

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. 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
--	---

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
---	---	------------------------------------

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:	
----------------	-------	---------	------------	--

Form	ACO1 - Well Completion
Operator	Black Rock Resources, LLC
Well Name	POLIFKA 18-1
Doc ID	1473886

All Electric Logs Run

Dual Induction
Dual Compensated Porosity
Micro
Sonic



PIONEER
Pioneer Energy Services

**MICRORESISTIVITY
LOG**

Company **BLACK ROCK RESOURCES, LLC**
Well **POLIFKA #18-1**
Field **WILDCAT**
County **GOVE** State **KANSAS**

Company **BLACK ROCK RESOURCES, LLC**
Well **POLIFKA #18-1**
Field **WILDCAT**
County **GOVE**
State **KANSAS**

Location: **API #: 15-063-22364-00-00**
505' FSL & 2070' FEL
SEC 18 TWP 13S RGE 26W
Permanent Datum **GROUND LEVEL Elevation 2505'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**
Other Services
CNL/CDL
DIL/BHCS
Elevation
K.B. **2515'**
D.F. **N/A**
G.L. **2505'**

Date	9/10/2019
Run Number	ONE
Depth Driller	4400'
Depth Logger	4402'
Bottom Logged Interval	4401'
Top Log Interval	3300'
Casing Driller	8.625" @ 274'
Casing Logger	272'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	3900
Density / Viscosity	9.2 57
pH / Fluid Loss	11.5 7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.75 @ 74
Rmt @ Meas. Temp	0.56 @ 74
Rmc @ Meas. Temp	1.01 @ 74
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.46 @ 120
Operating Rig Time	4 HOURS
Max Rec. Temp. F	120
Equipment Number	P-24
Location	HAYS
Recorded By	IAN MABB
Witnessed By	CHAD COUNTS

<<< 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.

**QUINTER, KS.
SOUTH 10 MILES TO P RD,
WEST 1/2 MILE, AND NORTH INTO**

Log Measured From: KELLY BUSHING 10' Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: IAN MABB	Primary Witness: CHAD COUNTS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\black_rock_18_1.db
Dataset field/well/stackmel/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	120	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	238	0	Off	4402

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (233-M&W)	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 (96-916)	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		DIL-PSI HIGH TEMP (1039)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: black_rock_18_1.db: field/well/stackmel/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

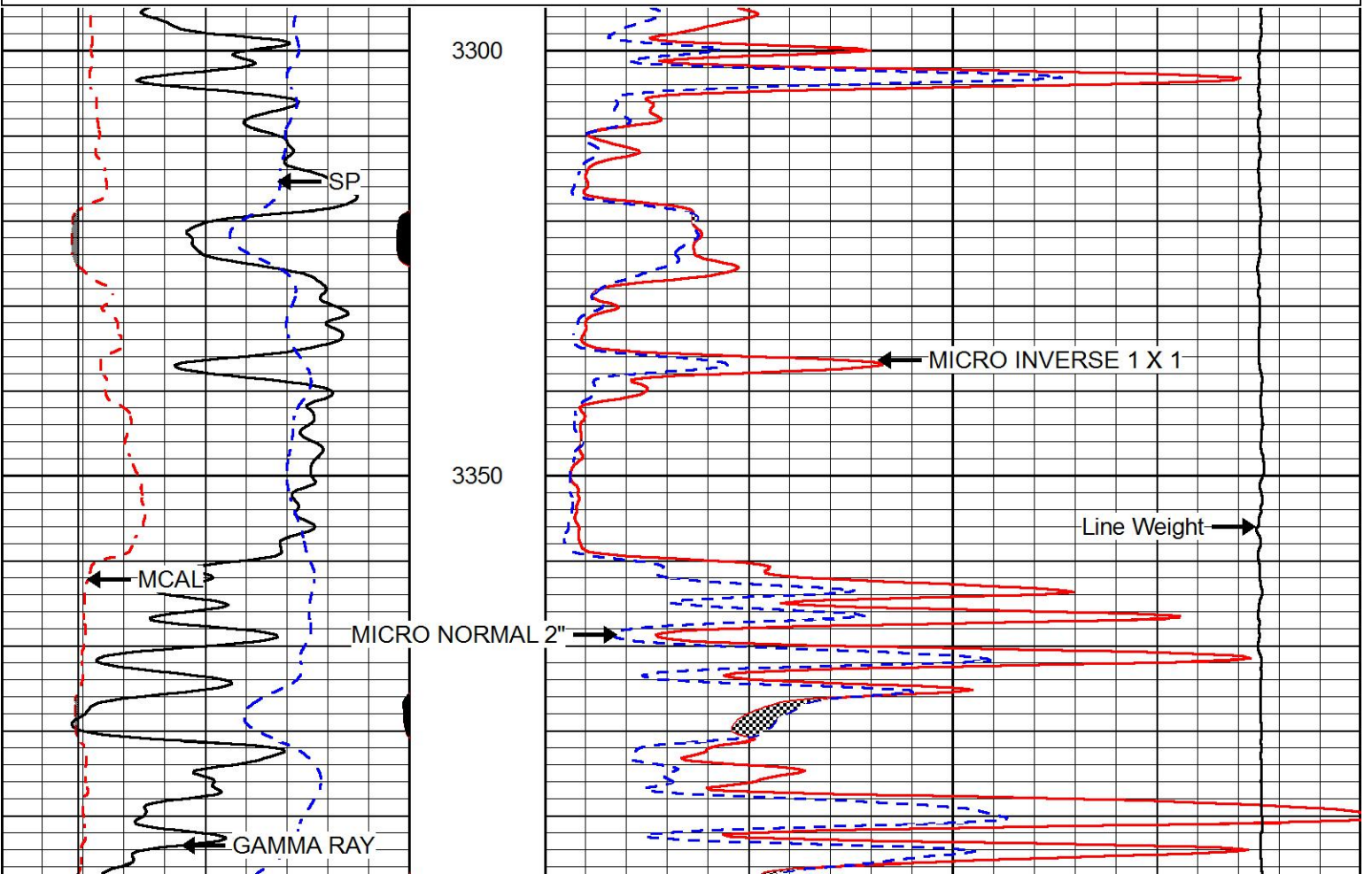


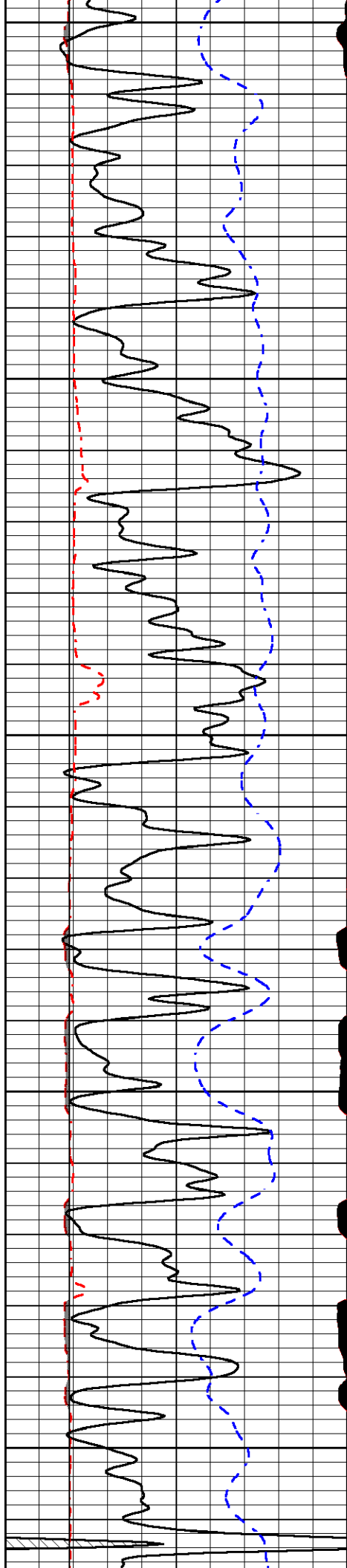
MAIN PASS

Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format _micro
 Dataset Creation Tue Sep 10 09:39:03 2019
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mc (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





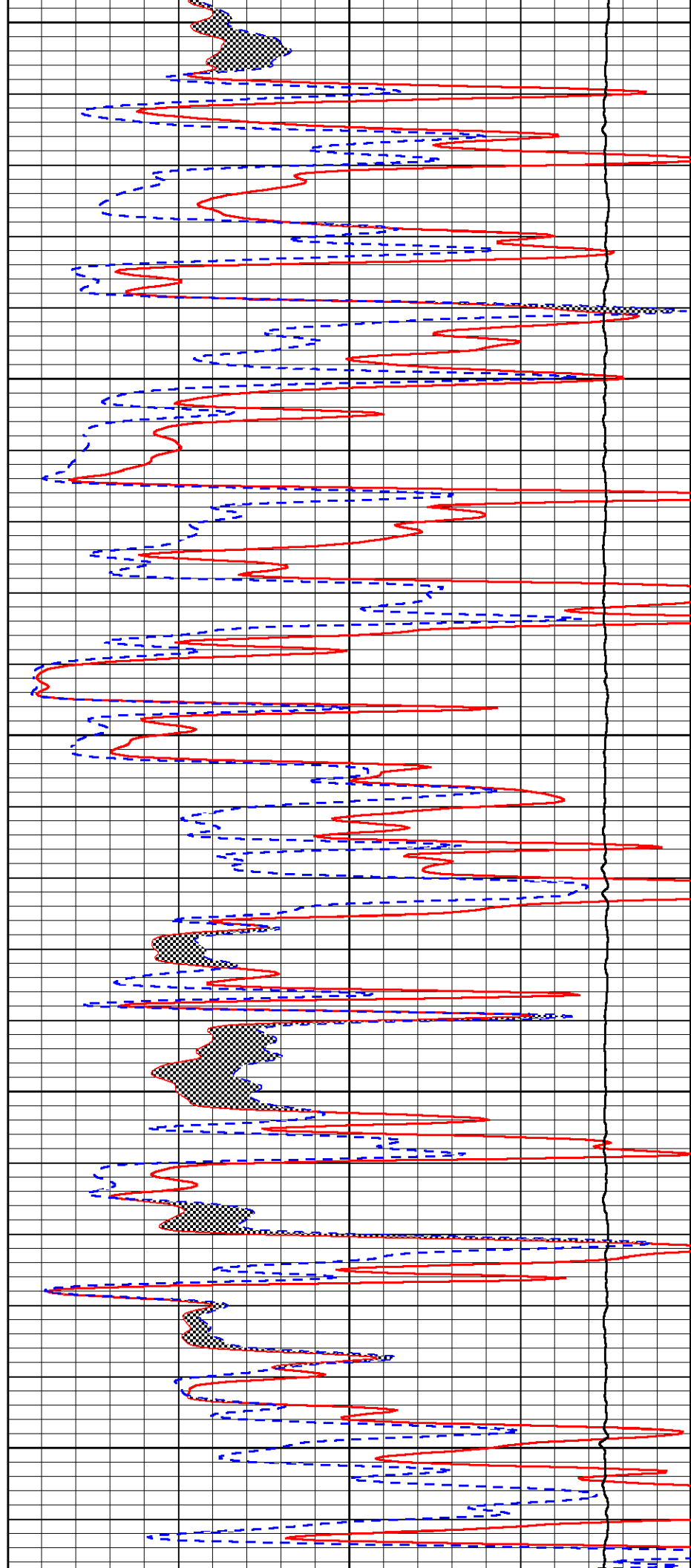
3400

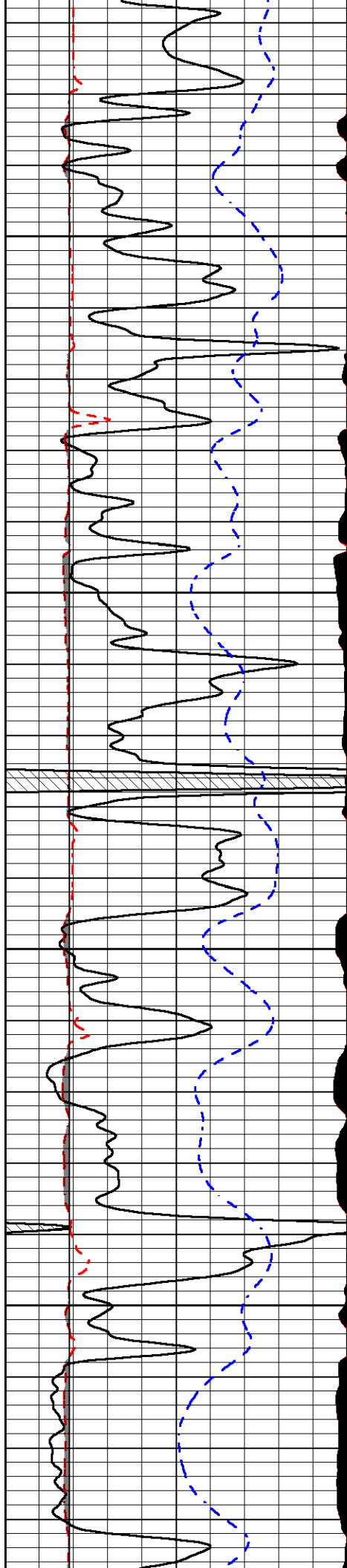
3450

3500

3550

3600



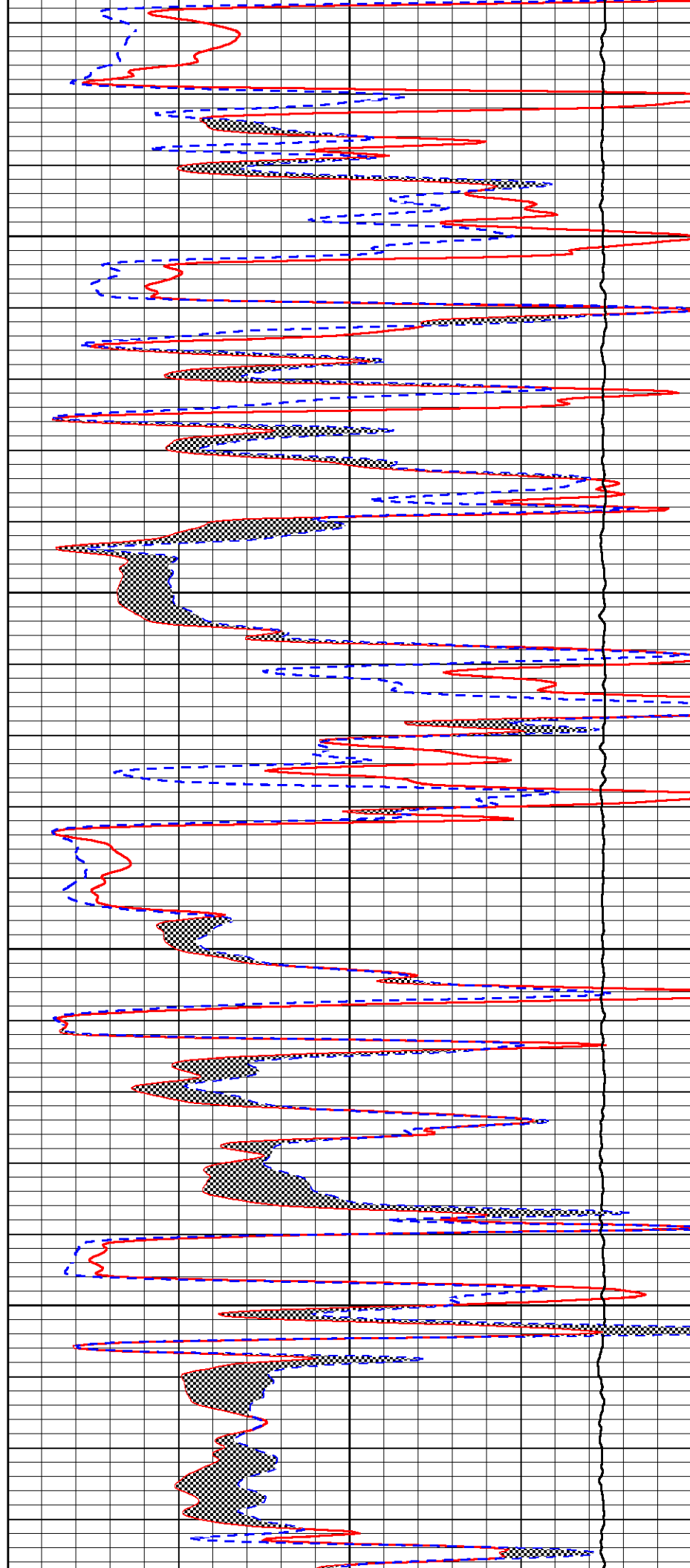


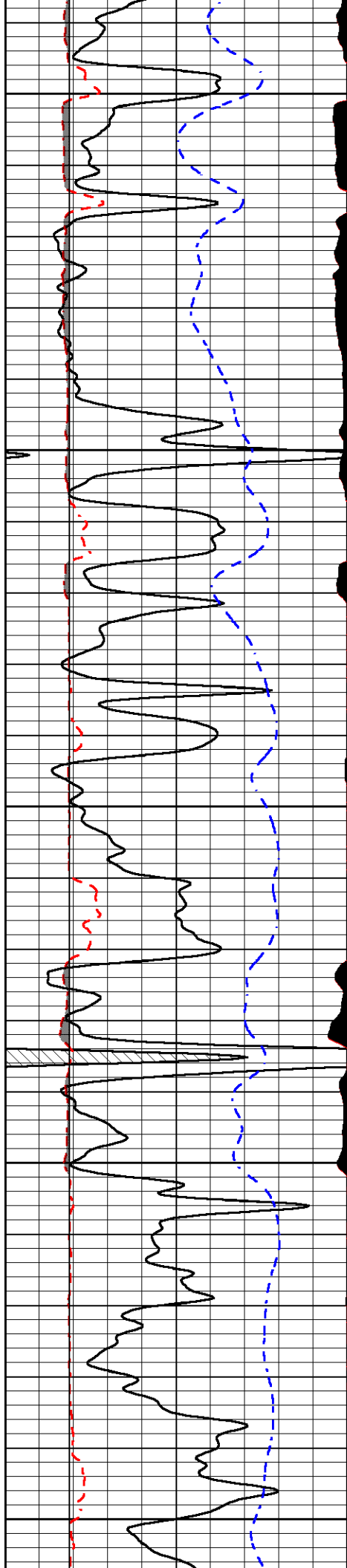
3650

3700

3750

3800





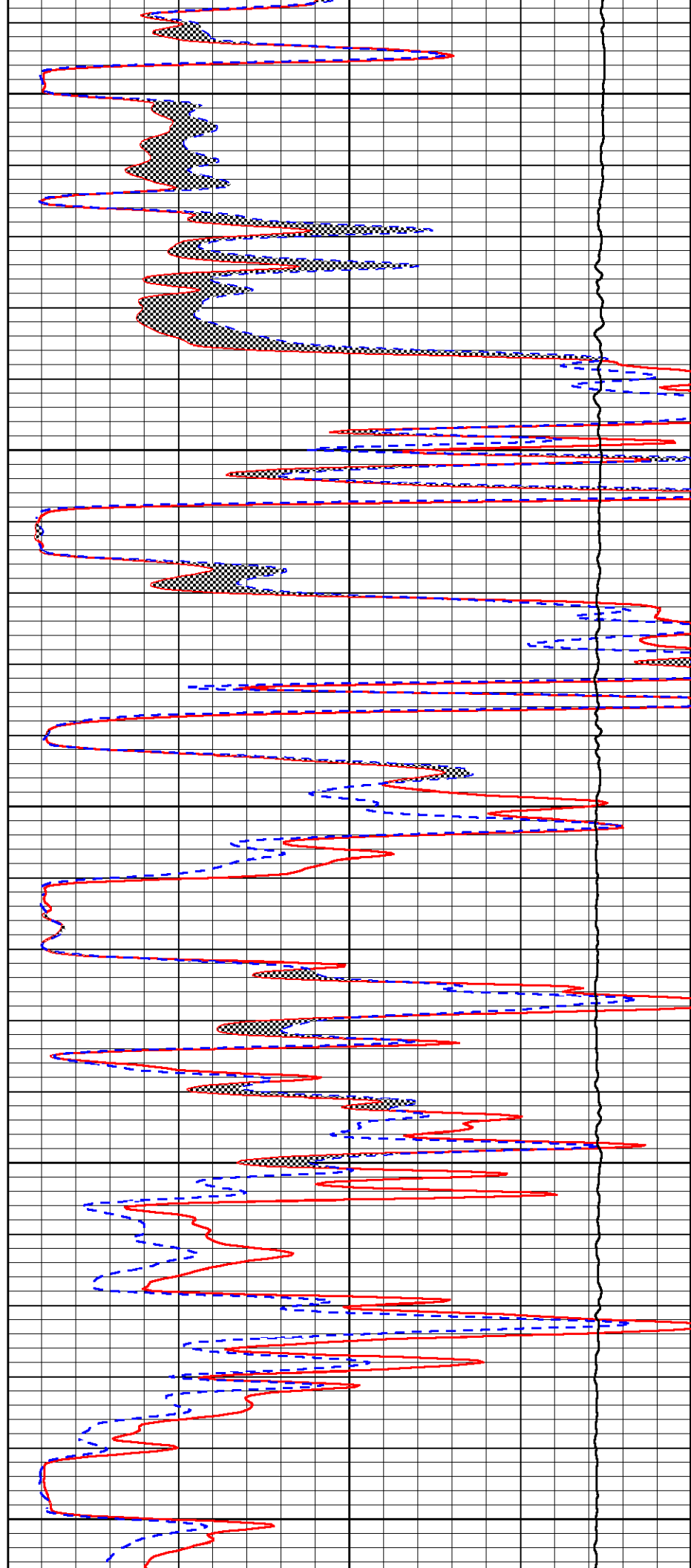
3850

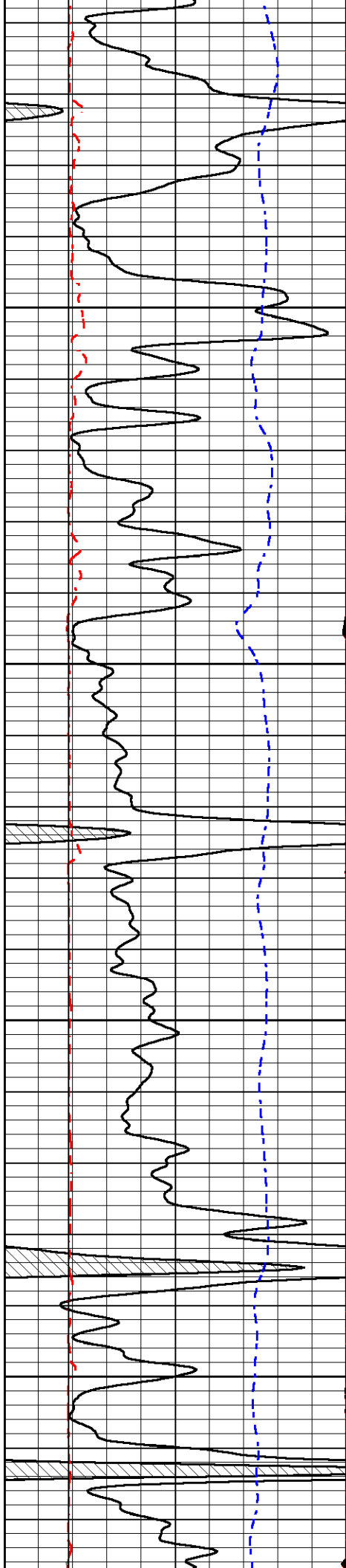
3900

3950

4000

4050



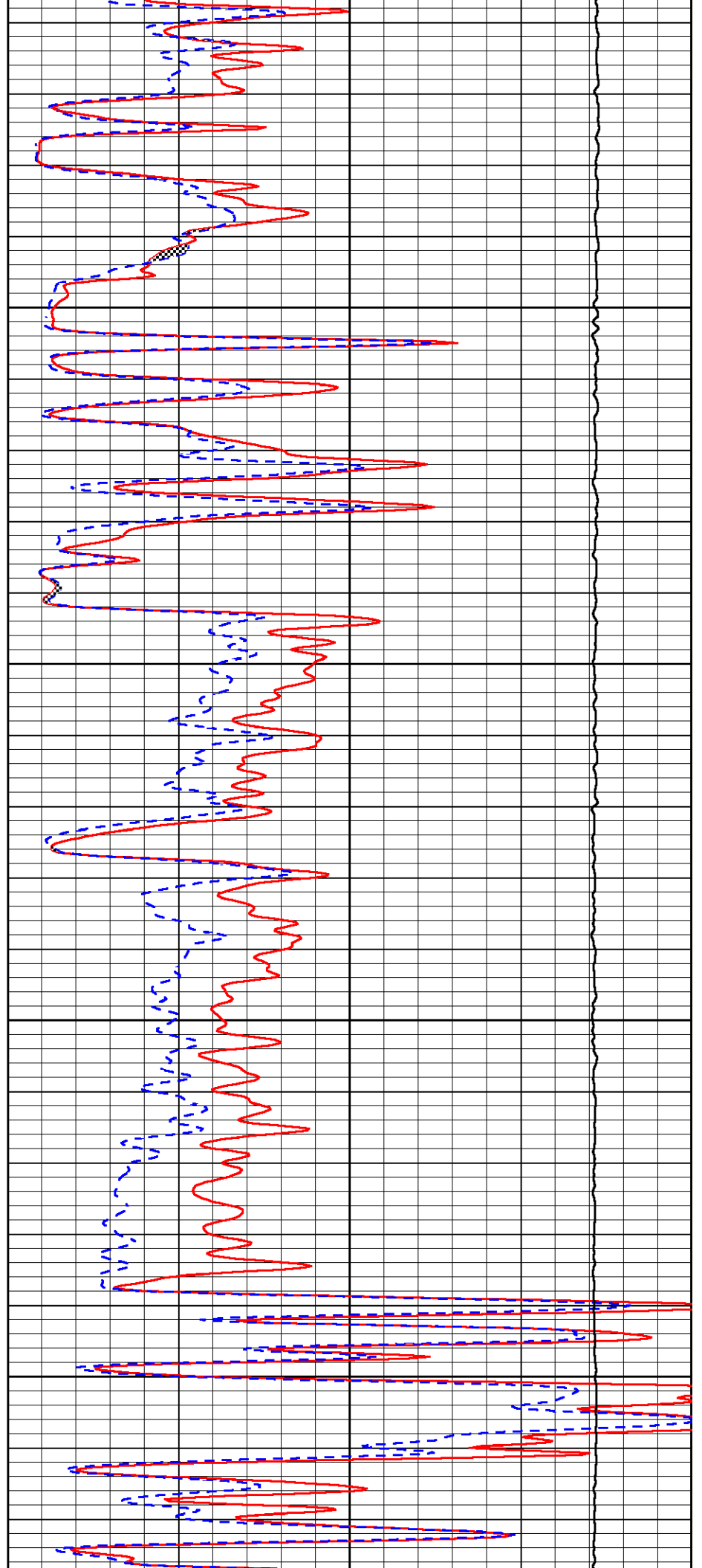


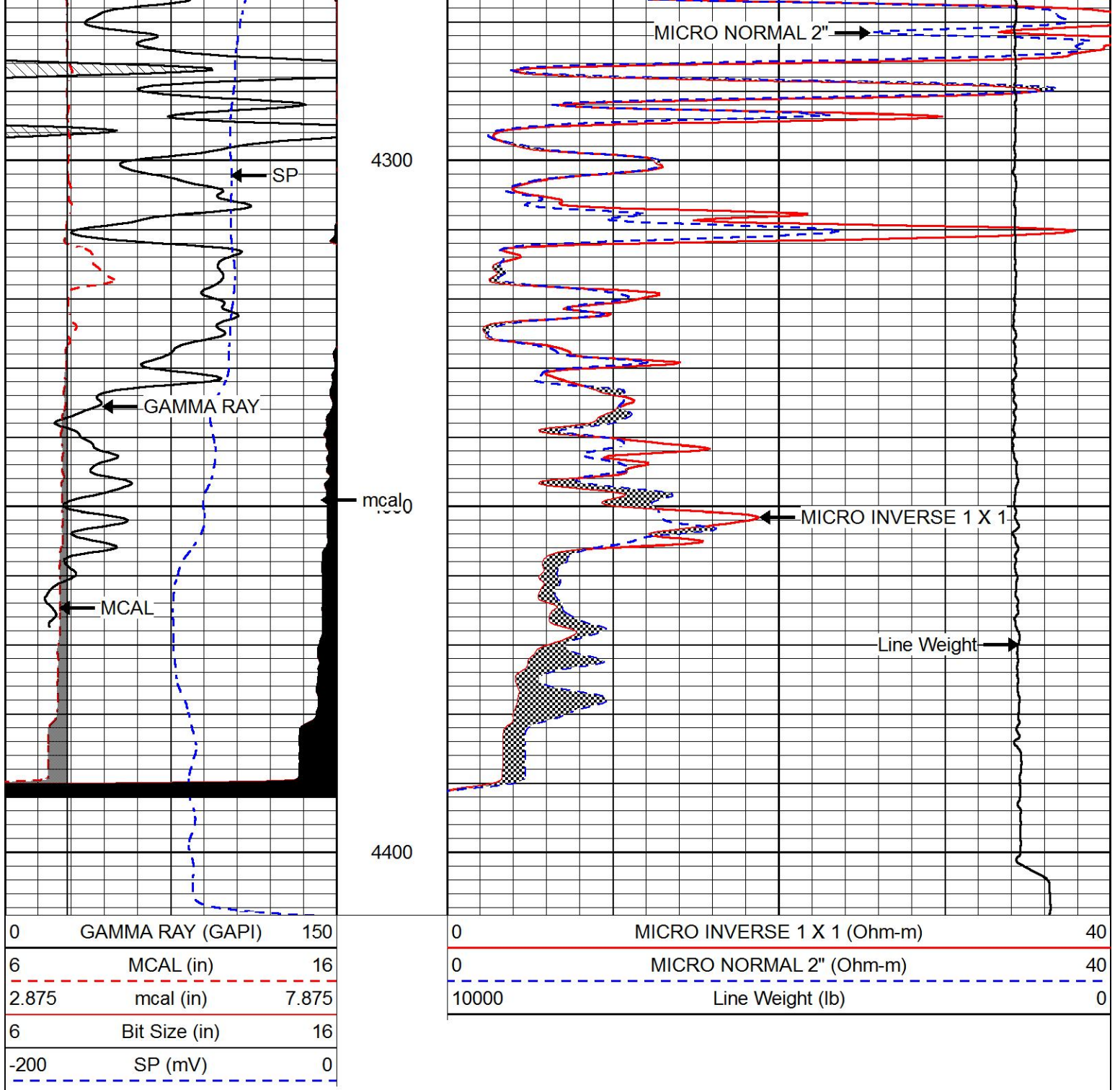
4100

4150

4200

4250





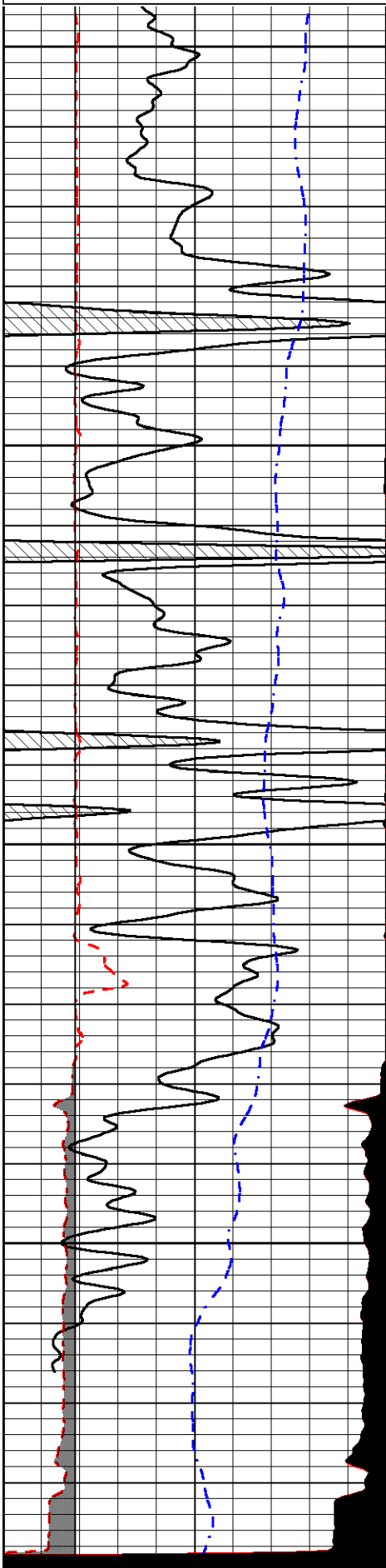
REPEAT SECTION

Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format _micro
 Dataset Creation Tue Sep 10 09:44:08 2019
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

SP (mV) -200 0



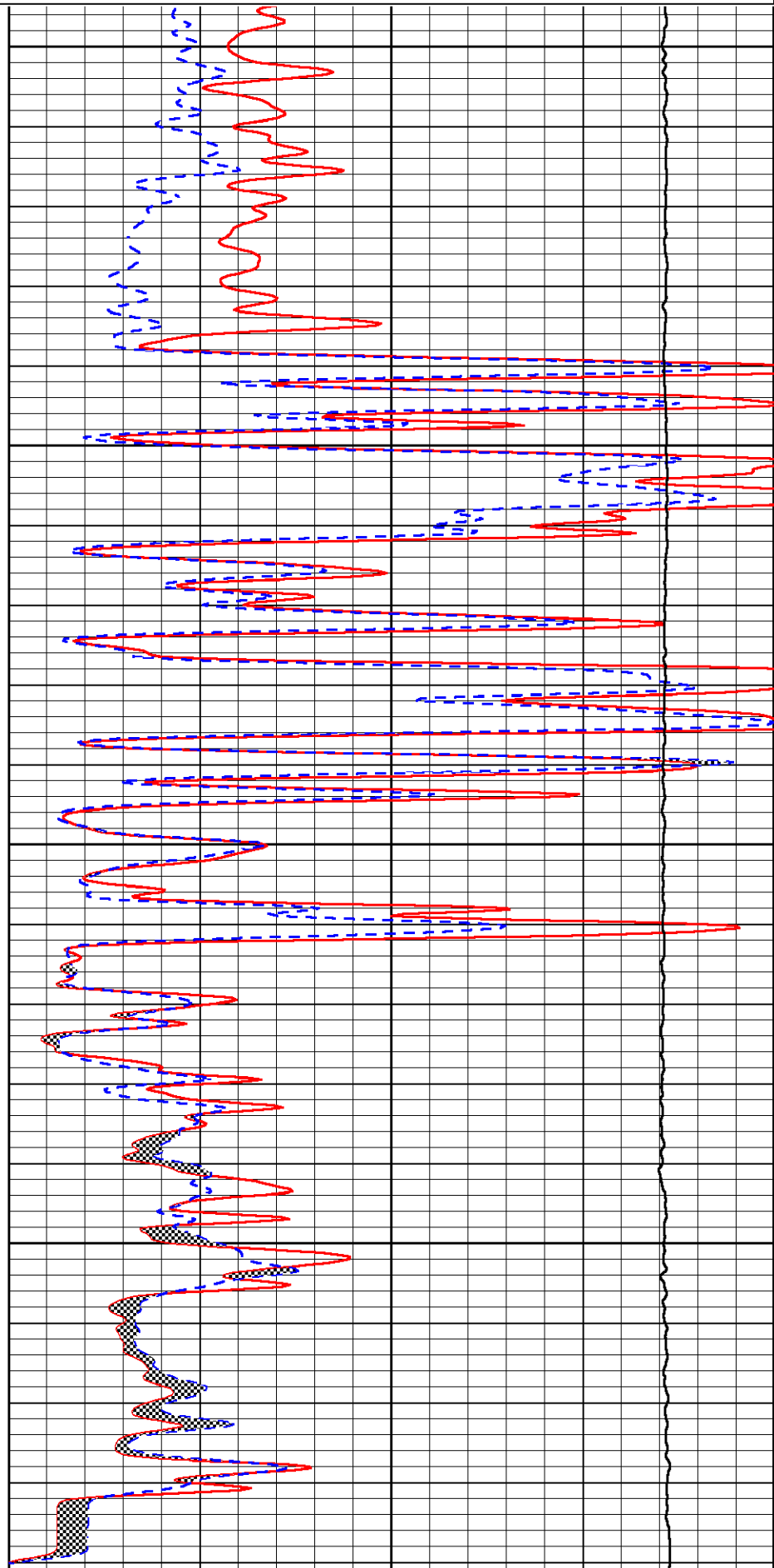
4200

4250

4300

4350

4400



0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcAl (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

Calibration Report

Database File black_rock_18_1.db
Dataset Pathname stackmel/pass3.1
Dataset Creation Tue Sep 10 09:39:03 2019

Dual Induction Calibration Report

Serial-Model: 1039-PSI HIGH TEMP
Calibration Performed: Tue Sep 10 08:34:01 2019

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.450	-51.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.365	-49.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
Performed: Thu Aug 01 07:57:13 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	17000.0000	-0.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	18000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-64.2000

Compensated Density Calibration Report

Serial-Model: 96-916-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Wed Mar 27 11:00:53 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8943.64	10054.60	cps
Aluminum	2.655	g/cc	1595.61	6242.82	cps
Spine Angle = 74.54			Density/Spine Ratio = 0.503		
	Size		Reading		
Small Ring	4.00	in	1.74		
Large Ring	16.00	in	1.38		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED FEB 13 10:30:30 2019

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: 233-M&W
Tool Model: M&W
Calibration Performed: Fri Feb 07 01:42:40 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.5500 GAPI/cps



PIONEER
Pioneer Energy Services

Company BLACK ROCK RESOURCES, LLC
Well POLIFKA #18-1
Field WILDCAT
County GOVE
State KANSAS



PIONEER
Pioneer Energy Services

**DUAL INDUCTION
LOG**

Company **BLACK ROCK RESOURCES, LLC**
 Well **POLIFKA #18-1**
 Field **WILDCAT**
 County **GOVE** State **KANSAS**

Location: **API #: 15-063-22364-00-00**
505' FSL & 2070' FEL
SEC 18 TWP 13S RGE 26W

Permanent Datum **GROUND LEVEL** Elevation **2505'**
 Log Measured From **KELLY BUSHING**
 Drilling Measured From **KELLY BUSHING**

Other Services
CNL/CDL
MEL/BHCS

Date	9/10/2019
Run Number	ONE
Depth Driller	4400'
Depth Logger	4402'
Bottom Logged Interval	4401'
Top Log Interval	250'
Casing Driller	8.625" @ 274'
Casing Logger	272'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	3900
Density / Viscosity	9.2 57
pH / Fluid Loss	11.5 7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.75 @ 74
Rmt @ Meas. Temp	0.56 @ 74
Rmc @ Meas. Temp	1.01 @ 74
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.46 @ 120
Operating Rig Time	4 HOURS
Max Rec. Temp. F	120
Equipment Number	P-24
Location	HAYS
Recorded By	IAN MABB
Witnessed By	CHAD COUNTS

<<< 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.

QUINTER, KS.
SOUTH 10 MILES TO P RD,
WEST 1/2 MILE, AND NORTH INTO

Log Measured From: **KELLY BUSHING** 10' Ft. Above Permanent Datum

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

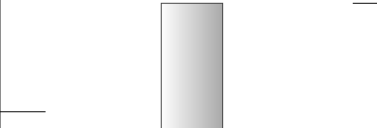
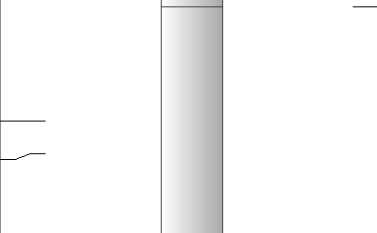
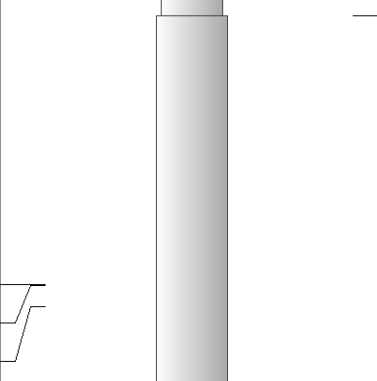
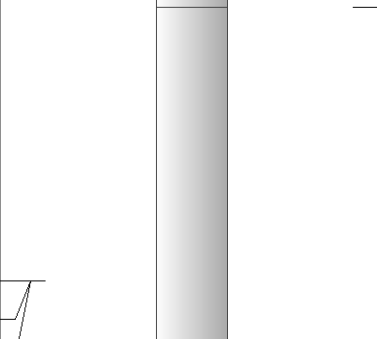
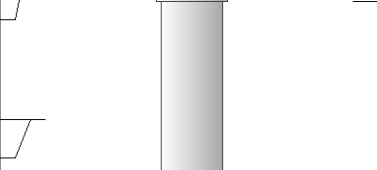
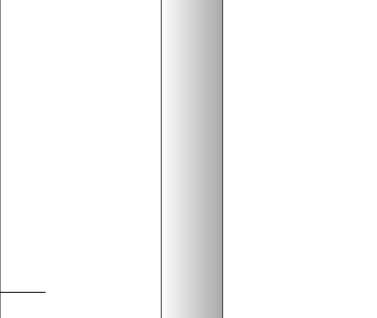
Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: IAN MABB	Primary Witness: CHAD COUNTS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\black_rock_18_1.db
Dataset field/well/stackmel/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	120	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	238	0	Off	4402

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (233-M&W)	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 (96-916)	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		DIL-PSI HIGH TEMP (1039)	18.50	3.50	220.00

CILM 4.70

SP 0.20

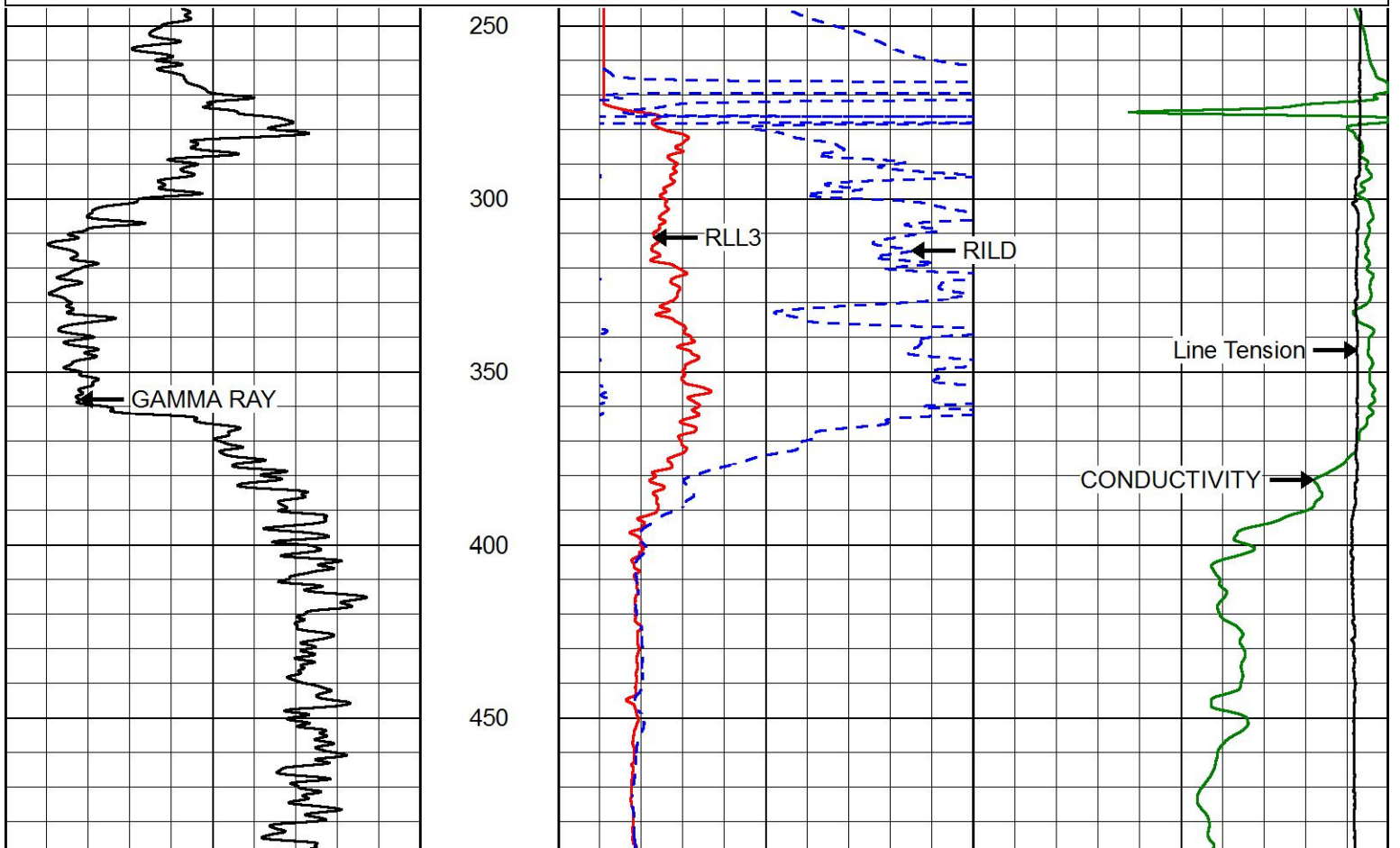
Dataset: black_rock_18_1.db: field/well/stackmel/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

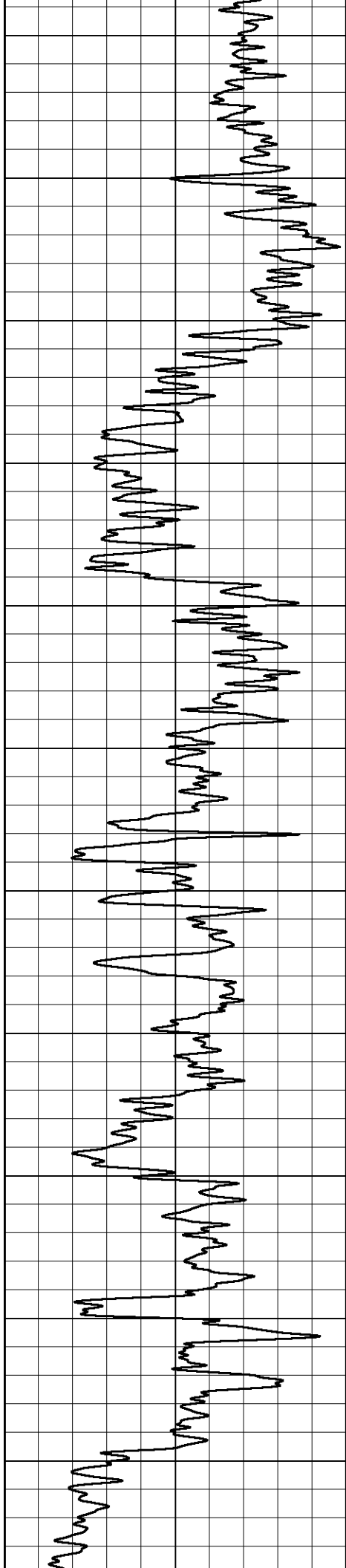


MAIN PASS

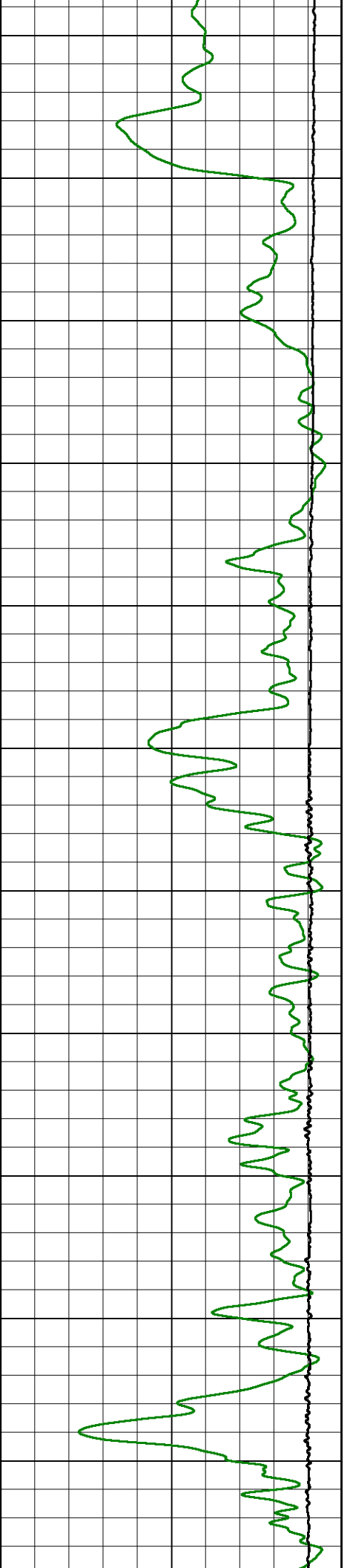
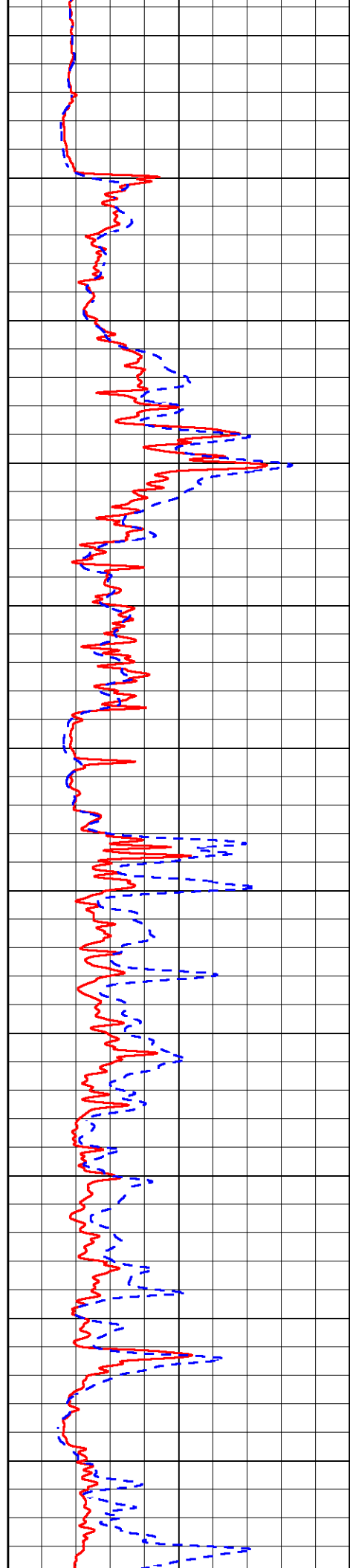
Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass4.1
 Presentation Format _dil2in
 Dataset Creation Tue Sep 10 10:24:17 2019
 Charted by Depth in Feet scaled 1:600

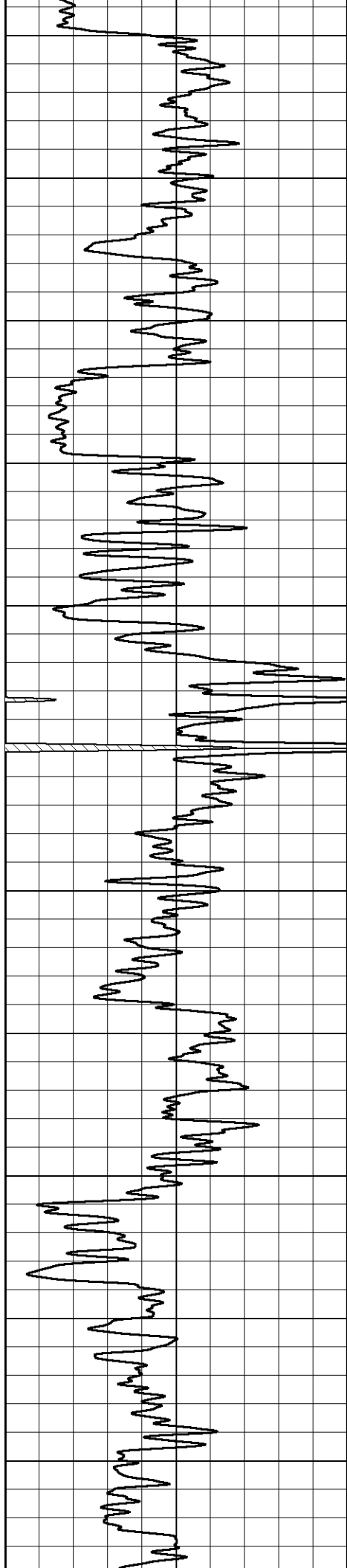
GAMMA RAY (GAPI)	0	150	1000	CONDUCTIVITY (mmho/m)	0
			15000	Line Tension (lb)	0
			0	RLL3 (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
			0	RILD (Ohm-m)	50
			50	Deep Resistivity (Ohm-m)	500



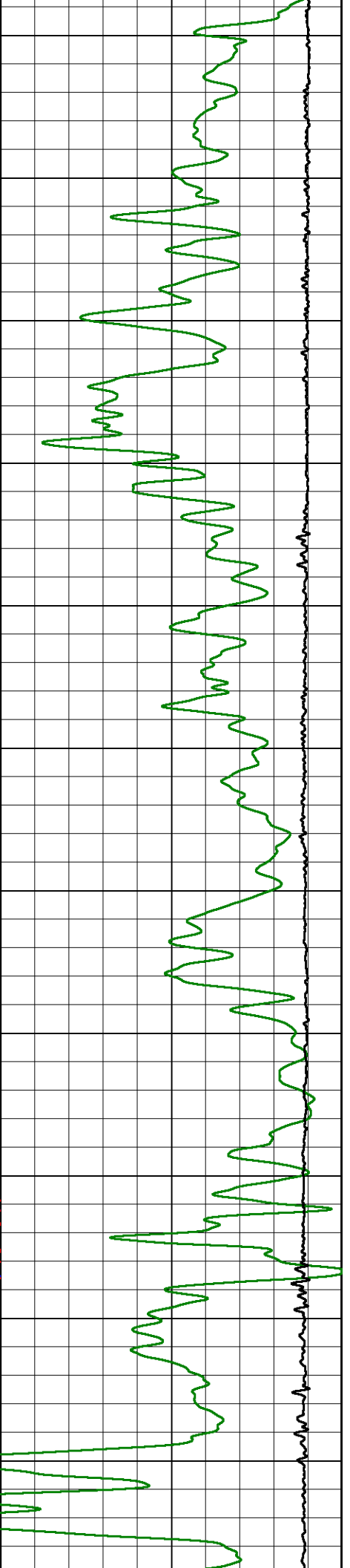
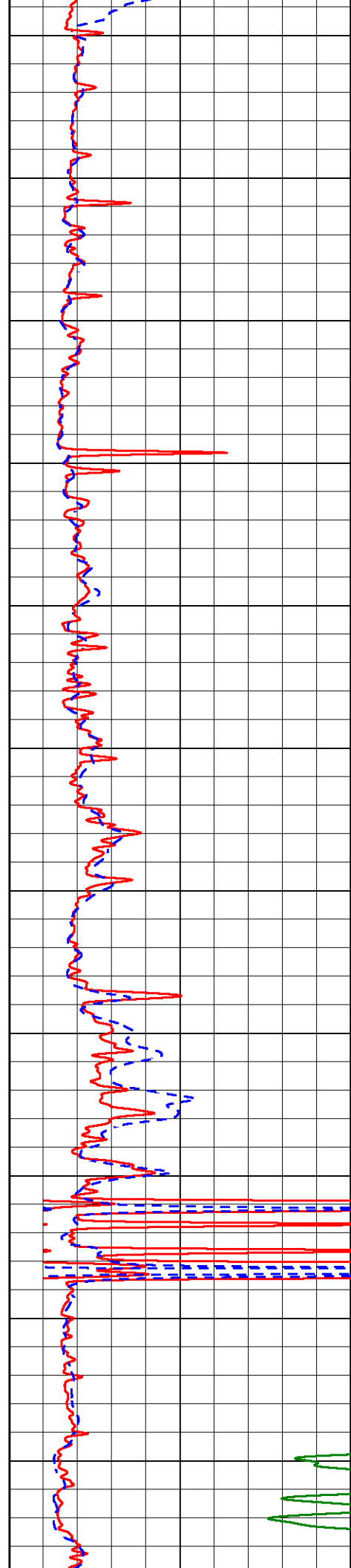


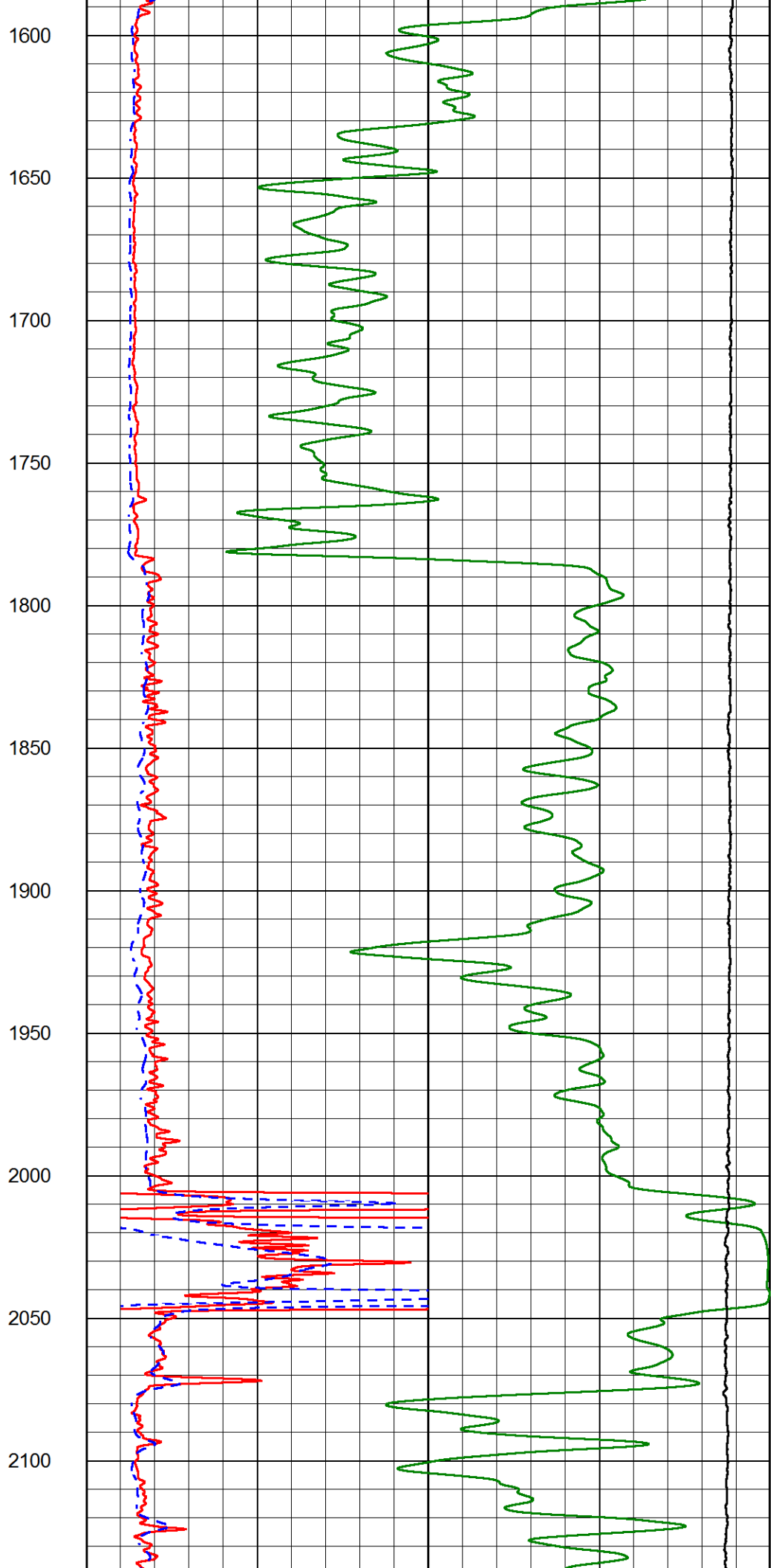
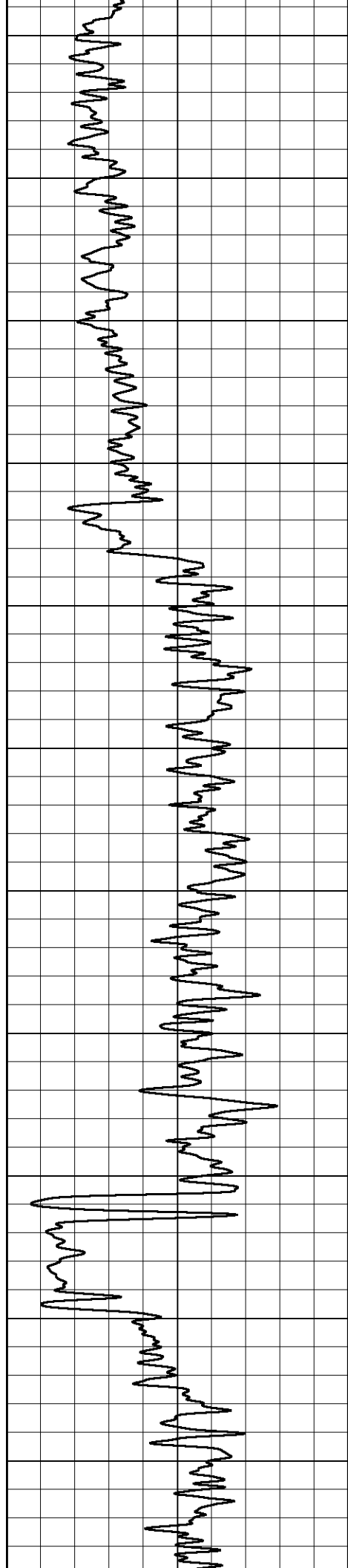
500
550
600
650
700
750
800
850
900
950
1000

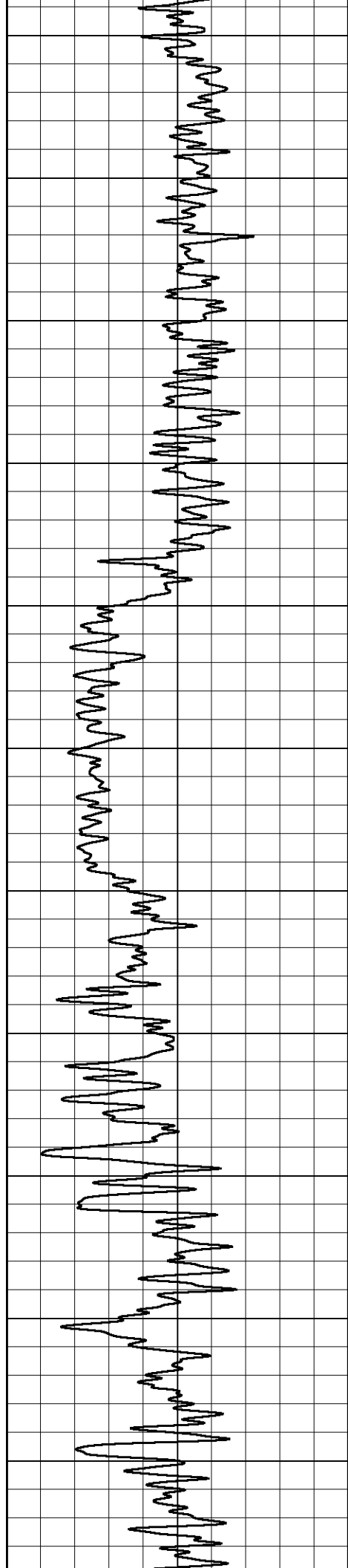




1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550







2150

2200

2250

2300

2350

2400

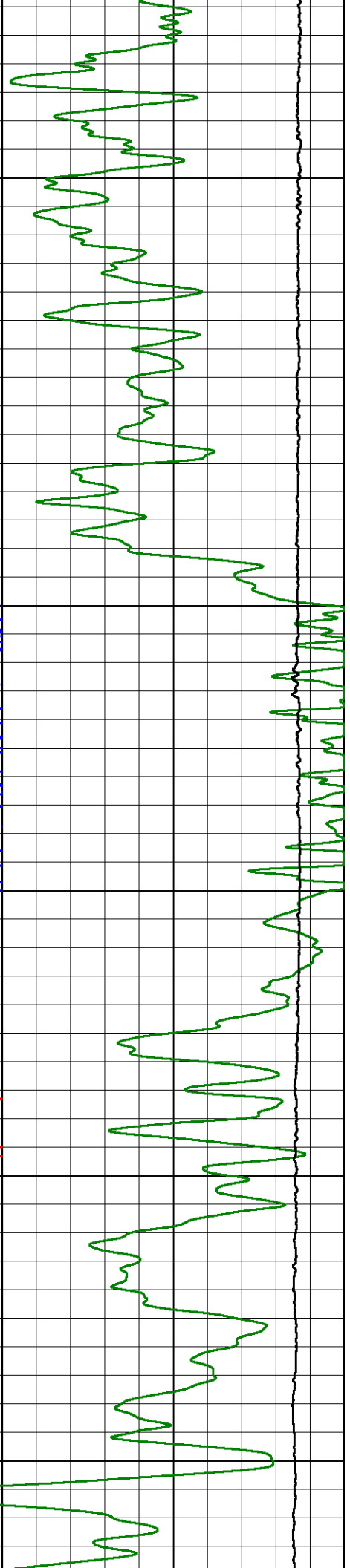
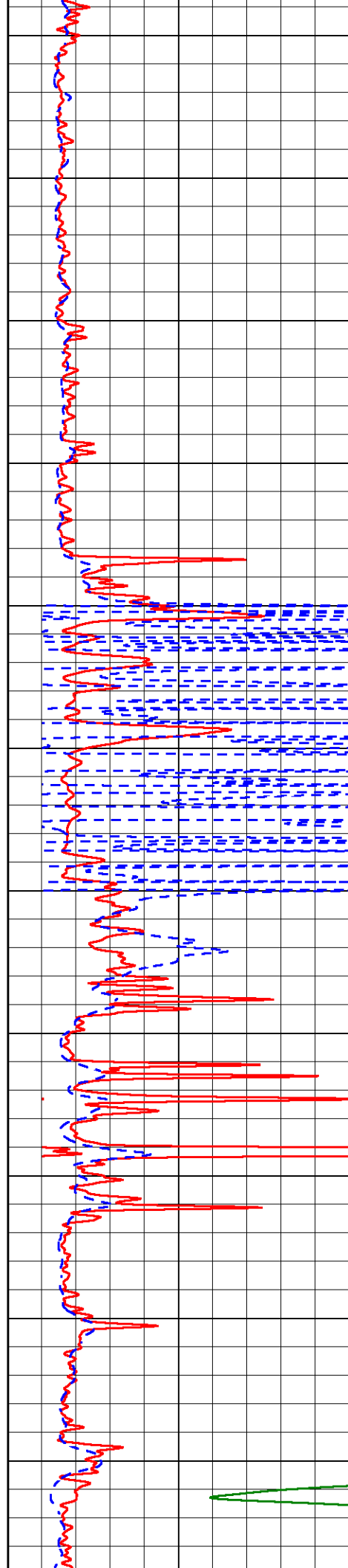
2450

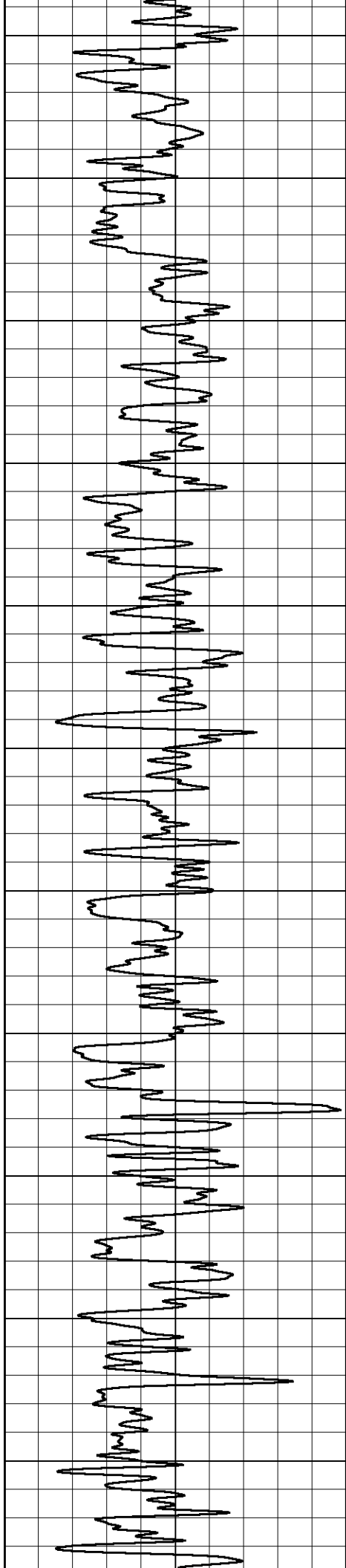
2500

2550

2600

2650





2700

2750

2800

2850

2900

2950

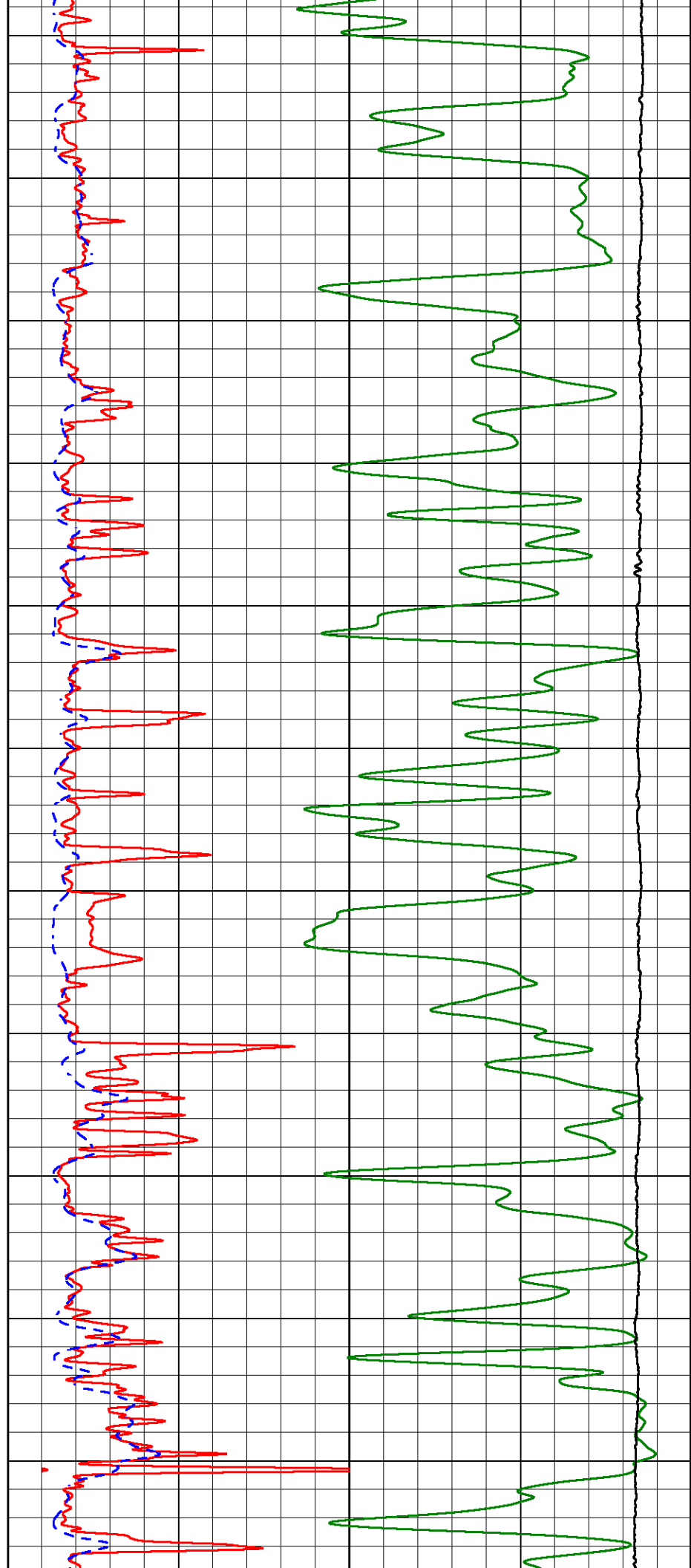
3000

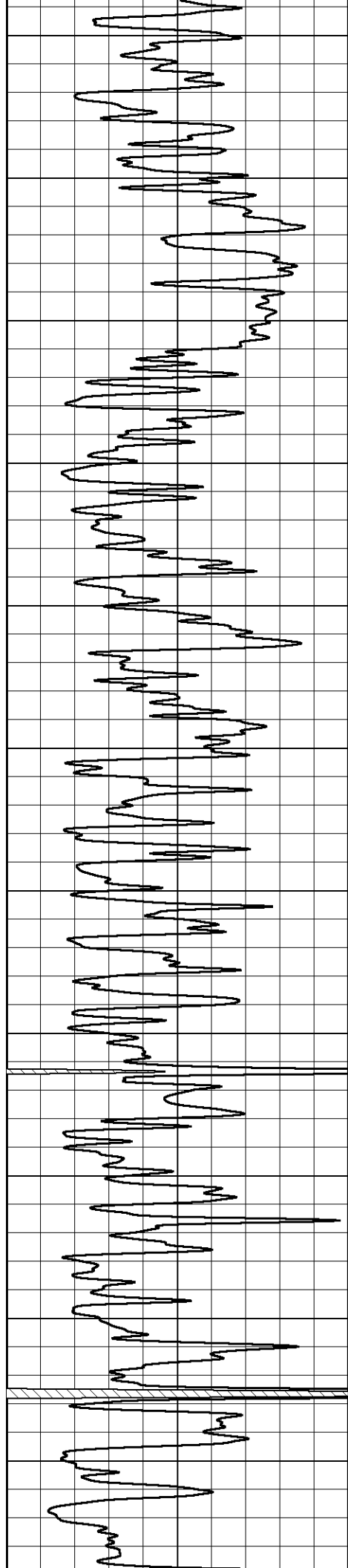
3050

3100

3150

3200





3250

3300

3350

3400

3450

3500

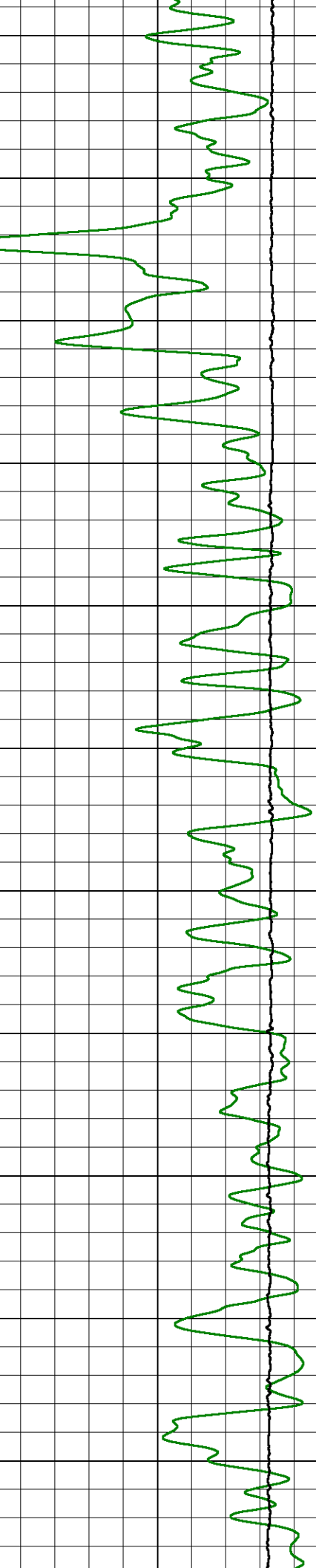
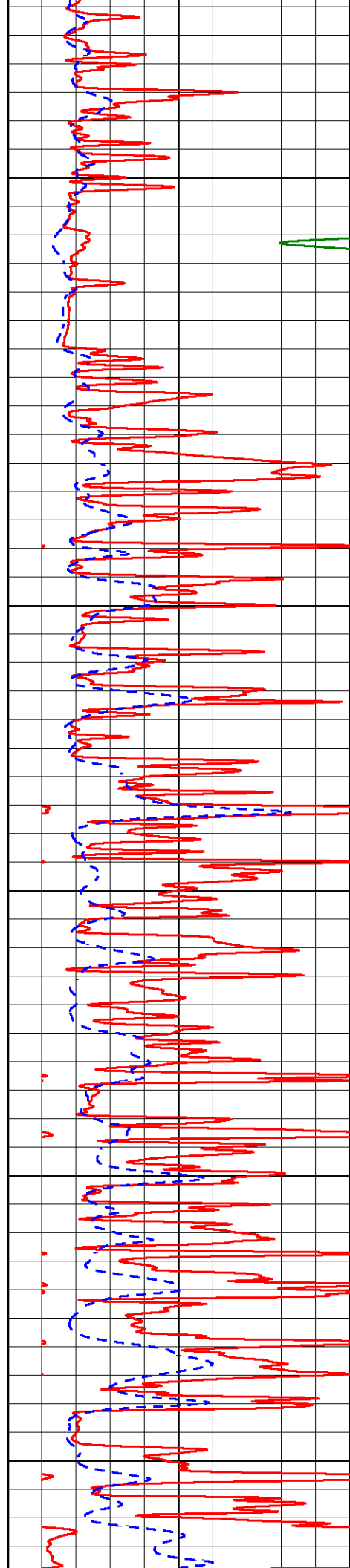
3550

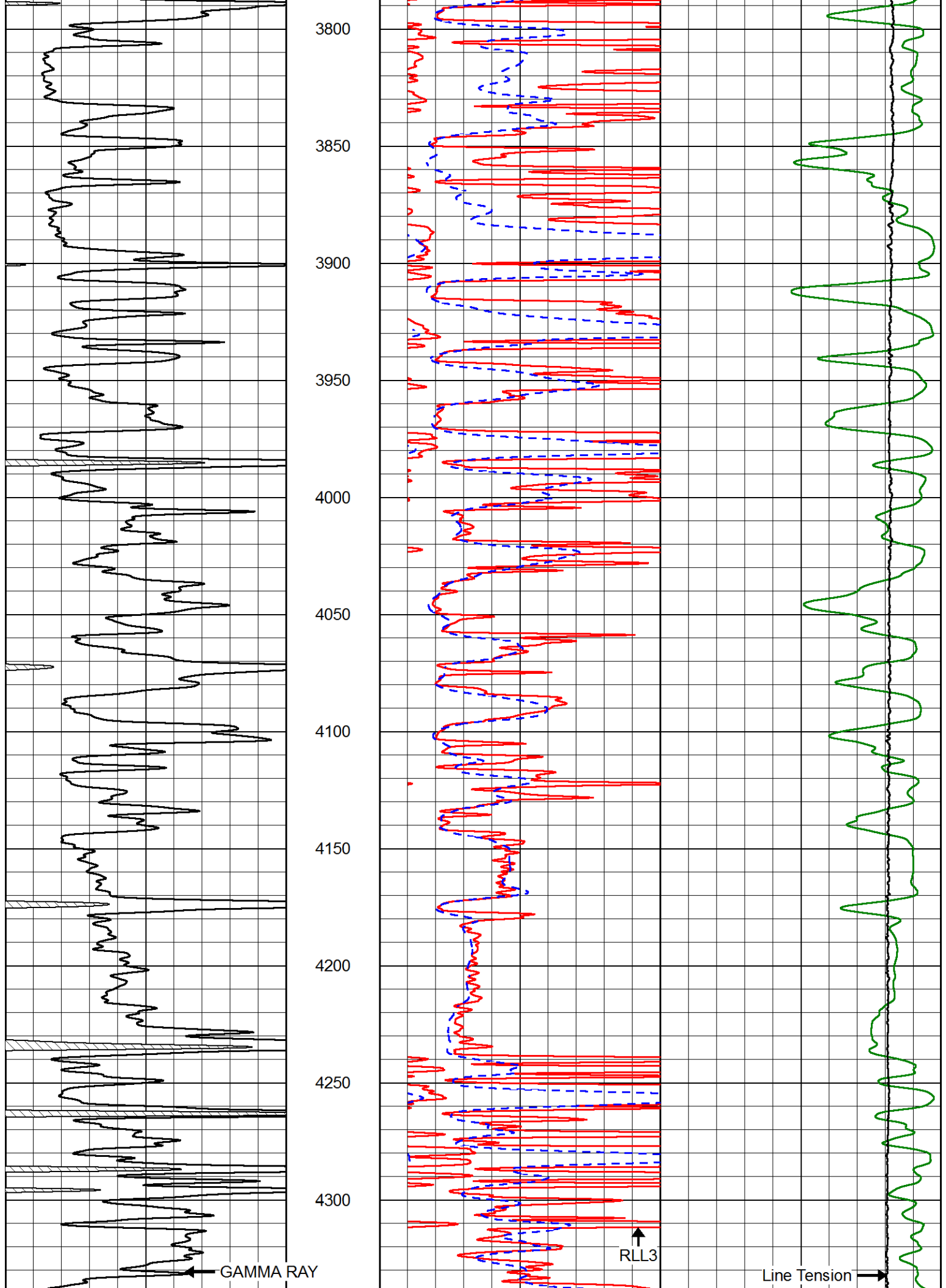
3600

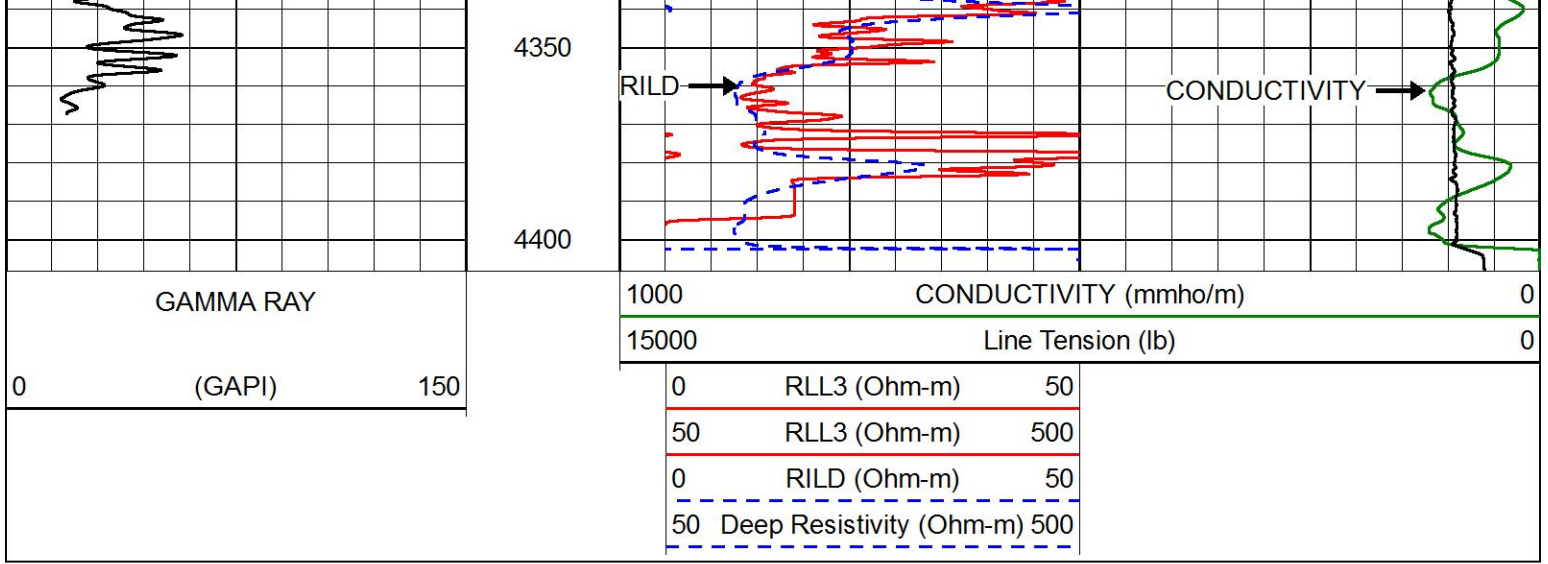
3650

3700

3750





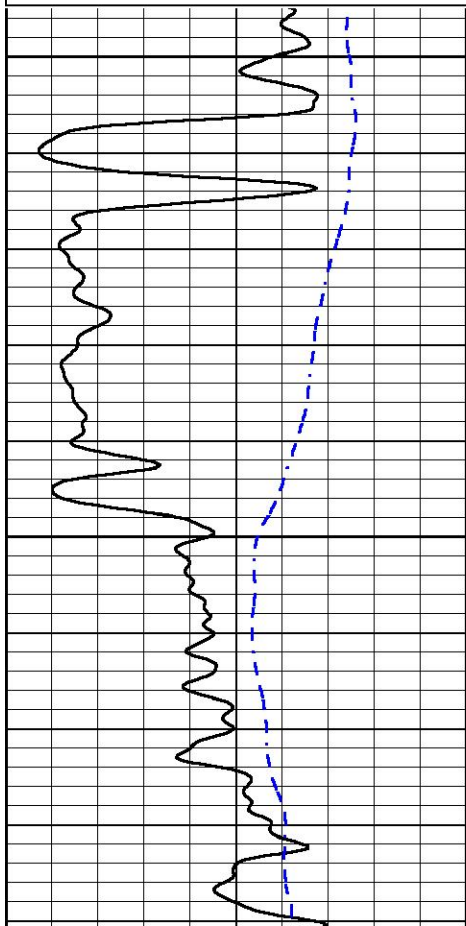


MAIN PASS

Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass4.1
 Presentation Format _dil
 Dataset Creation Tue Sep 10 10:24:17 2019
 Charted by Depth in Feet scaled 1:240

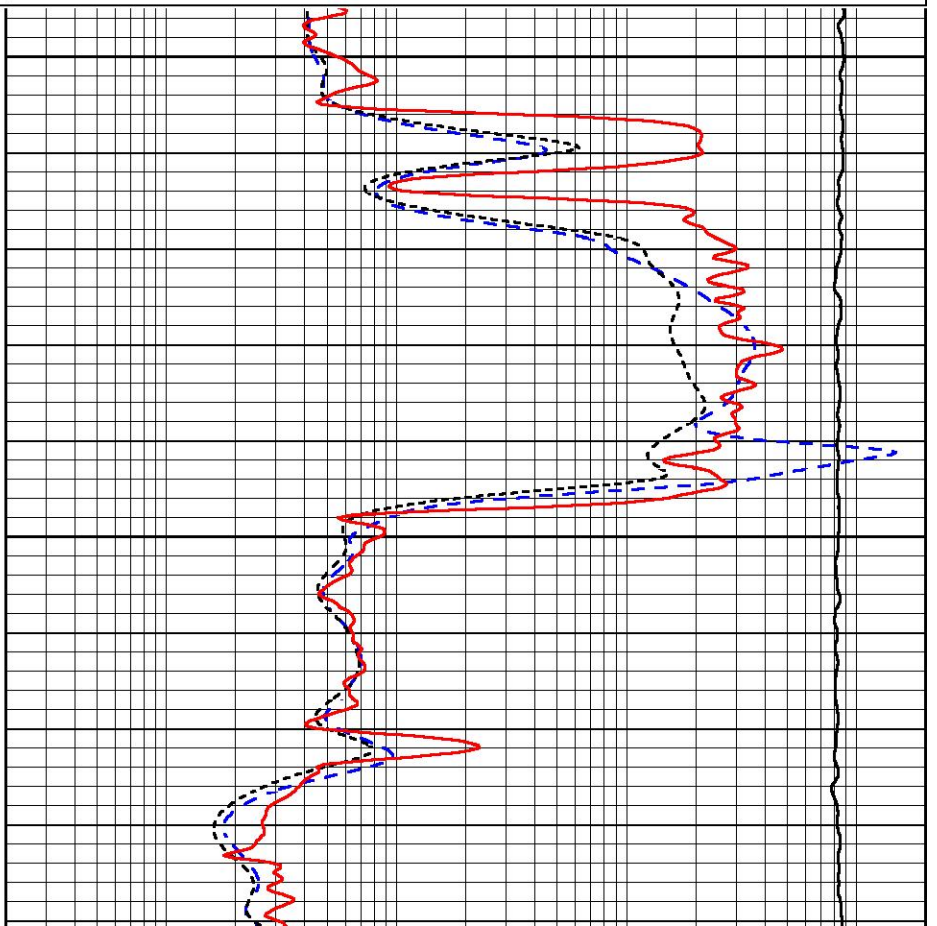
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

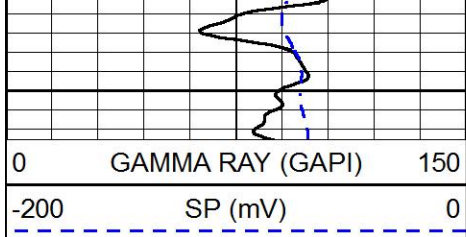
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	LINE TENSION (lb)	0



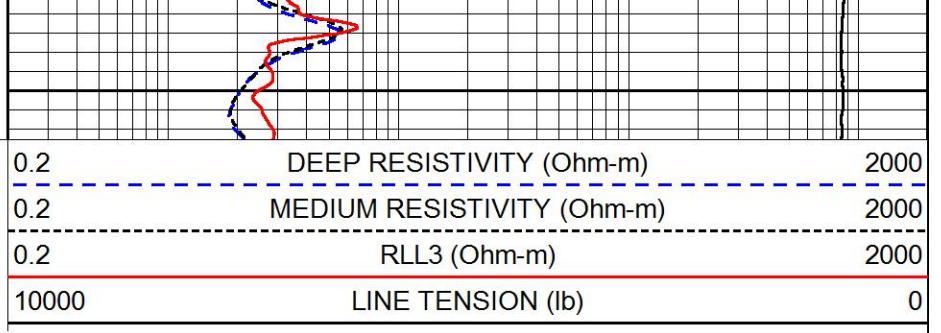
2000

2050



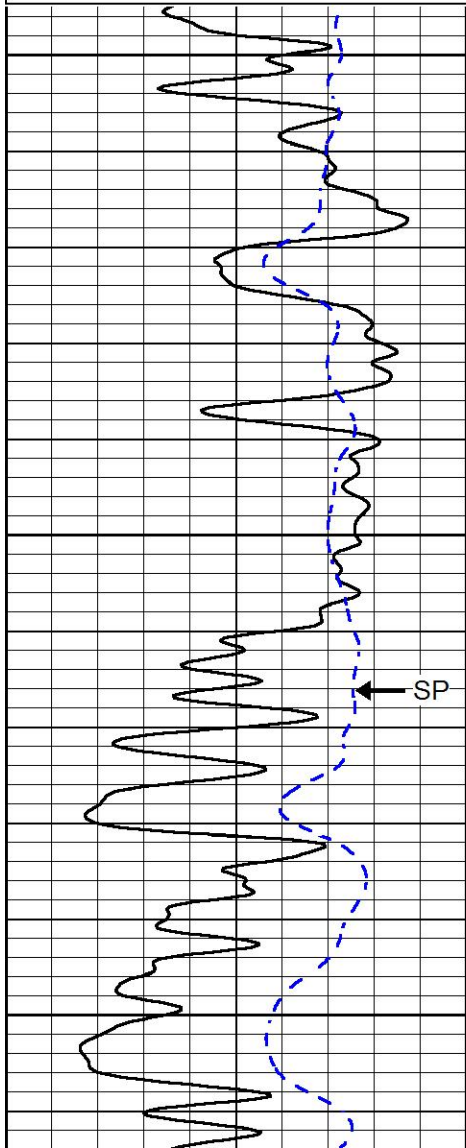
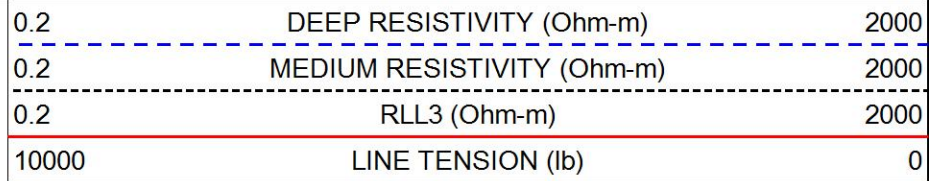
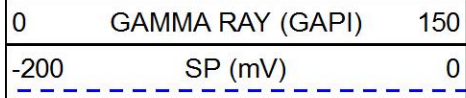


2100



MAIN PASS

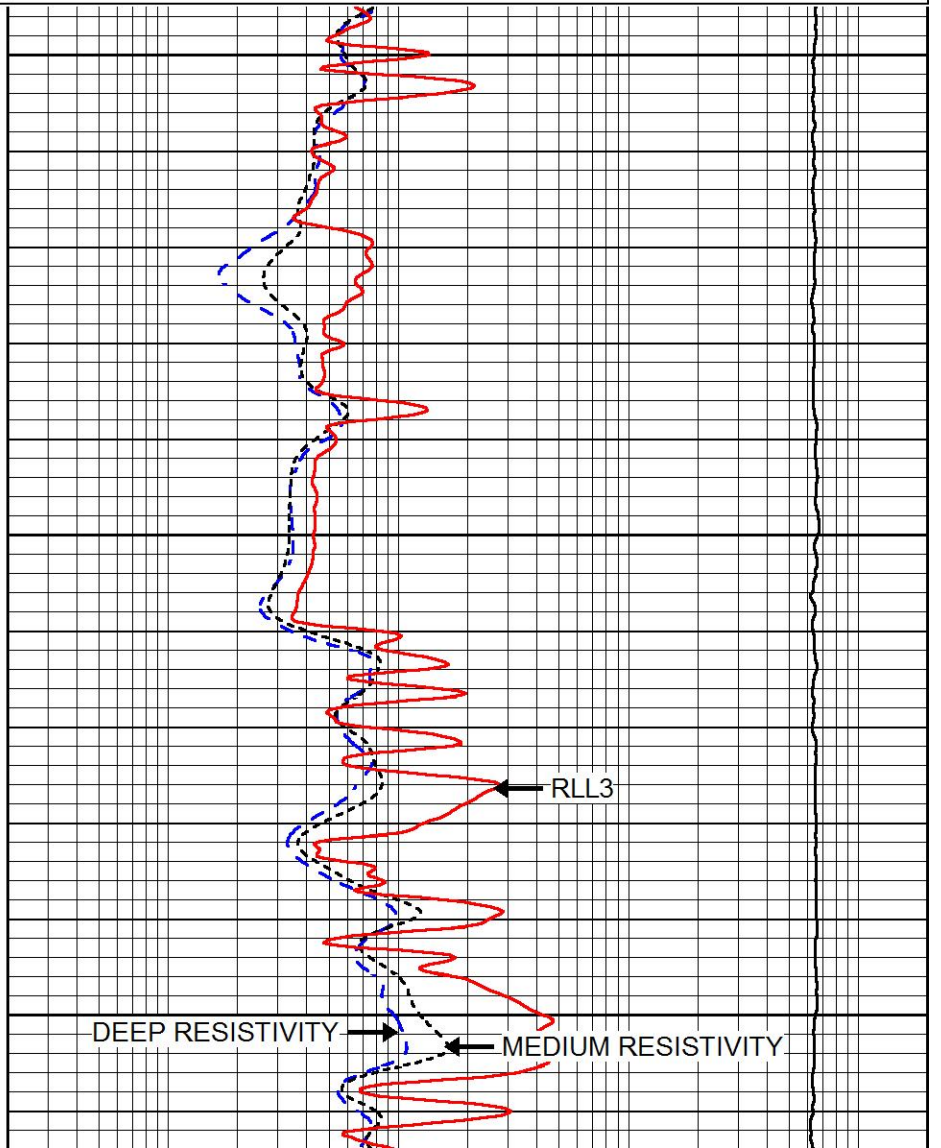
Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format _dil
 Dataset Creation Tue Sep 10 09:39:03 2019
 Charted by Depth in Feet scaled 1:240



3300

3350

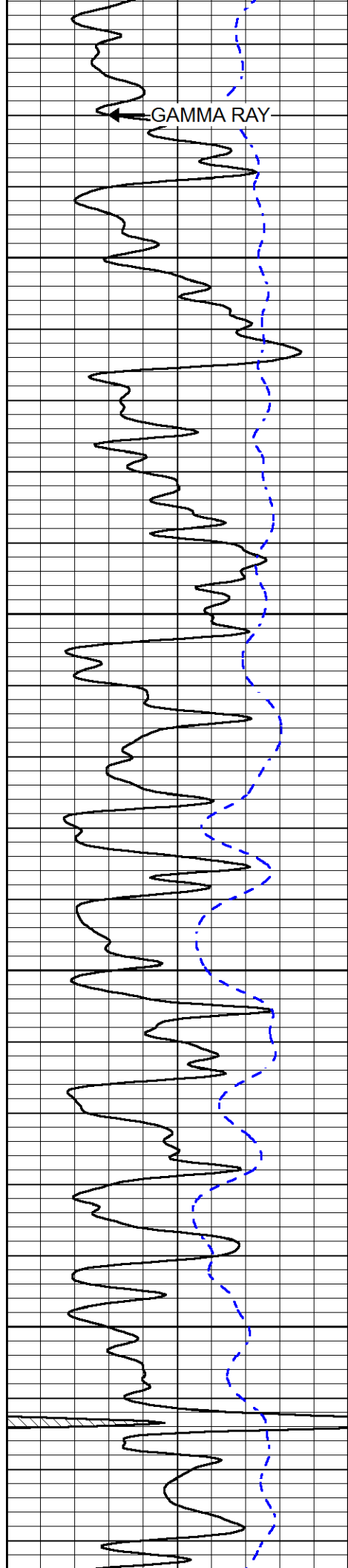
3400



DEEP RESISTIVITY

MEDIUM RESISTIVITY

RLL3

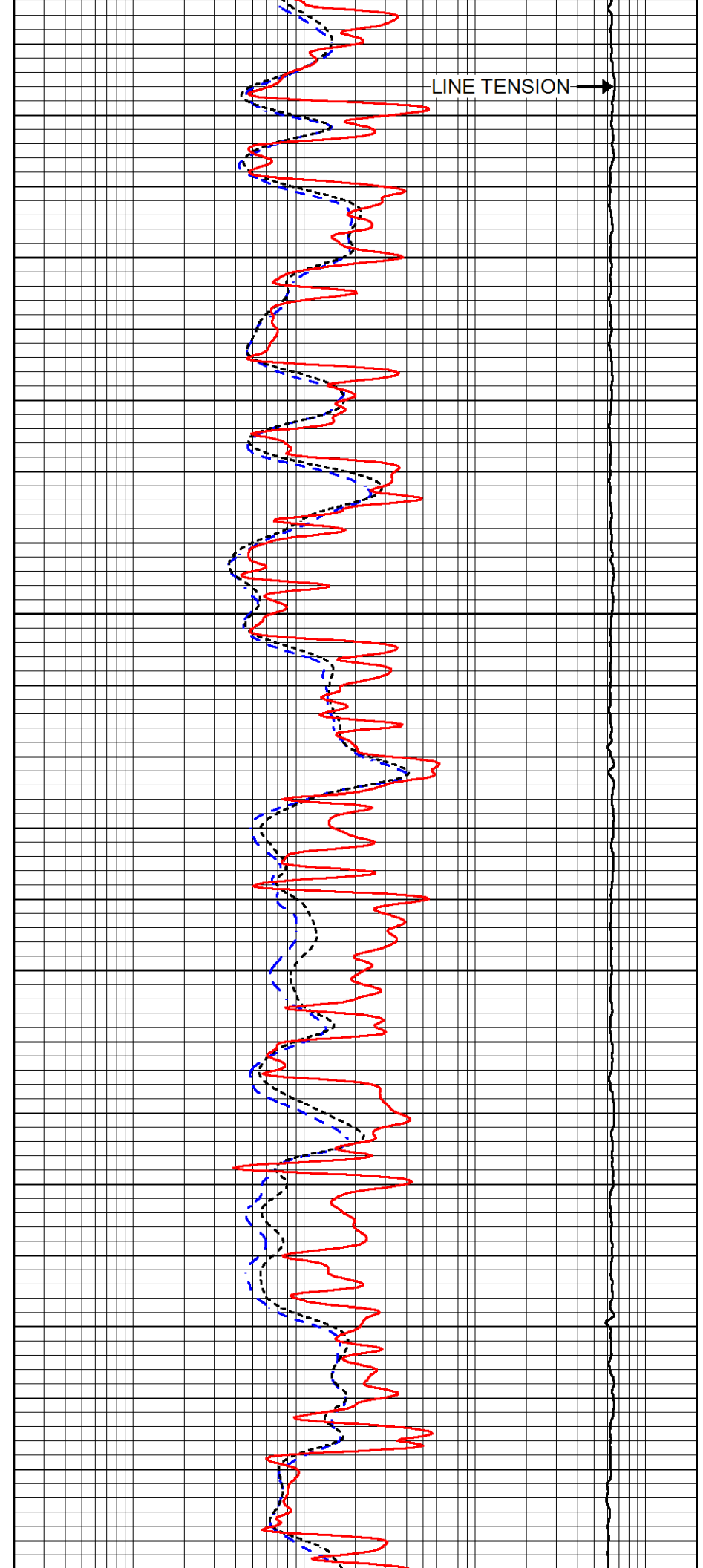


3450

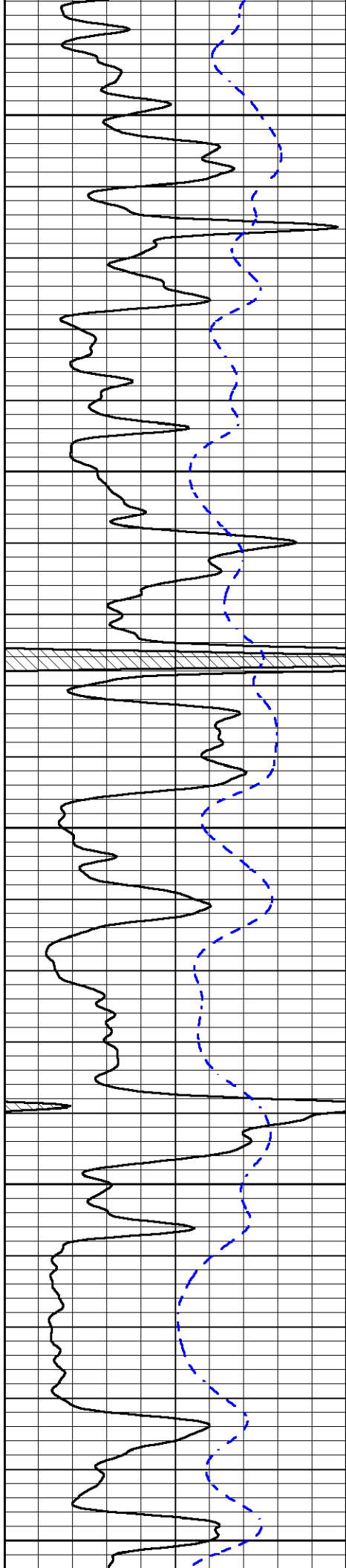
3500

3550

3600



LINE TENSION →



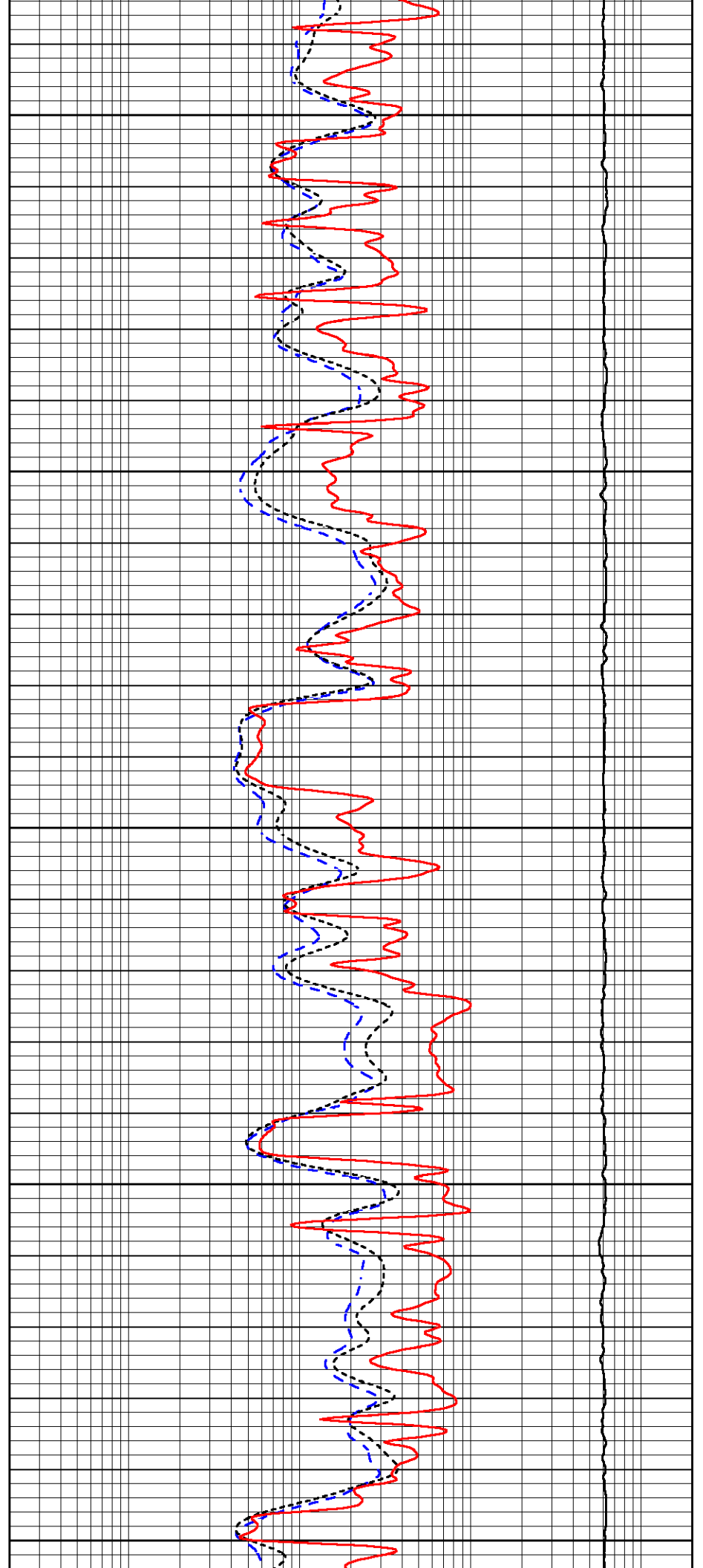
3650

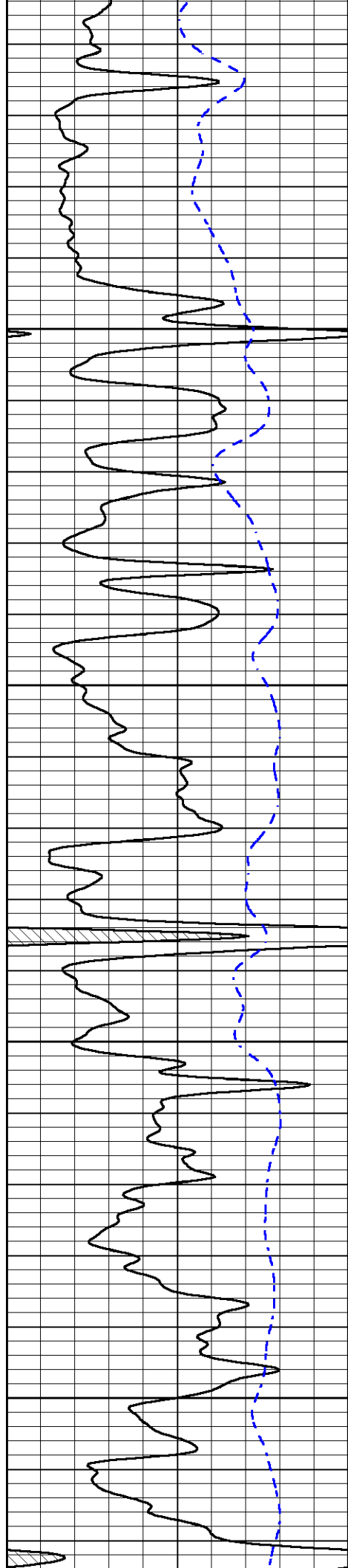
3700

3750

3800

3850



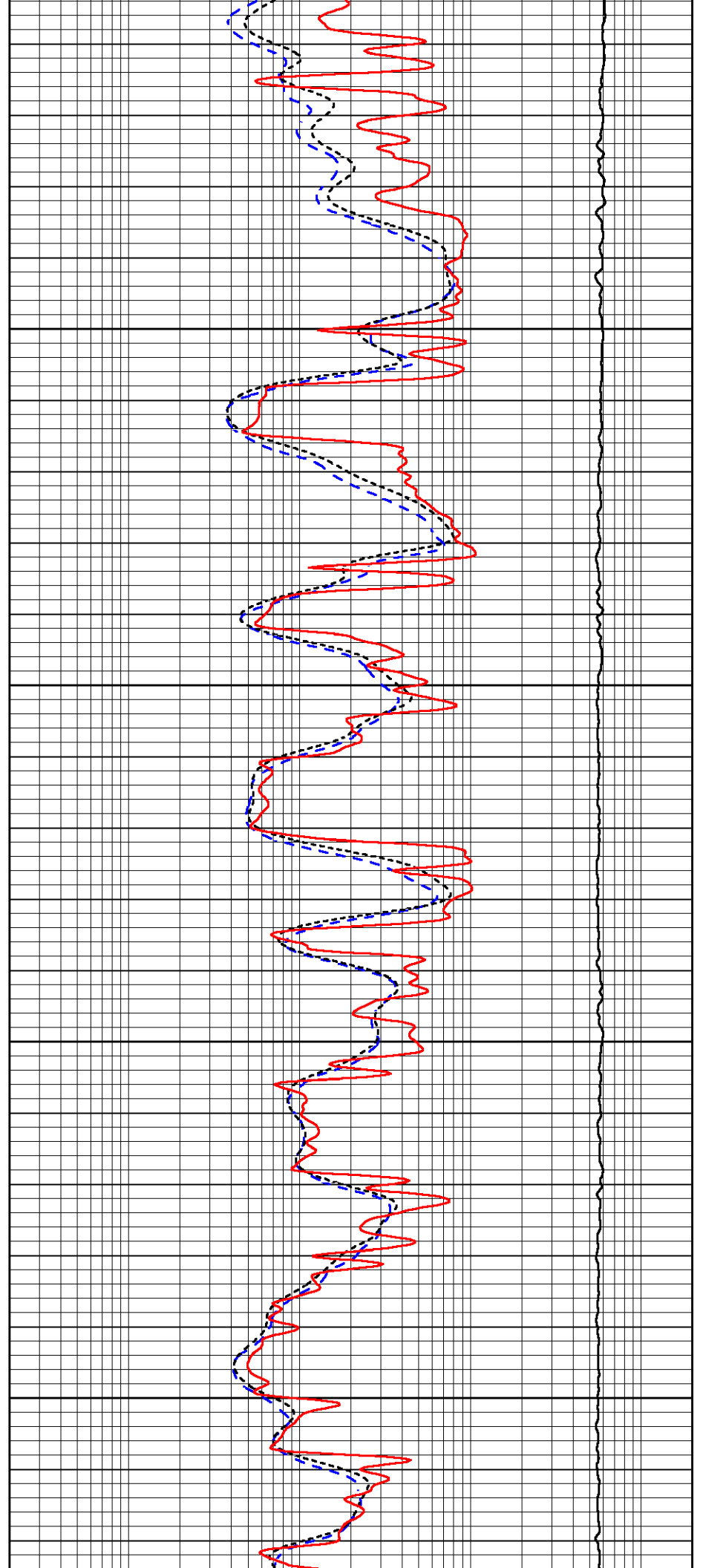


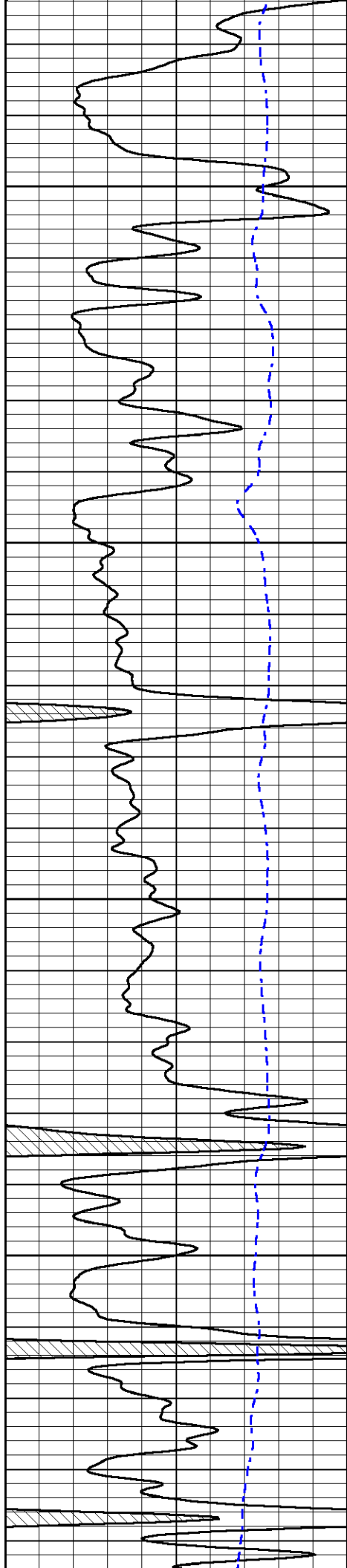
3900

3950

4000

4050



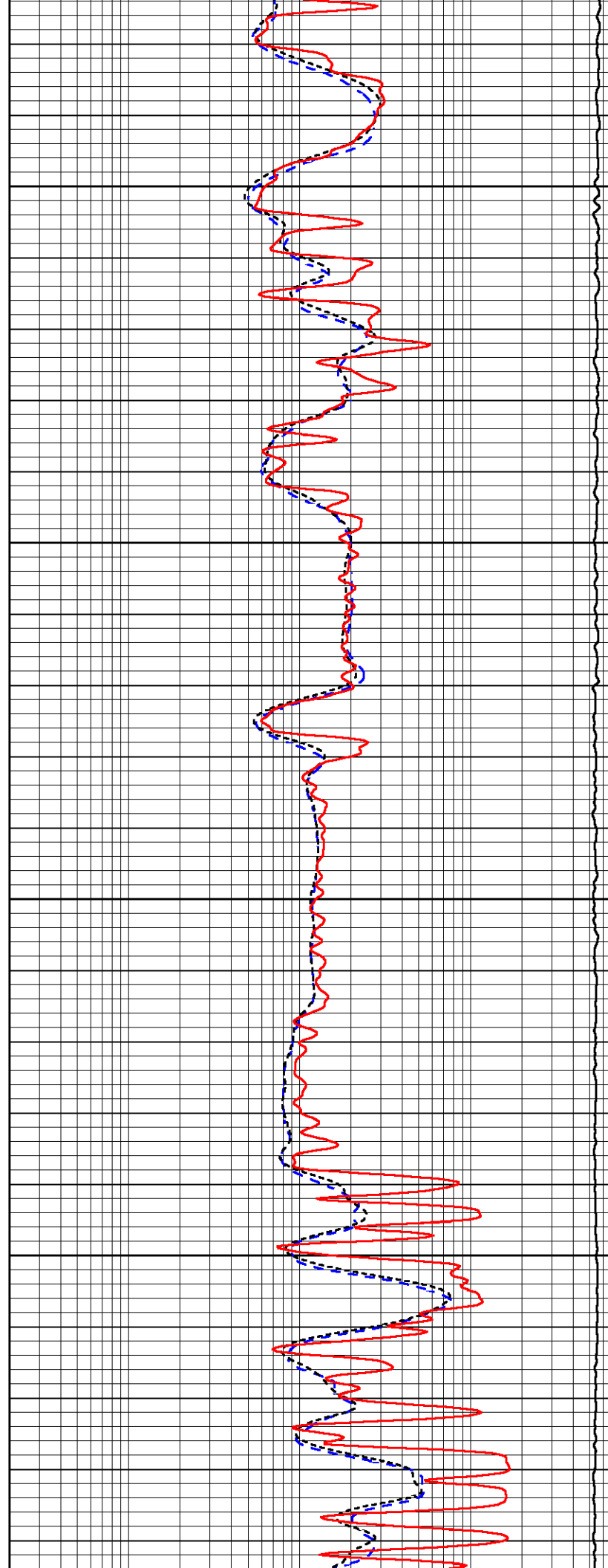


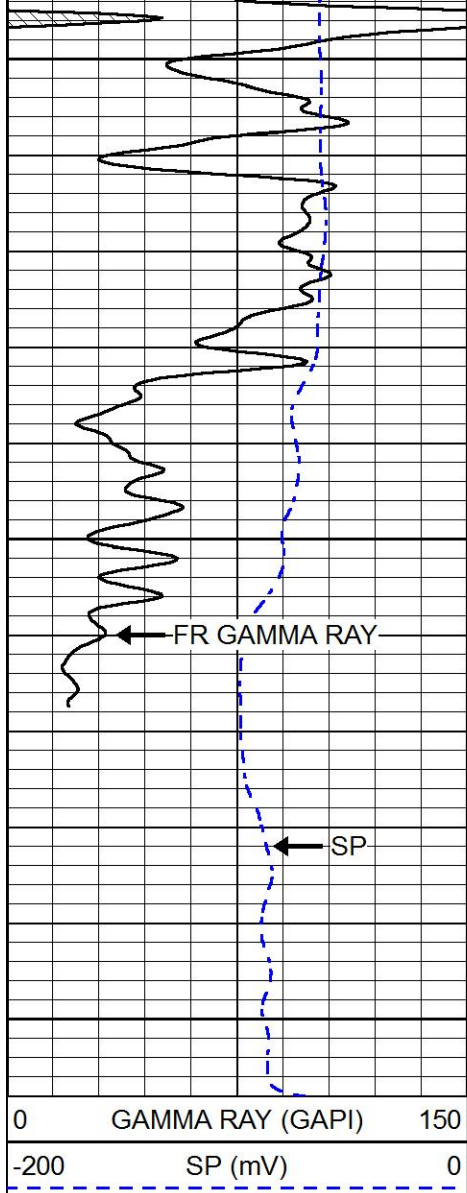
4100

4150

4200

4250

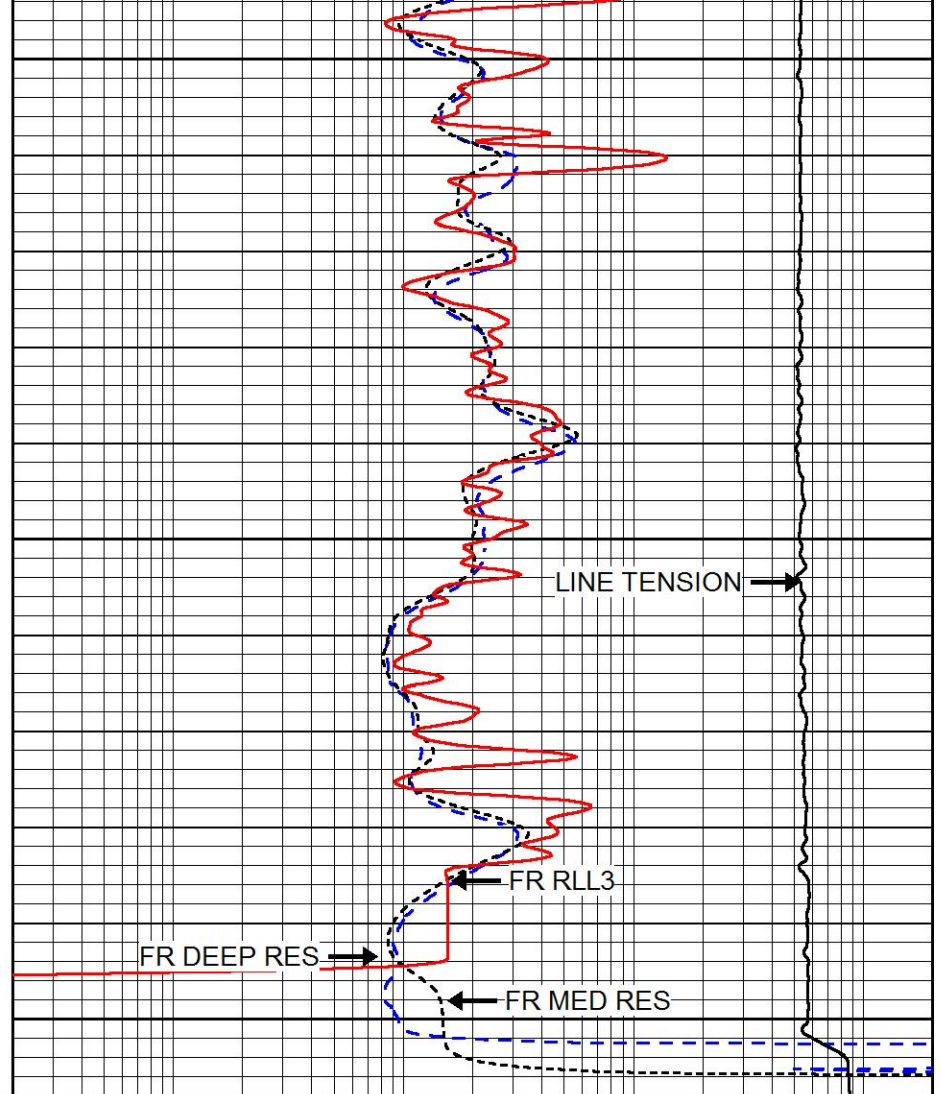




4300

4350

4400



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

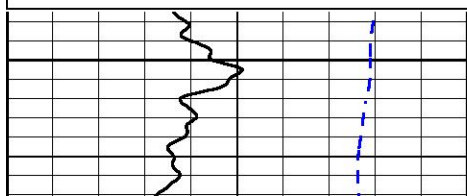


REPEAT SECTION

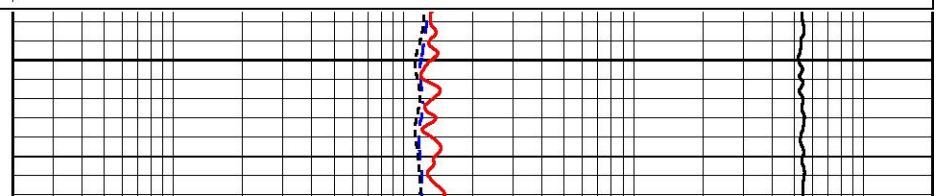
Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format _dil
 Dataset Creation Tue Sep 10 09:44:08 2019
 Charted by Depth in Feet scaled 1:240

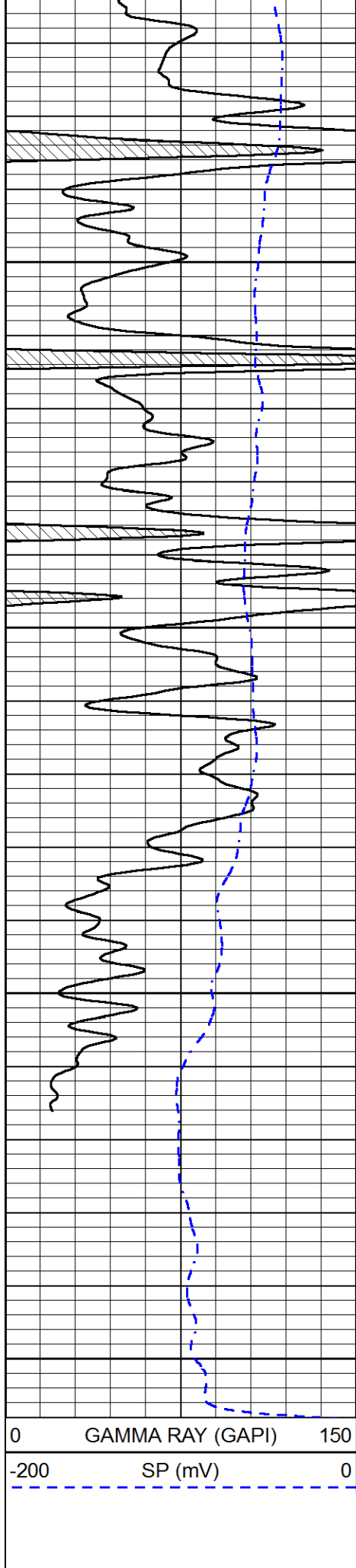
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

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



4200



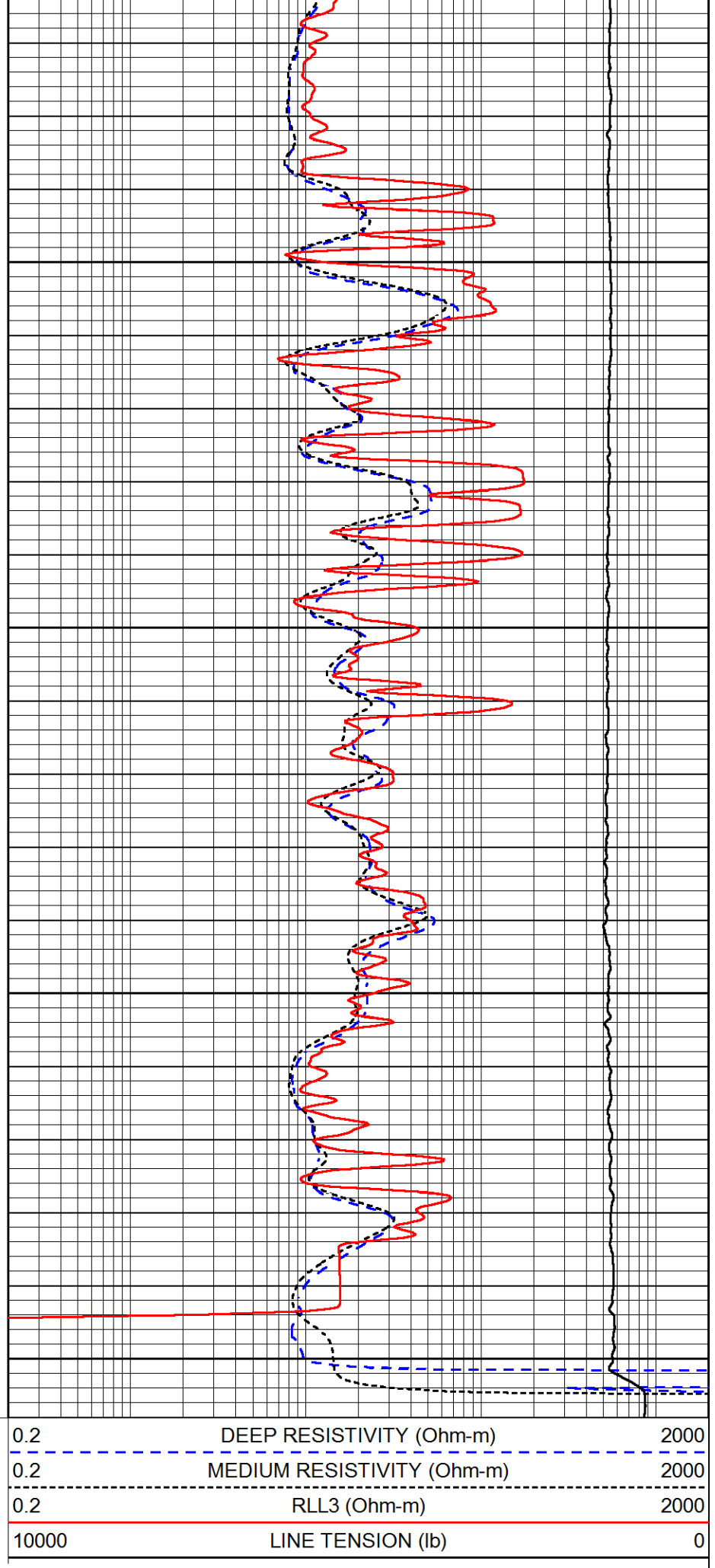


4250

4300

4350

4400



Gamma Ray Calibration Report

Serial Number:	233-M&W	
Tool Model:	M&W	
Calibration Performed:	Fri Feb 07 01:42:40 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps



PIONEER

Pioneer Energy Services

Company	BLACK ROCK RESOURCES, LLC
Well	POLIFKA #18-1
Field	WILDCAT
County	GOVE
State	KANSAS



DUAL COMP POROSITY LOG

Pioneer Energy Services

Company **BLACK ROCK RESOURCES, LLC**
 Well **POLIFKA #18-1**
 Field **WILDCAT**
 County **GOVE** State **KANSAS**

Company **BLACK ROCK RESOURCES, LLC**
 Well **POLIFKA #18-1**
 Field **WILDCAT**
 County **GOVE**
 State **KANSAS**

Location: **API #: 15-063-22364-00-00**
505' FSL & 2070' FEL
SEC 18 TWP 13S RGE 26W
 Permanent Datum **GROUND LEVEL Elevation 2505'**
 Log Measured From **KELLY BUSHING**
 Drilling Measured From **KELLY BUSHING**
 Other Services **DIL/MEL BHCs**

Date	9/10/2019						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	4400'						
Depth Logger	4402'						
Bottom Logged Interval	4373'						
Top Logged Interval	3300'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	3900						
Density	9.2						
Level	FULL						
Max. Rec. Temp. F	120						
Operating Rig Time	4 HOURS						
Equipment -- Location	P-24 HAYS						
Recorded By	IAN MABB						
Witnessed By	CHAD COUNTS						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	274'	8.625"	23#	0'	274'
TWO	7.875"	274'					
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.

QUINTER, KS.
 SOUTH 10 MILES TO P RD,
 WEST 1/2 MILE, AND NORTH INTO

Log Measured From: **KELLY BUSHING** 10' Ft. Above Permanent Datum

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

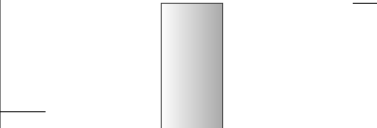
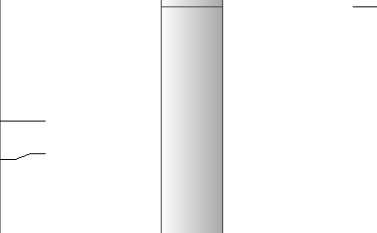
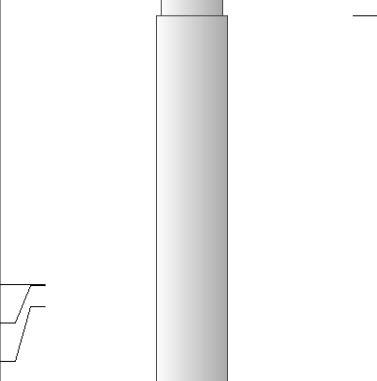
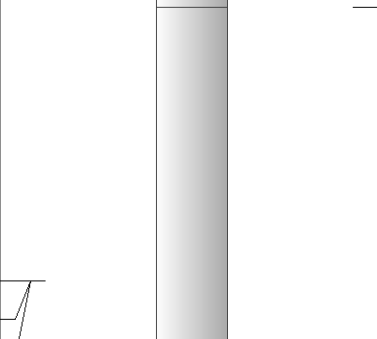
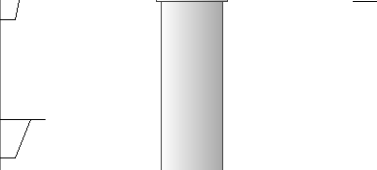
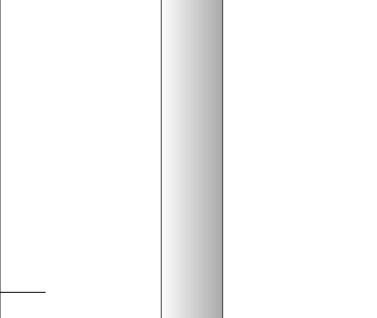
Your Pioneer Energy Services Crew		This Log Record Was Witnessed By	
Engineer: IAN MABB	Operator:	Primary Witness: CHAD COUNTS	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Log Variables

DatabaseC:\ProgramData\Warrior\Data\black_rock_18_1.db
Dataset field/well/stackmel/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	120	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	238	0	Off	4402

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (233-M&W)	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 (96-916)	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		DIL-PSI HIGH TEMP (1039)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: black_rock_18_1.db: field/well/stackmel/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

PIONEER

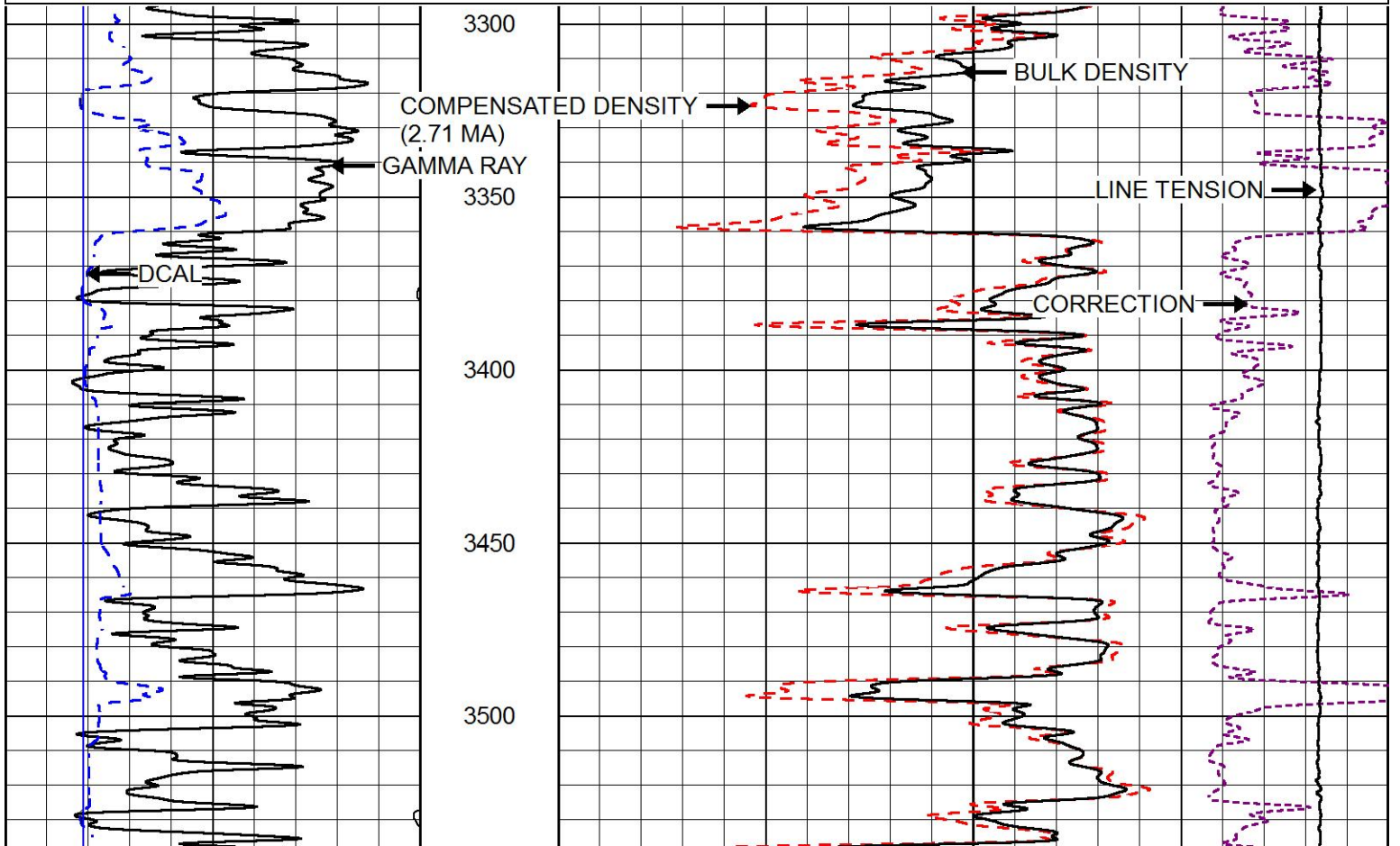
Pioneer Energy Services

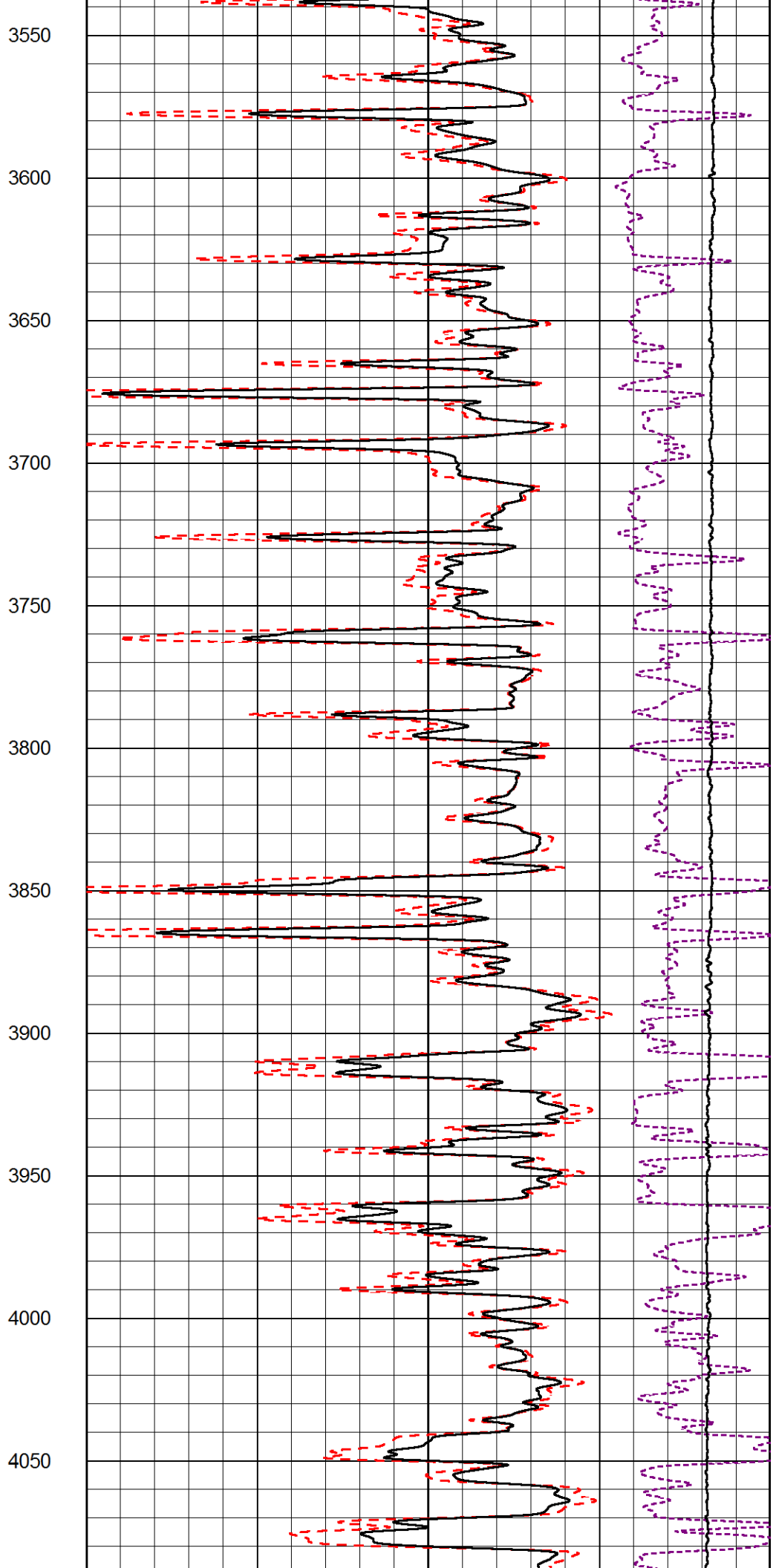
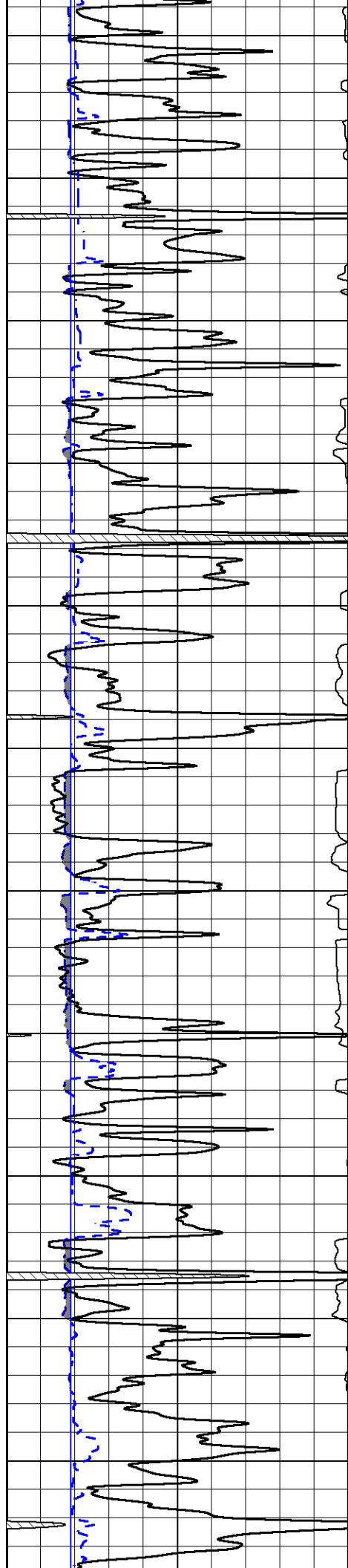
MAIN PASS

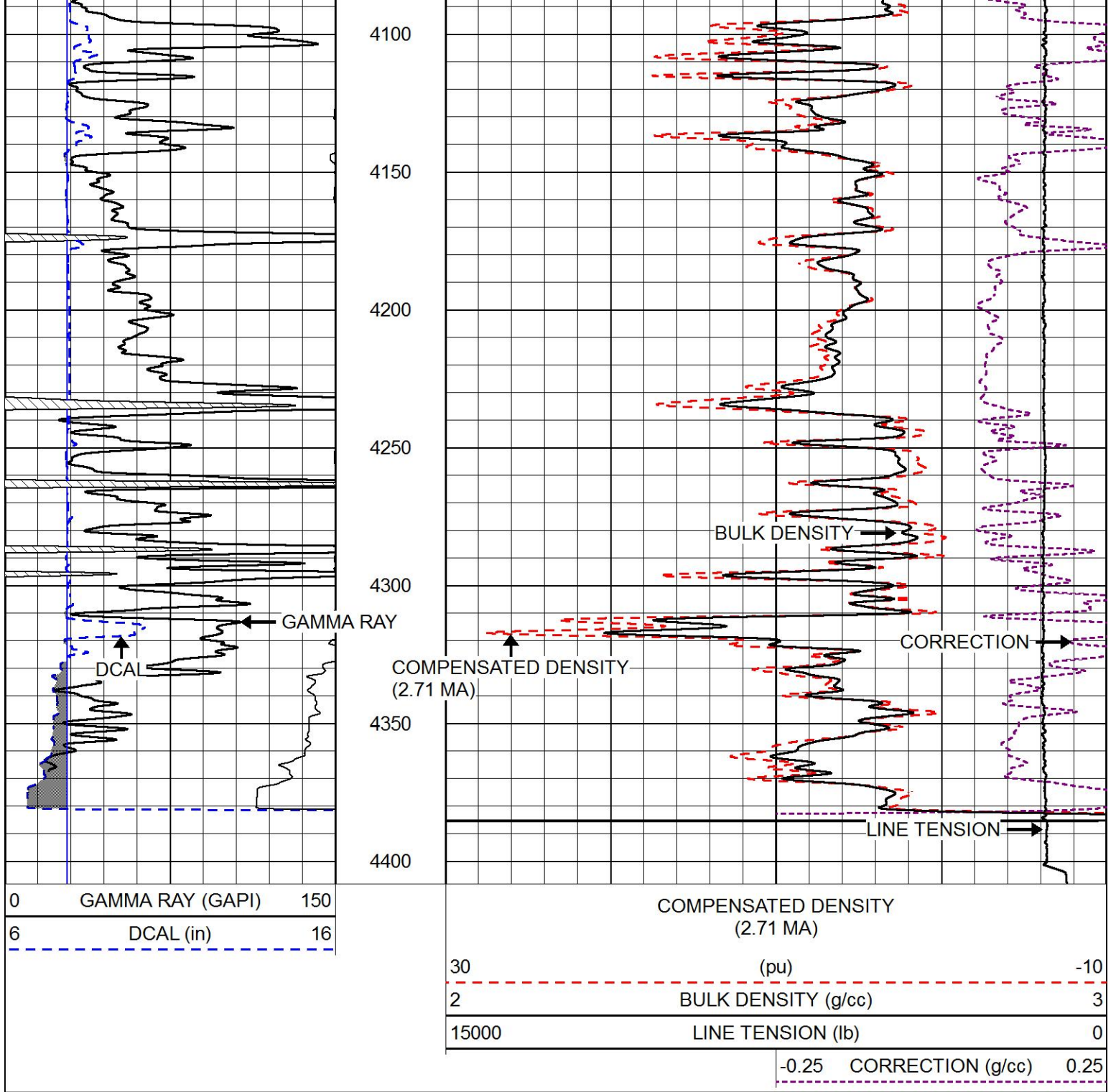
Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format _cdl
 Dataset Creation Tue Sep 10 09:39:03 2019
 Charted by Depth in Feet scaled 1:600

0	GAMMA RAY (GAPI)	150
6	DCAL (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



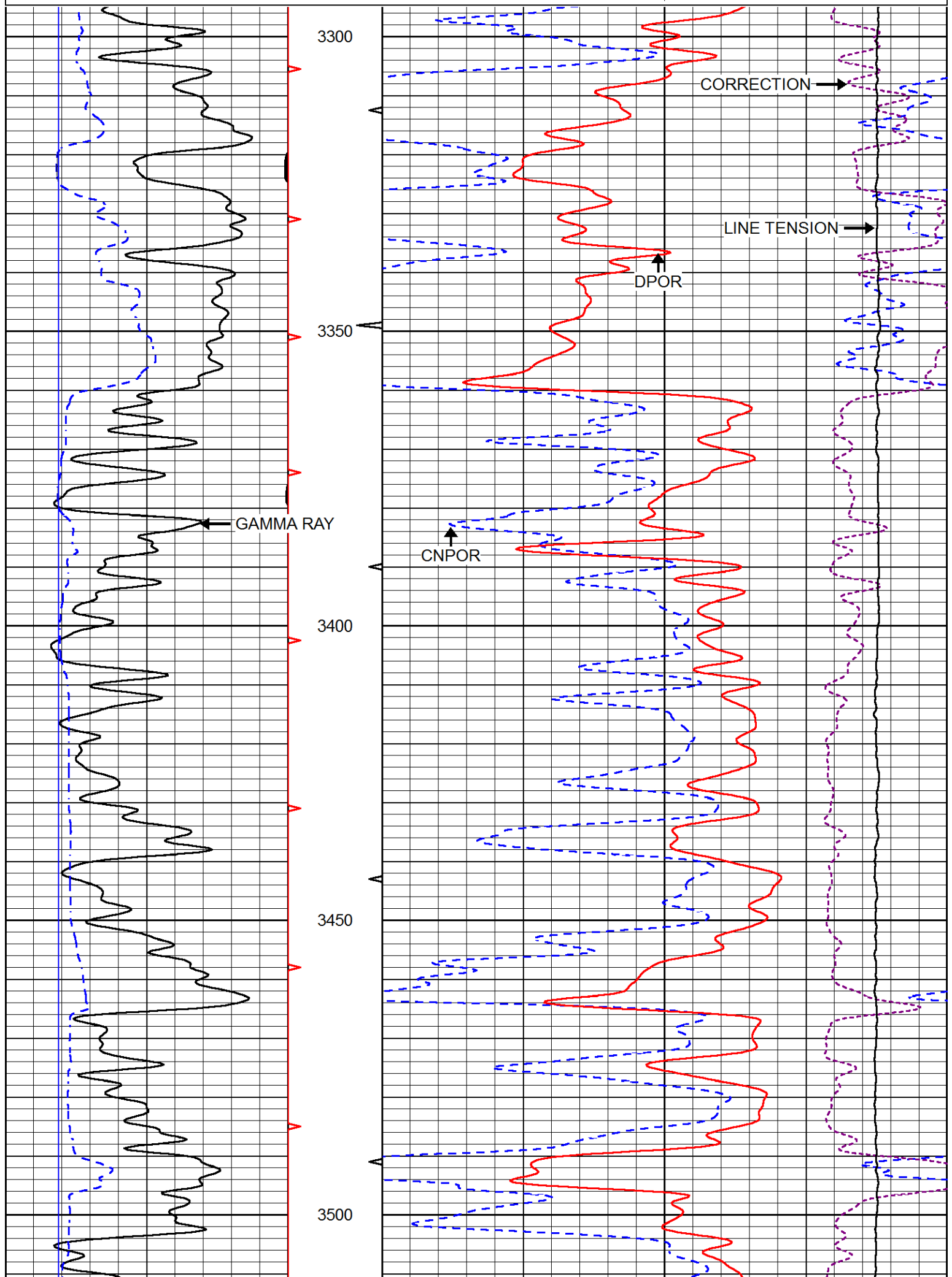


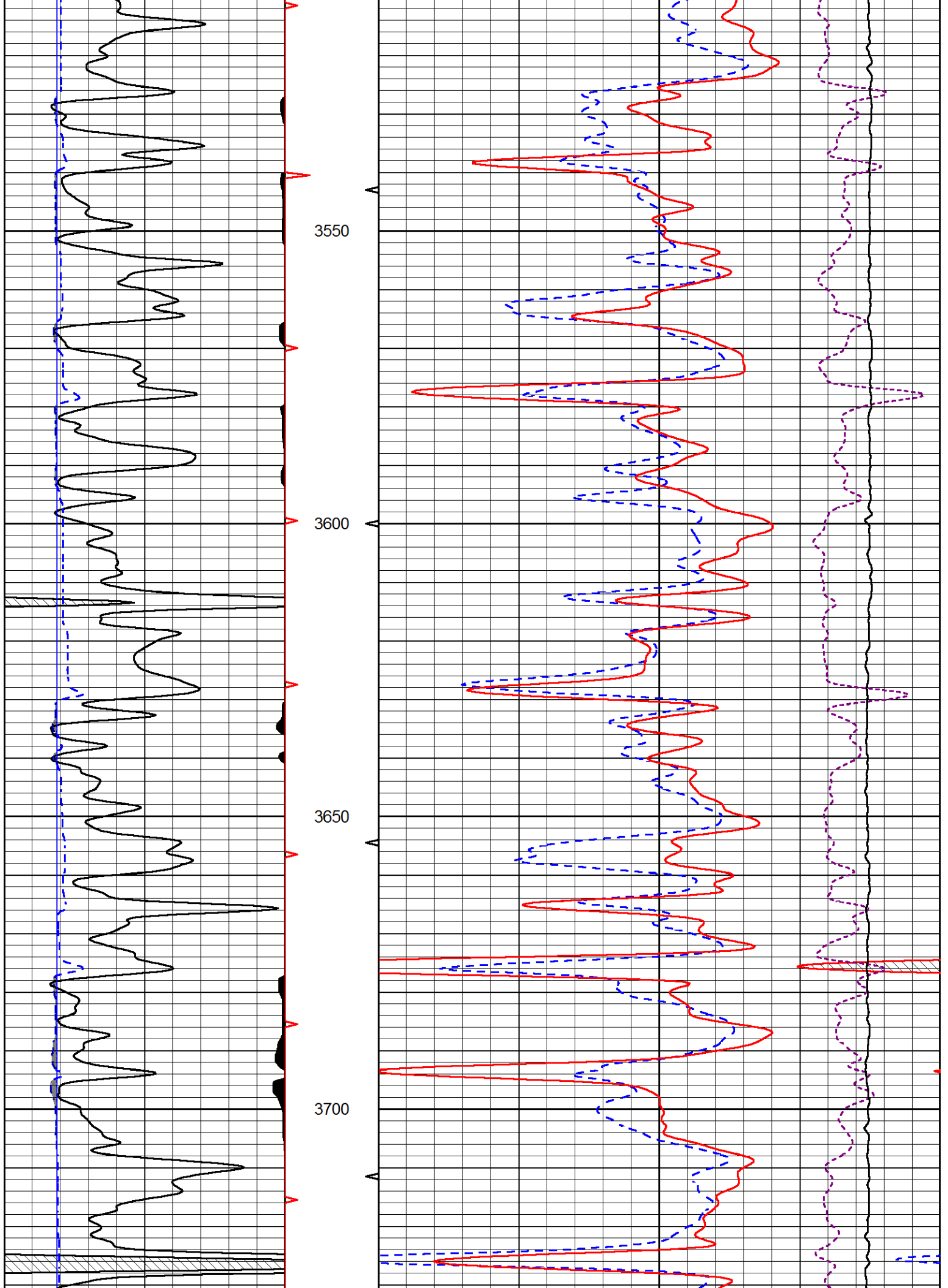


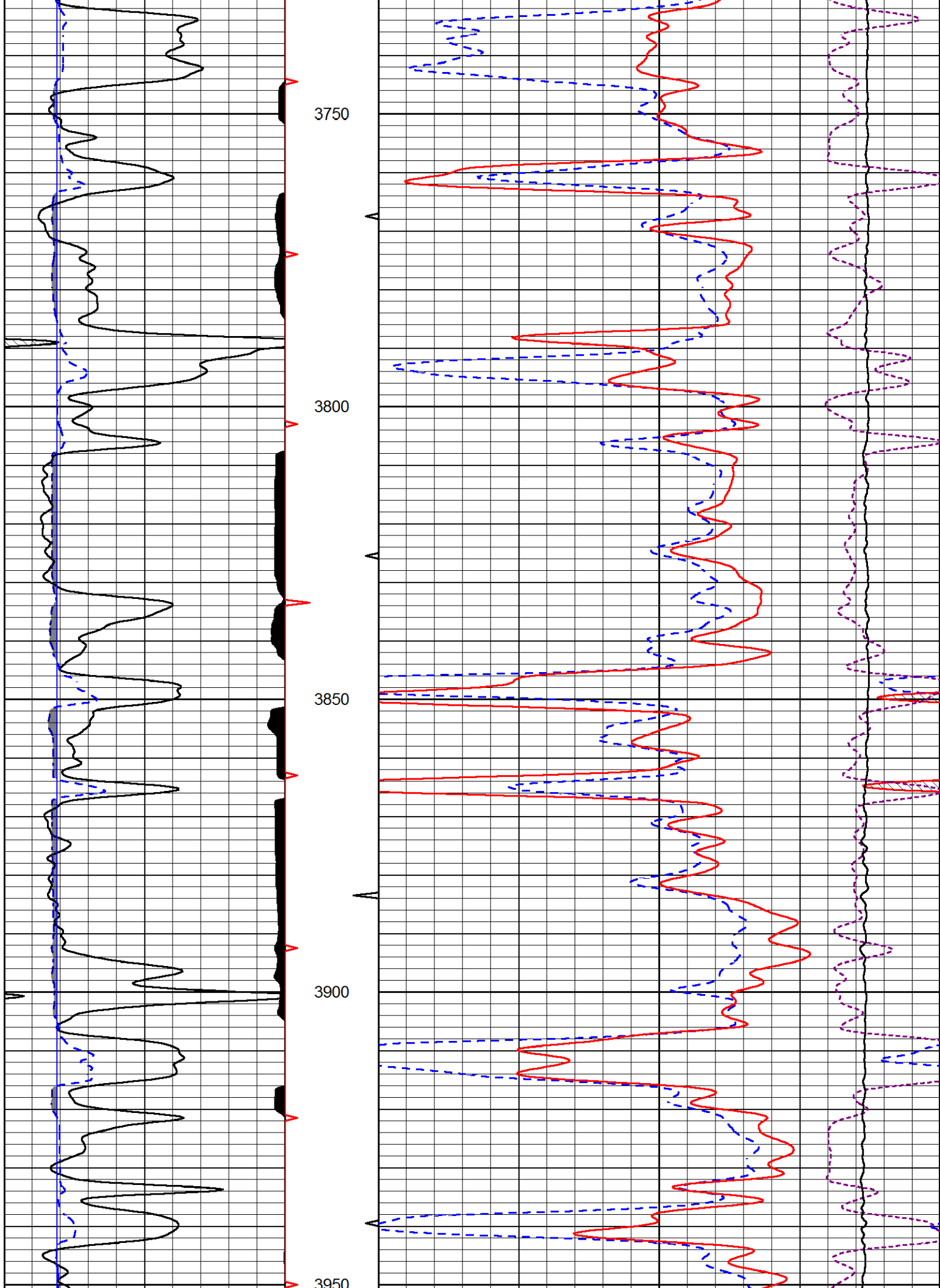
MAIN PASS

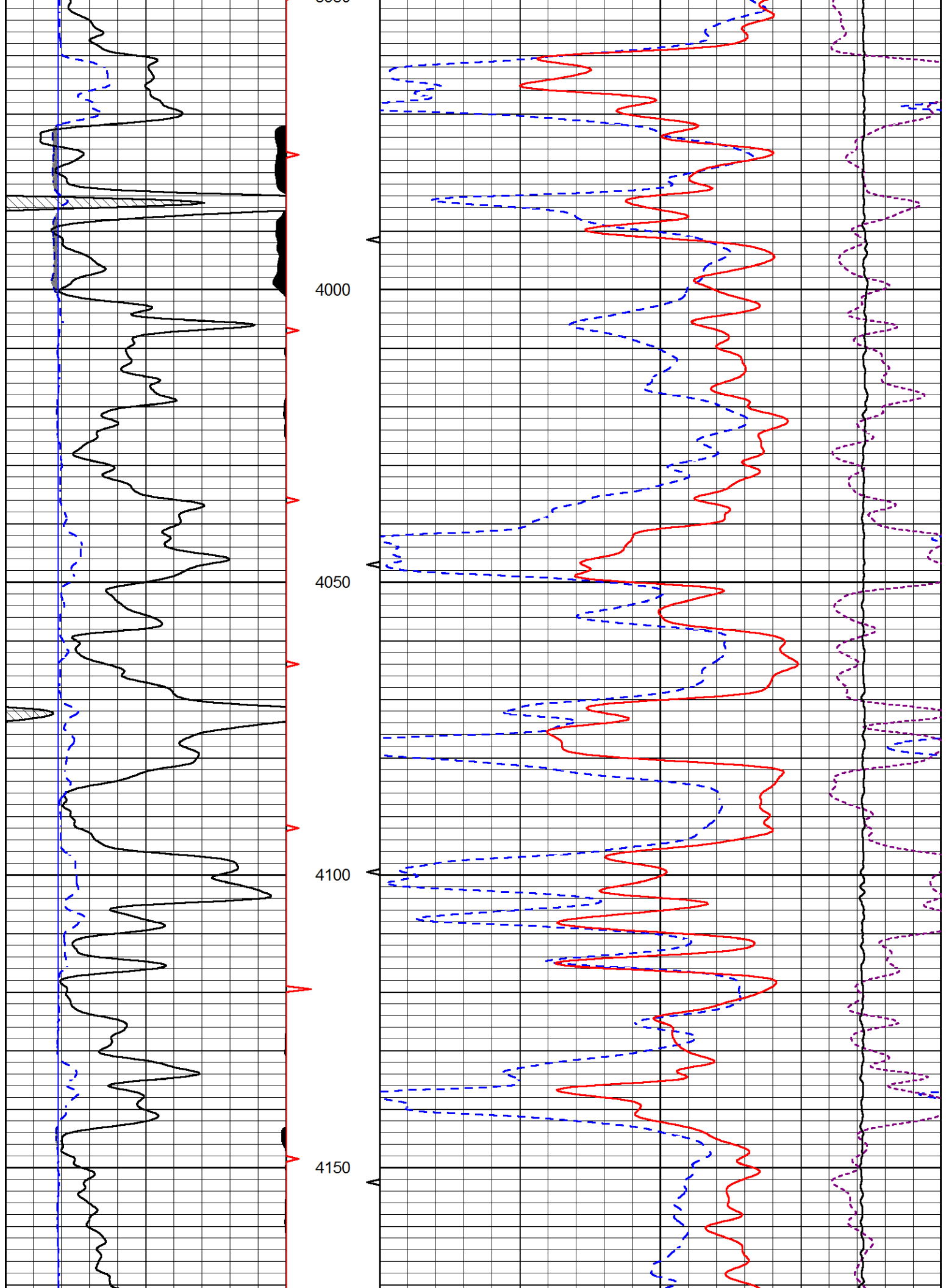
Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format _CNDLS~1
 Dataset Creation Tue Sep 10 09:39:03 2019
 Charted by Depth in Feet scaled 1:240

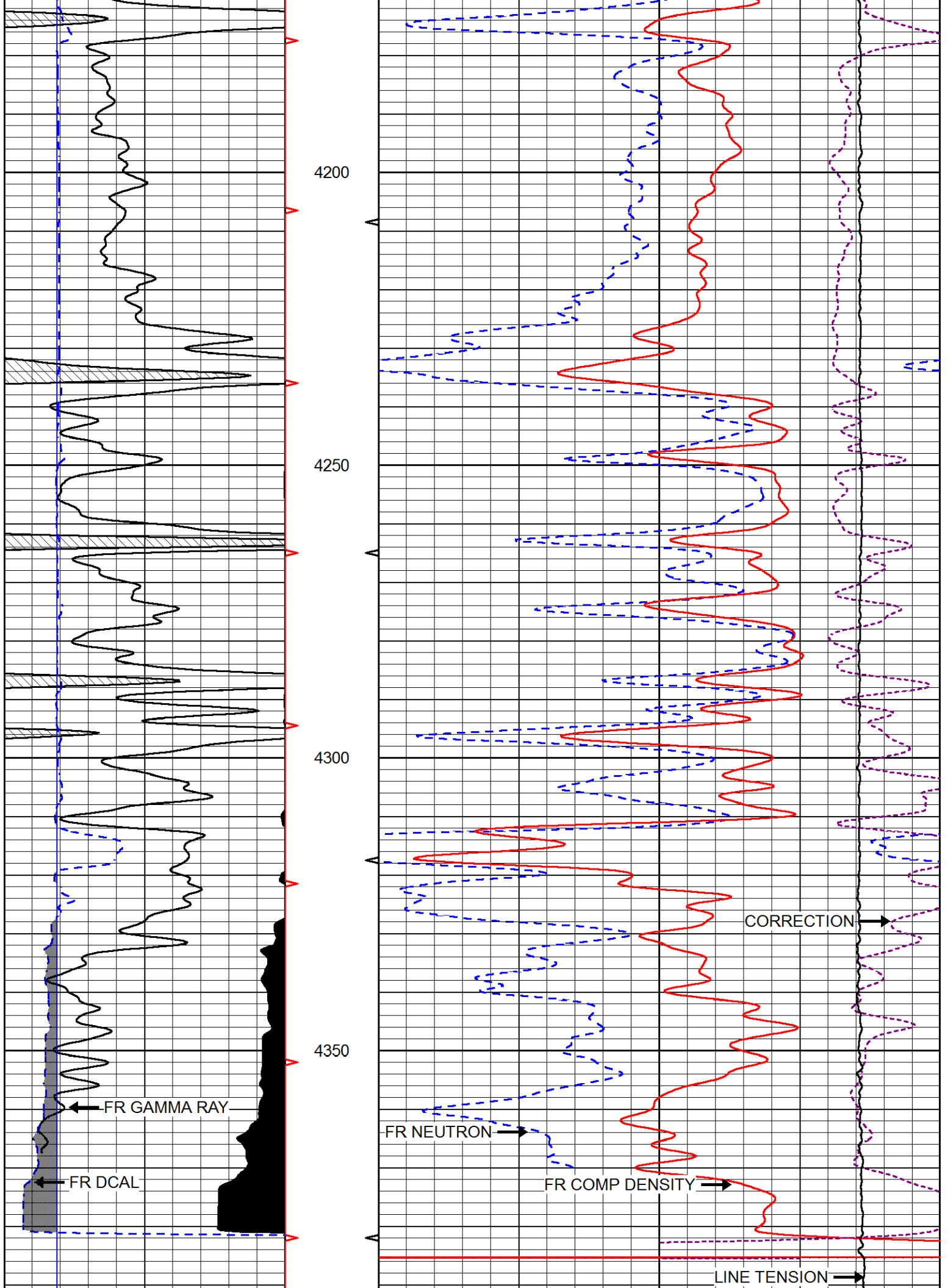
0	GAMMA RAY (GAPI)	150	30	CNPOR (pu)	-10	
6	DCAL (in)	16	30	DPOR (pu)	-10	
			10000	LINE TENSION (lb)	0	
				0.25	CORRECTION (g/cc)	0.25

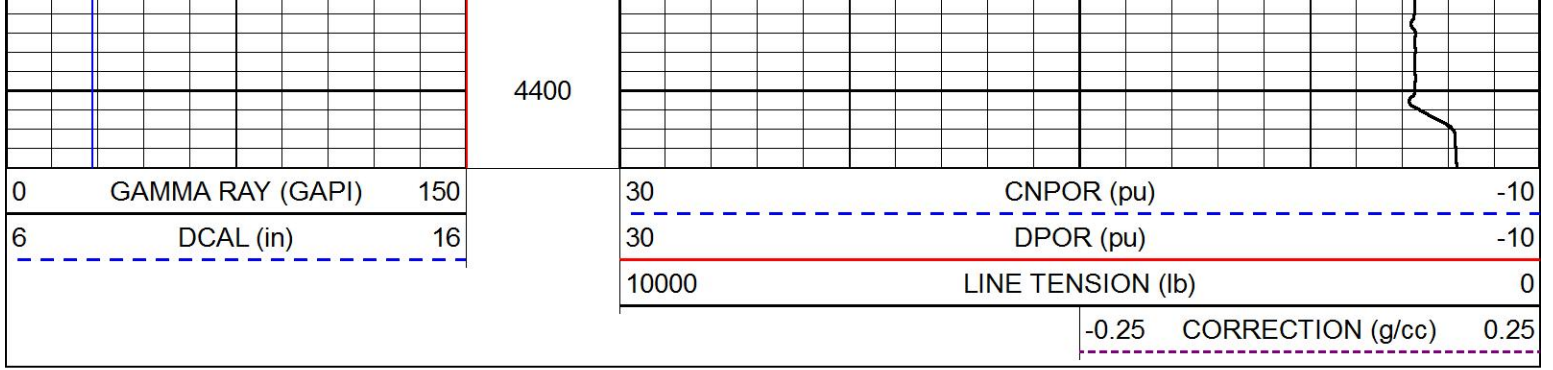






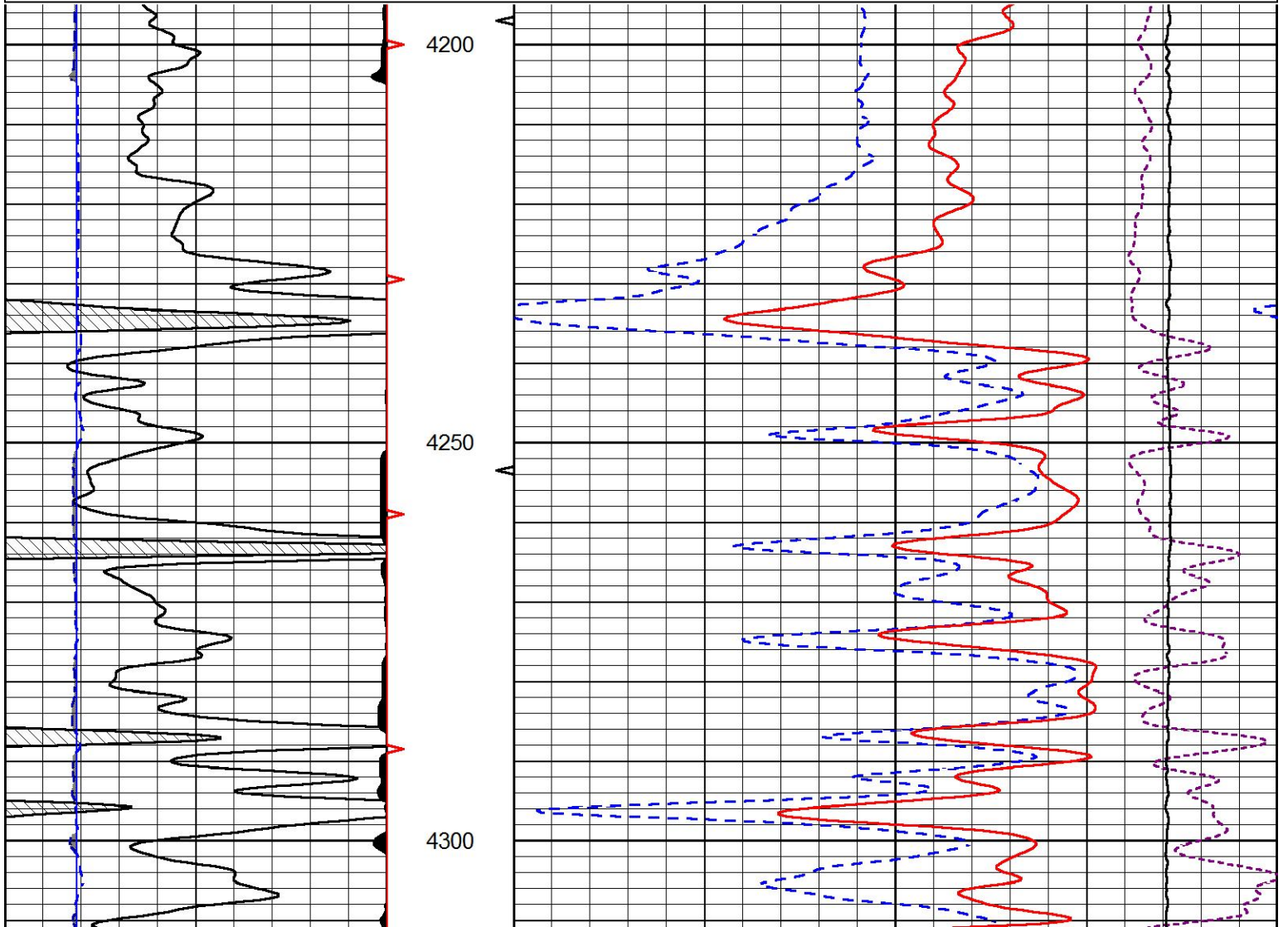
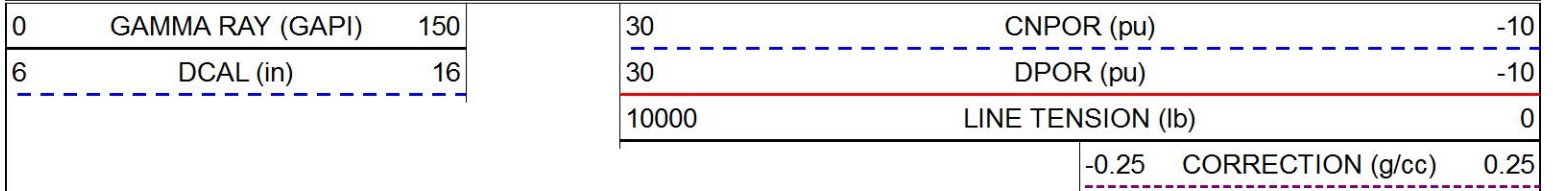


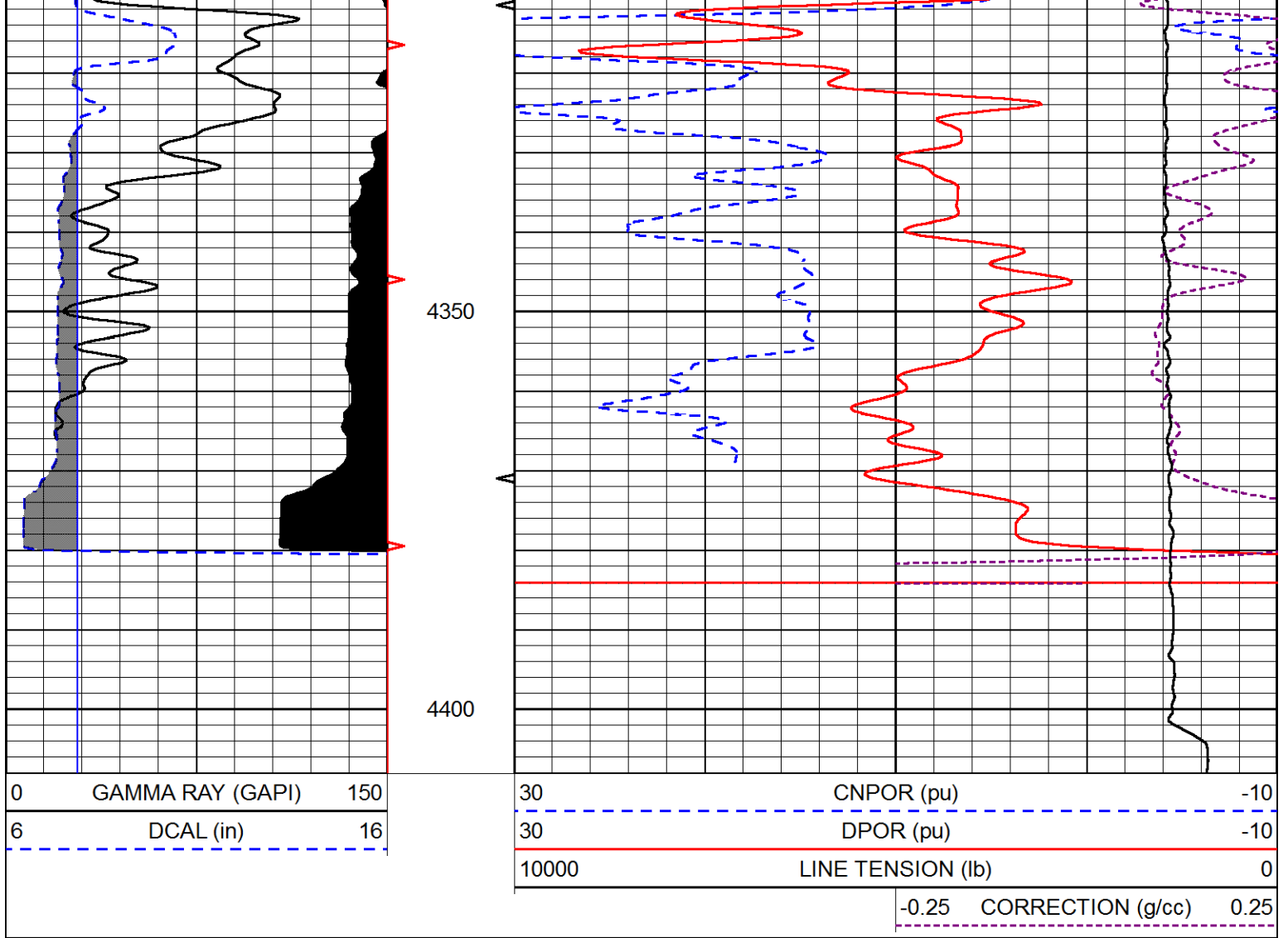




REPEAT SECTION

Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format _cndlspec
 Dataset Creation Tue Sep 10 09:44:08 2019
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass3.1
 Dataset Creation Tue Sep 10 09:39:03 2019

Dual Induction Calibration Report

Serial-Model: 1039-PSI HIGH TEMP
 Calibration Performed: Tue Sep 10 08:34:01 2019

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.450	-51.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.365	-49.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Thu Aug 01 07:57:13 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	17000.0000	-0.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm m	18000.0000	0.6000

Inverse	0.0000	1.0000	0.0000	1.0000	0.0000	18000.0000	-0.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-64.2000

Compensated Density Calibration Report

Serial-Model:	96-916-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Wed Mar 27 11:00:53 2019

Master Calibration

	<u>Density</u>		<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.755	g/cc	8943.64	10054.60	cps
Aluminum	2.655	g/cc	1595.61	6242.82	cps
Spine Angle = 74.54			Density/Spine Ratio = 0.503		
	<u>Size</u>		<u>Reading</u>		
Small Ring	4.00	in	1.74		
Large Ring	16.00	in	1.38		

Compensated Neutron Calibration Report

Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	WED FEB 13 10:30:30 2019

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:	233-M&W	
Tool Model:	M&W	
Calibration Performed:	Fri Feb 07 01:42:40 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps



PIONEER
Pioneer Energy Services

Company	BLACK ROCK RESOURCES, LLC
Well	POLIFKA #18-1
Field	WILDCAT
County	GOVE
State	KANSAS



**BOREHOLE COMPENSATED
SONIC LOG**

Company BLACK ROCK RESOURCES, LLC
 Well POLIFKA #18-1
 Field WILDCAT
 County GOVE
 State KANSAS

Company BLACK ROCK RESOURCES, LLC
 Well POLIFKA #18-1
 Field WILDCAT
 County GOVE State KANSAS

Location: API #: 15-063-22364-00-00
 505' FSL & 2070' FEL
 SEC 18 TWP 13S RGE 26W
 Permanent Datum GROUND LEVEL Elevation 2505'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services
 CNL/CDL
 DIL/MEL
 Elevation
 K.B. 2515'
 D.F. N/A
 G.L. 2505'

Date	9/10/2019						
Run Number	TWO						
Type Log	BHCS						
Depth Driller	4400'						
Depth Logger	4402'						
Bottom Logged Interval	4390'						
Top Logged Interval	250'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	3900						
Density	9.2						
Level	FULL						
Max. Rec. Temp. F	120						
Operating Rig Time	4 HOURS						
Equipment -- Location	P-24 HAYS						
Recorded By	IAN MABB						
Witnessed By	CHAD COUNTS						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	274'	8.625"	23#	0'	274'
TWO	7.875"	274'					
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.

QUINTER, KS.
 SOUTH 10 MILES TO P RD,
 WEST 1/2 MILE, AND NORTH INTO

Log Measured From: KELLY BUSHING 10' Ft. Above Permanent Datum

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

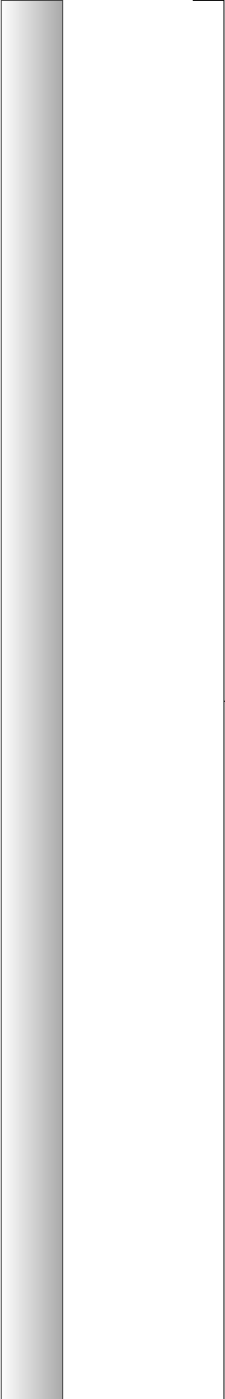

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: IAN MABB	Primary Witness: CHAD COUNTS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

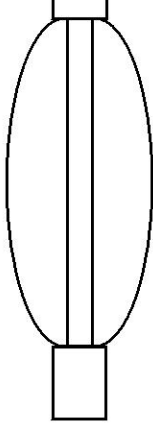
Log Variables

DatabaseC:\ProgramData\Warrior\Data\black_rock_18_1.db
 Dataset field/well/stackmel/pass5/_vars_

Top - Bottom

A 1	BOREID in 7.875	BOTTEMP degF 100	CASEOD in 5.5	CASETHCK in 0	COMPACT 1	FLUIDDEN g/cc 1	M 2
MATRXDEN g/cc 2.71	NPORSEL Limestone	PERFS 0	SNDERR mmho/m 0	SNDERRM mmho/m 0	SPSHIFT mV 0	SRFTEMP degF 0	SVFLUID usec/ft 189
SVMATRIX usec/ft 47.6	SZCOR Off	TDEPTH ft 0					

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
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

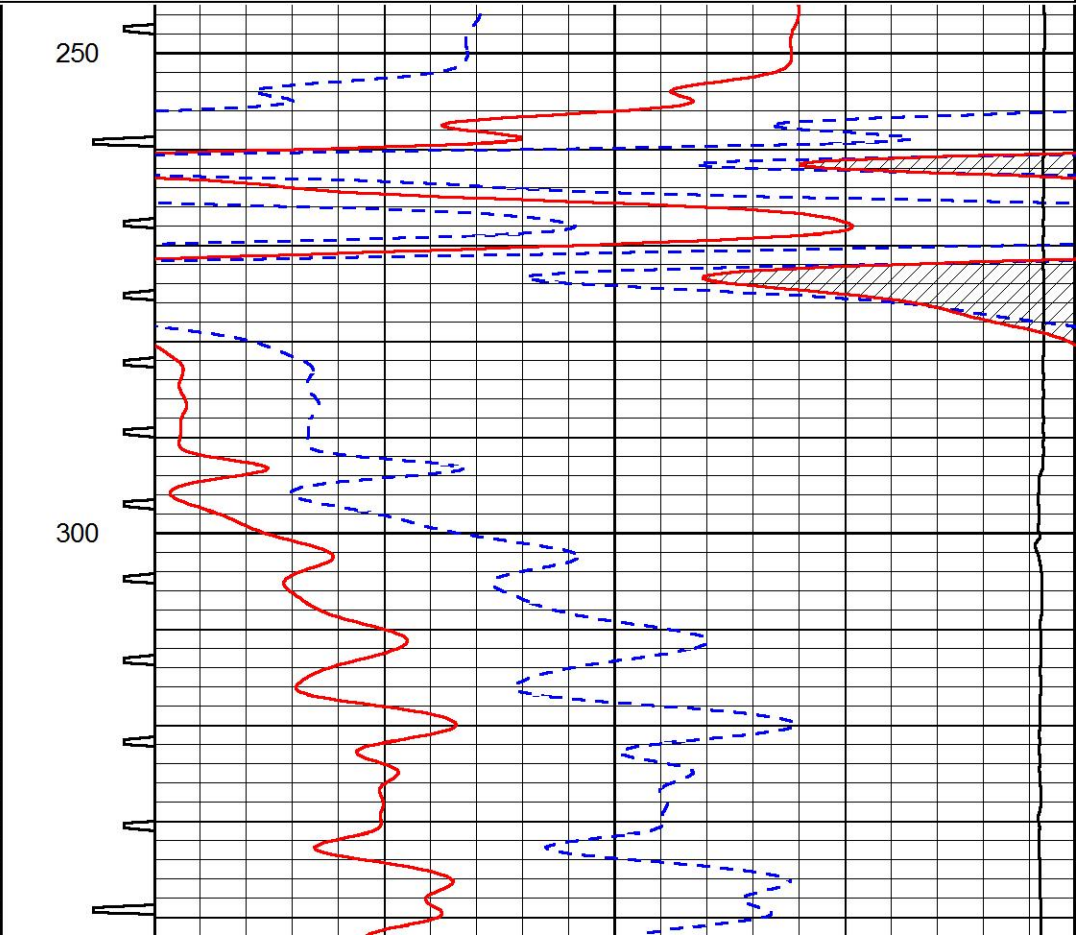
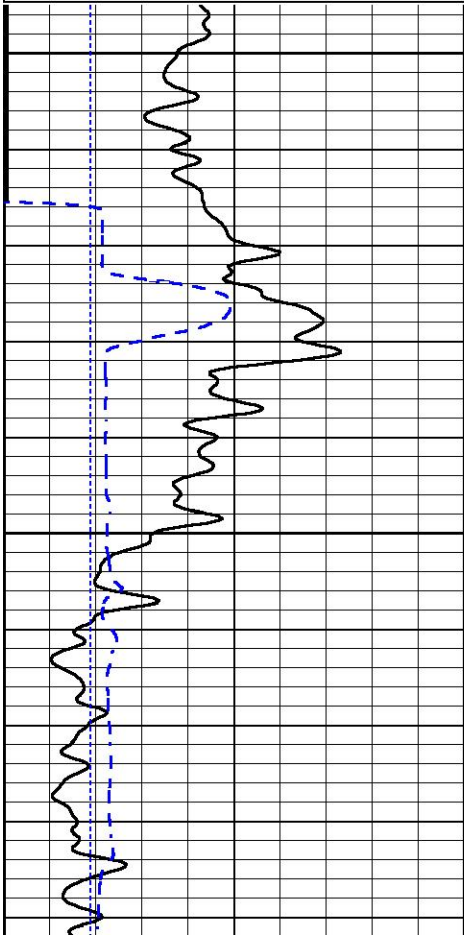
Dataset: black_rock_18_1.db: field/well/stackmel/pass5
 Total length: 21.50 ft
 Total weight: 370.00 lb
 O.D.: 3.50 in

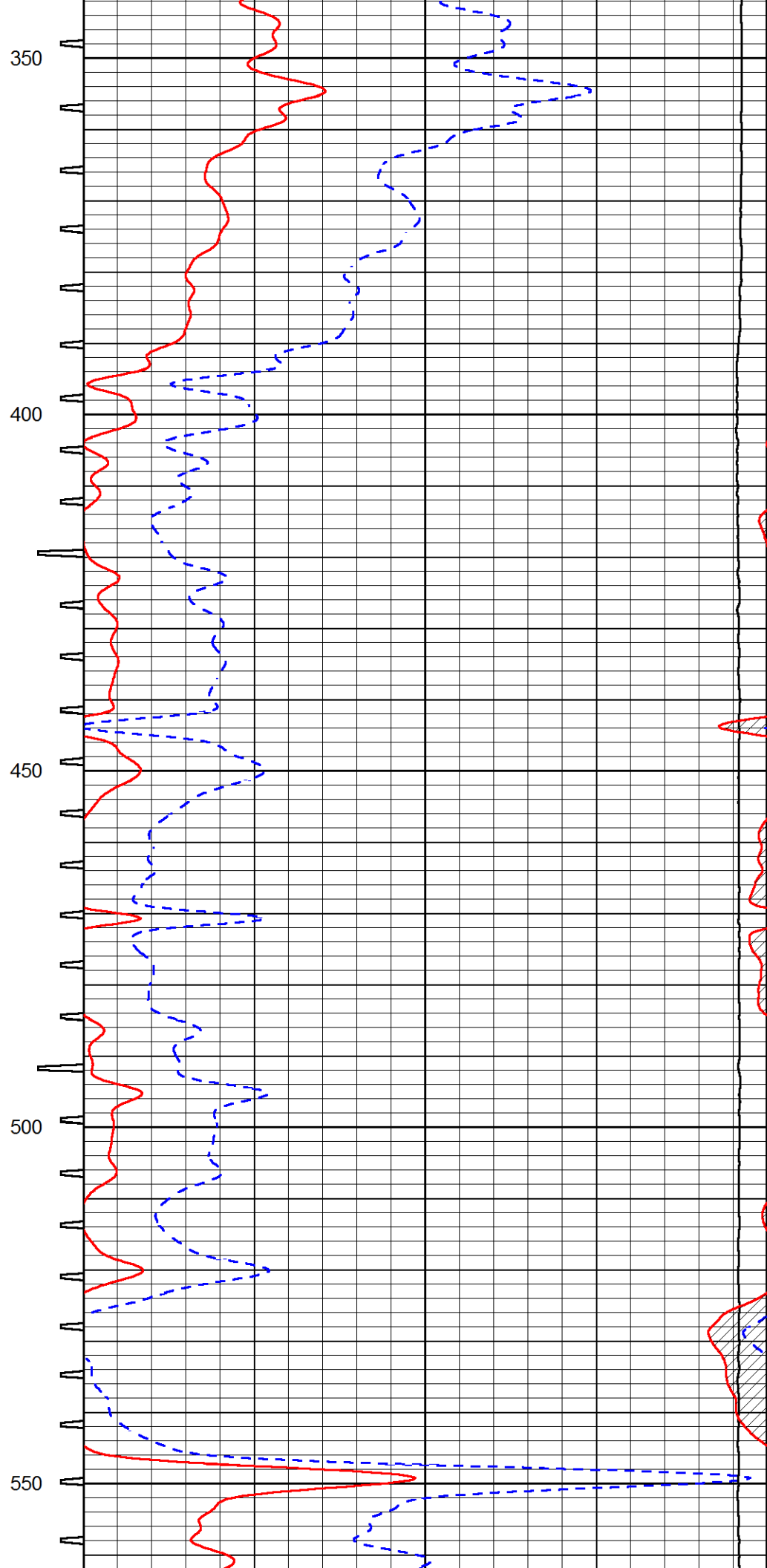
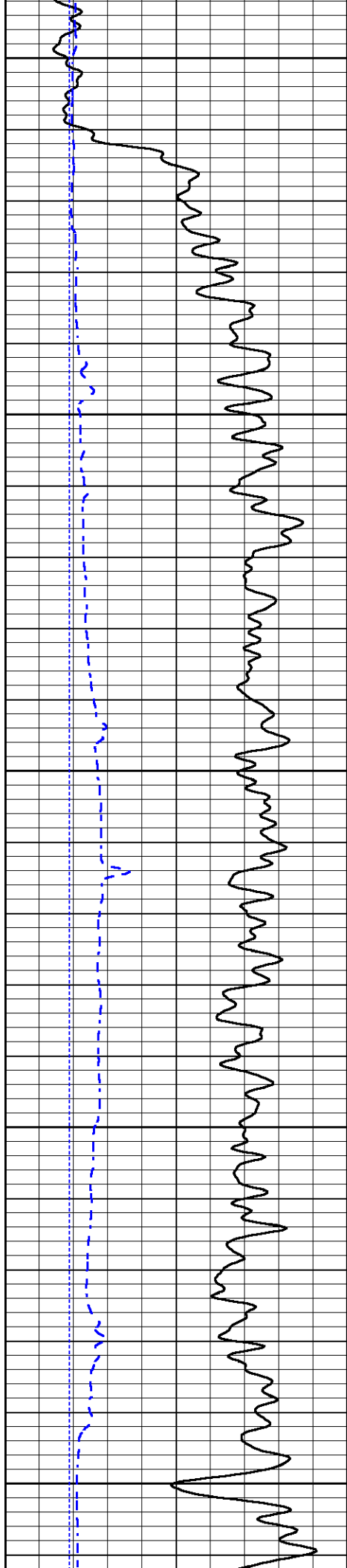


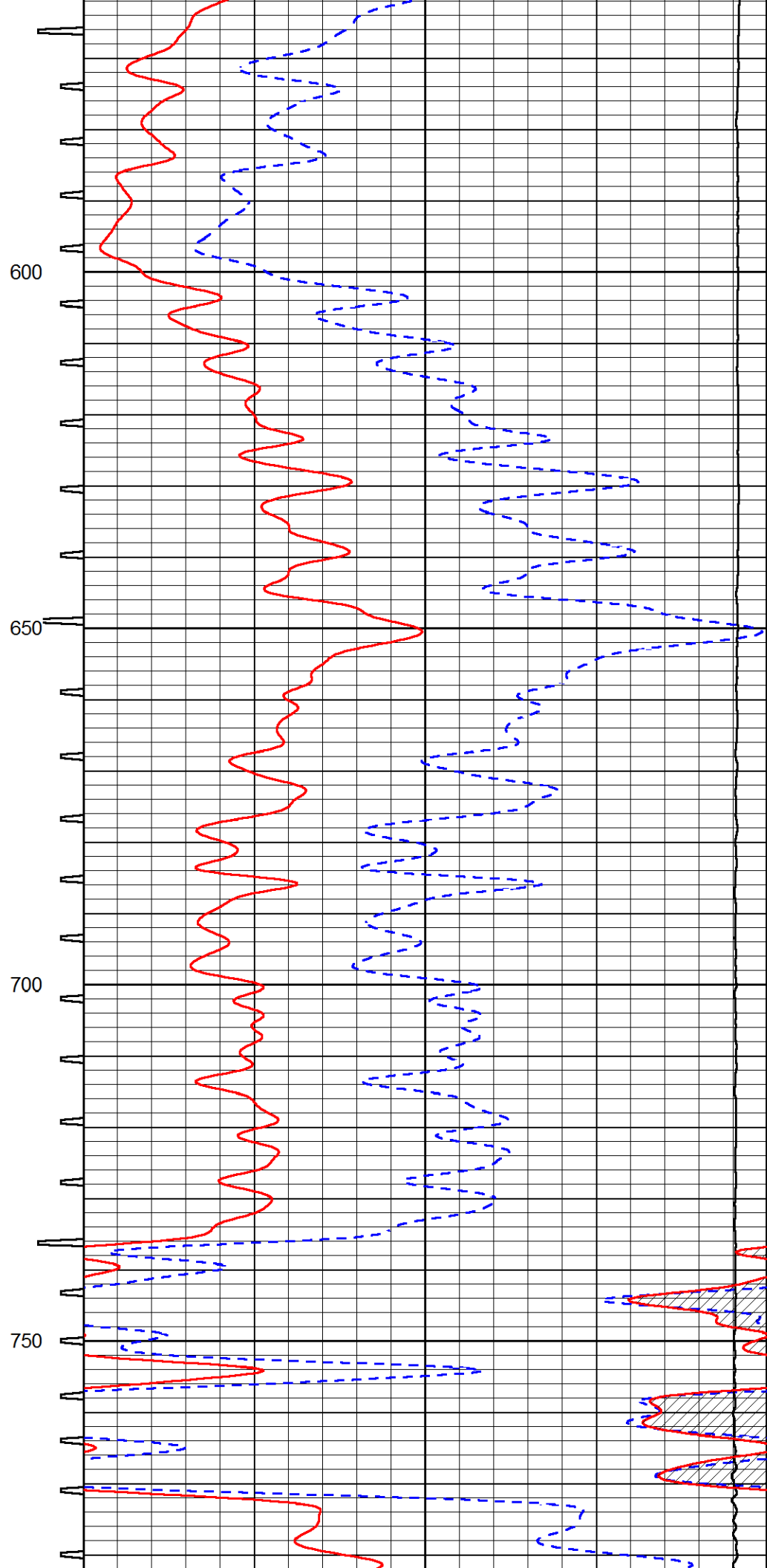
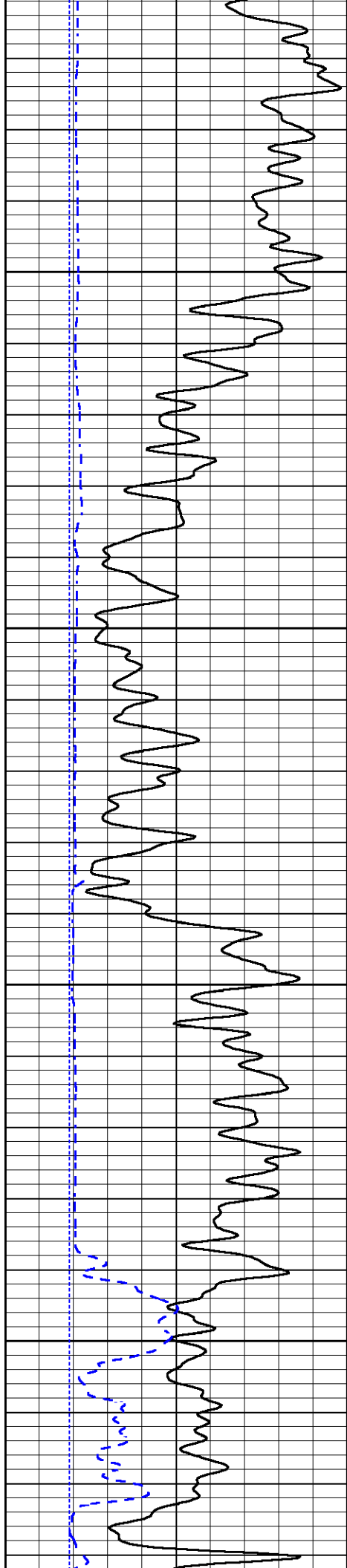
MAIN PASS

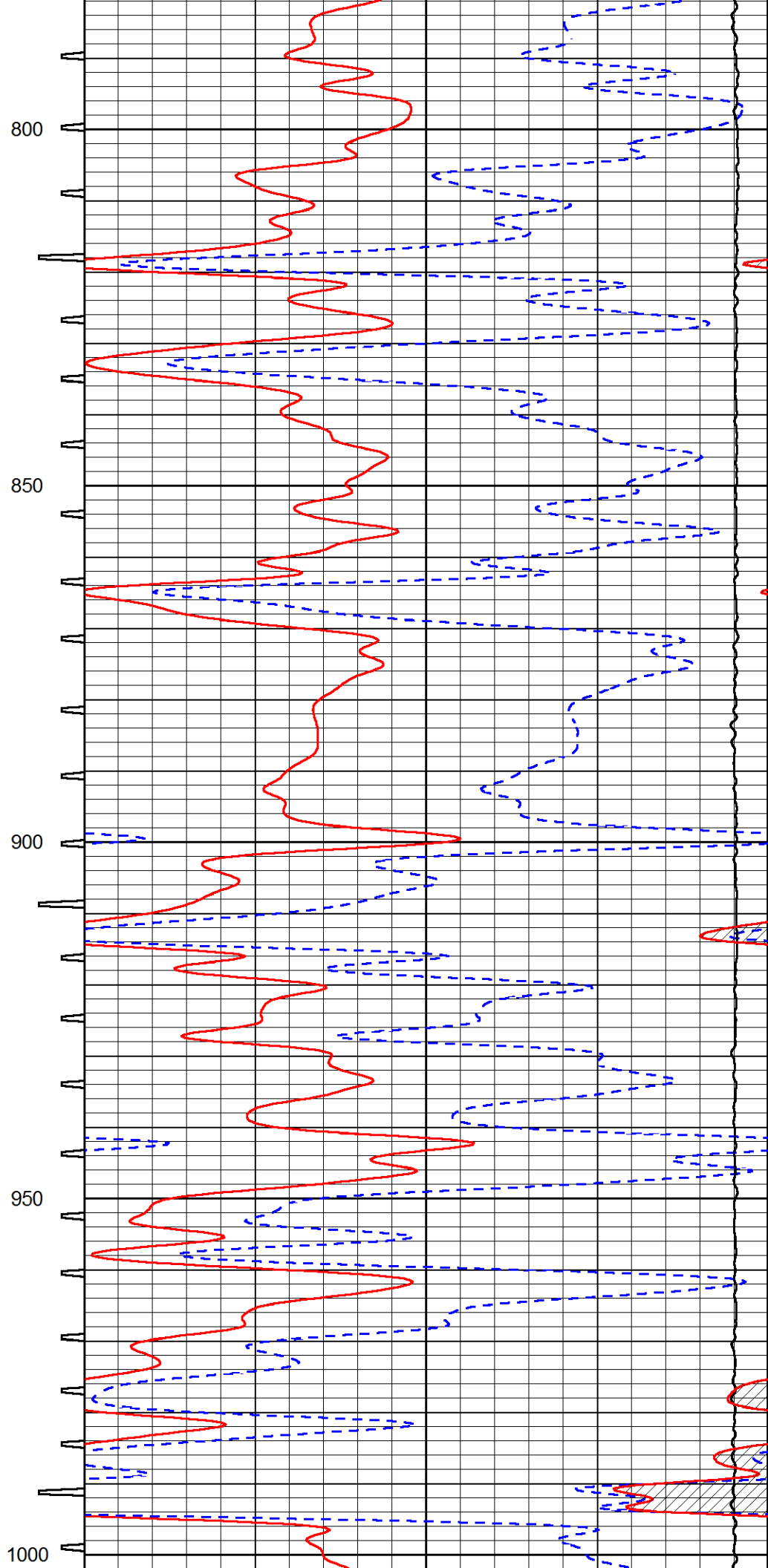
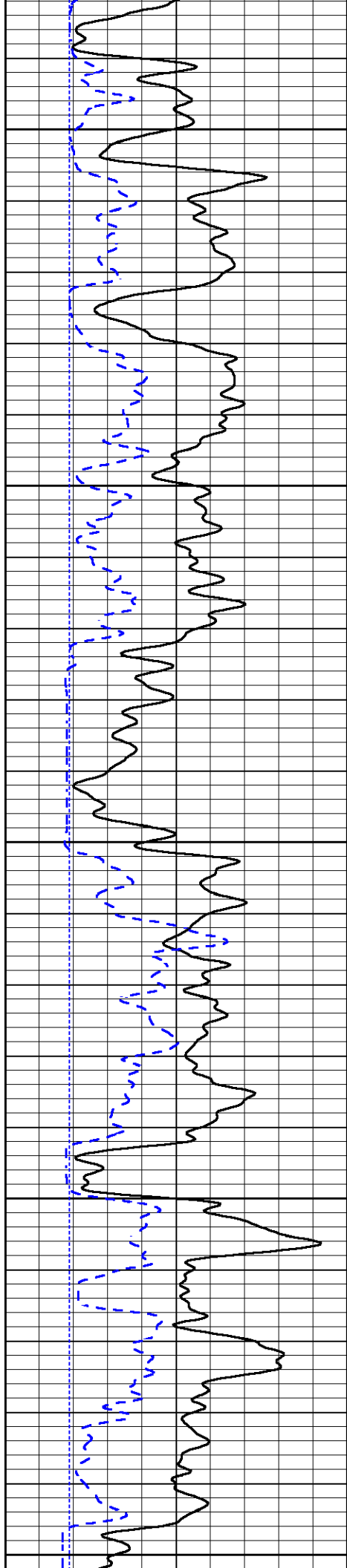
Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass4.1
 Presentation Format _sonic
 Dataset Creation Tue Sep 10 10:24:17 2019
 Charted by Depth in Feet scaled 1:240

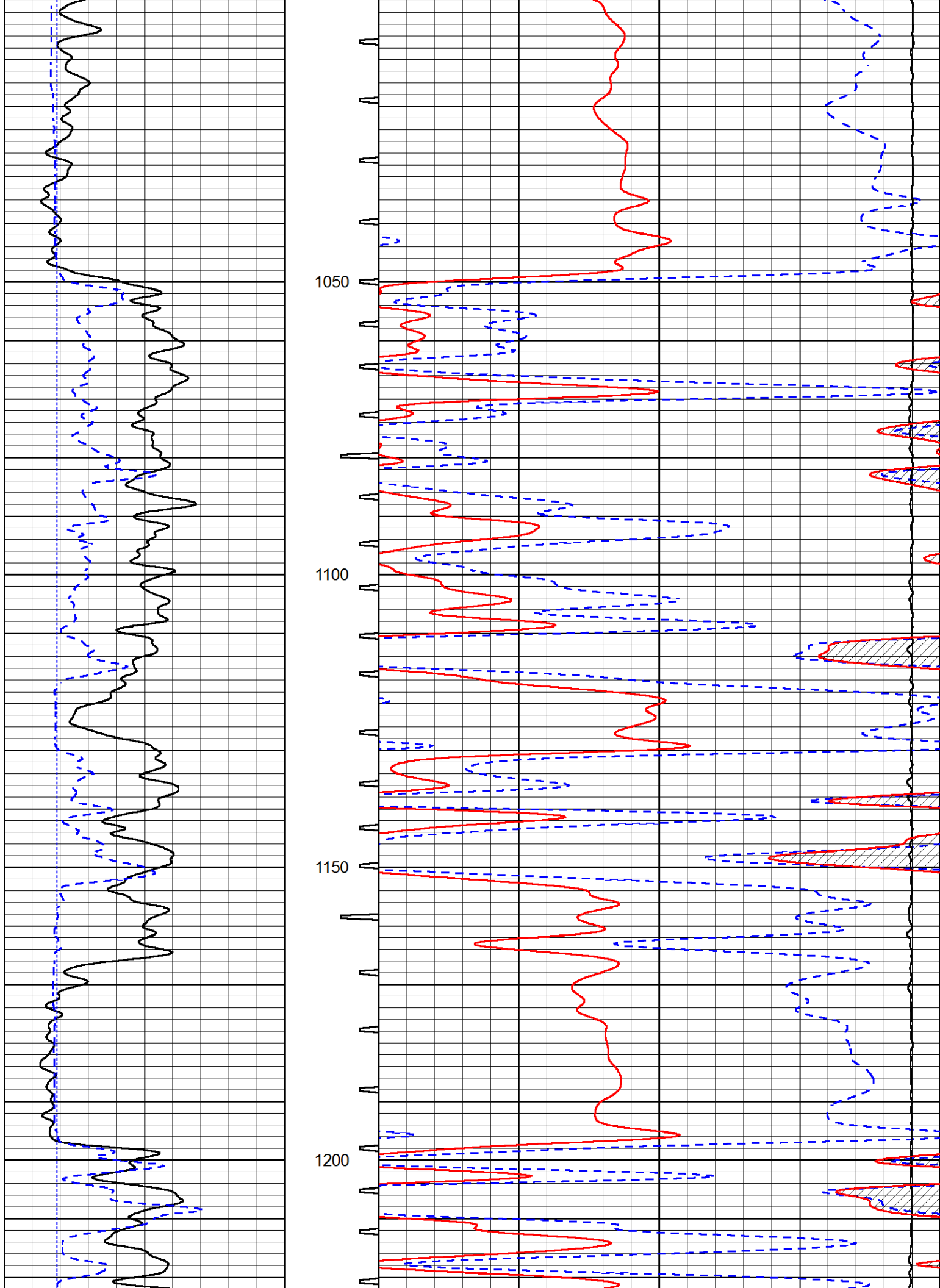
0	Gamma Ray (GAPI)	150	Sonic Int	140	Delta Time (usec/ft) (usec/ft)	40
150	GR (GAPI)	300	5 (msec) 0	30	Sonic Porosity (pu)	-10
6	DCAL (in)	16		15000	LTEN (lb) (lb)	0

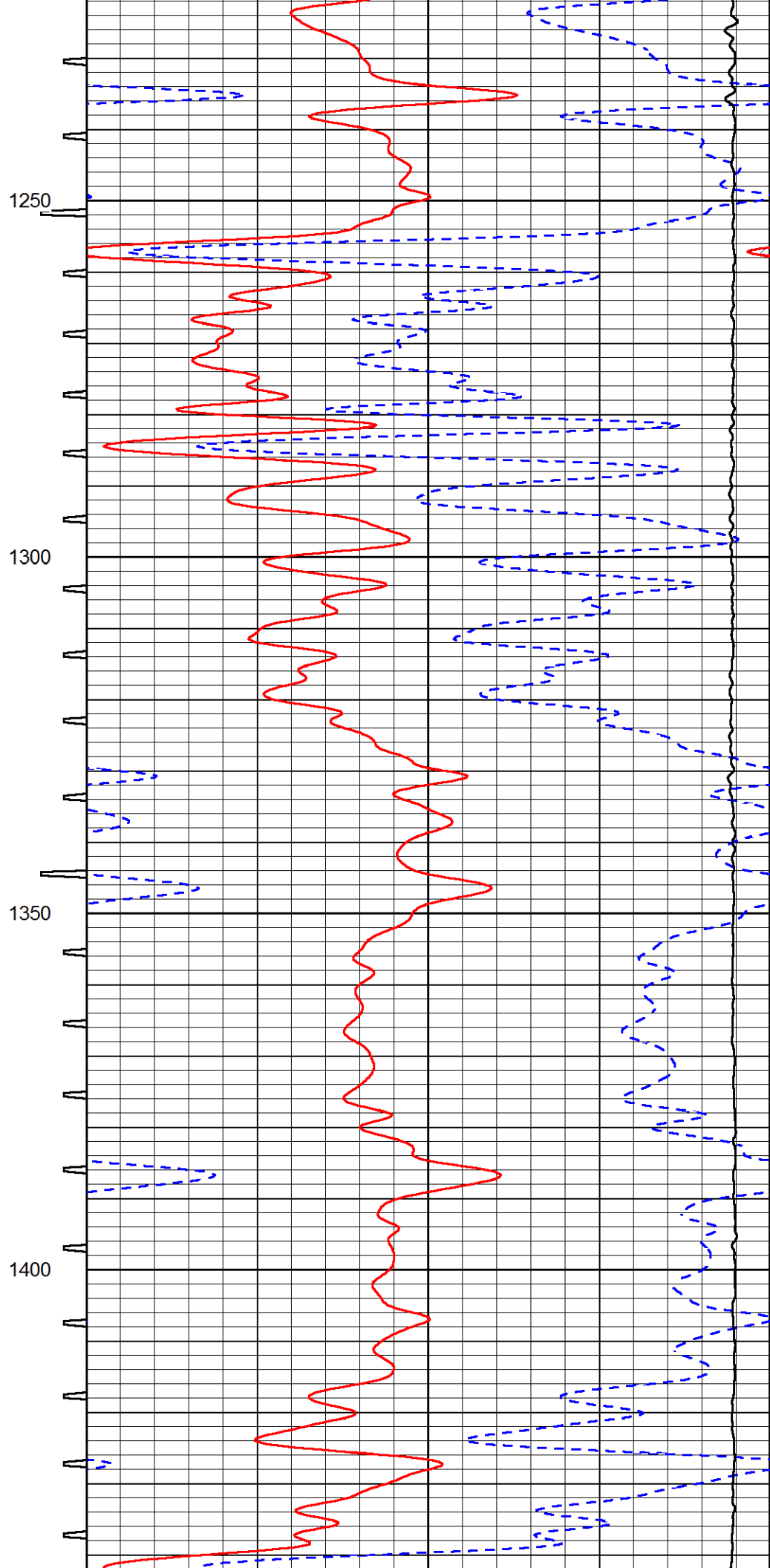
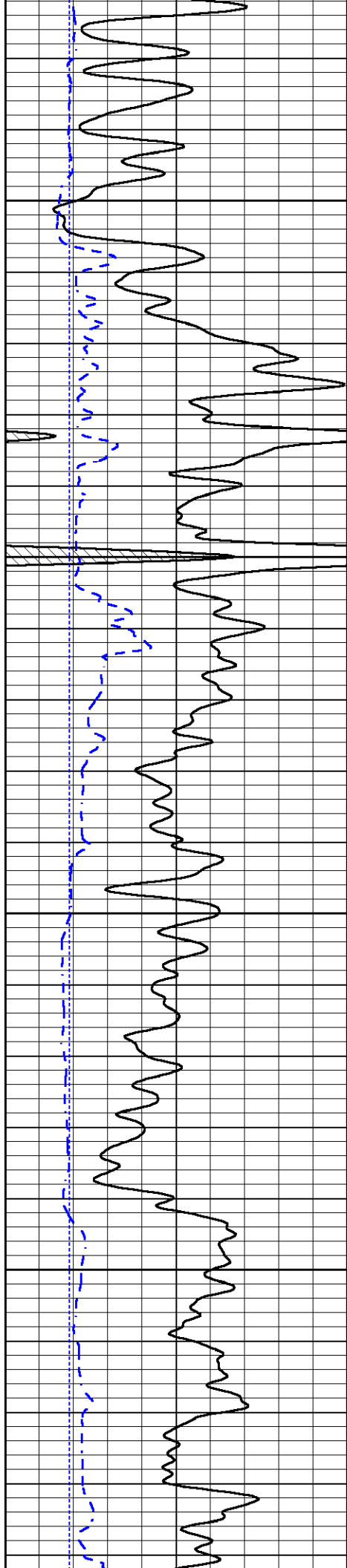


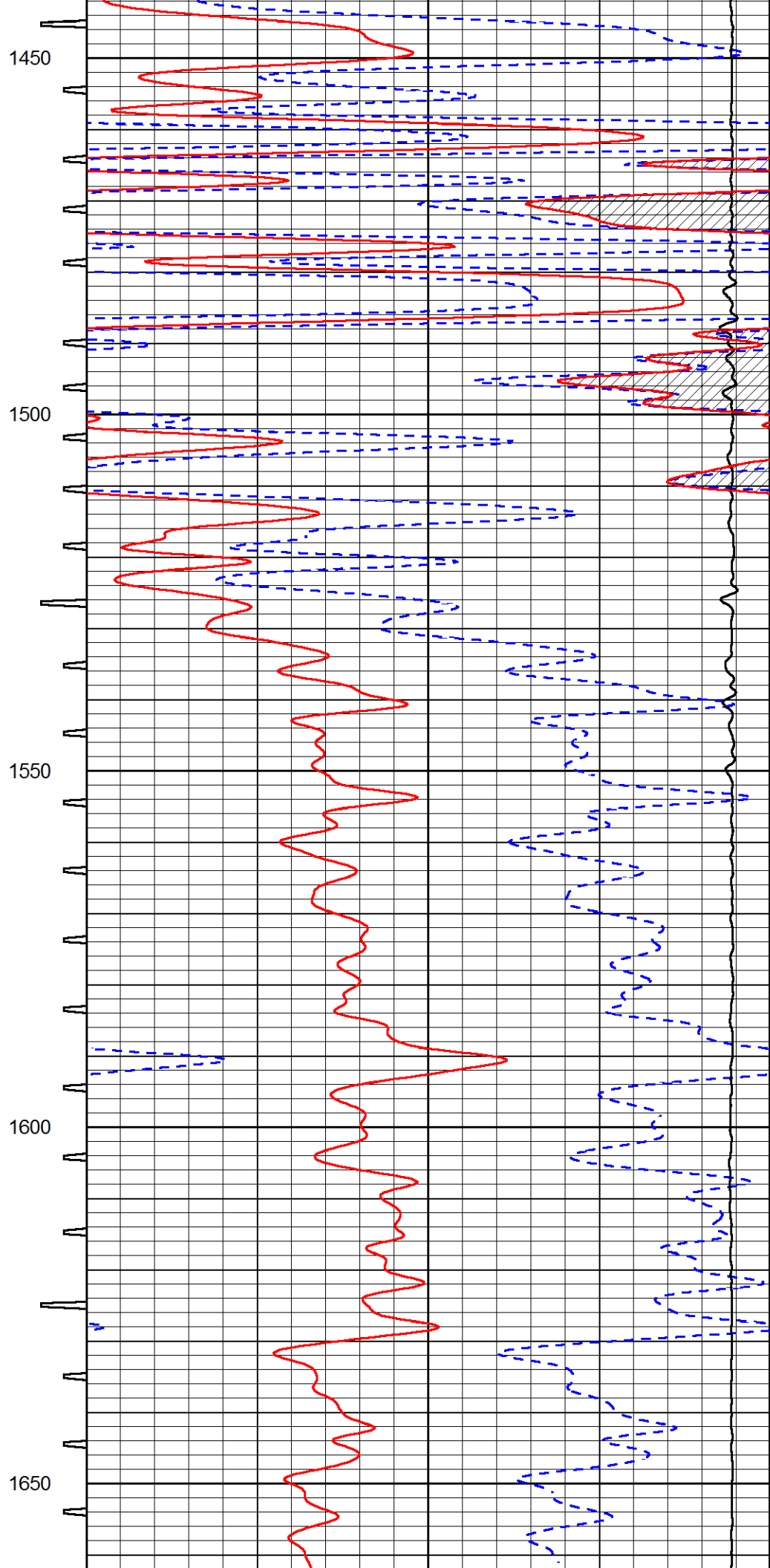
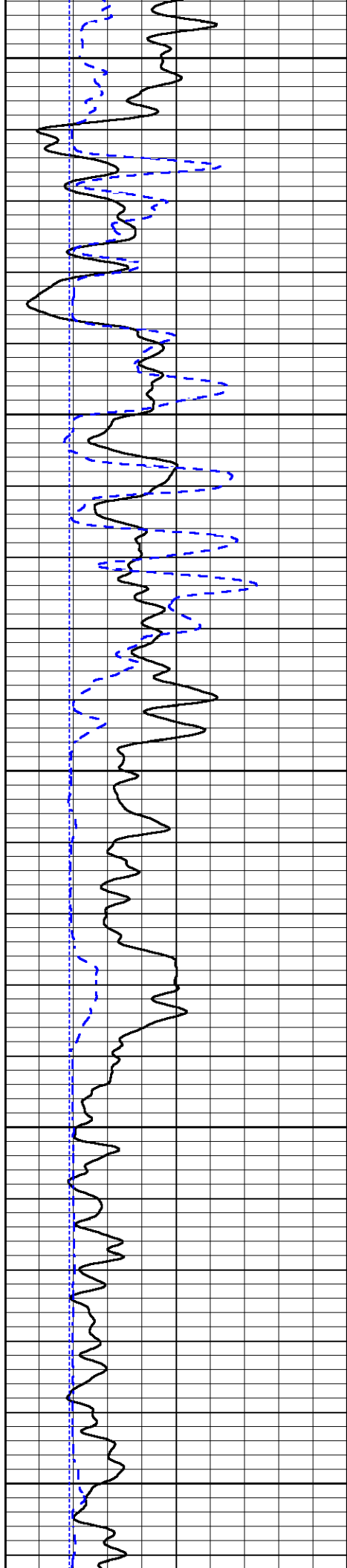


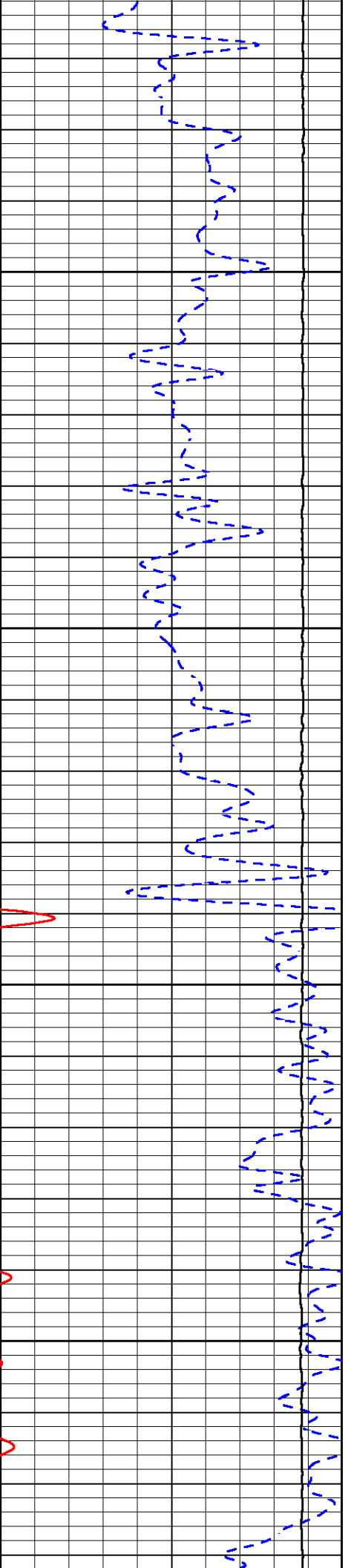
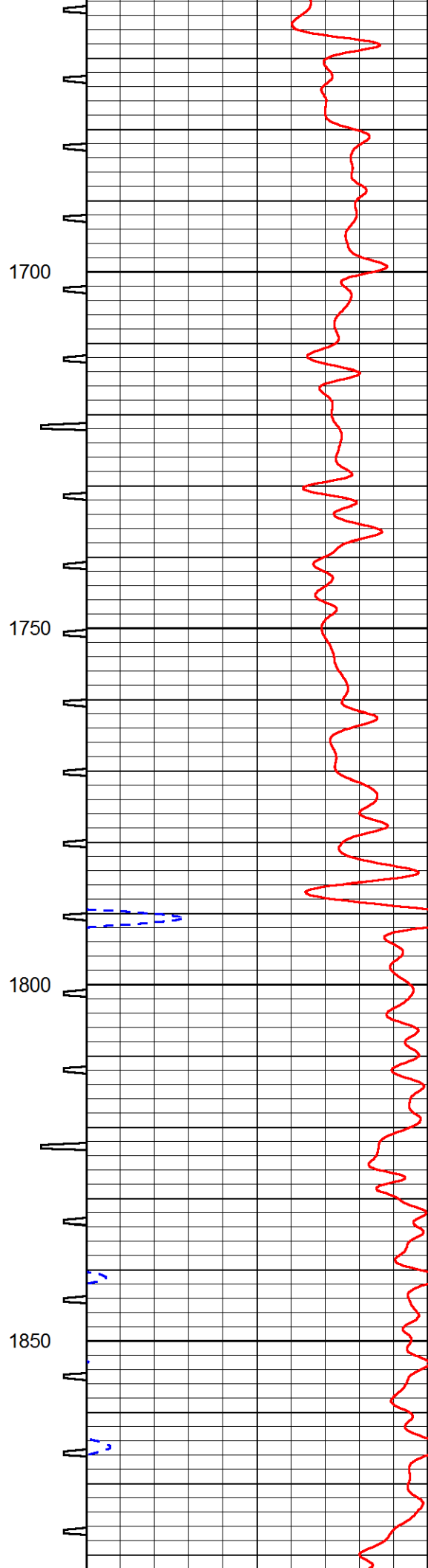
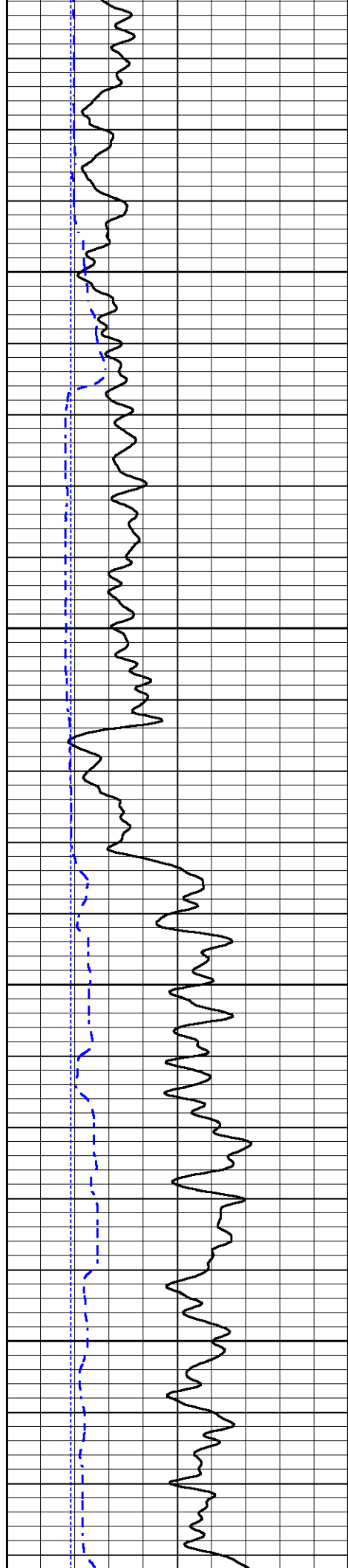


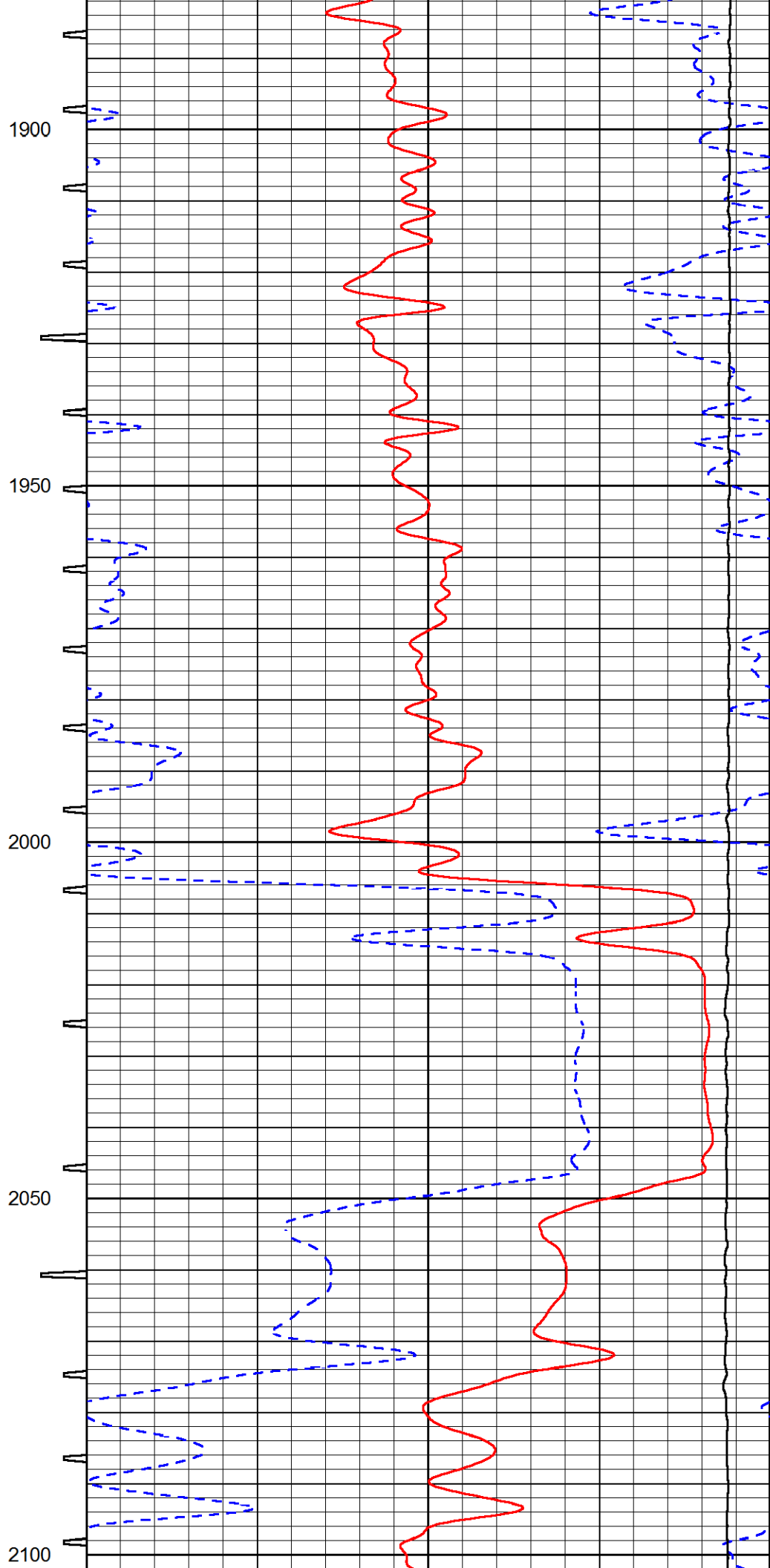
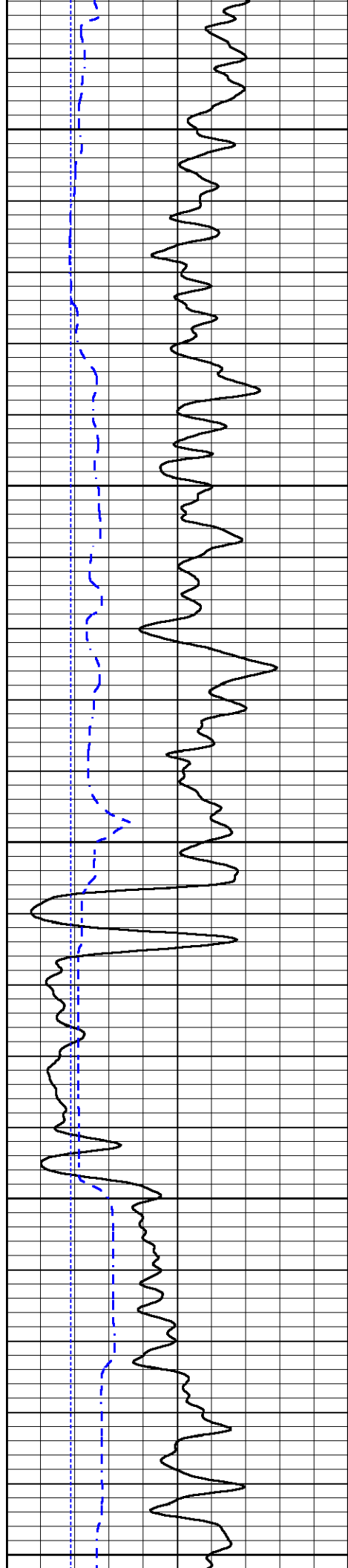


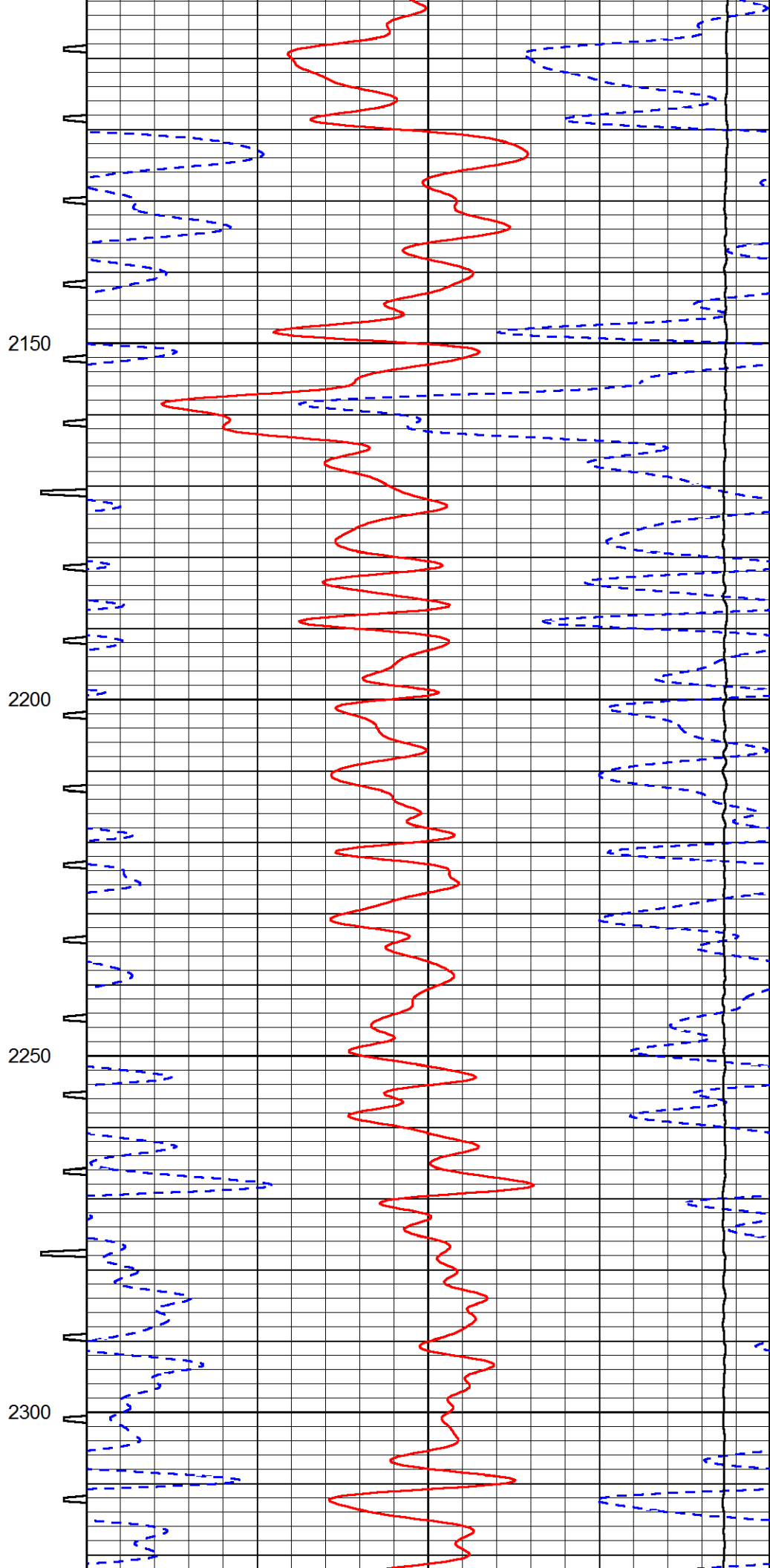
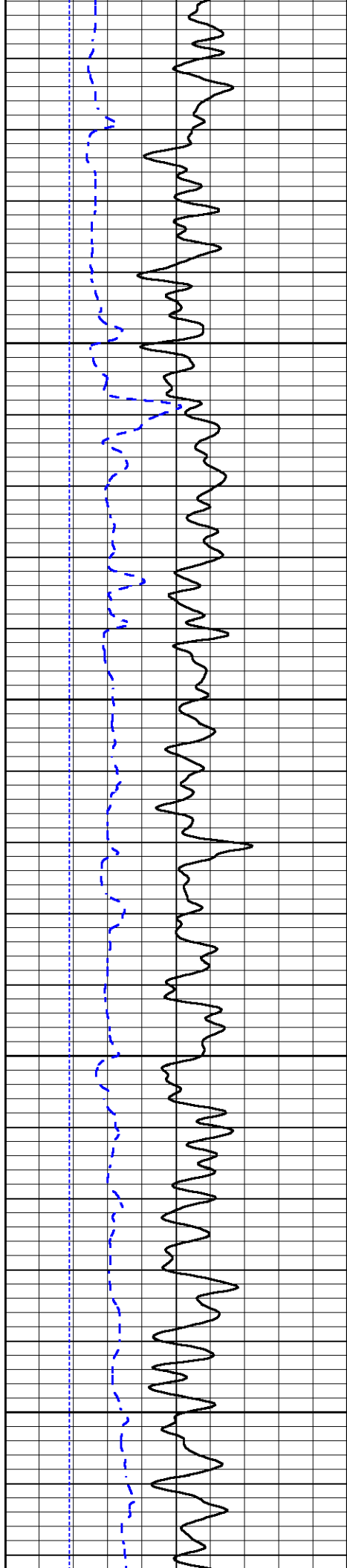


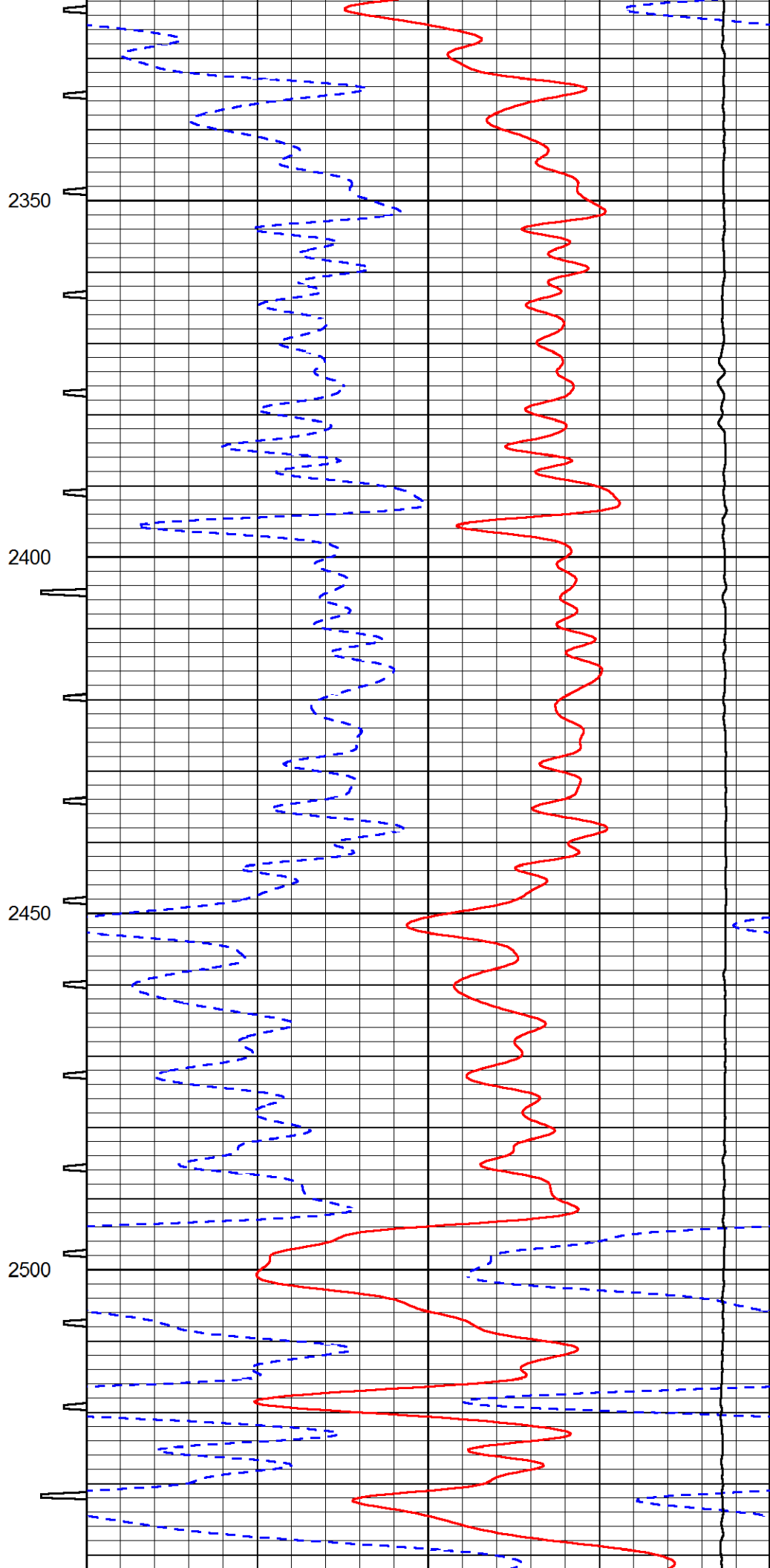
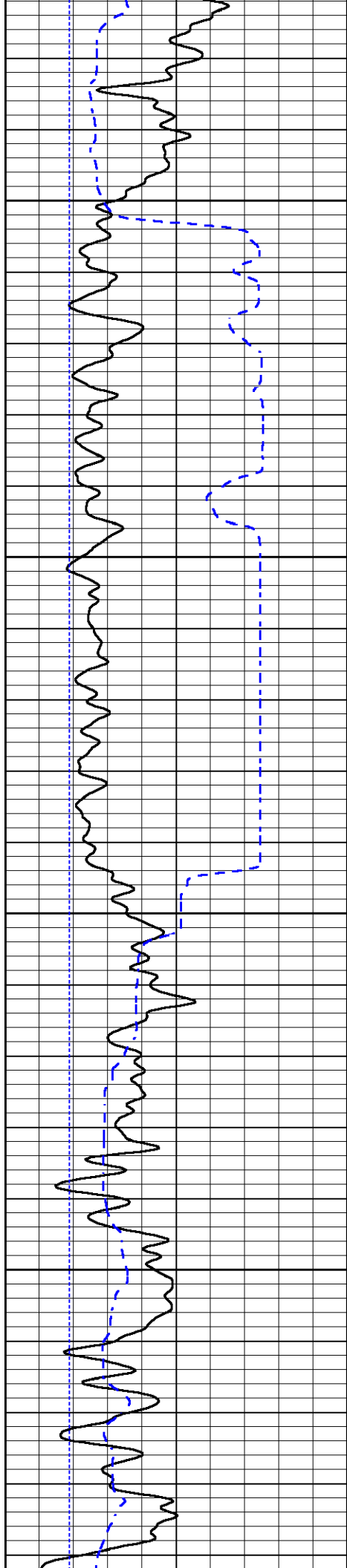


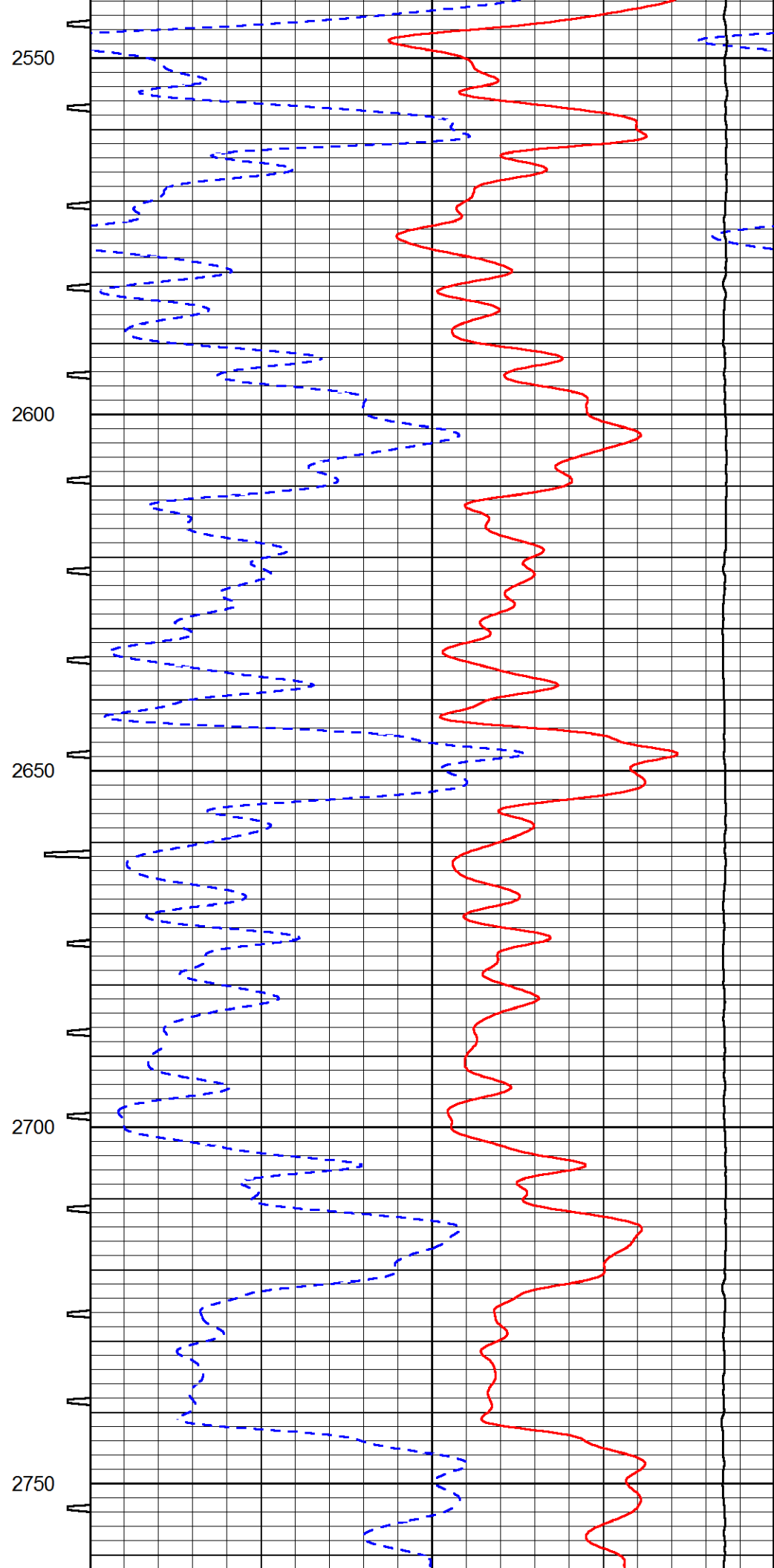
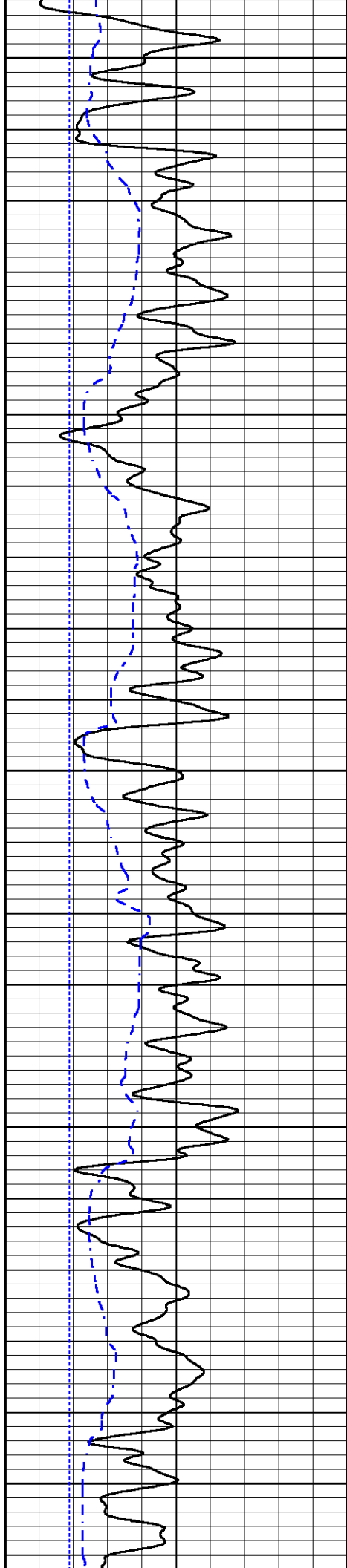


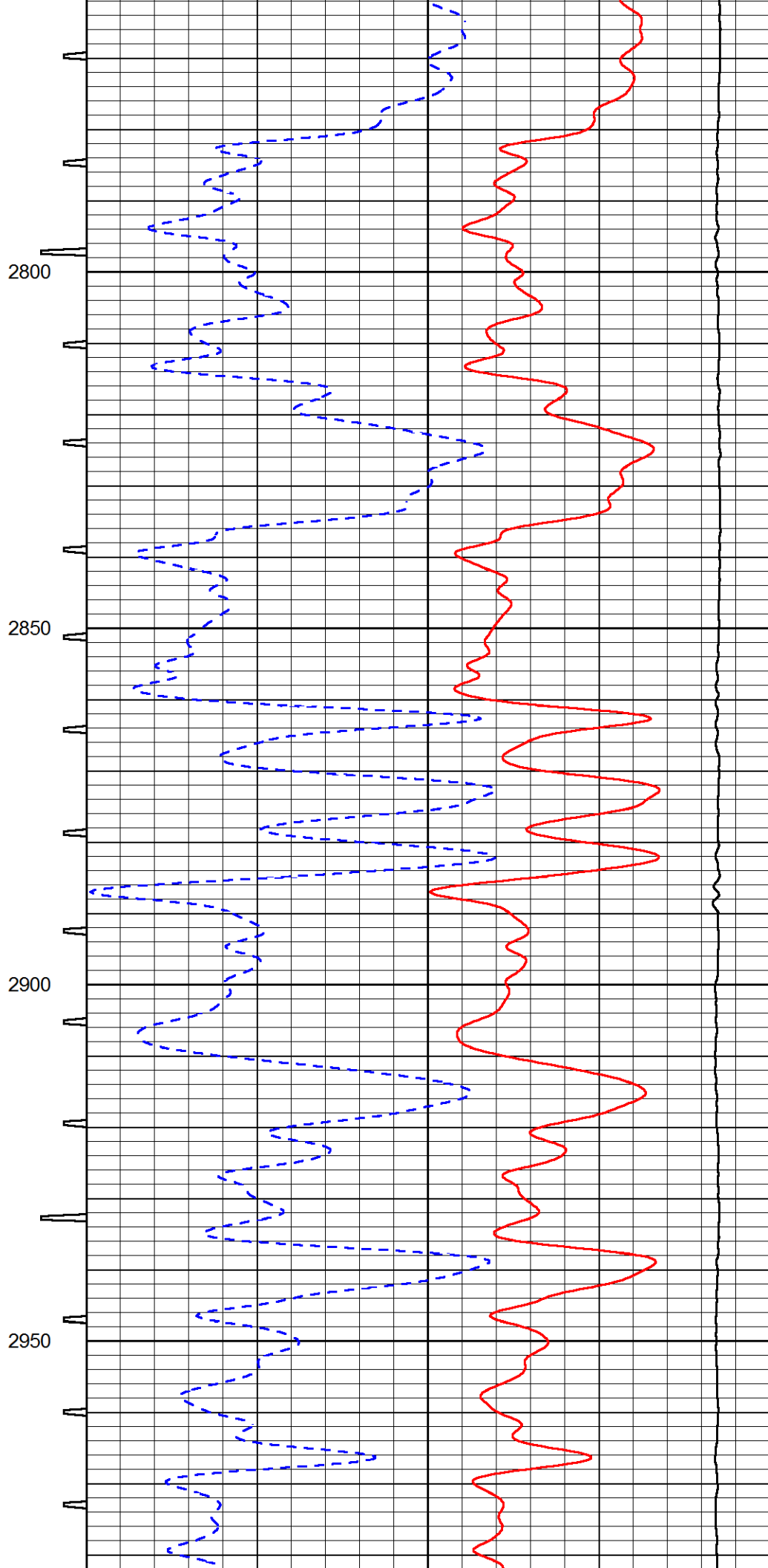
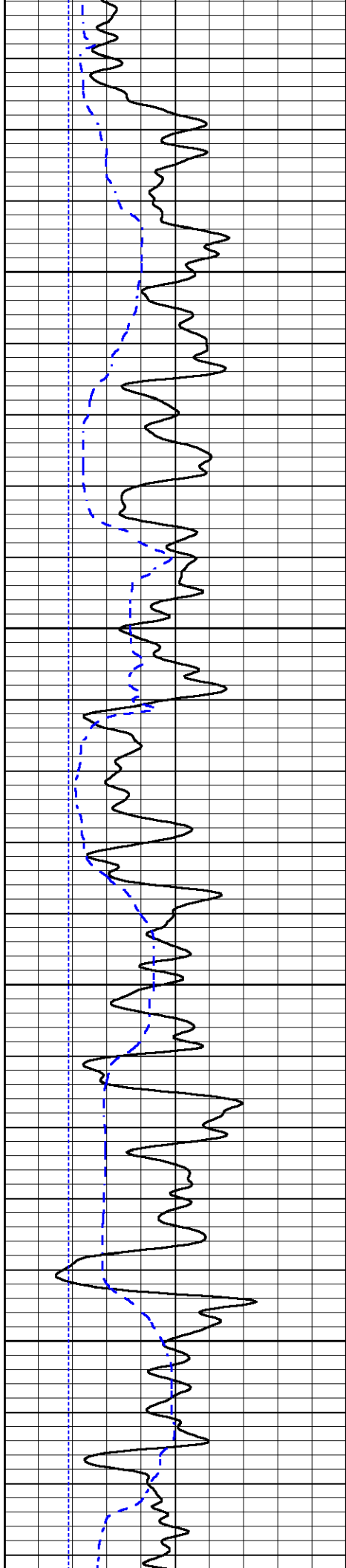


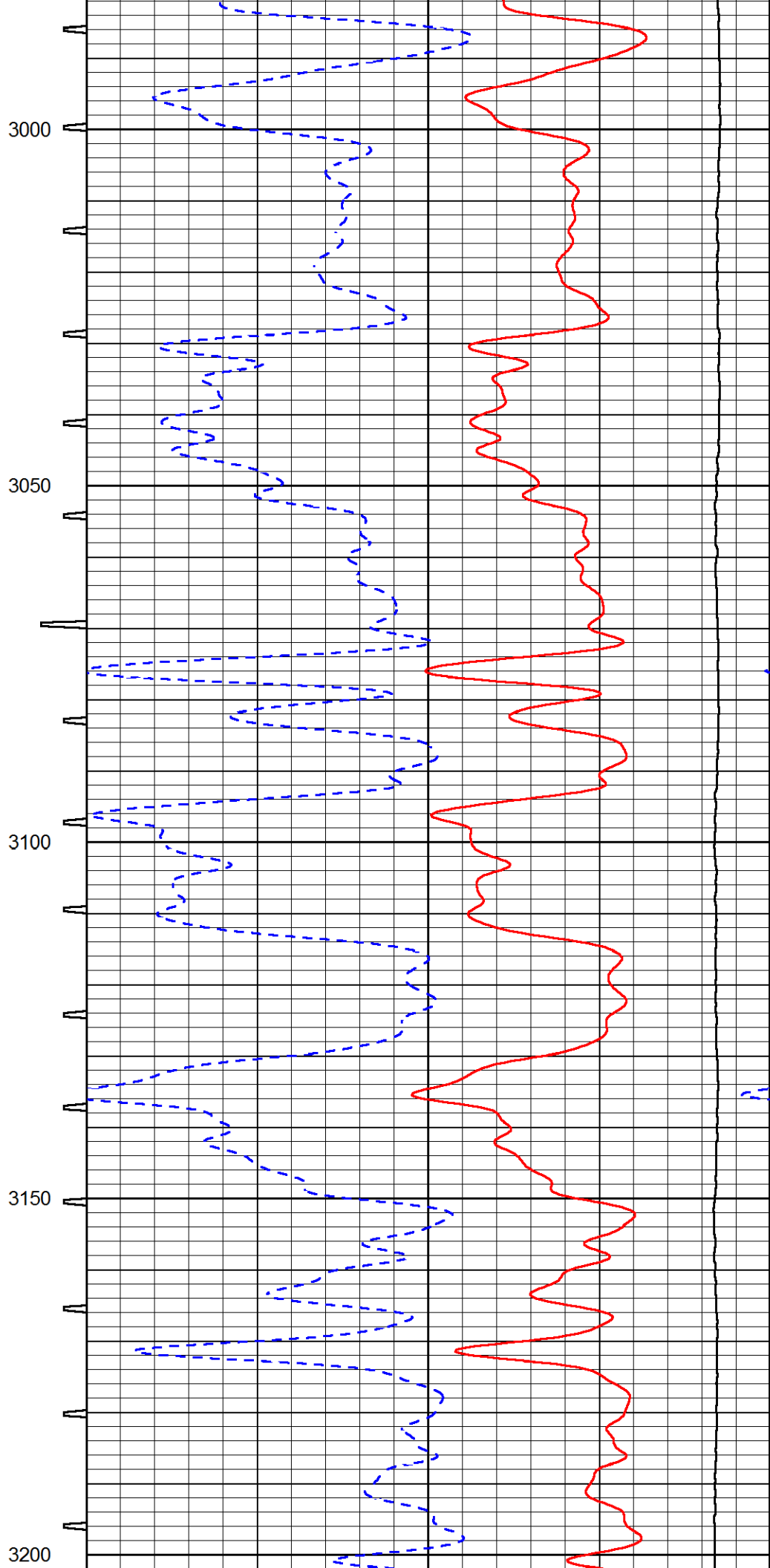
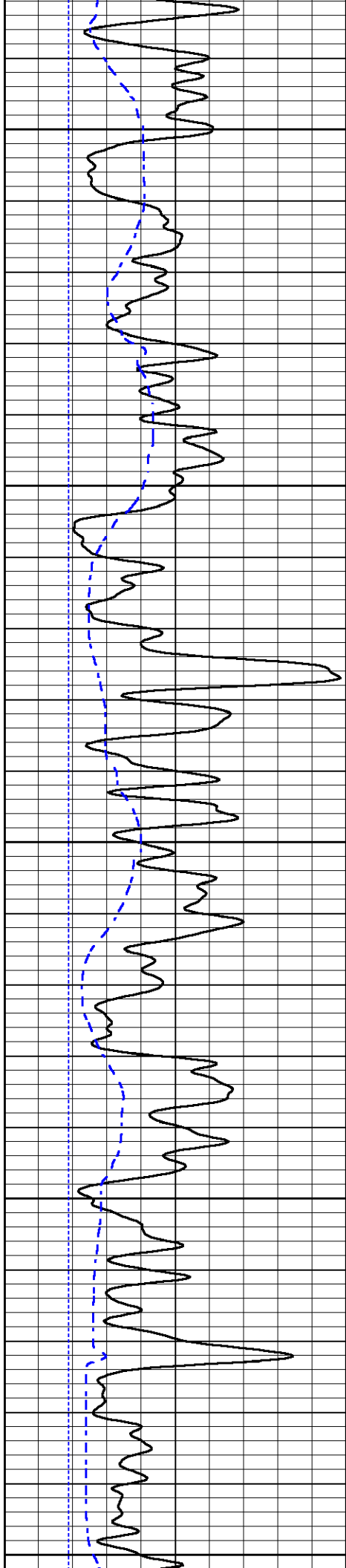


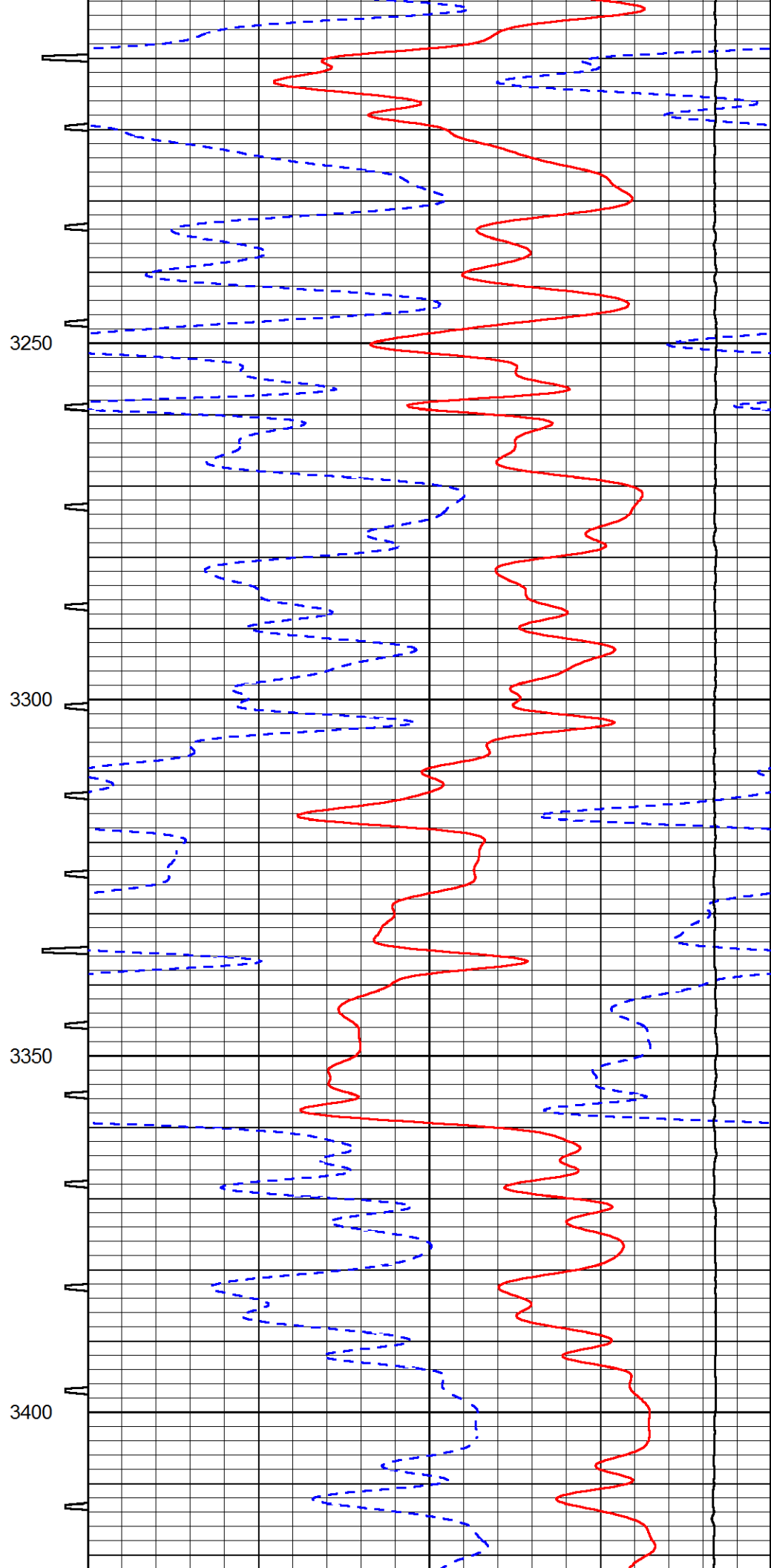
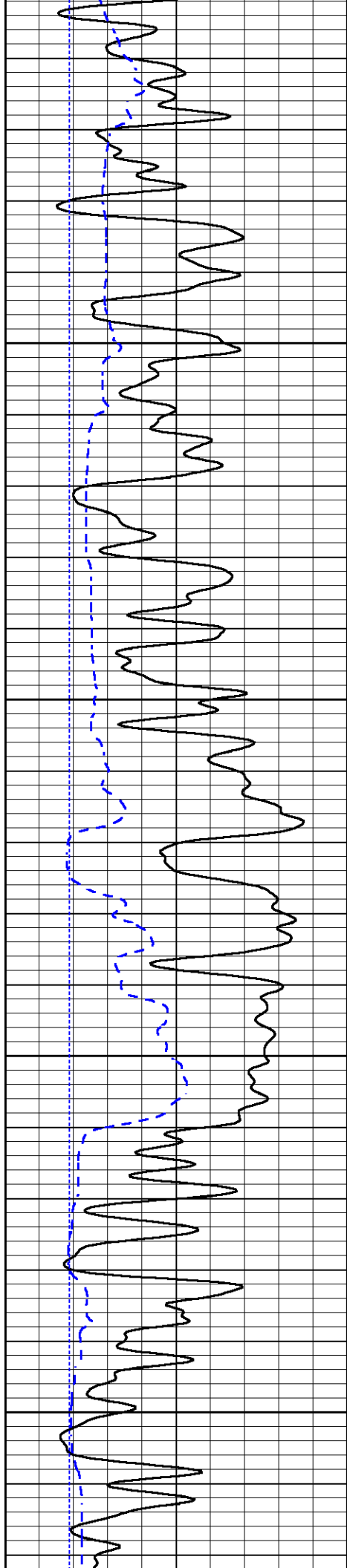


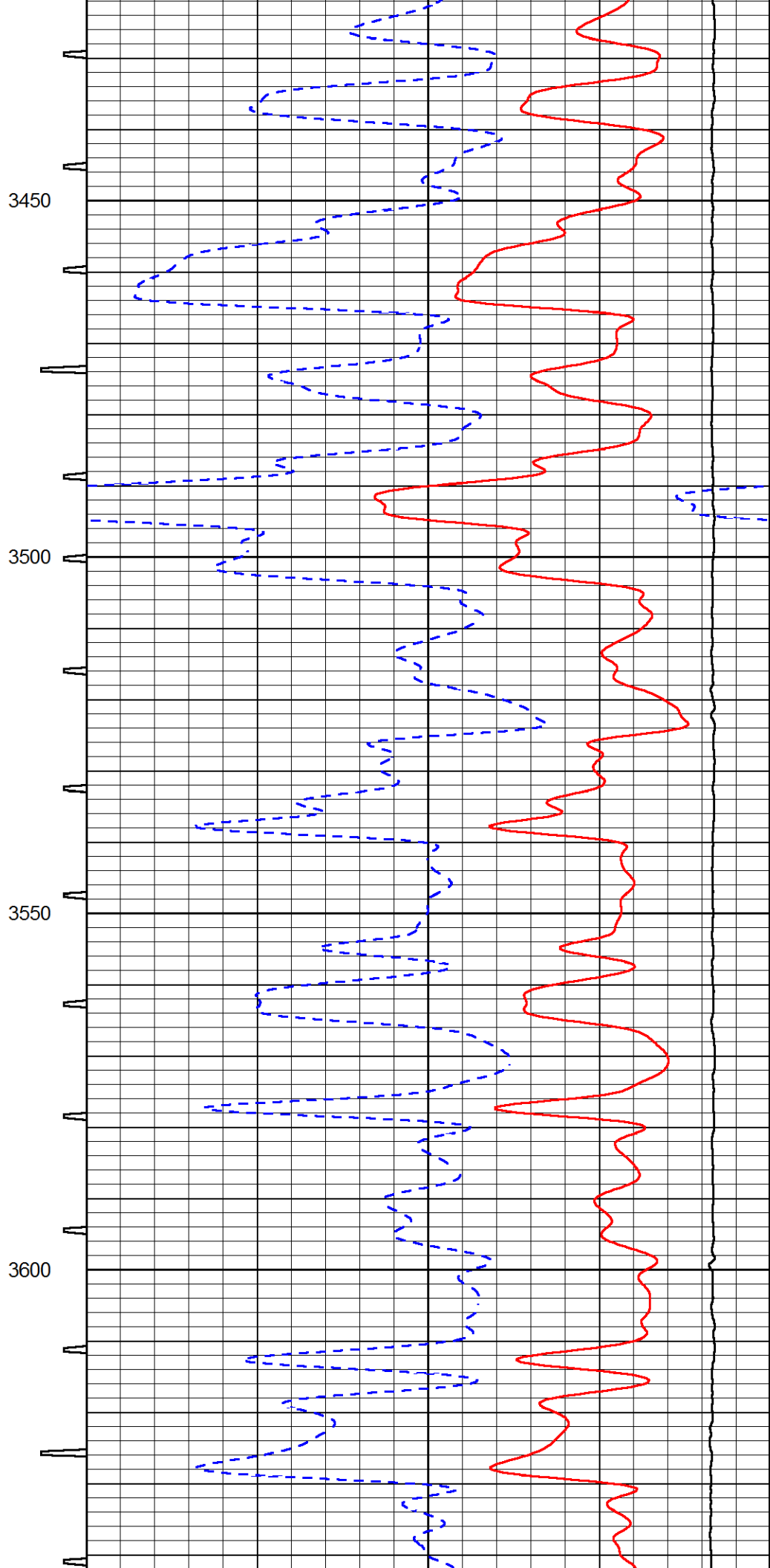
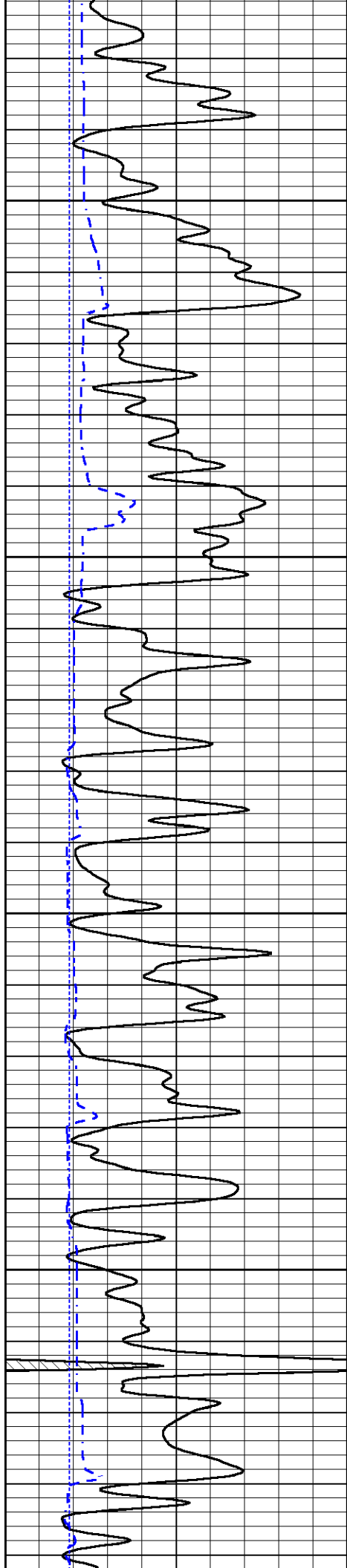


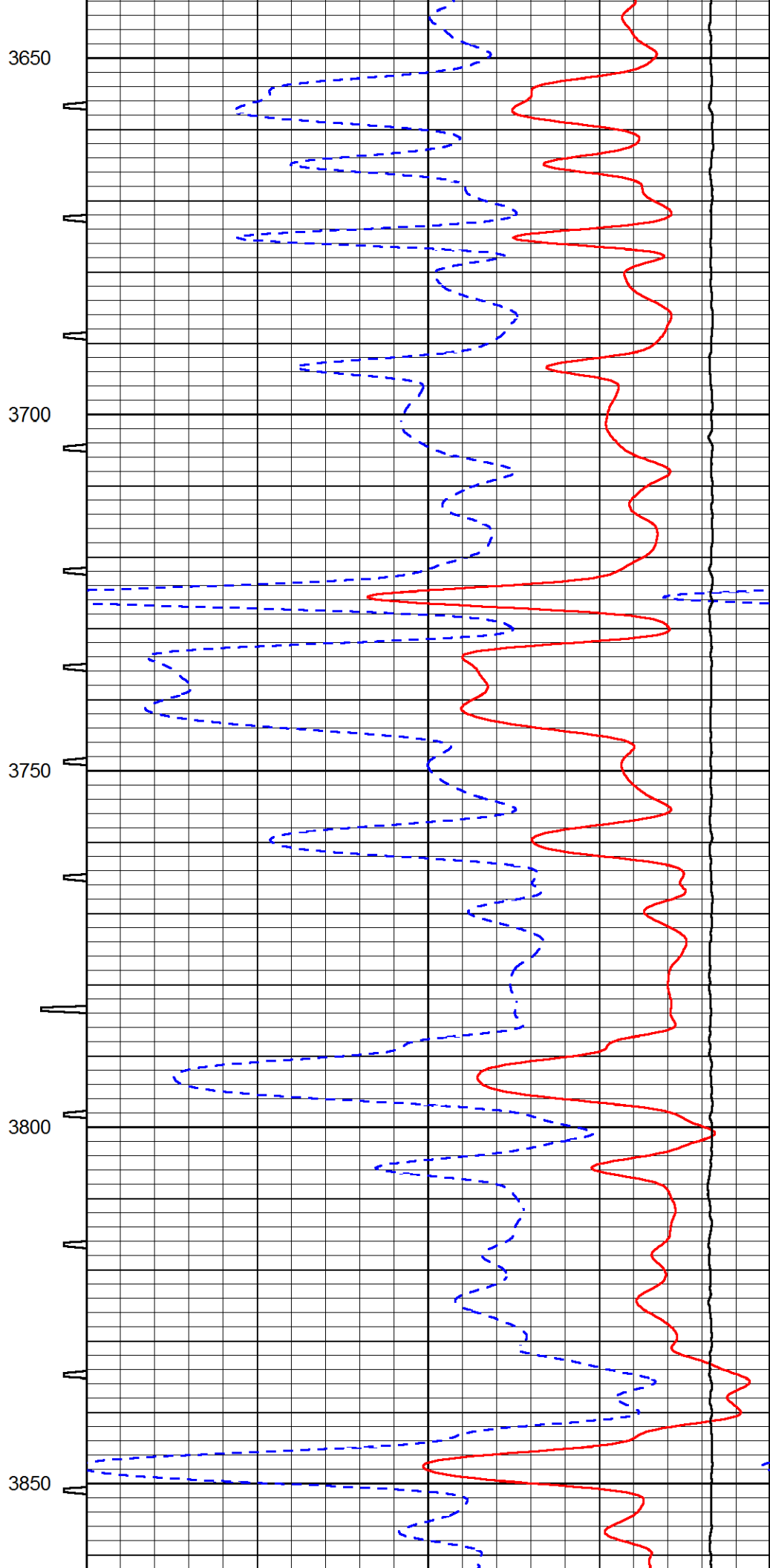
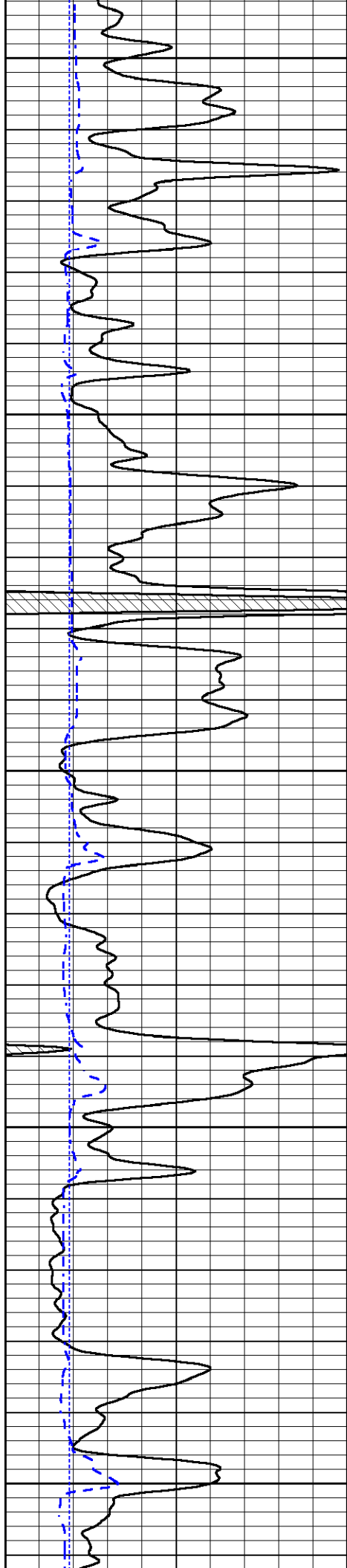


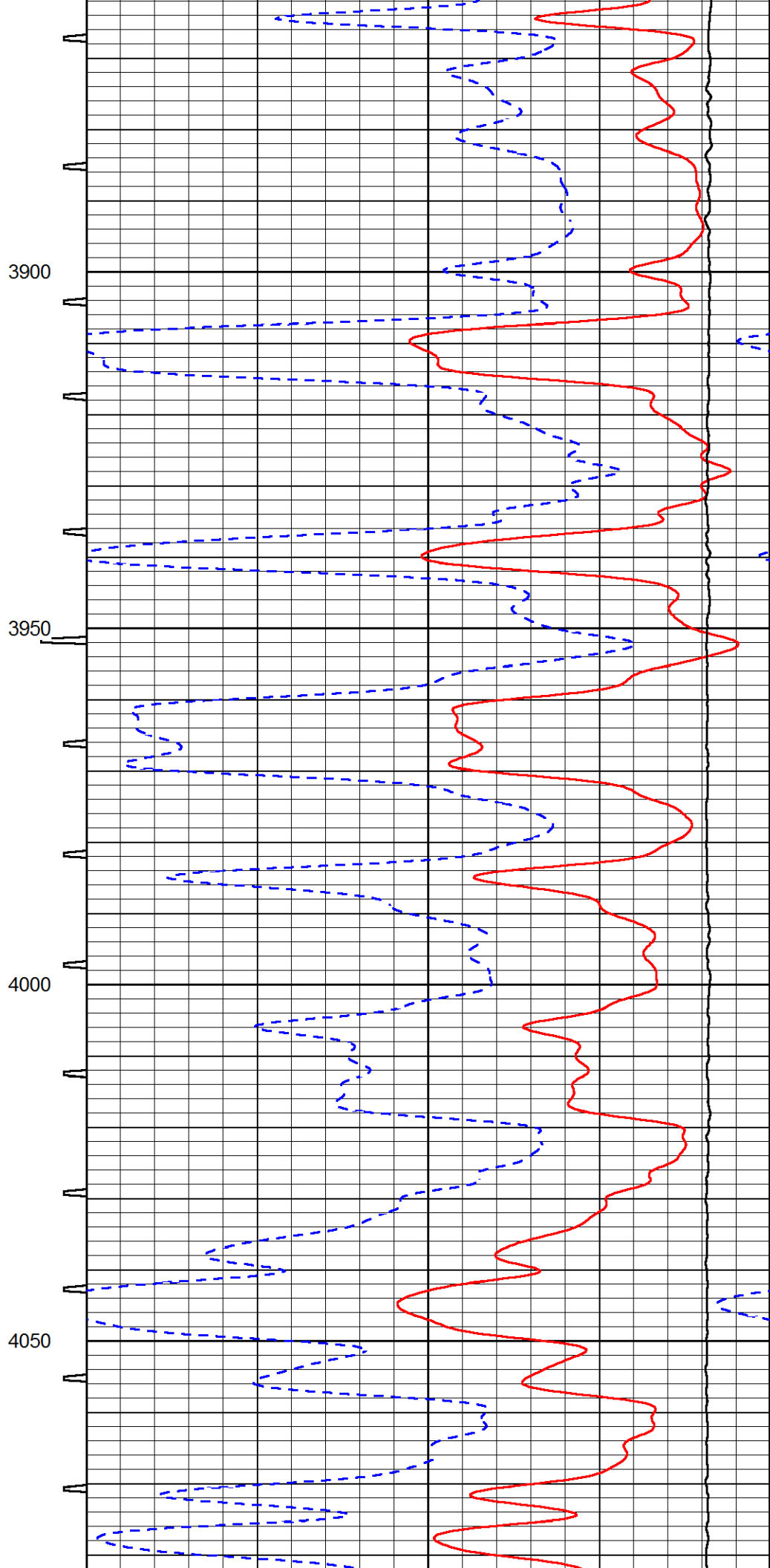
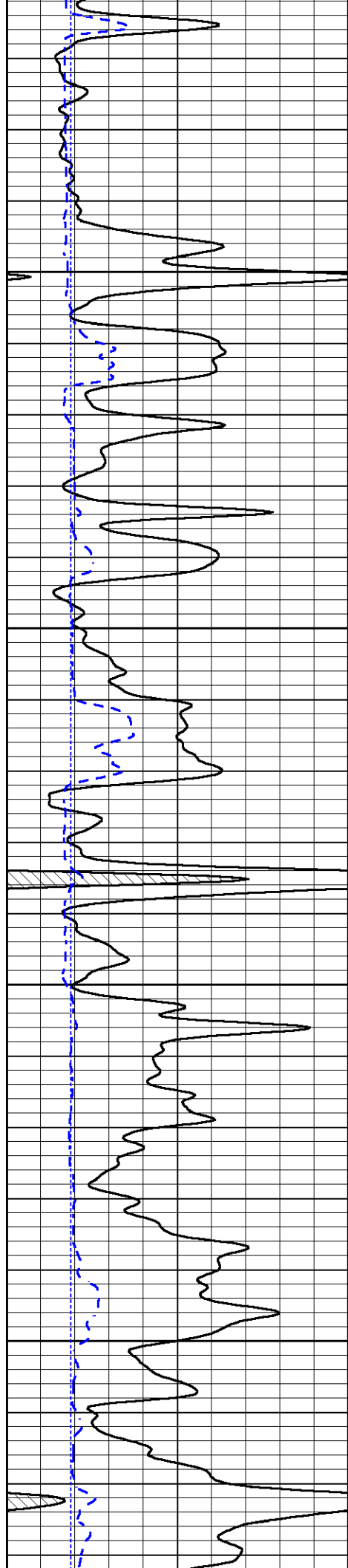


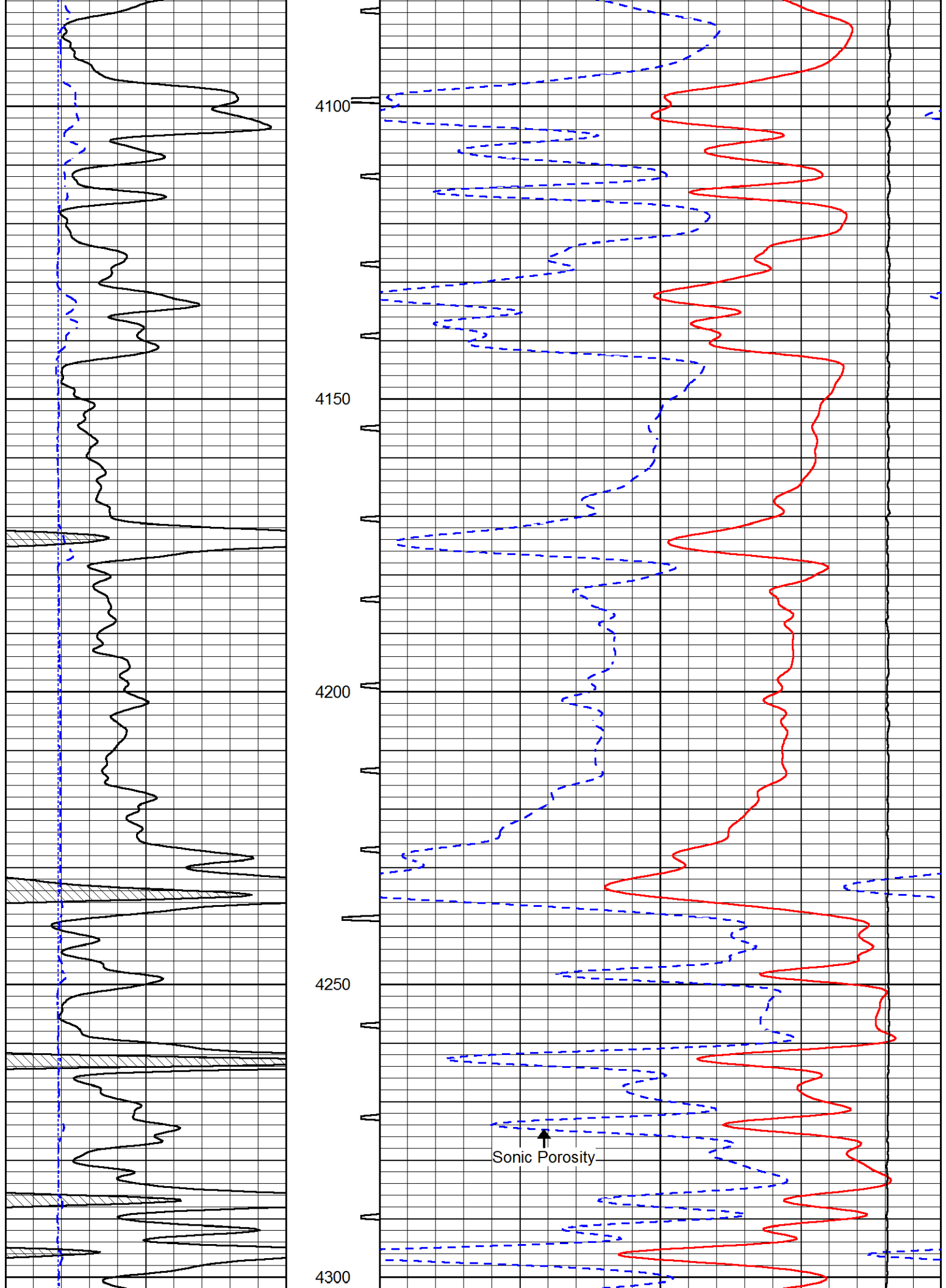


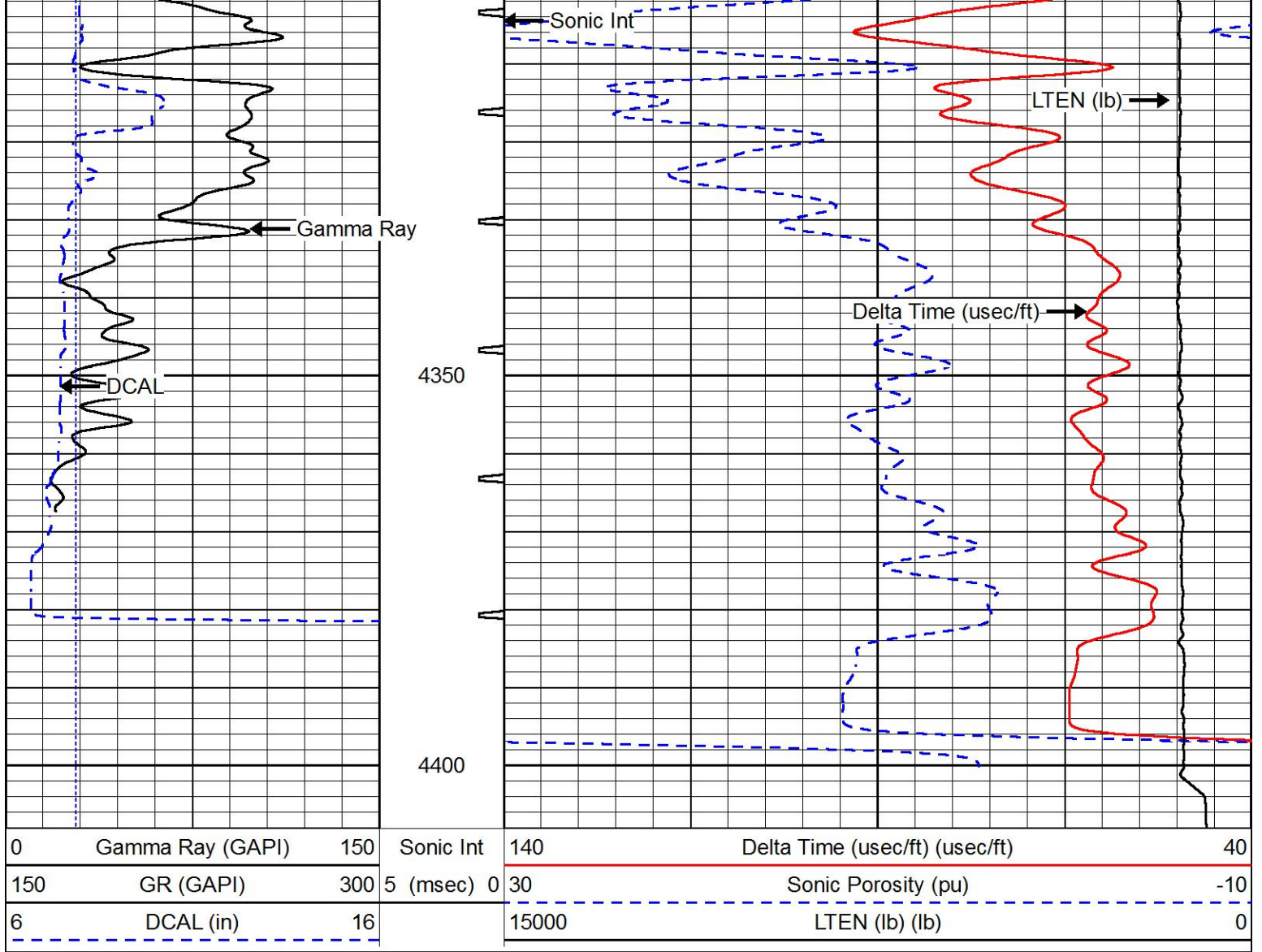








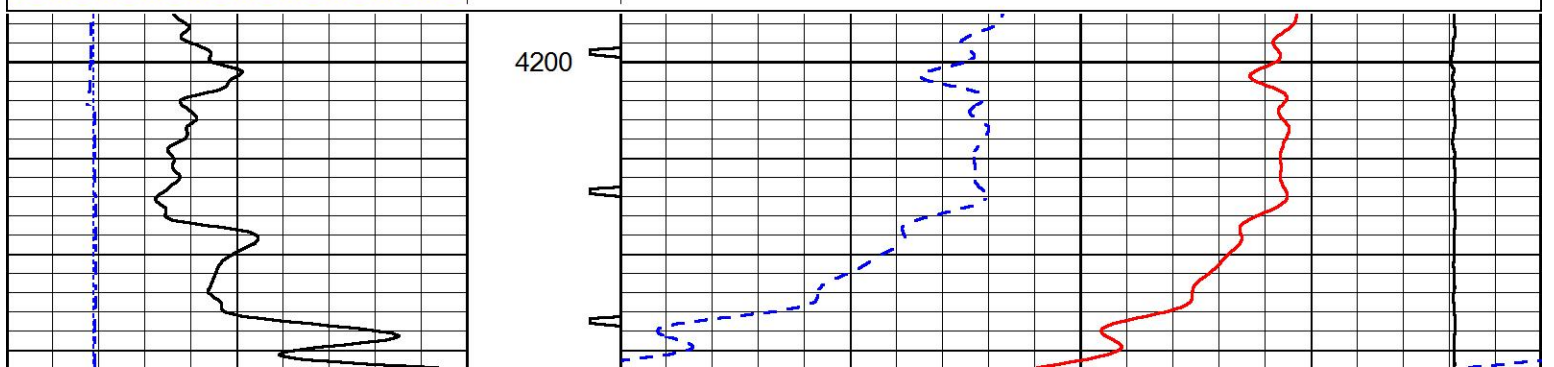


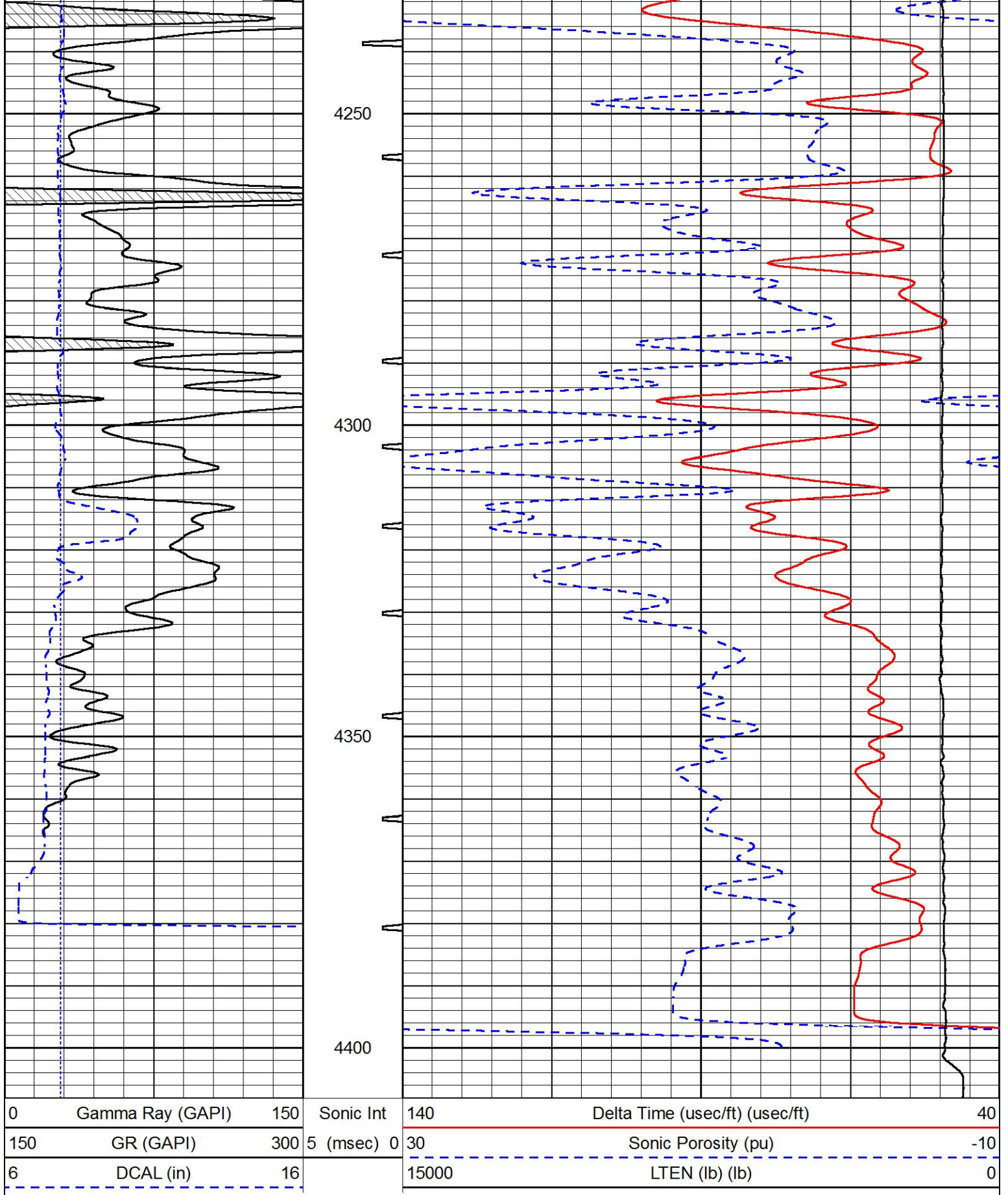


REPEAT SECTION

Database File black_rock_18_1.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format _sonic
 Dataset Creation Tue Sep 10 09:44:08 2019
 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





Company BLACK ROCK RESOURCES, LLC
 Well POLIFKA #18-1
 Field WILDCAT
 County GOVE



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

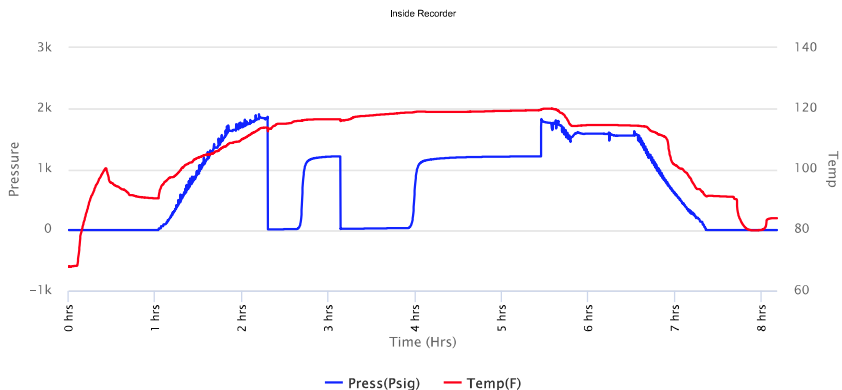
SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
06
 2019

DST #1 Formation: LKC C-D Test Interval: 3783 - 3812' Total Depth: 3812'
 Time On: 11:05 09/06 Time Off: 19:04 09/06
 Time On Bottom: 13:20 09/06 Time Off Bottom: 16:25 09/06

Electronic Volume Estimate: 60'	<u>1st Open</u> Minutes: 20 Current Reading: 2.0" at 20 min Max Reading: 2.0"	<u>1st Close</u> Minutes: 30 Current Reading: 0" at 30 min Max Reading: 0"	<u>2nd Open</u> Minutes: 45 Current Reading: 3.9" at 45 min Max Reading: 3.9"	<u>2nd Close</u> Minutes: 90 Current Reading: 0" at 90 min Max Reading: 0"
------------------------------------	---	--	---	--



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
06
 2019

DST #1 Formation: LKC C-D Test Interval: 3783 - 3812' Total Depth: 3812'
 Time On: 11:05 09/06 Time Off: 19:04 09/06
 Time On Bottom: 13:20 09/06 Time Off Bottom: 16:25 09/06

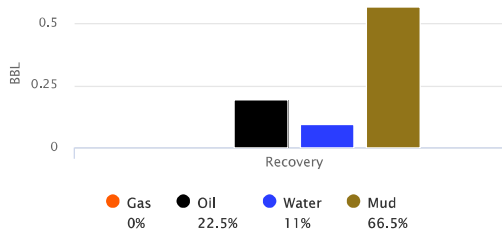
Recovered		Description of Fluid	Gas %	Oil %	Water %	Mud %
Foot	BBLs					
30	0.4269	SLWCSLOCM	0	10	7	83
30	0.4269	SLWCHOCM	0	35	15	50

Total Recovered: 60 ft
 Total Barrels Recovered: 0.8538

Reversed Out
 NO

Initial Hydrostatic Pressure	1838	PSI
Initial Flow	9 to 18	PSI
Initial Closed in Pressure	1216	PSI
Final Flow Pressure	19 to 35	PSI
Final Closed in Pressure	1215	PSI
Final Hydrostatic Pressure	1785	PSI
Temperature	120	°F
Pressure Change Initial Close / Final Close	0.1	%

Recovery at a glance



GIP cubic foot volume: 0



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
06
 2019

DST #1 Formation: LKC C-D Test Interval: 3783 - 3812' Total Depth: 3812'
 Time On: 11:05 09/06 Time Off: 19:04 09/06
 Time On Bottom: 13:20 09/06 Time Off Bottom: 16:25 09/06

BUCKET MEASUREMENT:
 1st Open: Built to 2"
 1st Close: No Blow
 2nd Open: Built to 3.9"
 2nd Close: No Blow

REMARKS:
 Tool Sample: 0% Gas 45% Oil 5% Water 50% Mud



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September

DST #1 Formation: LKC C-D Test Interval: 3783 - 3812' Total Depth: 3812'

06
2019

Time On: 11:05 09/06 Time Off: 19:04 09/06
Time On Bottom: 13:20 09/06 Time Off Bottom: 16:25 09/06

Down Hole Makeup

Heads Up: 32.86 FT	Packer 1: 3778 FT
Drill Pipe: 3783.29 FT <i>ID-3 1/2</i>	Packer 2: 3783 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 3767.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 3813 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 29	Surface Choke: 1"
	Bottom Choke: 5/8"
Anchor Makeup	
Packer Sub: 1 FT	
Perforations: (top): 28 FT <i>4 1/2-FH</i>	
Change Over: FT	
Drill Pipe: (in anchor): FT <i>ID-3 1/2</i>	
Change Over: FT	
Perforations: (below): FT <i>4 1/2-FH</i>	



Operation:
Uploading recovery &
pressures

Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
County: GOVE
State: Kansas
Drilling Contractor: Southwind Drilling, Inc - Rig 8
Elevation: 2504 GL
Field Name: Wildcat
Pool: Wildcat
Job Number: 385
API #: 15-063-22364

DATE
September
06
2019

DST #1 Formation: LKC C-D Test Interval: 3783 - 3812' Total Depth: 3812'

Time On: 11:05 09/06 Time Off: 19:04 09/06
Time On Bottom: 13:20 09/06 Time Off Bottom: 16:25 09/06

Mud Properties

Mud Type: Chemical **Weight:** 8.9 **Viscosity:** 59 **Filtrate:** 7.6 **Chlorides:** 5000 ppm



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
06
 2019

DST #1 **Formation: LKC C-D** **Test Interval: 3783 - 3812'** **Total Depth: 3812'**
 Time On: 11:05 09/06 Time Off: 19:04 09/06
 Time On Bottom: 13:20 09/06 Time Off Bottom: 16:25 09/06

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
07
 2019

DST #2 Formation: Lkc I&J Test Interval: 3958 - 4005' Total Depth: 4005'
 Time On: 20:10 09/07 Time Off: 02:20 09/08
 Time On Bottom: 22:12 09/07 Time Off Bottom: 00:27 09/08

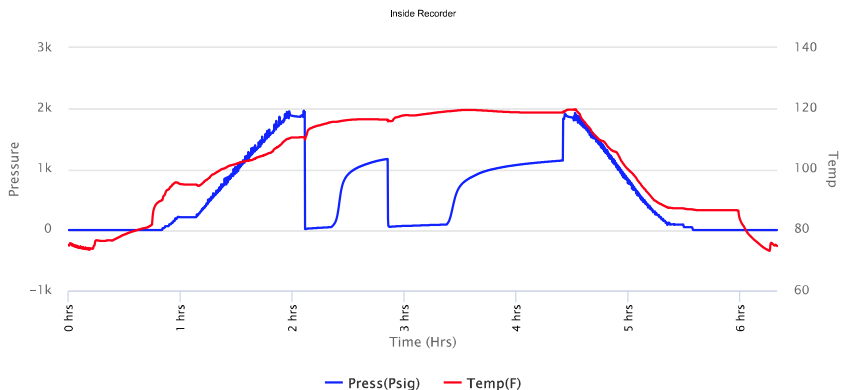
Electronic Volume Estimate: 827'

1st Open
 Minutes: 15
 Current Reading: 20.1" at 15 min
 Max Reading: 20.1"

1st Close
 Minutes: 30
 Current Reading: 3.3" at 30 min
 Max Reading: 3.4"

2nd Open
 Minutes: 30
 Current Reading: 55" at 30 min
 Max Reading: 55"

2nd Close
 Minutes: 60
 Current Reading: 2.0" at 60 min
 Max Reading: 3.8"



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
07
 2019

DST #2 Formation: Lkc I&J Test Interval: 3958 - 4005' Total Depth: 4005'
 Time On: 20:10 09/07 Time Off: 02:20 09/08
 Time On Bottom: 22:12 09/07 Time Off Bottom: 00:27 09/08

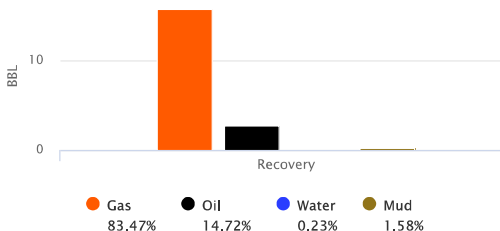
Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
1100	15.653	G	100	0	0	
165	2.34795	O	0	100	0	0
60	0.8538	SLWCSLGCHMCO	10	50	5	35

Total Recovered: 1325 ft
 Total Barrels Recovered: 18,85475

Reversed Out
 NO

Recovery at a glance



GIP cubic foot volume: 88.36313

Initial Hydrostatic Pressure	1869	PSI
Initial Flow	15 to 48	PSI
Initial Closed in Pressure	1172	PSI
Final Flow Pressure	54 to 91	PSI
Final Closed in Pressure	1145	PSI
Final Hydrostatic Pressure	1864	PSI
Temperature	120	°F
Pressure Change Initial Close / Final Close	2.3	%



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
07
 2019

DST #2 Formation: Lkc I&J Test Interval: 3958 - 4005' Total Depth: 4005'
 Time On: 20:10 09/07 Time Off: 02:20 09/08
 Time On Bottom: 22:12 09/07 Time Off Bottom: 00:27 09/08

BUCKET MEASUREMENT:
 1st Open: BOB in 9 min
 1st Close: Built to 3.4"
 2nd Open: BOB in 4 min
 2nd Close: Built to 3.8"

REMARKS:
 Tool Sample: 10% Gas 65% Oil 5% Water 20% Mud
 Gravity: 37.2 @ 60 °F



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September

DST #2 Formation: Lkc I&J Test Interval: 3958 - 4005' Total Depth: 4005'

07
2019

Time On: 20:10 09/07 Time Off: 02:20 09/08
Time On Bottom: 22:12 09/07 Time Off Bottom: 00:27 09/08

Down Hole Makeup

Heads Up: 11.9 FT	Packer 1: 3953 FT
Drill Pipe: 3942.16 FT <i>ID-3 1/2</i>	Packer 2: 3958 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 3942.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4006 FT
Test Tool: 28.74 FT <i>ID-3 1/2-FH</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 47	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 46 FT <i>4 1/2-FH</i>	
Change Over: FT	
Drill Pipe: (in anchor): FT <i>ID-3 1/2</i>	
Change Over: FT	
Perforations: (below): FT <i>4 1/2-FH</i>	



Operation:
Uploading recovery &
pressures

Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
County: GOVE
State: Kansas
Drilling Contractor: Southwind Drilling, Inc - Rig 8
Elevation: 2504 GL
Field Name: Wildcat
Pool: Wildcat
Job Number: 385
API #: 15-063-22364

DATE
September
07
2019

DST #2 Formation: Lkc I&J Test Interval: 3958 - 4005' Total Depth: 4005'
Time On: 20:10 09/07 Time Off: 02:20 09/08
Time On Bottom: 22:12 09/07 Time Off Bottom: 00:27 09/08

Mud Properties

Mud Type: Chemical **Weight:** 9.0 **Viscosity:** 59 **Filtrate:** 7.6 **Chlorides:** 3900 ppm



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
07
 2019

DST #2 **Formation: Lkc I&J** **Test Interval: 3958 - 4005'** **Total Depth: 4005'**
 Time On: 20:10 09/07 Time Off: 02:20 09/08
 Time On Bottom: 22:12 09/07 Time Off Bottom: 00:27 09/08

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Test Complete

DATE
 September
09
 2019

DST #3 **Formation: Mississippi** **Test Interval: 4276 - 4335'** **Total Depth: 4335'**
 Time On: 05:53 09/09 Time Off: 10:40 09/09
 Time On Bottom: 08:00 09/09 Time Off Bottom: 09:00 09/09

Electronic Volume Estimate:
 0'

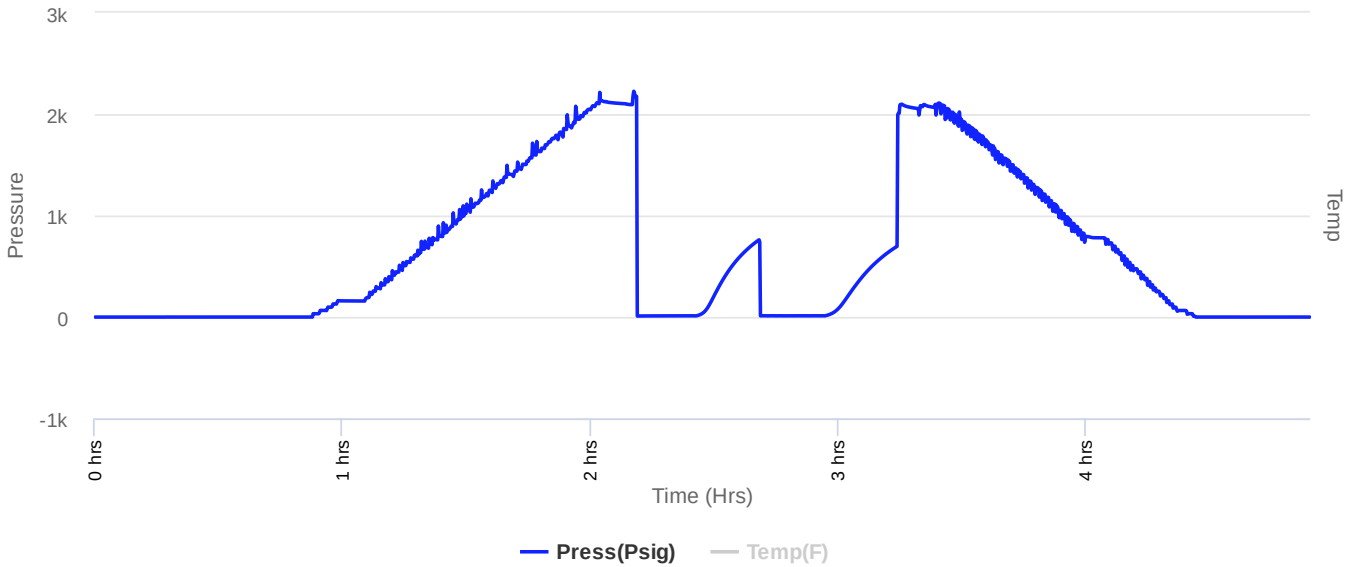
1st Open
 Minutes: 15
 Current Reading:
 0" at 15 min
 Max Reading: 0"

1st Close
 Minutes: 15
 Current Reading:
 0" at 15 min
 Max Reading: 0"

2nd Open
 Minutes: 15
 Current Reading:
 0" at 15 min
 Max Reading: 0"

2nd Close
 Minutes: 15
 Current Reading:
 0" at 15 min
 Max Reading: 0"

Inside Recorder





Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Test Complete

DATE
 September
09
 2019

DST #3 **Formation: Mississippi** **Test Interval: 4276 - 4335'** **Total Depth: 4335'**
 Time On: 05:53 09/09 Time Off: 10:40 09/09
 Time On Bottom: 08:00 09/09 Time Off Bottom: 09:00 09/09

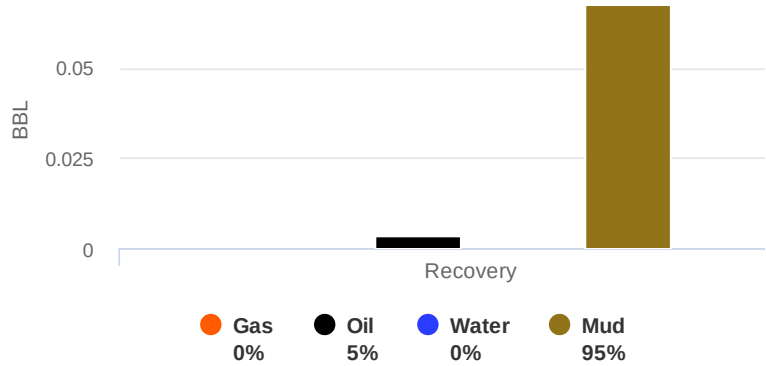
Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
5	0.07115	SLOCM	0	5	0	95

Total Recovered: 5 ft
 Total Barrels Recovered: 0.07115

**Reversed Out
 NO**

Recovery at a glance



Initial Hydrostatic Pressure	2095	PSI
Initial Flow	9 to 11	PSI
Initial Closed in Pressure	761	PSI
Final Flow Pressure	11 to 11	PSI
Final Closed in Pressure	696	PSI
Final Hydrostatic Pressure	2097	PSI
Temperature	122	°F
Pressure Change Initial Close / Final Close	8.5	%

GIP cubic foot volume: 0



**Company: Black Rock
Resources, LLC
Lease: Polifka #18-1**

SEC: 18 TWN: 13S RNG: 26W
County: GOVE
State: Kansas
Drilling Contractor: Southwind
Drilling, Inc - Rig 8
Elevation: 2504 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 385
API #: 15-063-22364

Operation:
Test Complete

DATE
September
09
2019

DST #3 **Formation:** **Test Interval: 4276 -** **Total Depth: 4335'**
Mississippi **4335'**
Time On: 05:53 09/09 Time Off: 10:40 09/09
Time On Bottom: 08:00 09/09 Time Off Bottom: 09:00 09/09

BUCKET MEASUREMENT:

1st Open: No Blow
1st Close: No Blow
2nd Open: No Blow
2nd Close: No Blow

REMARKS:

Tool Sample: 0% Gas 10% Oil 0% Water 90% Mud



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Test Complete

DATE
 September
09
 2019

DST #3 **Formation:** Mississippi **Test Interval:** 4276 - 4335' **Total Depth:** 4335'
 Time On: 05:53 09/09 Time Off: 10:40 09/09
 Time On Bottom: 08:00 09/09 Time Off Bottom: 09:00 09/09

Down Hole Makeup

Heads Up: 11.23 FT	Packer 1: 4271.23 FT
Drill Pipe: 4259.72 FT <i>ID-3 1/2</i>	Packer 2: 4276.23 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4260.65 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4333 FT
Test Tool: 28.74 FT <i>ID-3 1/2-FH</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 58.77	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 21 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 31.77 FT <i>ID-3 1/2</i>	
Change Over: 1 FT	
Perforations: (below): 3 FT <i>4 1/2-FH</i>	



**Company: Black Rock
Resources, LLC
Lease: Polifka #18-1**

SEC: 18 TWN: 13S RNG: 26W
County: GOVE
State: Kansas
Drilling Contractor: Southwind
Drilling, Inc - Rig 8
Elevation: 2504 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 385
API #: 15-063-22364

Operation:
Test Complete

DATE
September
09
2019

DST #3 **Formation:** **Test Interval: 4276 -** **Total Depth: 4335'**
Mississippi **4335'**
Time On: 05:53 09/09 Time Off: 10:40 09/09
Time On Bottom: 08:00 09/09 Time Off Bottom: 09:00 09/09

Mud Properties

Mud Type: Chem **Weight:** 9.0 **Viscosity:** 59 **Filtrate:** 7.6 **Chlorides:** 3900 ppm



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

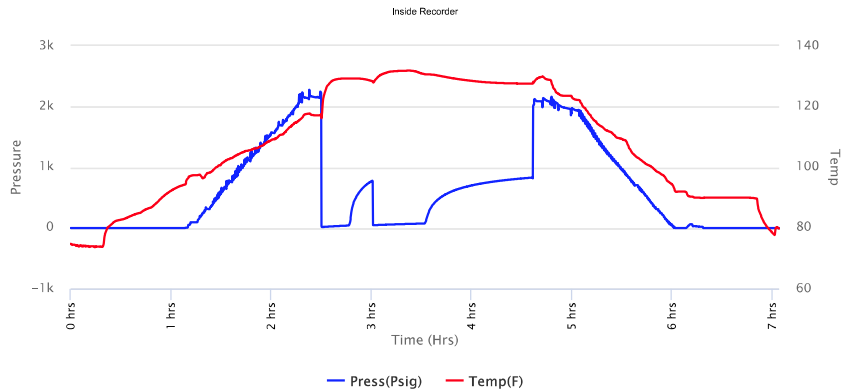
SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
09
 2019

DST #4 **Formation: Mississippi** **Test Interval: 4333 - 4345'** **Total Depth: 4345'**
 Time On: 16:56 09/09 Time Off: 23:48 09/09
 Time On Bottom: 19:22 09/09 Time Off Bottom: 21:37 09/09

Electronic Volume Estimate: 237'	<u>1st Open</u> Minutes: 15 Current Reading: 11" at 15 min Max Reading: 11"	<u>1st Close</u> Minutes: 15 Current Reading: 0" at 15 min Max Reading: 0"	<u>2nd Open</u> Minutes: 30 Current Reading: 9.6" at 30 min Max Reading: 9.6"	<u>2nd Close</u> Minutes: 50 Current Reading: 0" at 50 min Max Reading: 0"
-------------------------------------	--	---	--	---



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

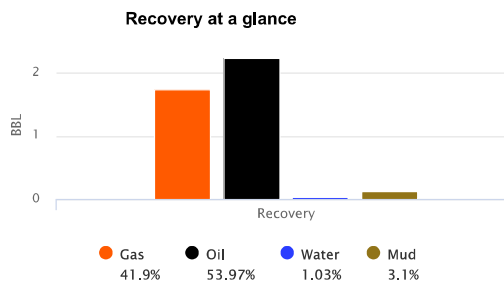
DATE
 September
09
 2019

DST #4 **Formation: Mississippi** **Test Interval: 4333 - 4345'** **Total Depth: 4345'**
 Time On: 16:56 09/09 Time Off: 23:48 09/09
 Time On Bottom: 19:22 09/09 Time Off Bottom: 21:37 09/09

Recovered		Description of Fluid	Gas %	Oil %	Water %	Mud %
Foot	BBLs					
120	1.7076	G	100	0	0	0
140	1.9922	O	0	100	0	0
30	0.4269	SLGCSLWCHMCO	5	55	10	30

Total Recovered: 290 ft
 Total Barrels Recovered: 4,1267

Reversed Out
 NO



Initial Hydrostatic Pressure	2148	PSI
Initial Flow	18 to 42	PSI
Initial Closed in Pressure	780	PSI
Final Flow Pressure	48 to 76	PSI
Final Closed in Pressure	830	PSI
Final Hydrostatic Pressure	2087	PSI
Temperature	132	°F
Pressure Change Initial Close / Final Close	0.0	%



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
09
 2019

DST #4	Formation: Mississippi	Test Interval: 4333 - 4345'	Total Depth: 4345'
	Time On: 16:56 09/09	Time Off: 23:48 09/09	
	Time On Bottom: 19:22 09/09	Time Off Bottom: 21:37 09/09	

BUCKET MEASUREMENT:

1st Open: Built to 11"
 1st Close: No Blow
 2nd Open: Built to 9.6"
 2nd Close: No Blow

REMARKS:

Tool Sample: 5% Gas 50% Oil 5% Water 40% Mud
 Gravity: 35.3 @ 60 °F



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September

DST #4	Formation: Mississippi	Test Interval: 4333 - 4345'	Total Depth: 4345'
---------------	-------------------------------	------------------------------------	---------------------------

09
2019

Time On: 16:56 09/09 Time Off: 23:48 09/09
Time On Bottom: 19:22 09/09 Time Off Bottom: 21:37 09/09

Down Hole Makeup

Heads Up: 17.96 FT	Packer 1: 4328 FT
Drill Pipe: 4323.22 FT <i>ID-3 1/2</i>	Packer 2: 4333 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4317.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4346 FT
Test Tool: 28.74 FT <i>ID-3 1/2-FH</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 12	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 11 FT <i>4 1/2-FH</i>	
Change Over: FT	
Drill Pipe: (in anchor): FT <i>ID-3 1/2</i>	
Change Over: FT	
Perforations: (below): FT <i>4 1/2-FH</i>	



Operation:
Uploading recovery &
pressures

Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
County: GOVE
State: Kansas
Drilling Contractor: Southwind Drilling, Inc - Rig 8
Elevation: 2504 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 385
API #: 15-063-22364

DATE
September
09
2019

DST #4 Formation: Mississippi Test Interval: 4333 - 4345' Total Depth: 4345'
Time On: 16:56 09/09 Time Off: 23:48 09/09
Time On Bottom: 19:22 09/09 Time Off Bottom: 21:37 09/09

Mud Properties

Mud Type: Chemical **Weight:** 9.2 **Viscosity:** 57 **Filtrate:** 7.6 **Chlorides:** 3900 ppm



Company: Black Rock Resources, LLC
Lease: Polifka #18-1

SEC: 18 TWN: 13S RNG: 26W
 County: GOVE
 State: Kansas
 Drilling Contractor: Southwind Drilling, Inc - Rig 8
 Elevation: 2504 GL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 385
 API #: 15-063-22364

Operation:
 Uploading recovery & pressures

DATE
 September
09
 2019

DST #4 **Formation: Mississippi** **Test Interval: 4333 - 4345'** **Total Depth: 4345'**
 Time On: 16:56 09/09 Time Off: 23:48 09/09
 Time On Bottom: 19:22 09/09 Time Off Bottom: 21:37 09/09

Gas Volume Report

1st Open				2nd Open			
Time	Orifice	PSI	MCF/D	Time	Orifice	PSI	MCF/D

Well Name: Polifka 18-1 Well Id: 15-063-23264 Location: NE SW SW SE Sec.18 T13S R26W Region: License Number: 9/2/2019 Spud Date: 5/05' FSL & 2070' FEL Drilling Completed: 9/10/2019 Surface Coordinates:

Bottom Hole Coordinates: Ground Elevation (ft): 2505 K.B. Elevation (ft): 2515 Logged Interval (ft): 3400 To: 4402 Total Depth (ft): 4402 Formation: Type of Drilling Fluid: Gel based mud

OPERATOR

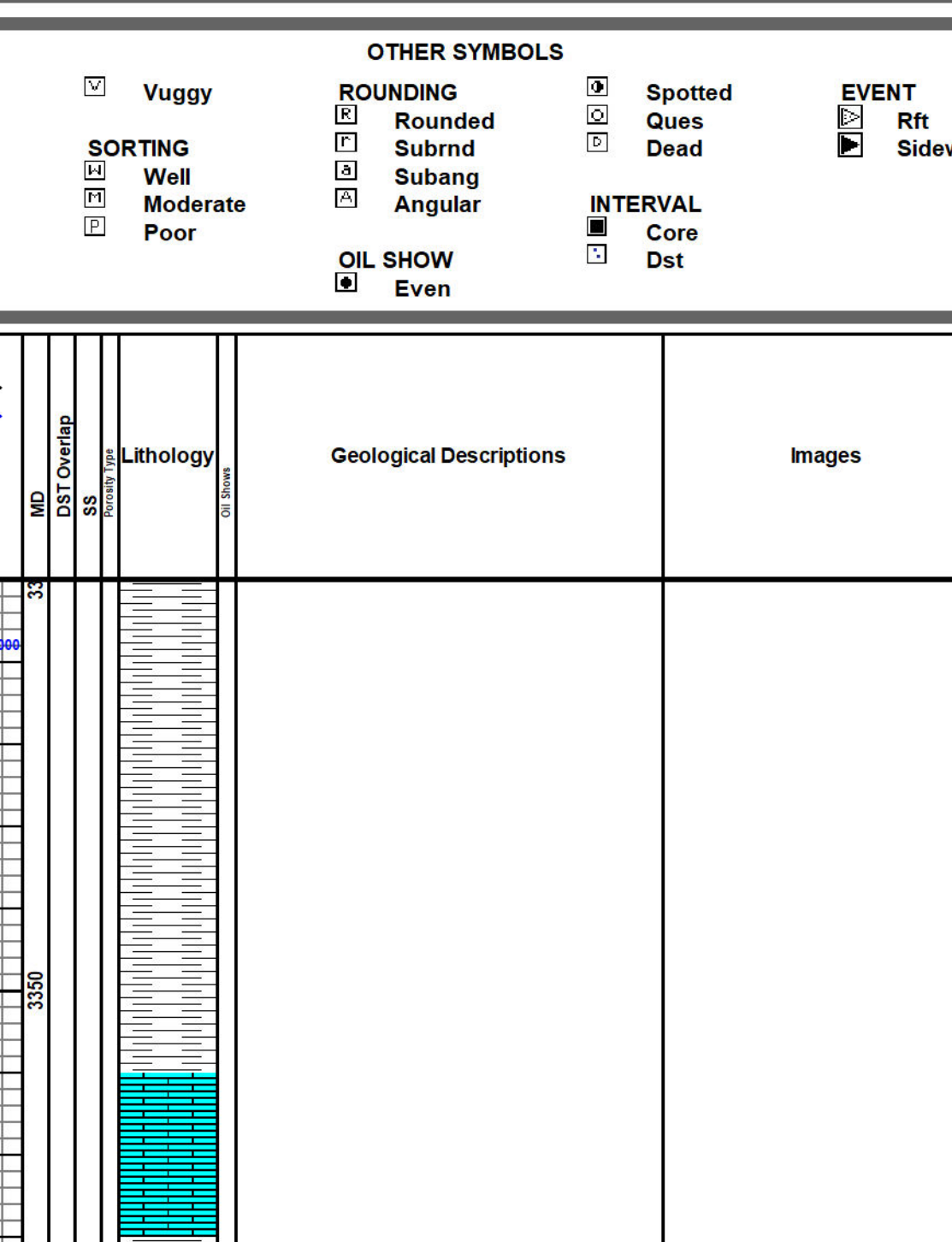
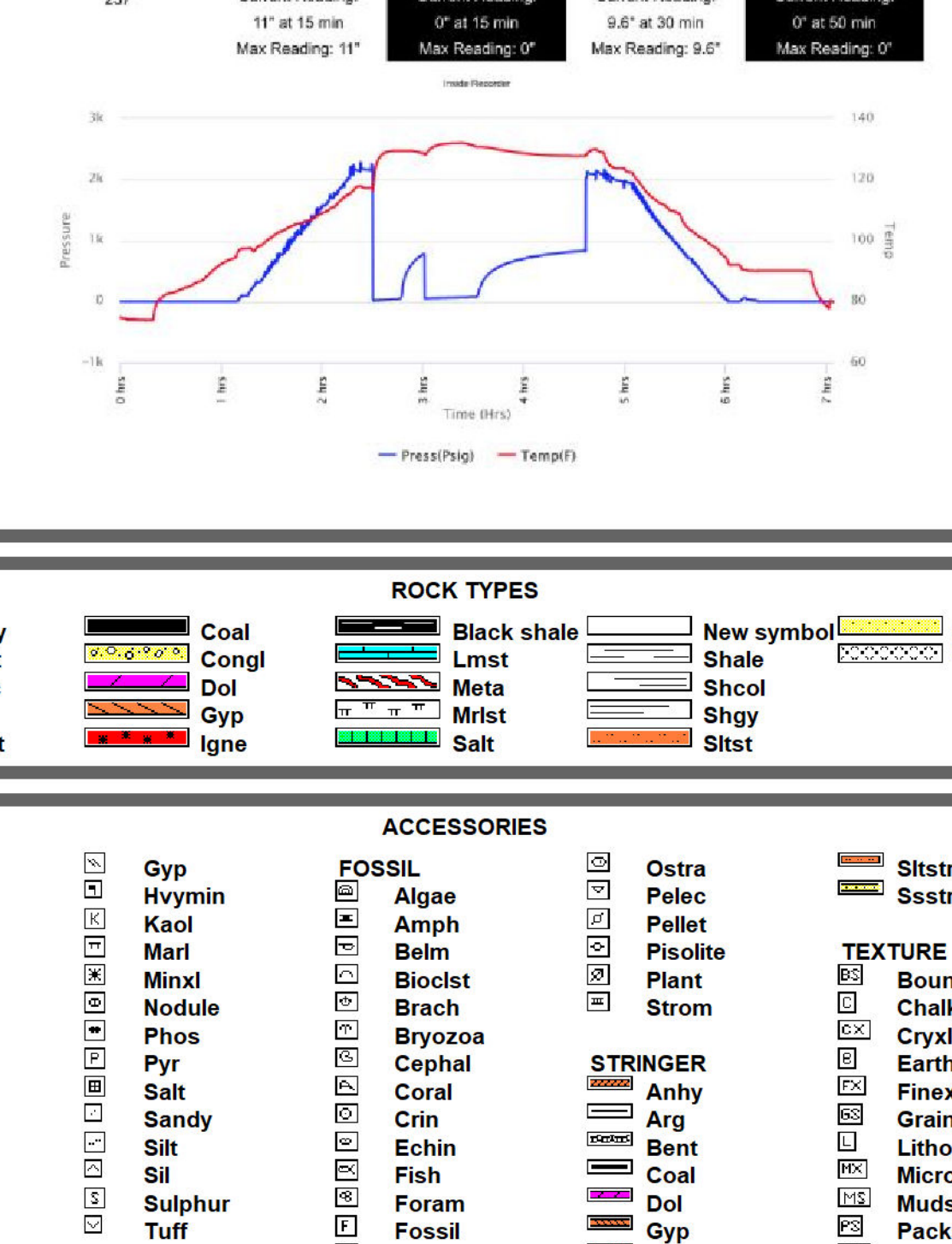
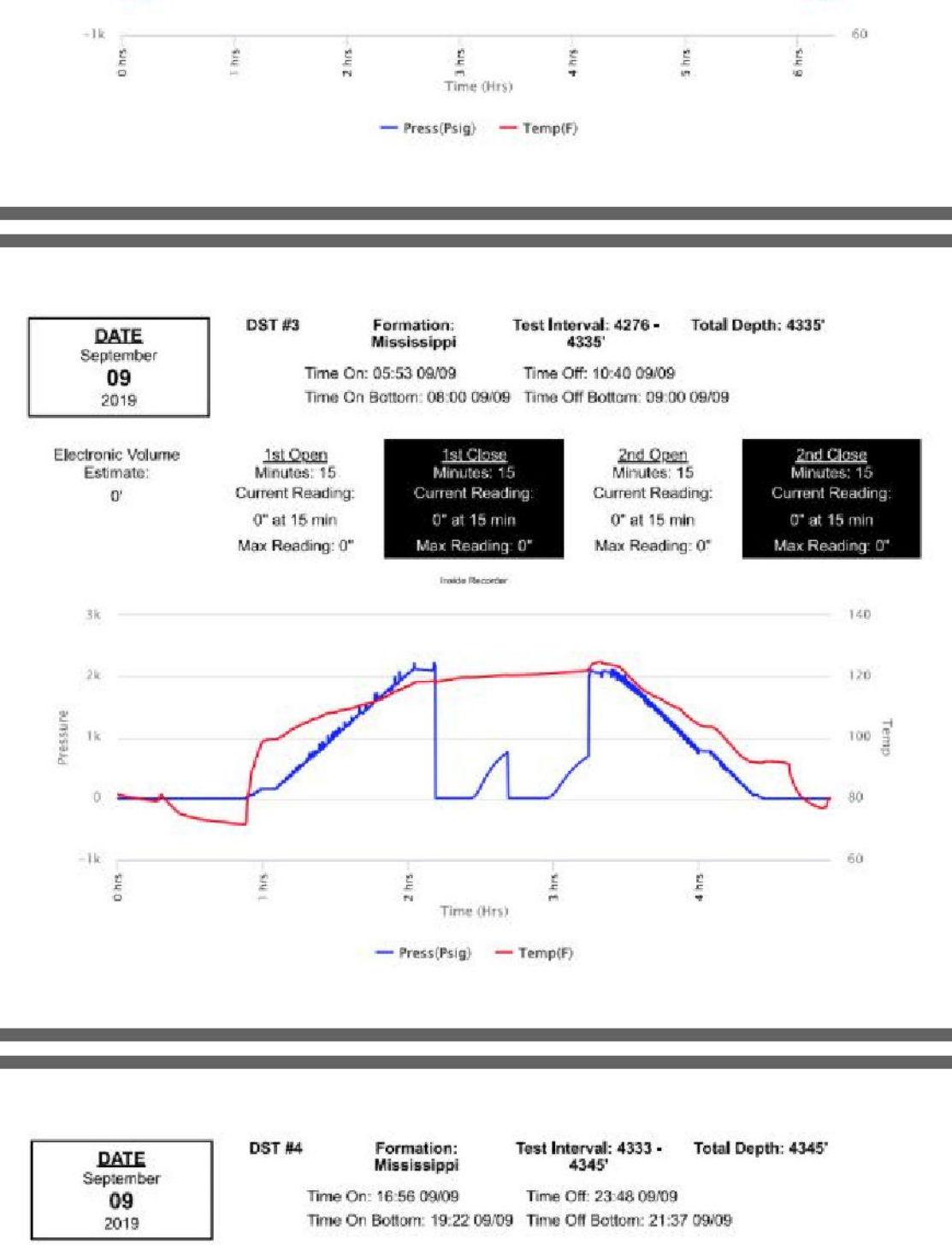
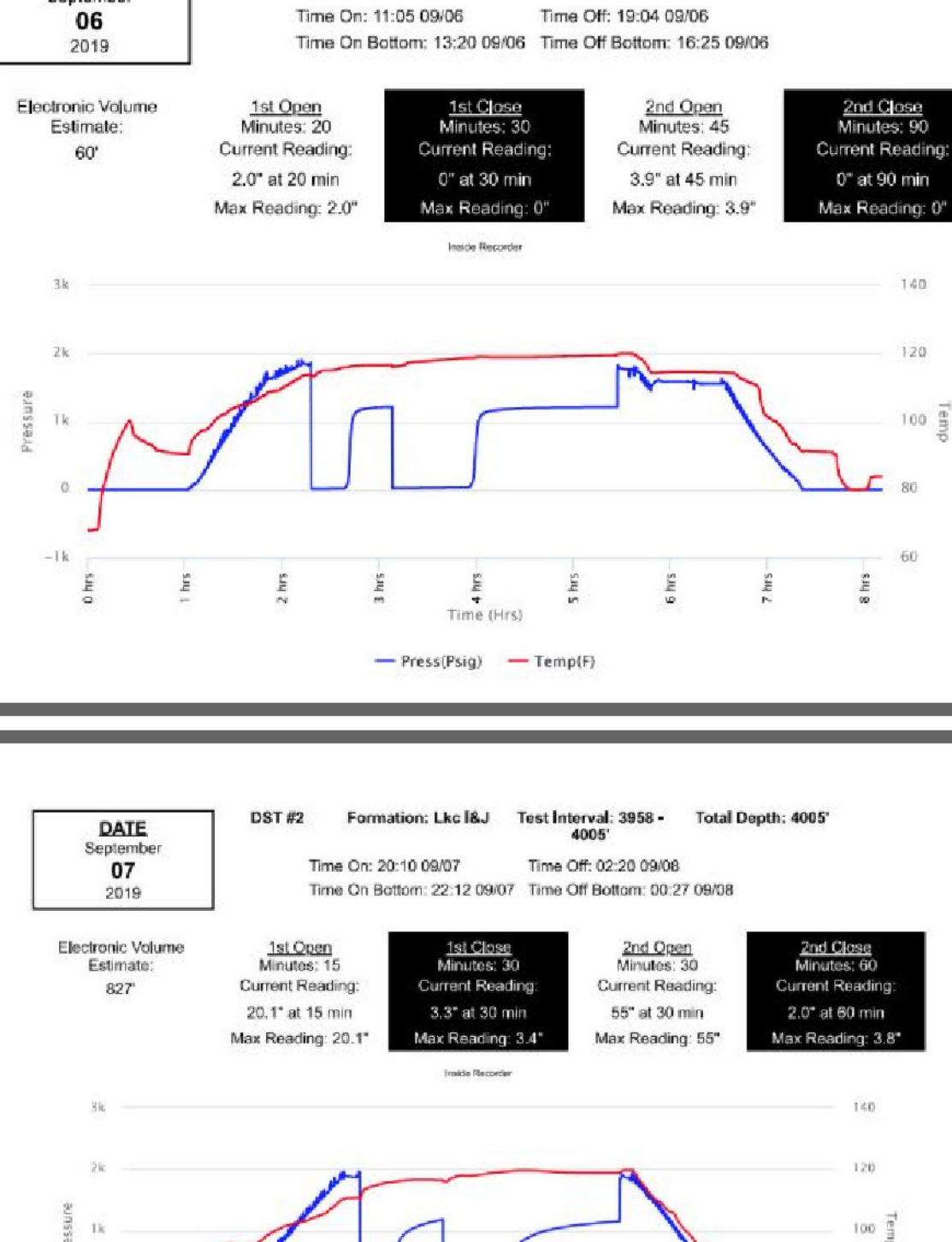
Company: Black Rock Resources, LLC. Address: P.O. Box 553 Russell, KS 67665

GEOLOGIST

Name: Chad Counts Company: MG Oil Inc. Address: 1256 W. Hwy 440 Russell, KS 67665

Comments

The Polifka 18-1 was drilled with Southwind Drilling Inc. tools beginning 9-2-2019, and ending 9-10-2019. Structurally, the well ran high to all surrounding drill holes by 7-27' on the Lansing, and 15-61' on the Mississippian. Based upon structural position, shows, and drill stem test it was decided by all parties to set 5 1/2" casing to test the well further. Recommended perforations: Mississippian: 4336'-4340' KB KC K: 3988'-3992' KC J: 3972'-3974' Lower KC K: 3998'-4001' Lower KC J: 3980'-3992' Perforate Before Abandonment: Lansing C: 3800'-3802' KC I: 3964'-3967' Respectfully, Chad Counts



ROCK TYPES

Legend table for Rock Types (Coal, Congl, Dol, Gyp, Igne, Black shale, Lmst, Meta, Mrlst, Salt, Shale, Shcol, Sltyg, Sltst) and Symbols (Ss, Silt, Sstg, Sstrg, Boundst, Chalky, Cryxin, Earthy, Finexin, Grainst, Lithoxln, Mudst, Packst, Wackest).

ACCESSORIES

Legend table for Accessories (Anhy, Bent, Brecc, Chrt, Clst, Gyp, Hymin, Kaol, Marl, Minxl, Nodule, Phos, Pyr, Salt, Sandy, Sil, Silt, Sulphur, Tuff, FOSSIL, Algae, Amph, Belm, Bioclst, Brach, Bryozoa, Cephal, Coral, Crin, Echin, Fish, Foram, Fossil, Gastro, Oolite, Ostra, Pellet, Pisolite, Plant, Strom, STRINGER, Arg, Bent, Coal, Dol, Gyp, Ls, Mrst, Sstg, Sstrg, TEXTURE, Boundst, Chalky, Cryxin, Earthy, Finexin, Grainst, Lithoxln, Mudst, Packst, Wackest).

OTHER SYMBOLS

Legend table for Other Symbols (PORSITY, Earty, Fenest, Fracture, Inter, Moidic, Organic, Pinpoint, Vuggy, SORTING, Well, Moderate, Poor, ROUNDING, Rounded, Subrnd, Subng, Angular, OIL SHOW, Even, Spotted, Ques, Dead, INTERVAL, Core, Dst, EVENT, Rft, Sidewall).

Main log display showing Curve Track 1 (ROP, Gamma), Lithology column, Geological Descriptions, Images, and Comments. Includes depth scale from 3400 to 4400 MD.

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1540

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-20-19	18	13	26	Goove	KS		12:30pm

Location Exponent 95 PRO 1/2 W Ninto

Lease	Pol. & KA	Well No.	1	Owner	To Quality Oilwell Cementing, Inc.
Contractor	Outlaw Well	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Type Job	Port Collar	Charge To <u>Black Rock</u>			
Hole Size	7 7/8	T.D.		Street	
Csg.	5 1/3	Depth		City	State
Tbg. Size	2 3/8	Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool	Port Collar	Depth	1981	Cement Amount Ordered	375 ⁸⁰ no QMDC 1/2 H2O
Cement Left in Csg.		Shoe Joint			
Meas Line		Displace	981 1081	8 gal	

EQUIPMENT

Pumptrk	20	No.	Cementer	
			Helper	
Bulktrk		No.	Driver	
			Driver	
Bulktrk	19	No.	Driver	
			Driver	

Common	
Poz. Mix	
Gel.	
Calcium	

JOB SERVICES & REMARKS

Remarks: KCC Pat Before

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

Test 5 1/2 to 500' Open

Spot 5 gal + Open Test

Mix 3 gal + Test Circulation

Mix 375 SK + Cement Circulation

Displace 1081. Close Tool

Pressure to 2000. Run 5 joints

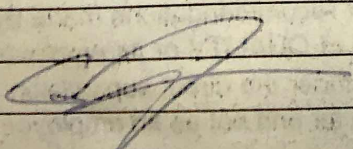
Wash Clean.

Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

(U.S.D.) 375 SK + 8 gal

Signature 

Pumptrk Charge	
Mileage	
Tax	
Discount	
Total Charge	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1525

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-2-19	18	13	26	Carroll	KS		4:15pm

Location Quarter 10s P20 1/2 W Ninto

Lease Polifka Well No. 18-1 Owner

Contractor Southwind #8 To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish
Type Job Surface cementer and helper to assist owner or contractor to do work as listed.

Hole Size 12 1/4 T.D. 276 Charge To Black Rock Resources

Csg. 8 5/8 Depth 275 Street

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 15' Shoe Joint Cement Amount Ordered 170 @ 20 3/4 2.62

Meas Line Displace 16 1/2 BBL

EQUIPMENT

Pumptrk <u>20</u> No.	Cementor	Common	<u>136</u>
	Helper <u>Craig</u>	Poz. Mix	<u>34</u>
Bulktrk	No. Driver <u>Tim</u>	Gel.	<u>3</u>
Bulktrk <u>9</u> No.	Driver <u>Doug</u>	Calcium	<u>7</u>

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

8 5/8 on bottom Est. Circulation

Mix 170 SK & Displace

Cement Circulation

Thanks

Handling 180

Mileage

FLOAT EQUIPMENT 8 5/8 Surge

Guide Shoe

Centralizer

Baskets

AFU Inserts

Float Shoe

Latch Down

Pumptrk Charge Surface

Mileage 45

Tax

Discount

Total Charge

nature Dough W Robert

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1529

Date	9-11-79	Sec.	18	Twp.	13	Range	26	County	Goose	State	KS	On Location		Finish	1:00 P.M.
Lease								Location		Polifka Spitzer 125 Prod 'LW' Vinto					

Contractor	Southwind #8	Well No.	18-1	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job	Production String	Charge To		Street	Black Rock Resources
Hole Size	7 7/8	T.D.	4405	City	
Csg.	5 1/2 17#	Depth	4402	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool	Part Collar	Depth	1981	Cement Amount Ordered 225 lbs 10% Salt 5% Gilsont	

Cement Left in Csg.	35.80	Shoe Joint	35.80	Common	500 gal mud clear Q Pro-C
Meas Line		Displace	101 1/4 BCL	Poz. Mix	225 Q pro-c

EQUIPMENT

Pumptrk	17	No.	Cement	raig
			Helper	
Bulktrk		No.	Driver	Dave
			Driver	
Bulktrk	9	No.	Driver	Dave
			Driver	

JOB SERVICES & REMARKS

Remarks:

Rat Hole 30SK

Mouse Hole 15SK

Centralizers

Baskets

D/V or Port Collar

5 1/2 set @ 4402 - Baffle @ 4366

Est. Circulation. Pump 500 gal mud clear

Plug Ratholes mouse hole.

Cement 5 1/2 with 180SK.

Clear lines & Displace Plug.

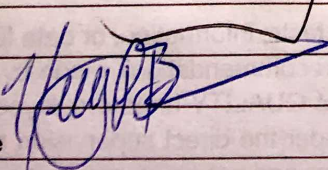
Plug landed @ 1500ft.

L.F. pressure 92#

Hulls	
Salt	17
Flowseal	
Kol-Seal	1000#
Mud CLR 48	500 gal
CFL-117 or CD110 CAF 38	
Sand	
Handling	247
Mileage	

FLOAT EQUIPMENT

Guide Shoe	1
Centralizer	2
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	prod string
Mileage	45

Signature: 

Tax	
Discount	
Total Charge	