



Composite  
Log  
(Field Copy)

Company	Pronghorn Operating, LLC.	Company	Pronghorn Operating, LLC.
Well	Chesnee #2	Well	Chesnee #2
Field	Cheyenne Wells	Field	Cheyenne Wells
County	Cheyenne	County	Cheyenne
State	Colorado	State	Colorado
Location:	SEC 7 TWP 14S RGE 44W 731' FNL & 636' FEL	API # : 05-017-07748	Other Services
Permanent Datum	G.L.	Elevation	4286 ft.
Log Measured From	K.B.	D.F.	4301 ft.
Drilling Measured From	K.B.	G.L.	4286 ft.
Date	9-June-2013		
Run Number	One		
Depth Driller	5605'		
Depth Logger	5600'		
Bottom Logged Interval	5598'		
Top Log Interval	3900'		
Casing Driller	8.625" @ 1645'		@
Casing Logger	1667'		@
Bit Size	7.875"		@
Type Fluid in Hole	WBM		@
Density / Viscosity	8.4 / 50		
pH / Fluid Loss	11.5 / 11		
Source of Sample	Mud Pit		
Rm @ Meas. Temp	1.4 @ 75 °F		@
Rmt @ Meas. Temp	1.12 @ 75 °F		@
Rmc @ Meas. Temp	1.82 @ 75 °F		@
Source of Rmf / Rmc	Calculated		@
Rm @ BHT	0.81 @ 130 °F		@
Time Circulation Stopped	23.30 @ 8-June-2013		
Time Logger on Bottom	19.45		
Maximum Recorded Temperature	130 °F		
Equipment Number	10002		
Location	Brighton		
Recorded By	B. Oetting		
Witnessed By	Z. Kuenzler		

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Equipment and Log Data

Service Order: 23247

Gamma		Density		Neutron		Sonic		IAT	
Run No.	One	Run No.	One	Run No.	One	Run No.	One	Run No.	One
Serial No.	9990	Serial No.	5302	Serial No.	7939	Serial No.		Serial No.	10110
O.D.	3.375 in.	Source No.	50130B	Source No.	66010B	Centralizers		Standoffs	2 @ 0.5"
		O.D.	4.5 in.	O.D.	3.375 in.	O.D.	3.375 in.	O.D.	3.875 in.

Logging Pass Data

General		Gamma		Density		Neutron		Sonic		IAT	
		Scales		Scales		Scales		Scales		Scales	
Run	Depths	Left	Right	Left	Right	Matrix	Left	Right	Matrix	Left	Right
One	TD CSG	0	150	0.3	-0.1	2.71 g/cc	0.3	-0.1	Lime	0.2	2000

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

First run in hole  
Tools ran slick due to hole conditions  
5.5" production casing used to calculate annular hole volumes  
Chlorides reported at: 980 ppm  
Sped up at 3900' per Z.K.

YOUR CREW TODAY: A. Hughes, B. Monroe



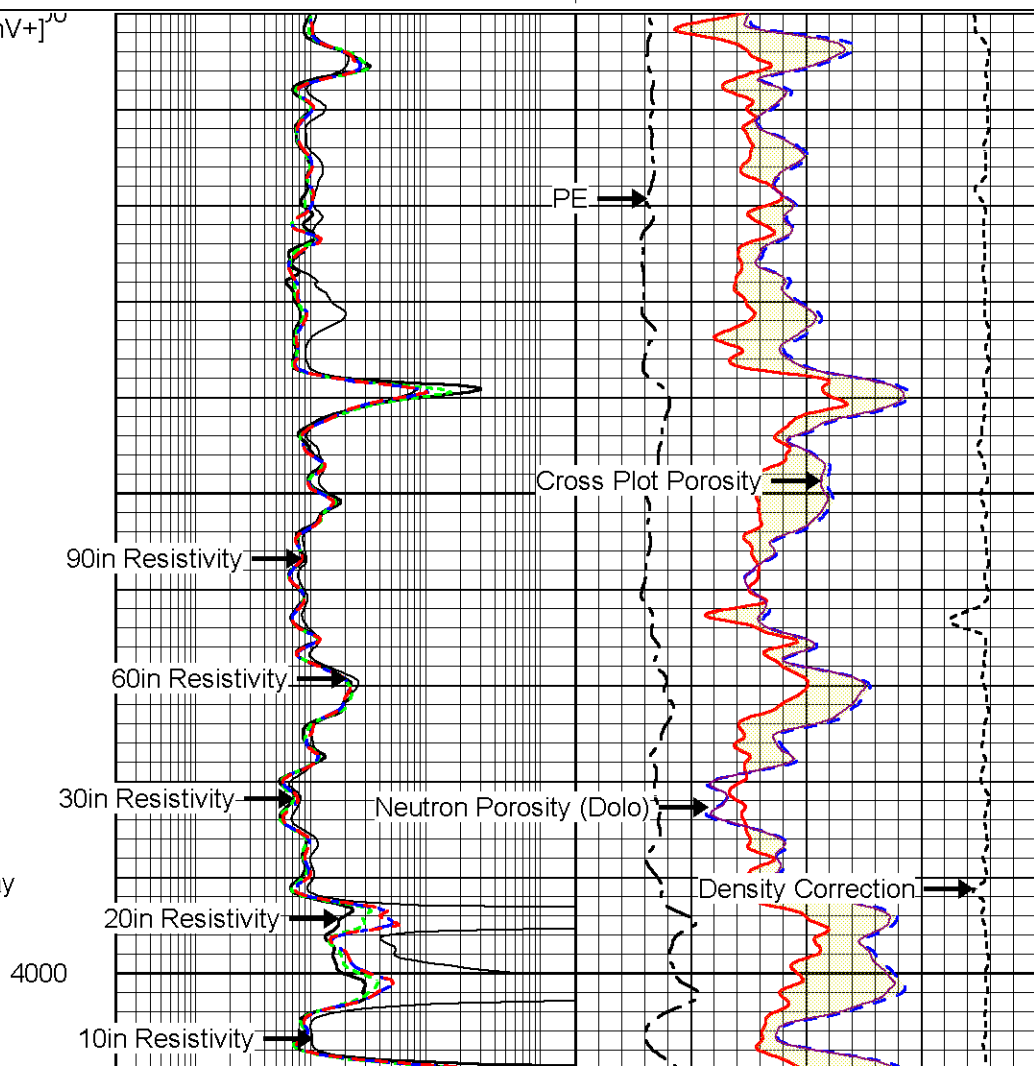
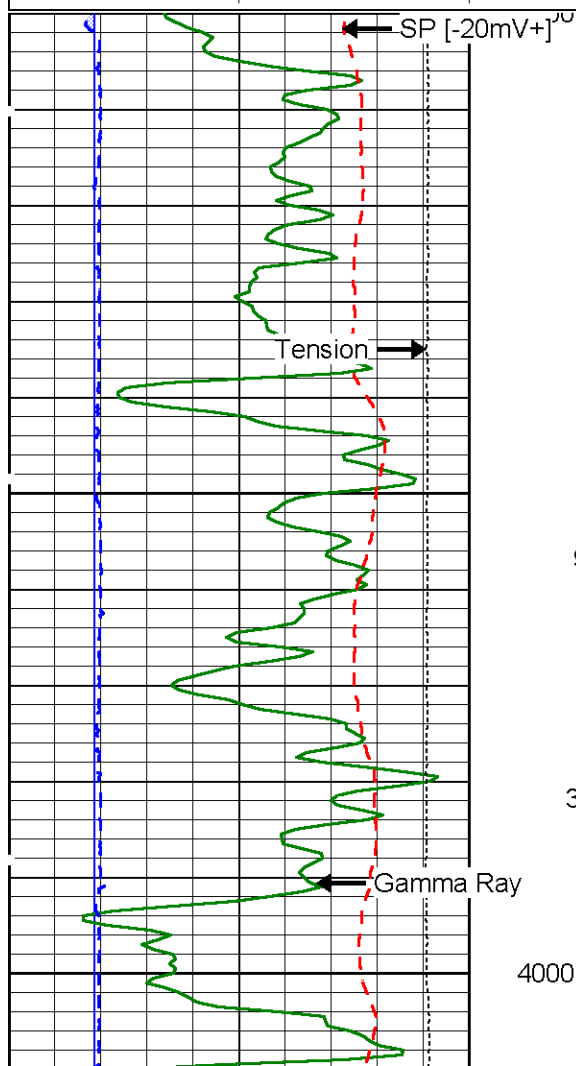
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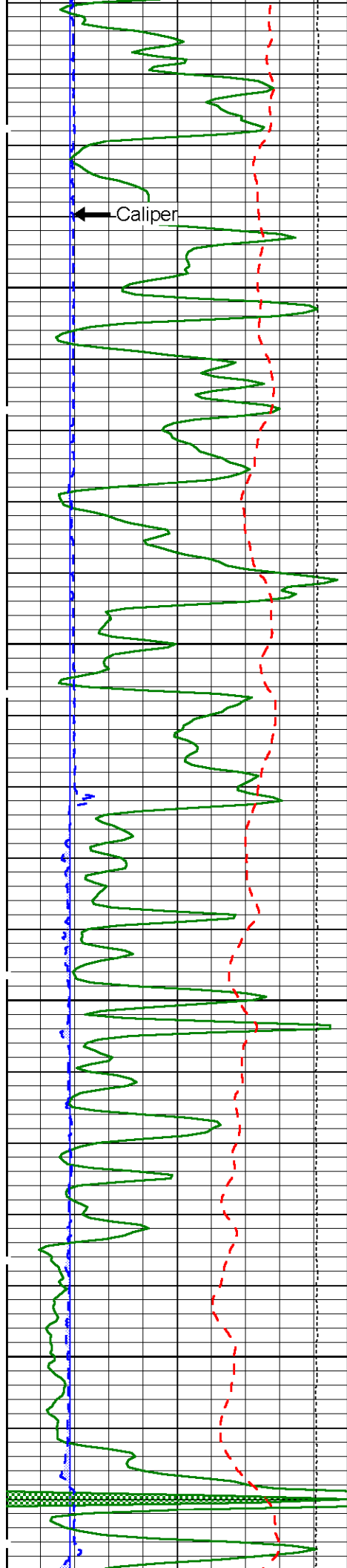
Database File: pronghorn\_chesnee\_2.db  
 Dataset Pathname: pass6  
 Presentation Format: phfield  
 Dataset Creation: Sun Jun 09 19:29:11 2013 by Log Sondex V7.03  
 Charted by: Depth in Feet scaled 1:240

6	Bitsize (in)	16
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
SP [-20mV+]		
Tension		
10000	(lb)	0

0.2	10in Resistivity (Ohm-m)	2000
0.2	20in Resistivity (Ohm-m)	2000
0.2	30in Resistivity (Ohm-m)	2000
0.2	60in Resistivity (Ohm-m)	2000
0.2	90in Resistivity (Ohm-m)	2000

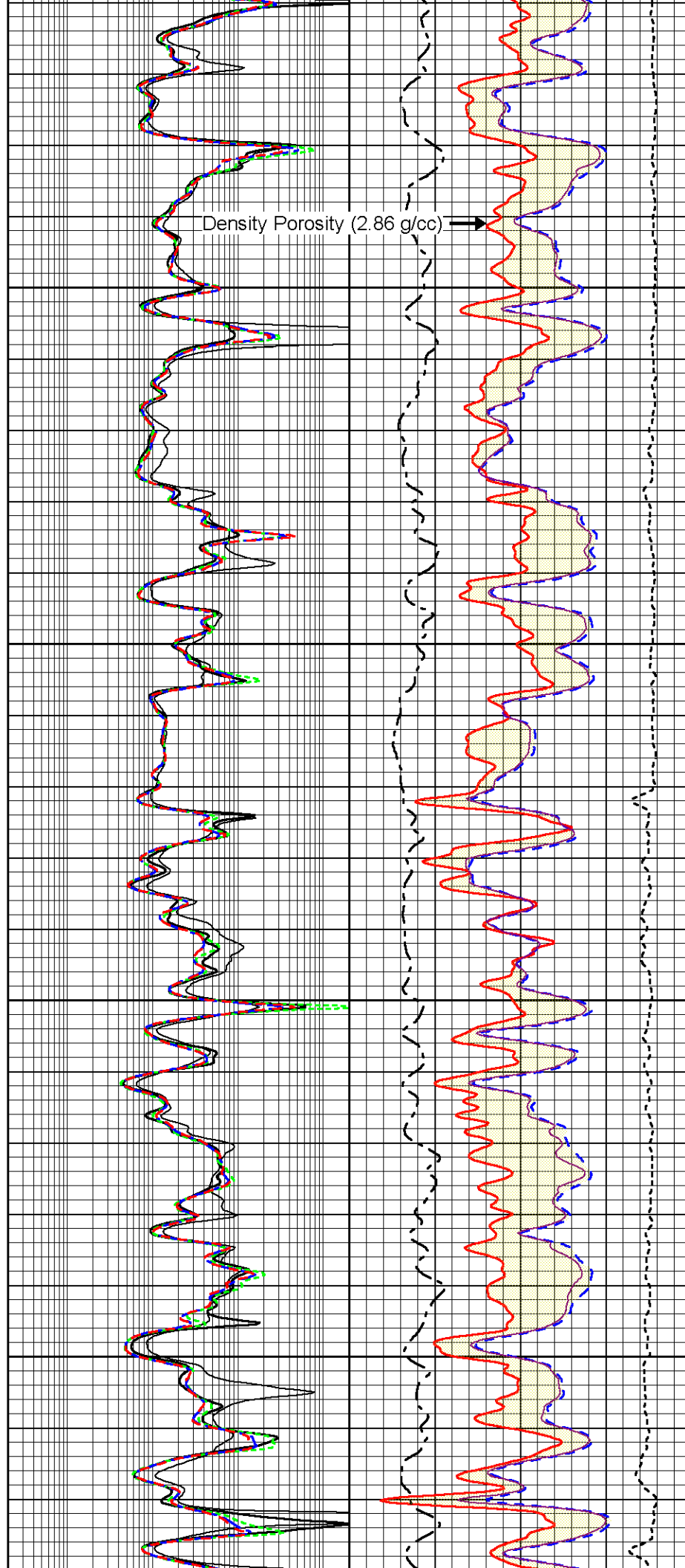
0.3	Neutron Porosity (Dolo)	-0.1
0.3	Density Porosity (2.86 g/cc)	-0.1
0	PE	10
Density Correction		
0.8	(g/cc)	-0.2
0.3	Cross Plot Porosity	-0.1

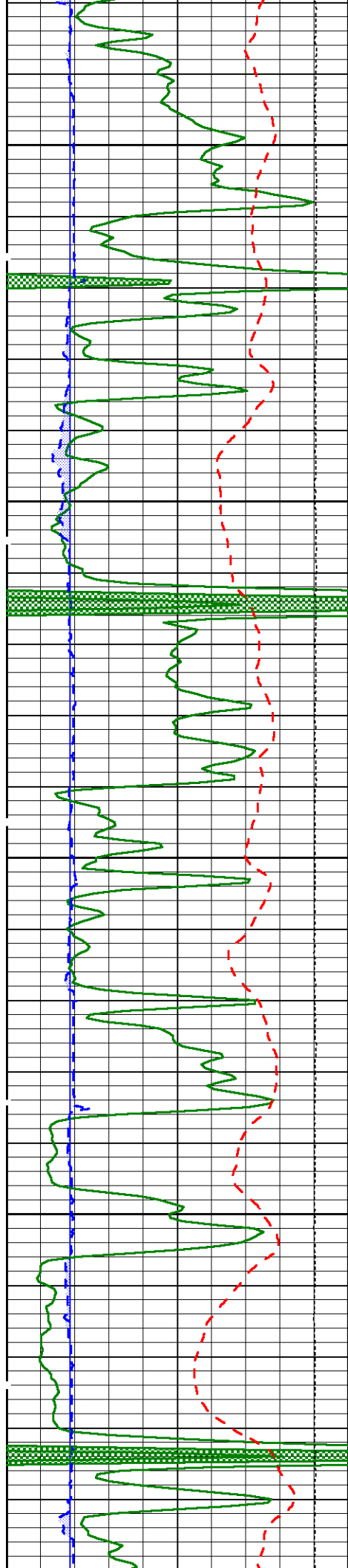




4100

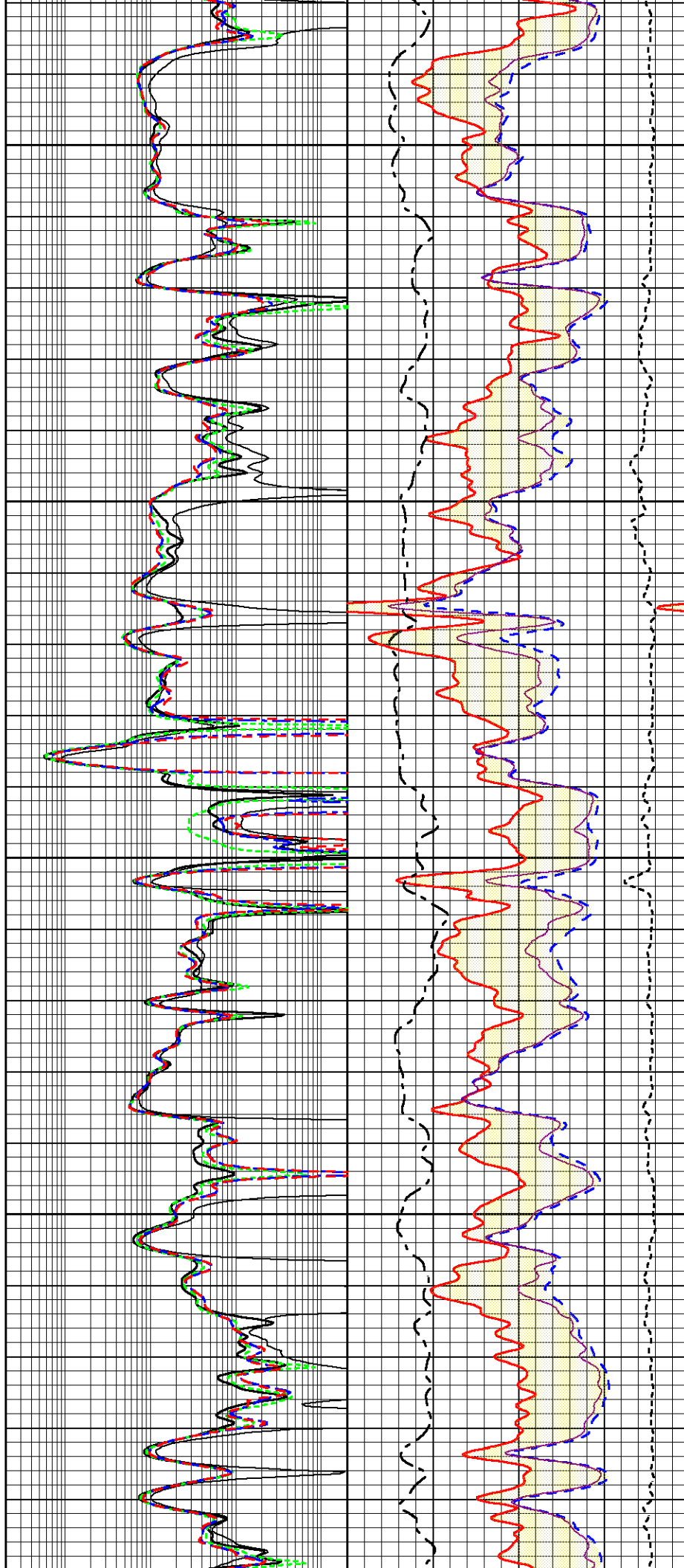
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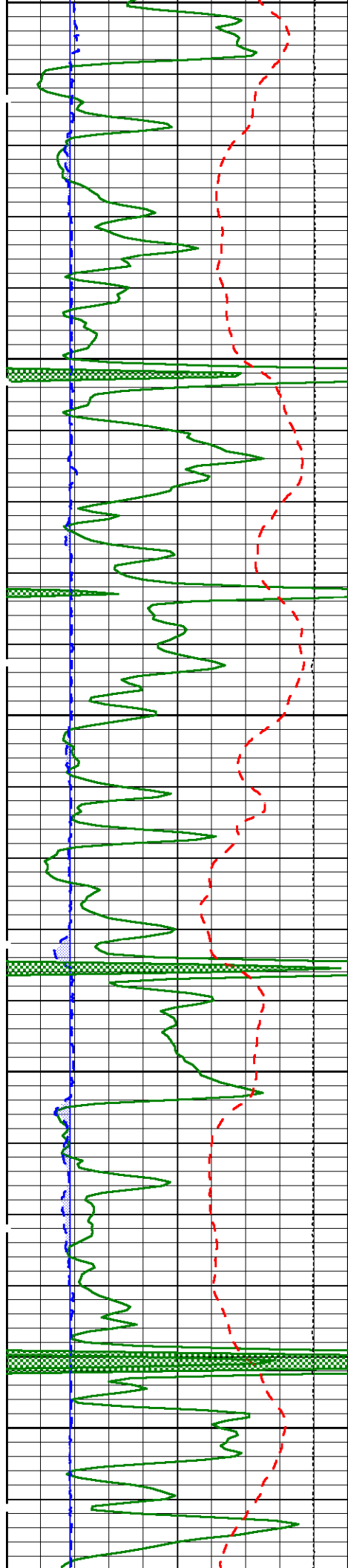




4300

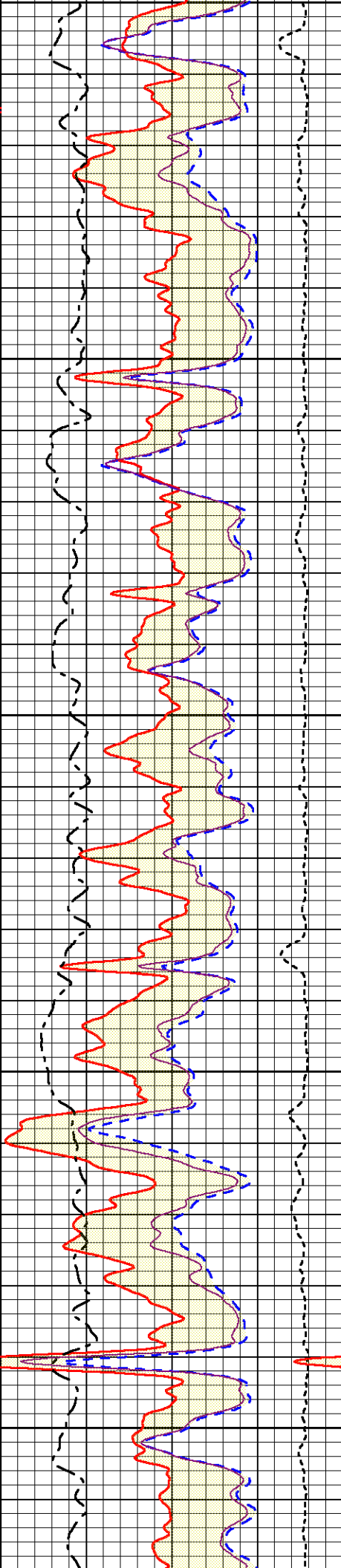
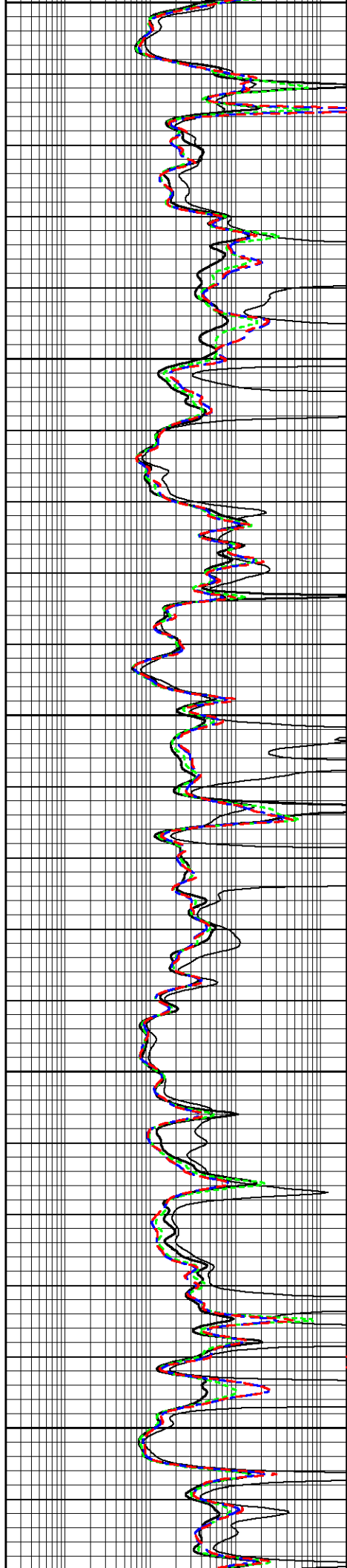
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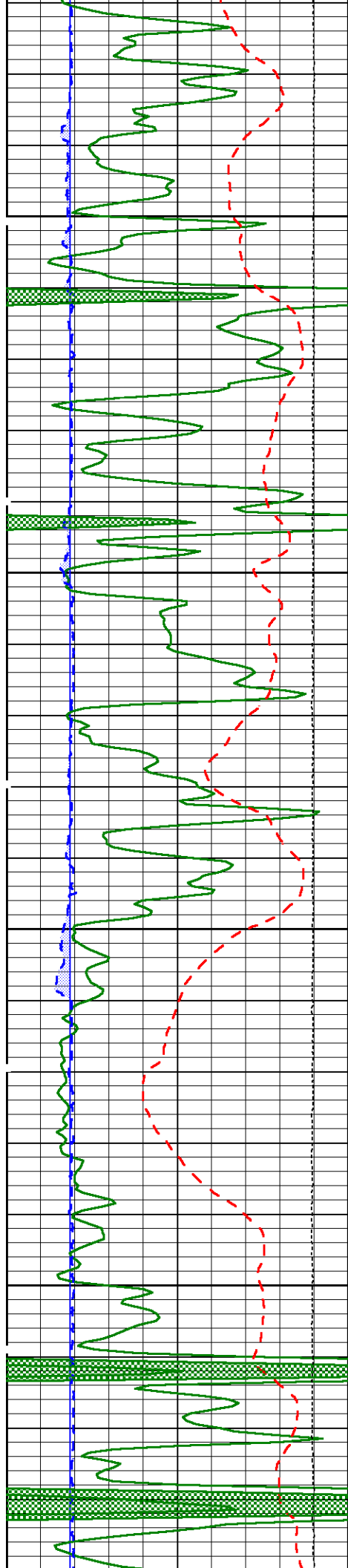


4500

4600

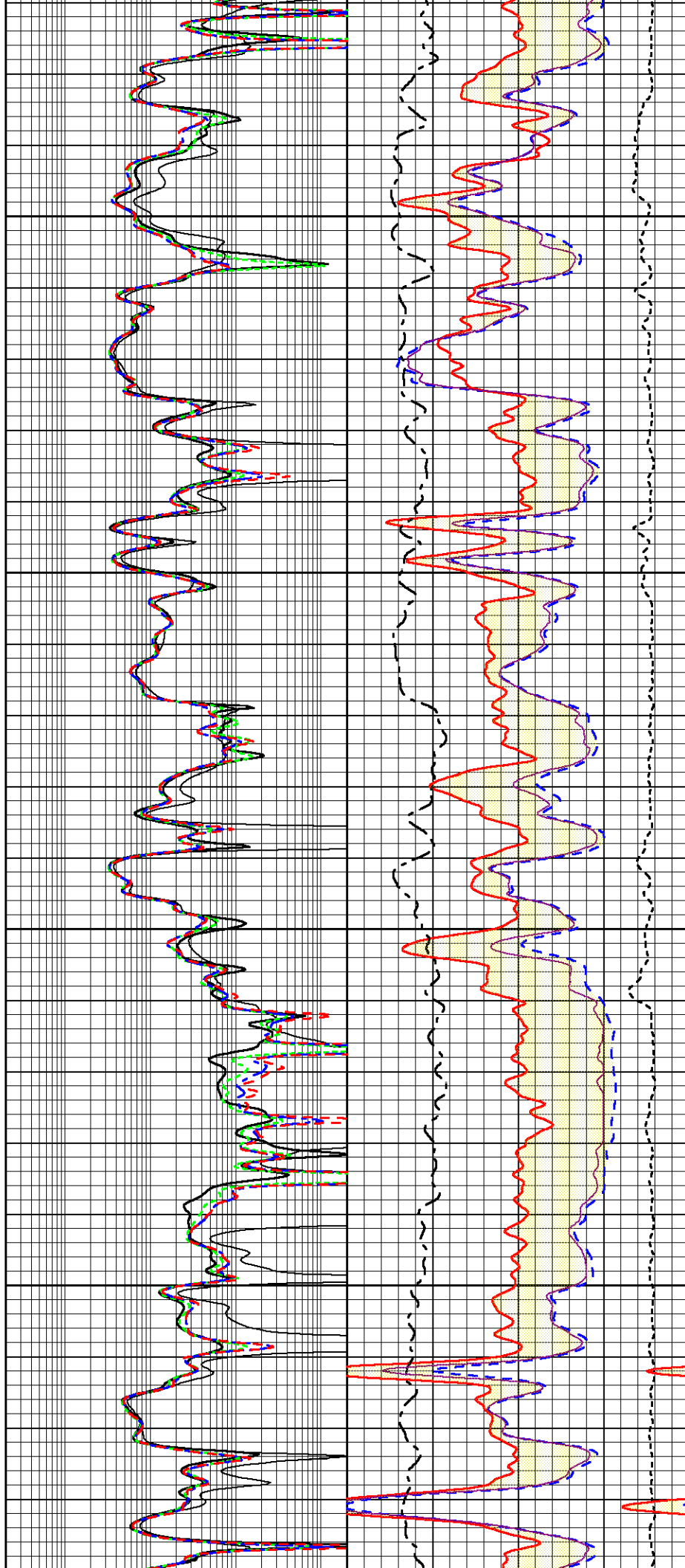


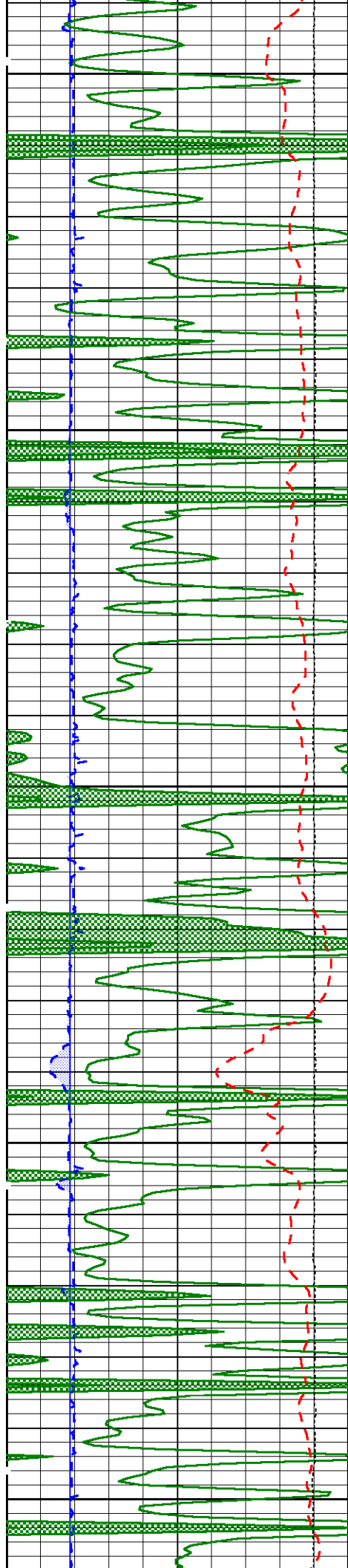




4700

4800

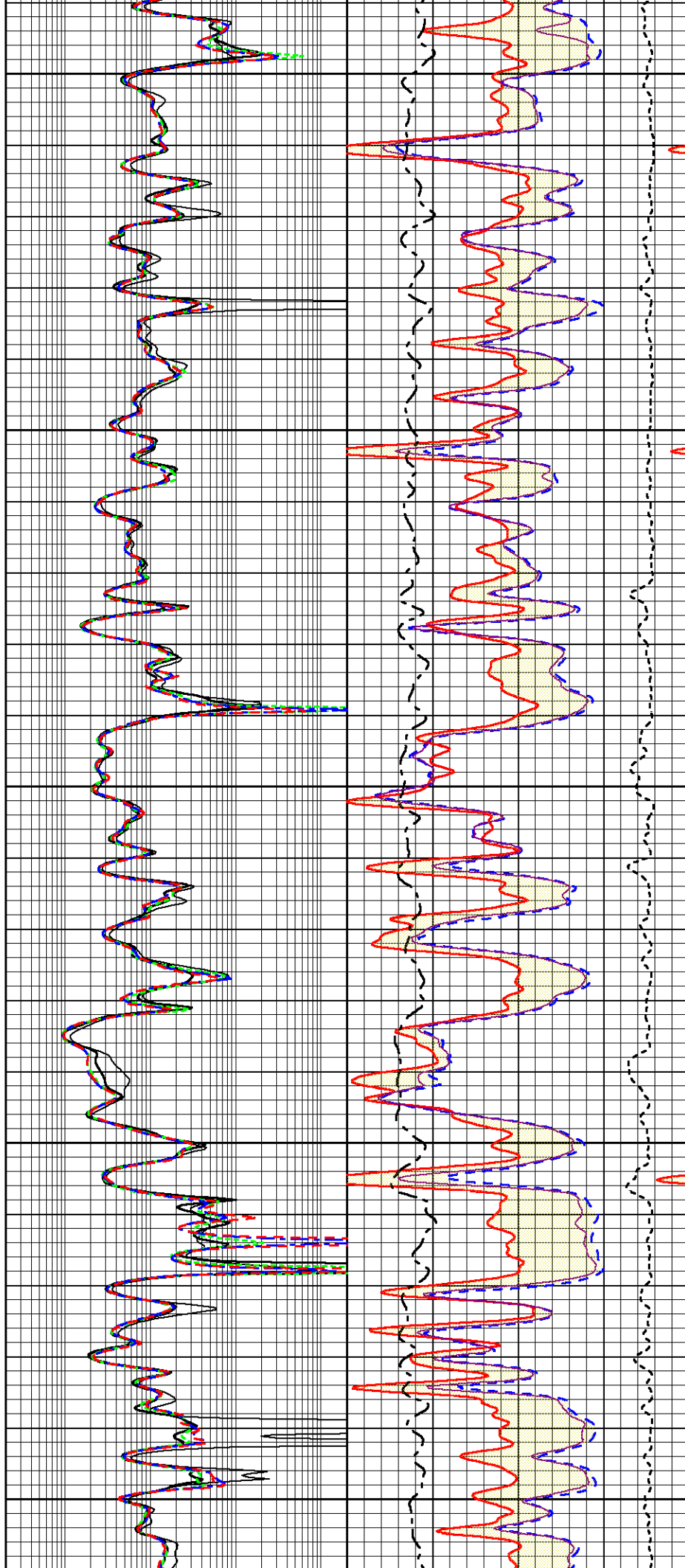


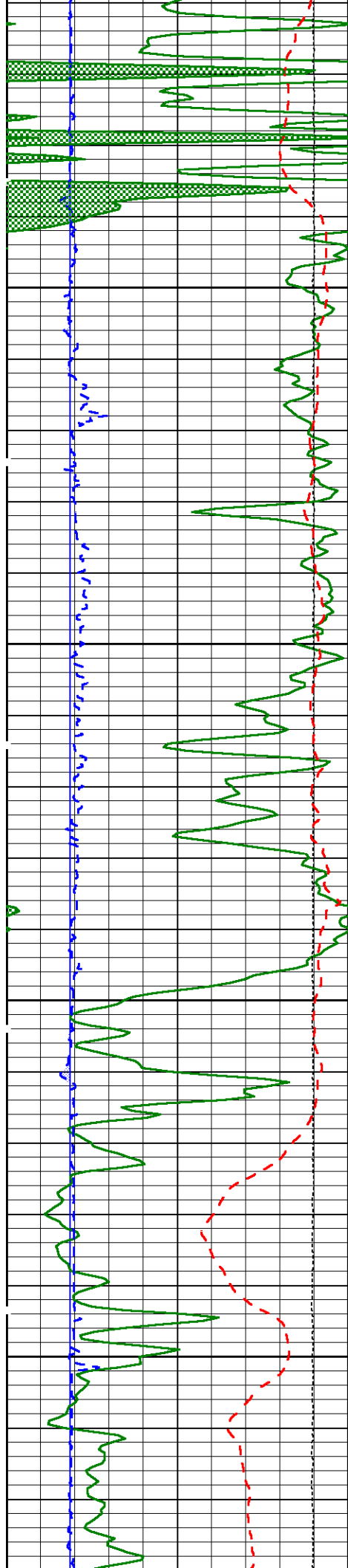


4900

5000

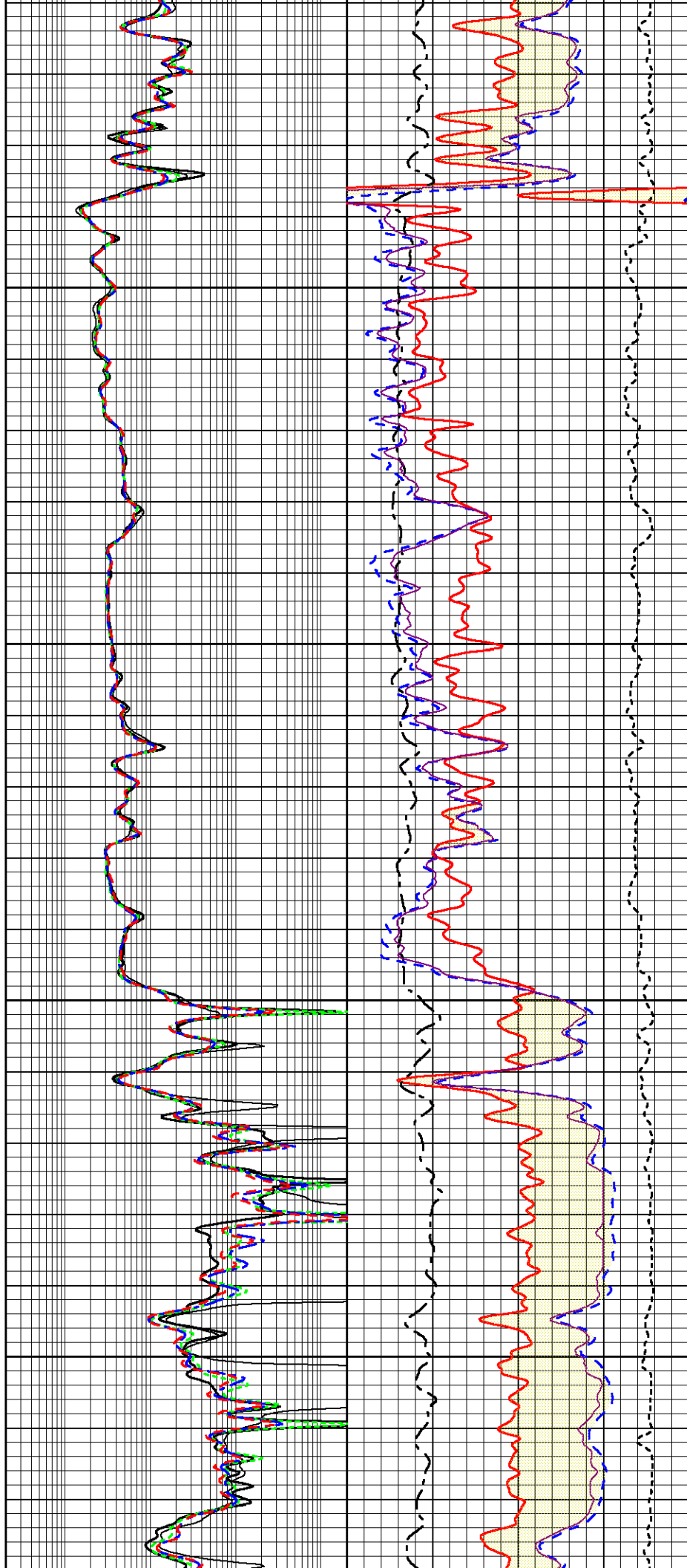
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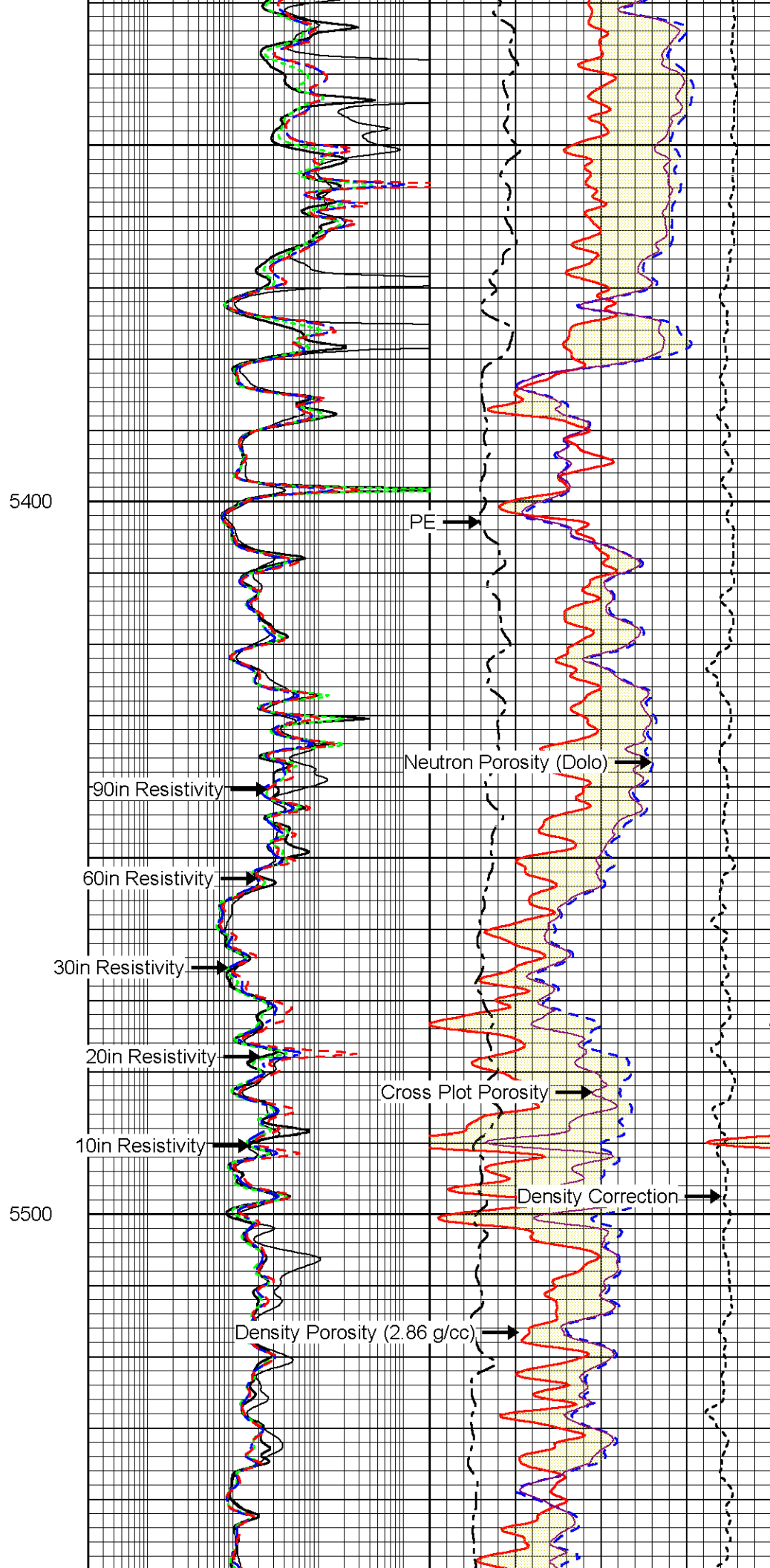
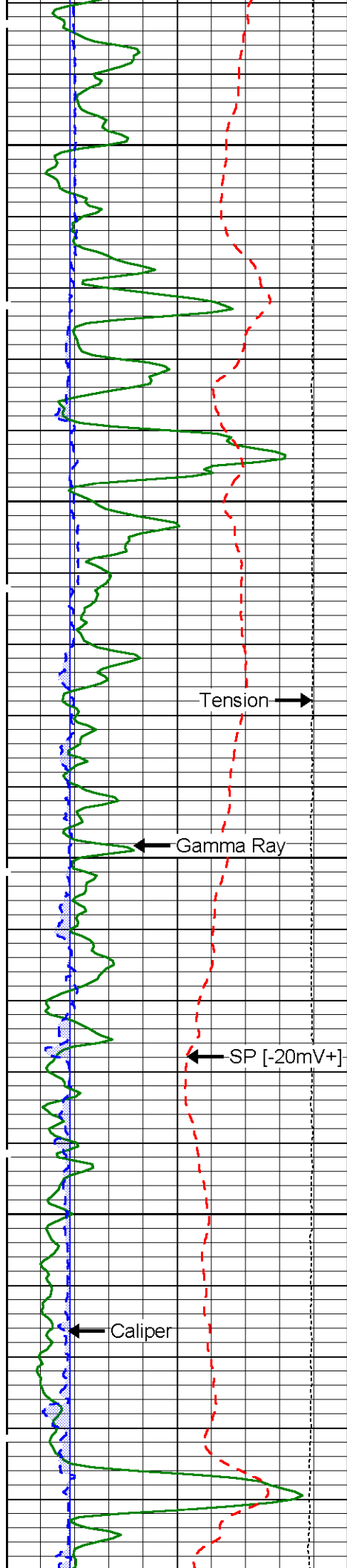


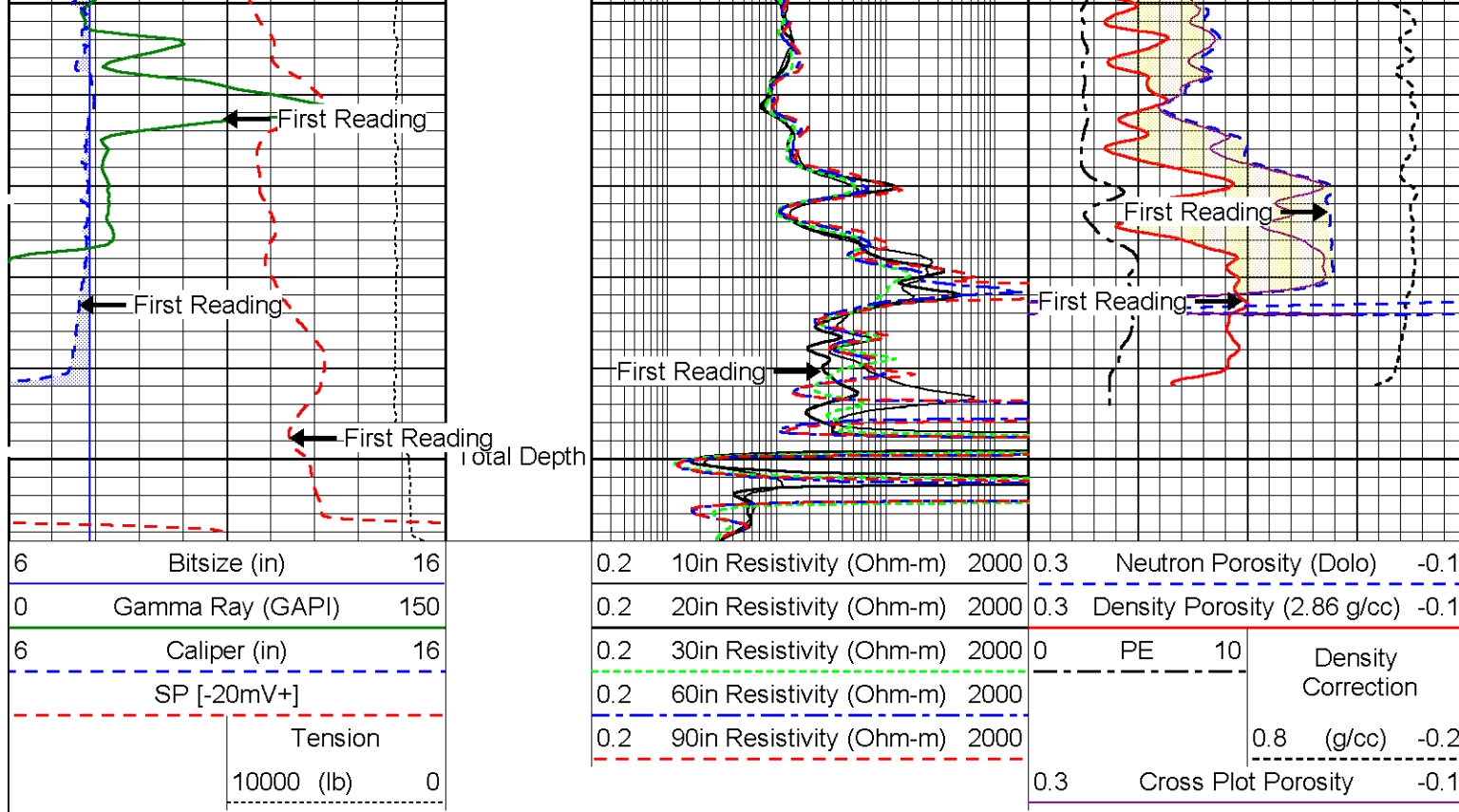
5200

5300



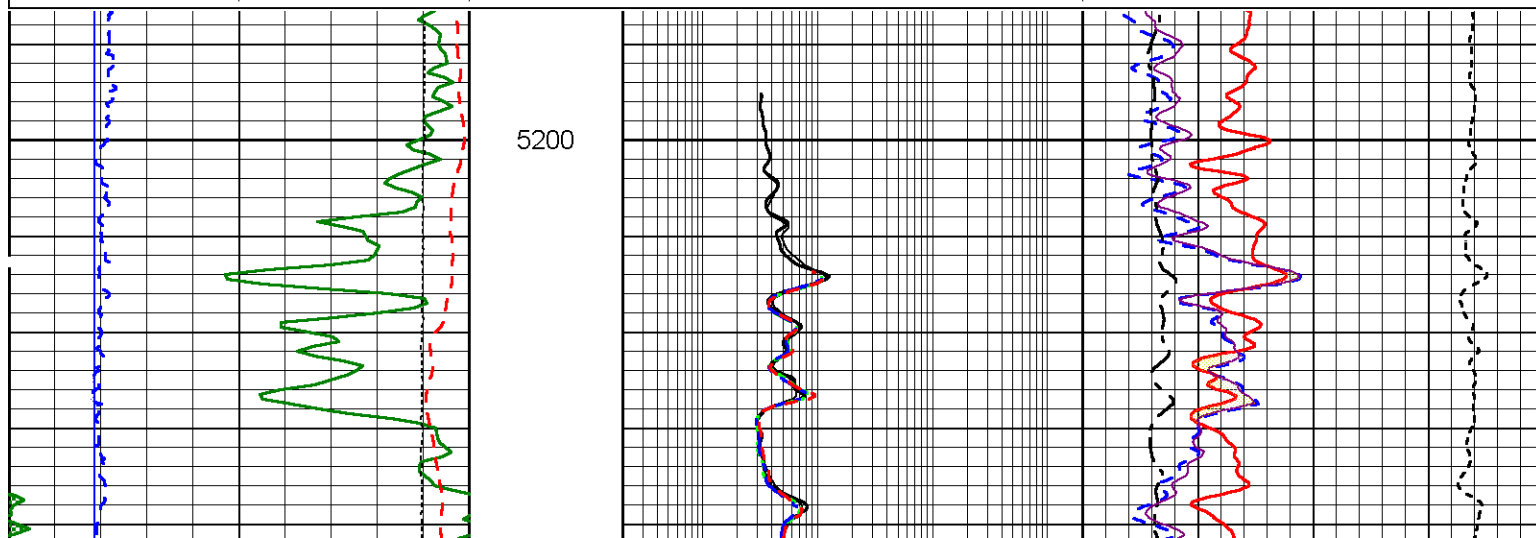
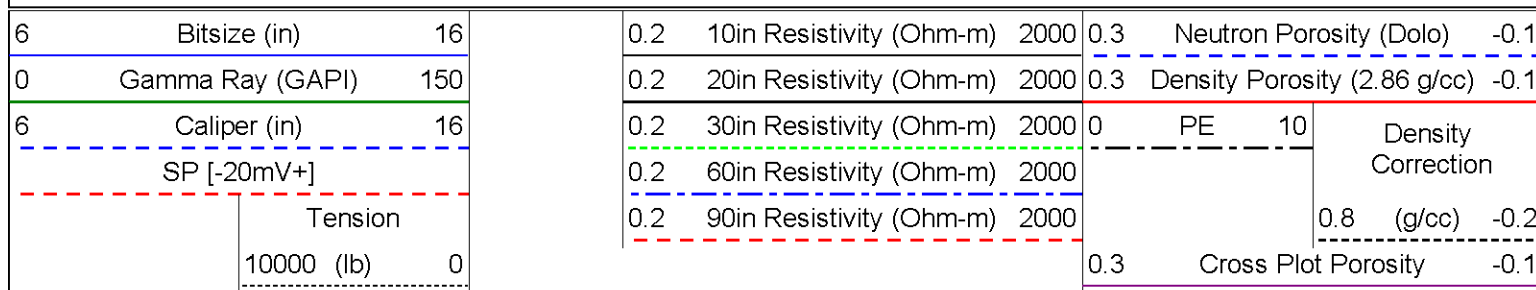


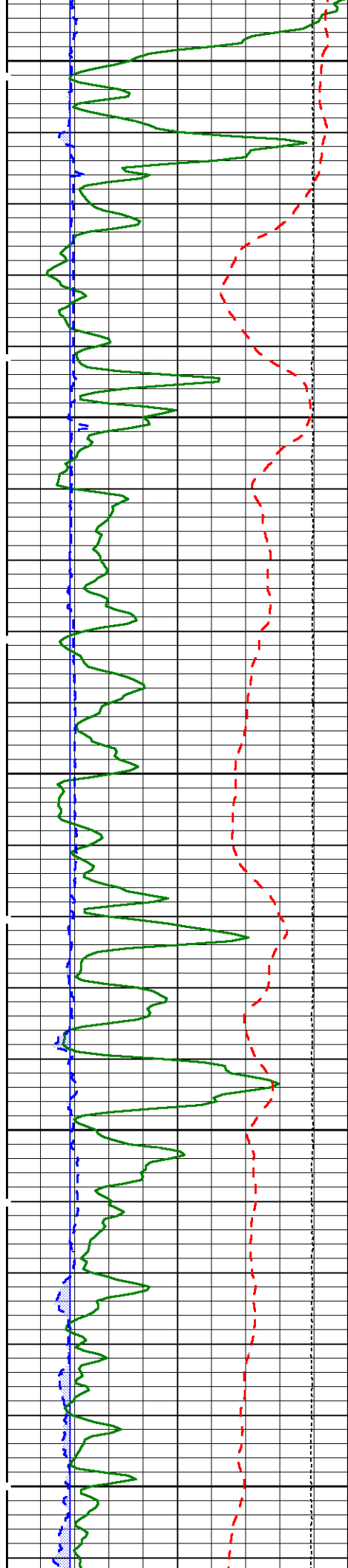




# Repeat Pass

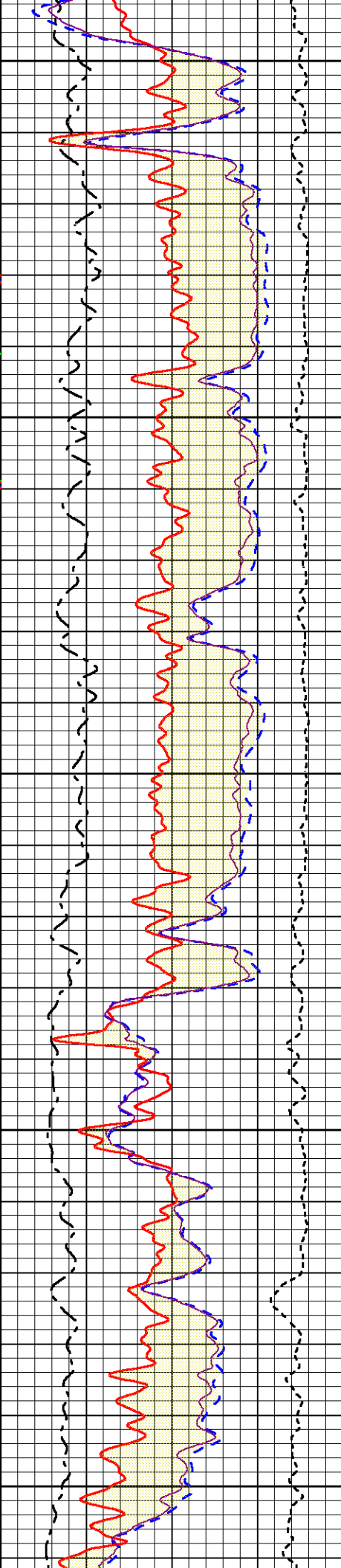
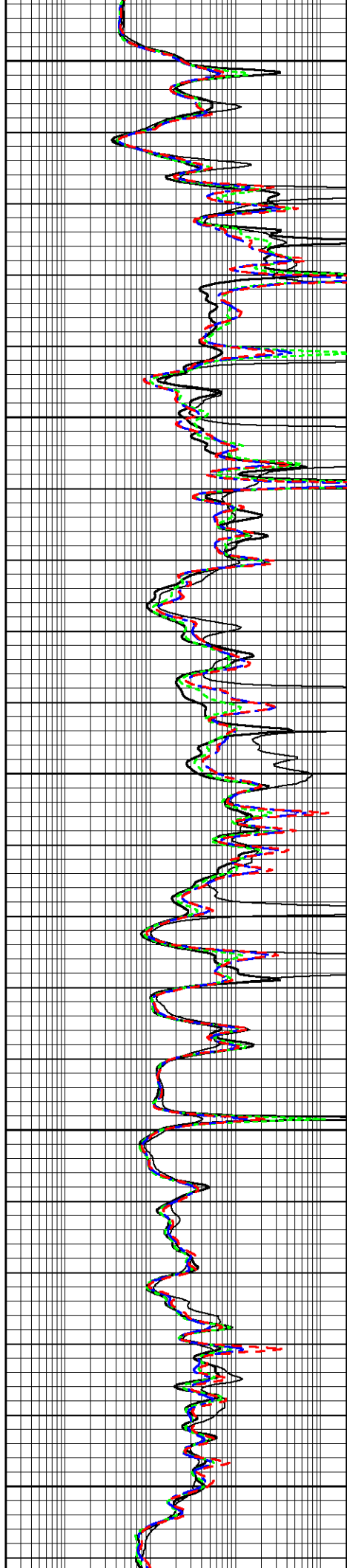
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 Presentation Format: phfield  
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 Charted by: Depth in Feet scaled 1:240

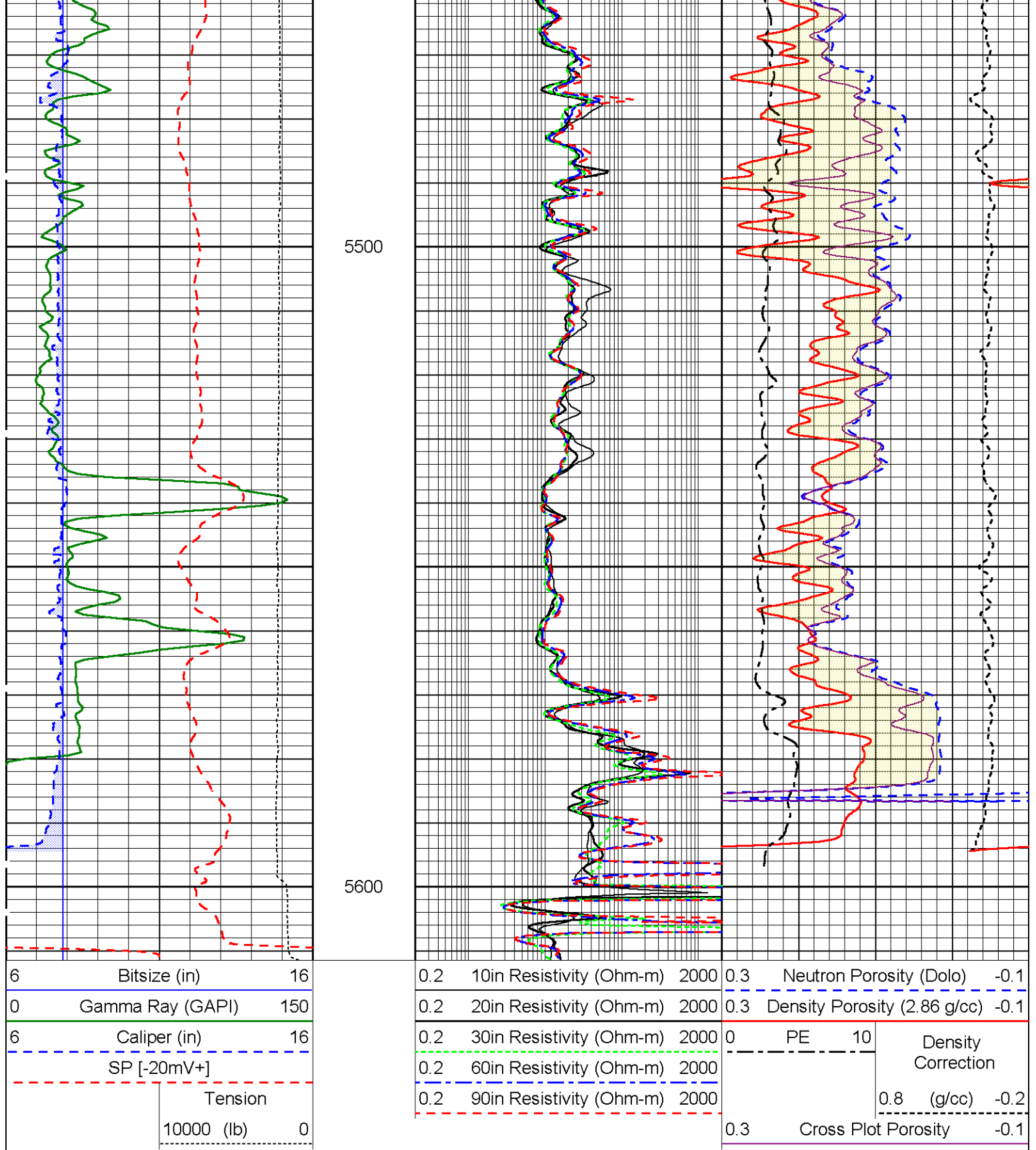




5300

5400





## Log Variables

Database: C:\Warrior\Data\pronghorn\_chesnee\_2.db  
Dataset: field/well/run1/pass6

Top - 1645.00 ft

FRMSALIN kppm 0	MUDSALIN kppm 0	DEVI ° 0	SRFTEMP degF 68	SO in 1.5	DE-CENT Yes	<b>CASED?</b> Yes	<b>CASEWGHT</b> lb/ft 24
NPORSEL	AIR_HOLE?	MudWgt lb/gal	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	<b>CASEOD</b> in	PERFS

Limestone	No	8.4	1	2.71	0	<b>8.625</b>	0
TDEPTH ft 5605	BOTTEMP degF 110	<b>BOREID in 11</b>					

**1645.00 ft - 5135.00 ft**

FRMSALIN kppm 0	MUDSALIN kppm 0	DEVI ° 0	SRFTEMP degF 68	SO in 1.5	DE-CENT  Yes	CASED?  No	CASEWGHT lb/ft 11.5
<b>NPORSEL</b>  <b>Limestone</b>	AIR_HOLE?  No	MudWgt lb/gal 8.4	FLUIDDEN g/cc 1	<b>MATRXDEN</b> <b>g/cc</b> <b>2.71</b>	SPSHIFT mV 0	CASEOD in 5.5	PERFS  0
TDEPTH ft 5605	BOTTEMP degF 110	BOREID in 7.875					

**5135.00 ft - 5245.00 ft**

FRMSALIN kppm 0	MUDSALIN kppm 0	DEVI ° 0	SRFTEMP degF 68	SO in 1.5	DE-CENT  Yes	CASED?  No	CASEWGHT lb/ft 11.5
<b>NPORSEL</b>  <b>Sandstone</b>	AIR_HOLE?  No	MudWgt lb/gal 8.4	FLUIDDEN g/cc 1	<b>MATRXDEN</b> <b>g/cc</b> <b>2.65</b>	SPSHIFT mV 0	CASEOD in 5.5	PERFS  0
TDEPTH ft 5605	BOTTEMP degF 110	BOREID in 7.875					

**5245.00 ft - Bottom**

FRMSALIN kppm 0	MUDSALIN kppm 0	DEVI ° 0	SRFTEMP degF 68	SO in 1.5	DE-CENT  Yes	CASED?  No	CASEWGHT lb/ft 11.5
NPORSEL  Limestone	AIR_HOLE?  No	MudWgt lb/gal 8.4	FLUIDDEN g/cc 1	MATRXDEN g/cc 2.71	SPSHIFT mV 0	CASEOD in 5.5	PERFS  0
TDEPTH ft 5605	BOTTEMP degF 110	BOREID in 7.875					

Calibration Report

Database File: pronghorn\_chesnee\_2.db  
Dataset Pathname: pass6  
Dataset Creation: Sun Jun 09 19:29:11 2013 by Log Sondex V7.03

Induction Array Tool Calibration Report

Serial Number: B10110  
Tool Model: 002

Master Calibration Performed: Wed Aug 24 08:34:17 2011



Temperature:			74.0 degF				
Sonde Error:							
Array	1	2	3	4	5	6	7
Real	191.9	-13.8	-40.9	-15.9	-3.1	0.7	3.4 mmho/m
Imaginary	33.1	-17.8	-19.8	-16.7	-24.3	-1.9	5.8 mmho/m
Loop Gain:							
Array	1	2	3	4	5	6	7
Loop (real)	537.7	678.5	1295.3	1394.1	1144.8	712.8	404.8 mmho/m
Loop (imaginary)	73.3	92.5	389.8	419.5	344.5	214.5	121.8 mmho/m
Real	762.6	736.2	1247.9	1380.3	1164.3	741.8	425.4 mmho/m
Imaginary	109.3	84.7	369.6	408.4	328.0	221.5	135.1 mmho/m
Gain (real)	0.942	0.905	1.005	0.999	0.981	0.962	0.959
Gain (imaginary)	0.961	0.902	1.001	0.987	0.978	0.960	0.942
Before Survey Verification Performed:				Thu Oct 04 13:29:32 2012			
Sonde 1 Temperature:				83.1 degF			
Sonde 2 Temperature:				86.7 degF			
Array 1 Temperature:				83.1 degF			
Array	1	2	3	4	5	6	7
TxIR	-0.0	-0.0	0.1	0.1	0.1	0.1	0.1
TxIX	-0.0	-0.0	-0.2	-0.2	-0.2	-0.2	-0.2
Tx Magnitude	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Gain	121.5	180.0	190.0	190.0	190.0	190.0	190.0
RxCR	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
RxCX	0.2	0.2	0.2	0.2	0.2	0.2	0.2
RxC Magnitude	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Tool Module Parameters							
Software Version:				1.9.1.0			
Borehole Size Source:				CALI			
Mud Resistivity Source:				Hilchie			
Mud Resistivity At Surface:				1.20 Ohm-m			
Mud Resistivity Surface Temperature:				75.0 degF			
Borehole Corrections:				Automatic			
Minimum Standoff:				0.4 in			
Litho Density Tool Calibration Report							
Serial Number:				B5302S50130B			
Tool Model:				002			
Caliper Calibration Performed:				Sun Jun 09 18:52:24 2013			
	Diameter			Reading			
Small Ring:	6.000	in		1487.600	cps		
Large Ring:	13.000	in		2139.900	cps		
Gain:	0.0107						
Offset:	-10.1038						
Master Calibration Performed:				Thu May 23 13:30:58 2013			
Source Number:				50130B			
Medium:				Water			
Al Block Density:				2.6002 g/cc			
	Background		Al Block	Al Block + Fe			
SS1	777.7		4414.3	3726.8	cps		
SS2	2193.2		29273.9	24800.1	cps		
SSTOTAL	5197.8		47130.7	39704.8	cps		
LITH	85.4		479.7	281.7	cps		
LI	169.3		804.1	705.3	cps		

LL	169.3	169.3	169.3	cps
LU	481.5	1021.4	941.7	cps
LS	650.9	1825.5	1647.0	cps
LSTOTAL	1242.8	4531.1	3640.8	cps
SSHV	1446.2	1446.5	1447.4	V
LSHV	1470.0	1466.4	1468.0	V
SSFF	-0.002	0.008	0.006	
LSFF	-0.004	0.009	0.006	

Before Survey Verification Performed:  
After Survey Verification Performed:

	Master Background	Before Survey Background	After Survey Background	
SS1	777.7			cps
SS2	2193.2			cps
SSTOTAL	5197.8			cps
LITH	85.4			cps
LL	169.3			cps
LU	481.5			cps
LS	650.9			cps
LSTOTAL	1242.8			cps
SSHV	1446.2			V
LSHV	1470.0			V
SSFF	-0.002			
LSFF	-0.004			

#### Tool Module Parameters

Software Version:	2.5.1.0
Borehole Size Source:	CALI
Pad Type:	2

#### Compensated Neutron Tool Calibration Report

Serial Number:	C7939S66010B
Tool Model:	009

Master Calibration Performed:	Thu May 23 13:53:23 2013
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Source Number:	66010B
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Short Spacing Counts:	6649.41	cps
Long Spacing Counts:	260.18	cps
High Voltage:	1335.88	V
Target Ratio:	23.9200	
Ratio:	25.5572	
K-Factor:	0.9359	

Before Survey Verification Performed:  
After Survey Verification Performed:

Verifier Number:	6494
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Verifier Values	Master Cal	Before Survey	After Survey	
Short Spacing Counts:	251.77			cps
Long Spacing Counts:	262.36			cps
High Voltage:	1335.93			V
Ratio:	0.9596			

#### Tool Module Parameters

Software Version:	1.5.0.0
Borehole Size Source:	CALI
Clip Crossplot Porosity:	YES

### Spectral Gamma Ray Tool Calibration Report

Serial Number:	220344
Tool Model:	002

Performed:	Wed Mar 27 10:17:59 2013
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Source Number:	Th Blanket #14
Calibrator Value:	217.0      API

Background Reading:	476.3      cps
Calibrator Reading:	2122.6      cps

Sensitivity:	0.132      API / cps
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Performed:

Verifier Number:

	K %	U ppm	T ppm
Concentrations			

K Peak:  
U Peak:  
T Peak:

Before Survey Verification Performed:  
After Survey Verification Performed:

	Before Survey	After Survey	
Background Reading:			cps
Verifier Reading:			cps

K Peak:  
U Peak:  
T Peak:

### Tool Module Parameters

Software Version:	1.8.9.1
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### Gamma Ray Calibration Report


Serial Number:	10009990
Tool Model:	001

Performed:	Wed Mar 27 09:56:46 2013
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Calibrator Value:	236.0      GAPI
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Background Reading:	205.7      cps
Calibrator Reading:	961.5      cps

Sensitivity:	0.3122      GAPI/cps
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Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CHD	42.61		CHD-001 (000004) Cable Head	2.19	3.38	35.00
GR	37.73		XTU-008 (10007730) Crossover Ultrawire Toolbus to Ultralink	2.08	3.38	47.00

