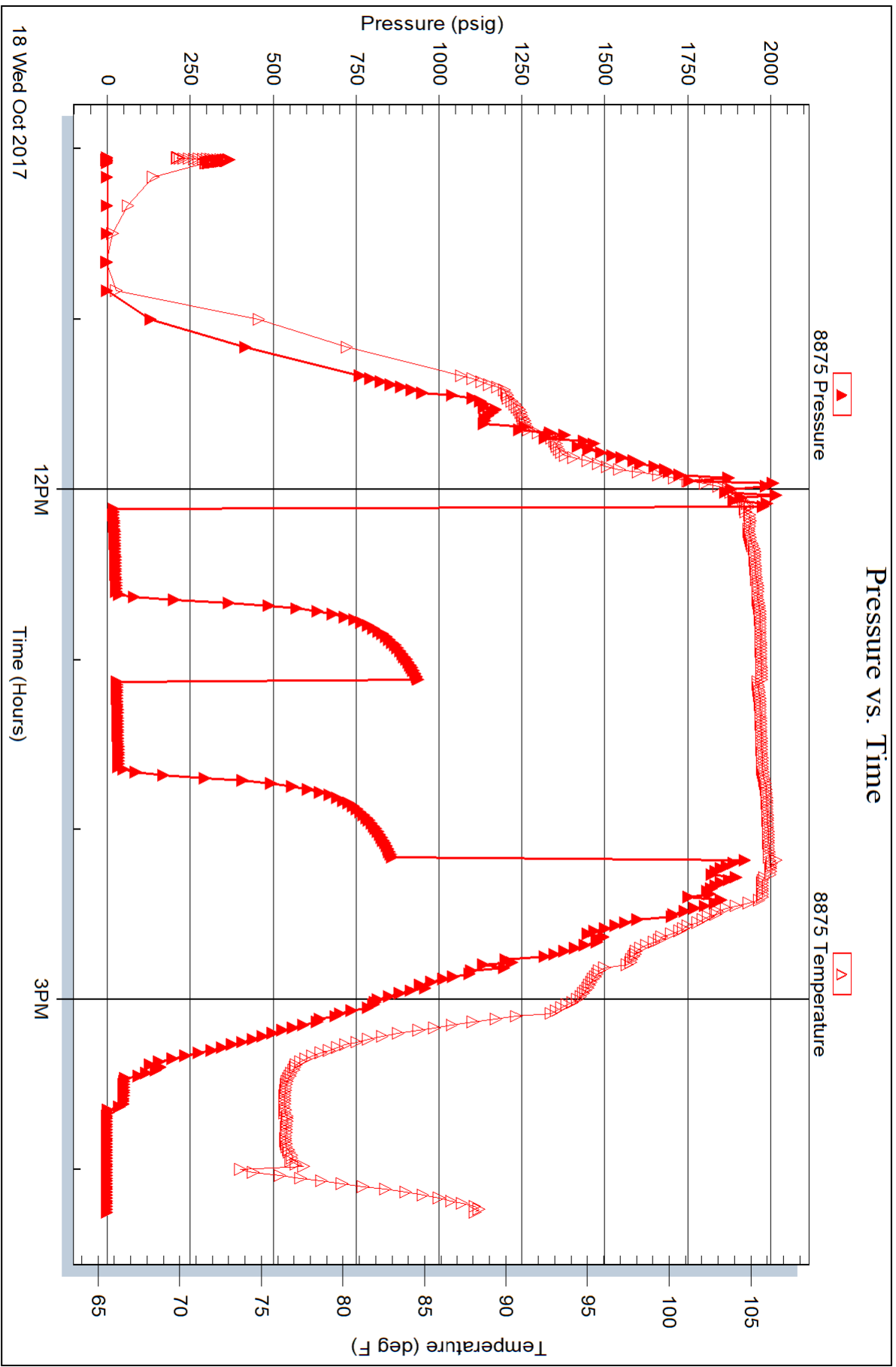
Serial #: 8875

Inside

American Warrior Inc

Dirks #1-22

DST Test Number: 2

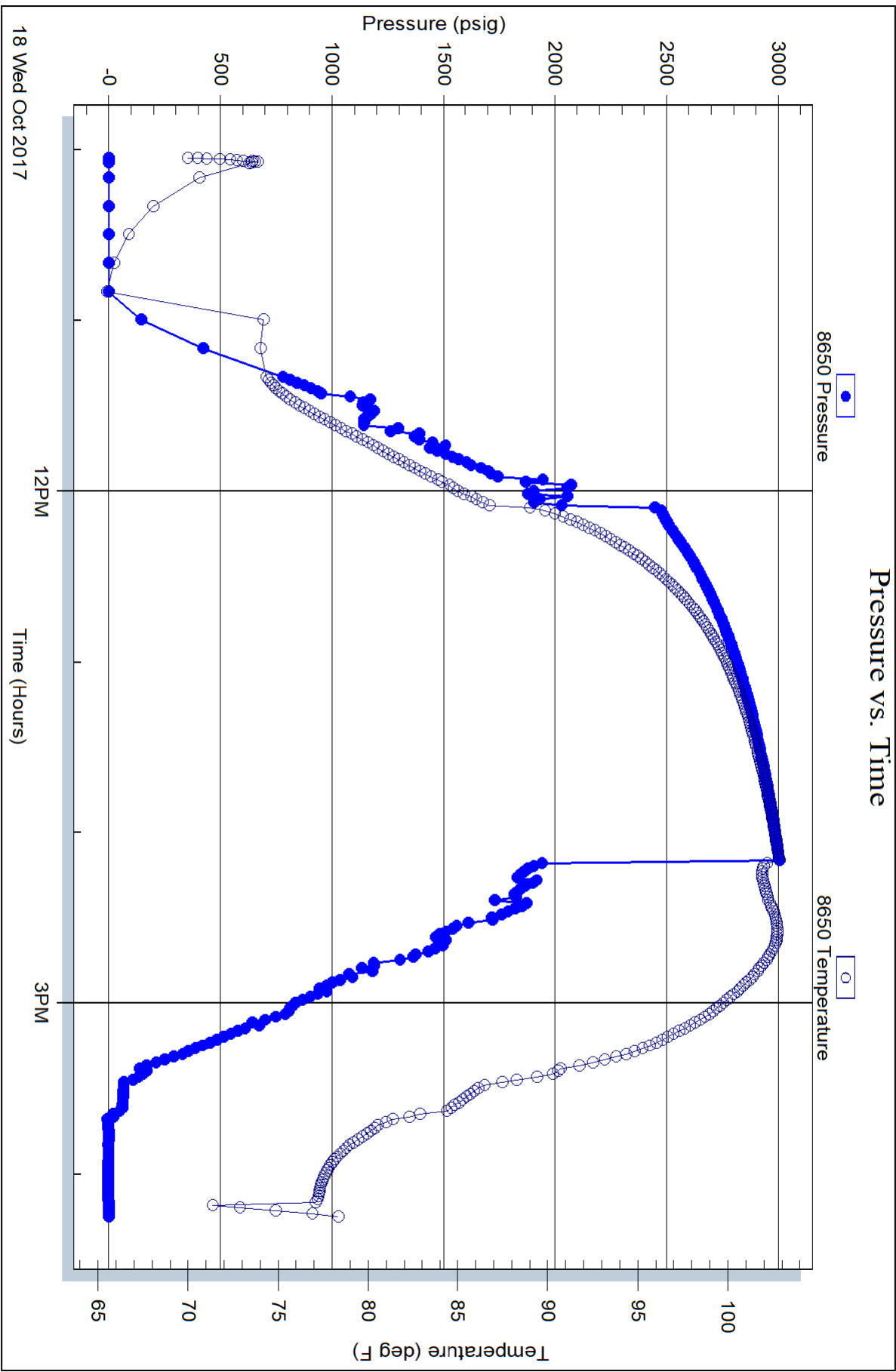


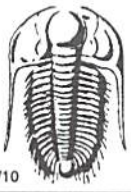
Serial #: 8650

Below (Strat) Strathairn Warrior Inc

Disks #1-22

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **64264**

Well Name & No. Dirks 1-22 Test No. 1 Date 10-18-17  
 Company American Warrior Inc Elevation 3129 KB 3122 GL  
 Address P.O. Box 399 Garden City, KS 67846  
 Co. Rep / Geo. Luke Thompson Rig Discovery #1  
 Location: Sec. 22 Twp. 143 Rge. 35W Co. Logan State KS

Interval Tested 4304 4371 Zone Tested Merton  
 Anchor Length 67 Drill Pipe Run 3979 Mud Wt. 8.9  
 Top Packer Depth 4299 Drill Collars Run — Vis 52  
 Bottom Packer Depth 4304 Wt. Pipe Run 310 WL 8.0  
 Total Depth 4371 Chlorides 5000 ppm System LCM 2

Blow Description IF: 1/4 blow built to 1 1/4.  
IS: No return.  
FF: surface blow built to 1/4.  
FS: No return.

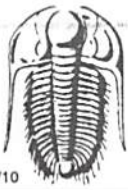
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>wcm</u>		<u>5</u>	<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 110 Gravity — API RW — @ —°F Chlorides — ppm

(A) Initial Hydrostatic <u>2191</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2:00</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>3:12</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>5:50</u>
(D) Initial Shut-In <u>1095</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>6:50</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:50</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>128</u> 96	Comments
(G) Final Shut-In <u>1048</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2138</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	
	<input type="checkbox"/> Extra Packer	
	<input type="checkbox"/> Extra Recorder	
	<input type="checkbox"/> Day Standby	
	<input type="checkbox"/> Accessibility	
Initial Open <u>30</u>	Sub Total <u>0</u>	
Initial Shut-In <u>30</u>	Total <u>1571</u>	
Final Flow <u>30</u>	MP/DST Disc't	
Final Shut-In <u>30</u>	Sub Total <u>1571</u>	

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. **64265**

Well Name & No. Dirks 1-22 Test No. 2 Date 10-18-17  
 Company American Warrior Inc Elevation 3129 KB 3122 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Lake Thompson Rig Discovery #1  
 Location: Sec. 22 Twp. 14S Rge. 35W Co. Gove State KS

Interval Tested 3894 3924 Zone Tested Toronto  
 Anchor Length 30 Drill Pipe Run 3571 Mud Wt. 8.9  
 Top Packer Depth 5894 Drill Collars Run — Vis 52  
 Bottom Packer Depth 3924 Wt. Pipe Run 310 WL 8.0  
 Total Depth 4371 Chlorides 3000 ppm System LCM 2

Blow Description IF: 1/4 blow built to 1 1/4.  
IS: No return.  
FF: surface blow built to 1/8.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>ocm</u>	<u>10</u>		<u>90</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30 BHT 107 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1984</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2:00</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>10:02</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>12:05</u>
(D) Initial Shut-In <u>936</u>	<input checked="" type="checkbox"/> Circ Sub <u>NCC</u>	T-Pulled <u>14:05</u>
(E) Second Initial Flow <u>29</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>16:16</u>
(F) Second Final Flow <u>34</u>	<input type="checkbox"/> Mileage <u>X128</u> 192	Comments <u>Mileage to go</u>
(G) Final Shut-In <u>858</u>	<input type="checkbox"/> Sampler	<u>load tools loaded</u>
(H) Final Hydrostatic <u>1924</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<u>10-20 3:00 pm</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 10.75h</u>	Sub Total <u>800</u>
	<input type="checkbox"/> Accessibility	Total <u>3317</u>
	Sub Total <u>2517</u>	MP/DST Disc't

Approved By [Signature] 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.**

# DRILL STEM TEST REPORT

American Warrior Inc

**22-14s-35w Logan Ks**

P.O. Box 399  
Garden City KS 67846

**Dirks 1-22**

Job Ticket: 64265

**DST#: 2**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 10:02:20

## GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:05:50

Time Test Ended: 16:14:50

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 3894.00 ft (KB) To 3924.00 ft (KB) (TVD)**

Reference Elevations: 3129.00 ft (KB)

Total Depth: 4371.00 ft (KB) (TVD)

3122.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 7.00 ft

**Serial #: 8166 Outside**

Press@RunDepth: 34.36 psig @ 3895.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.10.18

End Date:

2017.10.18

Last Calib.: 2017.10.18

Start Time: 10:02:25

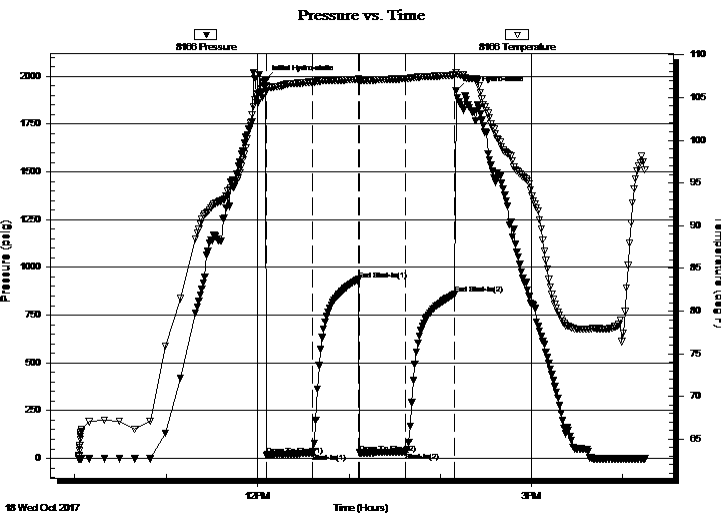
End Time:

16:14:49

Time On Btm: 2017.10.18 @ 12:04:50

Time Off Btm: 2017.10.18 @ 14:10:20

**TEST COMMENT:** IF: 1/4 blow built to 1 1/4.  
IS: No return.  
FF: Surface blow built to 1/8.  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.45	106.39	Initial Hydro-static
1	18.02	105.71	Open To Flow (1)
31	27.77	106.78	Shut-In(1)
62	936.10	107.15	End Shut-In(1)
62	29.24	106.90	Open To Flow (2)
93	34.36	107.21	Shut-In(2)
125	858.46	107.62	End Shut-In(2)
126	1924.54	107.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	ocm 10%o 90%m	0.15

\* Recovery from multiple tests

## Gas Rates

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









**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

American Warrior Inc

**22-14s-35w Logan Ks**

P.O. Box 399  
Garden City KS 67846

**Dirks 1-22**

Job Ticket: 64265

**DST#: 2**

ATTN: Luke Thompson

Test Start: 2017.10.18 @ 10:02:20

## 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:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	ocm 10%o 90%m	0.148

Total Length: 30.00 ft      Total Volume: 0.148 bbl

Num Fluid Samples: 0

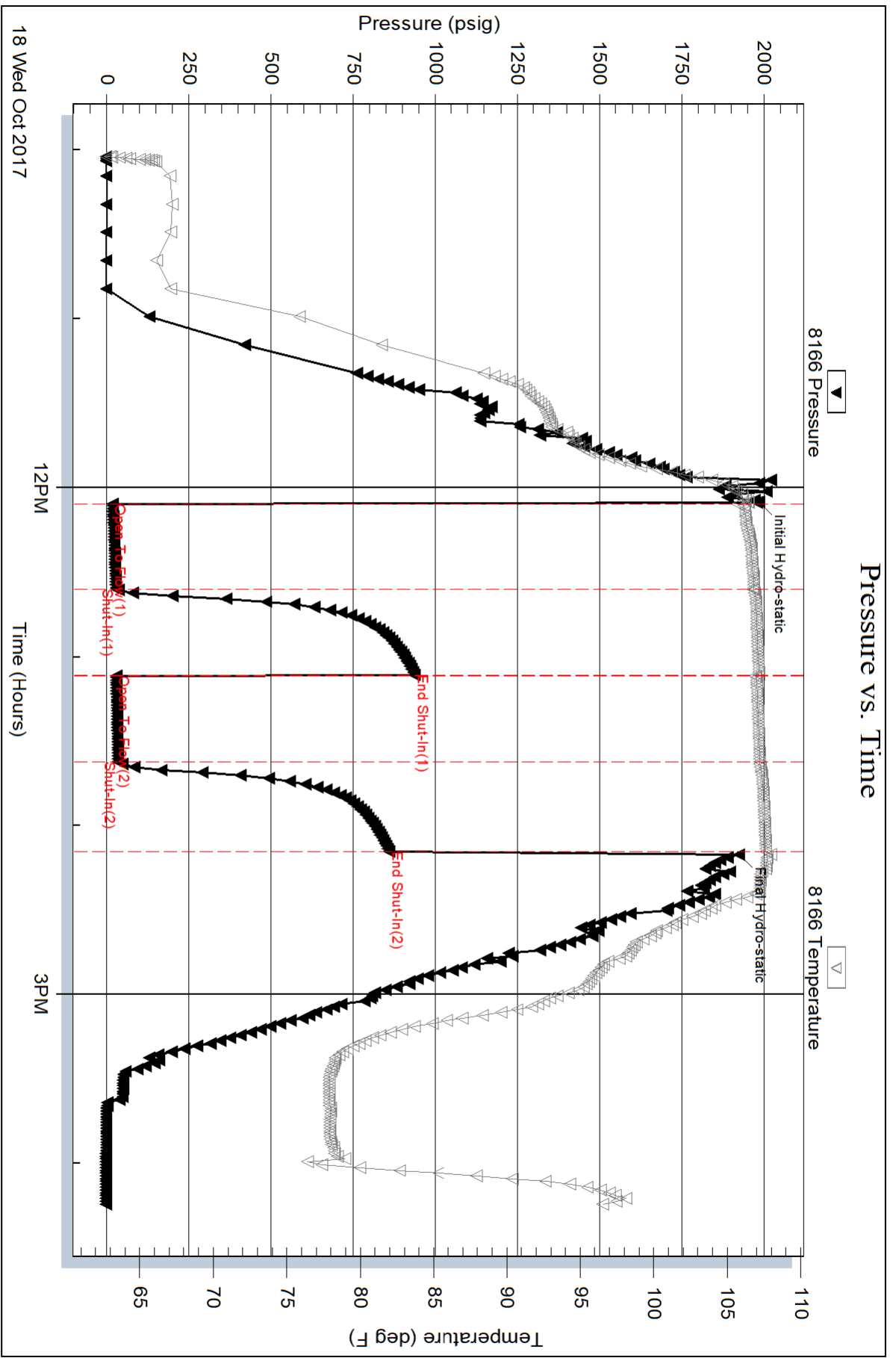
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



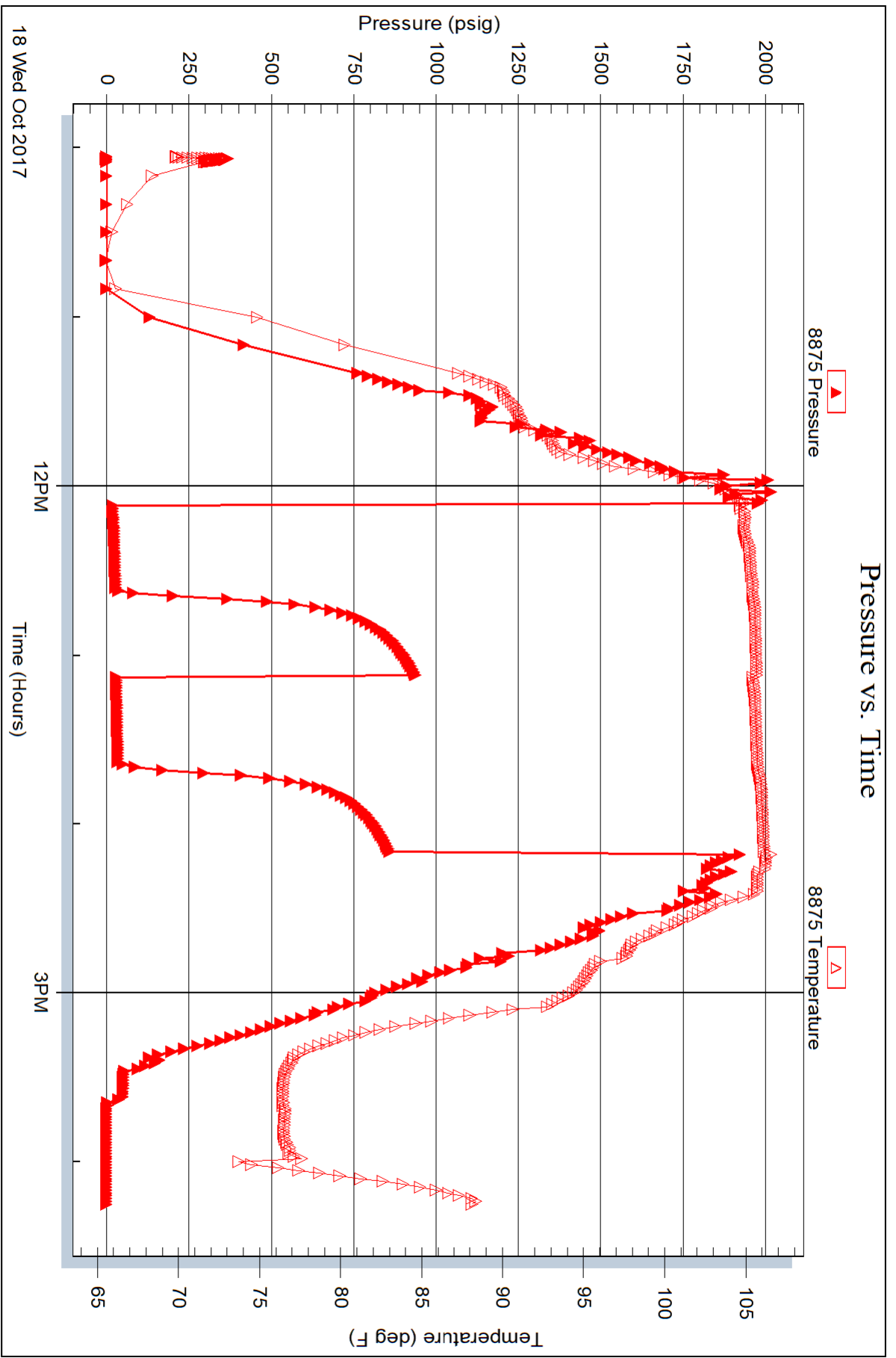
Serial #: 8875

Inside

American Warrior Inc

Dirks 1-22

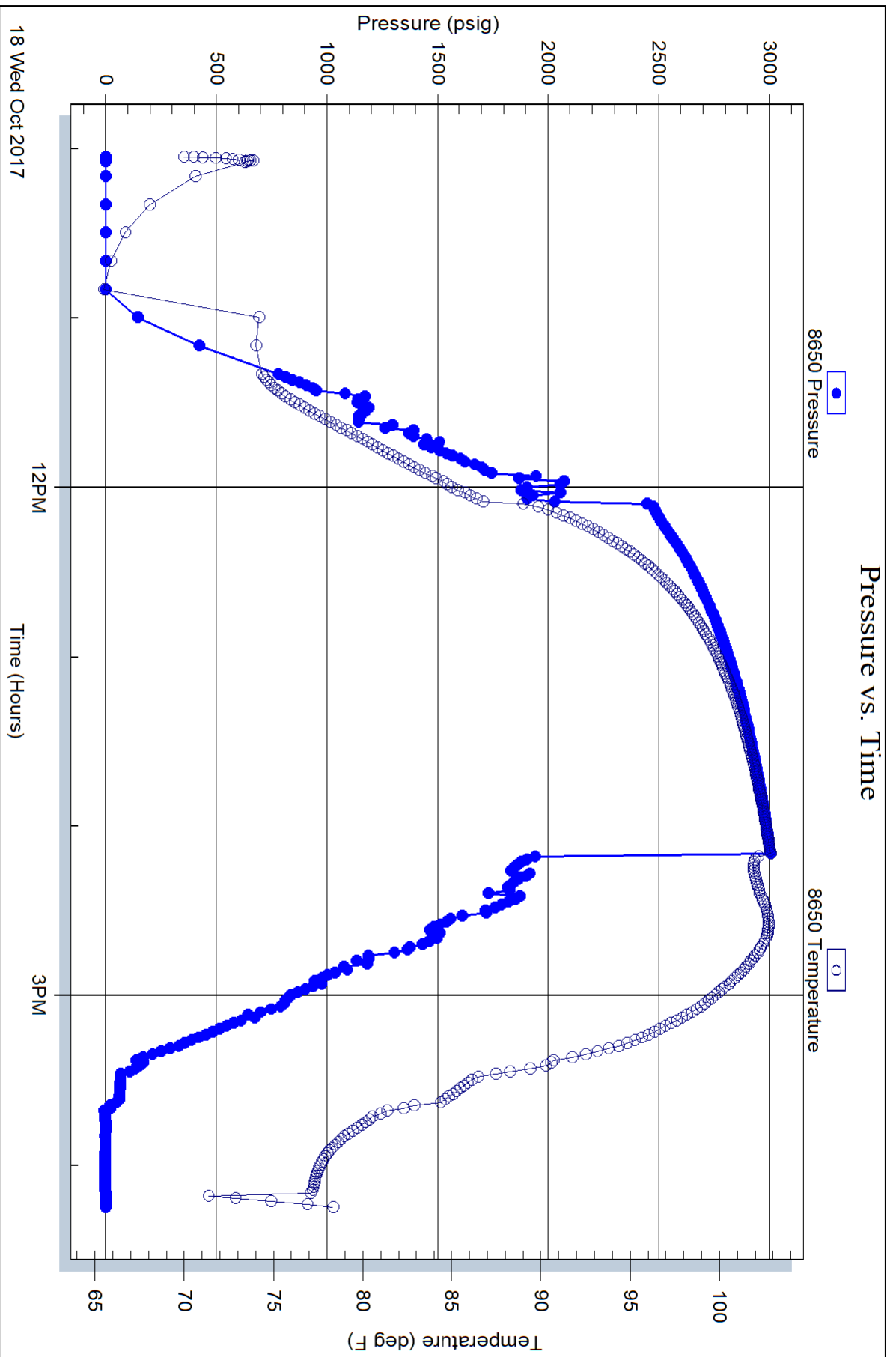
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 64265

Printed: 2017.10.18 @ 16:41:30



# **Geological Report**

American Warrior, Inc.

## **Dirks #1-22**

949' FSL & 1004' FWL

Sec 22, T14s, R35w

Logan County, Kansas



**American Warrior, Inc.**

## General Data

Well Data: American Warrior, Inc.  
Dirks #1-22  
949' FSL & 1004' FWL  
Sec. 22, T14s, R35w  
Logan County, Kansas  
API # 15-109-21526-00-00

Drilling Contractor: Discovery Drilling Rig #1

Geologist: Luke Thompson

Spud Date: October 12, 2017

Completion Date: October 21, 2017

Elevation 3121' G.L.  
3129' K.B.

Directions: From the West side of Russell Springs, KS at the intersection of Hwy 25 & Broadway Ave. – Now go 0.8 miles South on Hwy 25 Rd then 2 miles West on Hwy 25 - Now go 4.6 miles South on 240 Rd to Jayhawk Rd – Now go east 1 mile to the NW corner of section 22 – South into

Casing: 211' 8 5/8" #23 Surface Casing  
4786' 5 1/2" #15.5 Production Casing

Samples: 3650' to RTD 10' Wet & Dry

Drilling Time: 3600 to RTD

Electric Logs: Pioneer Energy Services "D. Schmidt"  
Full Sweep

Drillstem Tests: Two-Trilobite Testing "Brandon Turley"

Problems: pulled tight on trips

# Formation Tops

Dirks #1-22

Sec. 22, T14s, R35w

949' FSL & 1004' FWL

<b>Anhydrite</b>	<b>2468' +661</b>
<b>Base</b>	<b>2488' +641</b>
<b>Heebner</b>	<b>3895' -766</b>
<b>Lansing</b>	<b>3947' -818</b>
<b>Stark</b>	<b>4206' -1077</b>
<b>BKC</b>	<b>4283' -1154</b>
<b>Marmaton</b>	<b>4329' -1200</b>
<b>Pawnee</b>	<b>4415' -1286</b>
<b>Fort Scott</b>	<b>4476' -1347</b>
<b>Cherokee</b>	<b>4505' -1376</b>
<b>Johnson</b>	<b>4550' -1421</b>
<b>Morrow</b>	<b>4623' -1494</b>
<b>Miss</b>	<b>4693' -1564</b>
<b>RTD</b>	<b>4790' -1661</b>
<b>LTD</b>	<b>4789' -1660</b>



## Sample Zone Descriptions

**Toronto (3920' -791): Covered in DST #2**

Limestone, cream, sub-crystalline, slightly micro oolitic, slightly chalky, scattered Dolomitic recrystallization, fair vuggy porosity, fair to good odor, fair stain, fair to good saturation, fair to good show of free oil, spotty gold fluorescence, strong flush cut. Gas 15 units hotwire.

**Marmaton (4350' -1221): Covered in DST #1**

Limestone, cream, sub-crystalline, sub-micro oolitic, no odor, scattered poor vuggy porosity, (2 pieces) poor stain, poor saturation, very poor show of free oil, spotty gold fluorescence, poor slow stream cut. No gas kick.

## Drill Stem Tests

Trilobite Testing  
 “Brandon Turley”

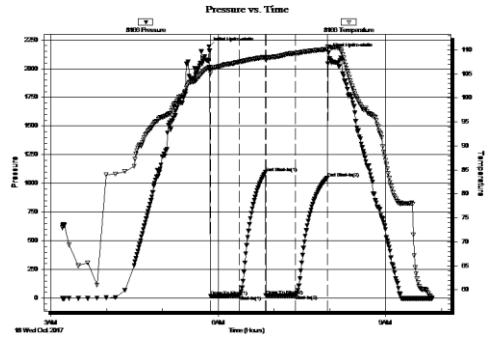
### DST #1

#### Marmaton

Interval (4304’ – 4371’) Anchor Length 67’

IHP	- 2191 #	
IFP	- 30” – built to 1 1/4”	18-23#
ISI	- 30” – No return	1095#
FFP	- 30” – built to 1/4”	23-26#
FSIP	- 30” – No return	1049#
FHP	- 2138 #	
BHT	- 111° F	

**Recovery:** 30’ WCM



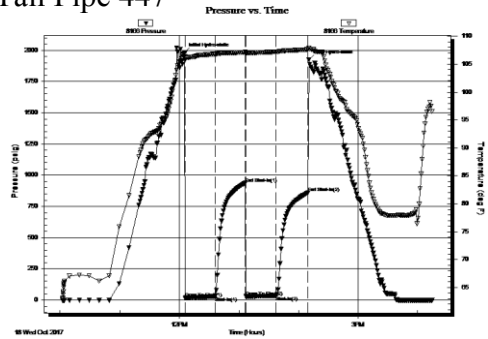
### DST #2

#### Toronto

Interval (3894’ – 3924’) Anchor Length 30’; Tail Pipe 447’

IHP	- 1984 #	
IFP	- 30” – Built to 1 1/4”	18-28#
ISI	- 30” – No Return	936#
FFP	- 30” – built to 1/8”	29-34#
FSIP	- 30” – No Return	858#
FHP	- 1925 #	
BHT	- 108° F	

**Recovery:** 30’ OCM 10% Oil



## Structural Comparison

	American Warrior, Inc. Dirks #1-22 Sec. 22, T14s, R35w 949' FSL & 1004' FWL			American Warrior, Inc. Uhland #1-16 Sec. 16, T14s, R35w 2278' FSL & 1214' FWL			American Warrior, Inc. Fairchild #1-17 Sec. 17, T14s, R35w 1506' FNL 1036' FEL	
<b>Formation</b>								
Heebner	3895	-766	+10	4018' -776	+11	4004' -777		
Lansing	3947	-818	+13	4073' -831	+13	4058' -831		
Stark	4206	-1077	+8	4327' -1085	+10	4314' -1087		
BKC	4283	-1154	+10	4406' -1164	+9	4390' -1163		
Marmaton	4329	-1200	+8	4450' -1208	+5	4432' -1205		
Pawnee	4415	-1286	+17	4545' -1303	+8	4521' -1294		
Fort Scott	4476	-1347	+10	4599' -1357	+8	4582' -1355		
Cherokee	4505	-1376	+10	4628' -1386	+7	4610' -1383		
Johnson	4550	-1421	+11	4674' -1432	+9	4657' -1430		
Morrow	4623	-1494	+12	4748' -1506	+7	4728' -1501		
Miss	4693	-1564	+18	4824' -1582	+1	4792' -1565		

### Summary

The location for the Dirks #1-22 well was found via 3-D seismic survey. The new well ran structurally as expected. Two drill stem test were conducted, one of which recovered marginal quantities of oil from the Toronto. After all the gathered data had been examined, the decision was made to run production casing to further evaluate the Dirks #1-22 well.

### Perforations

<b>Primary:</b>	<b>Toronto</b>	<b>(3910' – 3922')</b>	<b>DST #2</b>
<b>Secondary:</b>	<b>Lansing K</b>	<b>(4268' – 4274')</b>	<b>Not Tested</b>
<b>Before Abandonment:</b>	<b>Lansing E</b>	<b>(4051' – 4056')</b>	<b>Not Tested</b>
	<b>Johnson (tight)</b>	<b>(4606' – 4608')</b>	<b>Not Tested</b>

Respectfully Submitted,

Lukas Thompson, American Warrior, Inc.









**BOREHOLE COMPENSATED  
SONIC LOG**

Company AMERICAN WARRIOR, INC.  
Well DIRKS #1-22  
Field WILDCAT  
County LOGAN  
State KANSAS

Company AMERICAN WARRIOR, INC.  
Well DIRKS #1-22  
Field WILDCAT  
County LOGAN  
State KANSAS

Location: API #: 15-109-21526-00-00  
949' FSL & 1004' FWL  
SEC 22 TWP 14S RGE 35W  
Permanent Datum GROUND LEVEL Elevation 3121'  
Log Measured From KELLY BUSHING  
Drilling Measured From KELLY BUSHING

Other Services  
CNL/CDL  
DIL/MEL  
Elevation  
K.B. 3129'  
D.F. N/A  
G.L. 3121'

Date	10/20/2017						
Run Number	TWO						
Type Log	BHCS						
Depth Driller	4790'						
Depth Logger	4789'						
Bottom Logged Interval	4777'						
Top Logged Interval	195'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	8200						
Density	9.4						
Level	FULL						
Max. Rec. Temp. F	124						
Operating Rig Time	5 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	D. SCHMIDT						
Witnessed By	LUKE THOMPSON						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	211'	8.625"	23#	0'	
TWO	7.875"	211'					
Casing Record							

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
SOUTH ON HWY 25 TO CURVE,  
2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
1/2 EAST, 1/2 SOUTH,  
EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

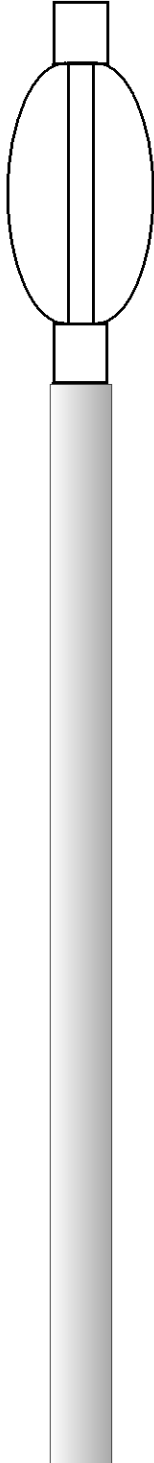


Engineer: D. SCHMIDT  
Operator:  
Operator:  
Operator:

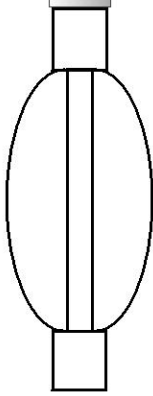
This Log Record Was Witnessed By

Primary Witness: LUKE THOMPSON  
Secondary Witness:  
Secondary Witness:  
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CENT-PENGO (3-PENGO)	5.50	3.00	70.00
WVF4 WVF1	13.50 13.50		SLT-PENGO (0001)	16.00	3.50	300.00
WVF3 WVF2	11.50 11.50					



CENT-PENGO (4-PENGO)

5.50

3.00

70.00

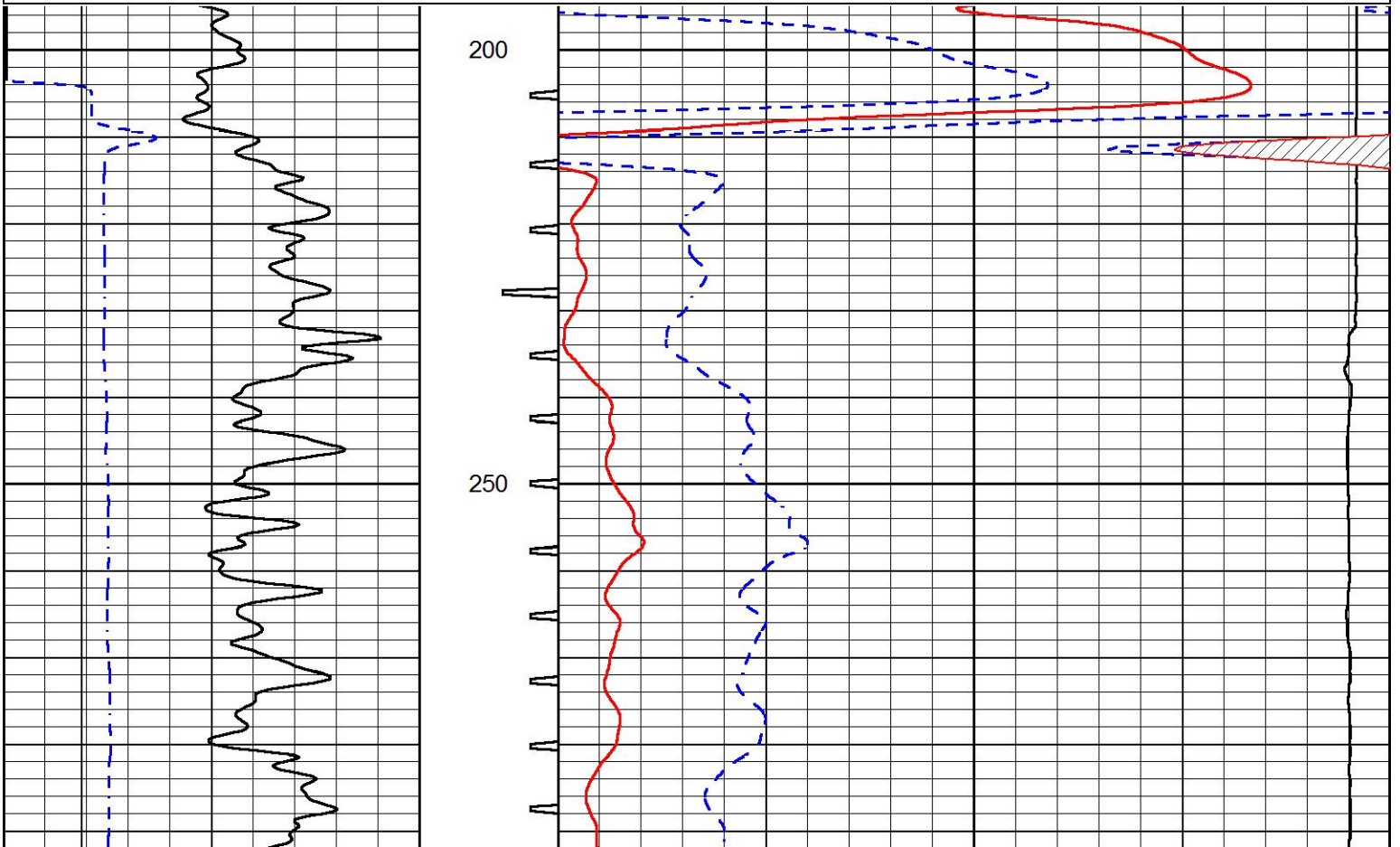
Dataset: american\_warrior\_dirks 1-22.db: field/well/SON/pass2  
 Total length: 27.00 ft  
 Total weight: 440.00 lb  
 O.D.: 3.50 in

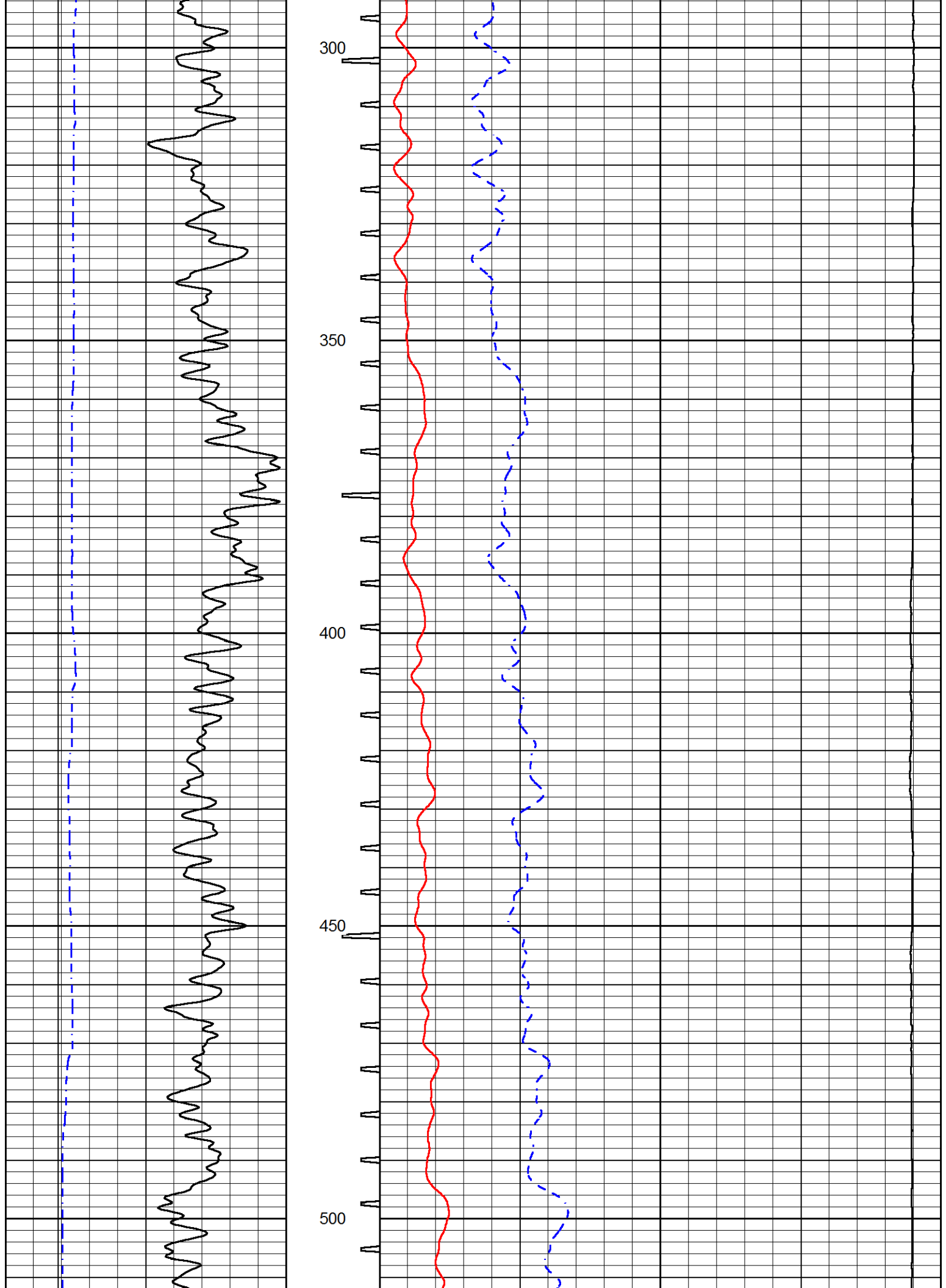


# MAIN PASS

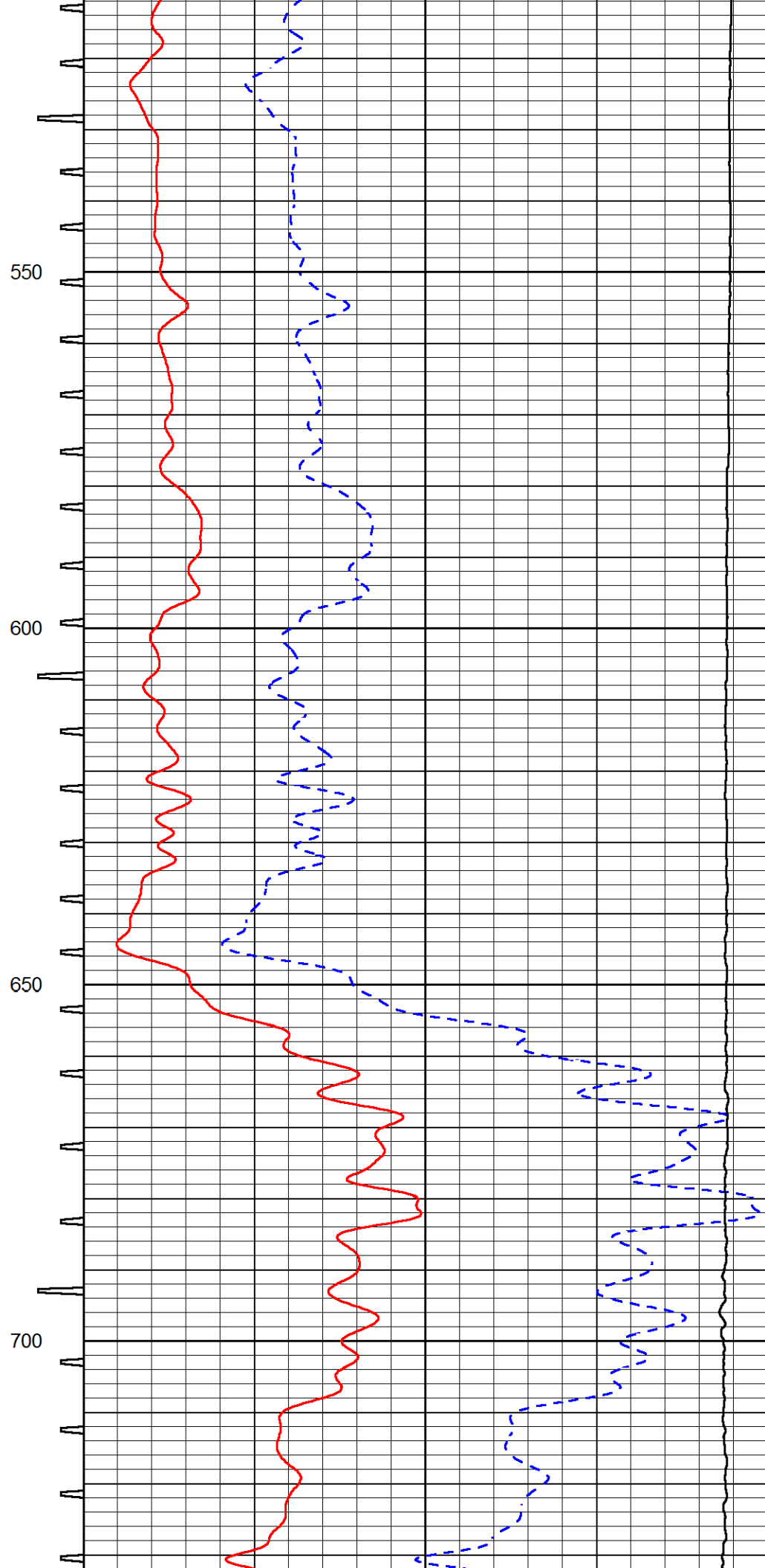
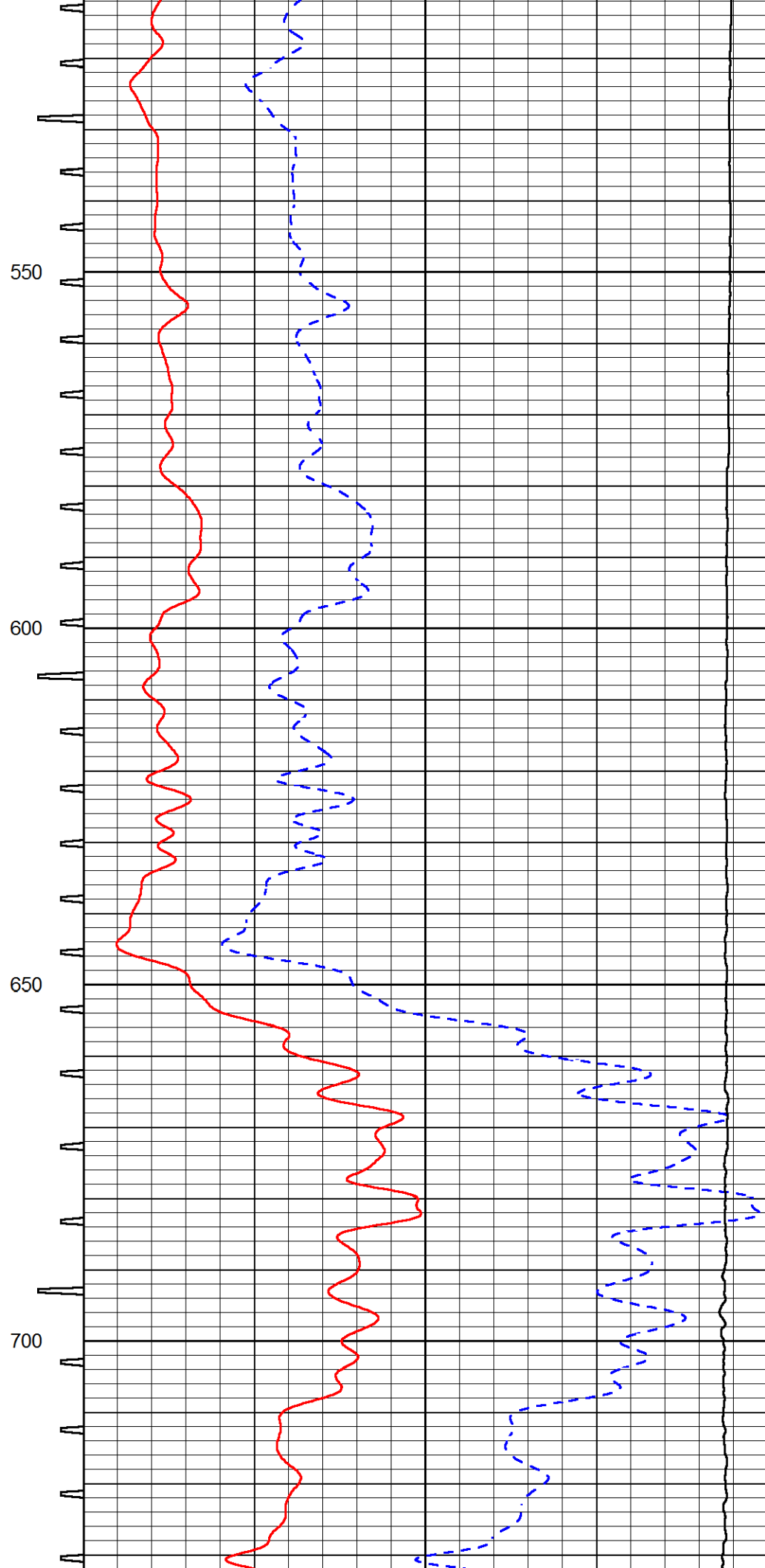
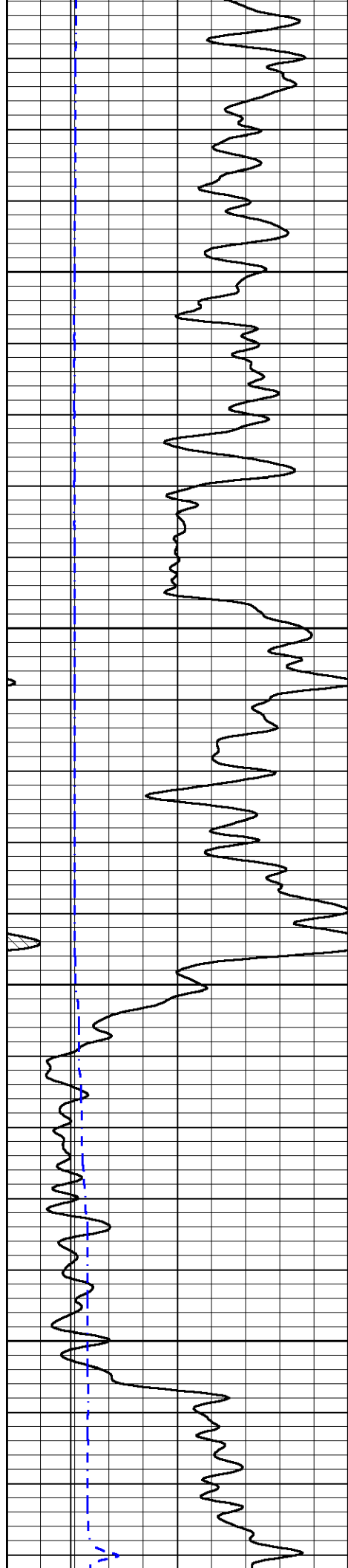
Database File: american\_warrior\_dirks 1-22.db  
 Dataset Pathname: STKML/pass5.1  
 Presentation Format: sonic  
 Dataset Creation: Fri Oct 20 19:20:36 2017  
 Charted by: Depth in Feet scaled 1:240

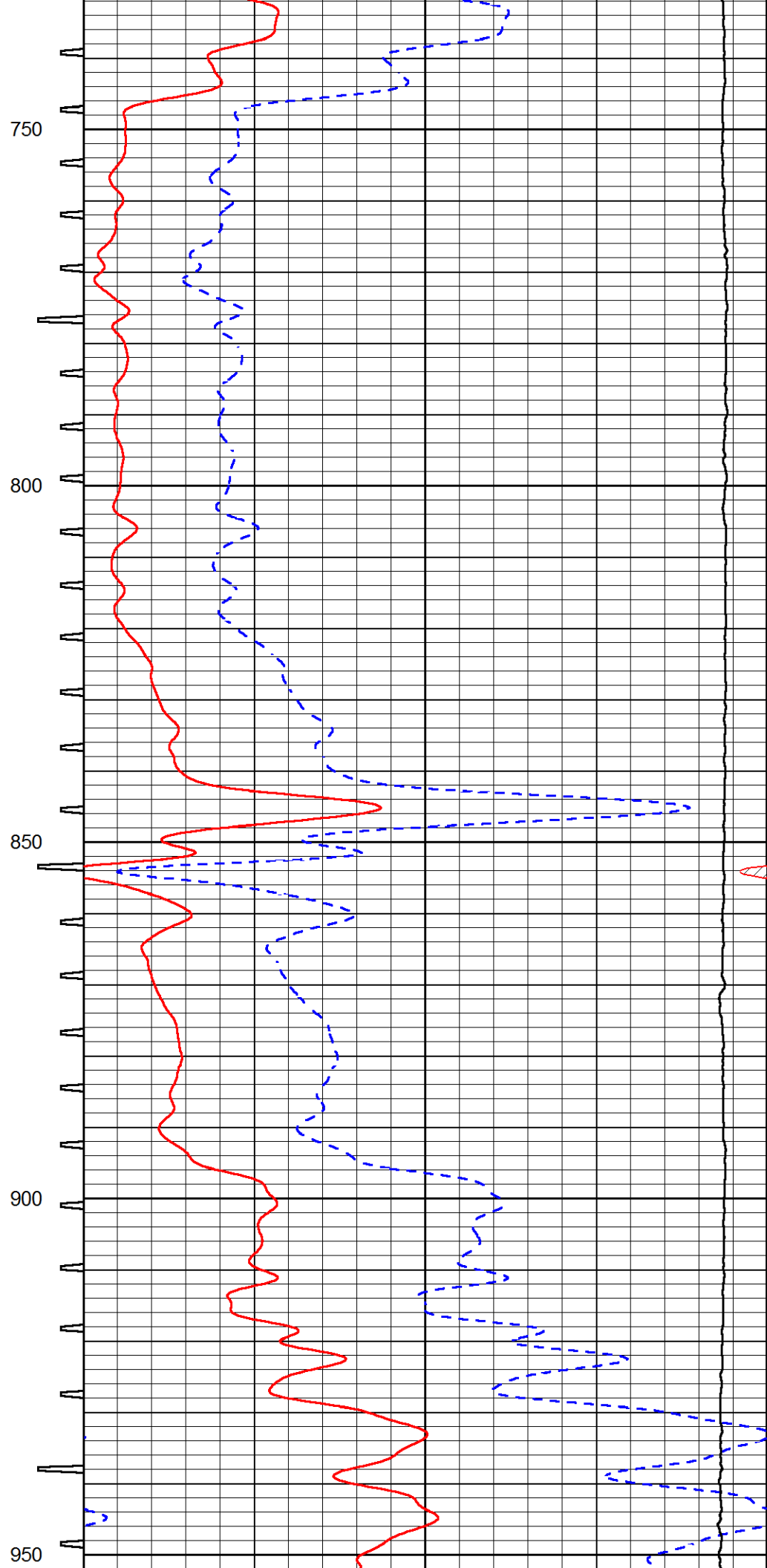
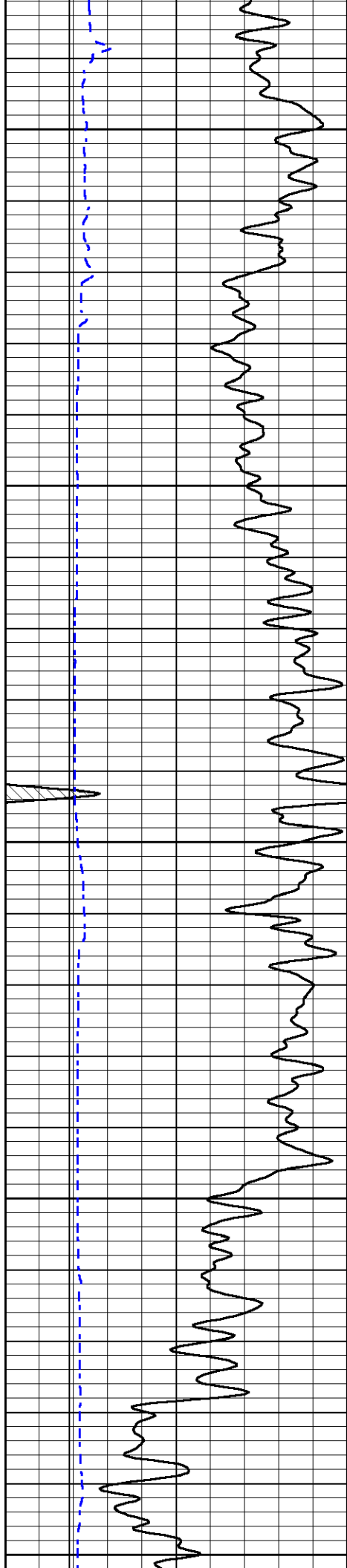
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	DCAL (in)	16		15000	LTEN (lb) (lb)	0

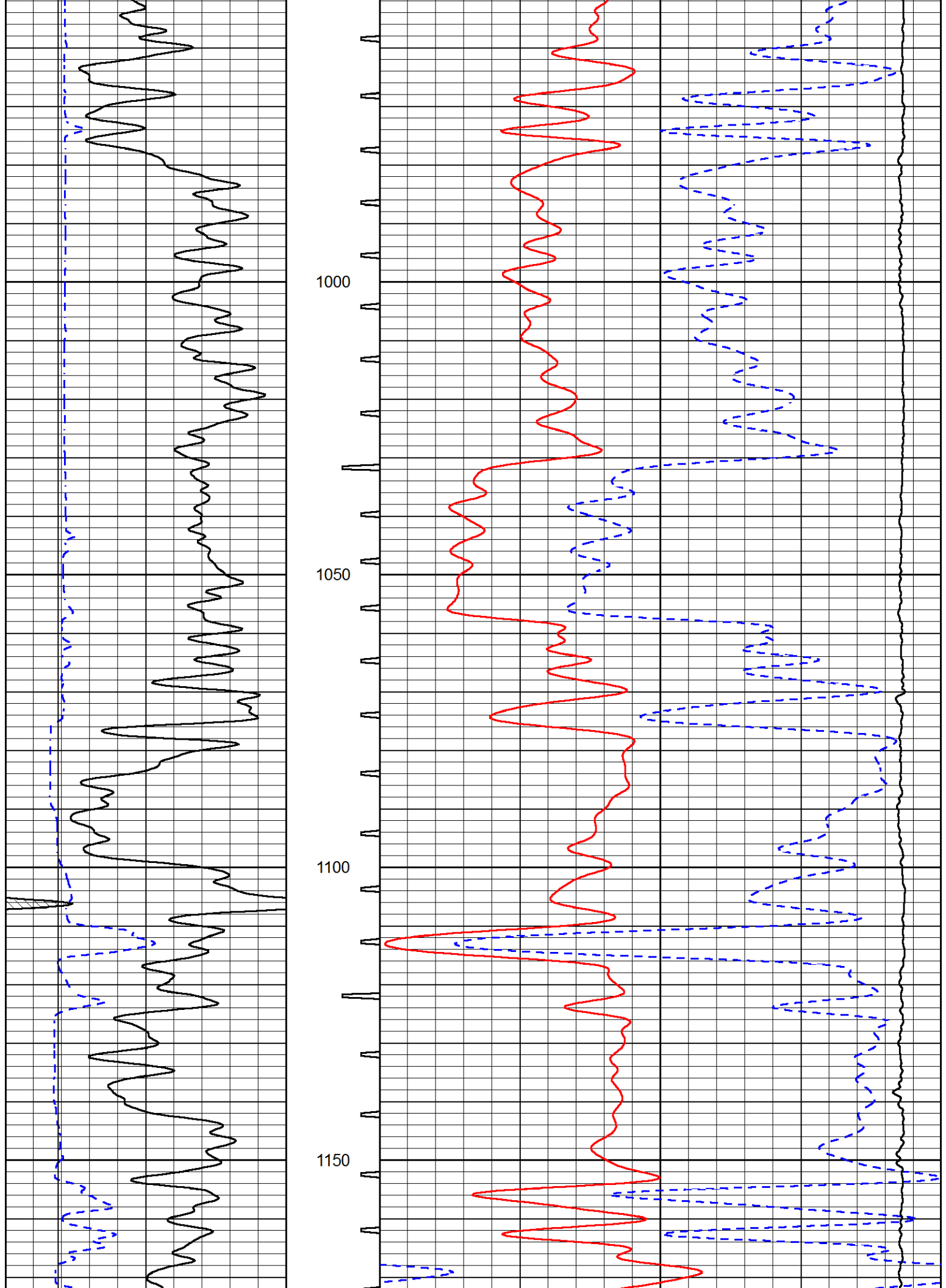


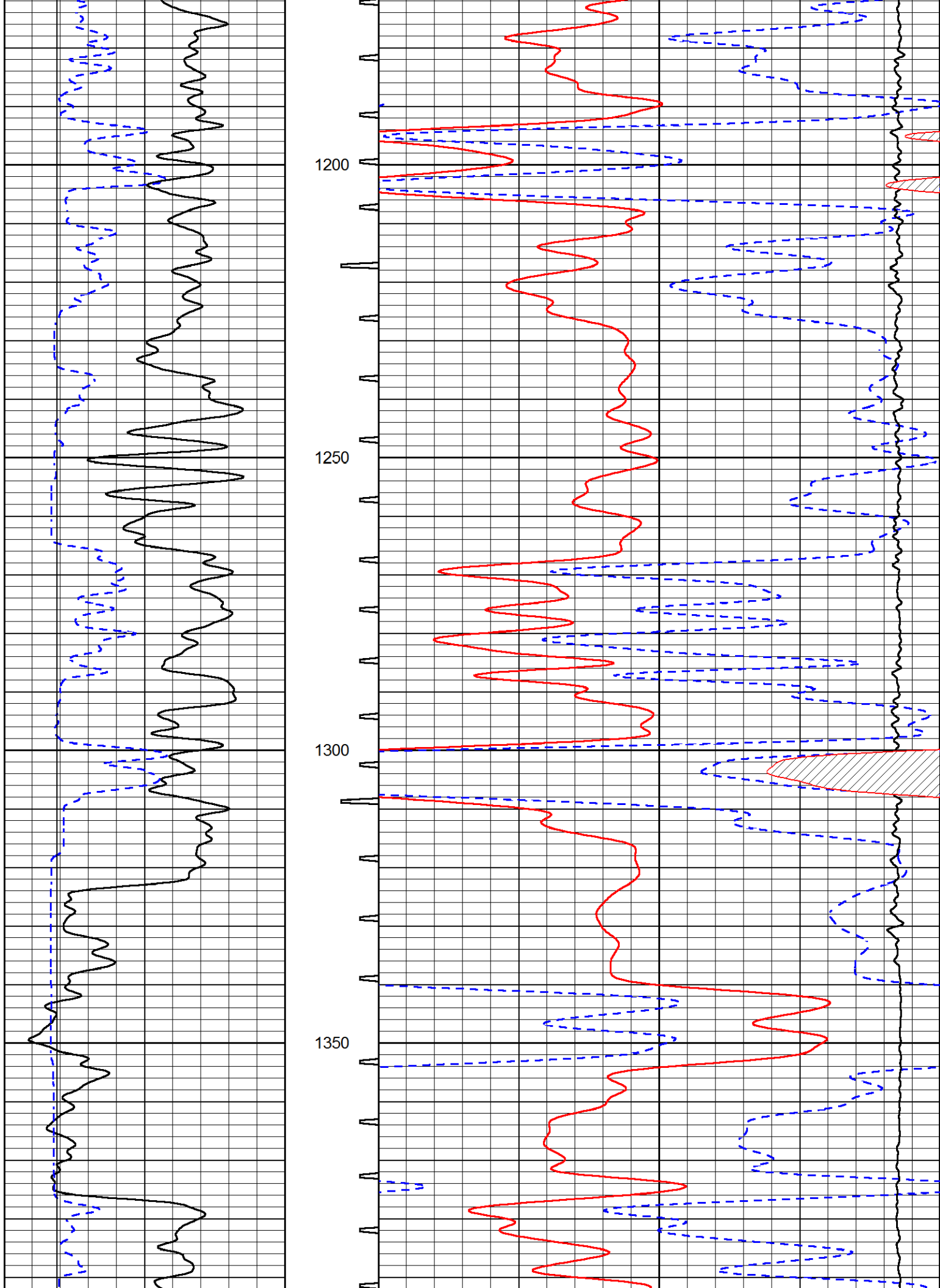


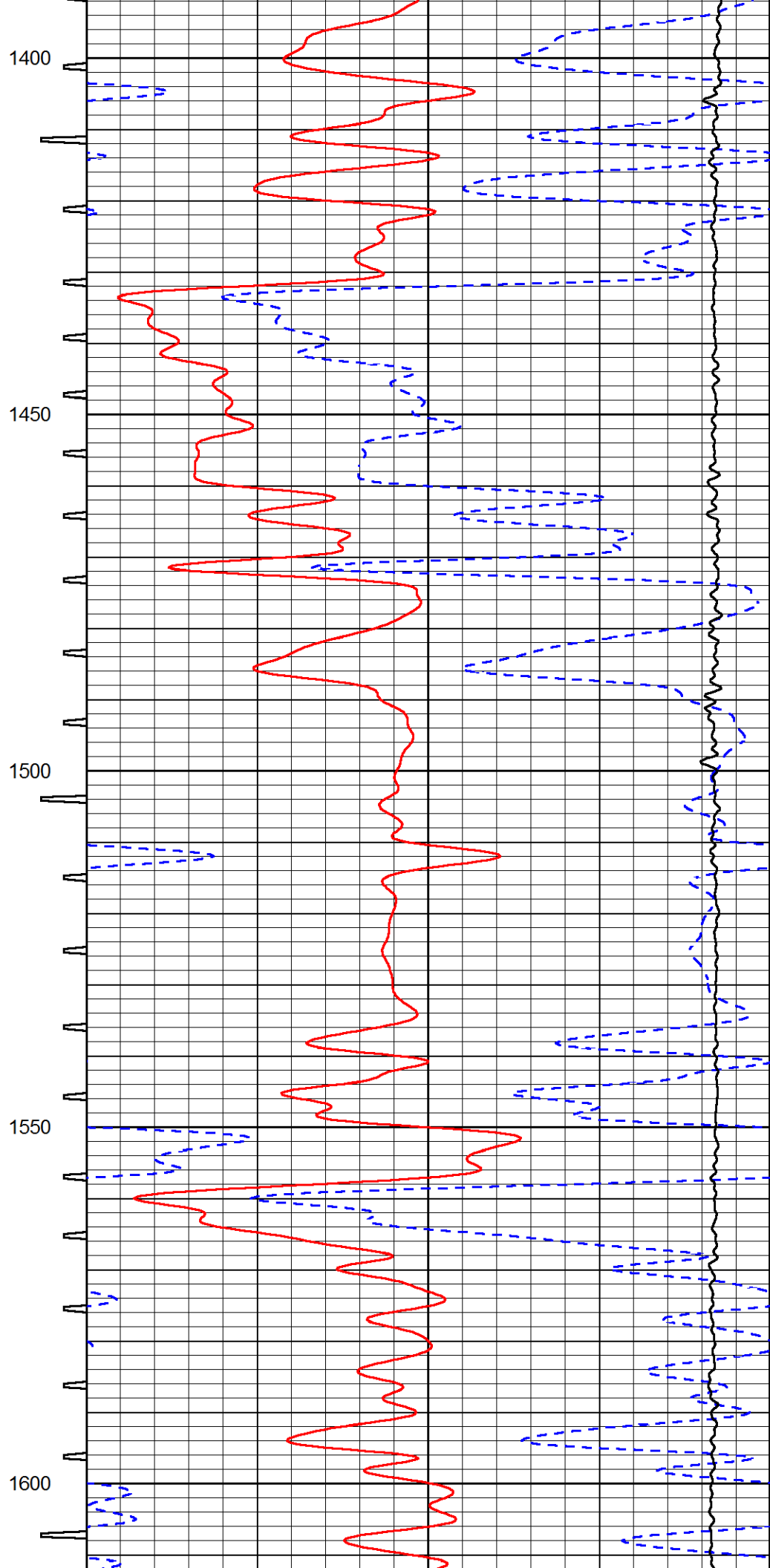
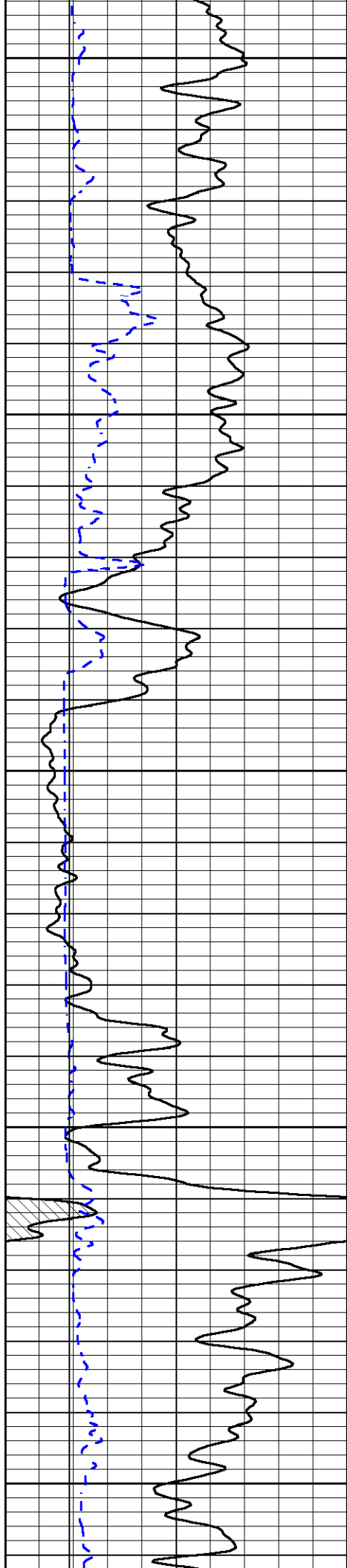


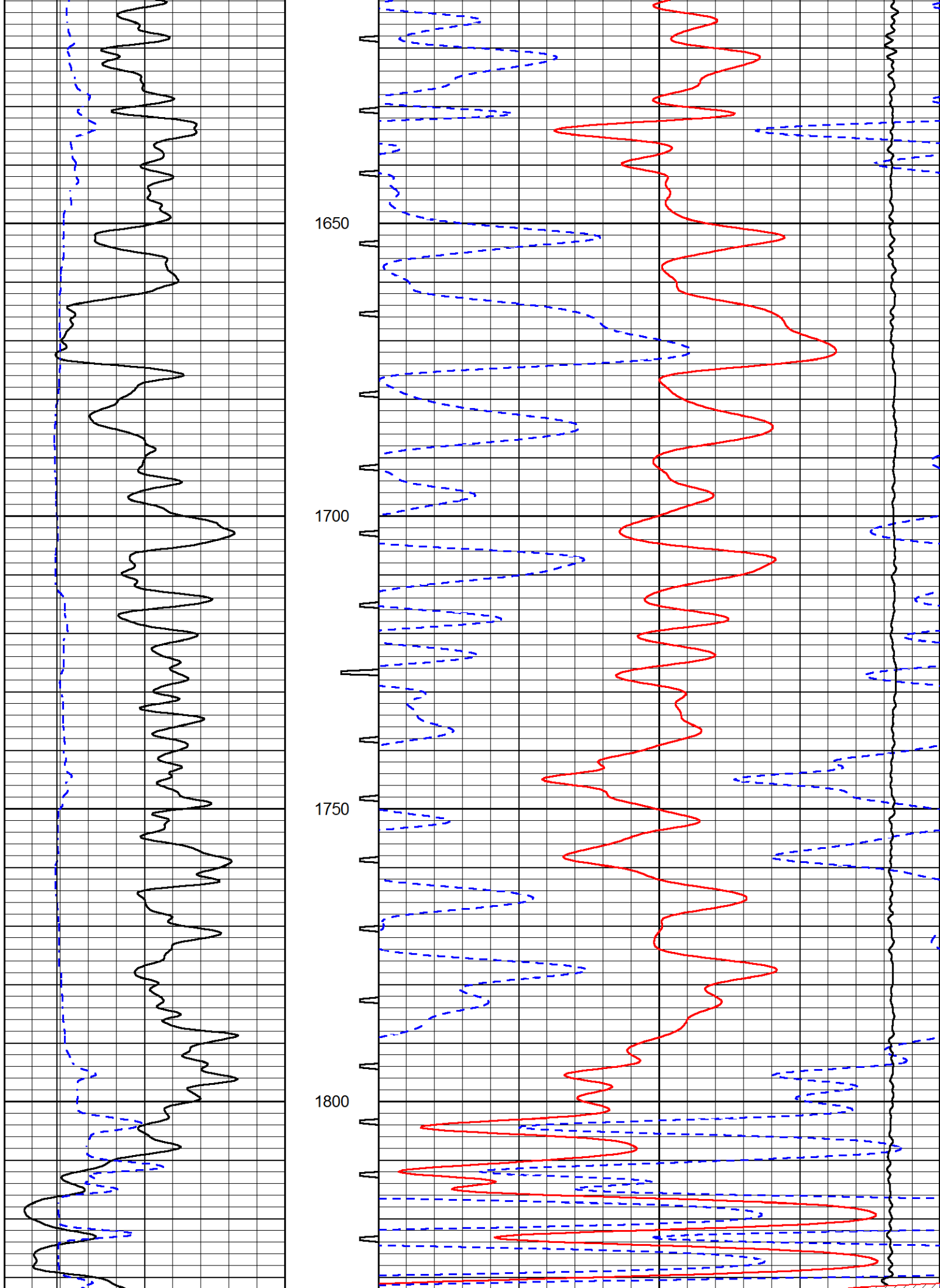


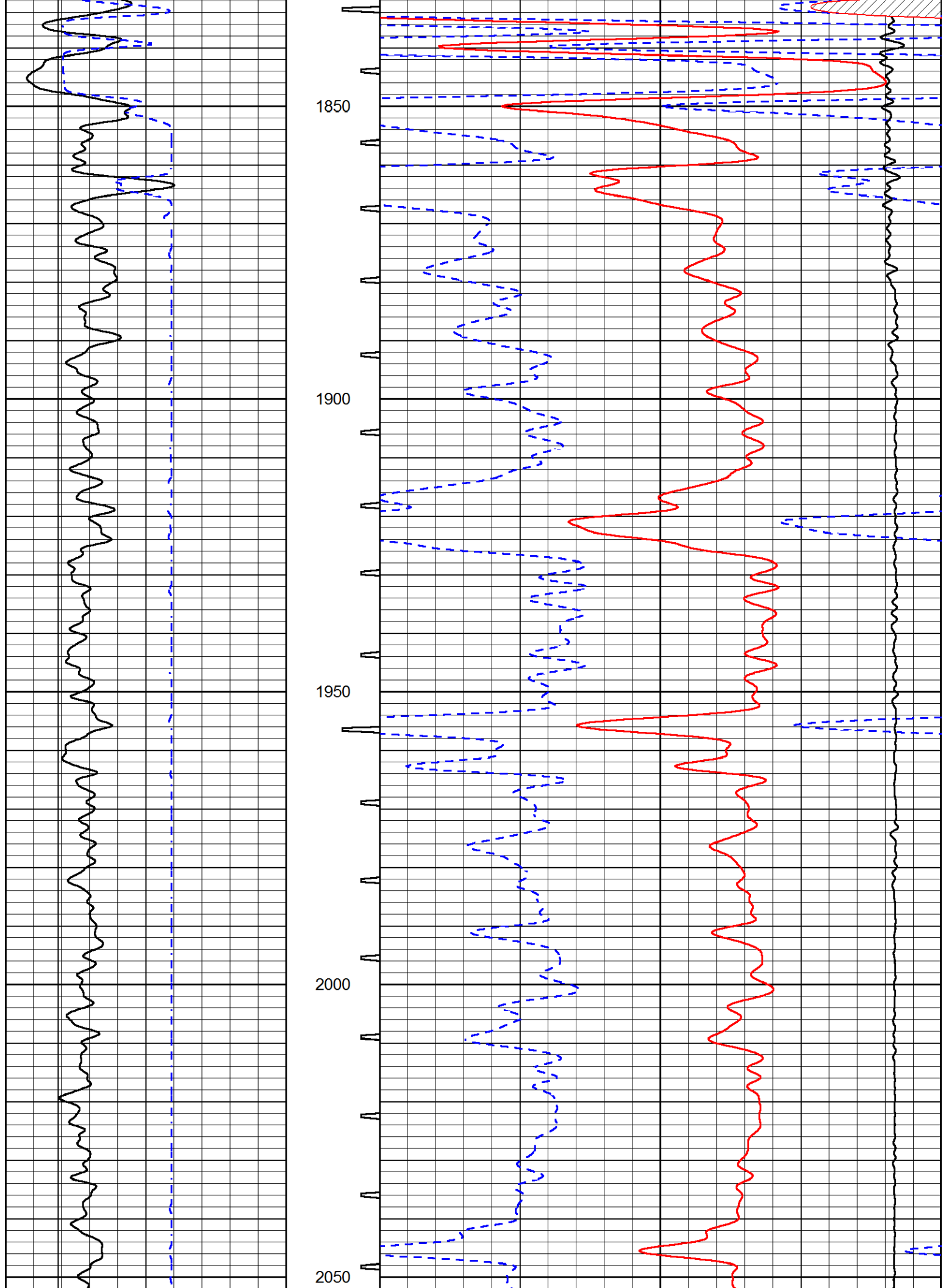


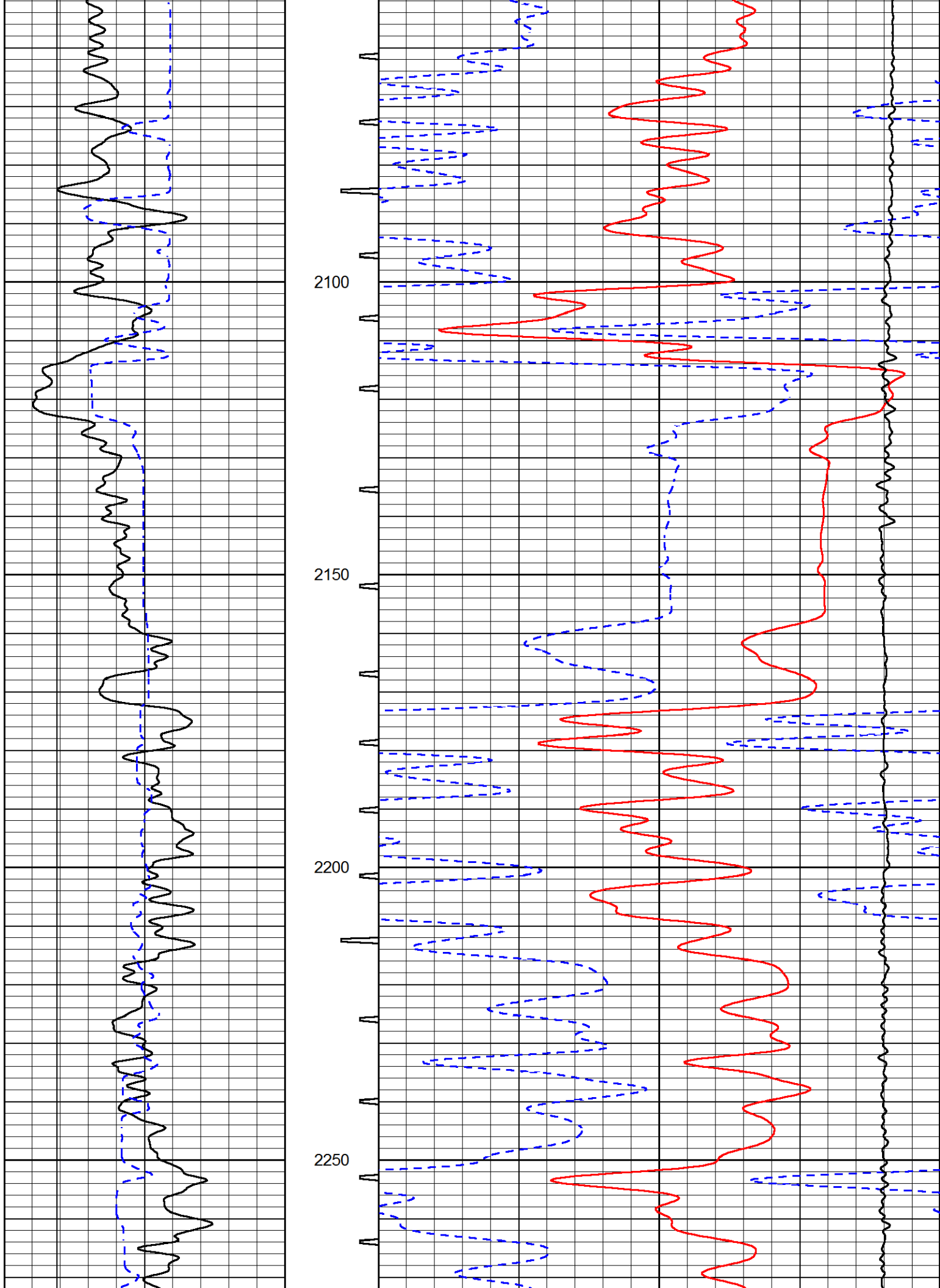




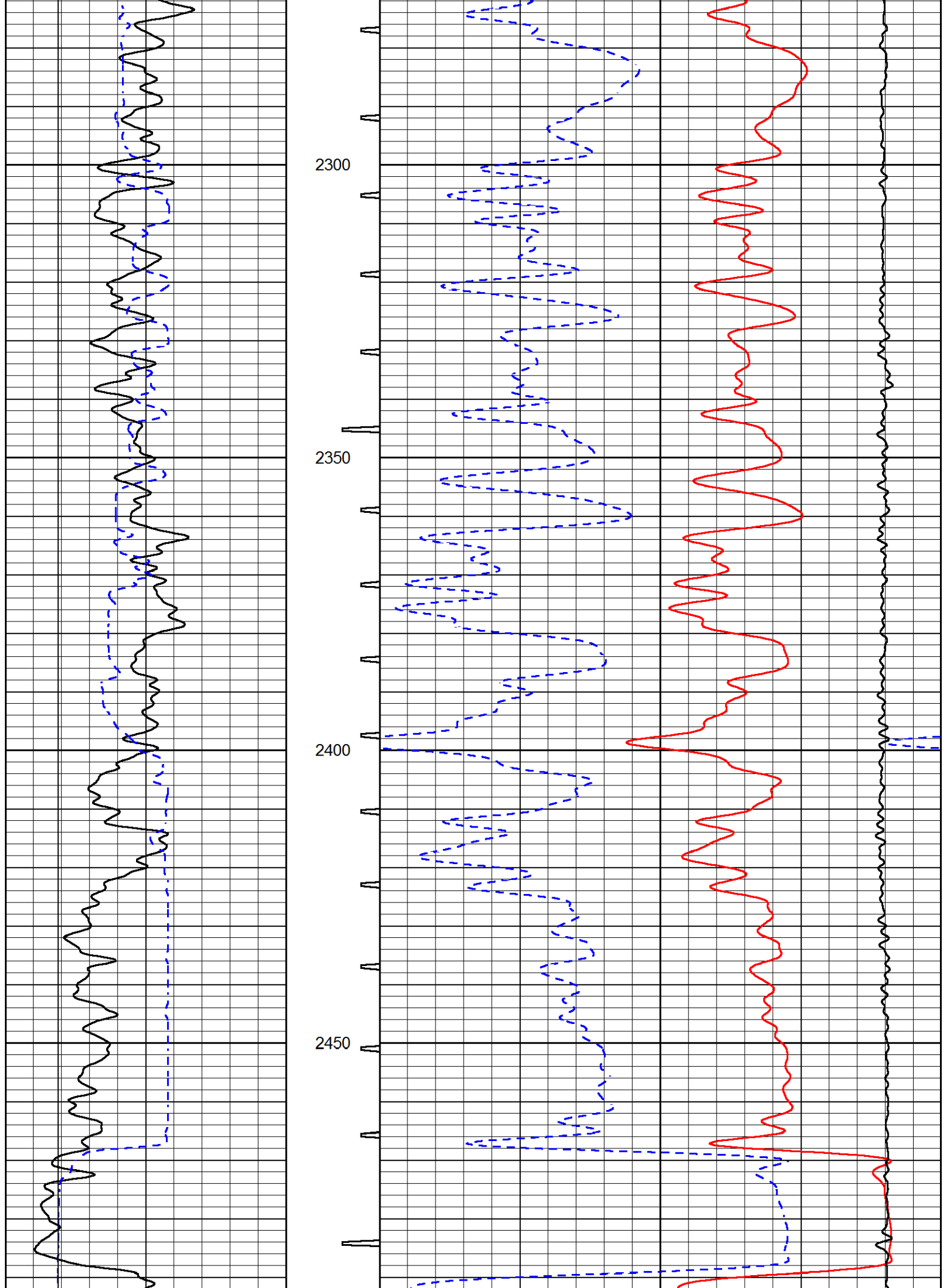


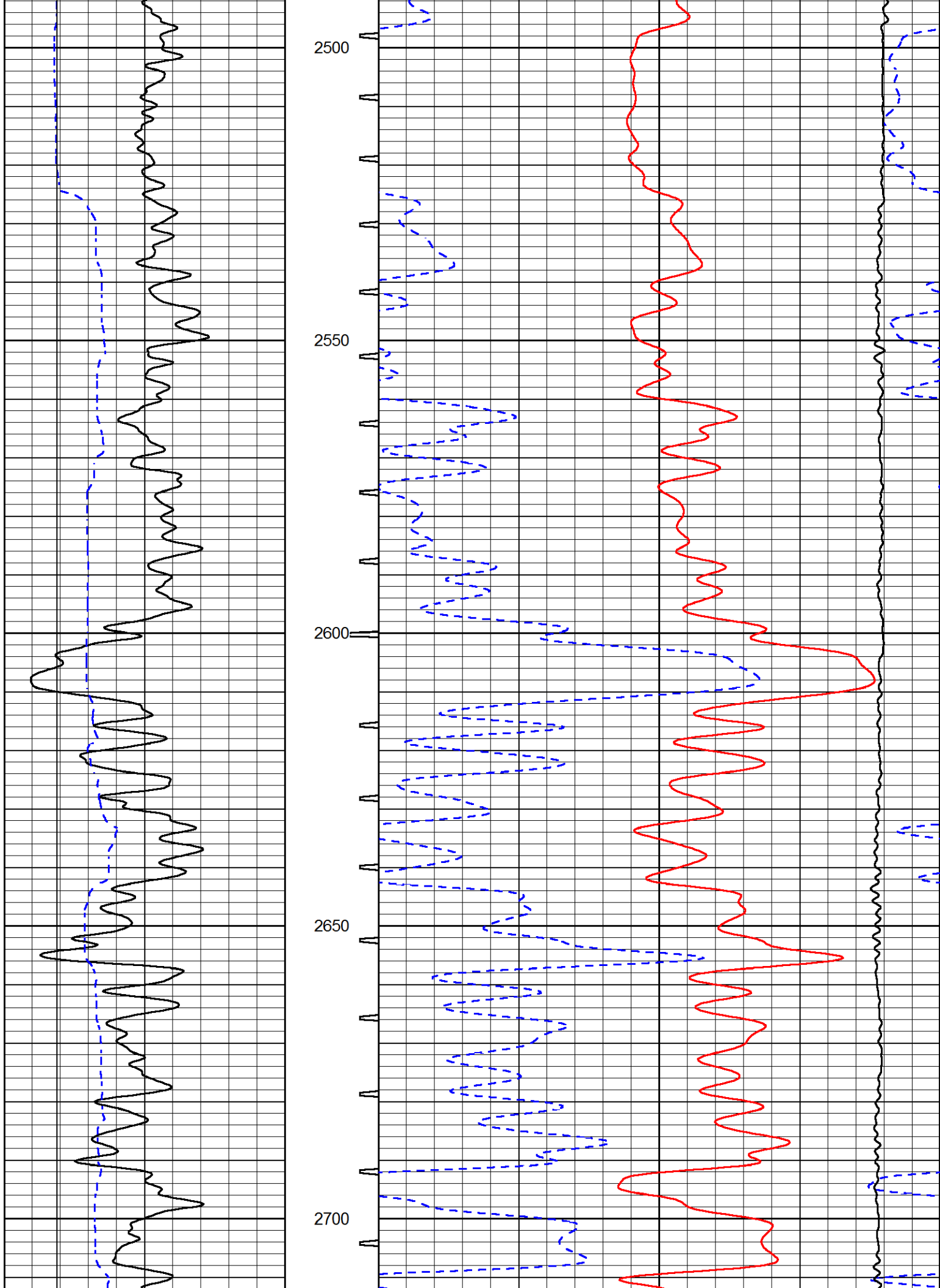


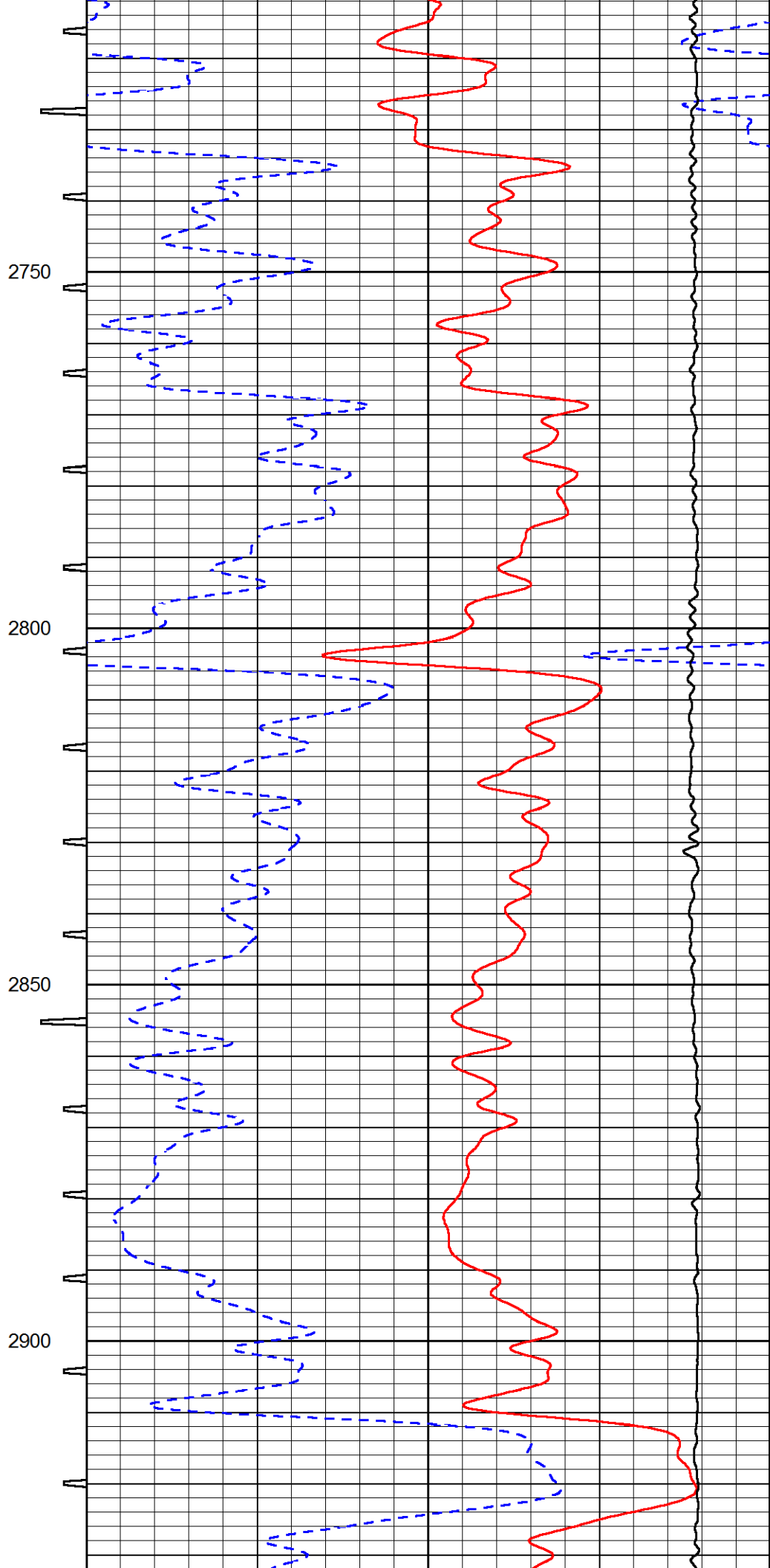
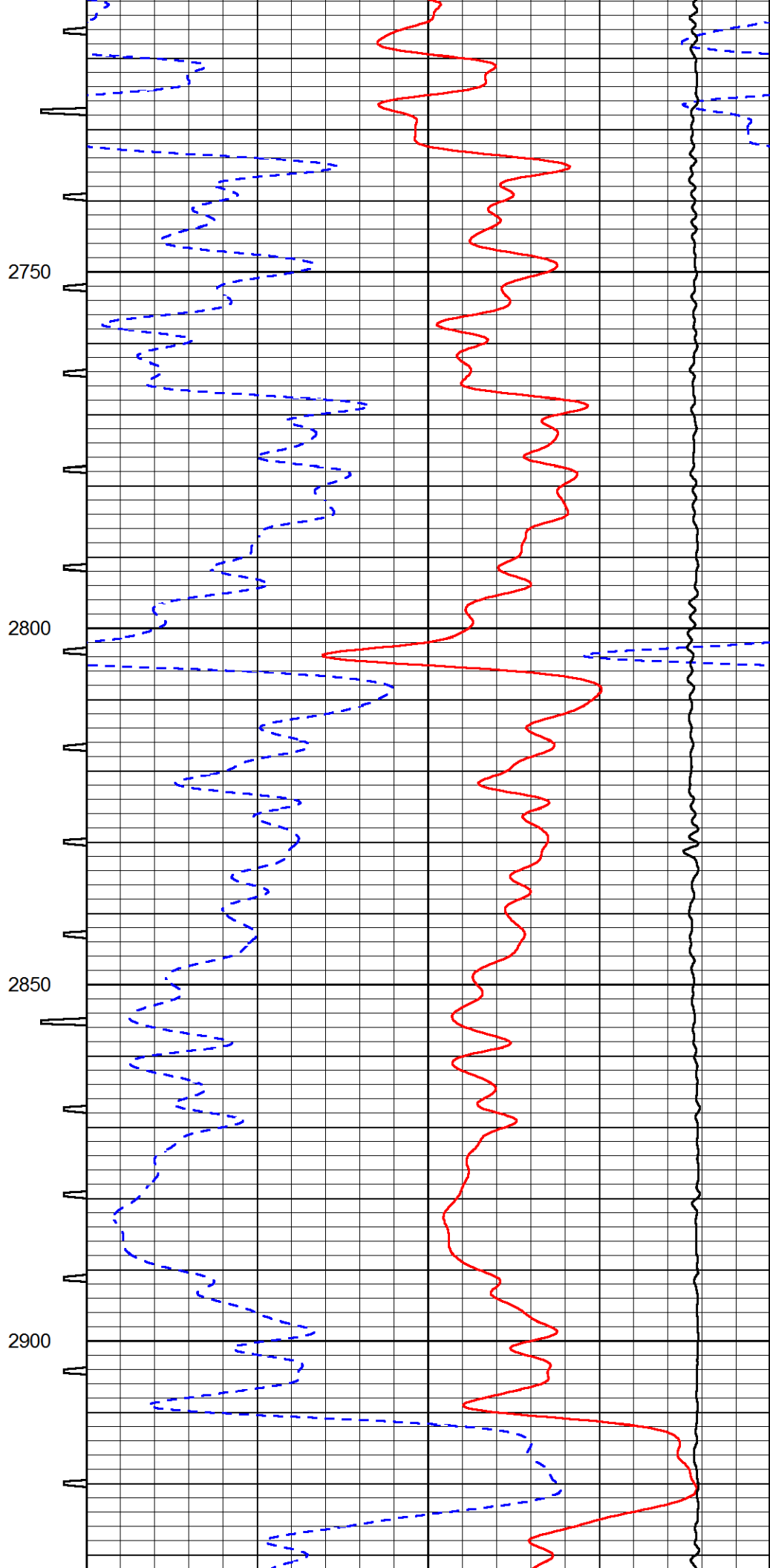
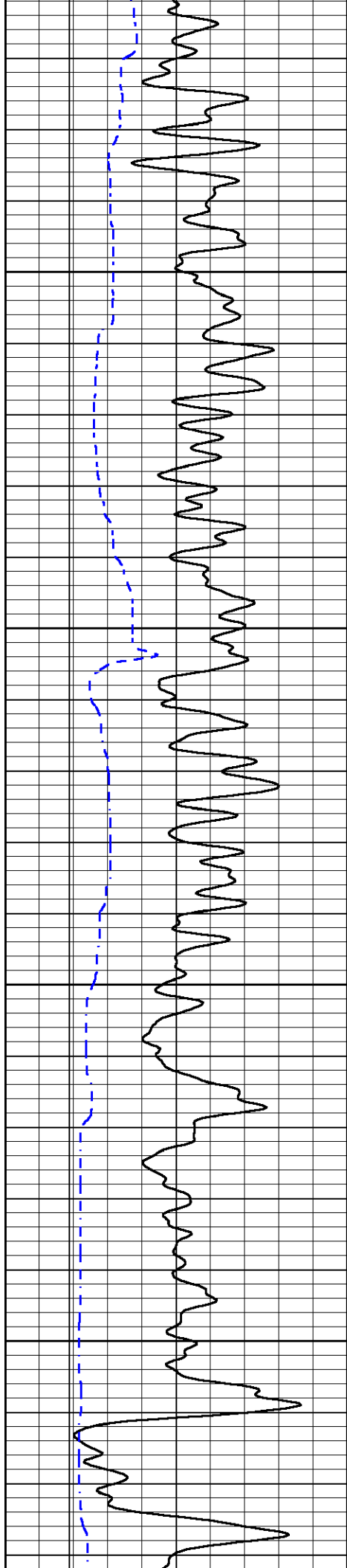


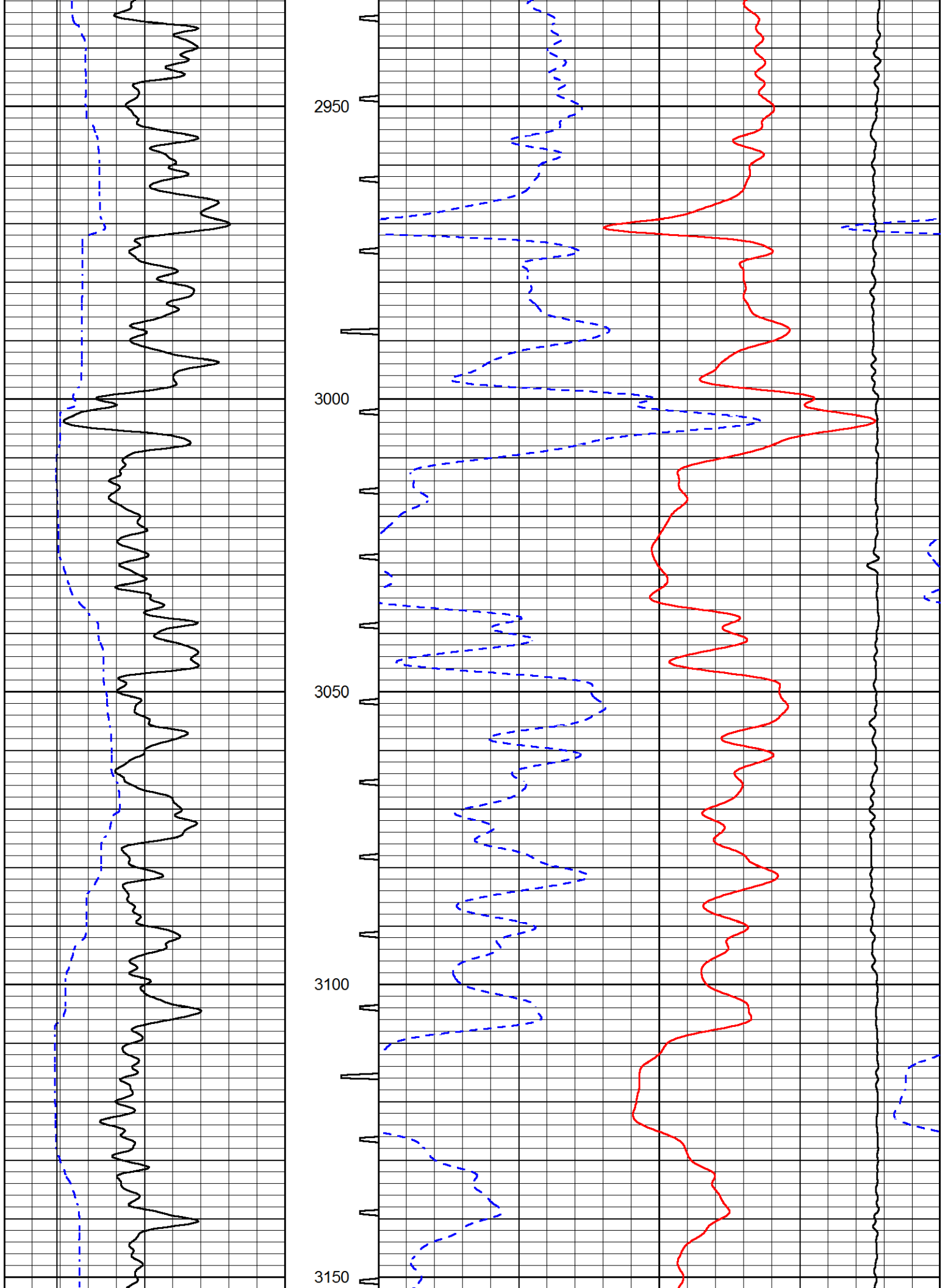


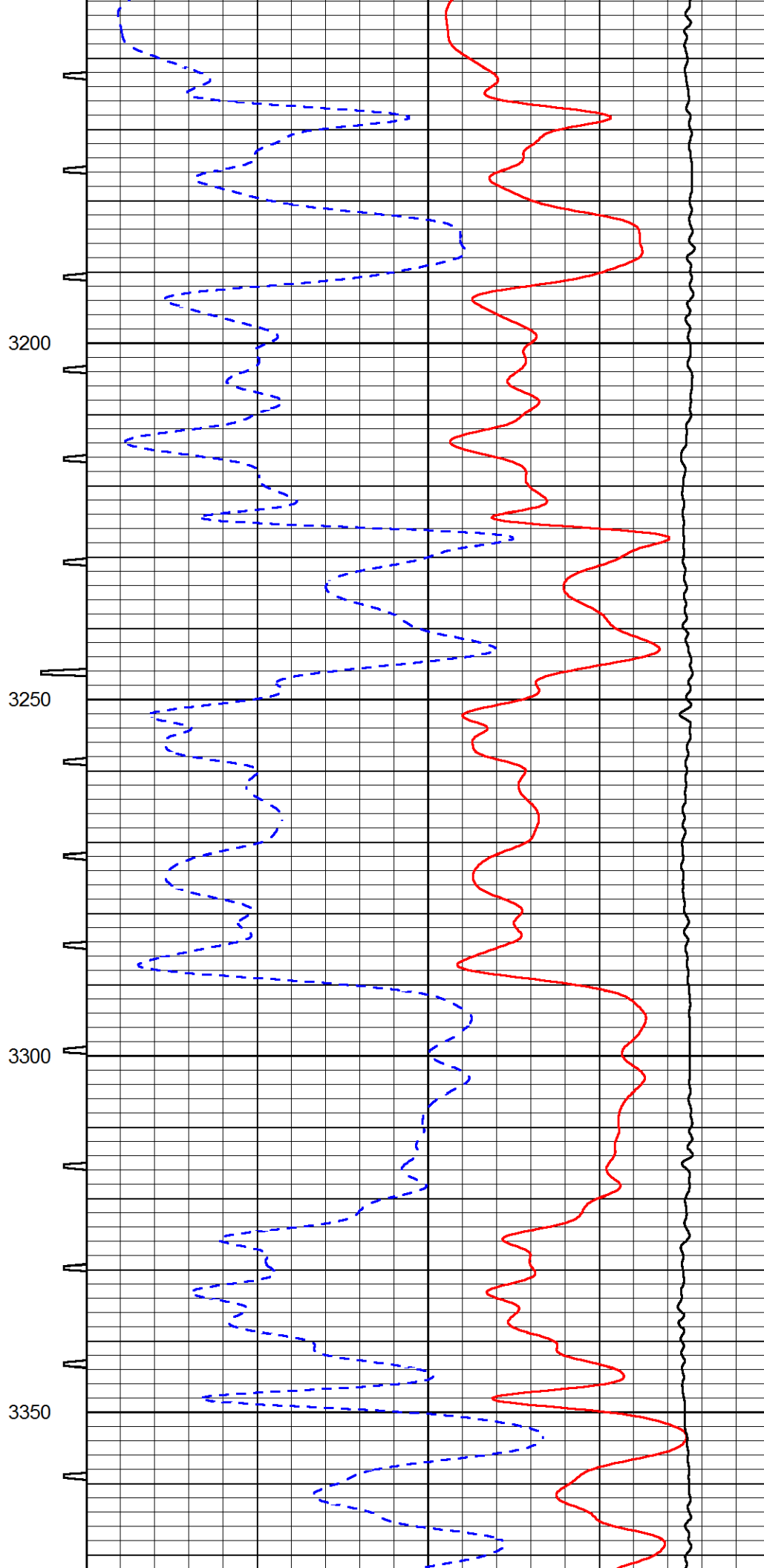
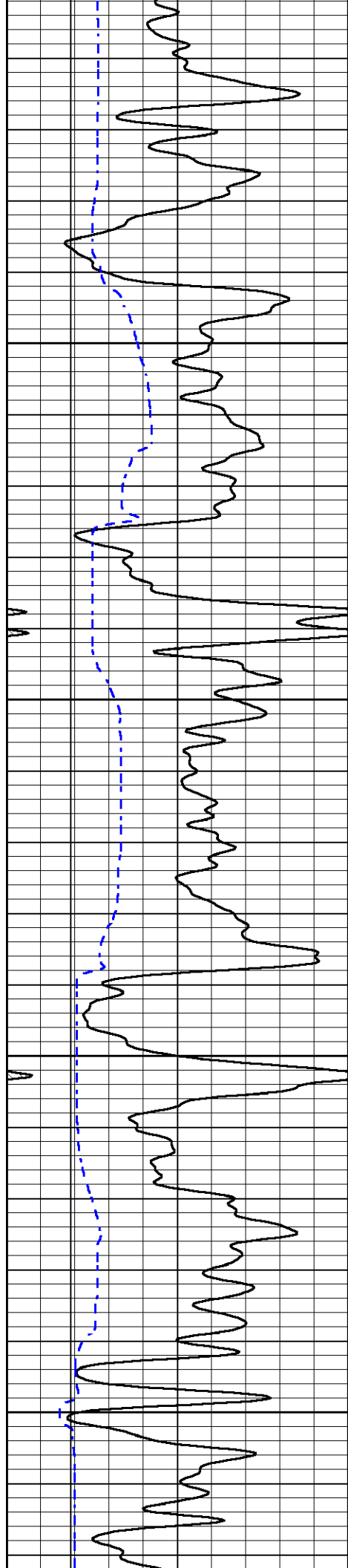


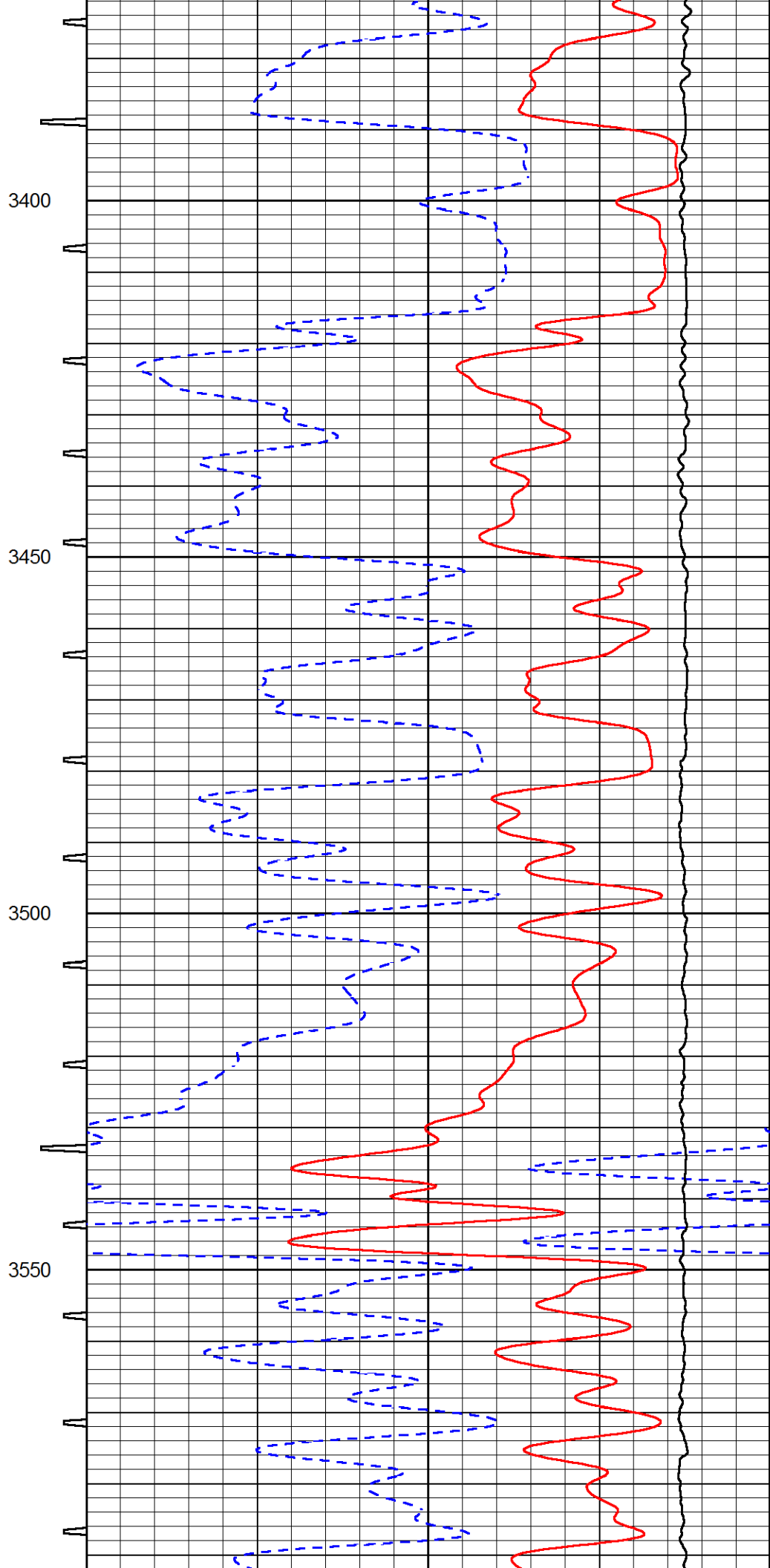
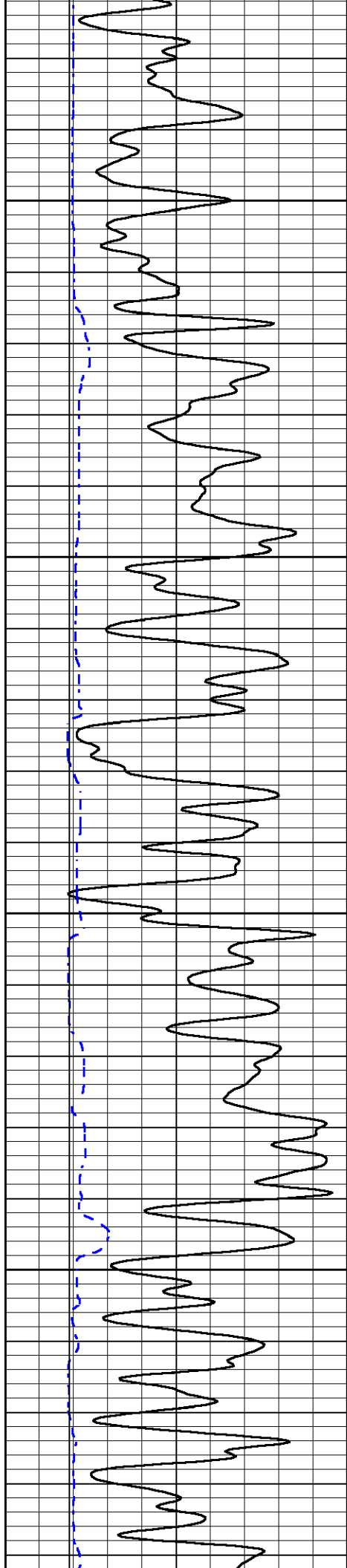


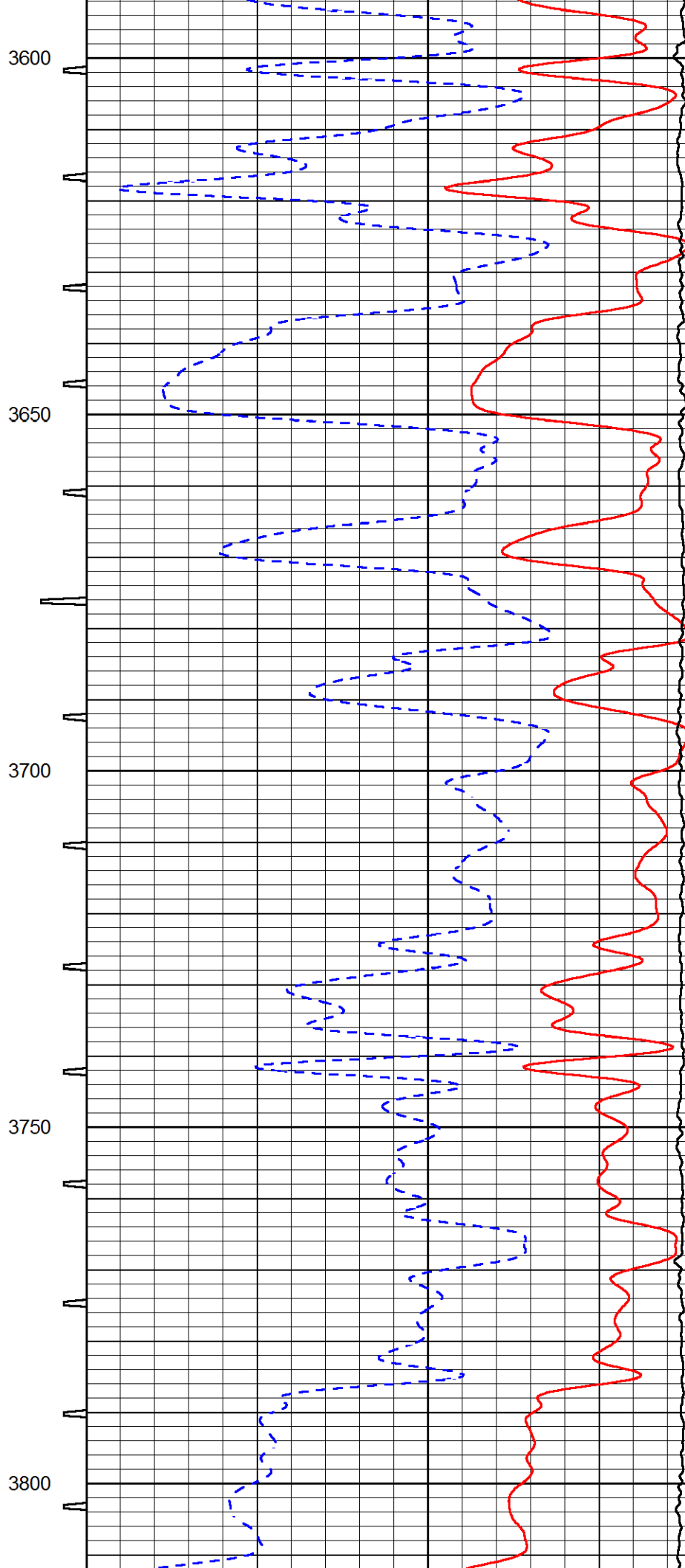
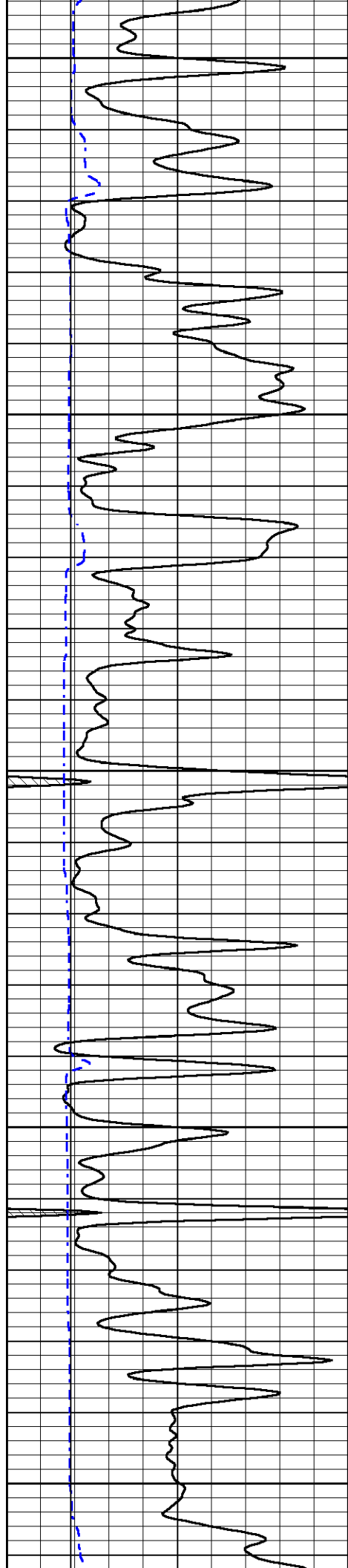


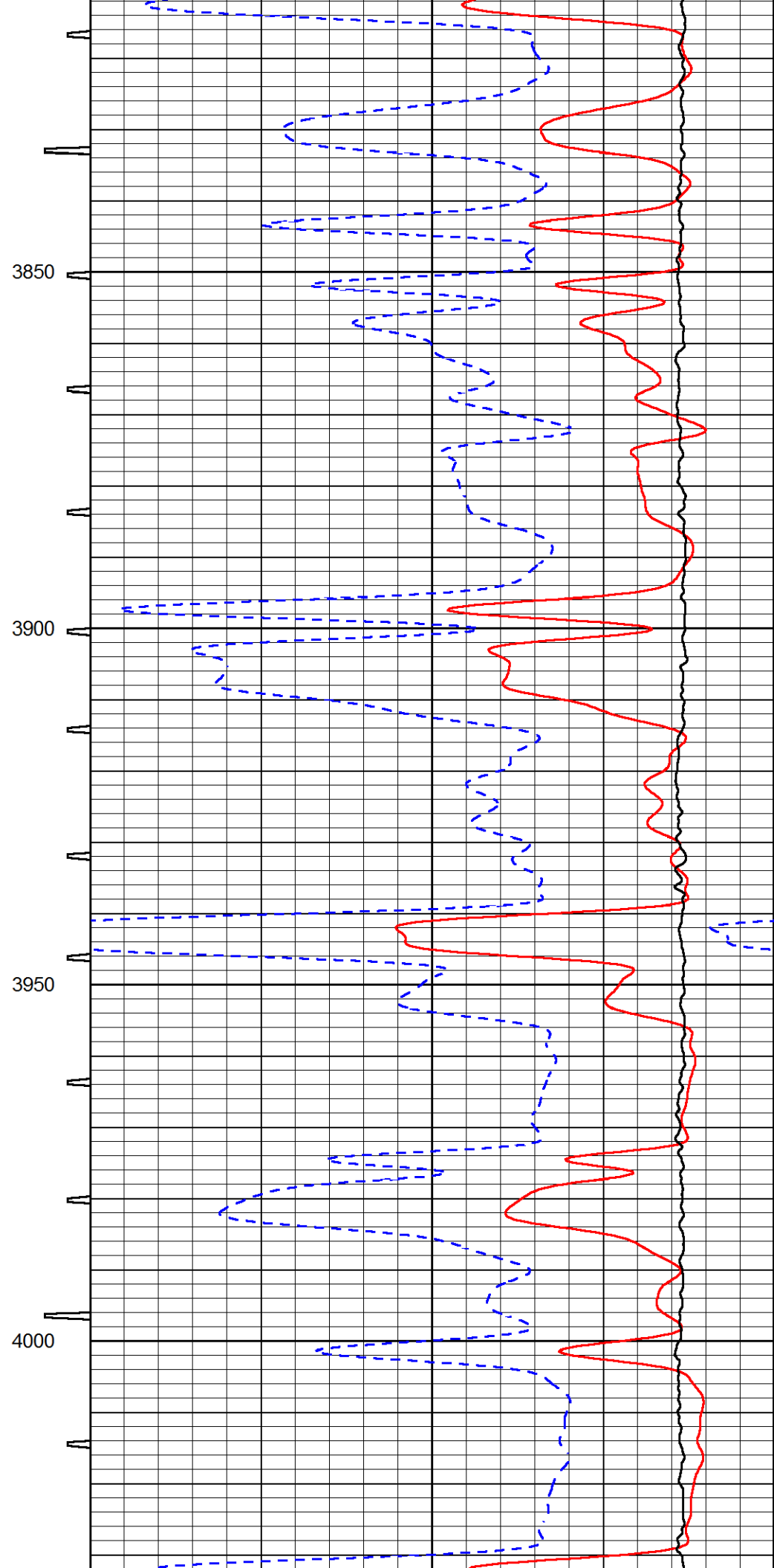
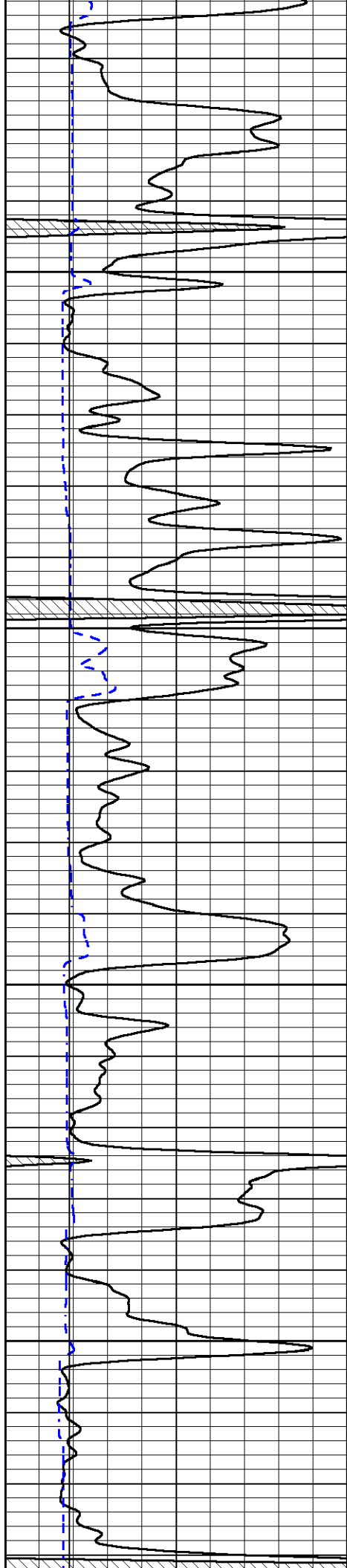




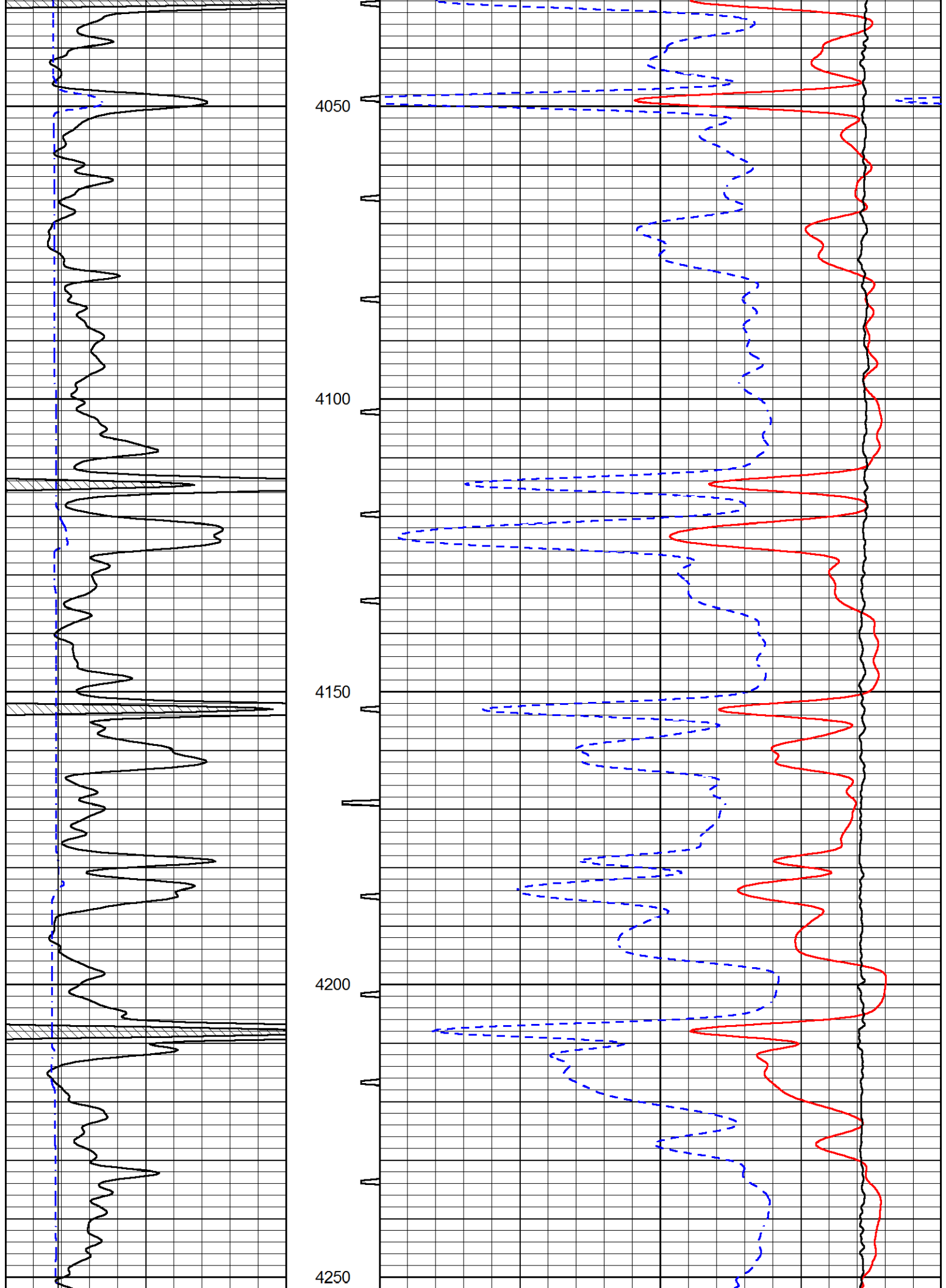


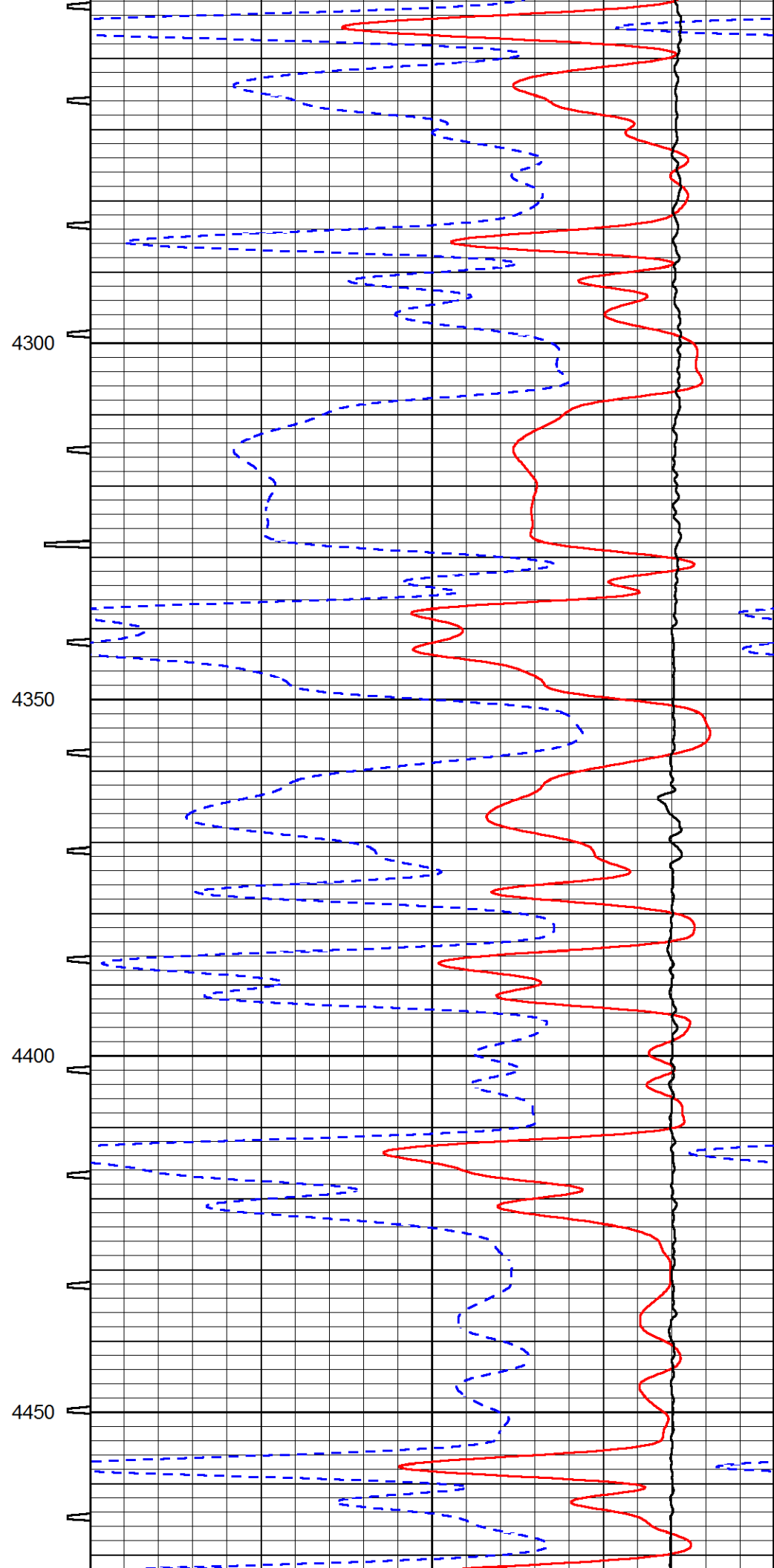
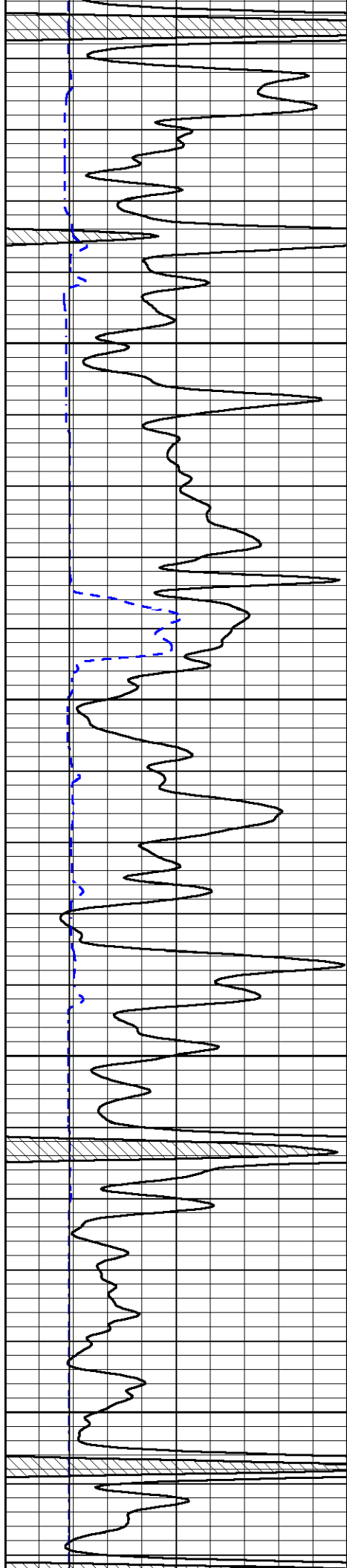


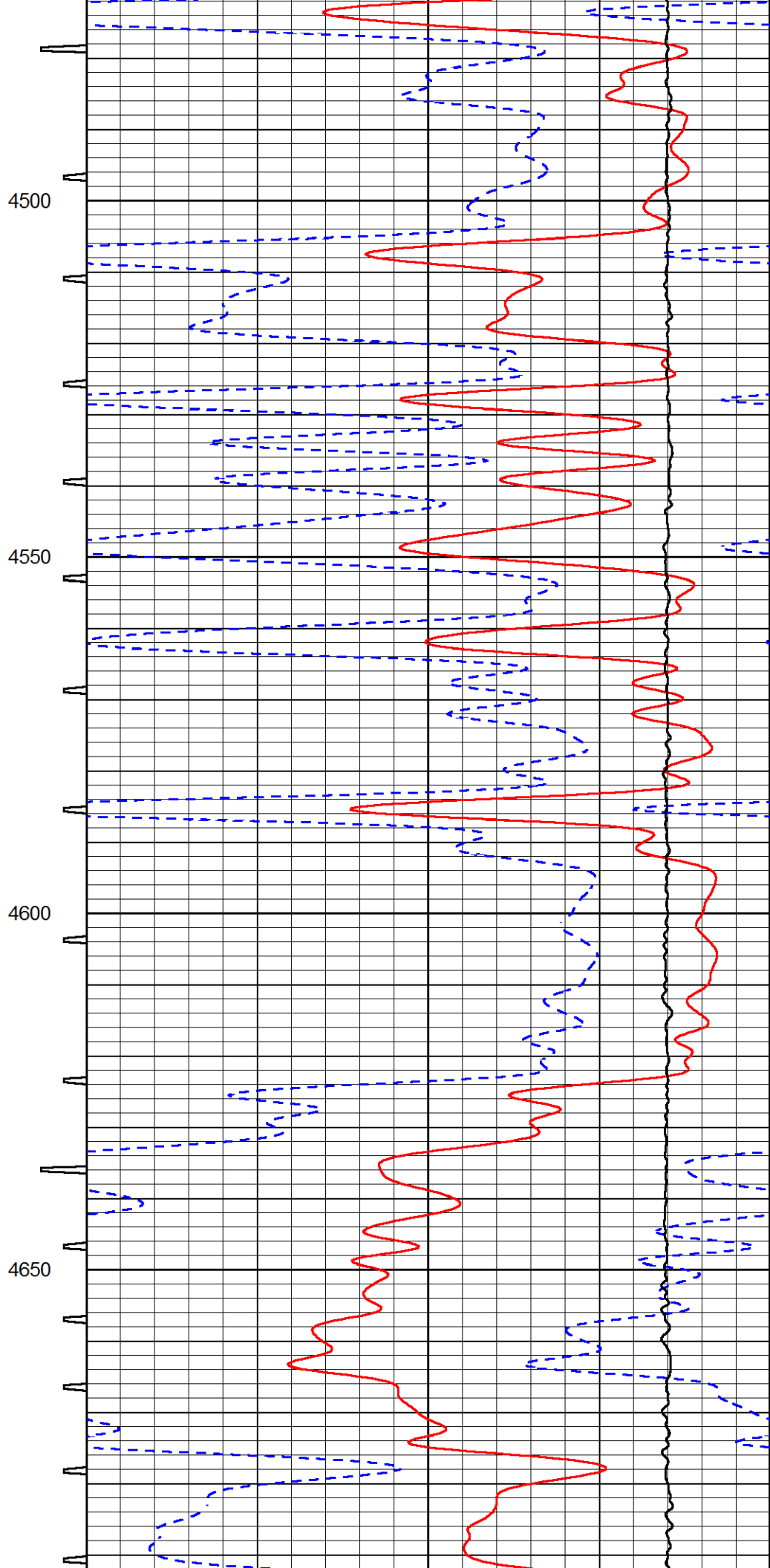
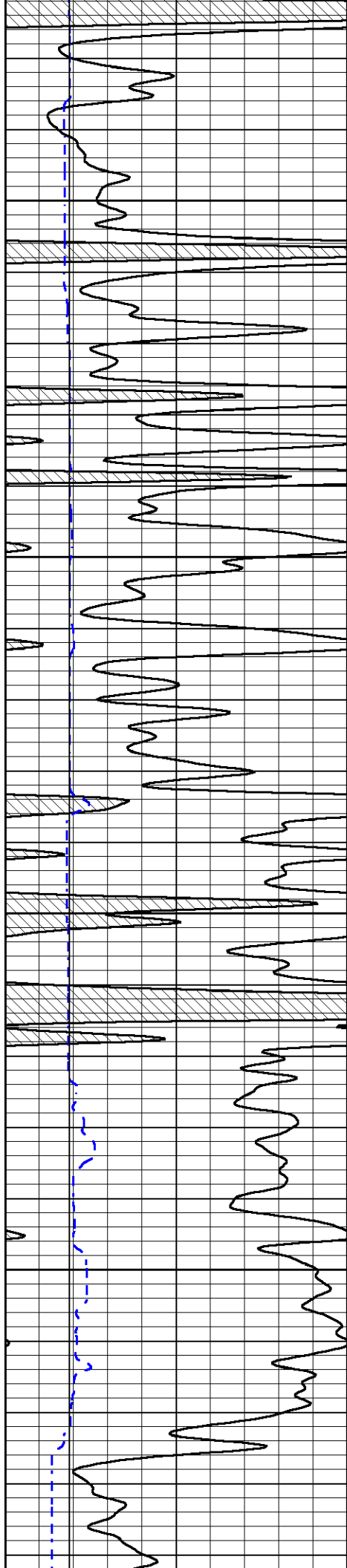


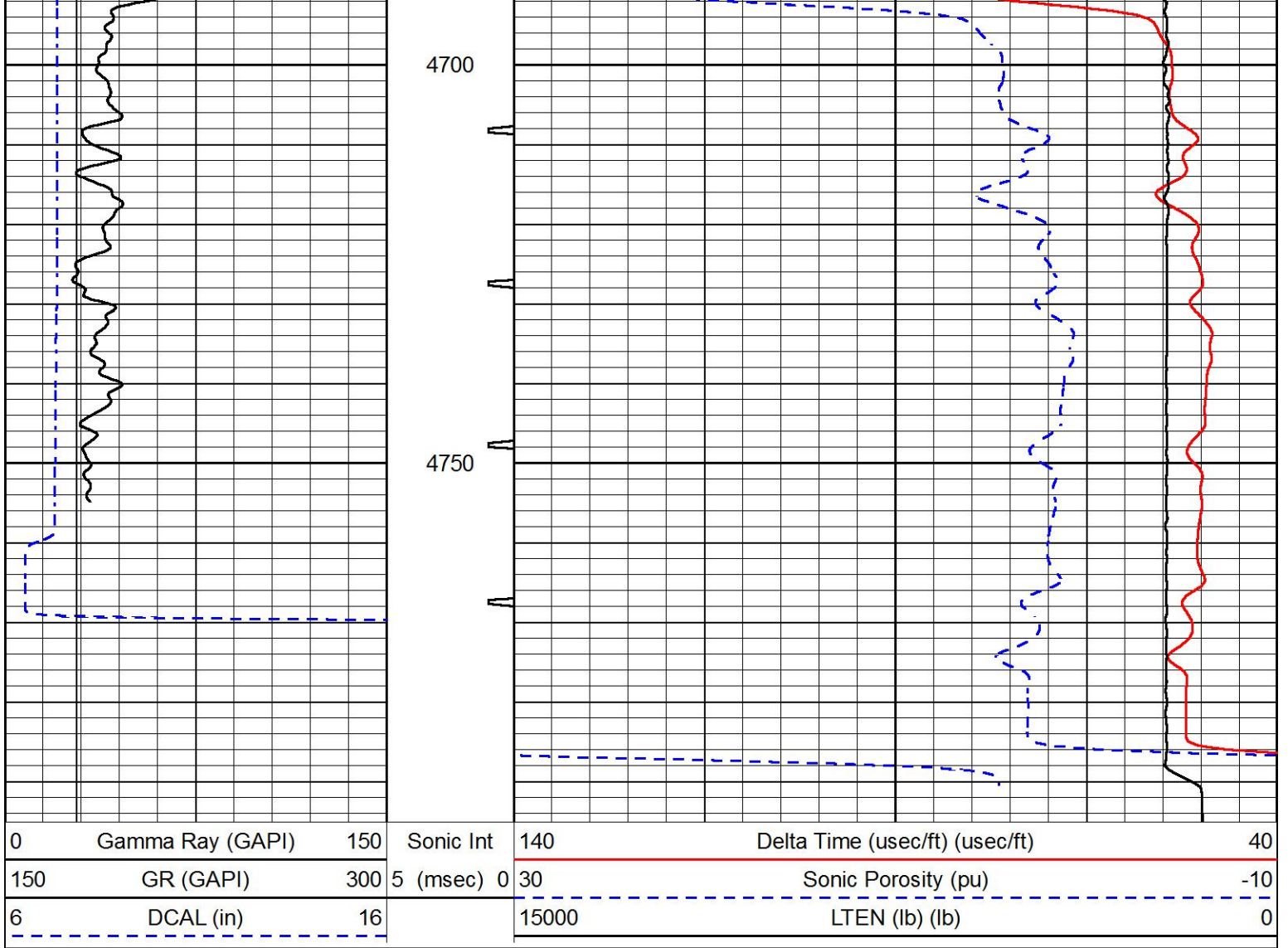








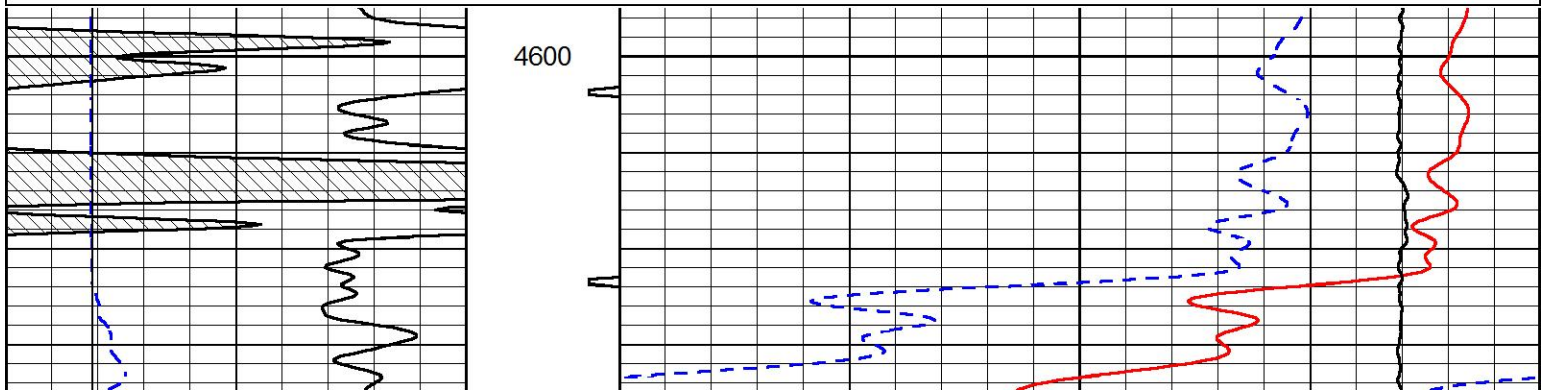


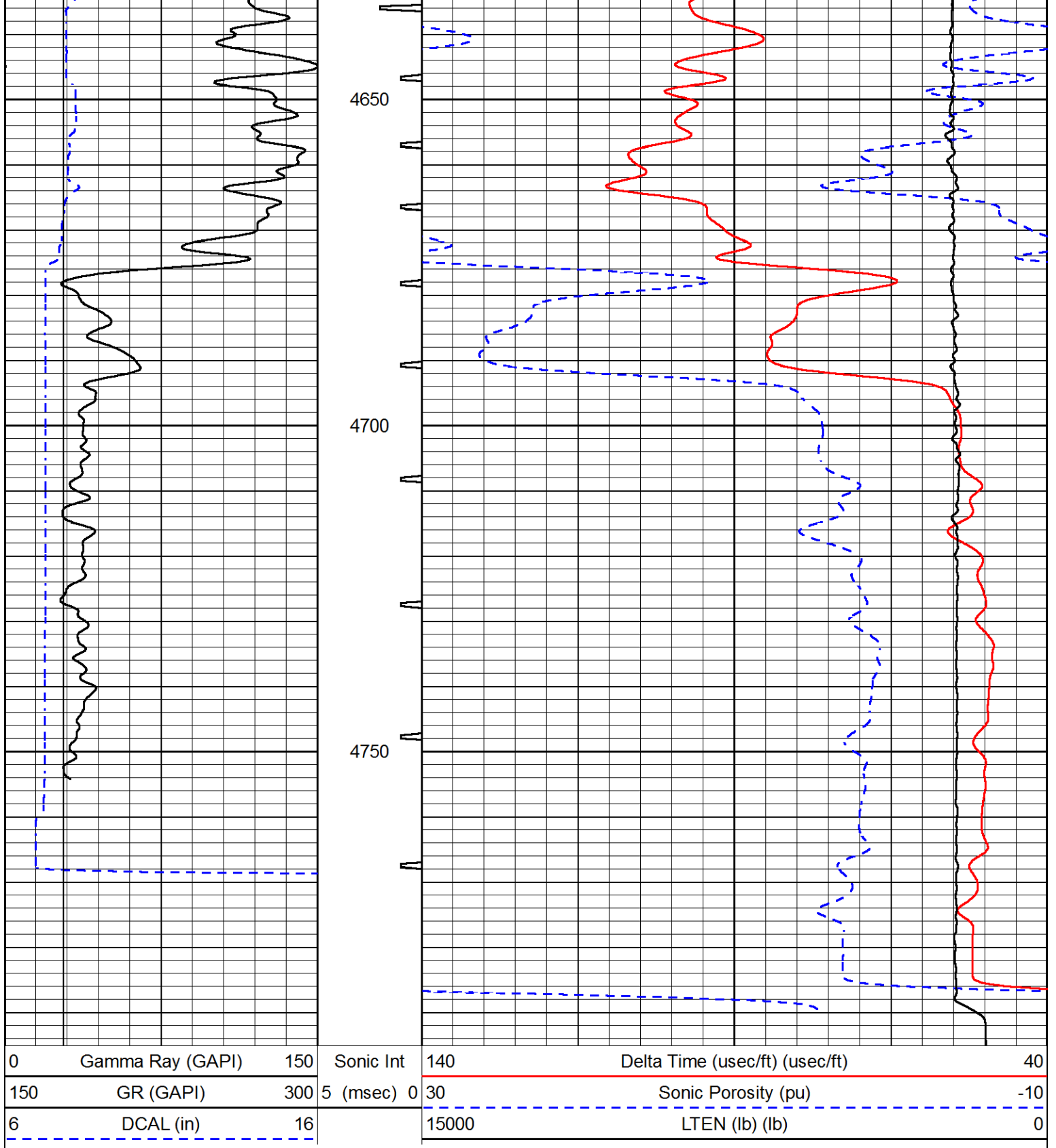


# REPEAT SECTION

Database File american\_warrior\_dirks 1-22.db  
 Dataset Pathname STKML/pass3.1  
 Presentation Format sonic  
 Dataset Creation Fri Oct 20 19:56:14 2017  
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	DCAL (in)	16		15000	LTEN (lb) (lb)	0





### Calibration Report

Database File      american warrior\_dirks 1-22.db  
 Dataset Pathname    STKML/pass5.1  
 Dataset Creation    Fri Oct 20 19:20:36 2017

### Dual Induction Calibration Report

Serial-Model:                      PSI 91-M&W  
 Calibration Performed:            Wed Sep 13 22:23:16 2017

Readings

References

Results

Readings

References

Results

Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.520	-10.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-32.250

Microlog Calibration Report

Serial-Model: PSI-01-PSIML  
 Performed: Wed Sep 06 19:50:56 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	71000.0000	-2.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	104000.0000	-3.1000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1250

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61		Density/Spine Ratio = 0.517			
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89  
 Tool Model: M&W  
 Calibration Performed: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company	AMERICAN WARRIOR, INC.
Well	DIRKS #1-22
Field	WILDCAT
County	LOGAN
State	KANSAS





# DUAL INDUCTION LOG

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN State KANSAS

Location: API #: 15-109-21526-00-00  
 949' FSL & 1004' FWL  
 SEC 22 TWP 14S RGE 35W  
 Permanent Datum GROUND LEVEL Elevation 3121'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services CNL/CDL MEL/BHCS  
 Elevation K.B. 3129' D.F. N/A G.L. 3121'

Date	10/20/2017
Run Number	ONE
Depth Driller	4790'
Depth Logger	4789'
Bottom Logged Interval	4788'
Top Log Interval	200'
Casing Driller	8.625" @ 211'
Casing Logger	208'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	8200
Density / Viscosity	9.4 51
pH / Fluid Loss	9.0 10.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.40 @ 80
Rmt @ Meas. Temp	0.30 @ 80
Rmc @ Meas. Temp	0.54 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.26 @ 124
Operating Rig Time	5 HOURS
Max Rec. Temp. F	124
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	LUKE THOMPSON

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
 SOUTH ON HWY 25 TO CURVE,  
 2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
 1/2 EAST, 1/2 SOUTH,  
 EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: D. SCHMIDT	Primary Witness: LUKE THOMPSON
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:



Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W (PSI 91)

18.50

3.50

220.00

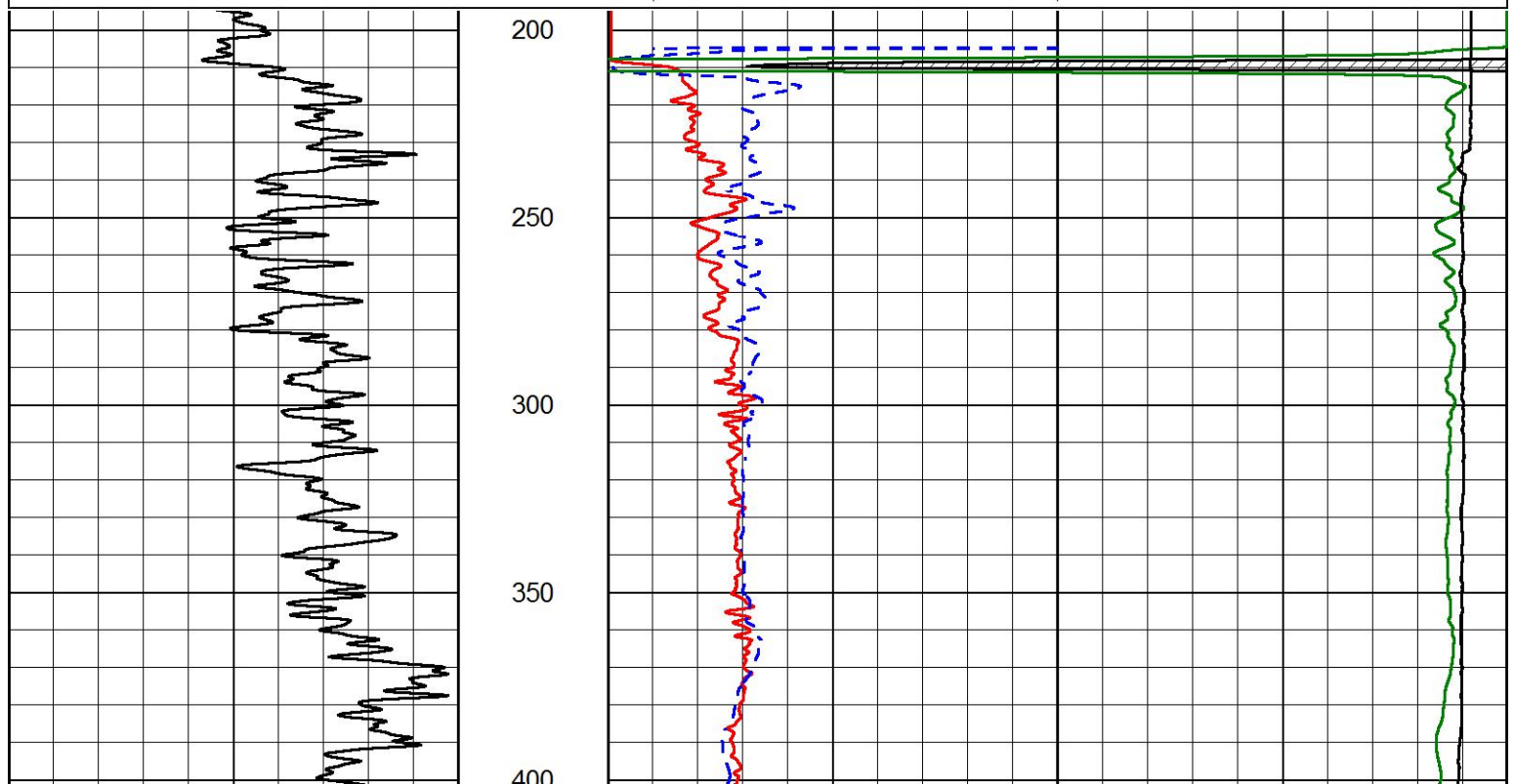
Dataset: american warrior\_dirks 1-22.db: field/well/STKML/pass5.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

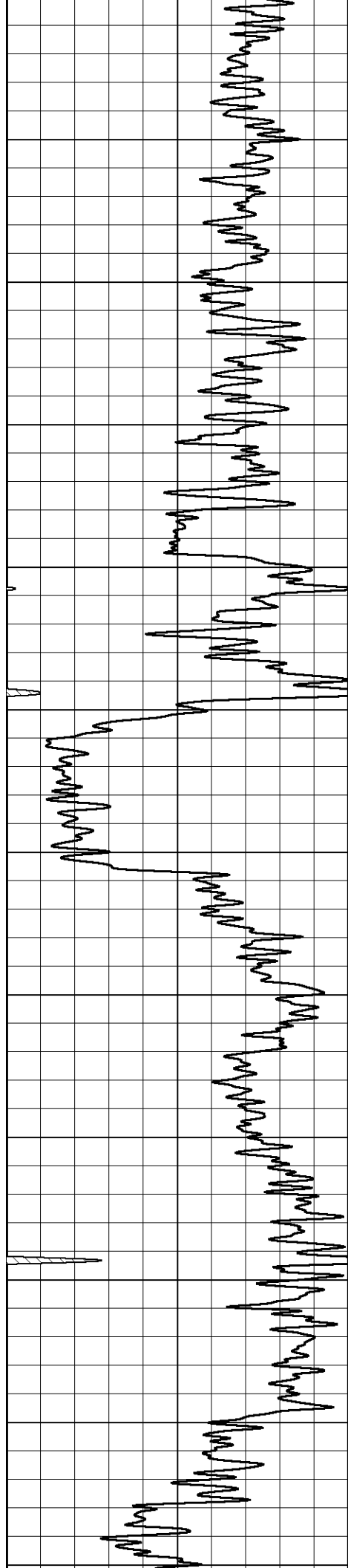


# MAIN PASS

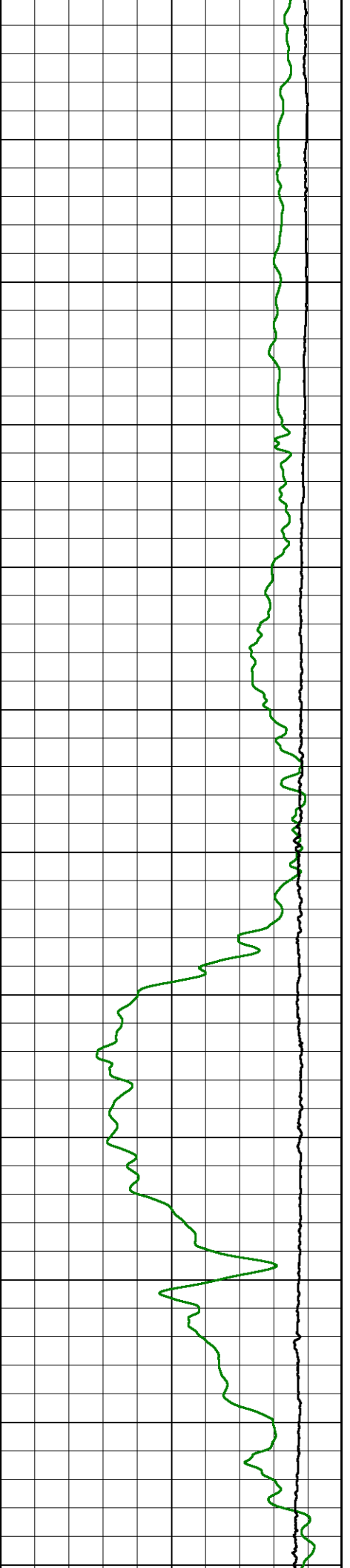
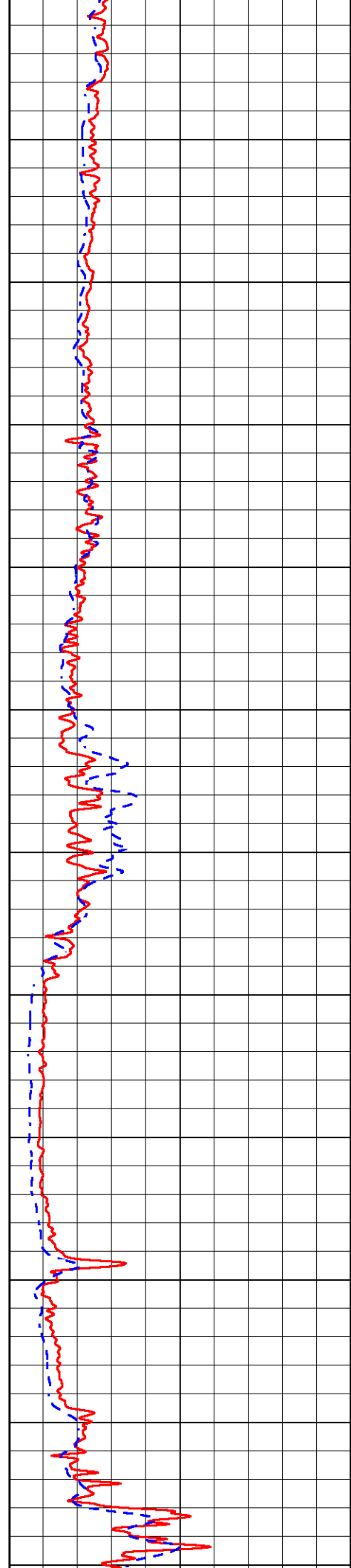
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 Dataset Pathname: STKML/pass5.1  
 Presentation Format: dil2in  
 Dataset Creation: Fri Oct 20 19:20:36 2017  
 Charted by: Depth in Feet scaled 1:600

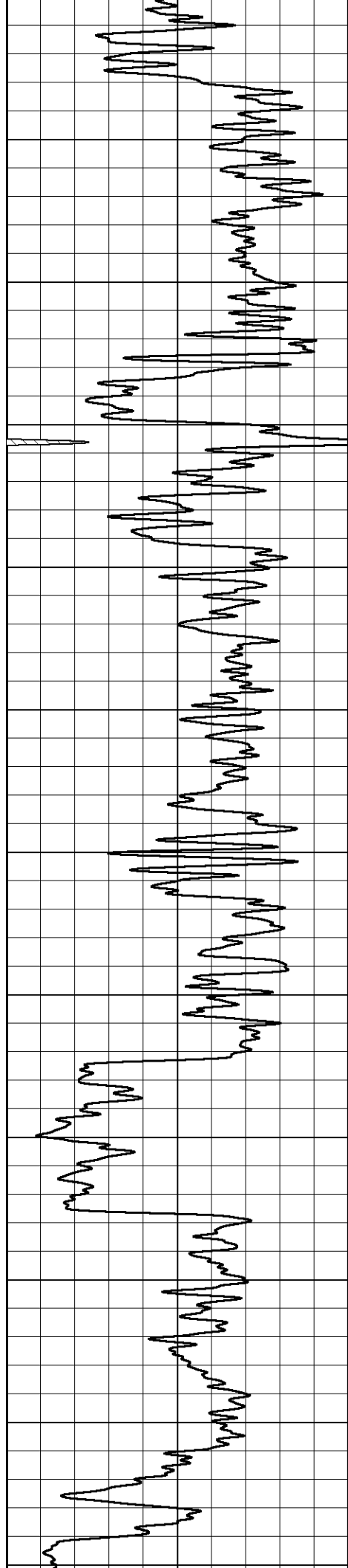
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			15000	Line Tension (lb)	0
			0	RLL3 (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
			50	Deep Resistivity (Ohm-m)	500



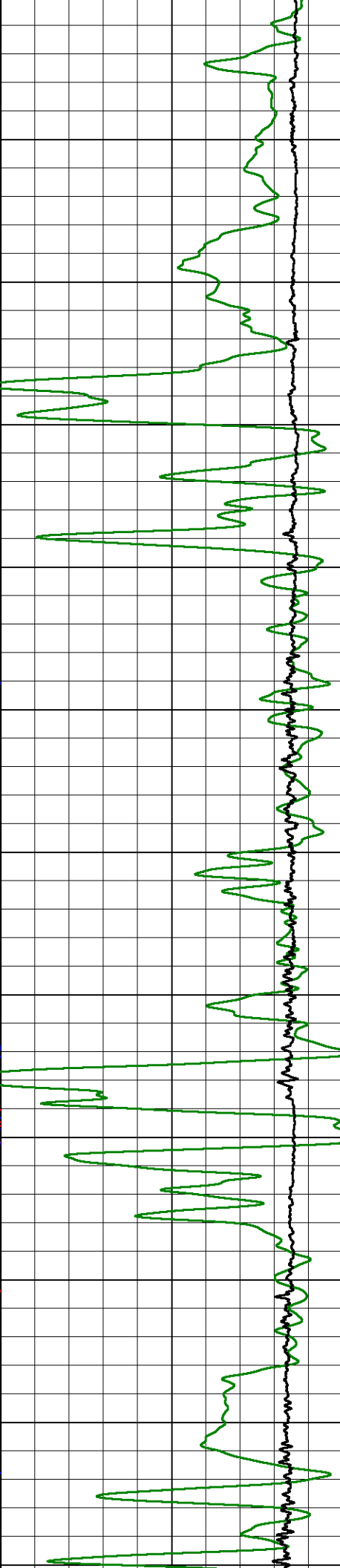
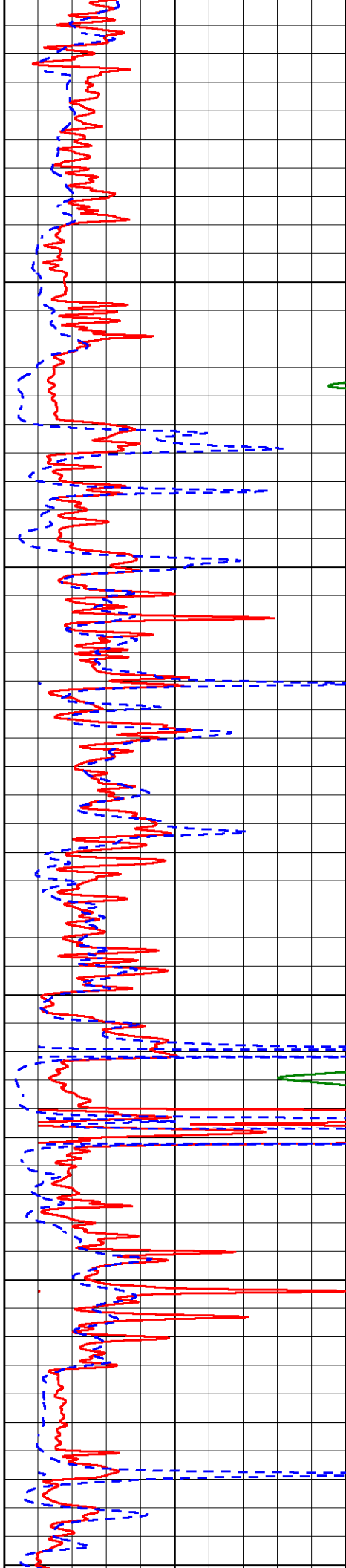


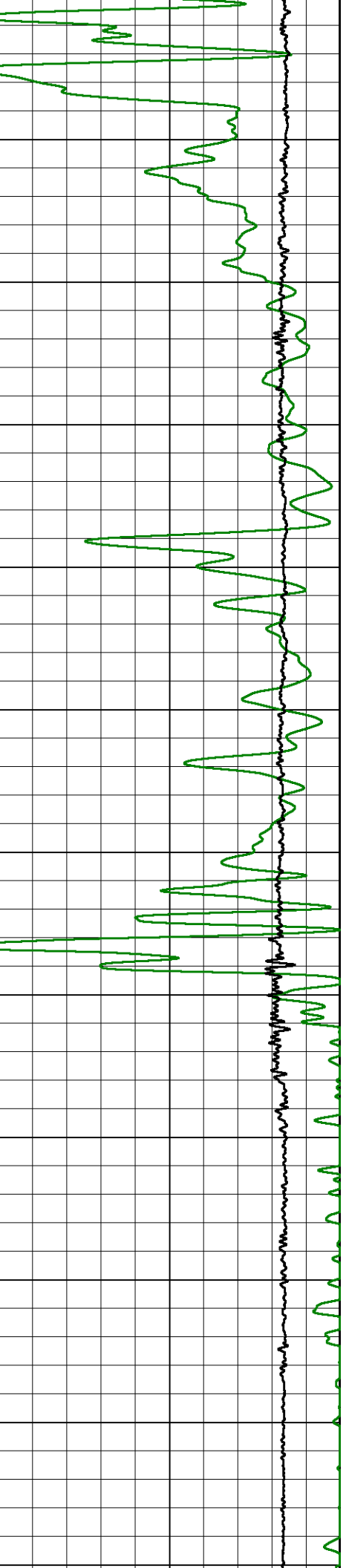
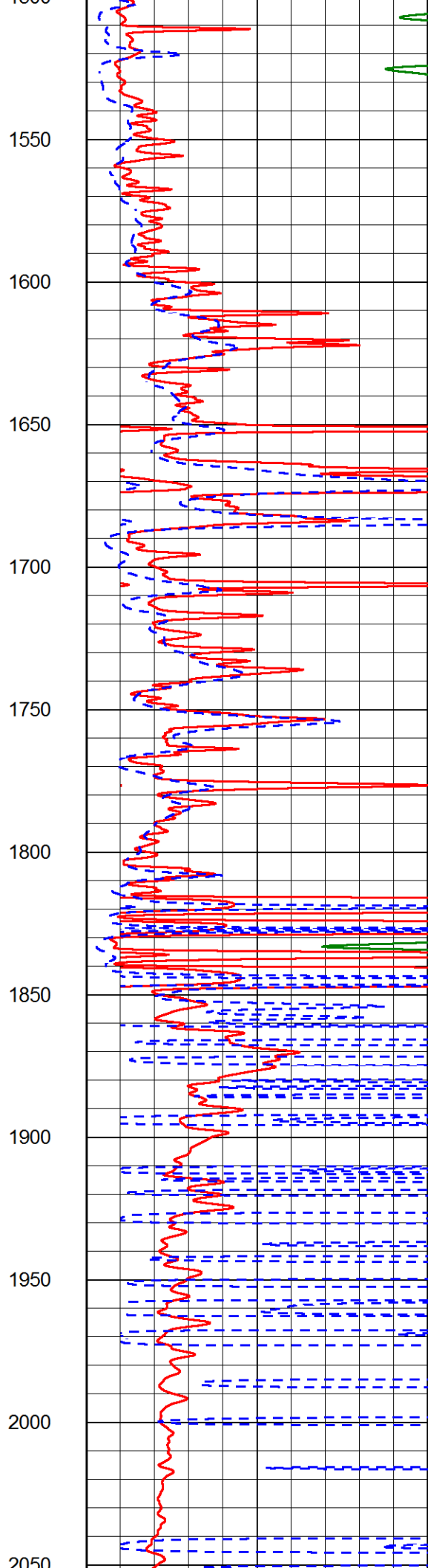
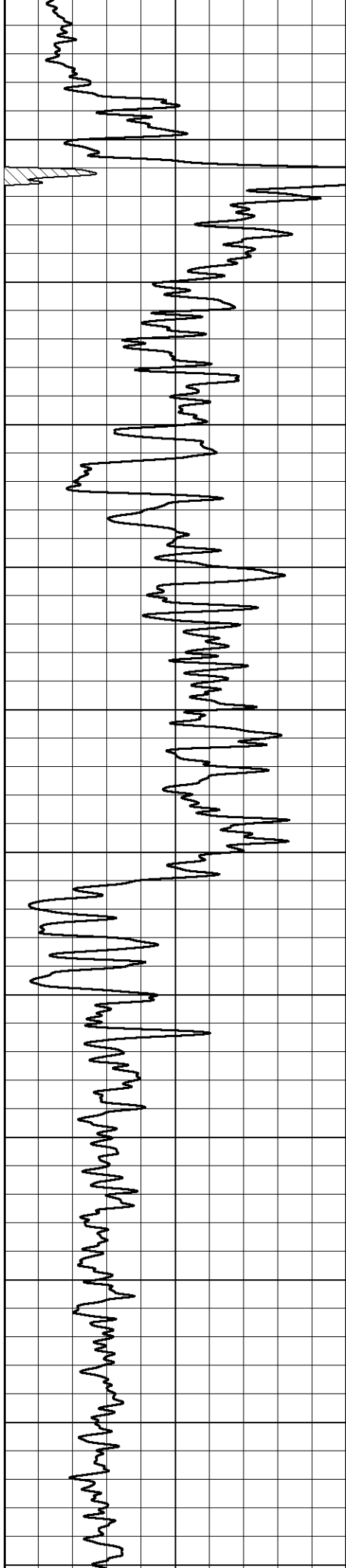
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900  
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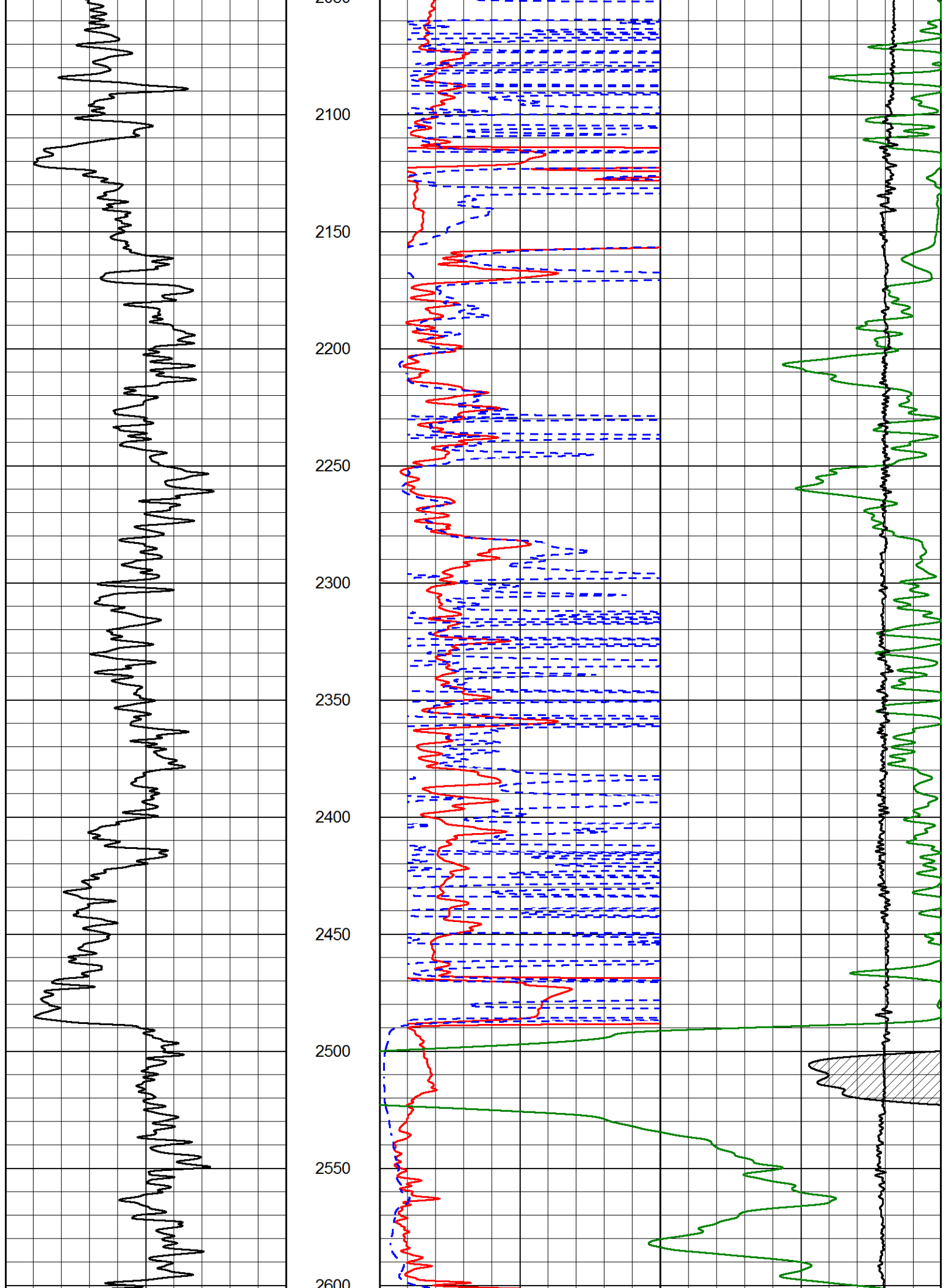


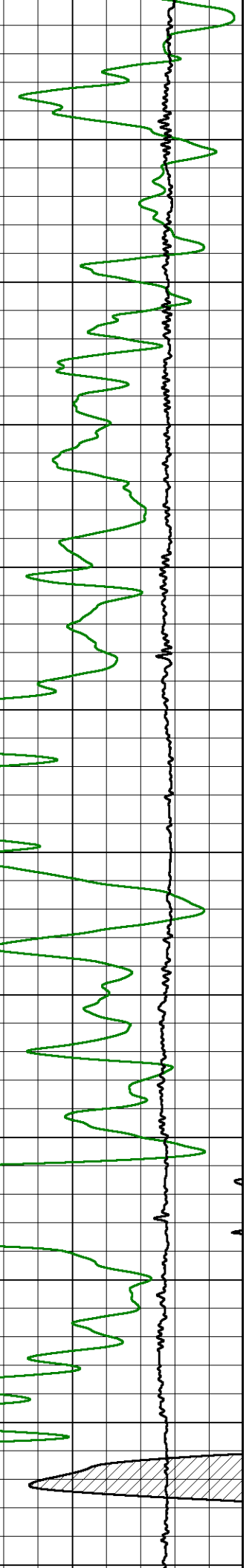
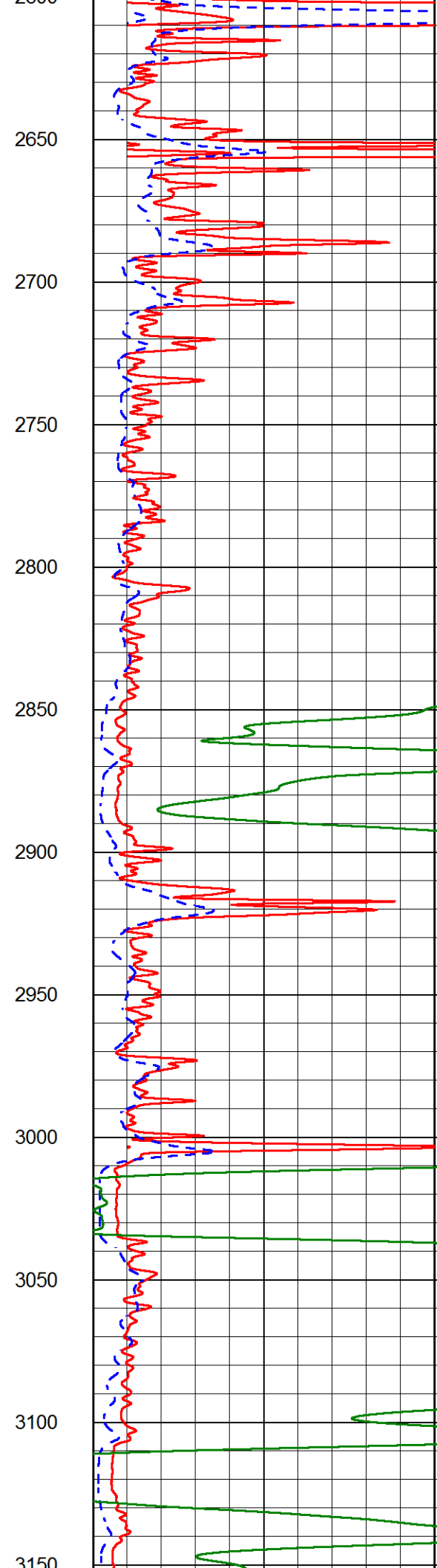
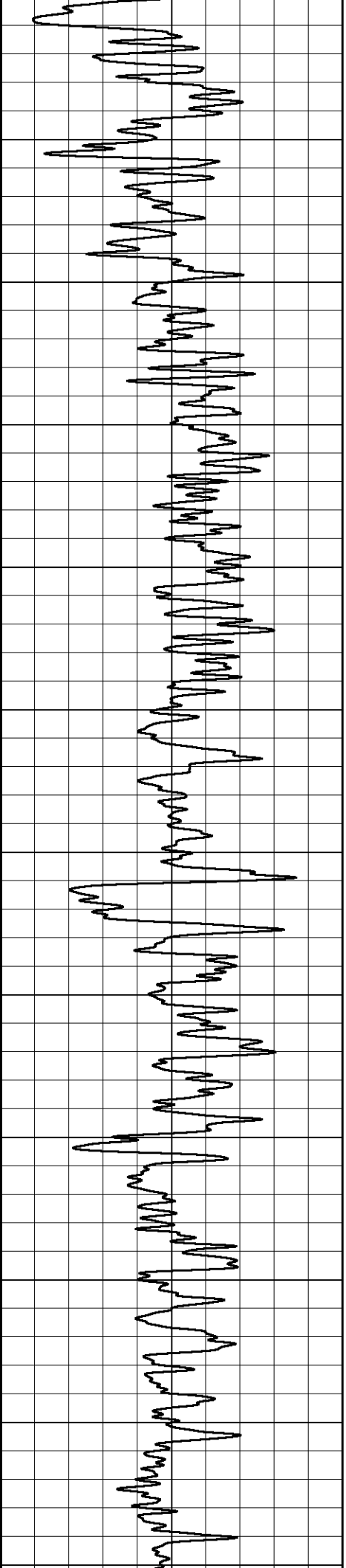


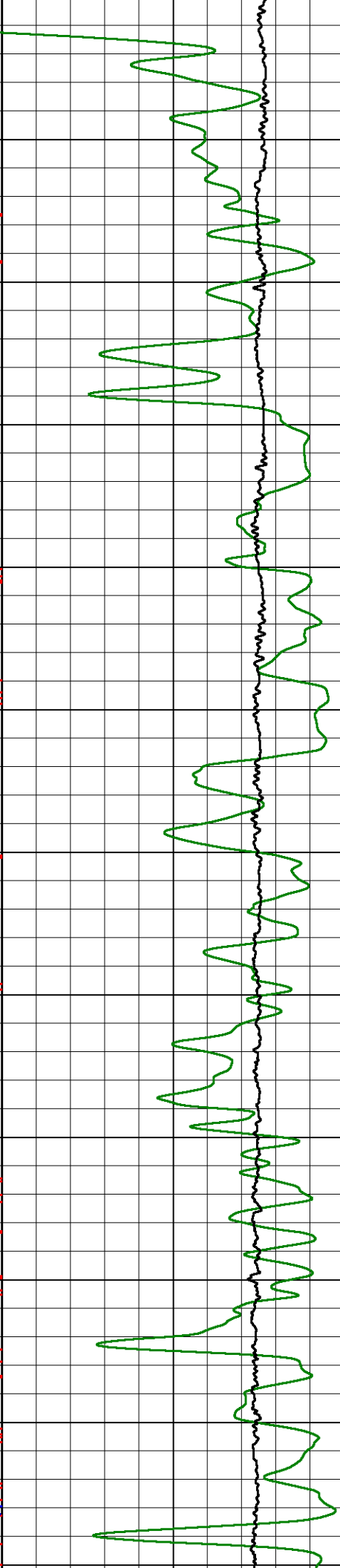
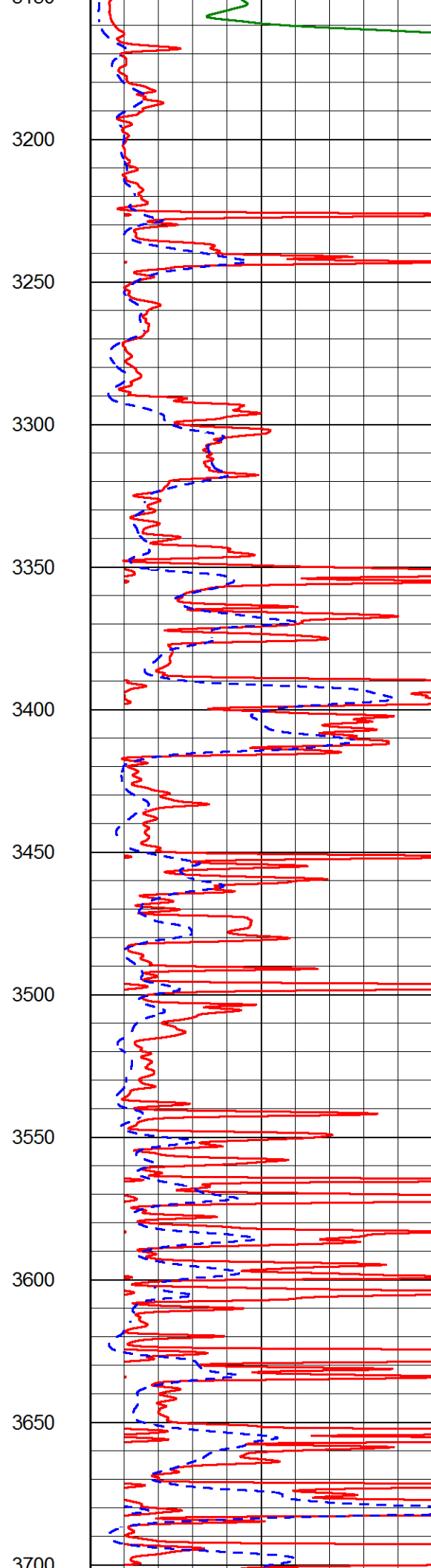
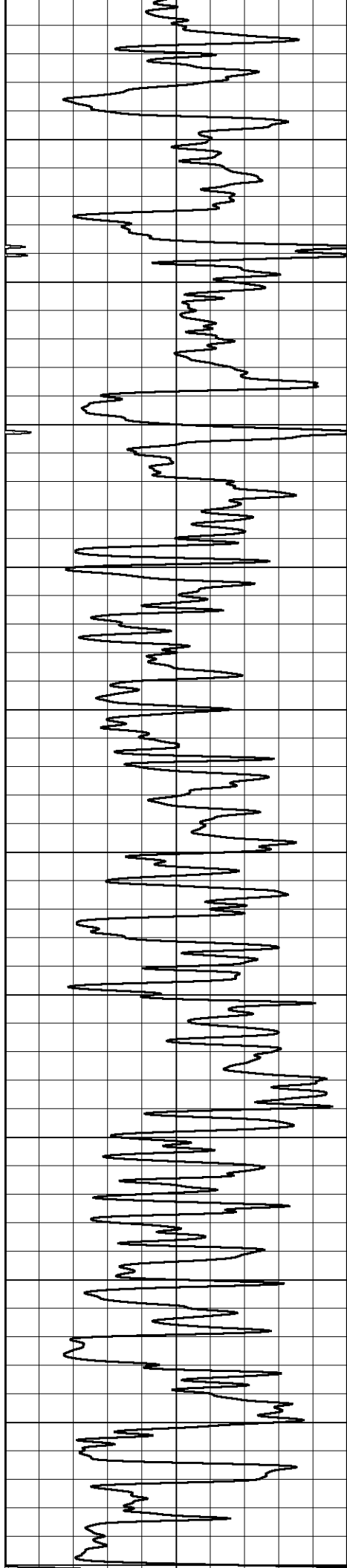
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1450  
1500



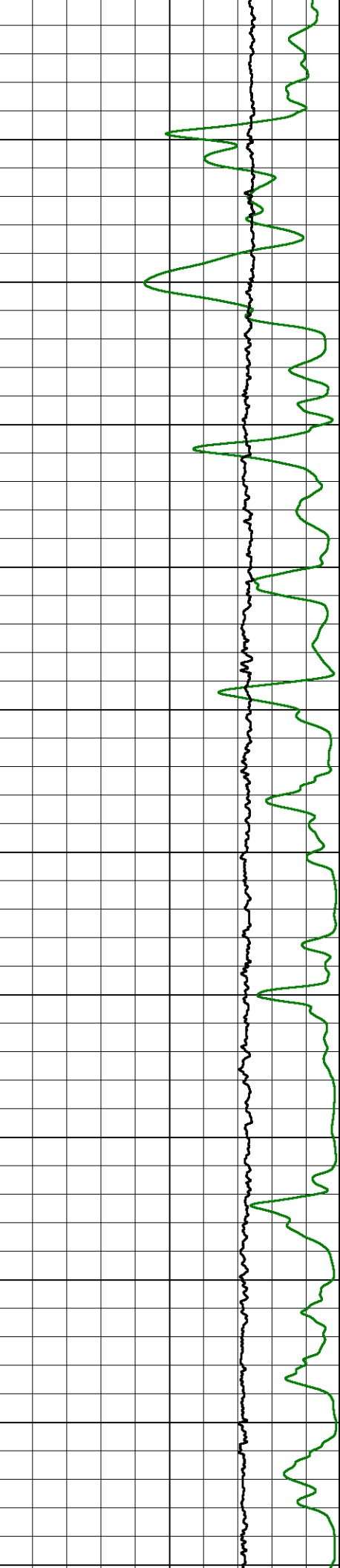
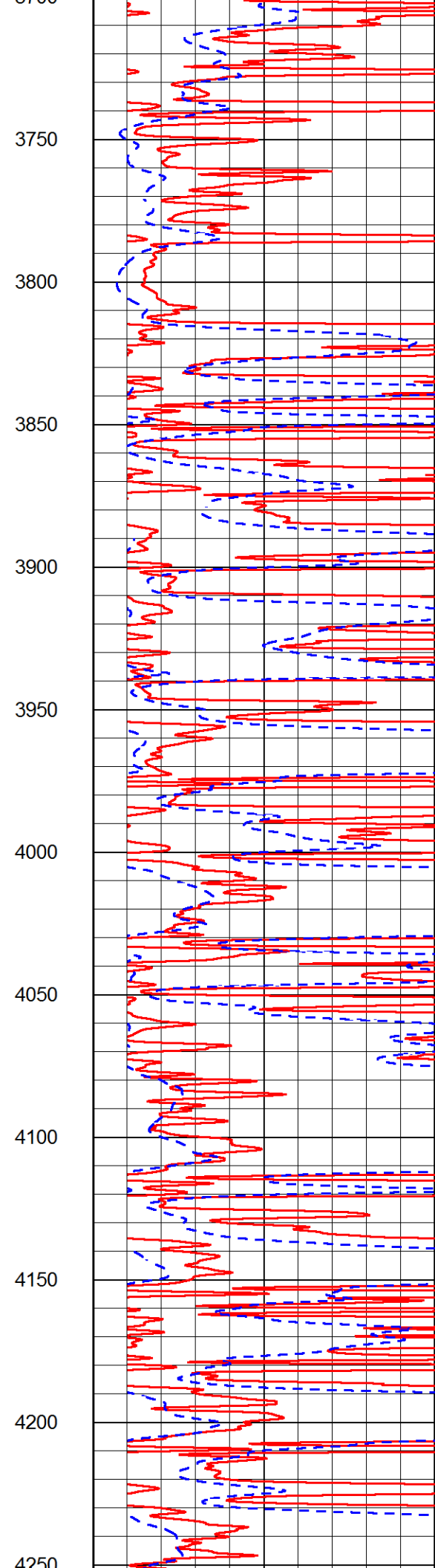
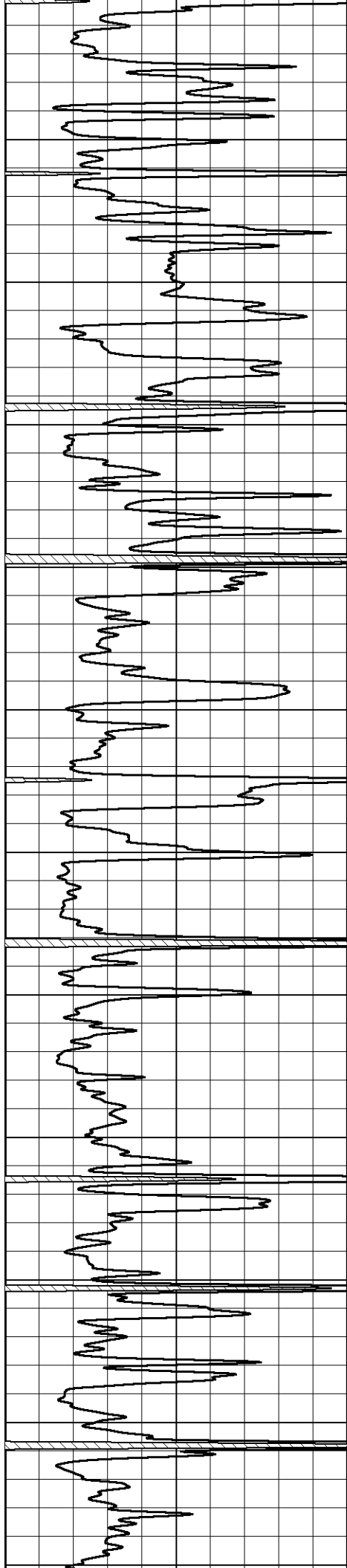




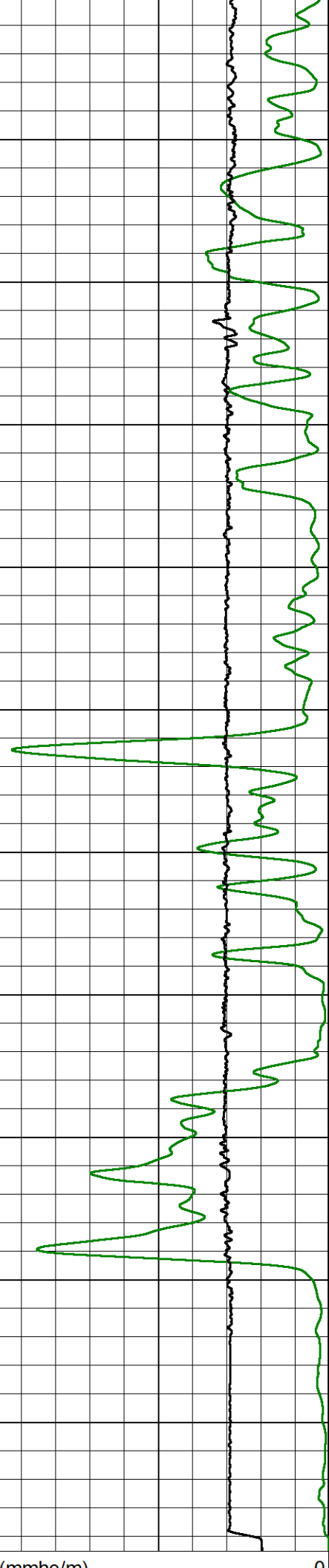
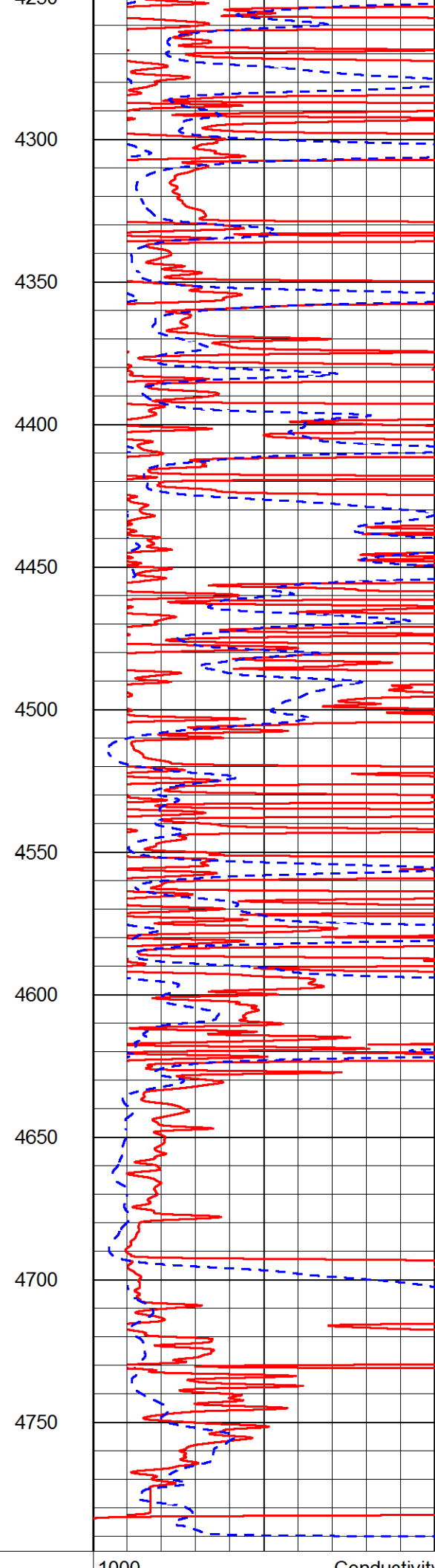
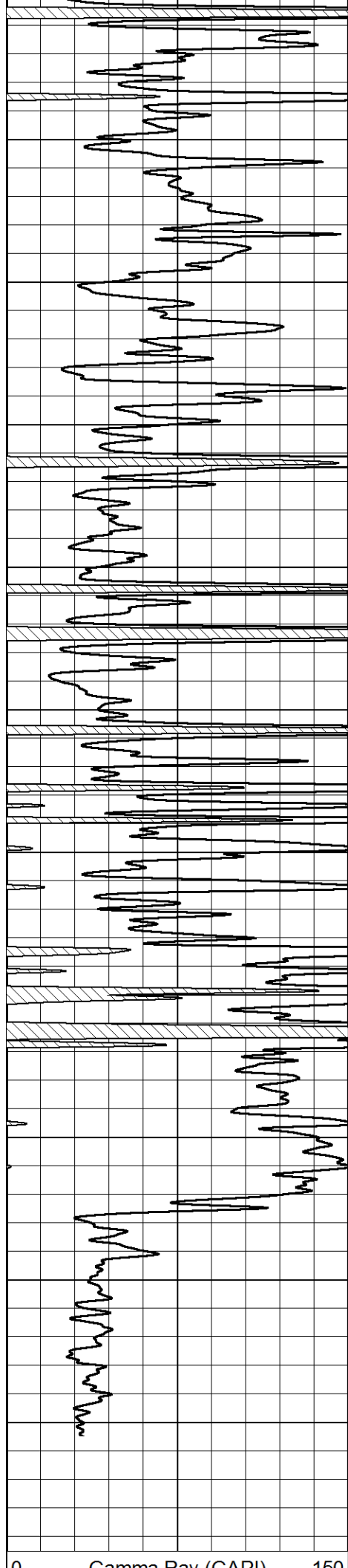








3700  
3750  
3800  
3850  
3900  
3950  
4000  
4050  
4100  
4150  
4200  
4250



0	Gamma Ray (GAPI)	150
---	------------------	-----

1000	Conductivity (mmho/m)	0
15000	Line Tension (lb)	0
0	RLL3 (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50
50	RLL3 (Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

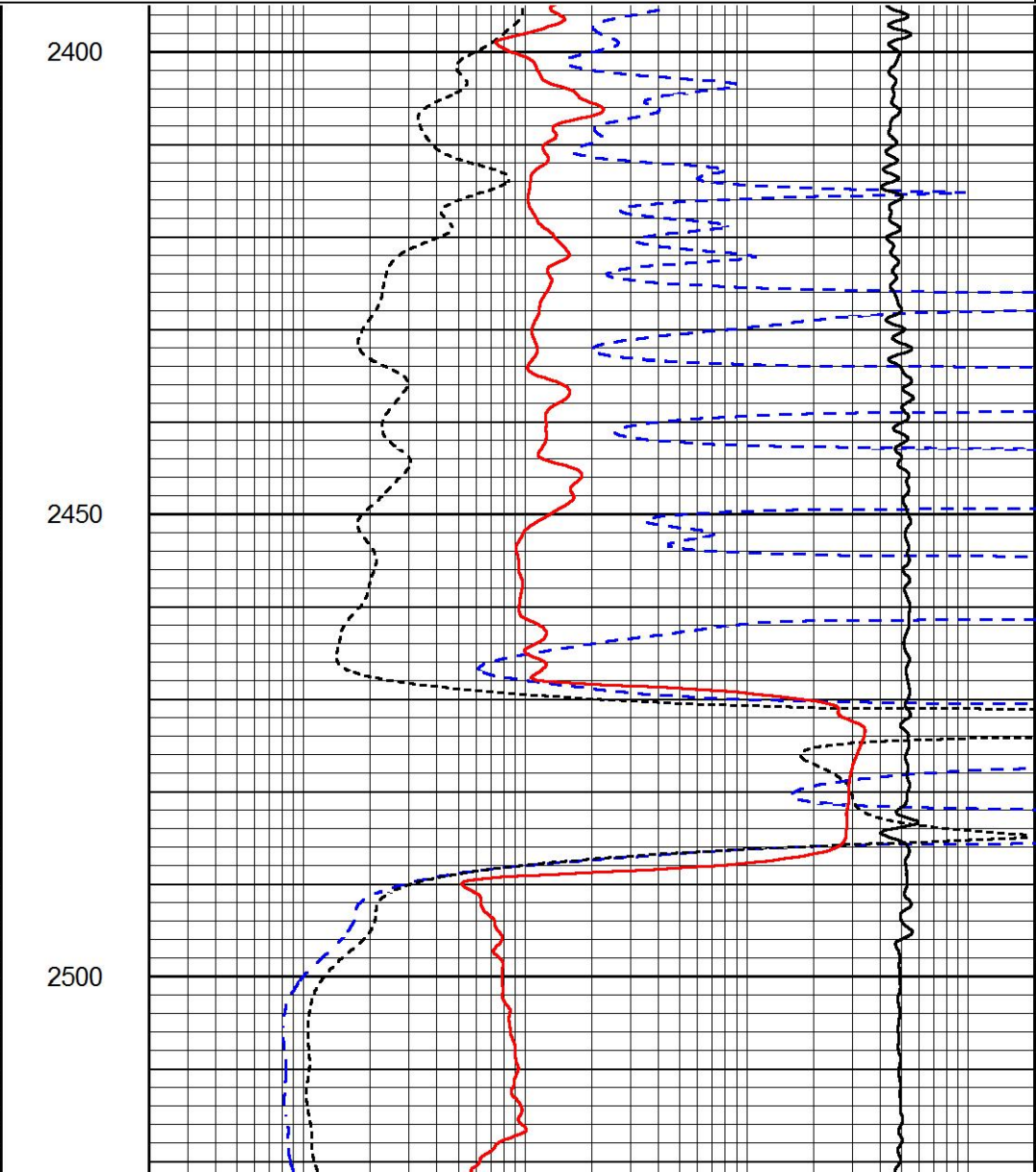
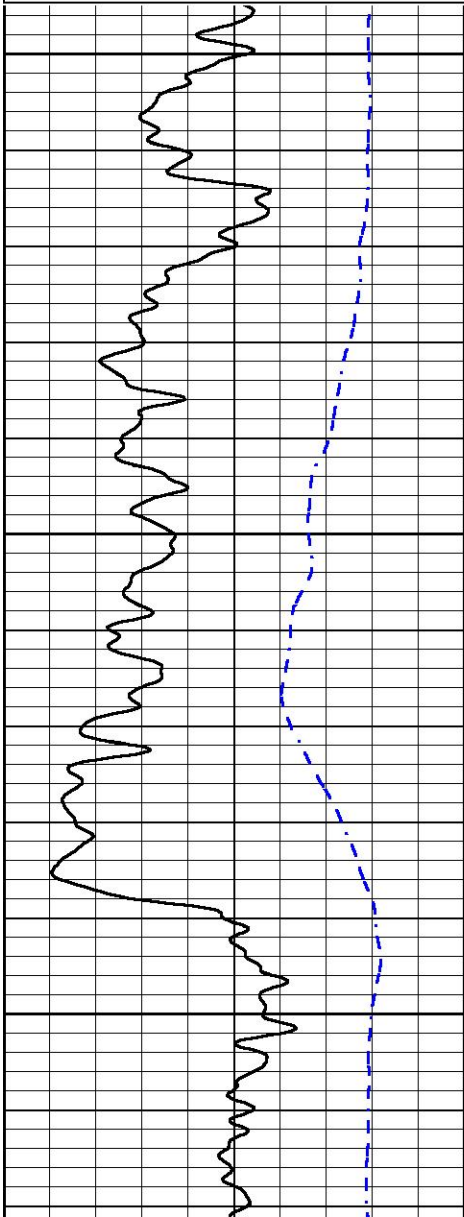


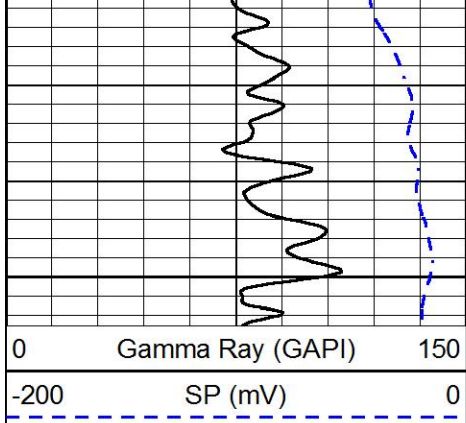
# MAIN PASS

Database File	american warrior_dirks 1-22.db
Dataset Pathname	STKML/pass5.1
Presentation Format	dil
Dataset Creation	Fri Oct 20 19:20:36 2017
Charted by	Depth in Feet scaled 1:240

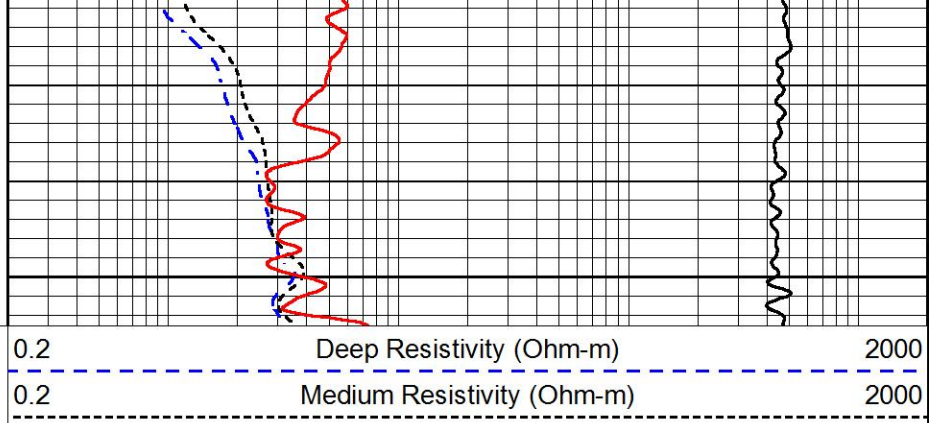
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0





2550



0 Gamma Ray (GAPI) 150  
-200 SP (mV) 0

0.2 Deep Resistivity (Ohm-m) 2000  
0.2 Medium Resistivity (Ohm-m) 2000  
0.2 RLL3 (Ohm-m) 2000  
10000 Line Tension (lb) 0

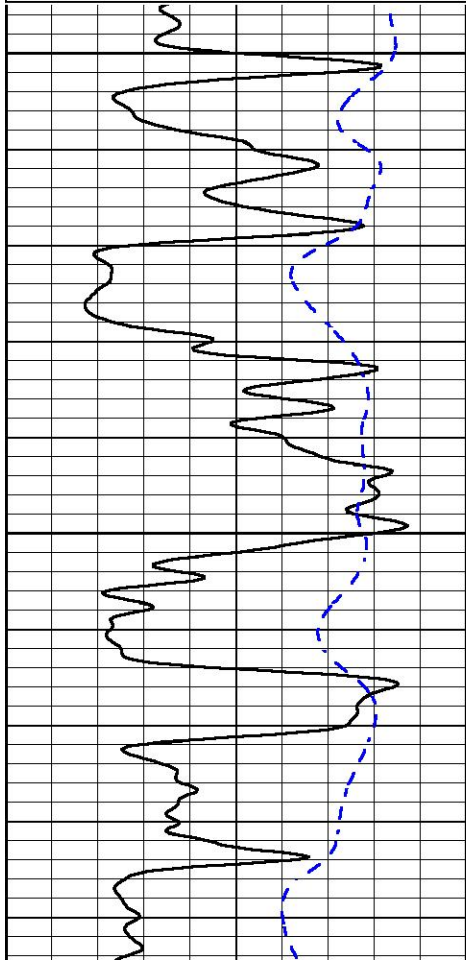


# MAIN PASS

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Dataset Pathname STKML/pass5.1  
Presentation Format dil  
Dataset Creation Fri Oct 20 19:20:36 2017  
Charted by Depth in Feet scaled 1:240

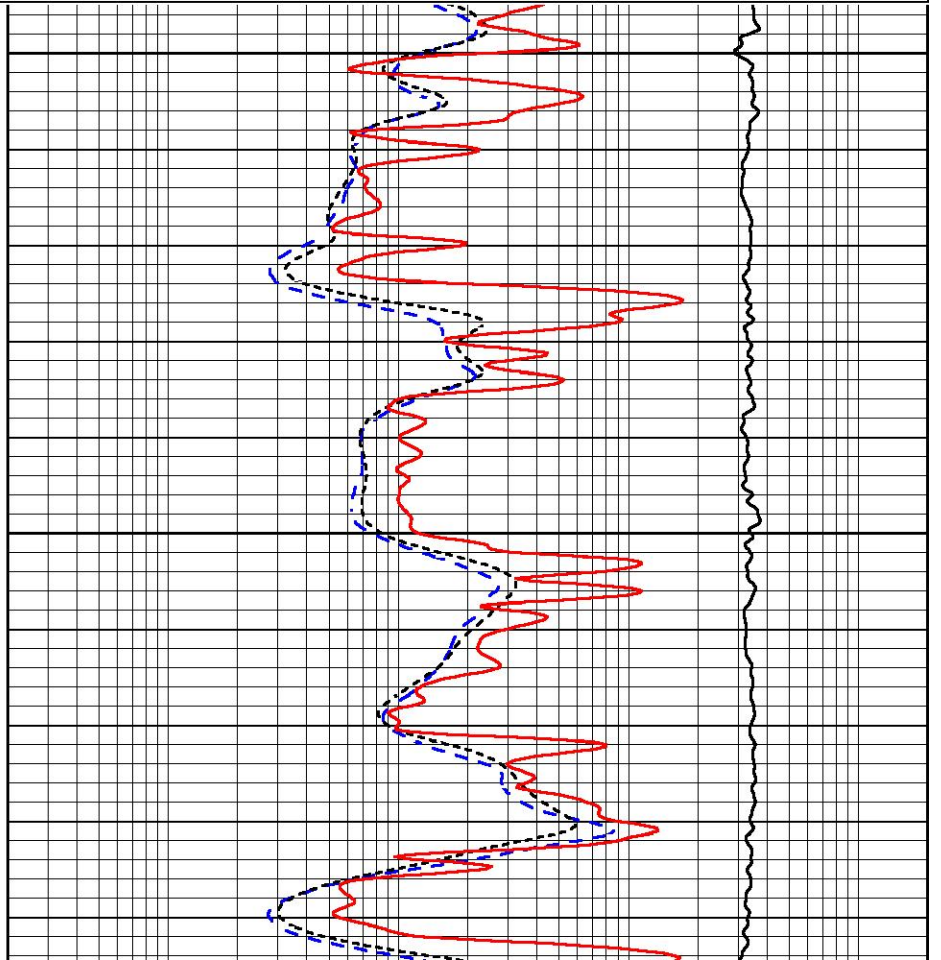
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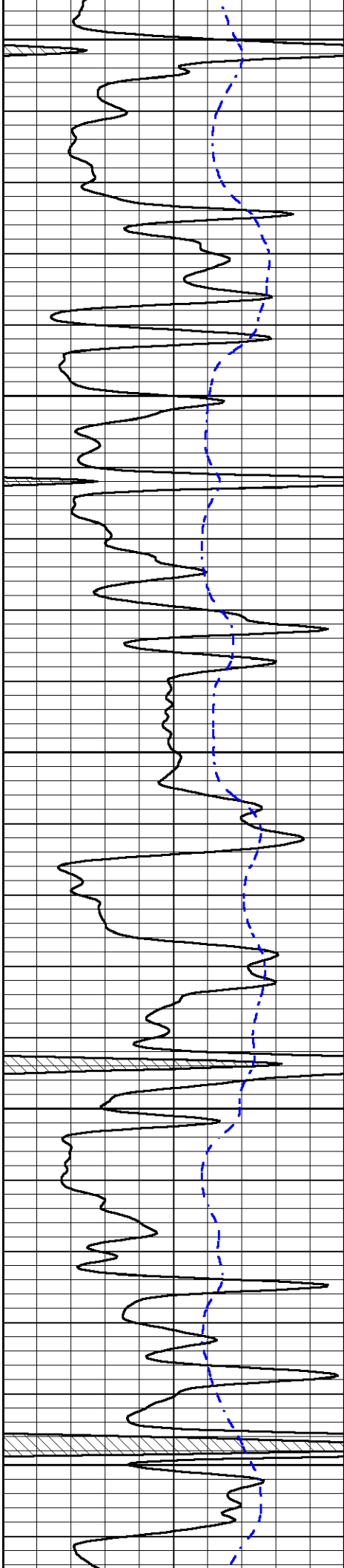
0.2 Deep Resistivity (Ohm-m) 2000  
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0.2 RLL3 (Ohm-m) 2000  
10000 Line Tension (lb) 0



3600

3650





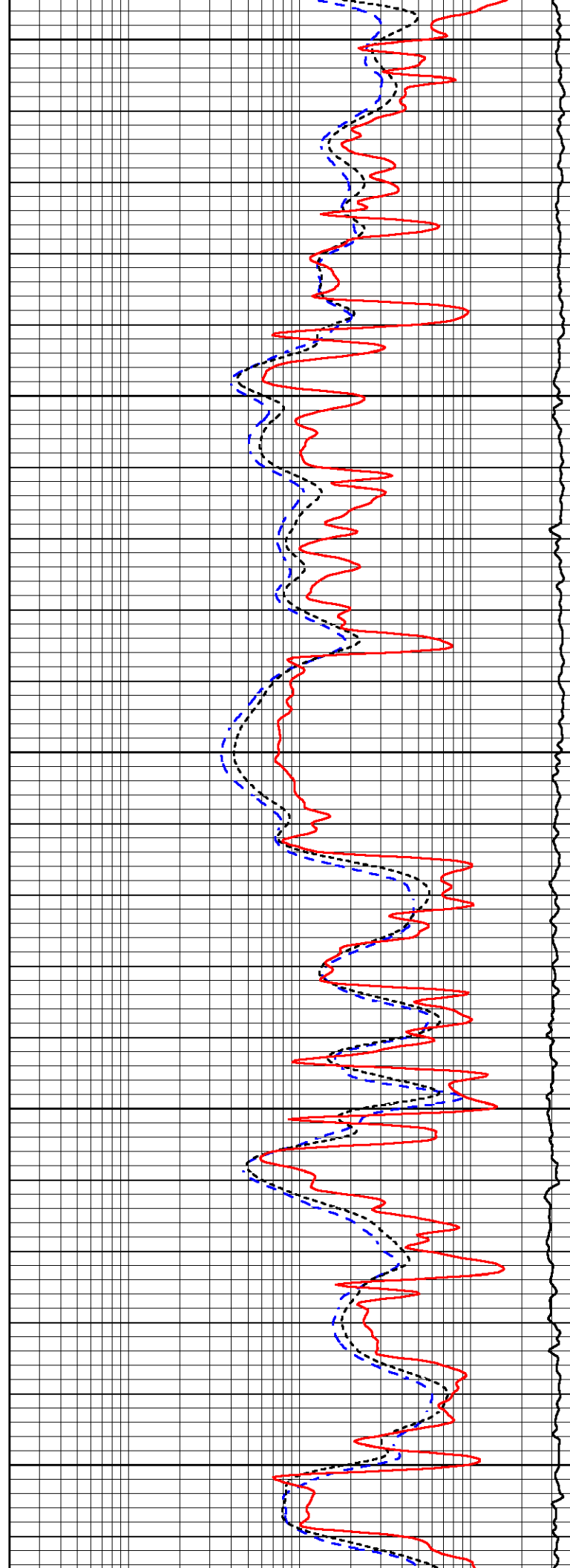
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3750

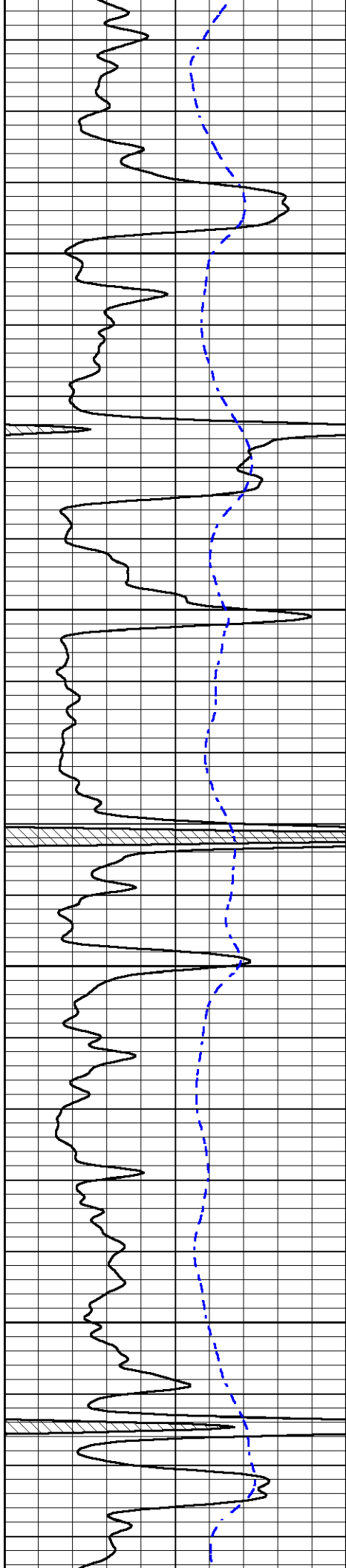
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3850

3900





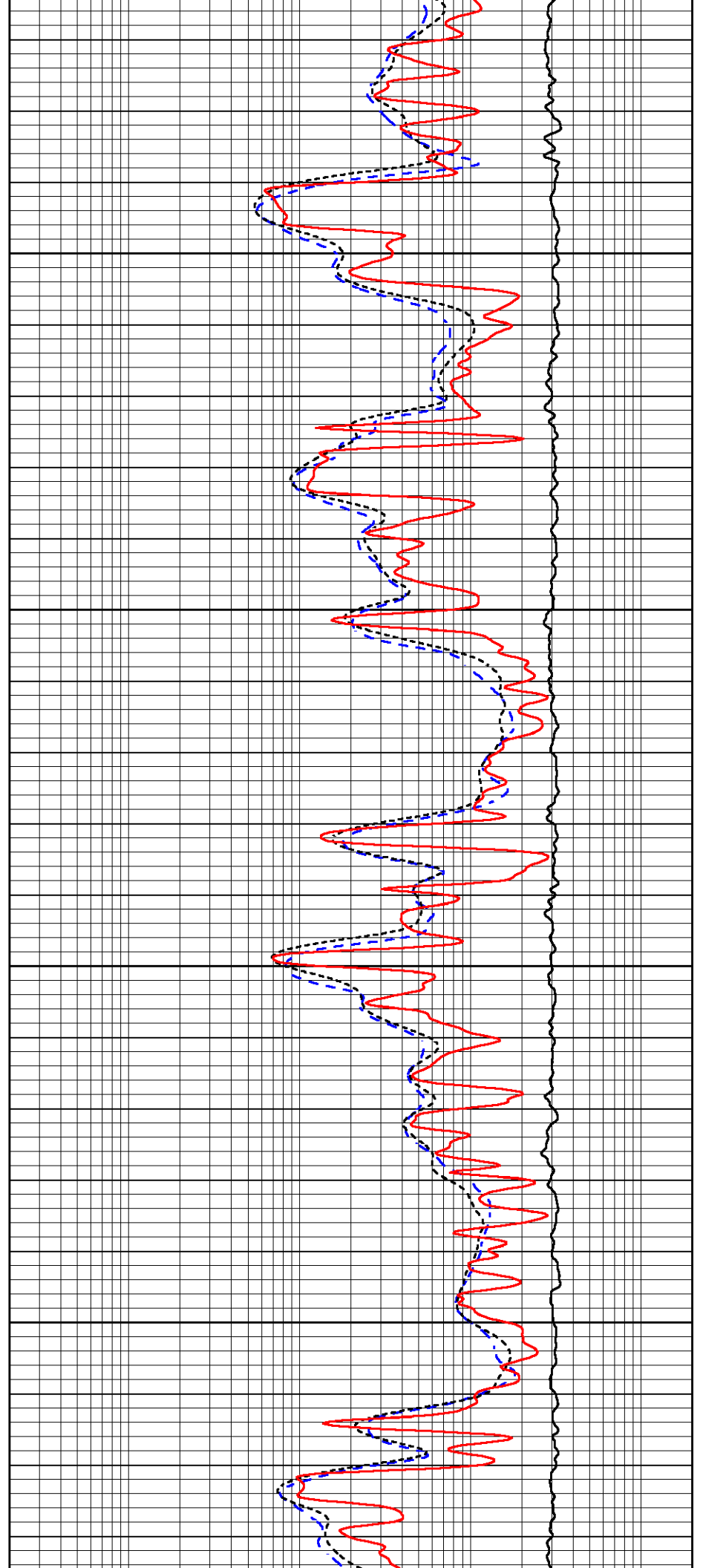


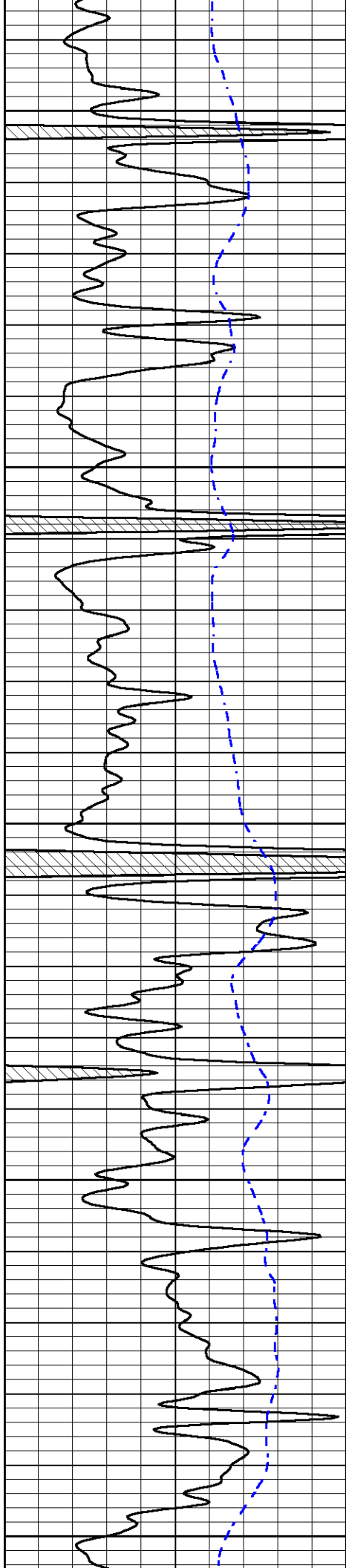
3950

4000

4050

4100





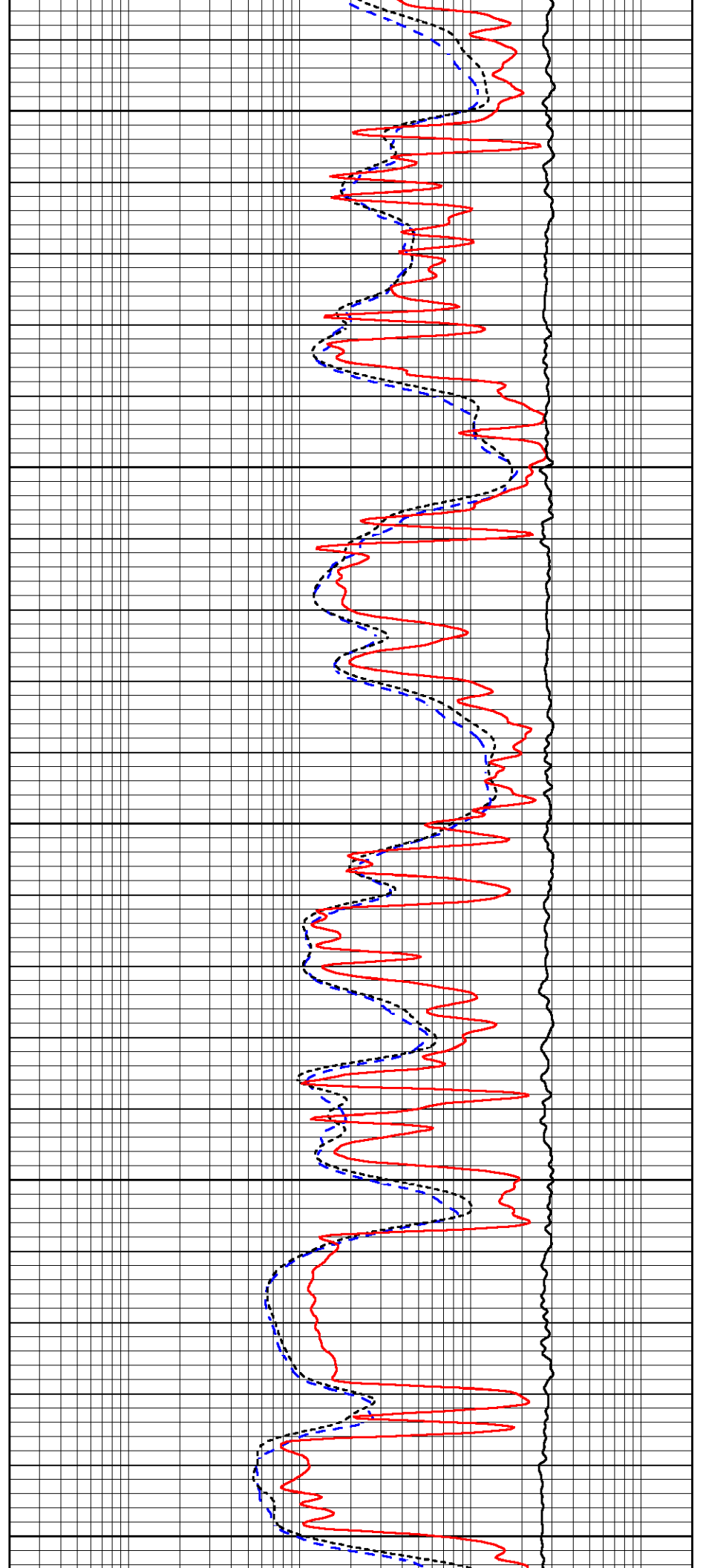
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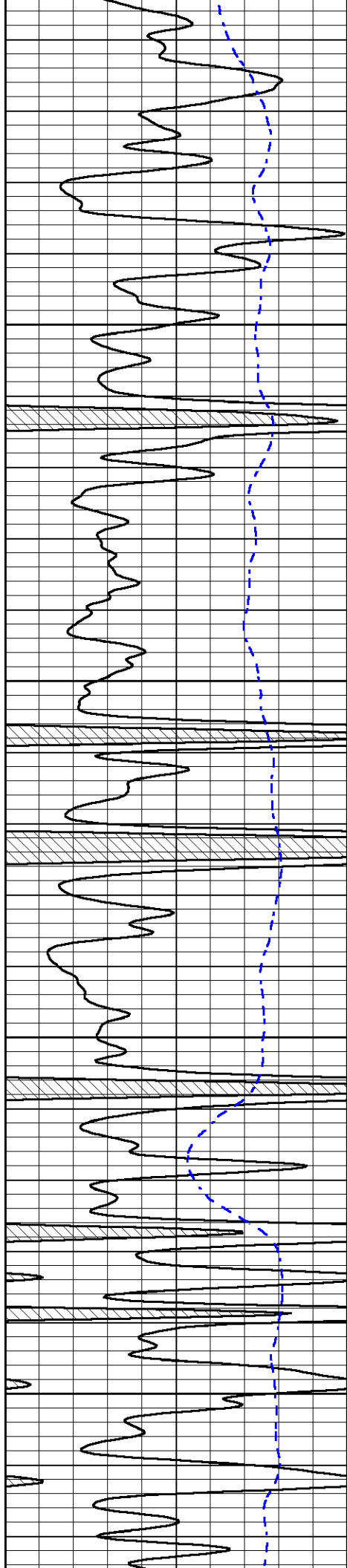
4200

4250

4300

4350



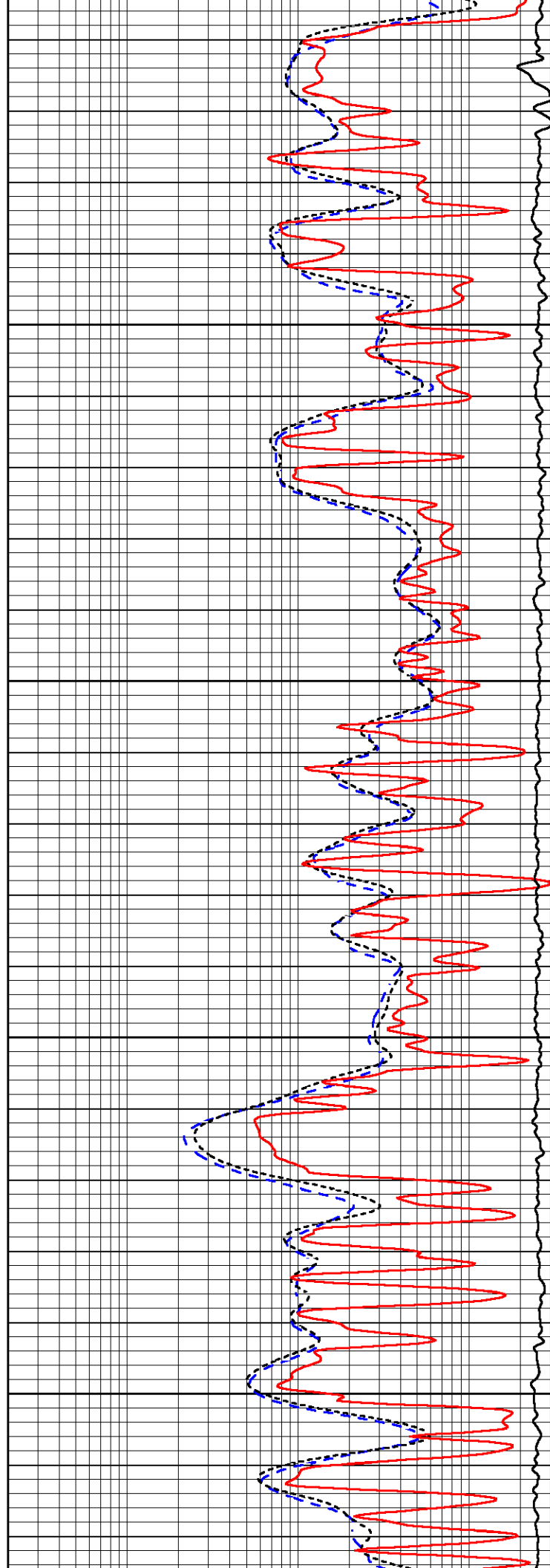


4400

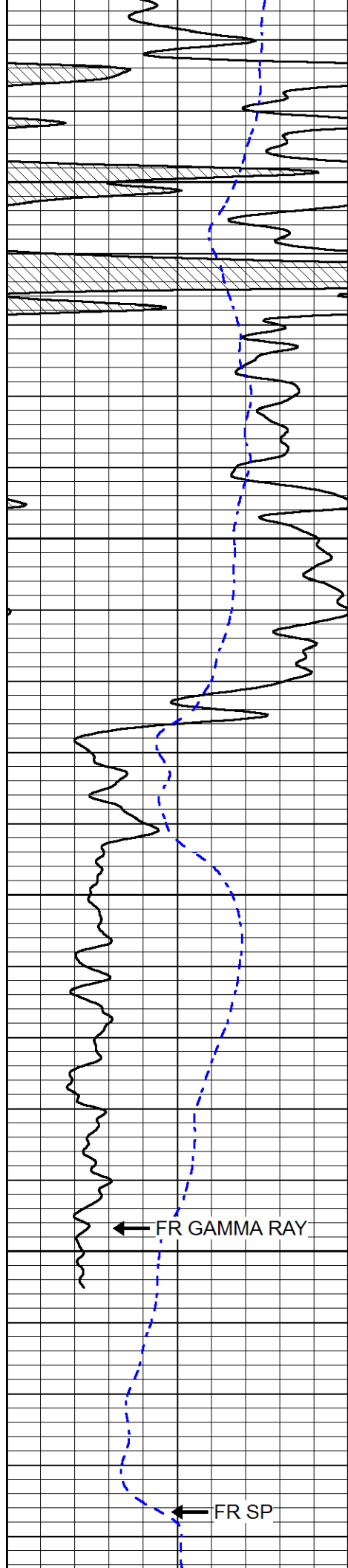
4450

4500

4550





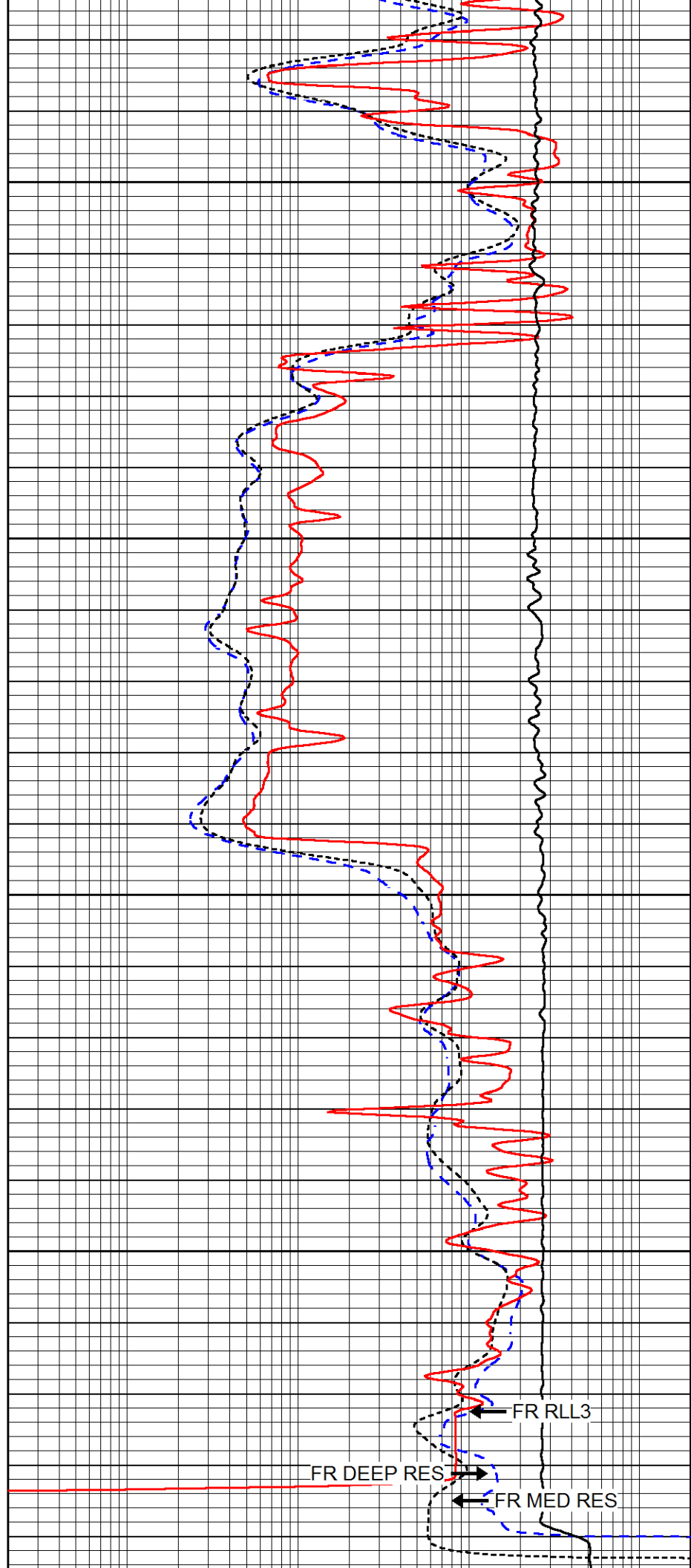


4600

4650

4700

4750



0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

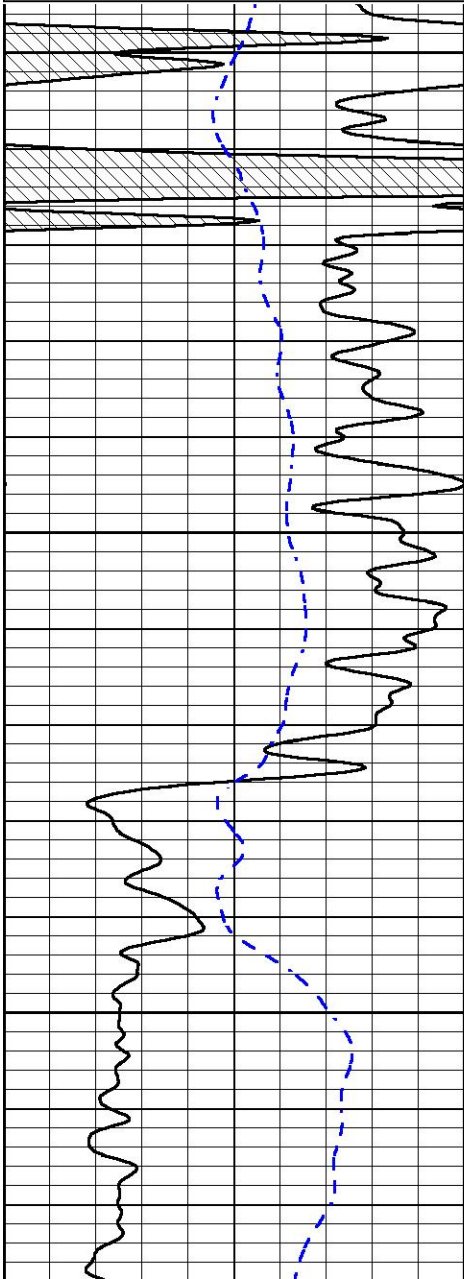


# REPEAT SECTION

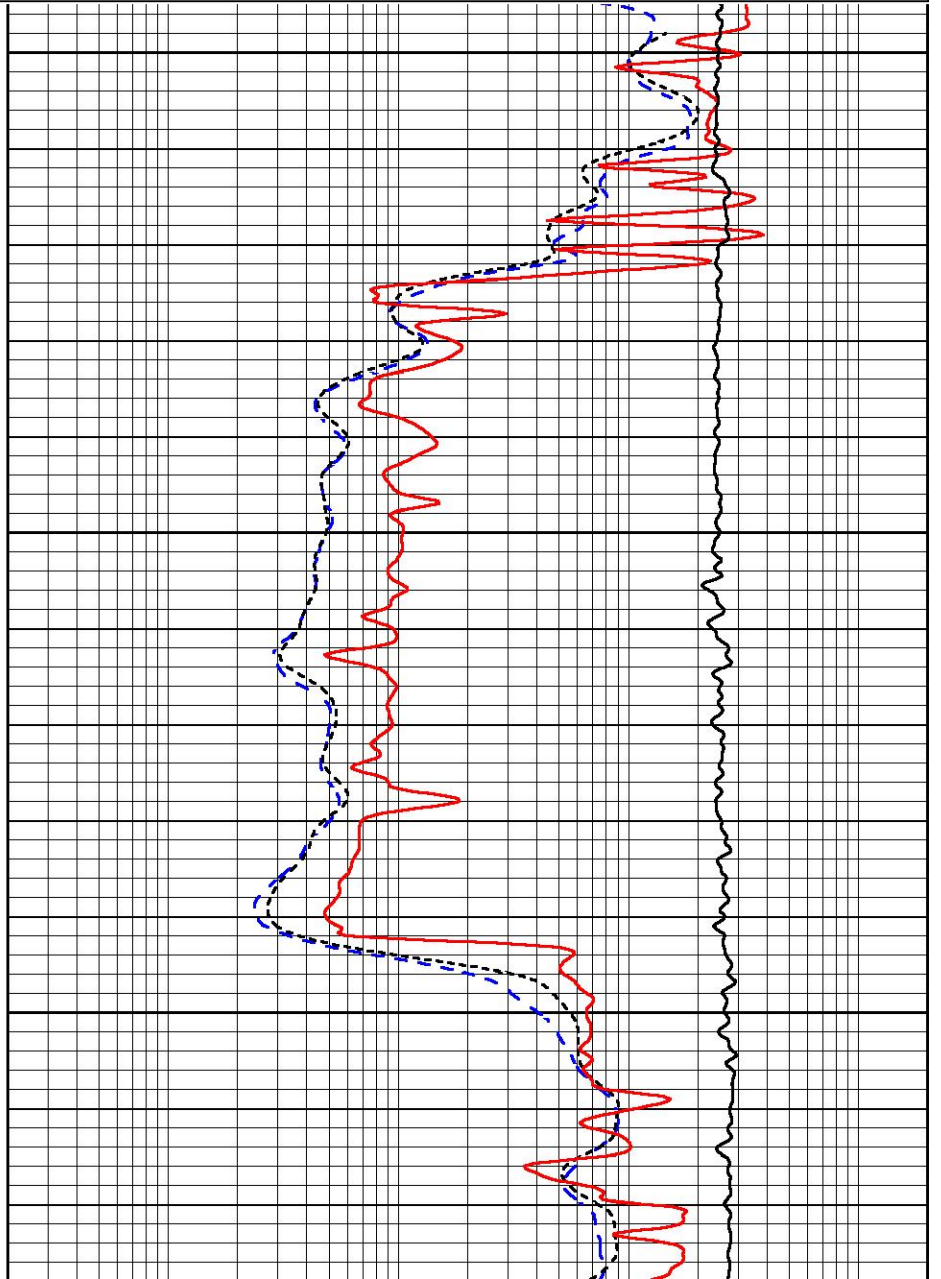
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 Dataset Pathname    STKML/pass3.1  
 Presentation Format    dil  
 Dataset Creation      Fri Oct 20 19:56:14 2017  
 Charted by            Depth in Feet scaled 1:240

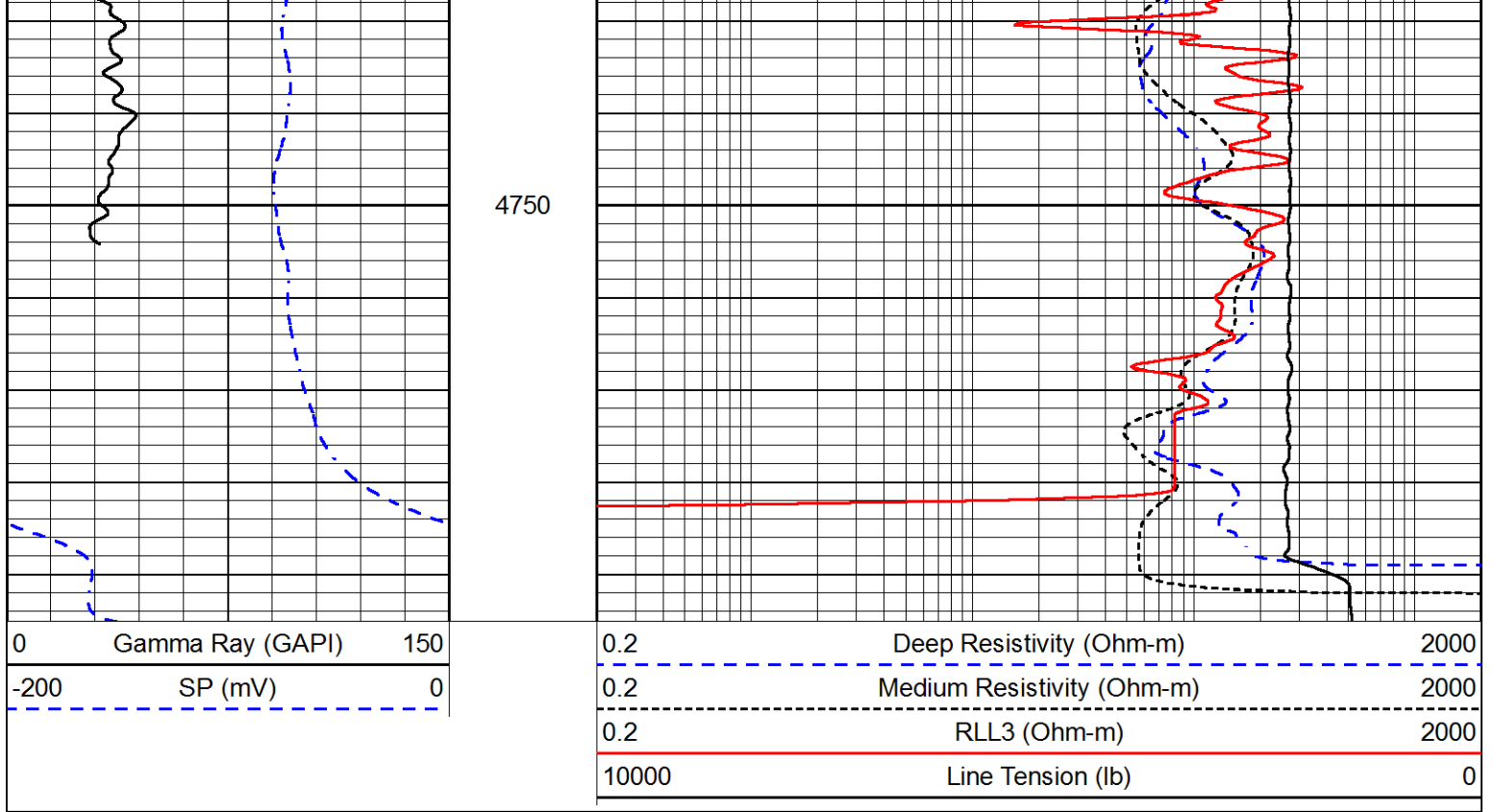
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



4600  
  
4650  
  
4700





### Calibration Report

Database File american warrior\_dirks 1-22.db  
 Dataset Pathname STKML/pass5.1  
 Dataset Creation Fri Oct 20 19:20:36 2017

### Dual Induction Calibration Report

Serial-Model: PSI 91-M&W  
 Calibration Performed: Wed Sep 13 22:23:16 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.520	-10.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-32.250

### Microlog Calibration Report

Serial-Model: PSI-01-PSIML  
 Performed: Wed Sep 06 19:50:56 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	71000.0000	-2.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	104000.0000	-3.1000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1250

### Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89  
 Tool Model: M&W  
 Calibration Performed: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



**PIONEER**  
 Pioneer Energy Services

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS





# DUAL COMP POROSITY LOG

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN State KANSAS

Location: API #: 15-109-21526-00-00  
 949' FSL & 1004' FWL  
 SEC 22 TWP 14S RGE 35W  
 Permanent Datum GROUND LEVEL Elevation 3121'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 DIL/MEL  
 BHCS  
 Elevation  
 K.B. 3129'  
 D.F. N/A  
 G.L. 3121'

Date	10/20/2017						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	4790'						
Depth Logger	4789'						
Bottom Logged Interval	4760'						
Top Logged Interval	3600'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	8200						
Density	9.4						
Level	FULL						
Max. Rec. Temp. F	124						
Operating Rig Time	5 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	D. SCHMIDT						
Witnessed By	LUKE THOMPSON						
Borehole Record		Casing Record					
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	211'	8.625"	23#	0'	TD
TWO	7.875"	211'	TD				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
 SOUTH ON HWY 25 TO CURVE,  
 2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
 1/2 EAST, 1/2 SOUTH,  
 EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: D. SCHMIDT	Primary Witness: LUKE THOMPSON
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W (PSI 91)

18.50

3.50

220.00

Dataset: american warrior\_dirks 1-22.db: field/well/STKML/pass5.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

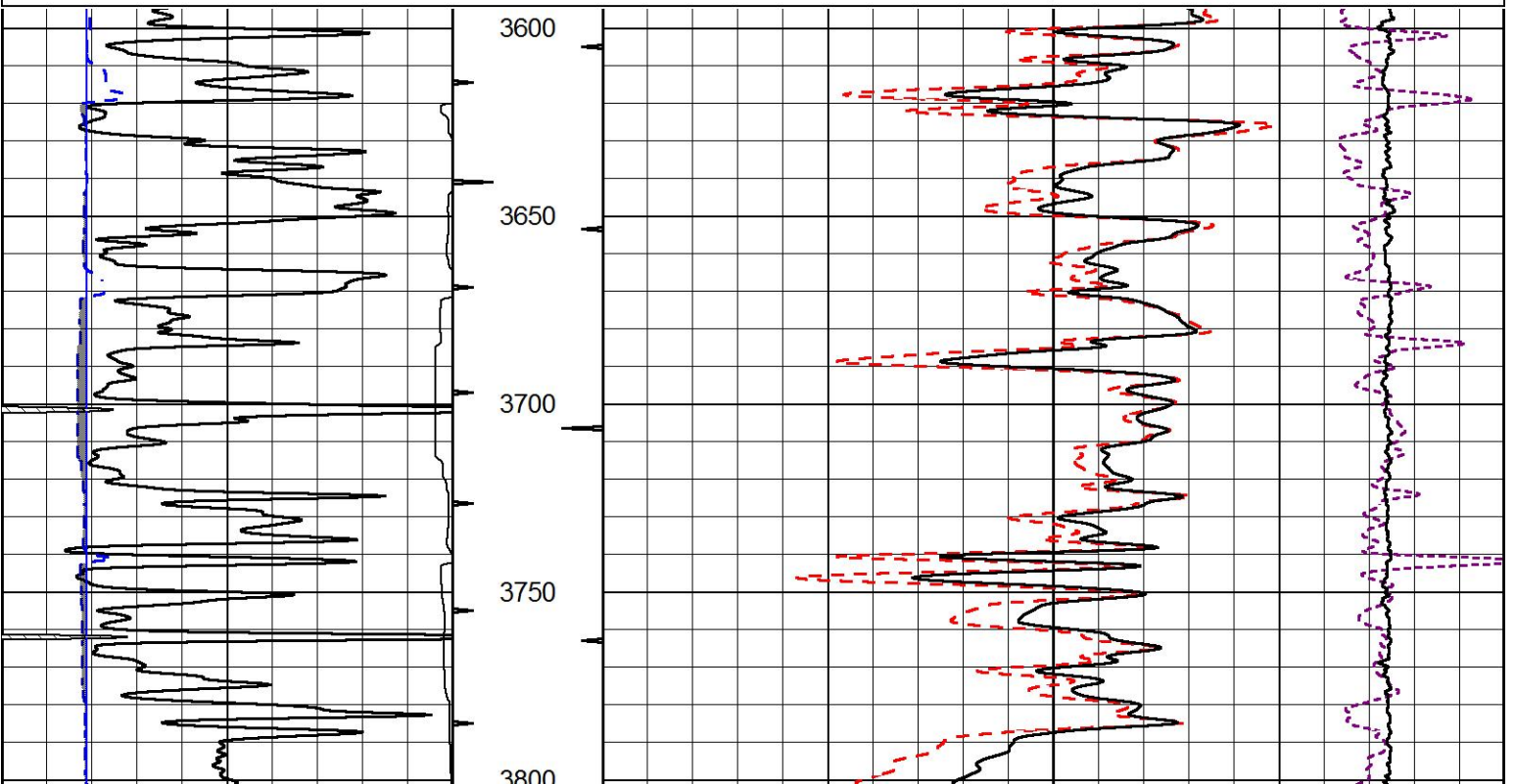


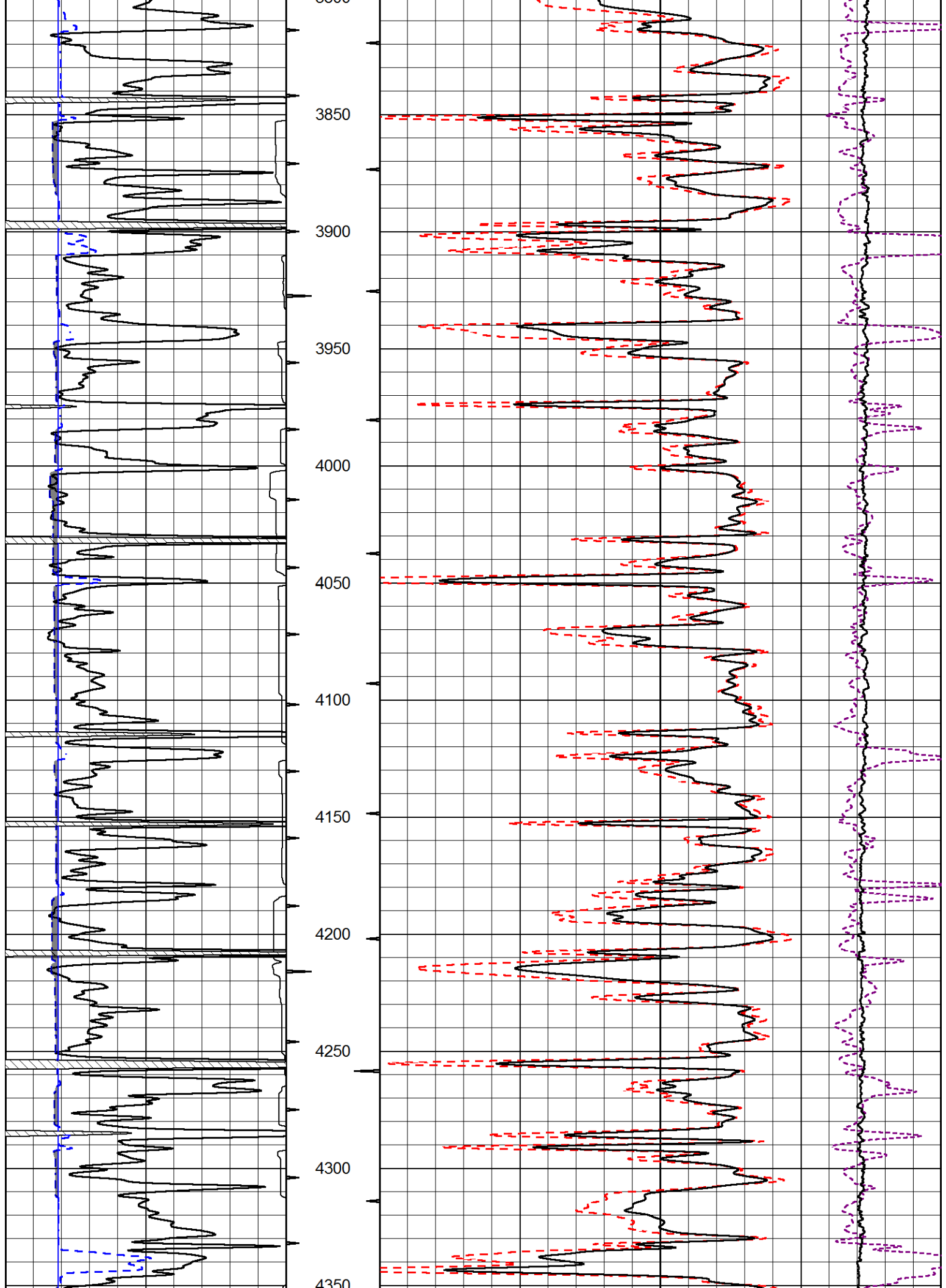
# MAIN PASS

Database File: american warrior\_dirks 1-22.db  
 Dataset Pathname: STKML/pass5.1  
 Presentation Format: cdl  
 Dataset Creation: Fri Oct 20 19:20:36 2017  
 Charted by: Depth in Feet scaled 1:600

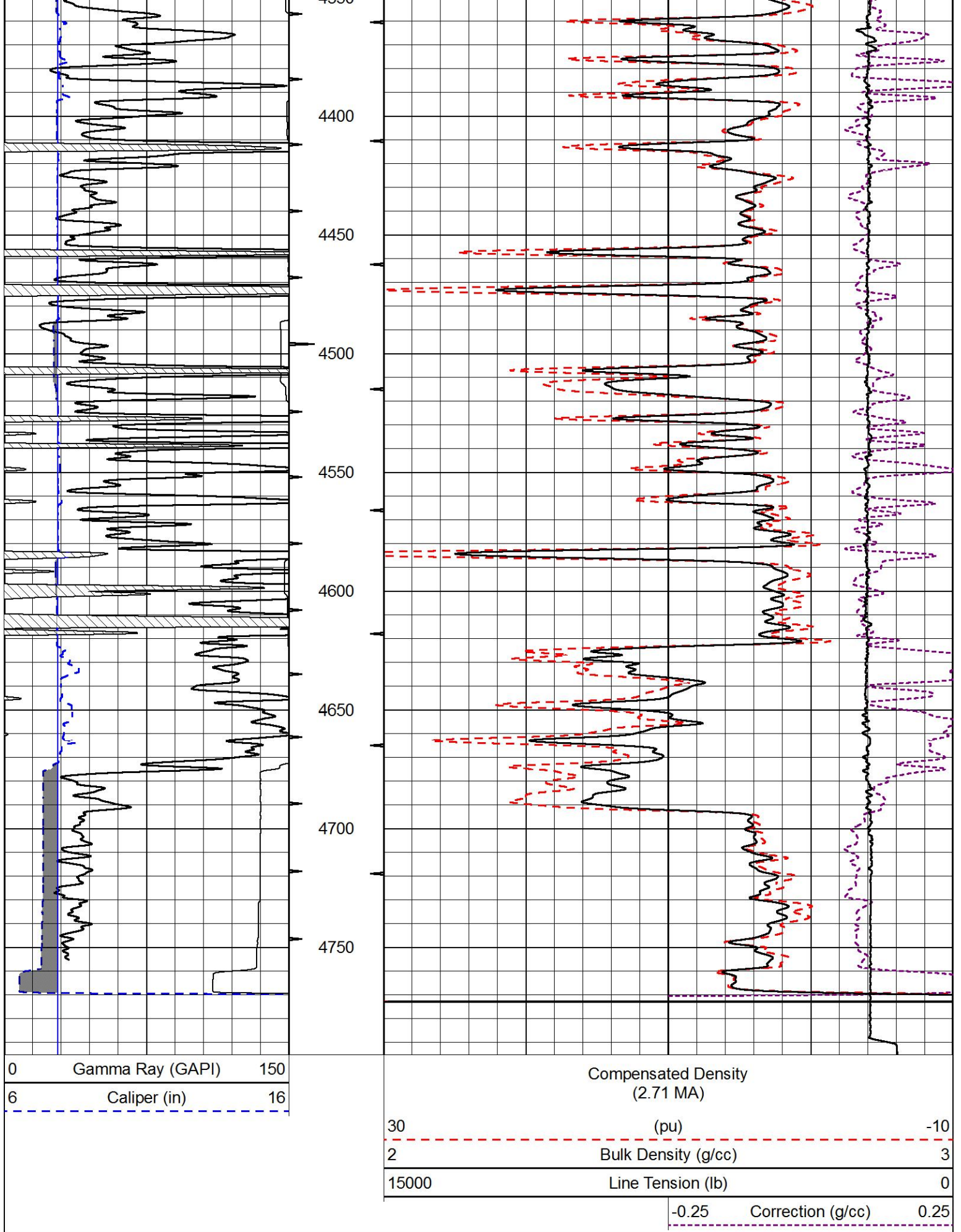
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

Compensated Density (2.71 MA)	
30	(pu) -10
-----	
2	Bulk Density (g/cc) 3
-----	
15000	Line Tension (lb) 0
-----	
-0.25	Correction (g/cc) 0.25
-----	





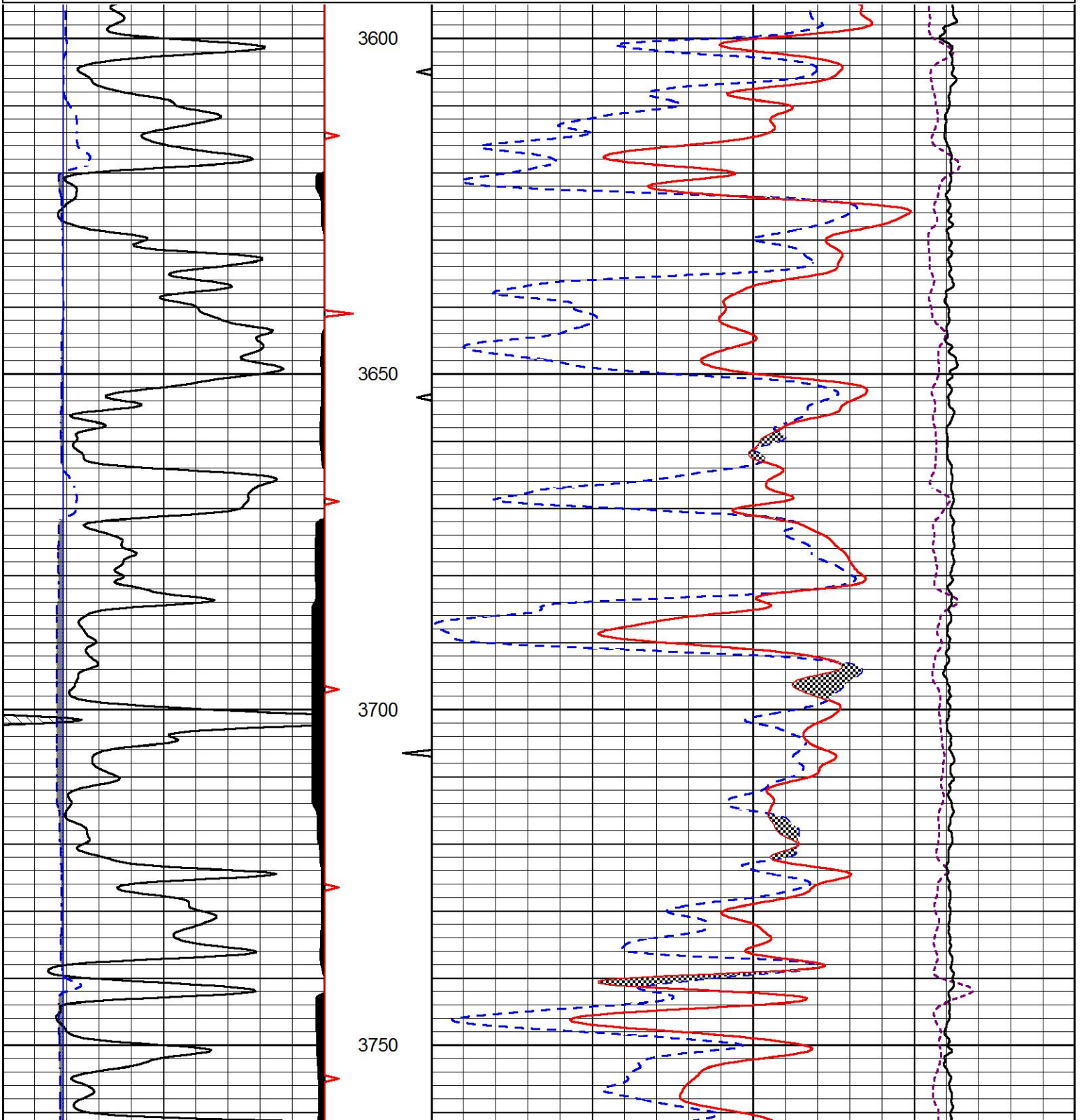


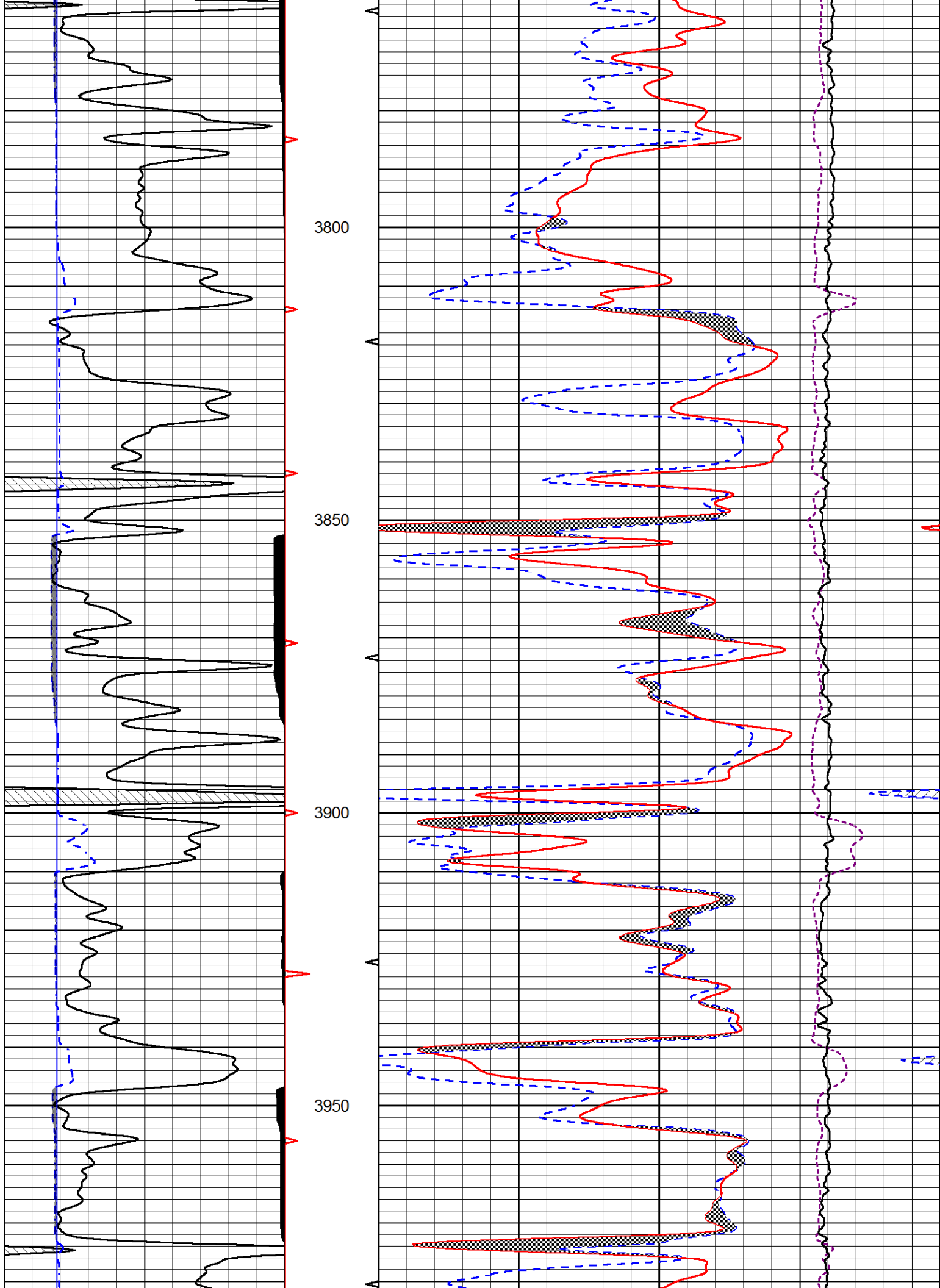


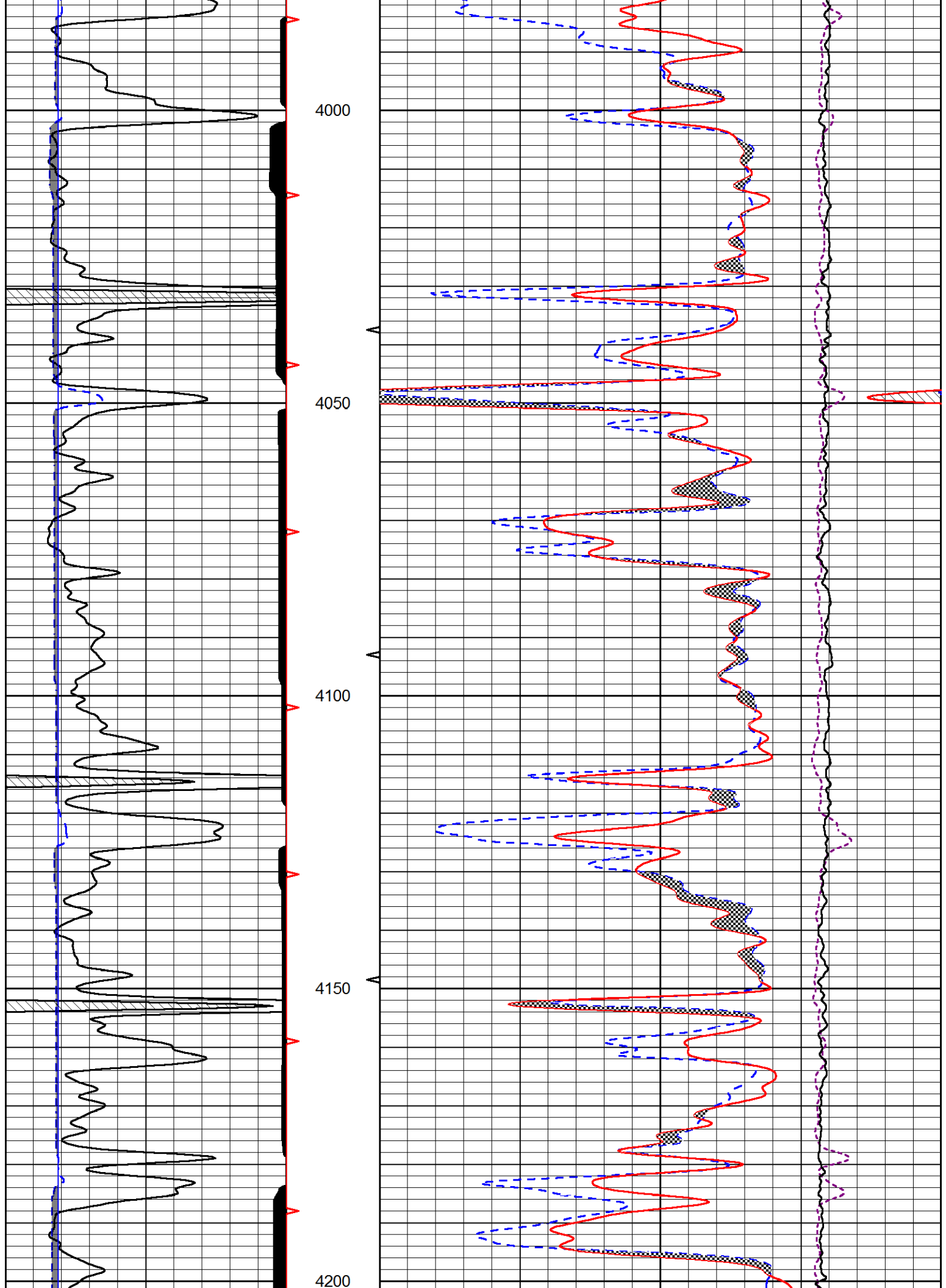
Database File      american\_warrior\_dirks\_1-22.db  
Dataset Pathname    STKML/pass5.1  
Presentation Format    cndlspec  
Dataset Creation      Fri Oct 20 19:20:36 2017  
Charted by            Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	DCAL (in)	16

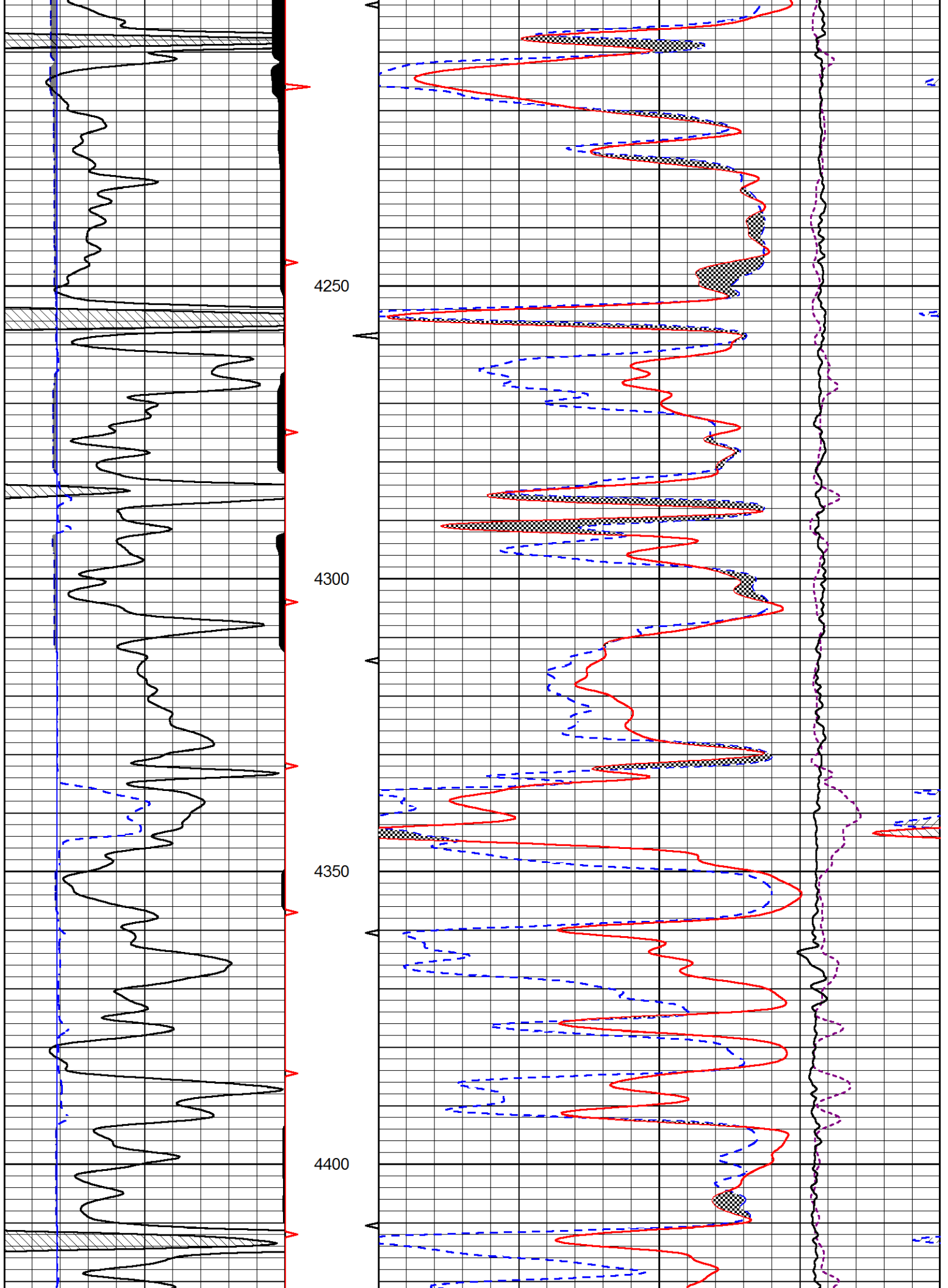
30	CNLS (pu)	-10
30	Compensated Density 2.71 g/cc (pu)	-10
10000	Line Tension (lb)	0
-0.75	Correction (g/cc)	0.75

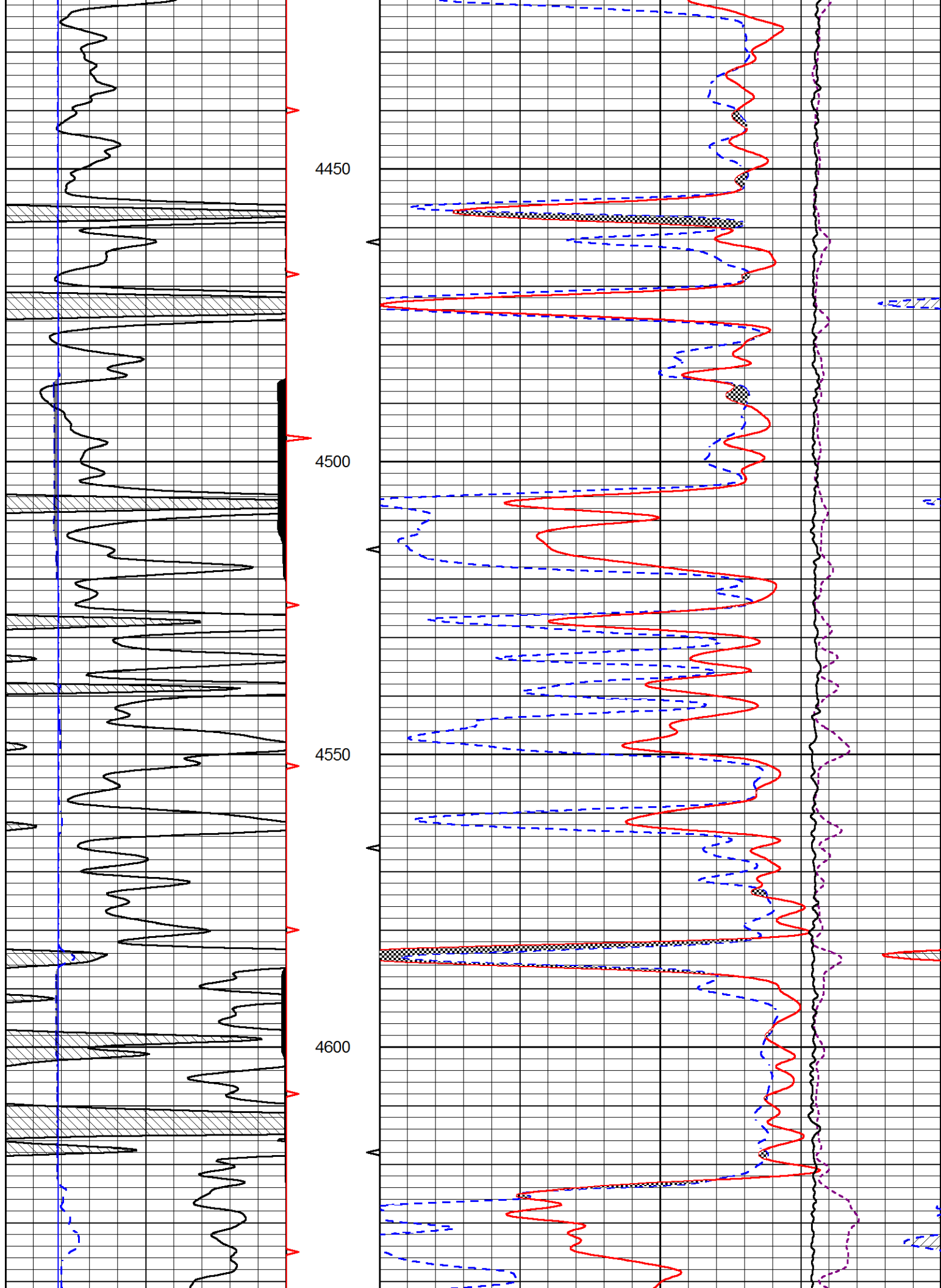


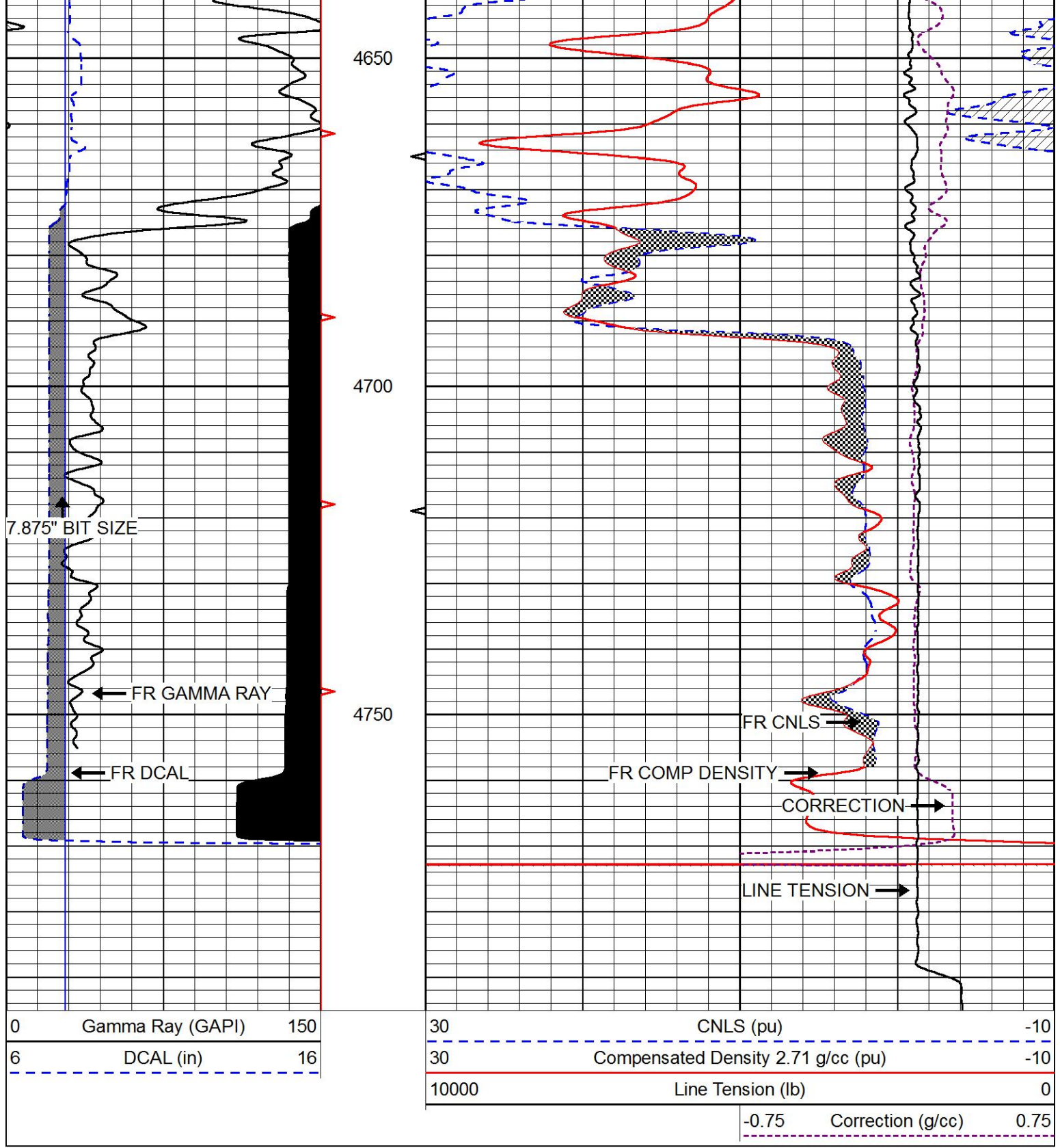












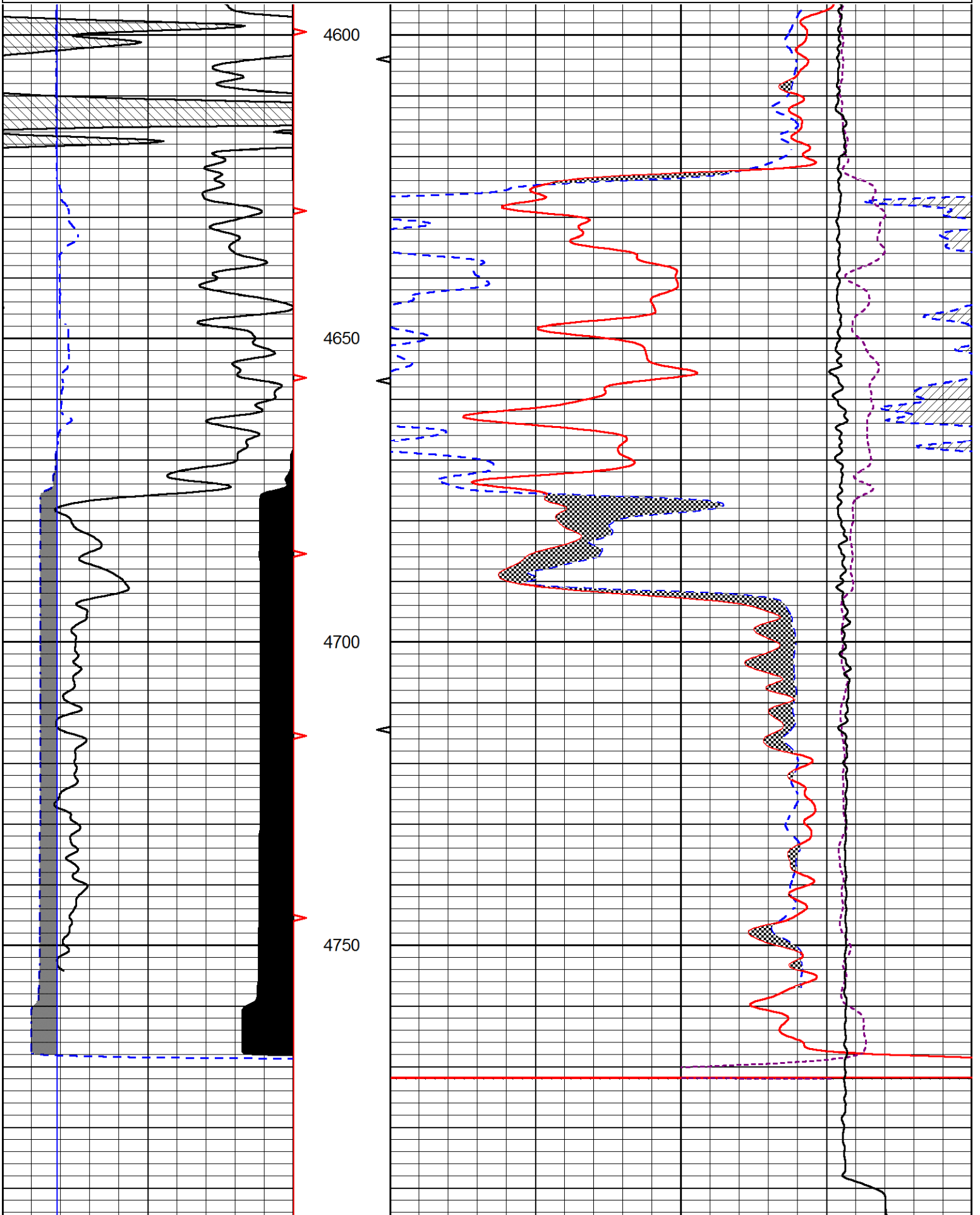
# REPEAT SECTION

Database File	american warrior_dirks 1-22.db
Dataset Pathname	STKML/pass3.1
Presentation Format	cnlspec
Dataset Creation	Fri Oct 20 19:56:14 2017
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	DCAL (in)	16

30	CNLS (pu)	-10
30	Compensated Density 2.71 g/cc (pu)	-10
10000	Line Tension (lb)	0

-0.75 Correction (g/cc) 0.75





0	Gamma Ray (GAPI)	150	30	CNLS (pu)	-10
6	DCAL (in)	16	30	Compensated Density 2.71 g/cc (pu)	-10
			10000	Line Tension (lb)	0
				-0.75 Correction (g/cc)	0.75

### Calibration Report

Database File american warrior\_dirks 1-22.db  
 Dataset Pathname STKML/pass5.1  
 Dataset Creation Fri Oct 20 19:20:36 2017

### Dual Induction Calibration Report

Serial-Model: PSI 91-M&W  
 Calibration Performed: Wed Sep 13 22:23:16 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.520	-10.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-32.250

### Microlog Calibration Report

Serial-Model: PSI-01-PSIML  
 Performed: Wed Sep 06 19:50:56 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	71000.0000	-2.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	104000.0000	-3.1000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1250

### Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

### Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W

Tool Model: M&W  
Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number:	89	
Tool Model:	M&W	
Calibration Performed:	Wed Sep 06 19:51:14 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



**PIONEER**  
Pioneer Energy Services

Company	AMERICAN WARRIOR, INC.
Well	DIRKS #1-22
Field	WILDCAT
County	LOGAN
State	KANSAS



# DUAL COMP POROSITY LOG

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN State KANSAS

Location: API #: 15-109-21526-00-00  
 949' FSL & 1004' FWL  
 SEC 22 TWP 14S RGE 35W  
 Permanent Datum GROUND LEVEL Elevation 3121'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services DIL/MEL BHCs  
 Elevation 3129'  
 D.F. N/A  
 G.L. 3121'

Date	10/20/2017
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4790'
Depth Logger	4789'
Bottom Logged Interval	4760'
Top Logged Interval	3600'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	8200
Density	9.4
Level	FULL
Max. Rec. Temp. F	124
Operating Rig Time	5 HOURS
Equipment -- Location	91 HAYS
Recorded By	D. SCHMIDT
Witnessed By	LUKE THOMPSON

**Borehole Record**

**Casing Record**

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	211'	8.625"	23#	0'	TD
TWO	7.875"	211'	TD				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

**Comments**

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
 SOUTH ON HWY 25 TO CURVE,  
 2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
 1/2 EAST, 1/2 SOUTH,  
 EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

**Your Pioneer Energy Services Crew**

Engineer: D. SCHMIDT  
 Operator:  
 Operator:  
 Operator:

**This Log Record Was Witnessed By**

Primary Witness: LUKE THOMPSON  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W (PSI 91)

18.50

3.50

220.00

Dataset: american warrior\_dirks 1-22.db: field/well/STKML/pass5.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

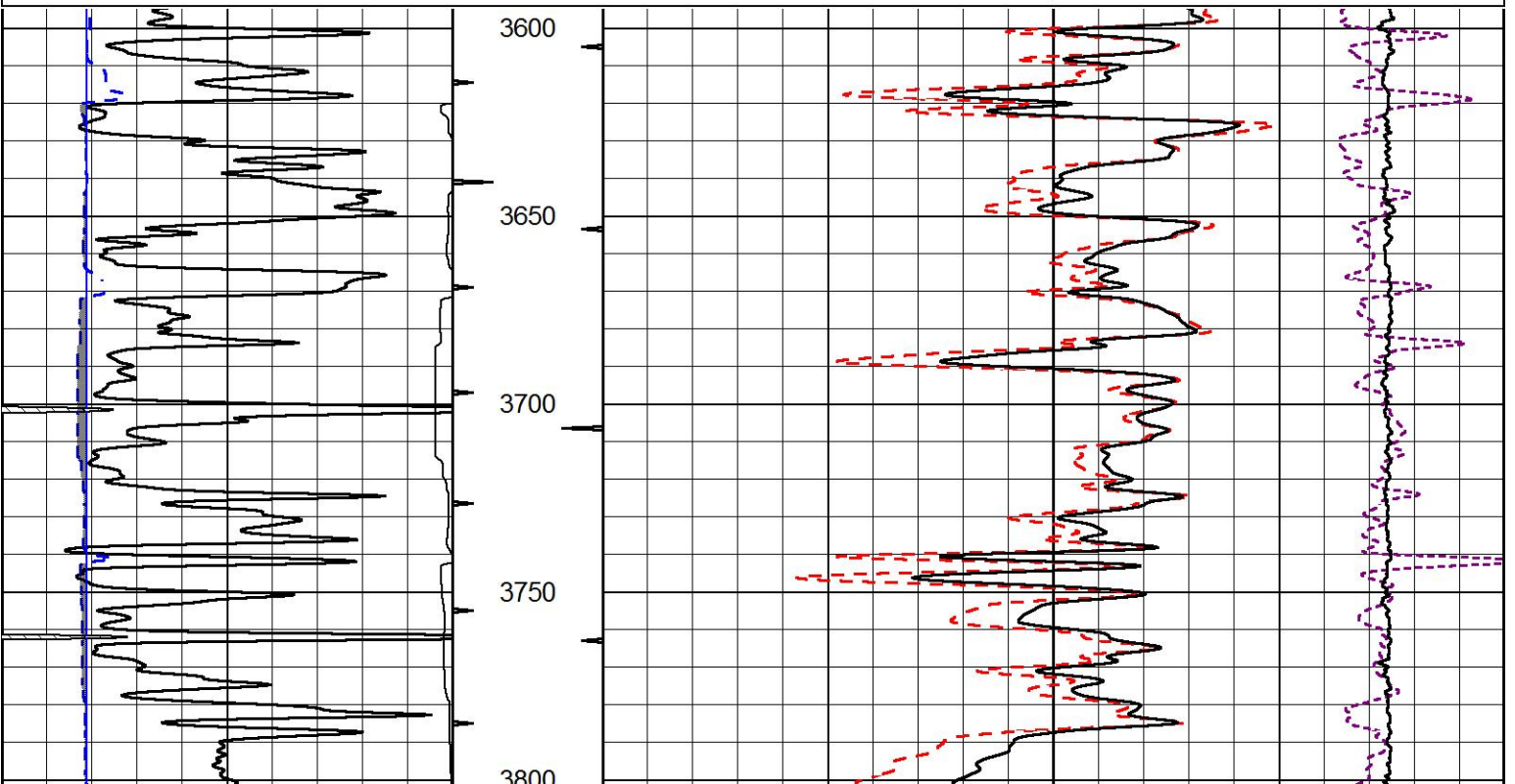


# MAIN PASS

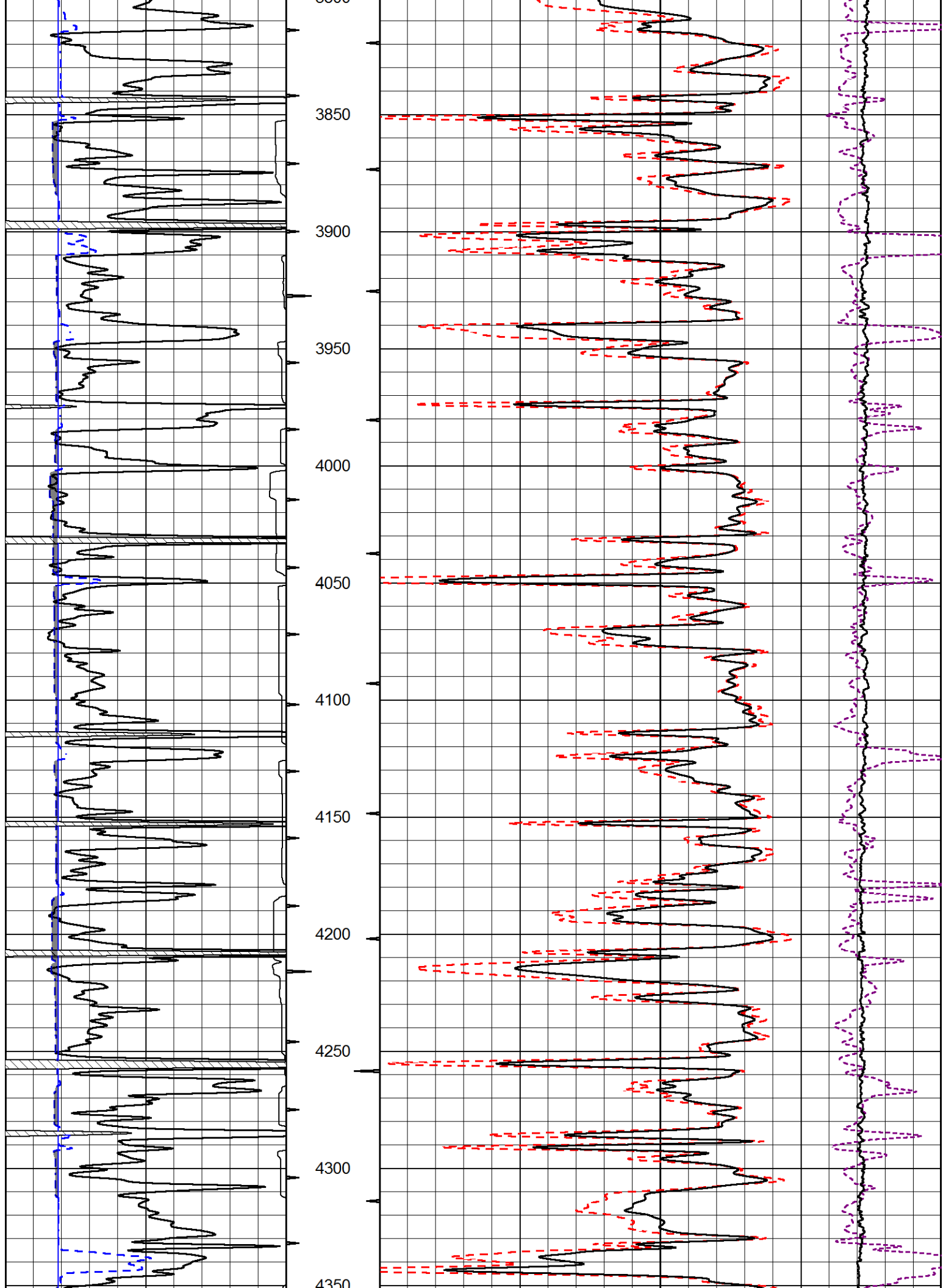
Database File: american warrior\_dirks 1-22.db  
 Dataset Pathname: STKML/pass5.1  
 Presentation Format: cdl  
 Dataset Creation: Fri Oct 20 19:20:36 2017  
 Charted by: Depth in Feet scaled 1:600

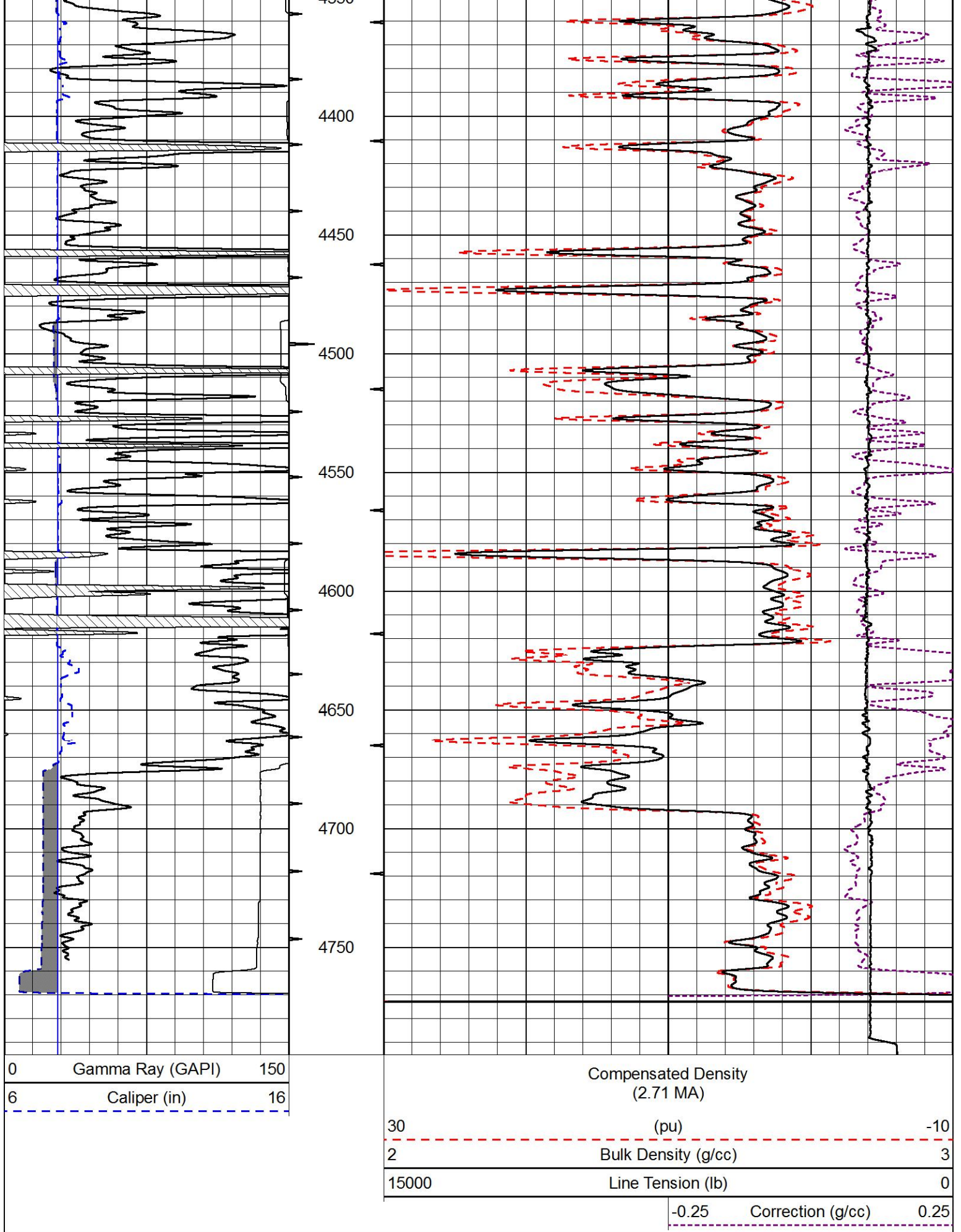
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

Compensated Density (2.71 MA)	
30	(pu) -10
-----	
2	Bulk Density (g/cc) 3
-----	
15000	Line Tension (lb) 0
-----	
-0.25	Correction (g/cc) 0.25
-----	





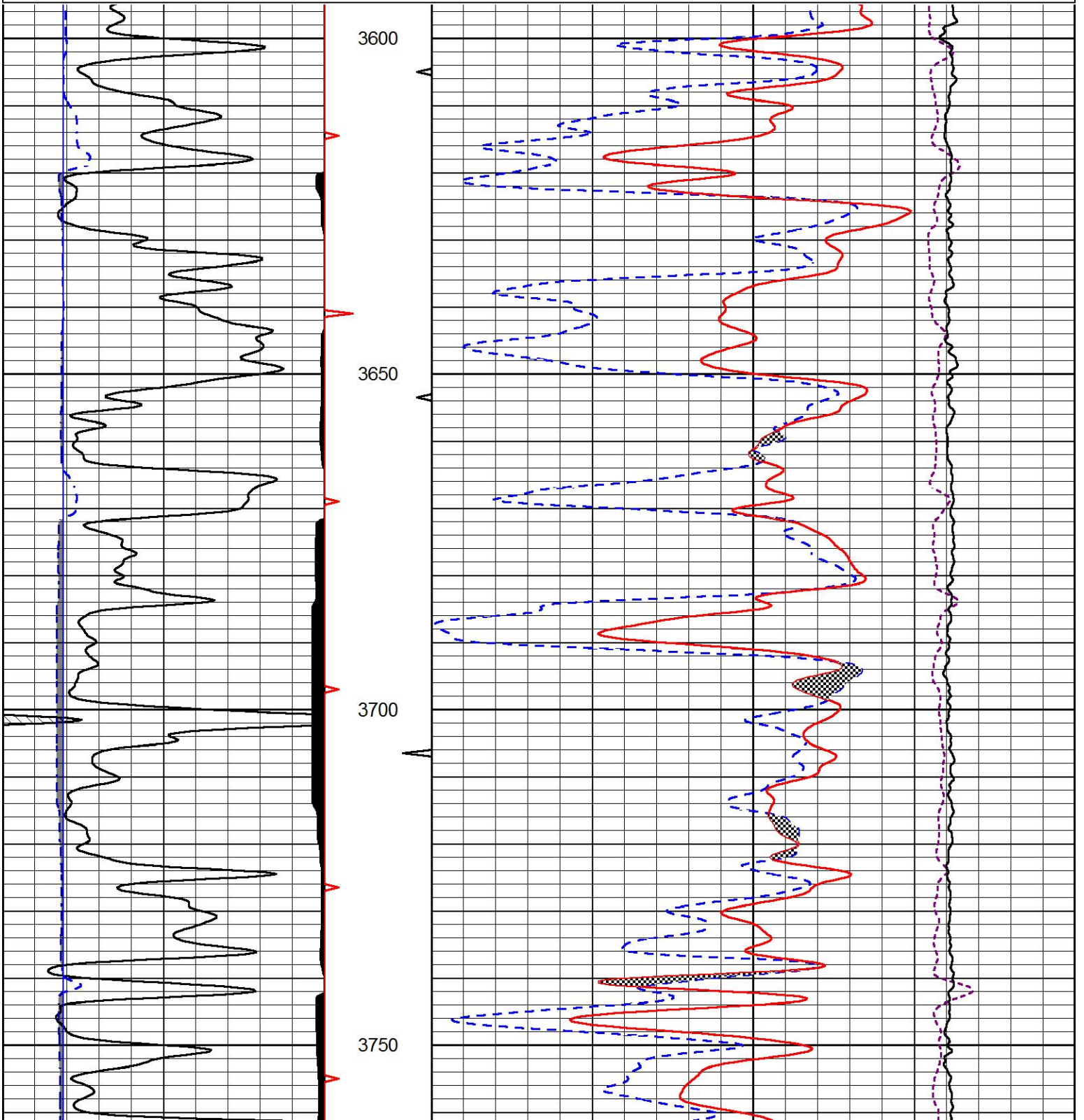




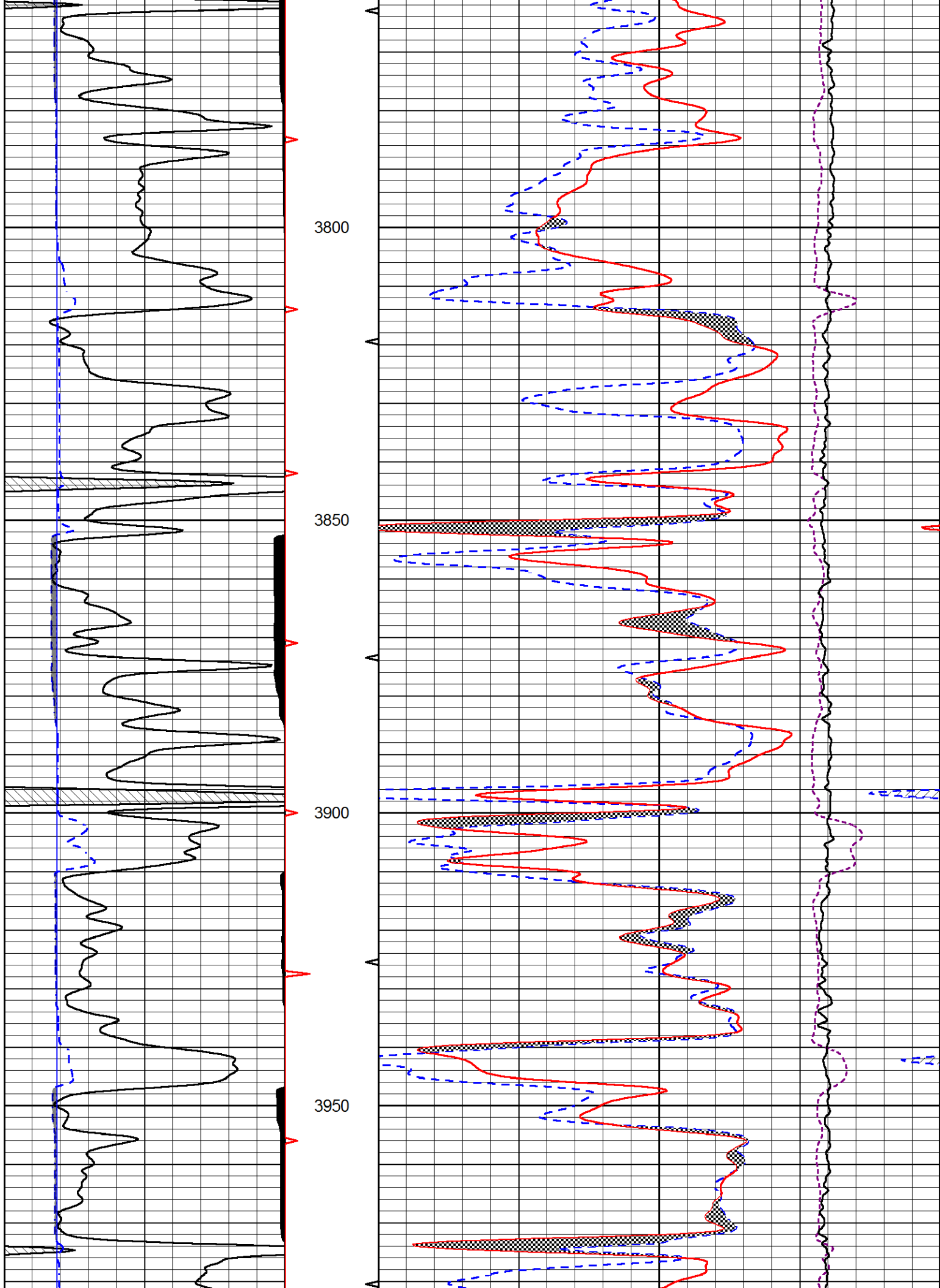
Database File      american\_warrior\_dirks\_1-22.db  
Dataset Pathname    STKML/pass5.1  
Presentation Format    cndlspec  
Dataset Creation      Fri Oct 20 19:20:36 2017  
Charted by            Depth in Feet scaled 1:240

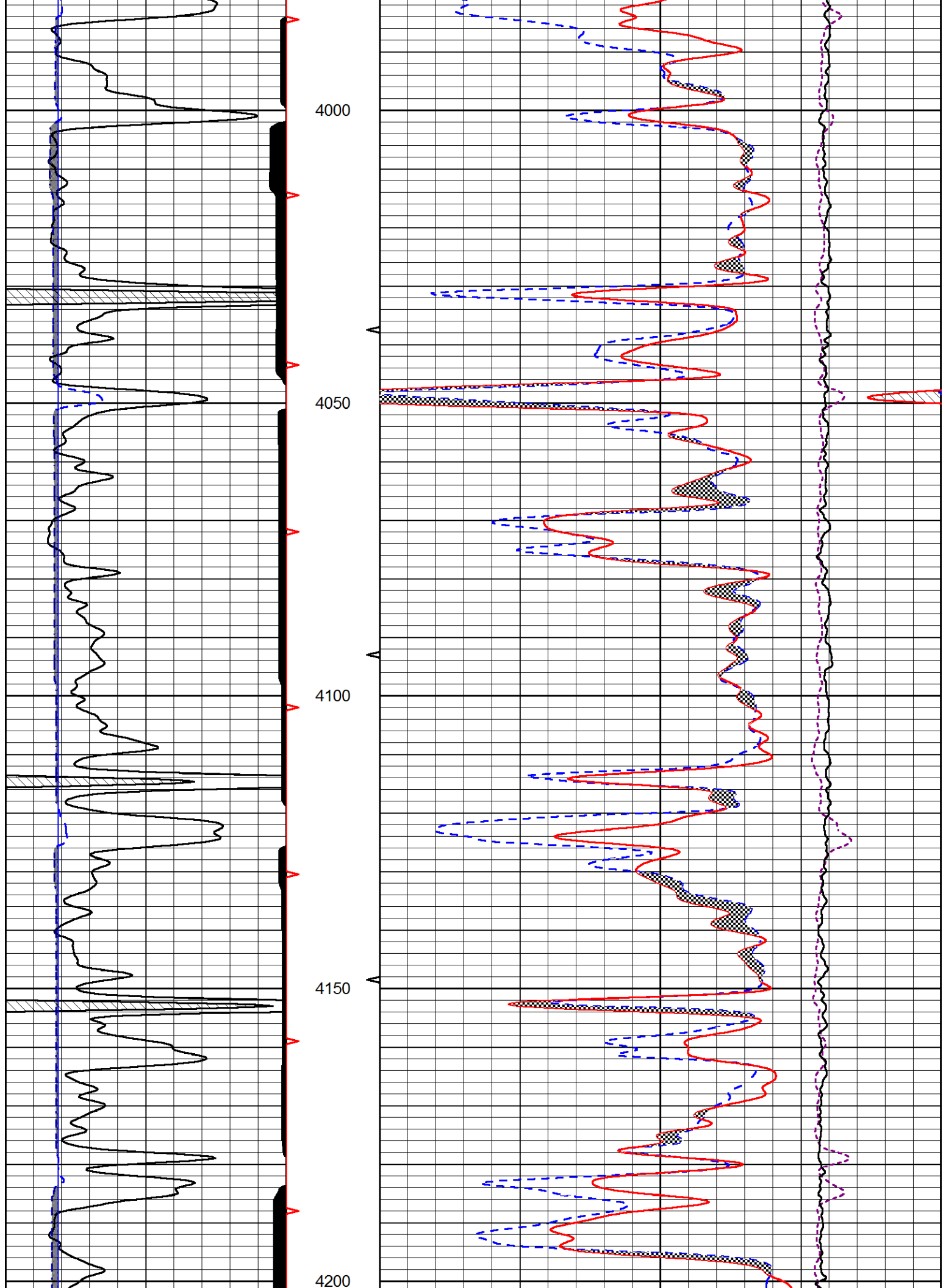
0	Gamma Ray (GAPI)	150
6	DCAL (in)	16

30	CNLS (pu)	-10
30	Compensated Density 2.71 g/cc (pu)	-10
10000	Line Tension (lb)	0
-0.75	Correction (g/cc)	0.75

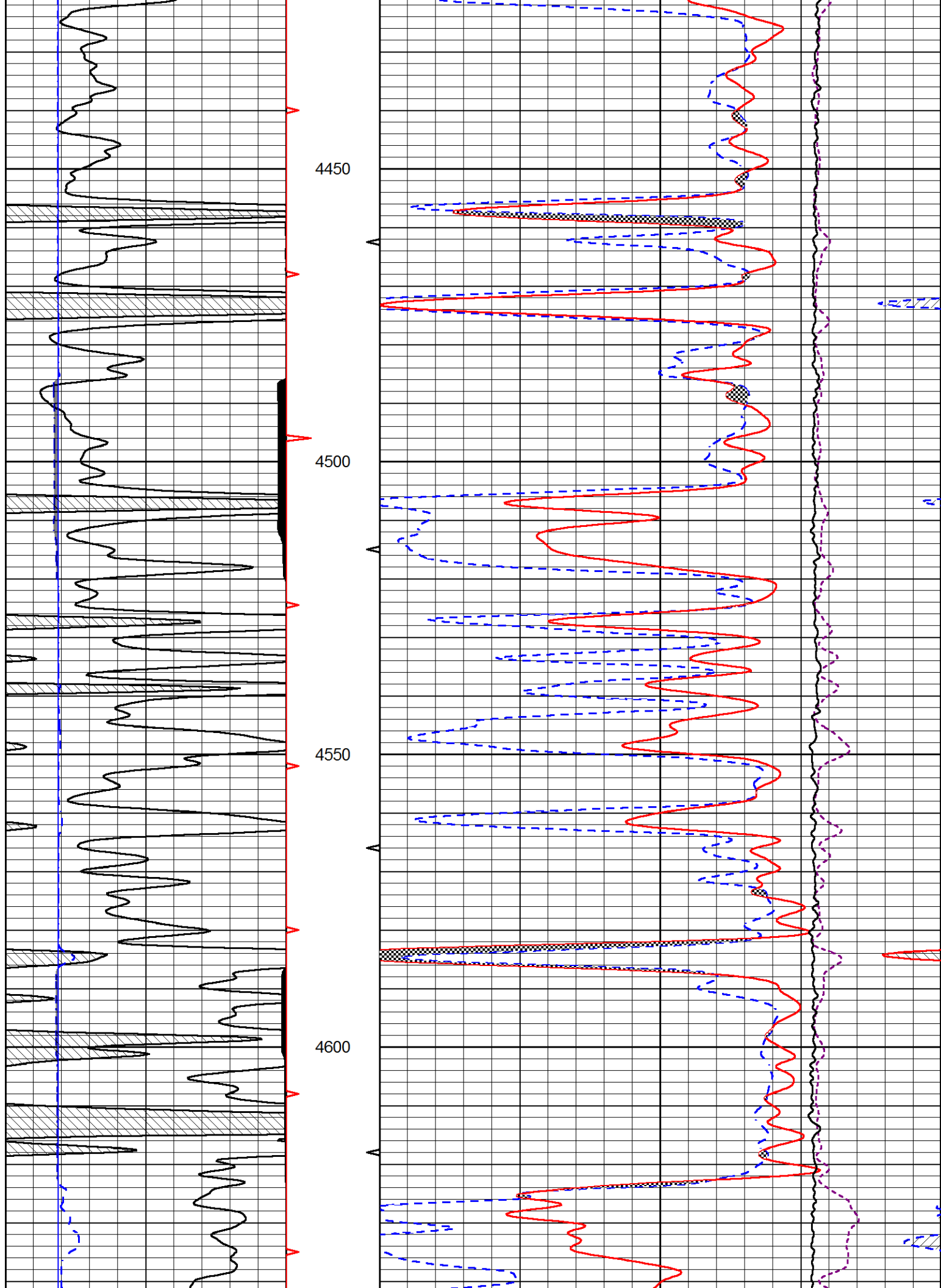


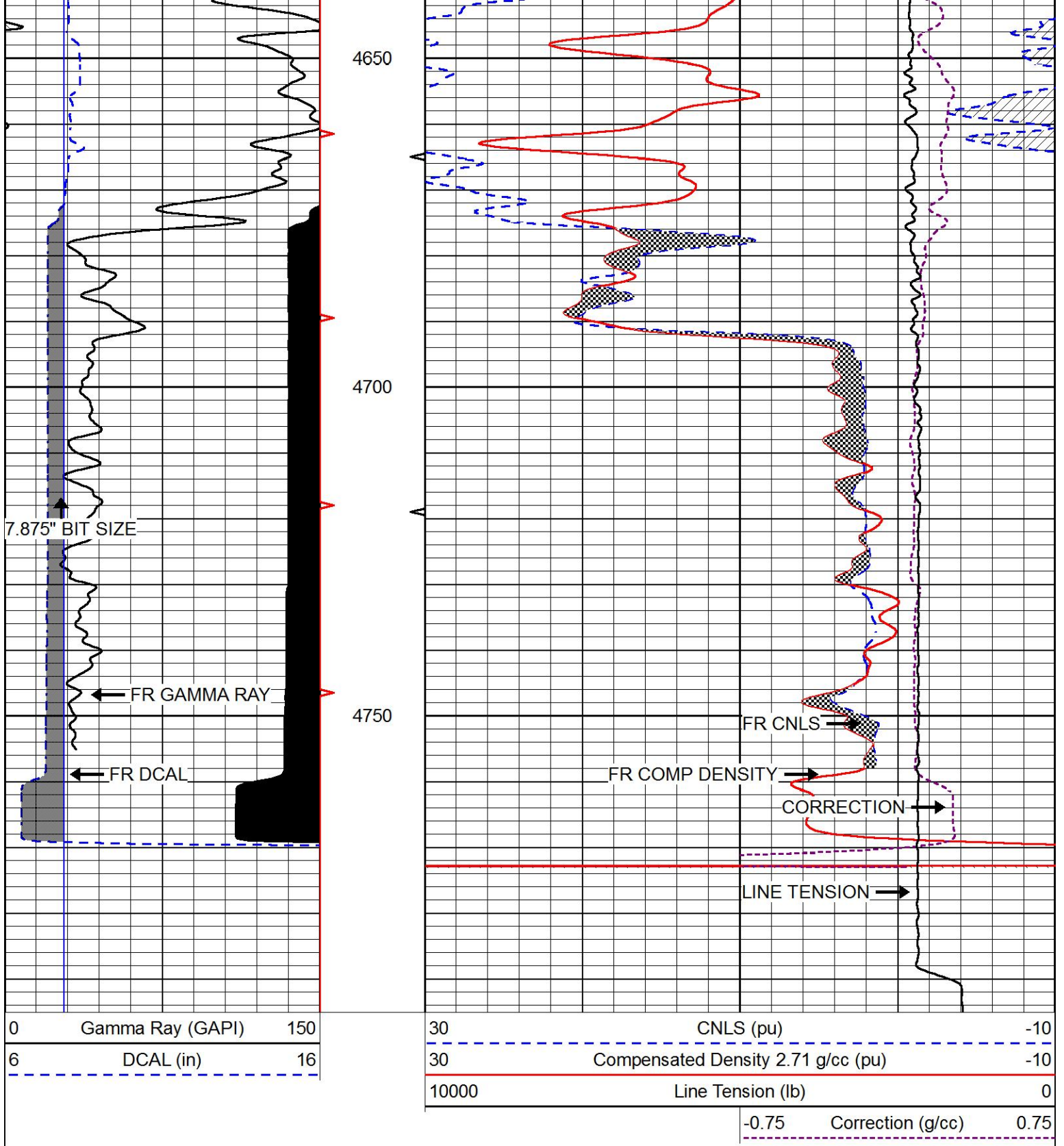












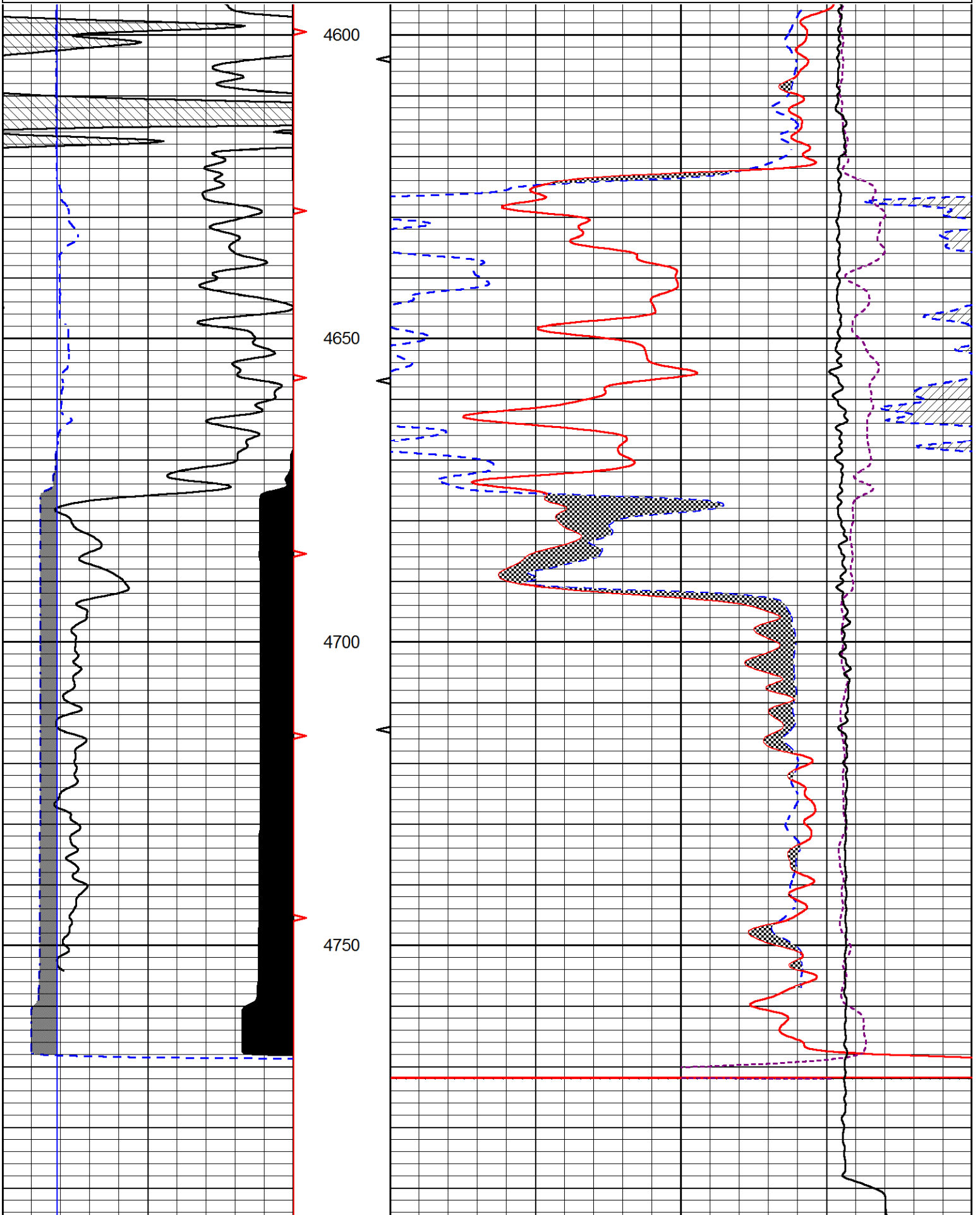
# REPEAT SECTION

Database File      american\_warrior\_dirks 1-22.db  
 Dataset Pathname    STKML/pass3.1  
 Presentation Format    cndlspec  
 Dataset Creation      Fri Oct 20 19:56:14 2017  
 Charted by            Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	DCAL (in)	16

30	CNLS (pu)	-10
30	Compensated Density 2.71 g/cc (pu)	-10
10000	Line Tension (lb)	0

-0.75	Correction (g/cc)	0.75
-------	-------------------	------



0	Gamma Ray (GAPI)	150	30	CNLS (pu)	-10
6	DCAL (in)	16	30	Compensated Density 2.71 g/cc (pu)	-10
			10000	Line Tension (lb)	0
				-0.75 Correction (g/cc)	0.75

### Calibration Report

Database File american warrior\_dirks 1-22.db  
 Dataset Pathname STKML/pass5.1  
 Dataset Creation Fri Oct 20 19:20:36 2017

### Dual Induction Calibration Report

Serial-Model: PSI 91-M&W  
 Calibration Performed: Wed Sep 13 22:23:16 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.520	-10.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-32.250

### Microlog Calibration Report

Serial-Model: PSI-01-PSIML  
 Performed: Wed Sep 06 19:50:56 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	71000.0000	-2.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	104000.0000	-3.1000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1250

### Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

### Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W



Tool Model: M&W  
Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number:	89	
Tool Model:	M&W	
Calibration Performed:	Wed Sep 06 19:51:14 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



**PIONEER**  
Pioneer Energy Services

Company	AMERICAN WARRIOR, INC.
Well	DIRKS #1-22
Field	WILDCAT
County	LOGAN
State	KANSAS





# MICRORESISTIVITY LOG

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Location: API #: 15-109-21526-00-00  
 949' FSL & 1004' FWL  
 SEC 22 TWP 14S RGE 35W  
 Permanent Datum GROUND LEVEL Elevation 3121'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 CNL/CDL  
 DIL/BHCS  
 Elevation  
 K.B. 3129'  
 D.F. N/A  
 G.L. 3121'

Date	10/20/2017
Run Number	ONE
Depth Driller	4790'
Depth Logger	4789'
Bottom Logged Interval	4788'
Top Log Interval	3600'
Casing Driller	8.625" @ 211'
Casing Logger	208'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	8200
Density / Viscosity	9.4 51
pH / Fluid Loss	9.0 10.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.40 @ 80
Rmt @ Meas. Temp	0.30 @ 80
Rmc @ Meas. Temp	0.54 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.26 @ 124
Operating Rig Time	5 HOURS
Max Rec. Temp. F	124
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	LUKE THOMPSON

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

### Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
 SOUTH ON HWY 25 TO CURVE,  
 2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
 1/2 EAST, 1/2 SOUTH,  
 EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

### Your Pioneer Energy Services Crew

Engineer: D. SCHMIDT  
 Operator:  
 Operator:  
 Operator:

### This Log Record Was Witnessed By

Primary Witness: LUKE THOMPSON  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W (PSI 91)

18.50

3.50

220.00

Dataset: american warrior\_dirks 1-22.db: field/well/STKML/pass5.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

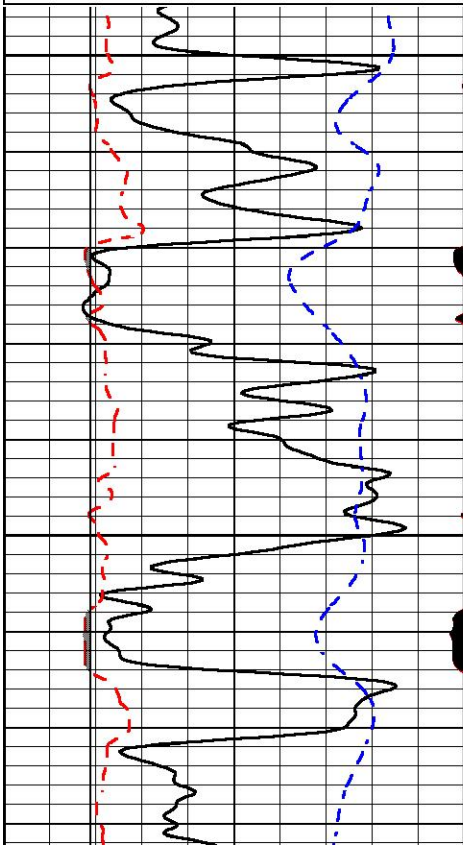


# MAIN PASS

Database File american warrior\_dirks 1-22.db  
 Dataset Pathname STKML/pass5.1  
 Presentation Format micro  
 Dataset Creation Fri Oct 20 19:20:36 2017  
 Charted by Depth in Feet scaled 1:240

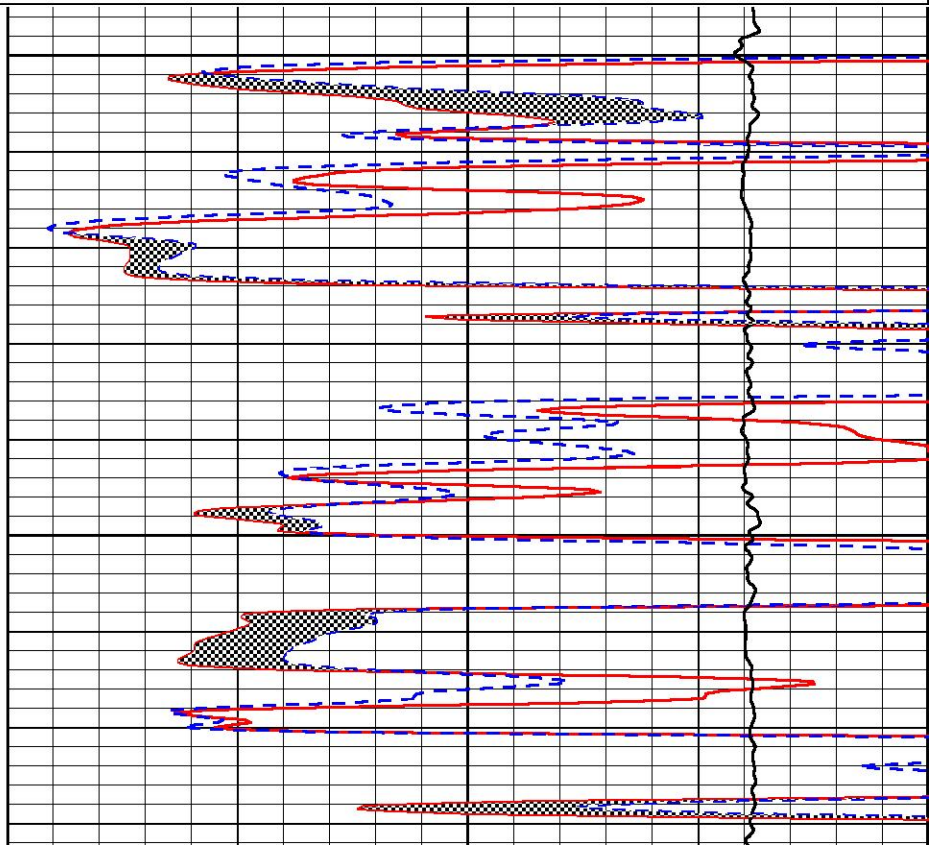
0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	mcals (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

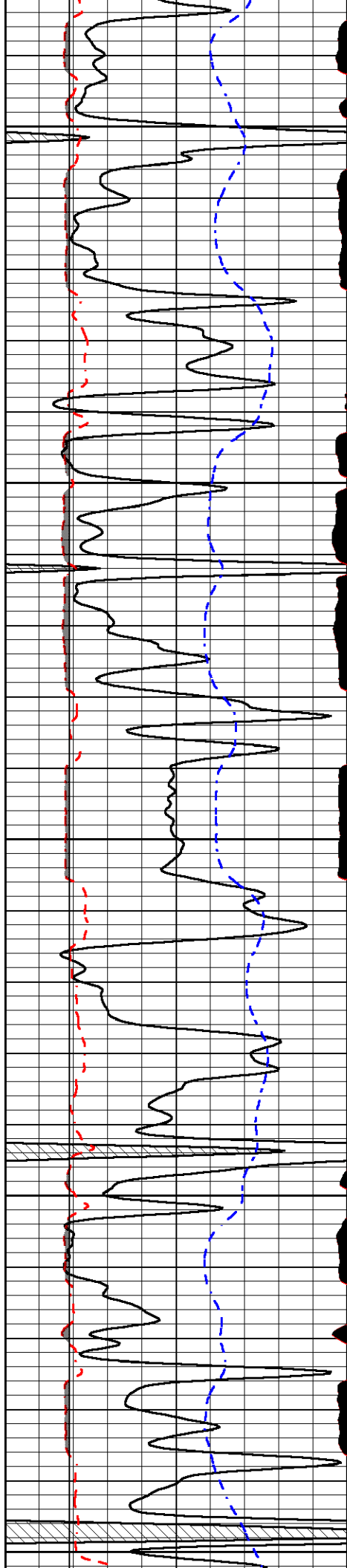
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



3600

3650





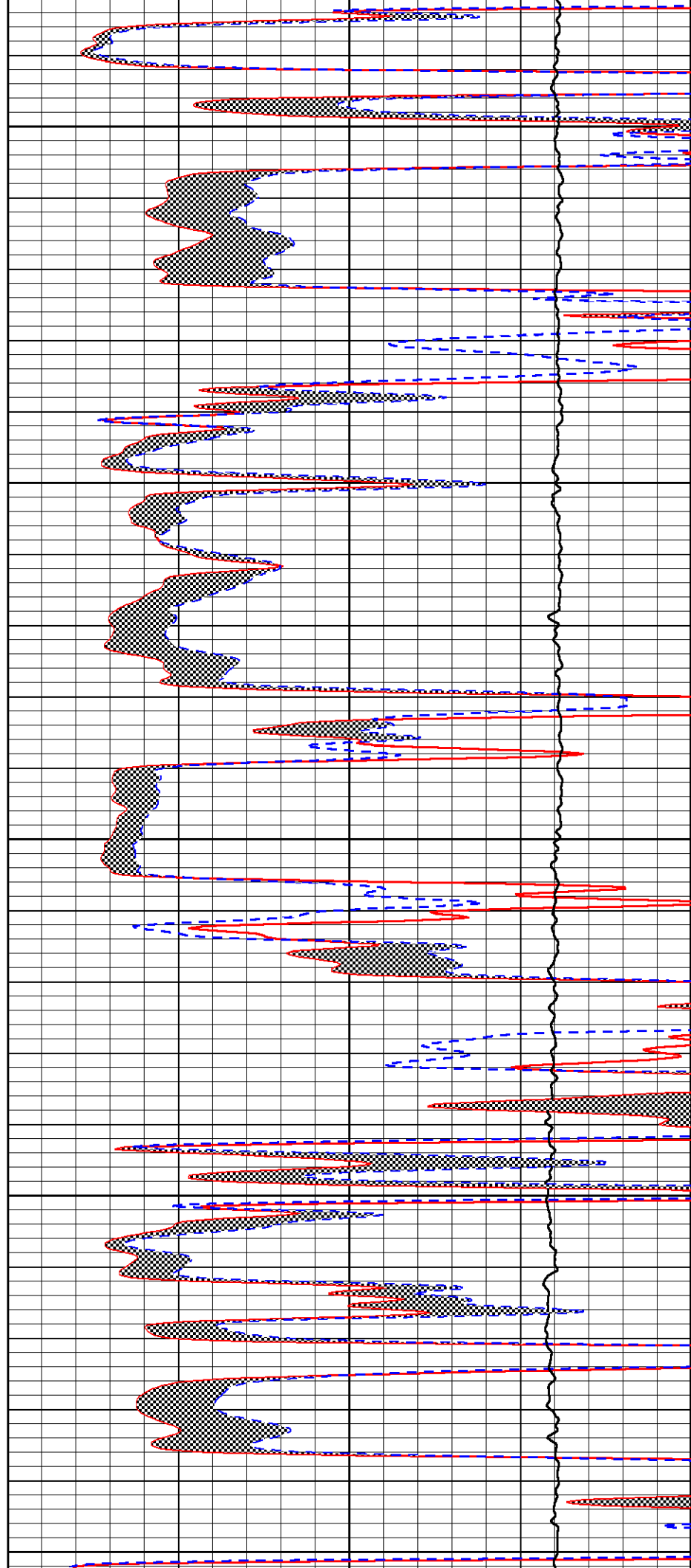
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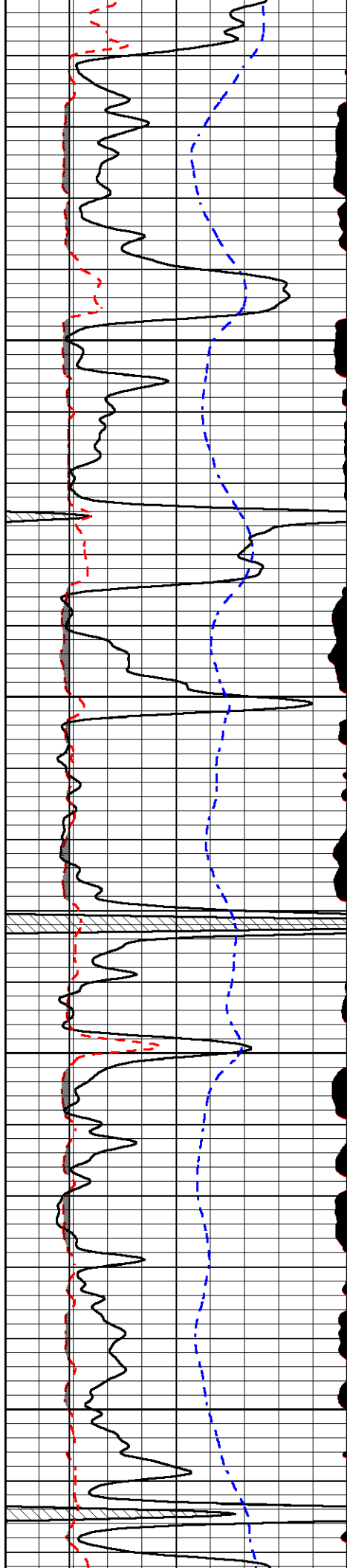
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3850

3900





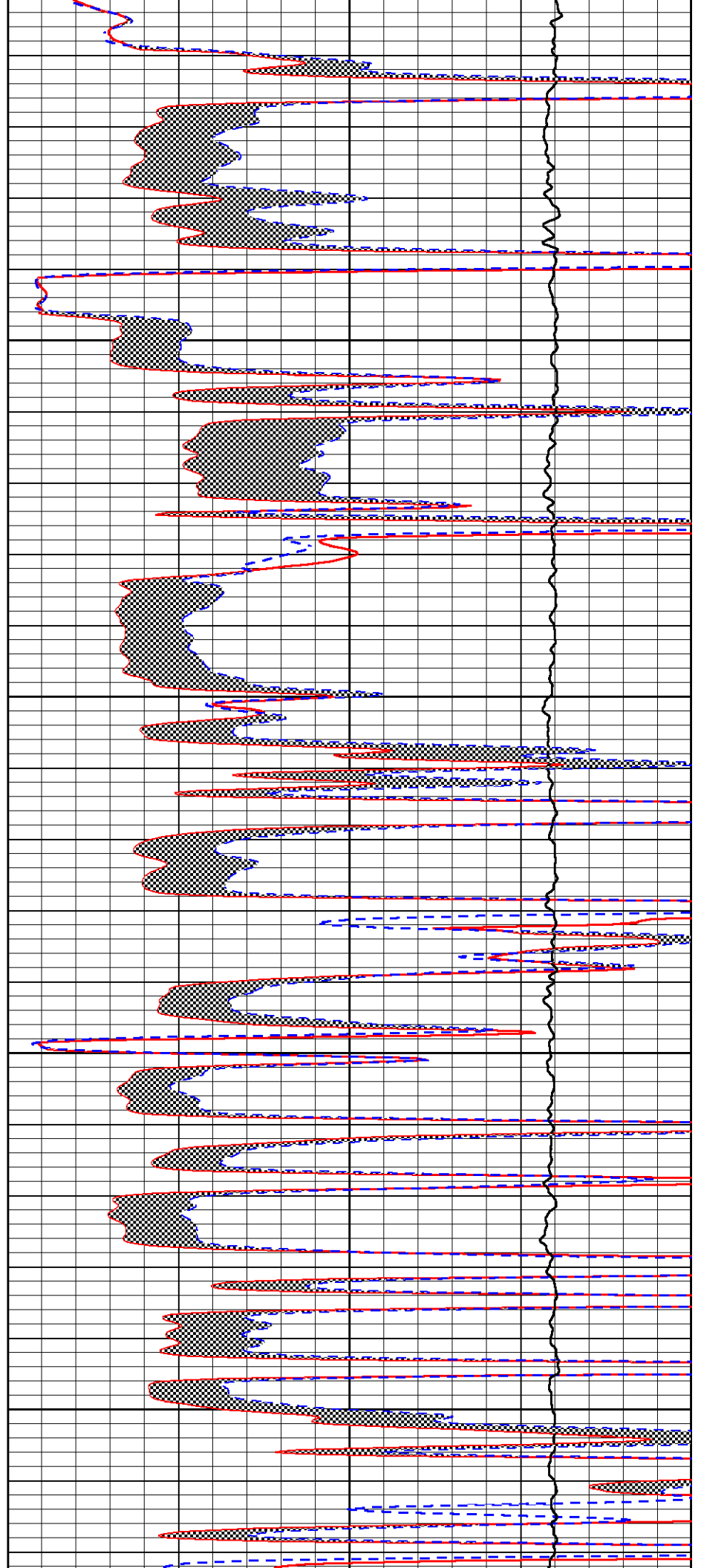


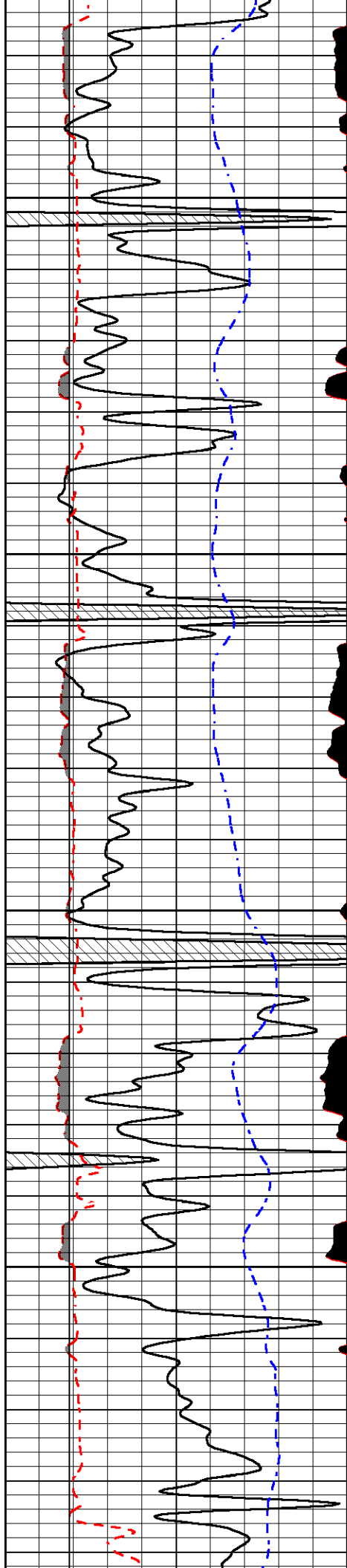
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4050

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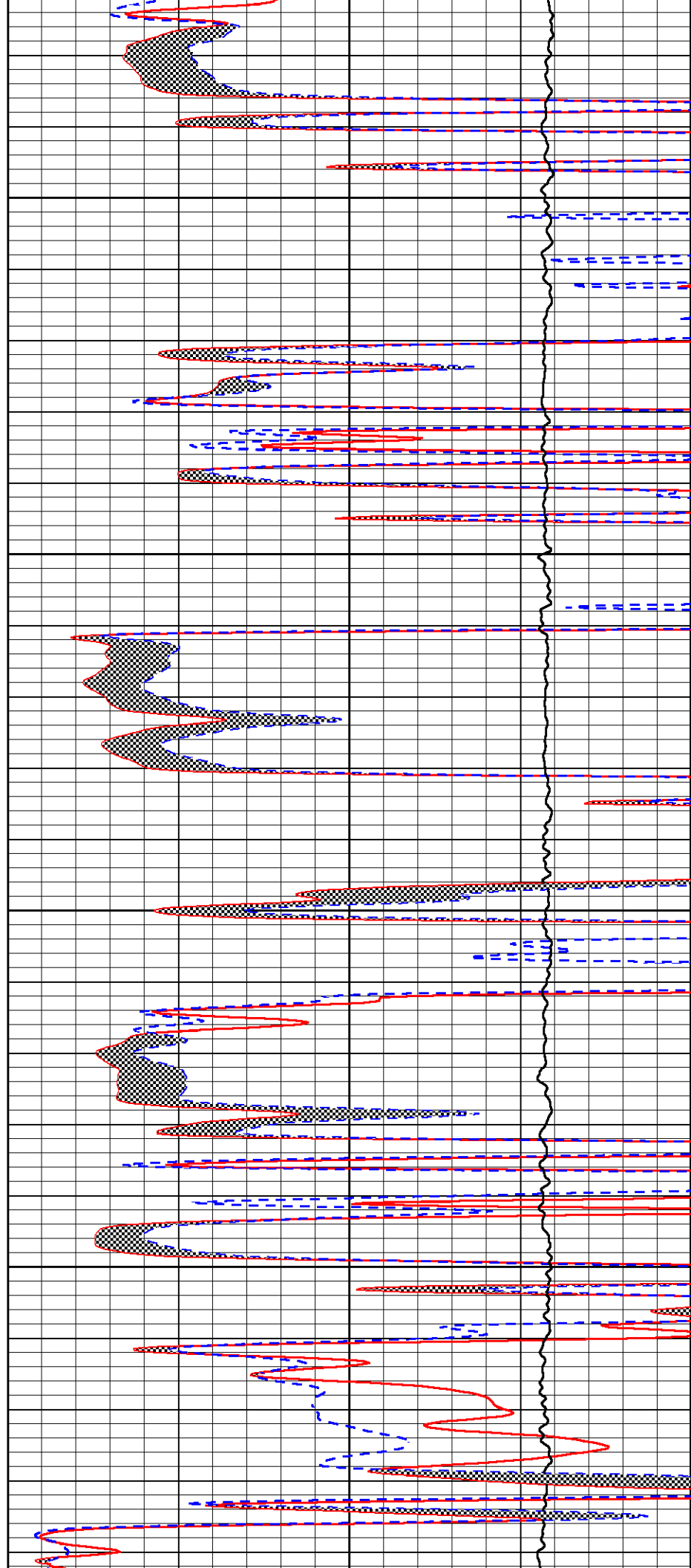


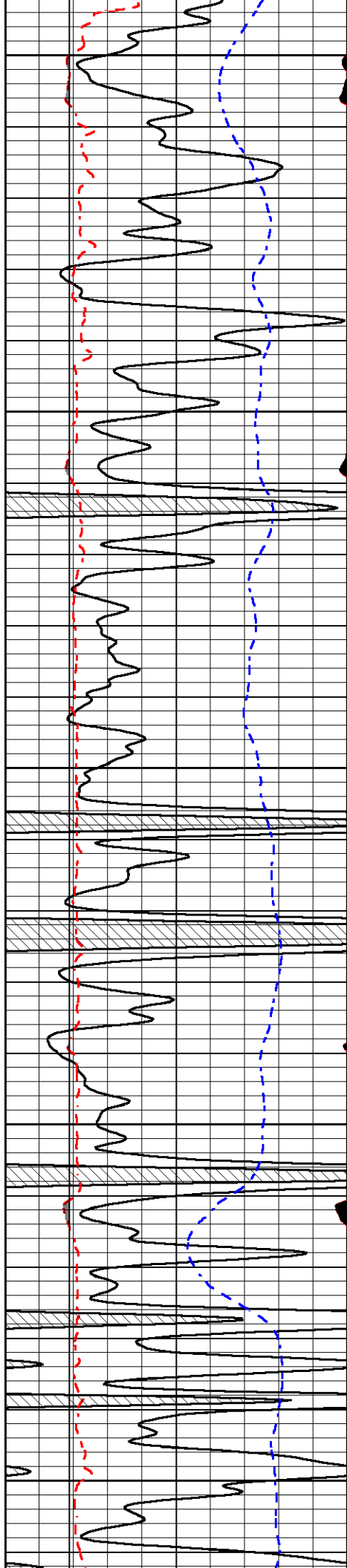
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4200

4250

4300





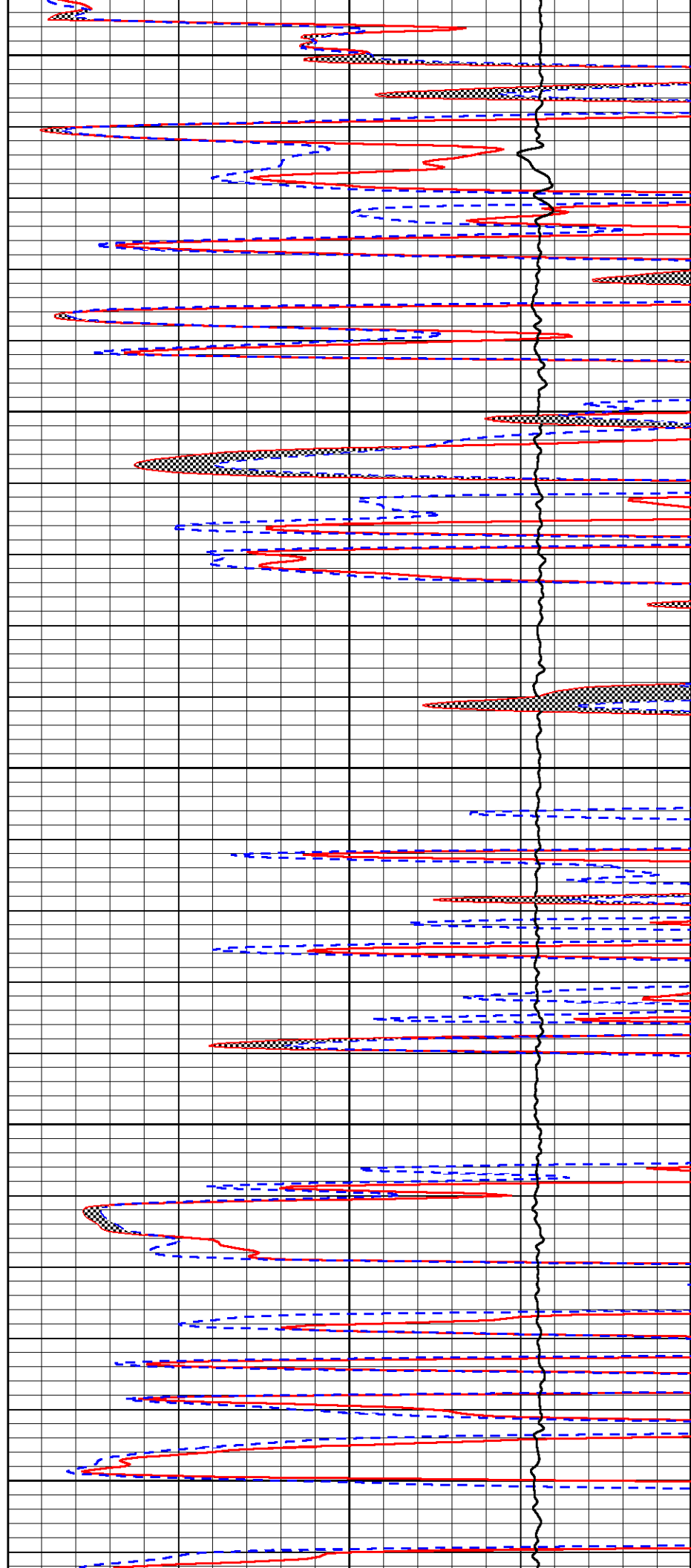
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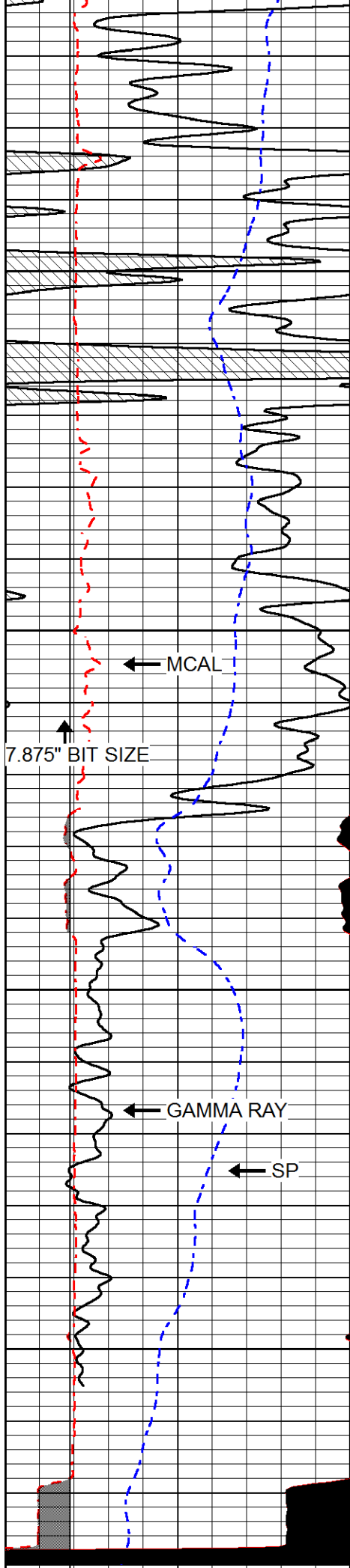
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4450

4500

4550



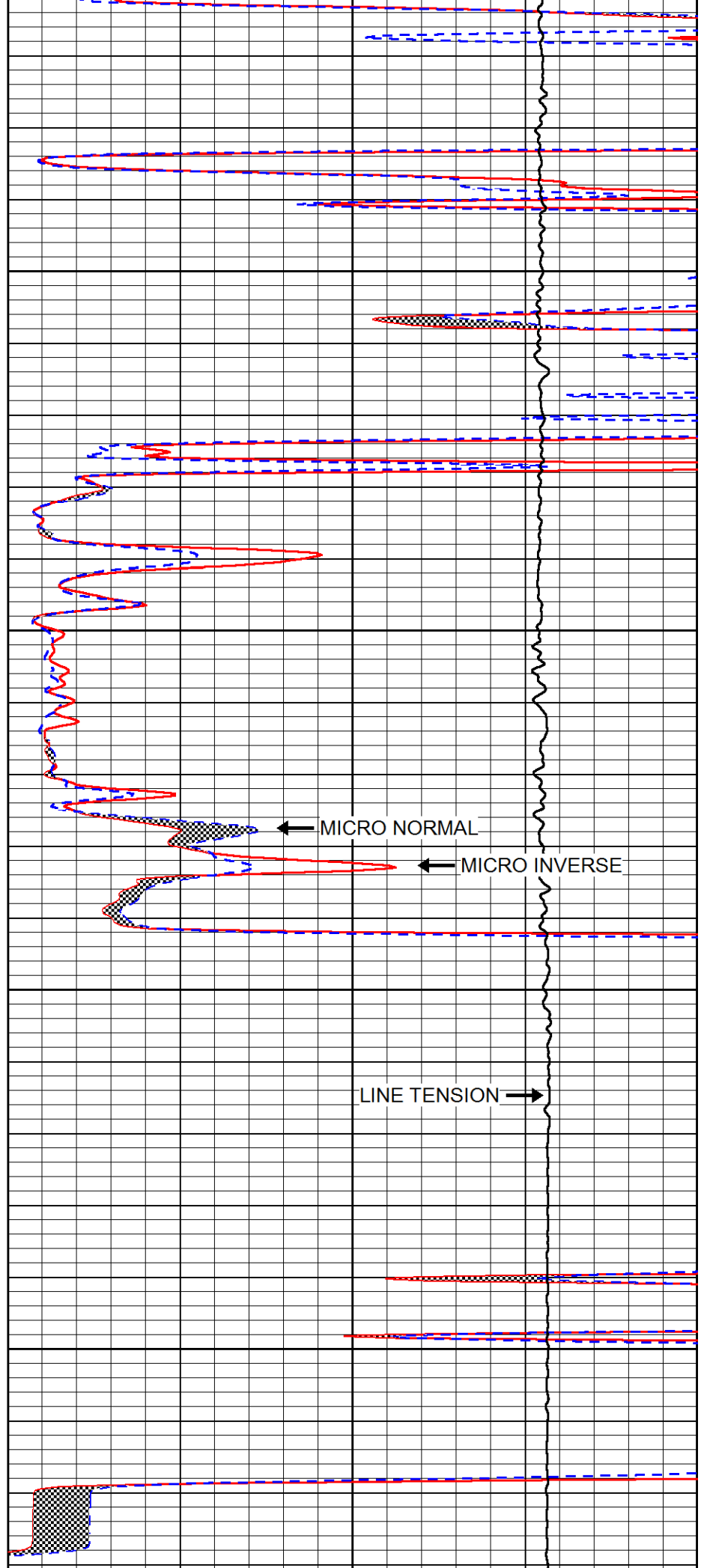


4600

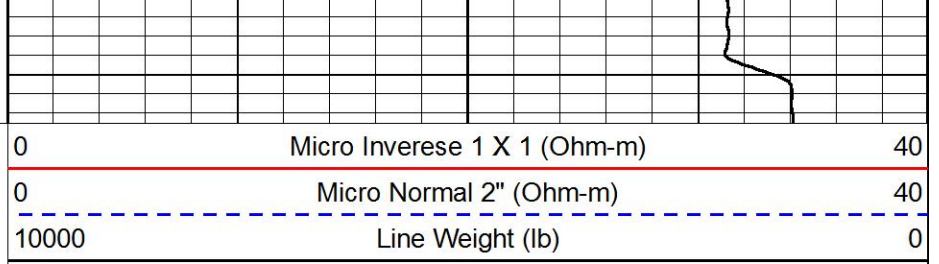
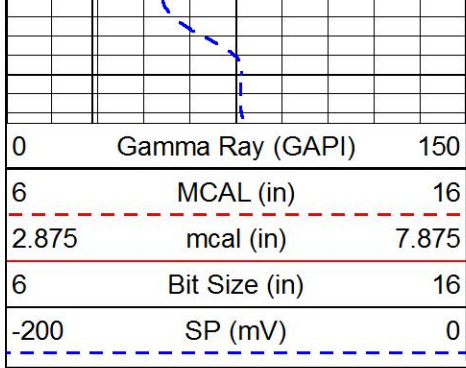
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4750

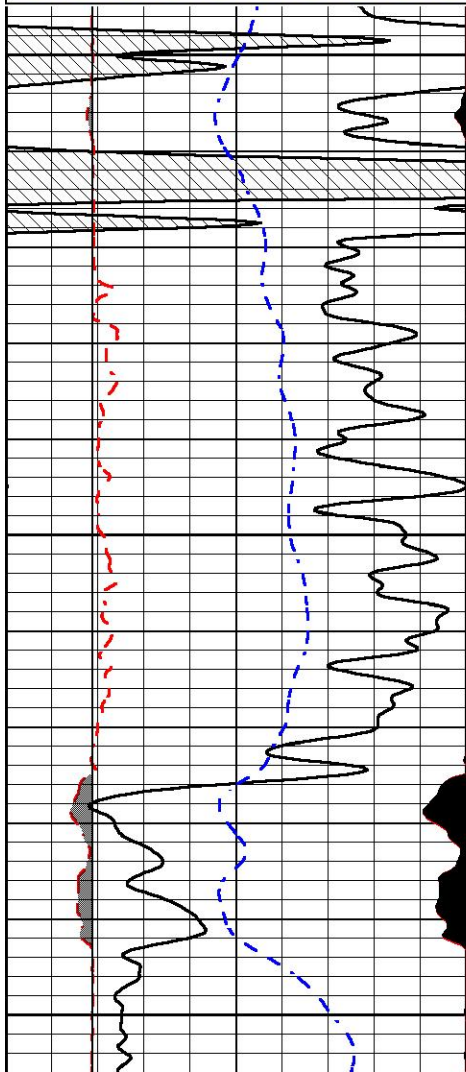
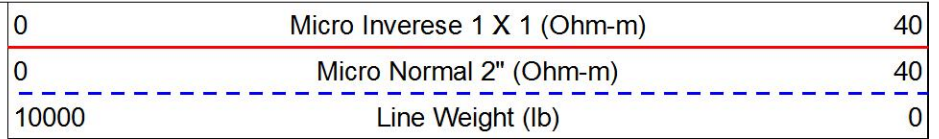
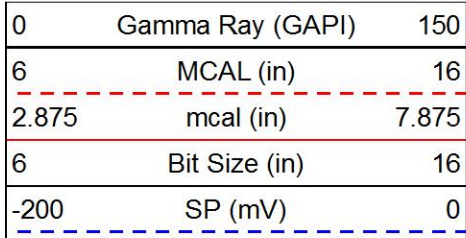






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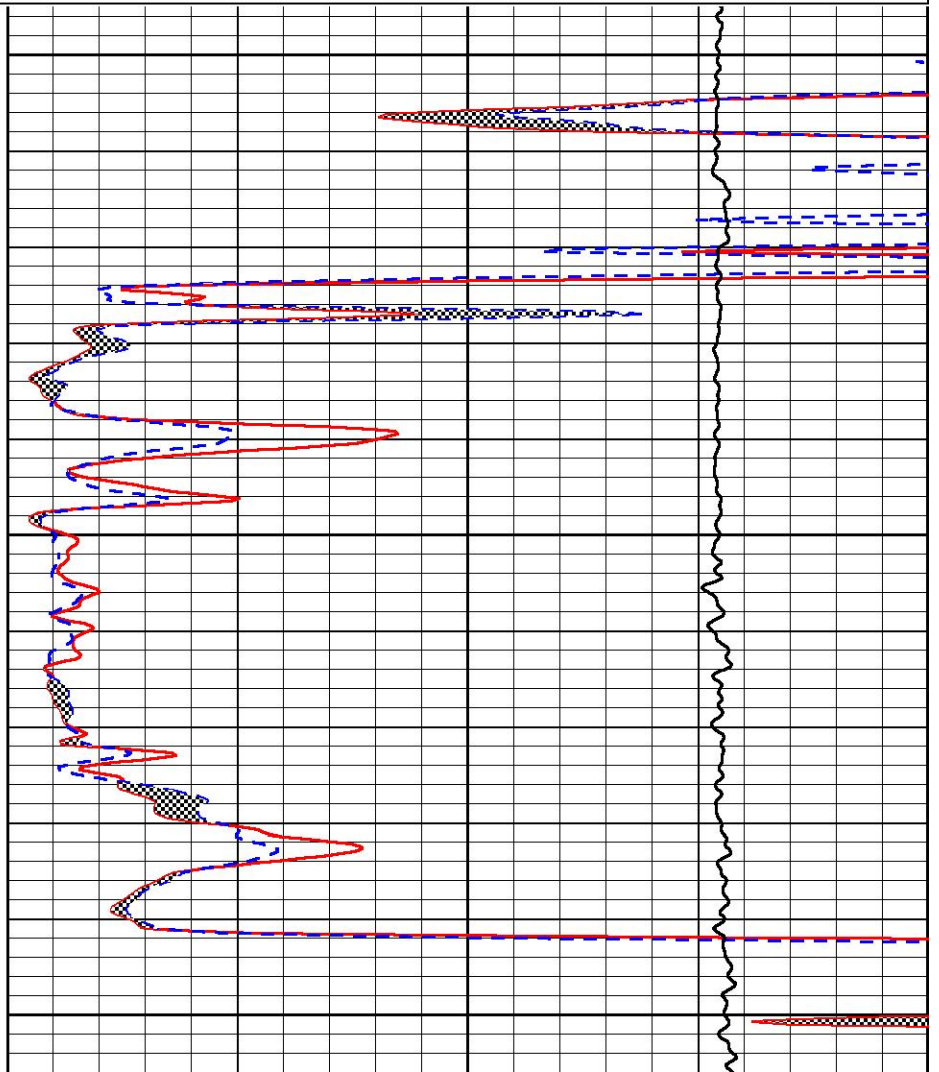
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 Dataset Pathname    STKML/pass3.1  
 Presentation Format    micro  
 Dataset Creation      Fri Oct 20 19:56:14 2017  
 Charted by            Depth in Feet scaled 1:240



4600

4650

4700





Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	<u>Density</u>		<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
	Spine Angle = 75.61			Density/Spine Ratio = 0.517	
	<u>Size</u>		<u>Reading</u>		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89  
 Tool Model: M&W  
 Calibration Performed: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS





# MICRORESISTIVITY LOG

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS

Location: API #: 15-109-21526-00-00  
 949' FSL & 1004' FWL  
 SEC 22 TWP 14S RGE 35W  
 Permanent Datum GROUND LEVEL Elevation 3121'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 CNL/CDL  
 DIL/BHCS  
 Elevation  
 K.B. 3129'  
 D.F. N/A  
 G.L. 3121'

Date	10/20/2017
Run Number	ONE
Depth Driller	4790'
Depth Logger	4789'
Bottom Logged Interval	4788'
Top Log Interval	3600'
Casing Driller	8.625" @ 211'
Casing Logger	208'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	8200
Density / Viscosity	9.4 51
pH / Fluid Loss	9.0 10.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.40 @ 80
Rmt @ Meas. Temp	0.30 @ 80
Rmc @ Meas. Temp	0.54 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.26 @ 124
Operating Rig Time	5 HOURS
Max Rec. Temp. F	124
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	LUKE THOMPSON

<<< Fold Here >>>

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### Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
 SOUTH ON HWY 25 TO CURVE,  
 2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
 1/2 EAST, 1/2 SOUTH,  
 EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

### Your Pioneer Energy Services Crew

Engineer: D. SCHMIDT  
 Operator:  
 Operator:  
 Operator:

### This Log Record Was Witnessed By

Primary Witness: LUKE THOMPSON  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W (PSI 91)

18.50

3.50

220.00

Dataset: american warrior\_dirks 1-22.db: field/well/STKML/pass5.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

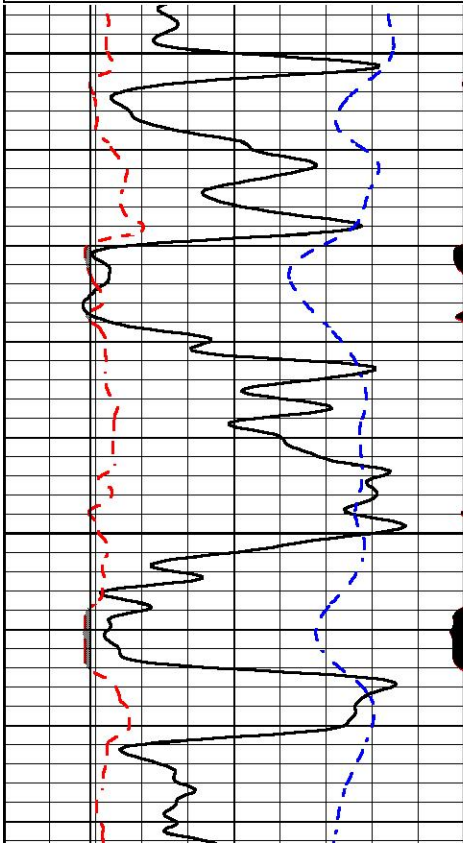


# MAIN PASS

Database File american warrior\_dirks 1-22.db  
 Dataset Pathname STKML/pass5.1  
 Presentation Format micro  
 Dataset Creation Fri Oct 20 19:20:36 2017  
 Charted by Depth in Feet scaled 1:240

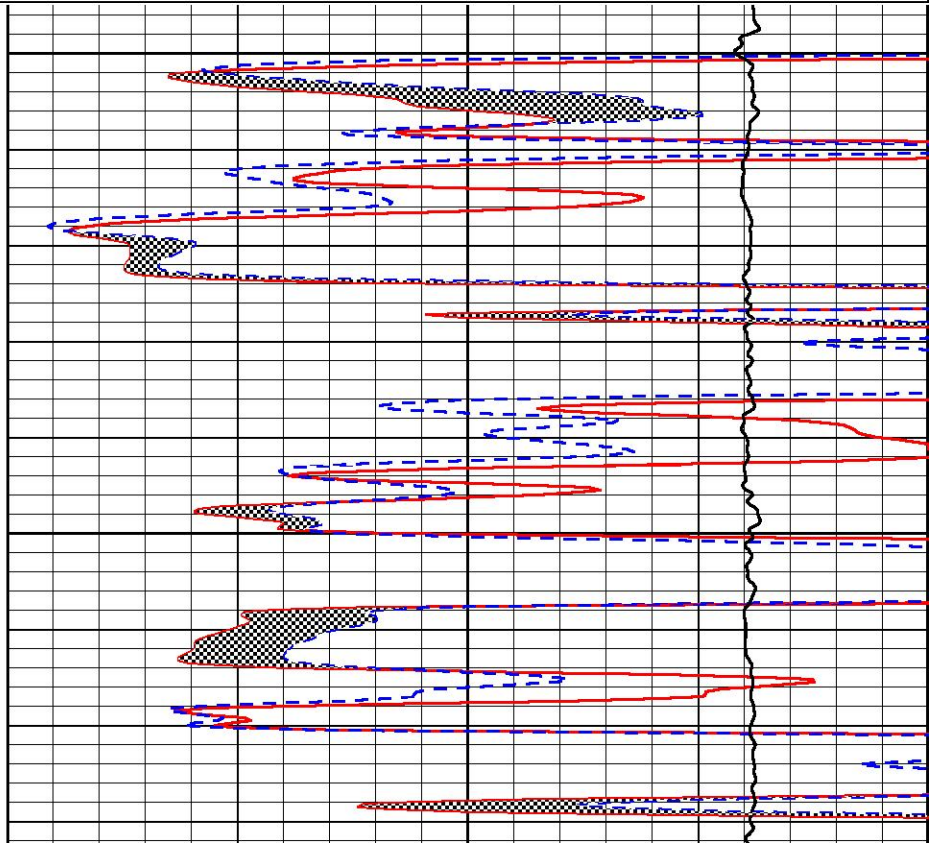
0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	mcals (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

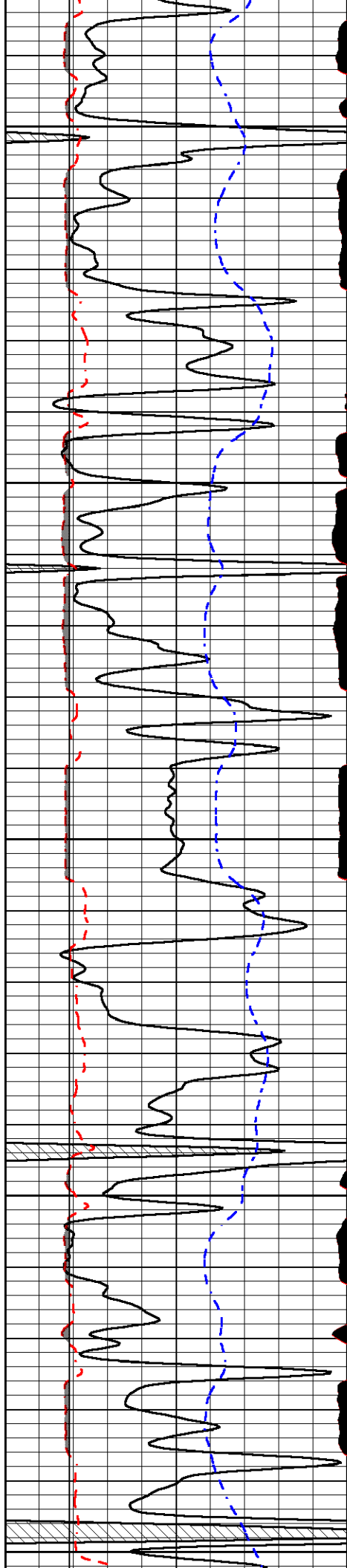
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



3600

3650





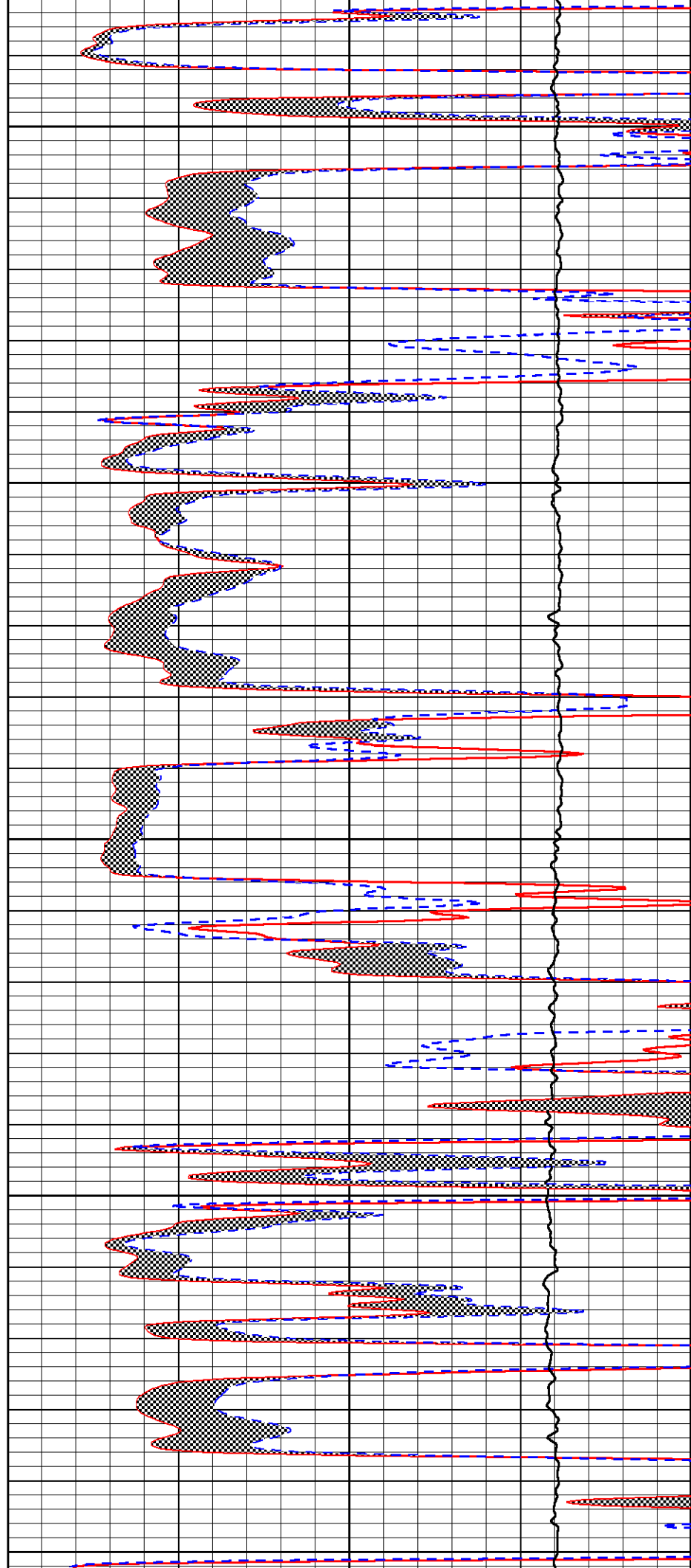
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3750

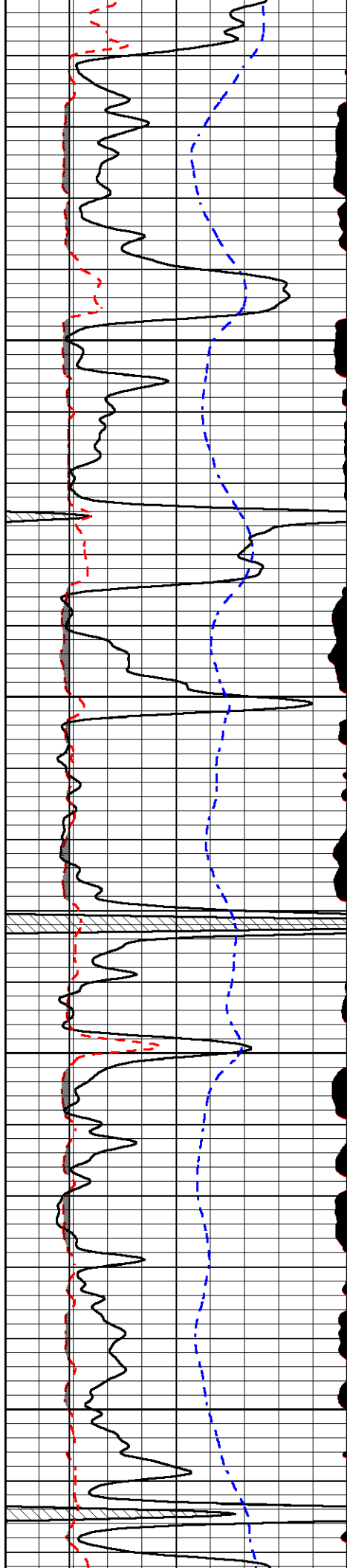
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3850

3900





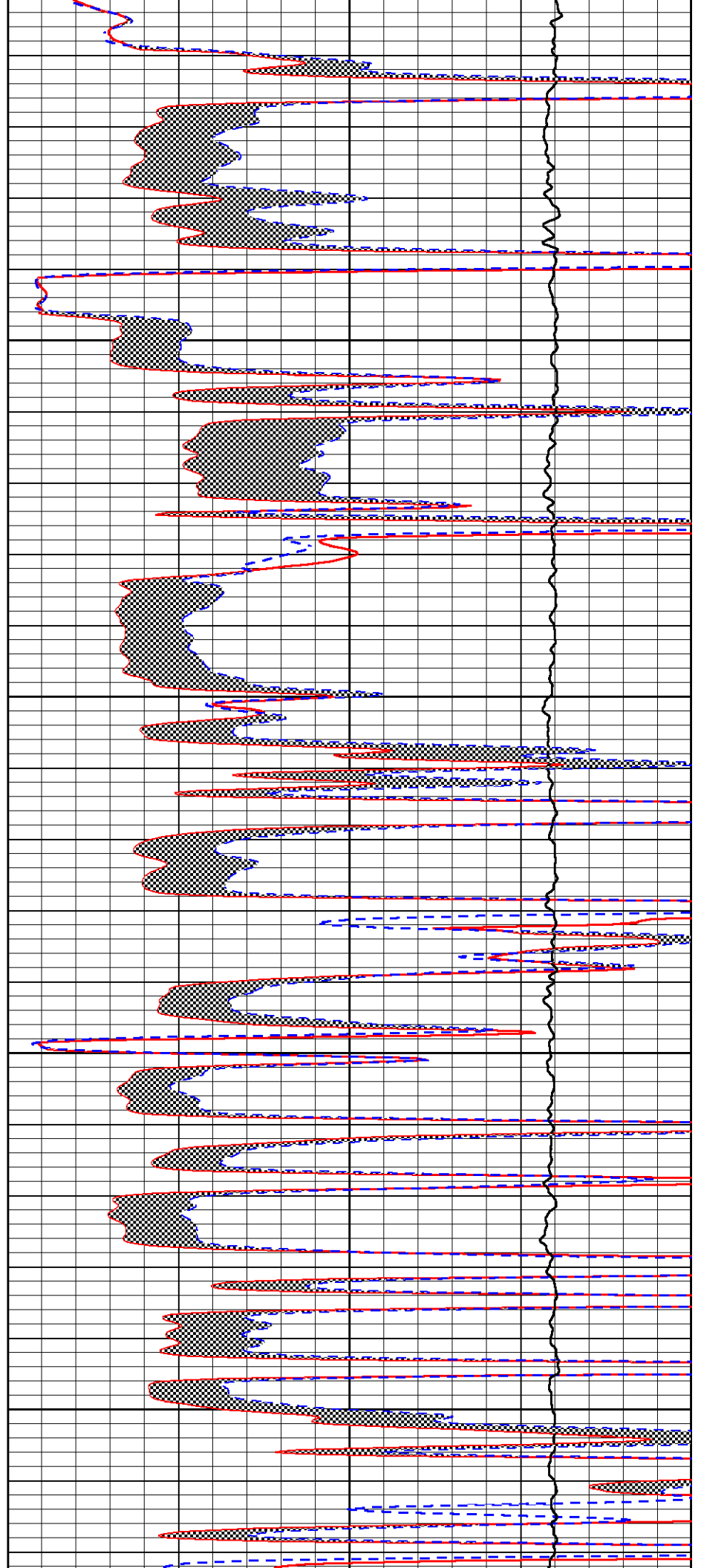


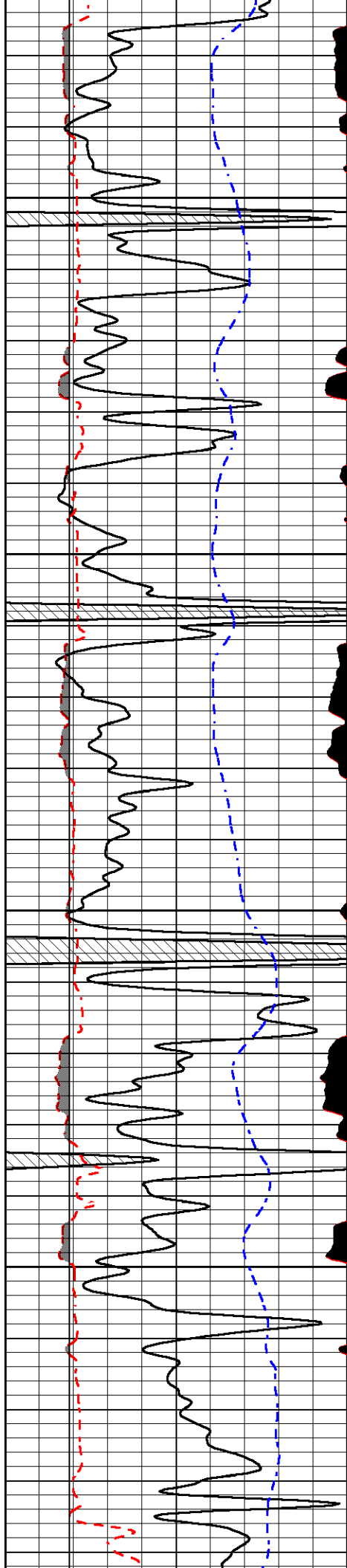
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4000

4050

4100



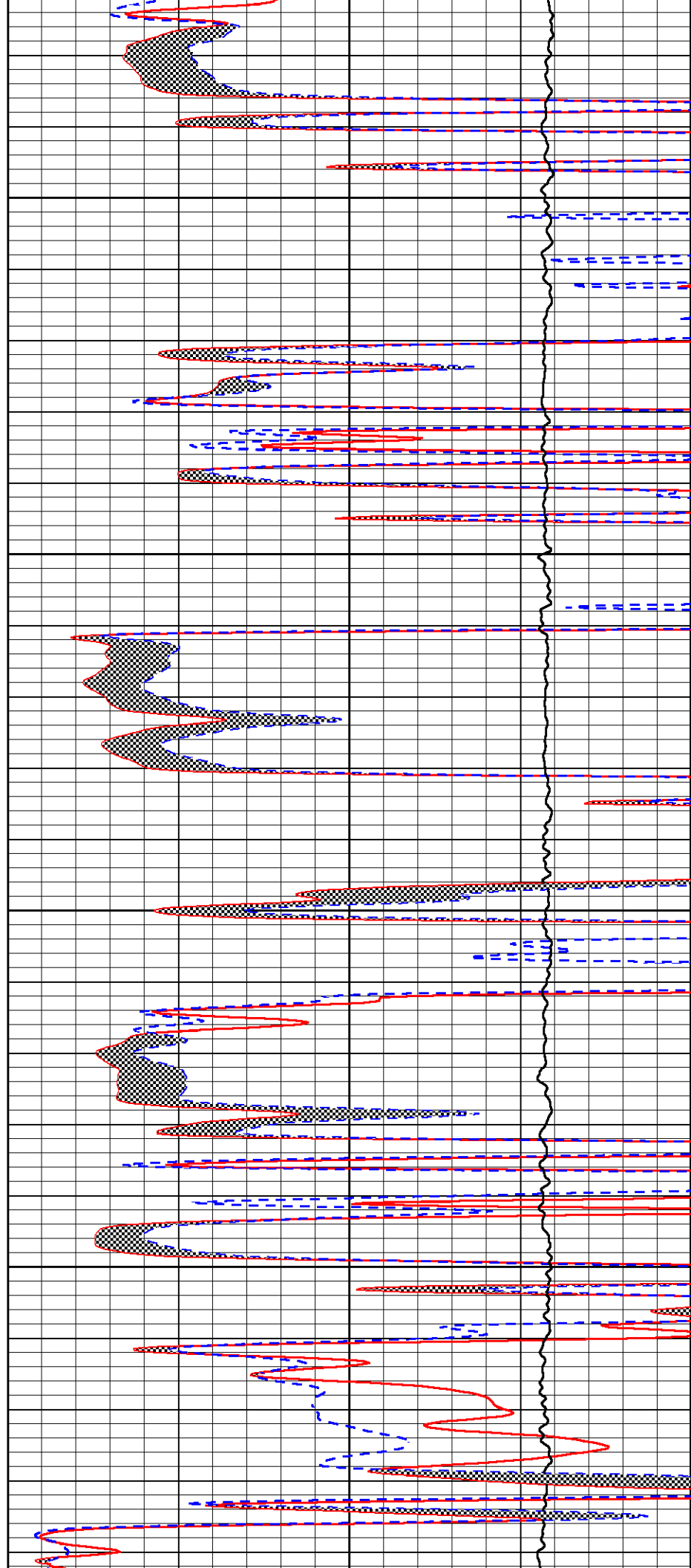


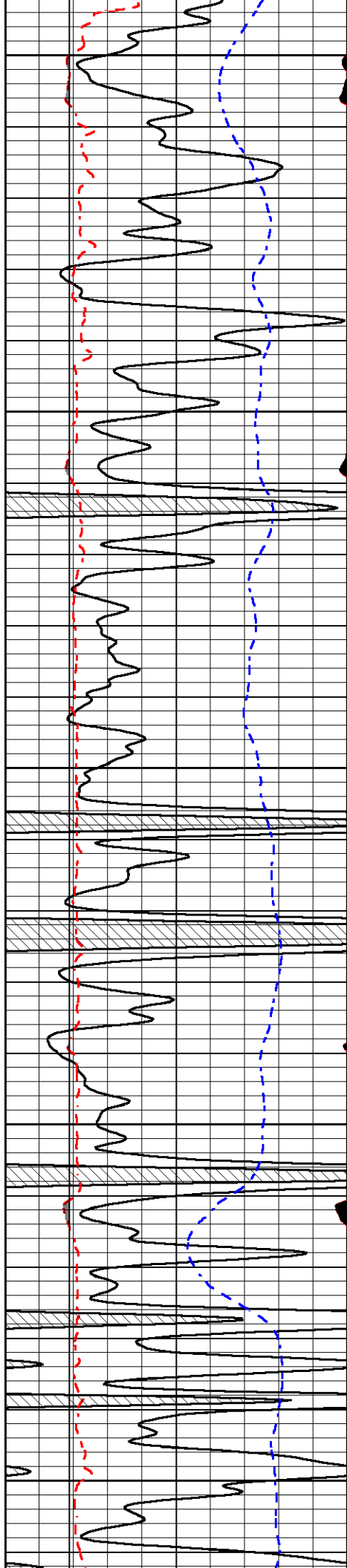
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4200

4250

4300





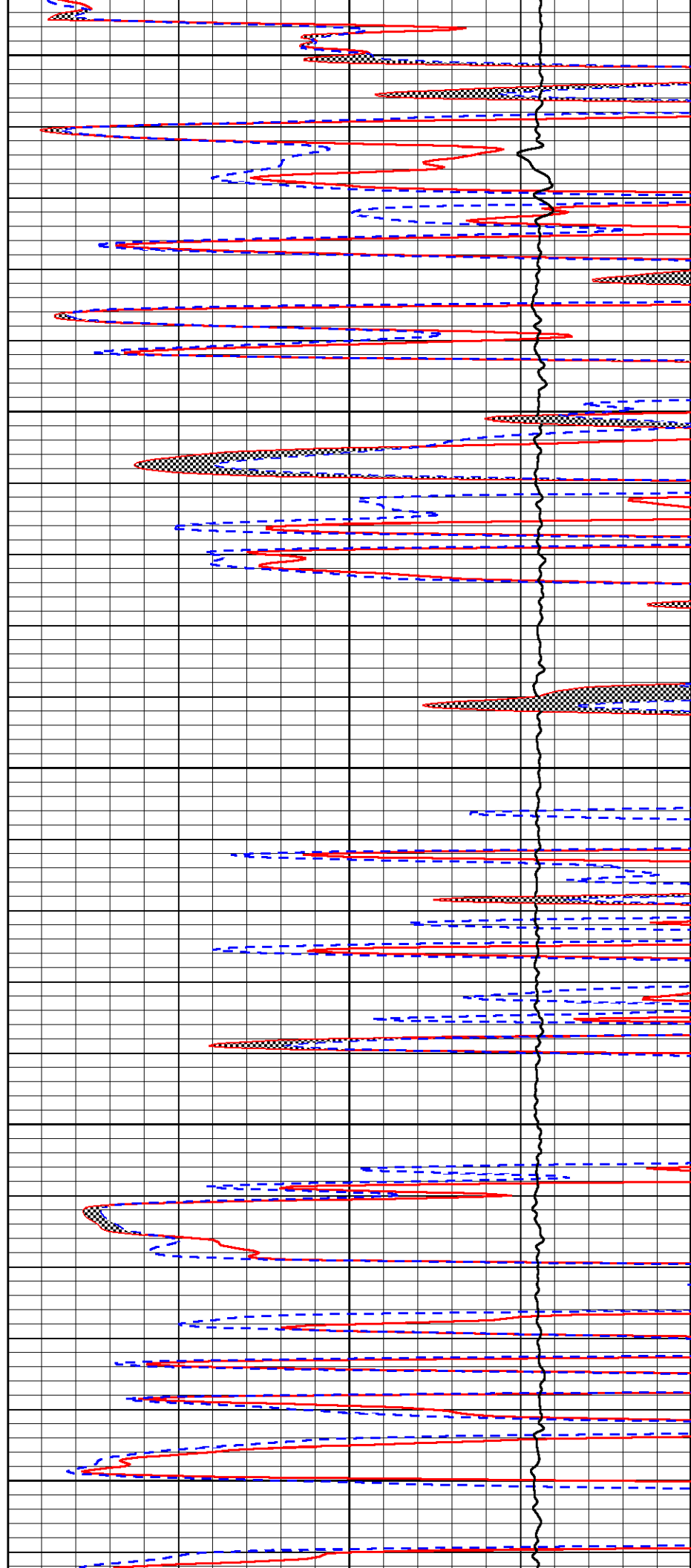
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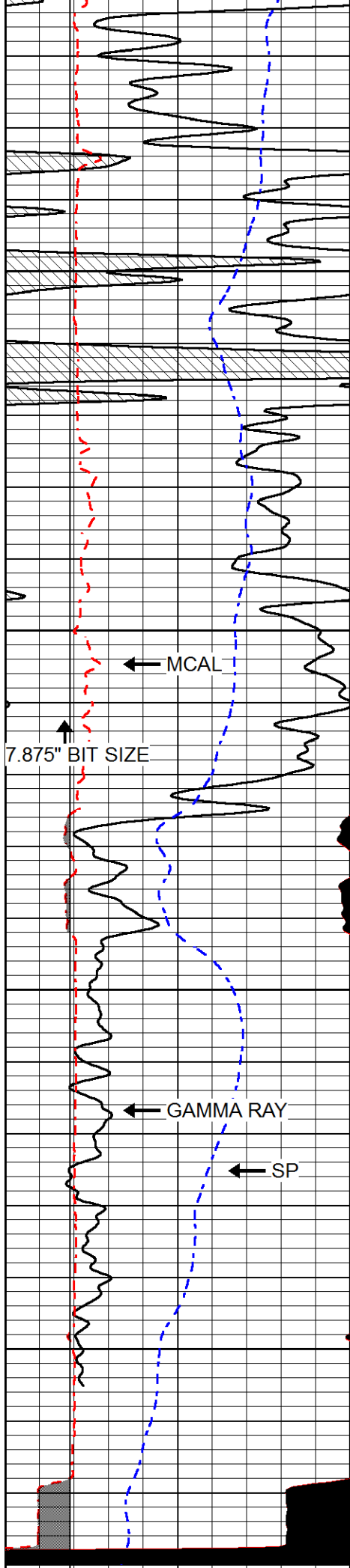
4400

4450

4500

4550



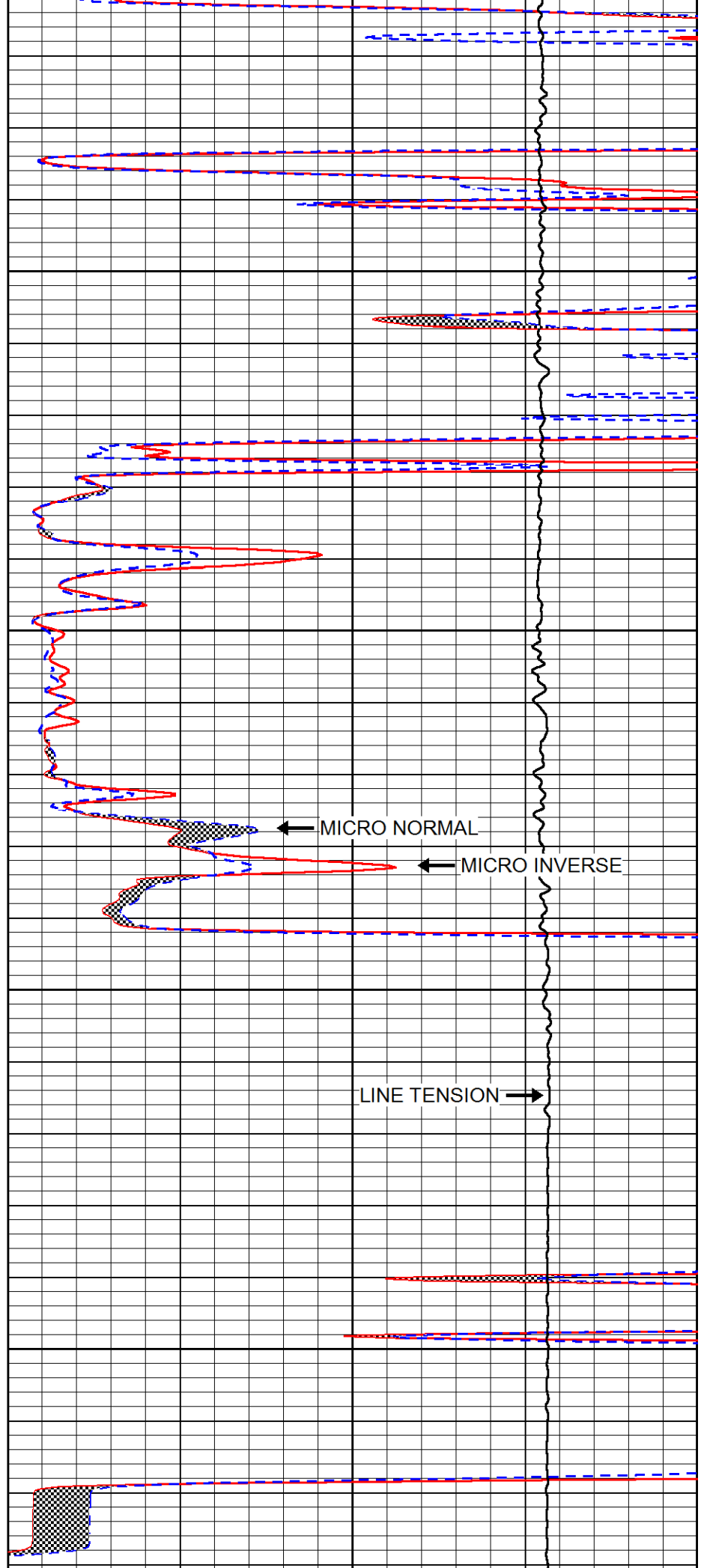


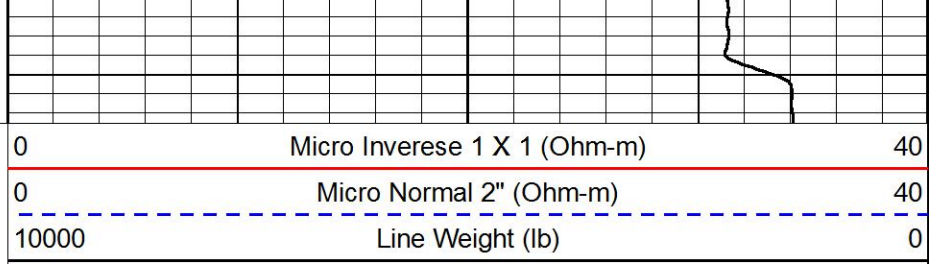
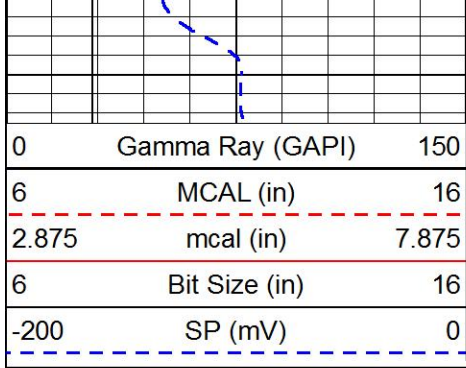
4600

4650

4700

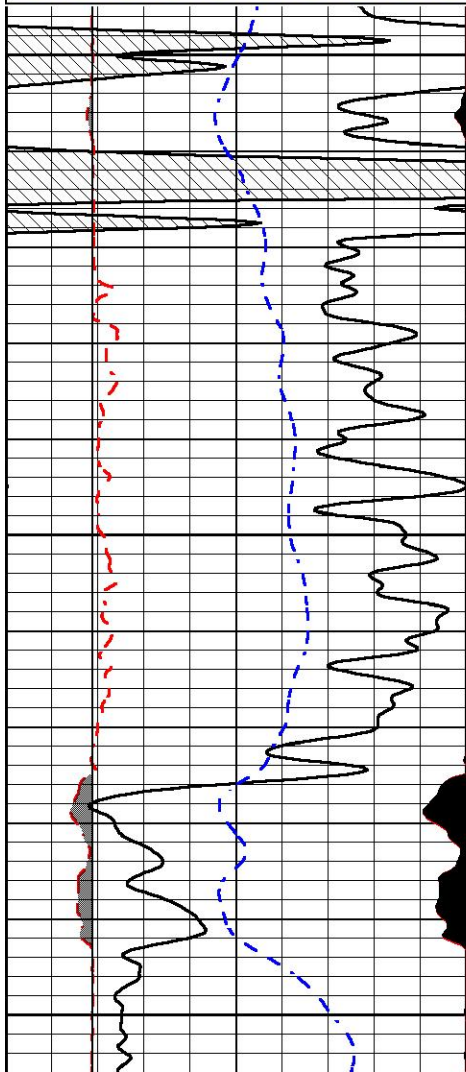
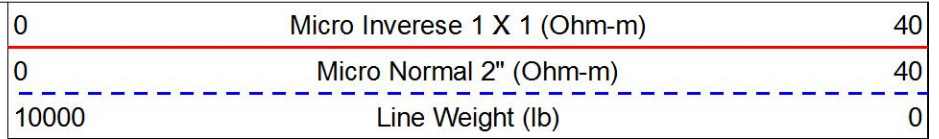
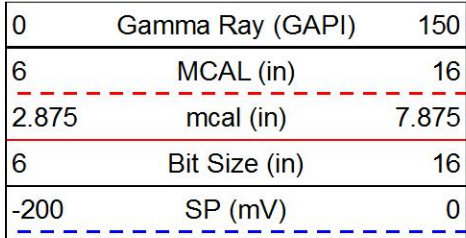
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# REPEAT SECTION

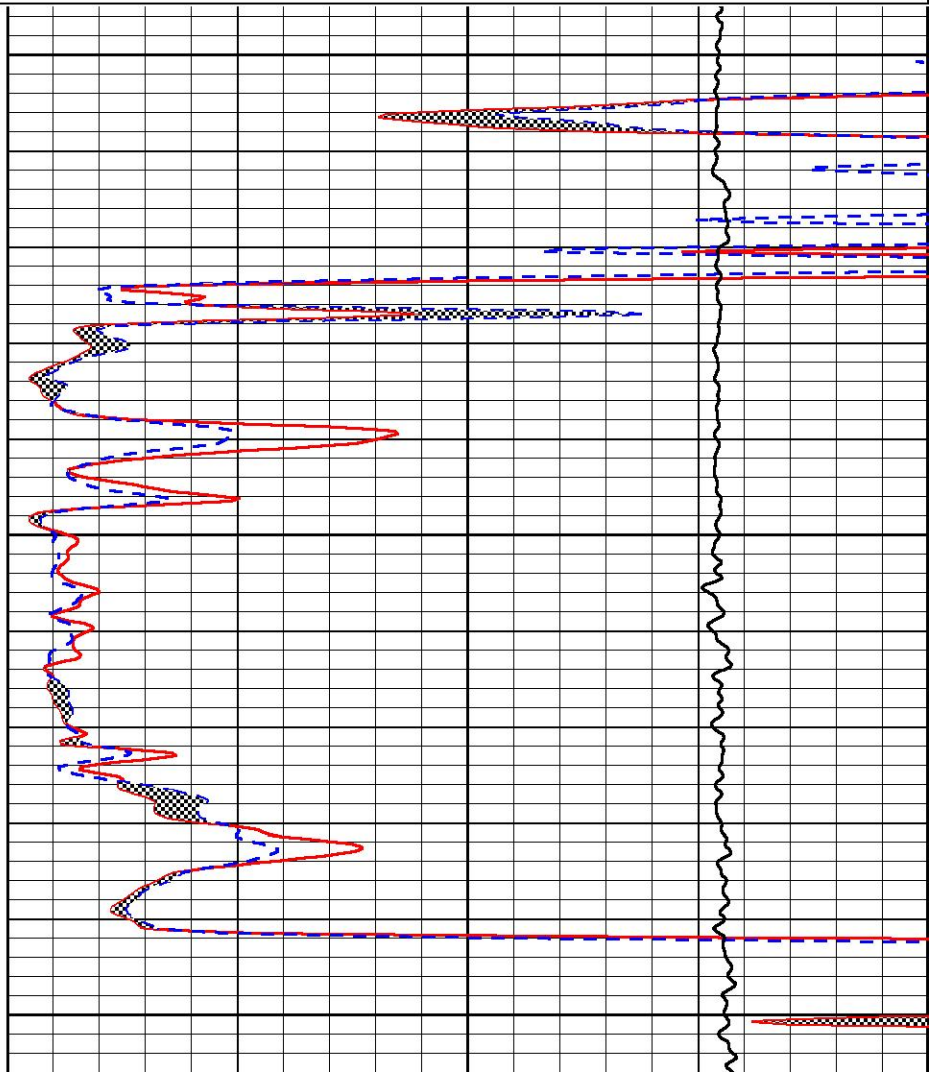
Database File      american\_warrior\_dirks\_1-22.db  
 Dataset Pathname    STKML/pass3.1  
 Presentation Format    micro  
 Dataset Creation     Fri Oct 20 19:56:14 2017  
 Charted by            Depth in Feet scaled 1:240



4600

4650

4700







Compensated Density Calibration Report

Serial-Model: 90-1031-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	<u>Density</u>		<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
	Spine Angle = 75.61			Density/Spine Ratio = 0.517	
	<u>Size</u>		<u>Reading</u>		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: WED SEP 6 10:30:30 2017

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89  
 Tool Model: M&W  
 Calibration Performed: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company AMERICAN WARRIOR, INC.  
 Well DIRKS #1-22  
 Field WILDCAT  
 County LOGAN  
 State KANSAS





**Computer Processed  
Interpretation**

Company AMERICAN WARRIOR, INC.  
Well DIRKS #1-22  
Field WILDCAT  
County LOGAN  
State KANSAS

Company AMERICAN WARRIOR, INC.  
Well DIRKS #1-22  
Field WILDCAT  
County LOGAN State KANSAS

Location: API #: 15-109-21526-00-00 Other Services  
949' FSL & 1004' FWL  
SEC 22 TWP 14S RGE 35W  
DIL/CNL/CDL  
BHC/S/MEL  
Permanent Datum GROUND LEVEL Elevation 3121'  
Log Measured From KELLY BUSHING  
Drilling Measured From KELLY BUSHING  
Elevation  
K.B. 3129'  
D.F. N/A  
G.L. 3121'

Date Recorded	10/20/2017	Curve Definitions
Depth Logger	4789'	
SW	Water Saturation	
SXO	Water Saturation In The Flushed Zone	
VCL	Volume Of Clay	
PHIE	Density - Neutron Crossplot Shale Corrected	
BVW	Bulk Volume Water	
BVWSXO	Bulk Volume Water In Flushed Zone	
DCAL	Caliper	
SPC	SP Corrected For Baseline	
DGA	Apparent Grain Density	
Payflag	If: PHIE> 2, VCL< 40, SPC> -10, SW< 50 & DCAL< 11	
Recorded By	D. SCHMIDT	
Witnessed By	LUKE THOMPSON	
Analysis By	DAN SCHMIDT	

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

**Comments**

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,  
SOUTH ON HWY 25 TO CURVE,  
2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,  
1/2 EAST, 1/2 SOUTH,  
EAST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
www.pioneerenergy.com 785-625-3858

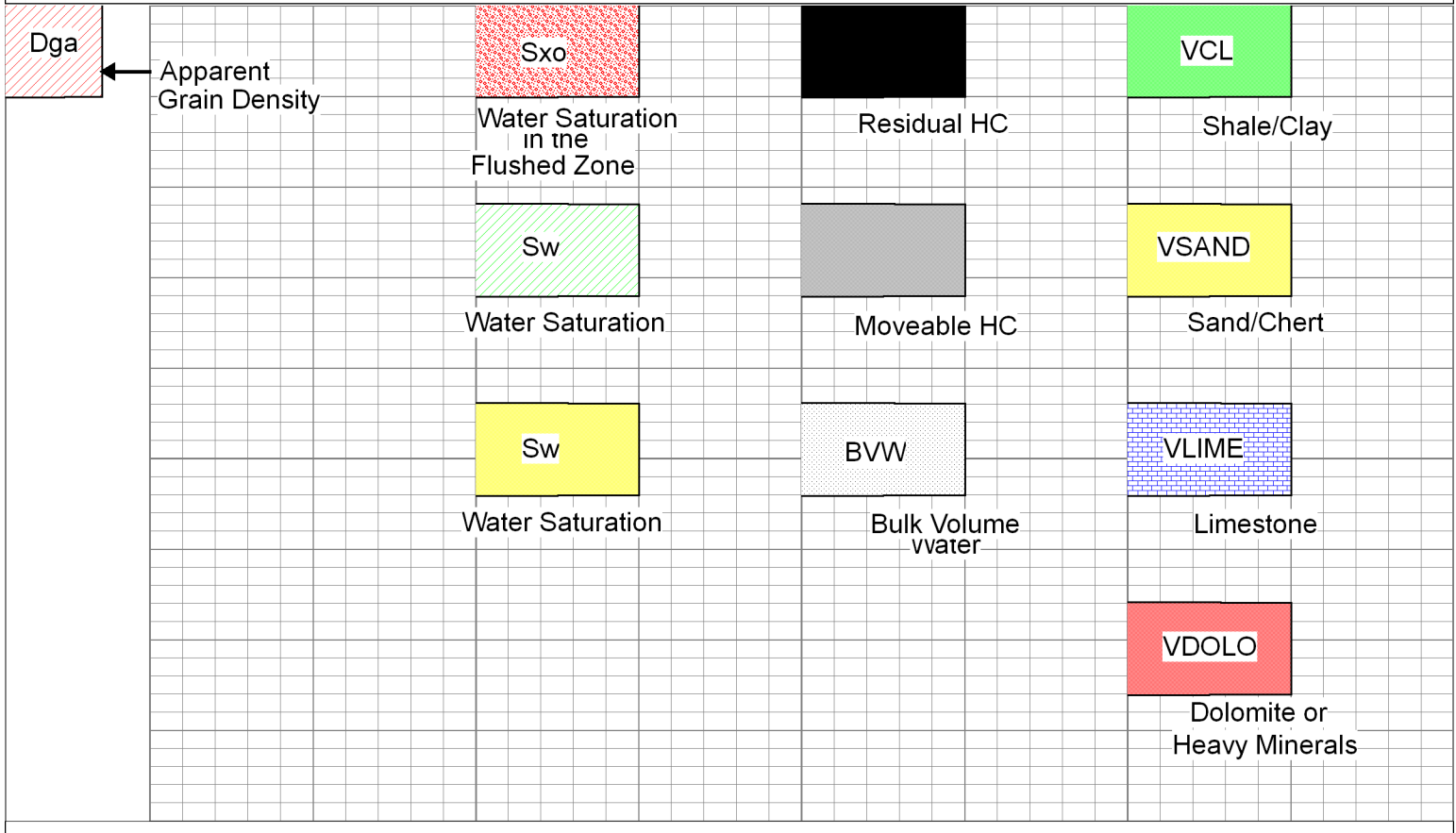
**Your Pioneer Energy Services Crew**

Engineer: D. SCHMIDT  
Operator:  
Operator:  
Operator:

**This Log Record Was Witnessed By**

Primary Witness: LUKE THOMPSON  
Secondary Witness:  
Secondary Witness:  
Secondary Witness:

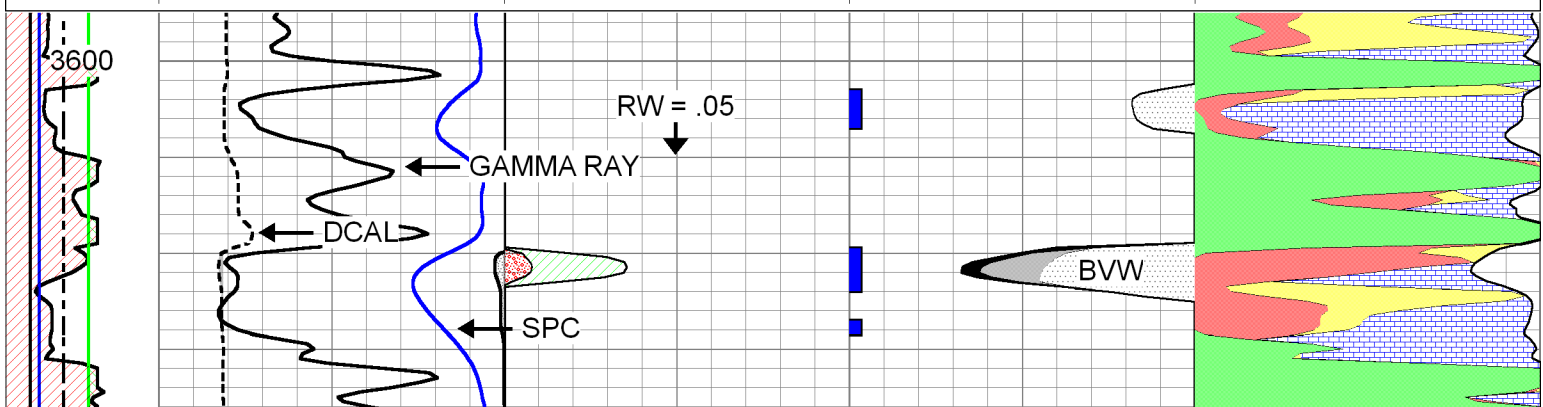
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 Dataset Pathname bricks  
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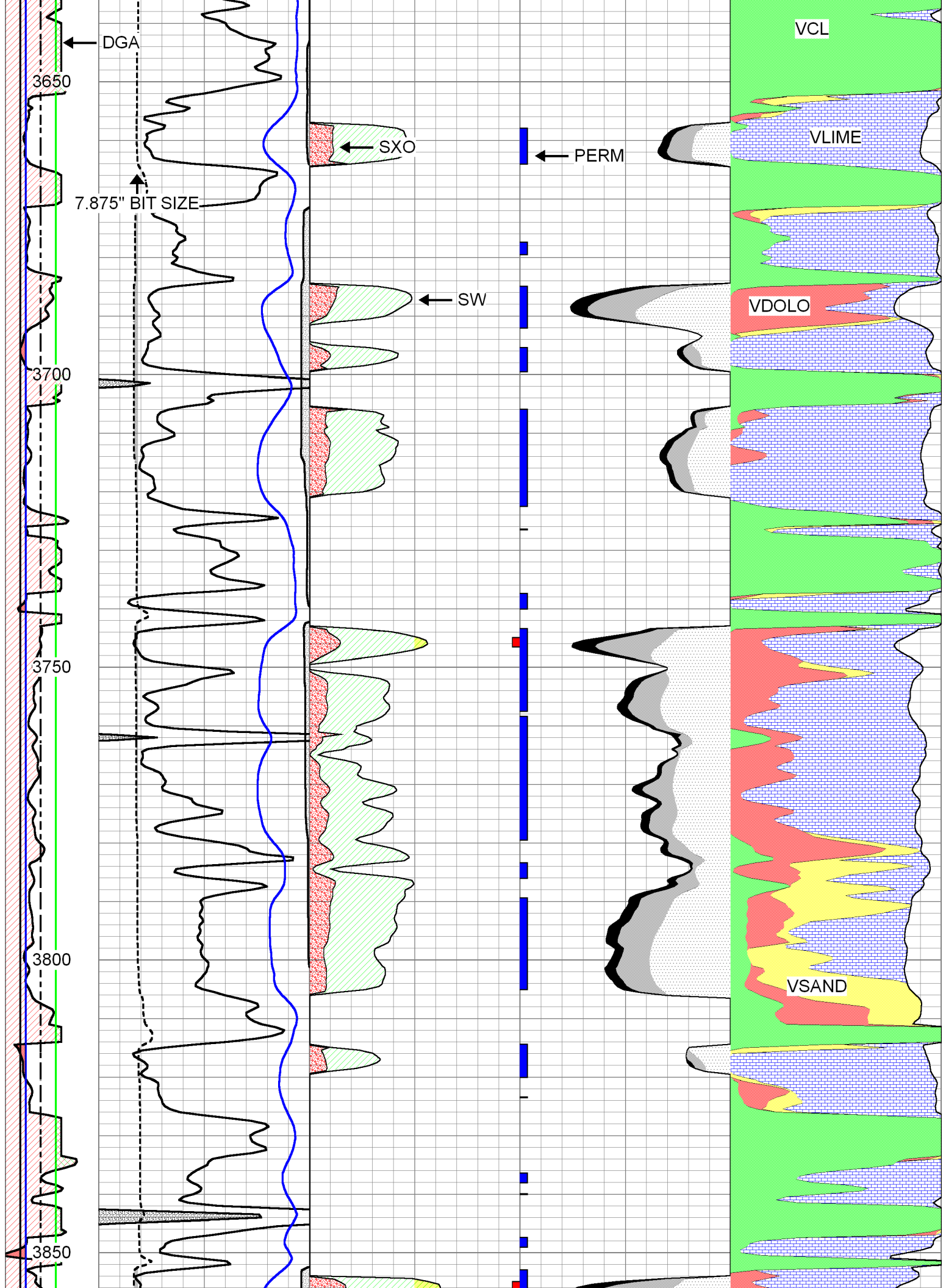


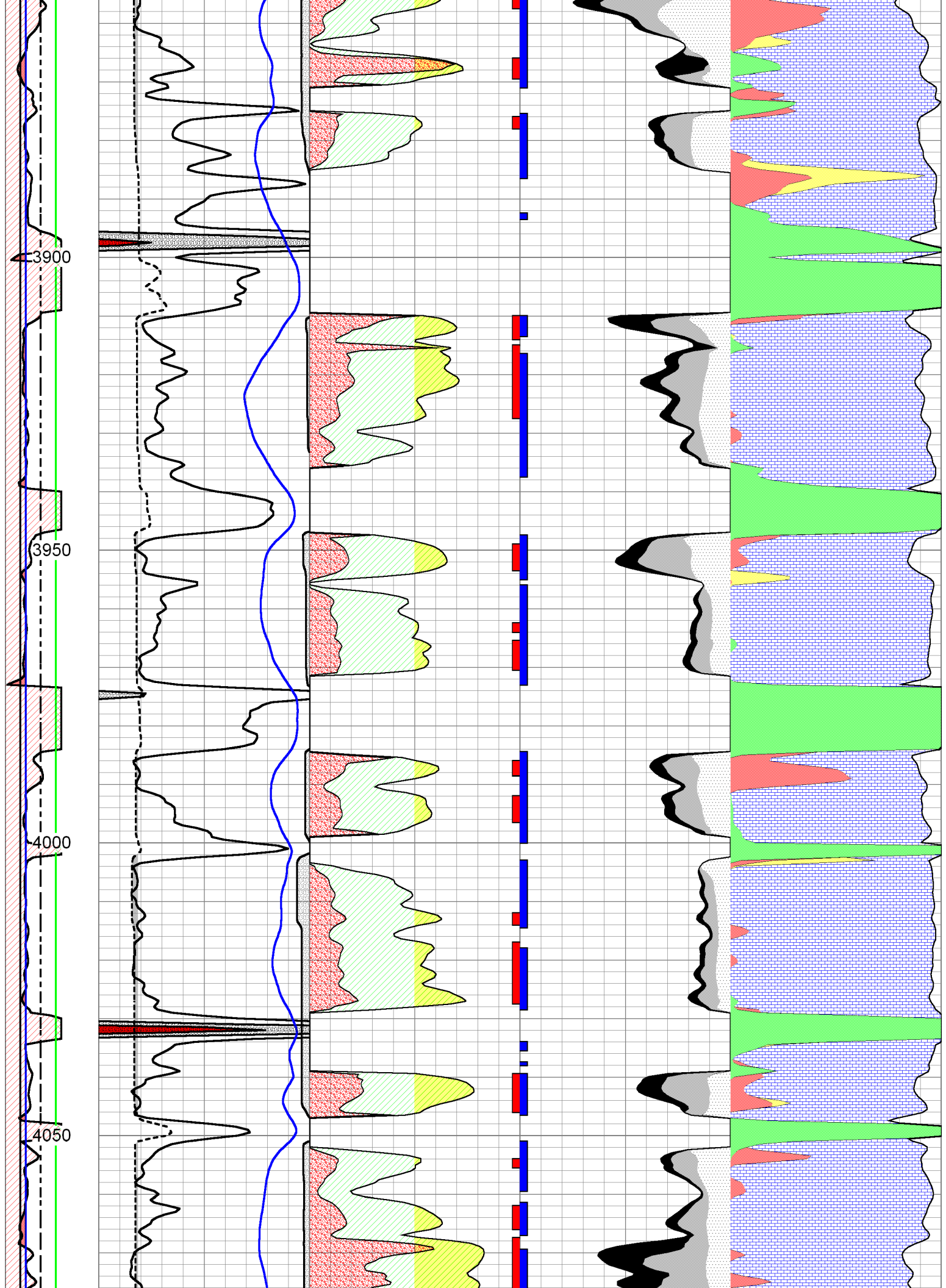
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 Charted by Depth in Feet scaled 1:240

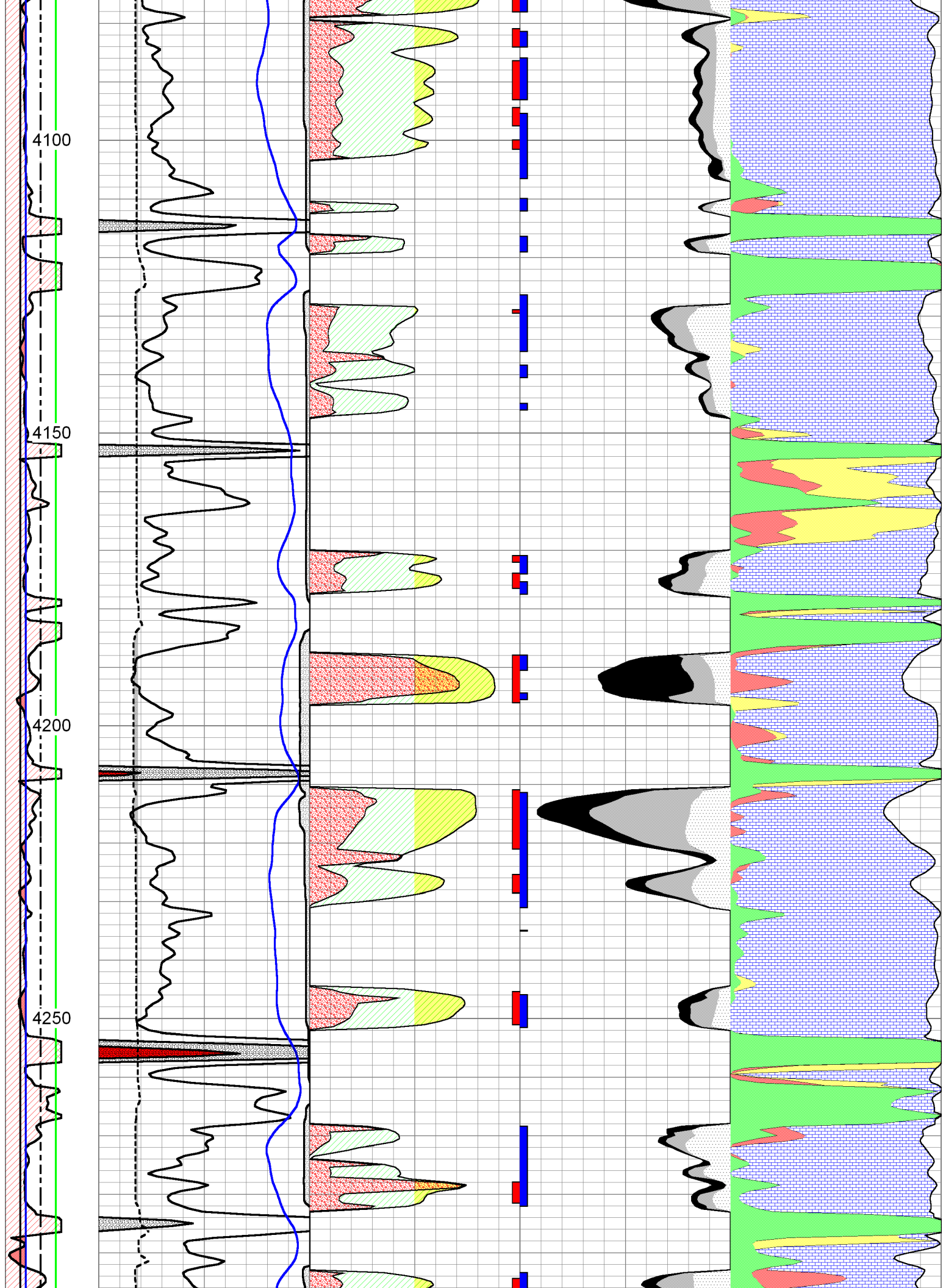
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(g/cc)	(GAPI)	150	PAYFLAG	30	0.3	BVW	0	0	VSAND	1
2.6 3.1	DCAL (in)	16	SXO	1	0	PERM	30	0	VLIME	1
	SPC	0			0.3	BVWSXO	0	0	VDOLO	1

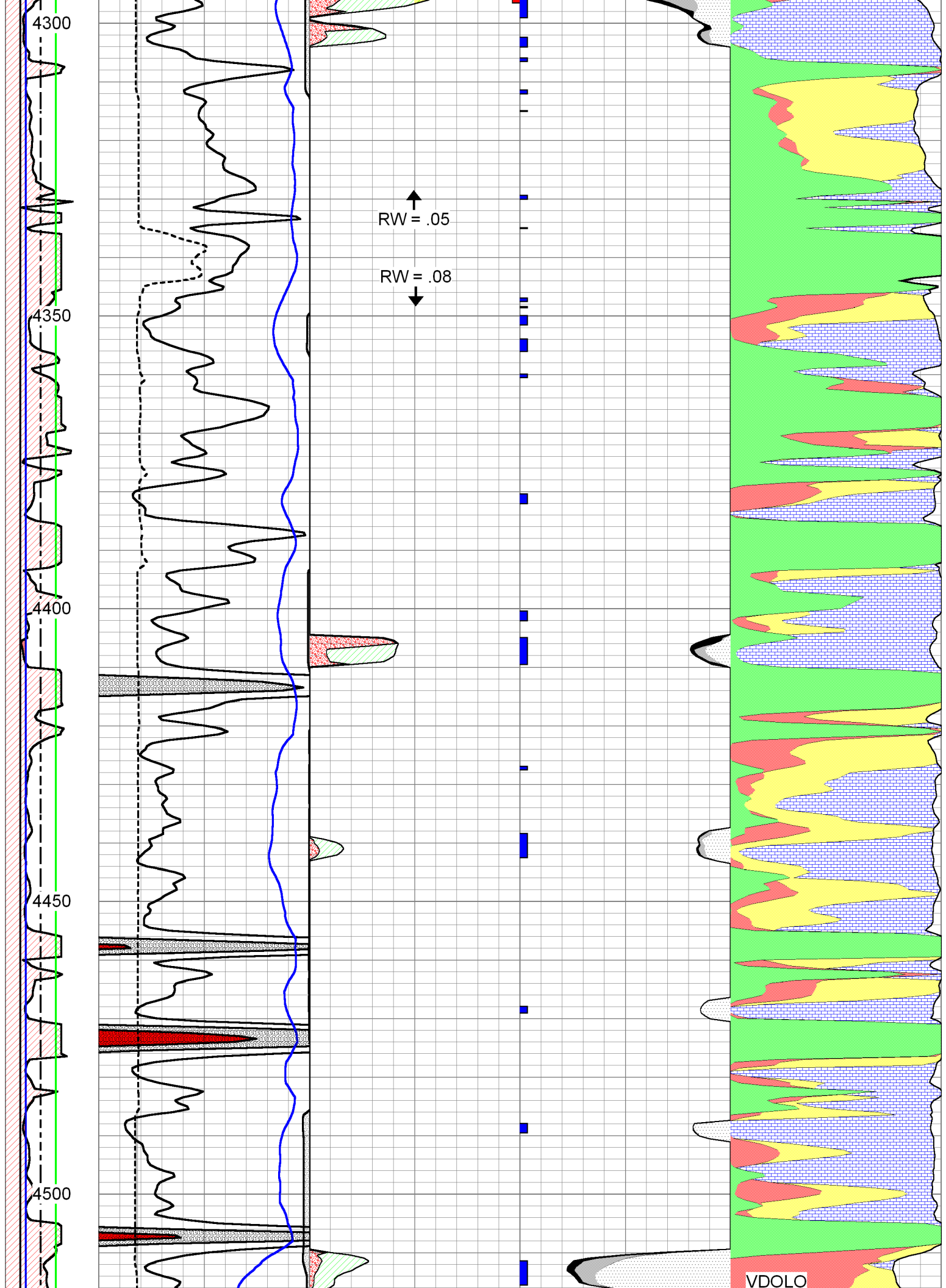












4300

4350

4400

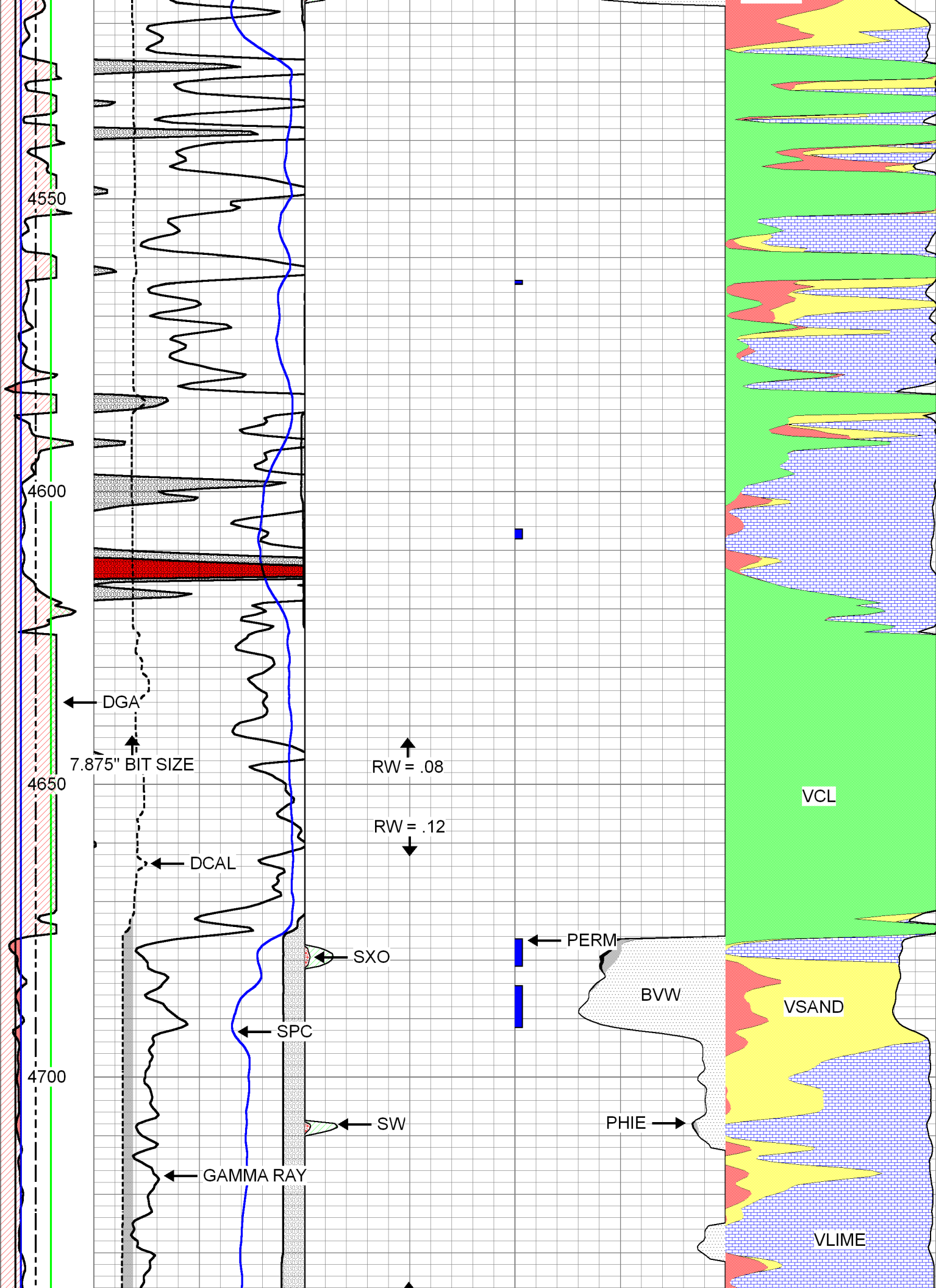
4450

4500

RW = .05

RW = .08

VDOLO



4550

4600

4650

4700

DGA

7.875" BIT SIZE

RW = .08

RW = .12

DCAL

SXO

SPC

SW

GAMMA RAY

PERM

BVW

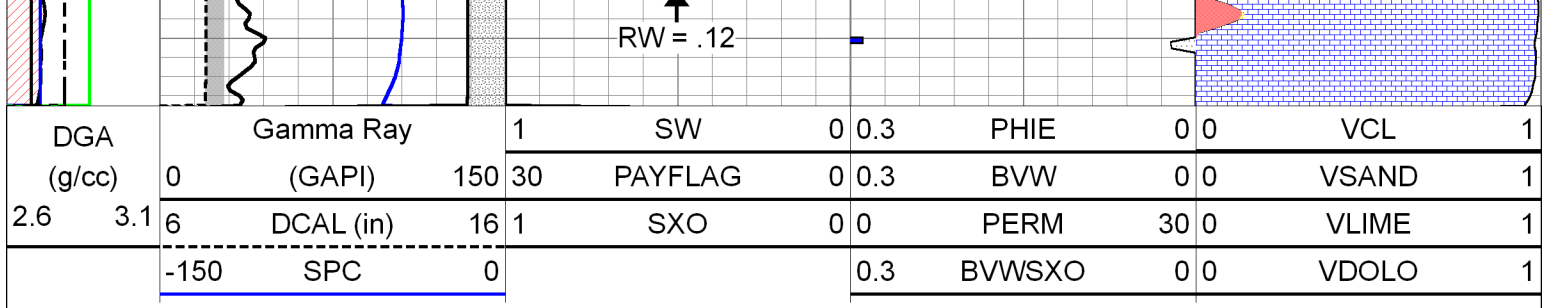
VSAND

VCL

PHIE

VLIME





 <p><b>PIONEER</b> Pioneer Energy Services</p>	Company	AMERICAN WARRIOR, INC.
	Well	DIRKS #1-22
	Field	WILDCAT
	County	LOGAN
	State	KANSAS



CHARGE TO: American Warrior Inc.  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE, ZIP CODE: \_\_\_\_\_

TICKET 30958

PAGE 1 OF 2

1. SERVICE LOCATIONS <u>Ness City KS</u>	WELL/PROJECT NO. <u># 1-22</u>	LEASE <u>Dirks</u>	COUNTY/PARISH <u>Logan</u>	STATE <u>KS</u>	CITY <u>Russell Springs</u>	DATE <u>10-21-17</u>	OWNER <u>Same</u>
2.	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>Discovery Drilling</u>	RIG NAME/NO. <u>#1</u>	SHIPPED VIA <u>CT</u>	DELIVERED TO <u>Location</u>	ORDER NO.	
3.	WELL TYPE <u>Oil</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>Cement 5 1/2" 15.5" Longstring</u>	WELL PERMIT NO.	WELL LOCATION <u>Russell Springs - 1s, 2nd Ss, 74s, Sink</u>		
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE			120	mi	5 <sup>00</sup>	600 <sup>00</sup>
578		1			Pump Charge - Longstring			1	job	1250 <sup>00</sup>	1250 <sup>00</sup>
402		1			Centralizer			8	in	60 <sup>00</sup>	480 <sup>00</sup>
403		1			Cement Basket			2	in	250 <sup>00</sup>	500 <sup>00</sup>
404		1			Port Collar			1	in	2500 <sup>00</sup>	2500 <sup>00</sup>
406		1			latch Down Plug + Baffle			1	in	225 <sup>00</sup>	225 <sup>00</sup>
407		1			Insert Flout Shoe w/ Auto Fill			1	in	300 <sup>00</sup>	300 <sup>00</sup>

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X Ch/Meyers  
 DATE SIGNED 10-21-17 TIME SIGNED 1200  A.M.  P.M.

REMIT PAYMENT TO:  
  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL #1	5855 <sup>00</sup>
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				PAGE TOTAL #2	6232 <sup>00</sup>
WE UNDERSTOOD AND MET YOUR NEEDS?					12087 <sup>00</sup>
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					715 <sup>72</sup>
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO		TOTAL	12802 <sup>72</sup>
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					



PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. #30958

CUSTOMER American Warrior Inc

WELL Dinks #1-22

DATE 10-21-17

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	QTY		U/M		UNIT PRICE	AMOUNT		
		LOC	ACCT	DF			QTY	U/M	QTY	U/M				
325		1				Standard Cement (EA-2)	200	slks			12.25	2450.00		
284		1				Calseal	5	%	9	slks	30.00	270.00		
283		1				Salt	10	%	1000	lbs	00.20	200.00		
292		1				Halad 322	3/4	%	150	lbs	8.00	1200.00		
276		1				Floccle	1/4	lb	50	lbs	2.25	112.50		
290		1				D-Air			2	gal	42.00	84.00		
281		1				Mud Flush			500	gal	1.25	625.00		
221		1				Liquid KCL			2	gal	25.00	50.00		
581		1				SERVICE CHARGE					1.50	300.00		
583		1				MILEAGE CHARGE	TOTAL WEIGHT	20900	LOADED MILES	120	TON MILES	1254	00.25	940.50

CONTINUATION TOTAL

6232.00

JOB LOG

SWIFT Services, Inc.

DATE 10-21-17 PAGE NO. 1

CUSTOMER American Warrior WELL NO. # 1-22 LEASE Dirks JOB TYPE 5 1/2" Longstring TICKET NO.

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0815							on location - Rig Waiting 5 1/2" 15.5"
								RTD - 4790' LTD - 4789'
								TP - 4786' out # 104 # 116
								SJ - #1-2339 P.C. - #56-2446'
								cent. - #1 #3 #5 #7 #9 #11 #13 #55
								Basket - #1 #56
	0830							Start 5 1/2" 15.5" casing in well
	1030							Drop Ball circulate
	1100	6 1/2	12		✓	350		Pump 500 gal Mud Flush
		6 1/2	20		✓	350		Pump 20 bbl HCL Flush
			7-5					Plug RH-MH (30-20)
	1120	4 1/2	36		✓	250		mix 150 sks EA-2 @ 15.5 ppg
								wash out Pump + Lines
								Release Latch Down Plug
	1140	6 1/2	Ø		✓	100		Start Displacement
		6 1/2	81		✓	250		Lift Pressure
		6 1/2	112		✓	850		max lift Pressure
	1200	6 1/2	113.3		✓	1800		Land Latch Down Plug
								Release Pressure - Plug Hold
								wash up truck
	1230							Job Complete
								Thank You Dave Preston Kirby



CHARGE TO: American Warrior, Inc  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 30526

PAGE 1 OF 1

SERVICE LOCATIONS  
 1. Hays, Ks WELL/PROJECT NO. #1-22 LEASE Dirks COUNTY/PARISH Logan STATE Ks CITY DATE 10/12/17 OWNER  
 2. Ness City, Ks TICKET TYPE  SERVICE CONTRACTOR Discovery Drilling RIG NAME/NO. #1 SHIPPED VIA Location DELIVERED TO ORDER NO.  
 3. WELL TYPE Oil WELL CATEGORY Development JOB PURPOSE Cement Surface Casing WELL PERMIT NO. WELL LOCATION  
 4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE #113	120	mi			5.00	600.00
5765		1			Pump Charge - Shallow Surface	1	EA			800.00	800.00
290		1			D-Air	3	gal			42.00	126.00
325		2			Standard Cement	170	SKS			12.25	2082.50
278		2			Calcium Chloride (3%)	400	lbs	8	SKS	40.00	320.00
279		2			Bentonite Gel (2%)	300	lbs	3	SKS	25.00	75.00
581		2			Service Charge Cement	170	SKS	16680	lbs	1.50	2551.00
583		2			Drayage	120	mi	1000.8	TM	0.75	750.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X [Signature]  
 DATE SIGNED TIME SIGNED  A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				5009 10
WE UNDERSTOOD AND MET YOUR NEEDS?				
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				Logan TAX 8.0% 208.28
ARE YOU SATISFIED WITH OUR SERVICE? <input type="checkbox"/> YES <input type="checkbox"/> NO				TOTAL 5217.38
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND				

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR [Signature] APPROVAL

Thank You!



JOB LOG

SWIFT Services, Inc.

DATE 10/12/17 PAGE NO. 1

CUSTOMER **AWI** WELL NO. **1-22** LEASE **Dirks** JOB TYPE **Cement Surface** TICKET NO. **30526**

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1200							On loc w/ 170 SKS std 2% gel, 3% CC Rig still Drilling Set up trucks 8 5/8 x 23 lb to 211'
	1325							Hook up to Circ
	1335							Fin Circ
	1335							Hook up to truck.
	1340	4				200		Start Water ahead.
	1345	4	5			200		Fin Water, Start Cmt
	1357	4	41			Vac		Fin Cmt, Start Displacement
	1400	4	12 1/2			100		Fin Displ Close in, Release truck.
	1405							Wash up, Rack up Job Complete
								Thanks, Jon, Austin, & Kirby



CHARGE TO: American Warrior Inc.  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 30958

PAGE 1 OF 2

1. SERVICE LOCATIONS Ness City KS	WELL/PROJECT NO. # 1-22	LEASE Dirks	COUNTY/PARISH Logan	STATE KS	CITY Russell Springs	DATE 10-21-17	OWNER Same
2.	TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR Discovery Drilling	RIG NAME/NO. #1	SHIPPED VIA CT	DELIVERED TO Location	ORDER NO.	
3.	WELL TYPE Oil	WELL CATEGORY Development	JOB PURPOSE Cement 5 1/2" 15.5" Longstring	WELL PERMIT NO.	WELL LOCATION Russell Springs - 1s, 2nd Ss, 7 1/2 Ss		
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE			120	mi	5 <sup>00</sup>	600 <sup>00</sup>
578		1			Pump Charge - Longstring			1	job	1250 <sup>00</sup>	1250 <sup>00</sup>
402		1			Centralizer			8	in	60 <sup>00</sup>	480 <sup>00</sup>
403		1			Cement Basket			2	in	250 <sup>00</sup>	500 <sup>00</sup>
404		1			Port Collar			1	in	2500 <sup>00</sup>	2500 <sup>00</sup>
406		1			Latch Down Plug + Baffle			1	in	225 <sup>00</sup>	225 <sup>00</sup>
407		1			Insert Flout Shoe w/ Auto Fill			1	in	300 <sup>00</sup>	300 <sup>00</sup>

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

x *Ch/Meyers*  
 DATE SIGNED: 10-21-17 TIME SIGNED: 1200  
 A.M.  
 P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL #1	5855 <sup>00</sup>
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				PAGE TOTAL #2	6232 <sup>00</sup>
WE UNDERSTOOD AND MET YOUR NEEDS?					12087 <sup>00</sup>
OUR SERVICE WAS PERFORMED WITHOUT DELAY?					715 <sup>72</sup>
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?					
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES <input type="checkbox"/> NO			TOTAL	12802 <sup>72</sup>
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND					

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR: David Kuehn APPROVAL:

Thank You!





PO Box 466  
Ness City, KS 67560  
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. #30958

CUSTOMER American Warrior Inc

WELL Dinks #1-22

DATE 10-21-17

PAGE 2 OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	QTY		U/M		UNIT PRICE		AMOUNT	
		LOC	ACCT	DF			QTY	U/M	QTY	U/M				
325		1				Standard Cement (EA-2)					200	sls	12.25	2450.00
284		1				Calseal	5	%			9	sls	30.00	270.00
283		1				Salt	10	%			1000	lbs	00.20	200.00
292		1				Halad 322	3/4	%			150	lbs	8.00	1200.00
276		1				Flocele	1/4	lb			50	lbs	2.25	112.50
290		1				D-Air					2	gal	42.00	84.00
281		1				Mud Flush					500	gal	1.25	625.00
221		1				Liquid KCL					2	gal	25.00	50.00
581		1				SERVICE CHARGE								
583		1				MILEAGE CHARGE								
						TOTAL WEIGHT	20900							
						LOADED MILES	120							
						CUBIC FEET					200		1.50	300.00
						TON MILES					1254		00.75	940.50

CONTINUATION TOTAL

6232.00

JOB LOG

SWIFT Services, Inc.

DATE 10-21-17 PAGE NO. 1

CUSTOMER		WELL NO.		LEASE		JOB TYPE		TICKET NO.	
American Warrior		# 1-22		Dirks		5 1/2" Longstring			
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
	0815								on location - Rig Waiting 5 1/2" 15.5"
									RTD - 4790' LTD - 4789'
									TP - 4786' out # 104 # 116
									SJ - #1-23,39 P.C. - #56-2446'
									cent. - #1 #3 #5 #7 #9 #11 #13 #55
									Basket - #1 #56
	0830								Start 5 1/2" 15.5" casing in well
	1030								Drop Ball circulate
	1100	6 1/2	12		✓	350			Pump 500 gal Mud Flush
		6 1/2	20		✓	350			Pump 20 bbl HCL Flush
			7-5						Plug RH-MH (30-20)
	1120	4 1/2	36		✓	250			mix 150 sks EA-2 @ 15.5 ppg
									wash out Pump + Lines
									Release Latch Down Plug
	1140	6 1/2	Ø		✓	100			Start Displacement
		6 1/2	81		✓	250			Lift Pressure
		6 1/2	112		✓	850			max lift Pressure
	1200	6 1/2	113.3		✓	1800			Land Latch Down Plug
									Release Pressure - Plug Hold
									wash up truck
	1230								Job Complete

Thank You  
Dave Preston Kirby