WIRELINE LOGGING SOLUTIONS

Composite Log

Company Stephens & Johnson Operating Co.
Well Henderson ' A' #1R
Field Pollyana
County Grant
State Kansas

Company	Stephens & Johnson Operating Co.
Well	Henderson ' A' #1R
Field	Pollyana
County	Grant
State	Kansas

Location: 590' FNL & 660' FEL S2 N2 NE NE
API # : 15-067-21872
SEC 01 TWP 28S RGE 35W

Permanent Datum Ground Level Elevation 3070 ft.
Log Measured From K.B. , 7 ft. above perm. datum
Drilling Measured From Kelly Bushing

Other Services

Elevation
K.B. 3077 ft.
D.F. 3077 ft.
G.L. 3070 ft.

Date	05-Apr-2023			
Run Number	One			
Depth Driller	4216'			
Depth Logger	4240'			
Bottom Logged Interval	4232'			
Top Log Interval	850'			
Casing Driller	8 5/8" @ 857'	@	@	@
Casing Logger	855'			
Bit Size	7 7/8"	@	@	@
Type Fluid in Hole	WBM			
Density / Viscosity	9.2 / 55			
pH / Fluid Loss	10.0 / 8.0			
Source of Sample	Flowline			
Rm @ Meas. Temp	1.784 @ 75ºF	@	@	@
Rmf @ Meas. Temp	1.338 @ 75ºF	@	@	@
Rmc @ Meas. Temp	2.230 @ 75ºF	@	@	@
Source of Rmf / Rmc	Calculated			
Rm @ BHT	1.428 @ 102ºF	@	@	@
Time Circulation Stopped	08:15			
Time Logger on Bottom	12:00			
Maximum Recorded Temperature	102ºF			
Equipment Number	2621			
Location	OKC, OK.			
Recorded By	H. Garcia			
Witnessed By	Jeff Ritchie	James Tart		

<<< Fold Here >>>

Equipment and Log Data

Service Order: T21-230405SDX

Gamma		Density		Neutron		Sonic		IAT	
Run No.	One	Run No.	One	Run No.	One	Run No.	One	Run No.	One
Serial No.	926	Serial No.	872	Serial No.	6645	Serial No.	NA	Serial No.	4943
O.D.	3.375 in.	Source No.	70996B	Source No.	1415NC	Centralizers	NA	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	Matrix	Left	Right
One	SCG	TD	0	150	0.3	-0.1	2.71 g/cc	0.3	-0.1	Lime	NA	NA	NA	0.2	2000

Comments

Toolstring ran as per diagram.
Density is presented on a 2.71g/cc Matrix, Neutron presented on a Limestone Matrix
Chlorides: 500 mg/L
LCM: 8 lb/bbl
Annular volume calculated using 5.5" casing.

Washouts and borehole rugosity affect data quality repeatability.
Rig: Quest Drlg. #208

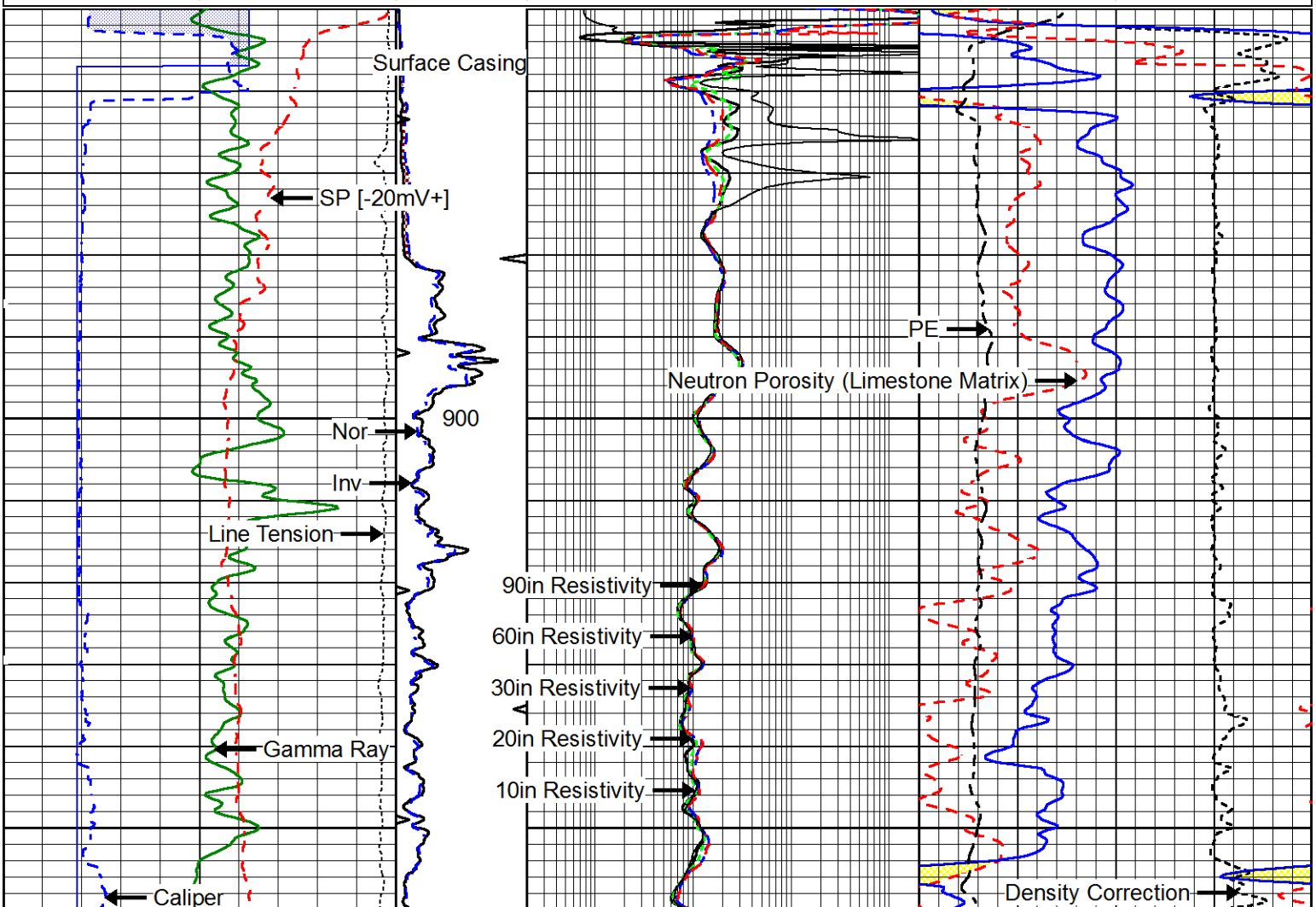
YOUR CREW TODAY: C. Swanson / D. Valenciano
THANK YOU FOR CHOOSING WIRELINE LOGGING SOLUTIONS. OKLAHOMA CITY, OK. (405) 445-7135.

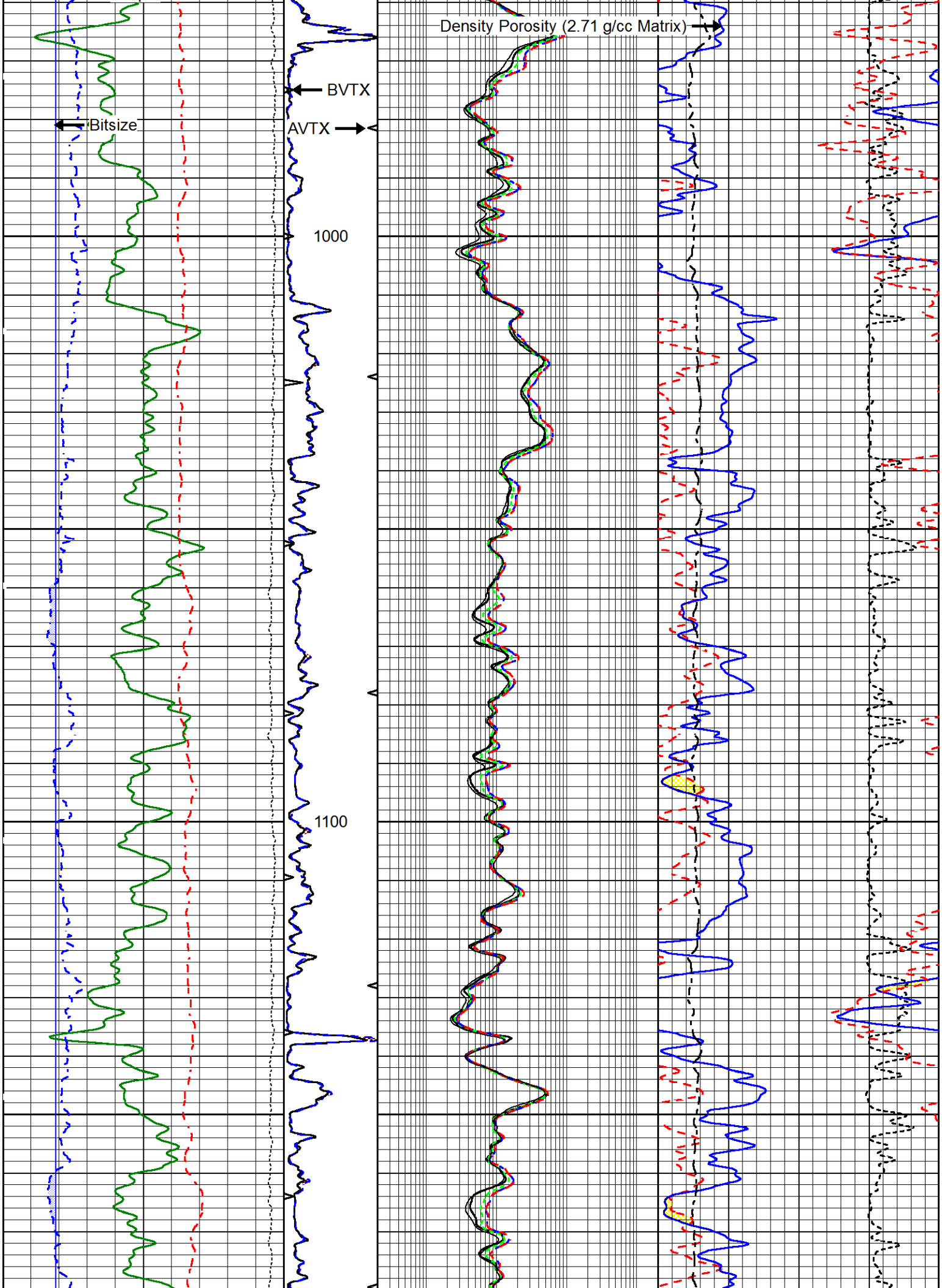
WIRELINE LOGGING SOLUTIONS

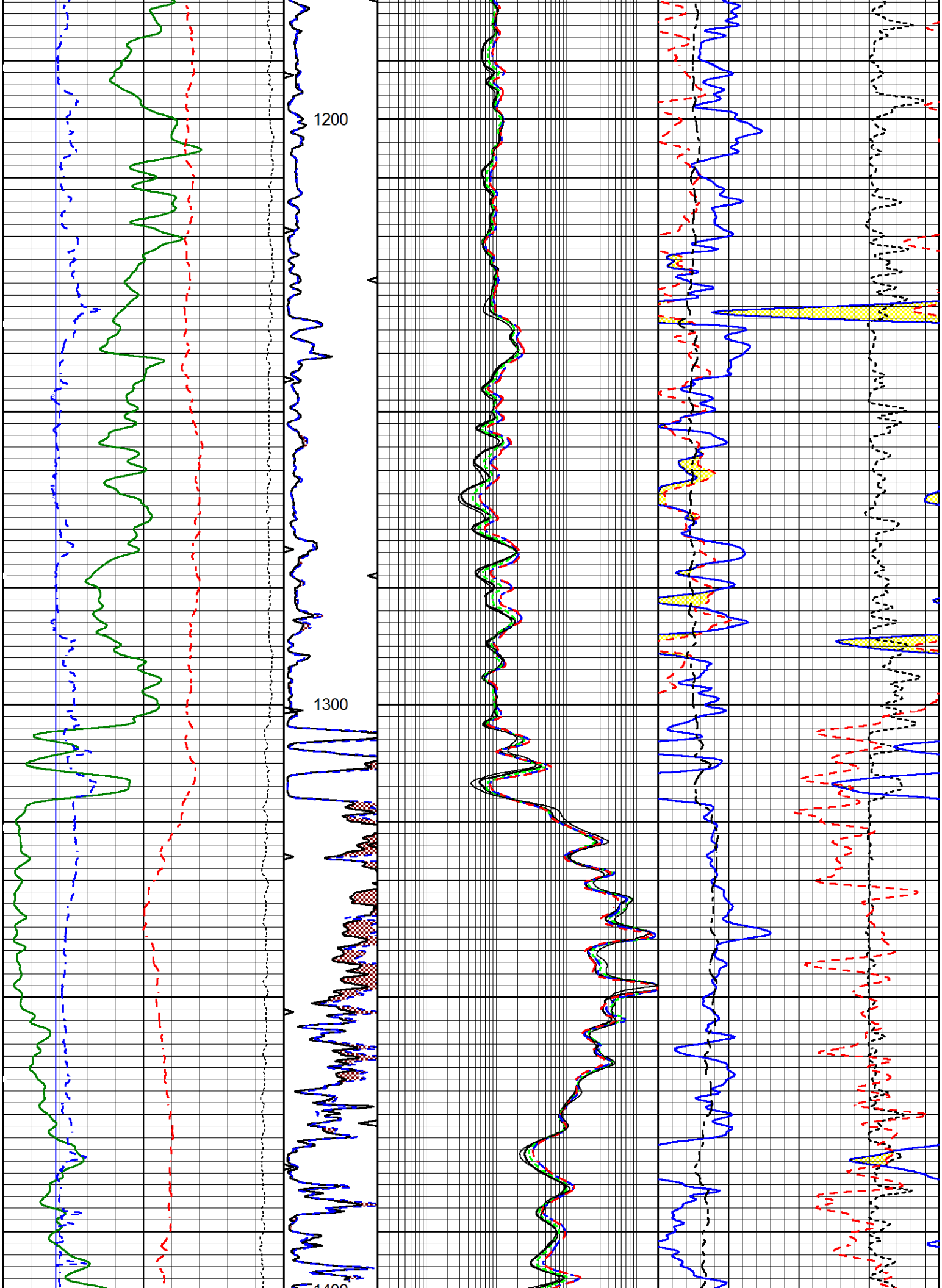
Main Pass

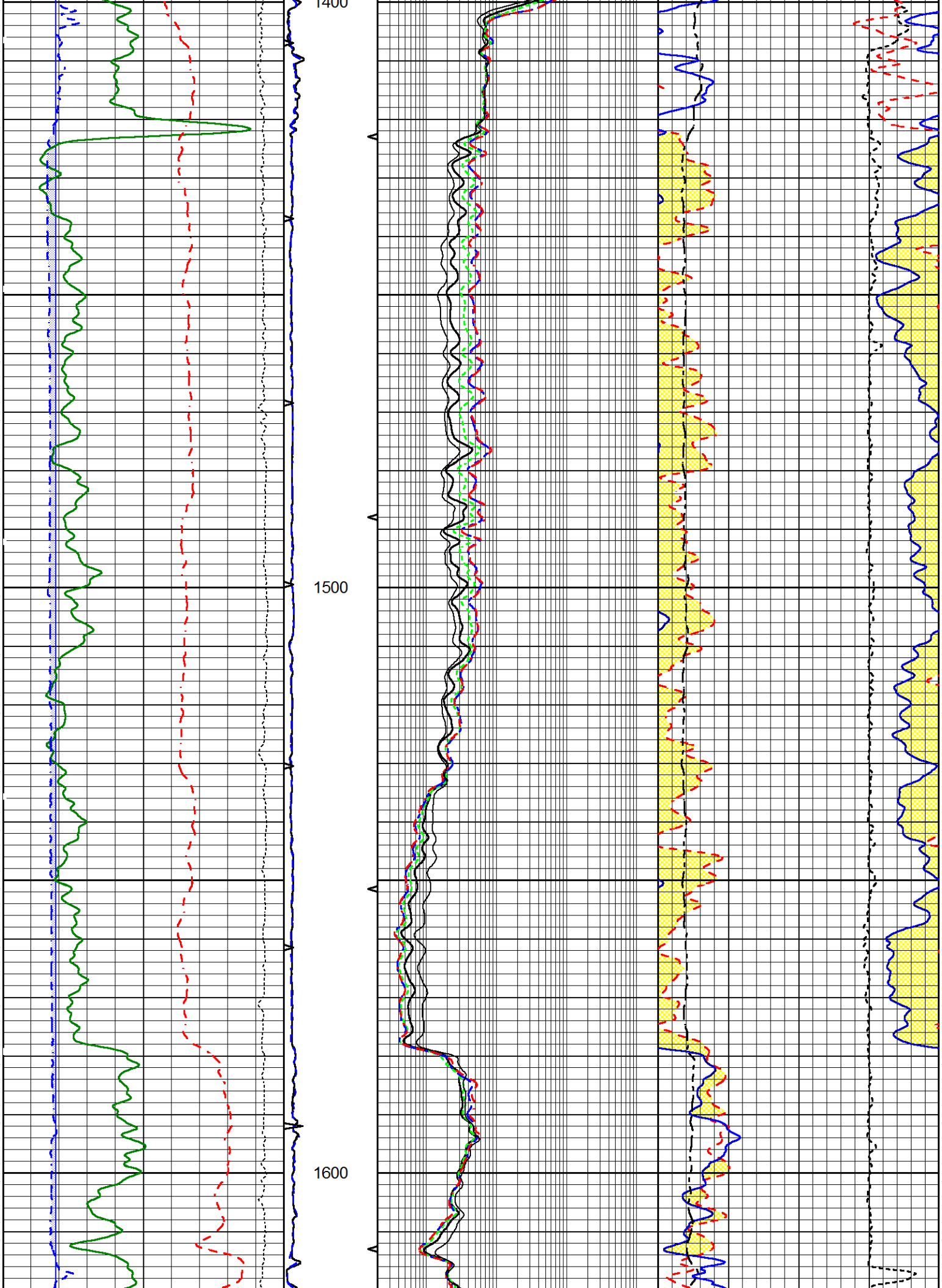
Database File	s&j-henderson a #1r.db
Dataset Pathname	pass4.1
Presentation Format	okc-3combomel-base
Dataset Creation	Wed Apr 05 13:43:53 2023 by Calc Sondex
Charted by	Depth in Feet scaled 1:240

6	Bitsize (in) 16	Inv	0.2	20in Resistivity (Ohm-m) 2000	Neutron Porosity (Limestone Matrix)			
0	Gamma Ray (GAPI) 150	(Ohm-m)	0.2	30in Resistivity (Ohm-m) 2000	0.3	(Porosity Decimal Fraction)	-0.1	
6	Caliper (in) 16	0 40	0.2	60in Resistivity (Ohm-m) 2000	Density Porosity (2.71 g/cc Matrix)			
	SP [-20mV+]	Nor	0.2	90in Resistivity (Ohm-m) 2000	0.3	(Porosity Decimal Fraction)	-0.1	
	Line Tension	(Ohm-m)	0.2	10in Resistivity (Ohm-m) 2000	0	PE 10	Density Correction	
	10000 (lb) 0	0 40					-0.25 (g/cc) 0.25	




Density Porosity (2.71 g/cc Matrix)
BVTX
AVTX
Bitsize
1000
1100


1200
1300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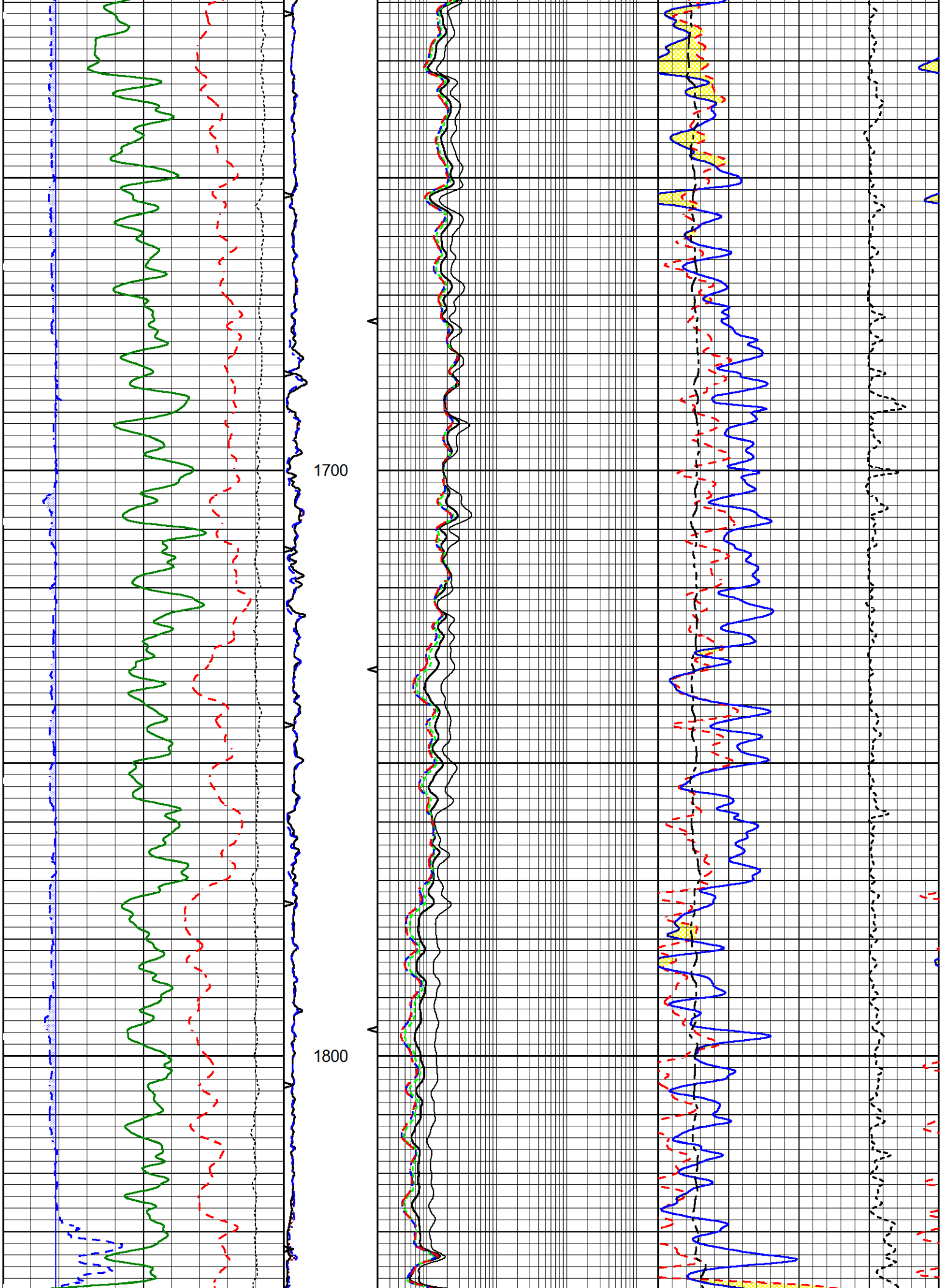
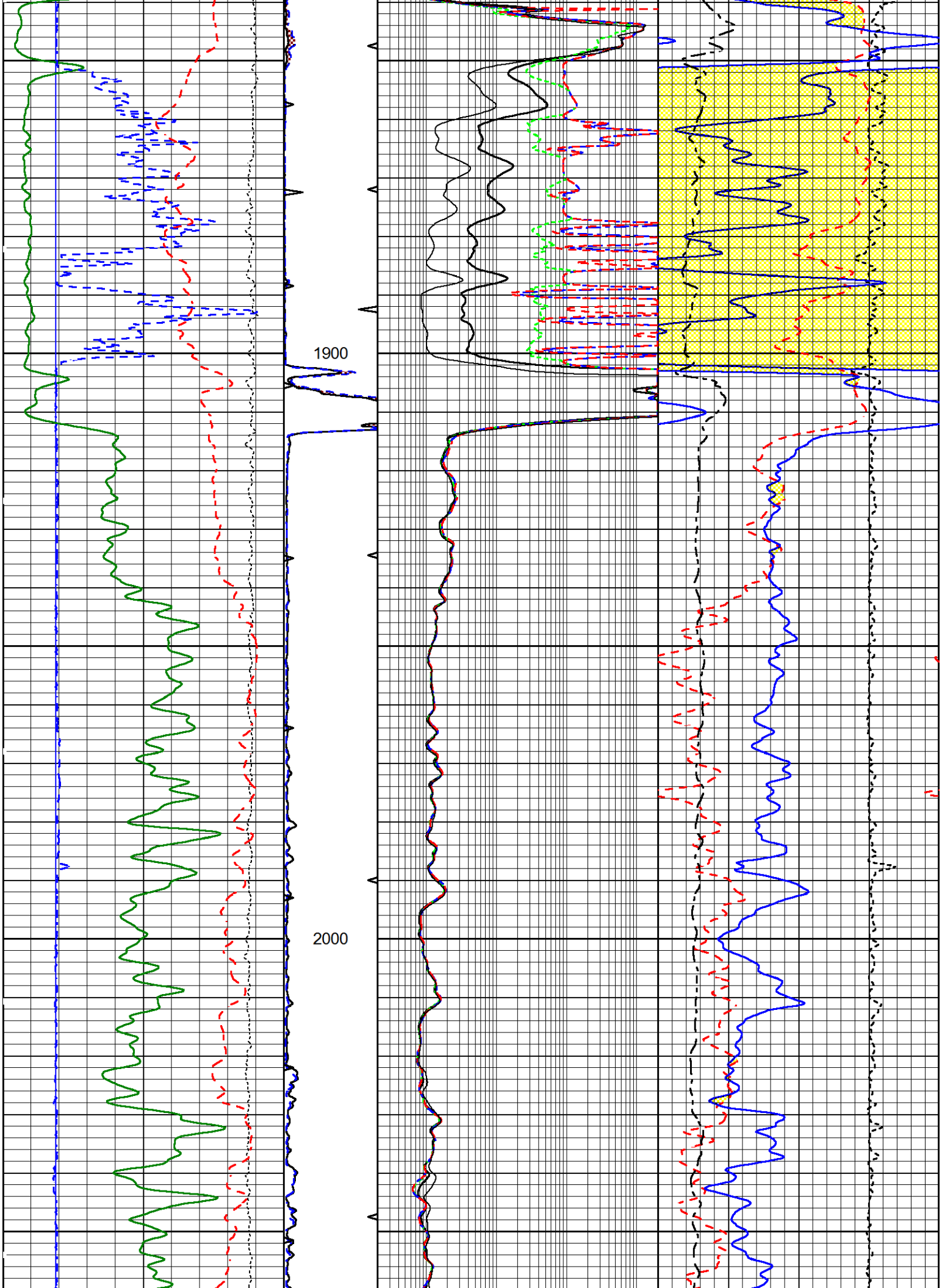
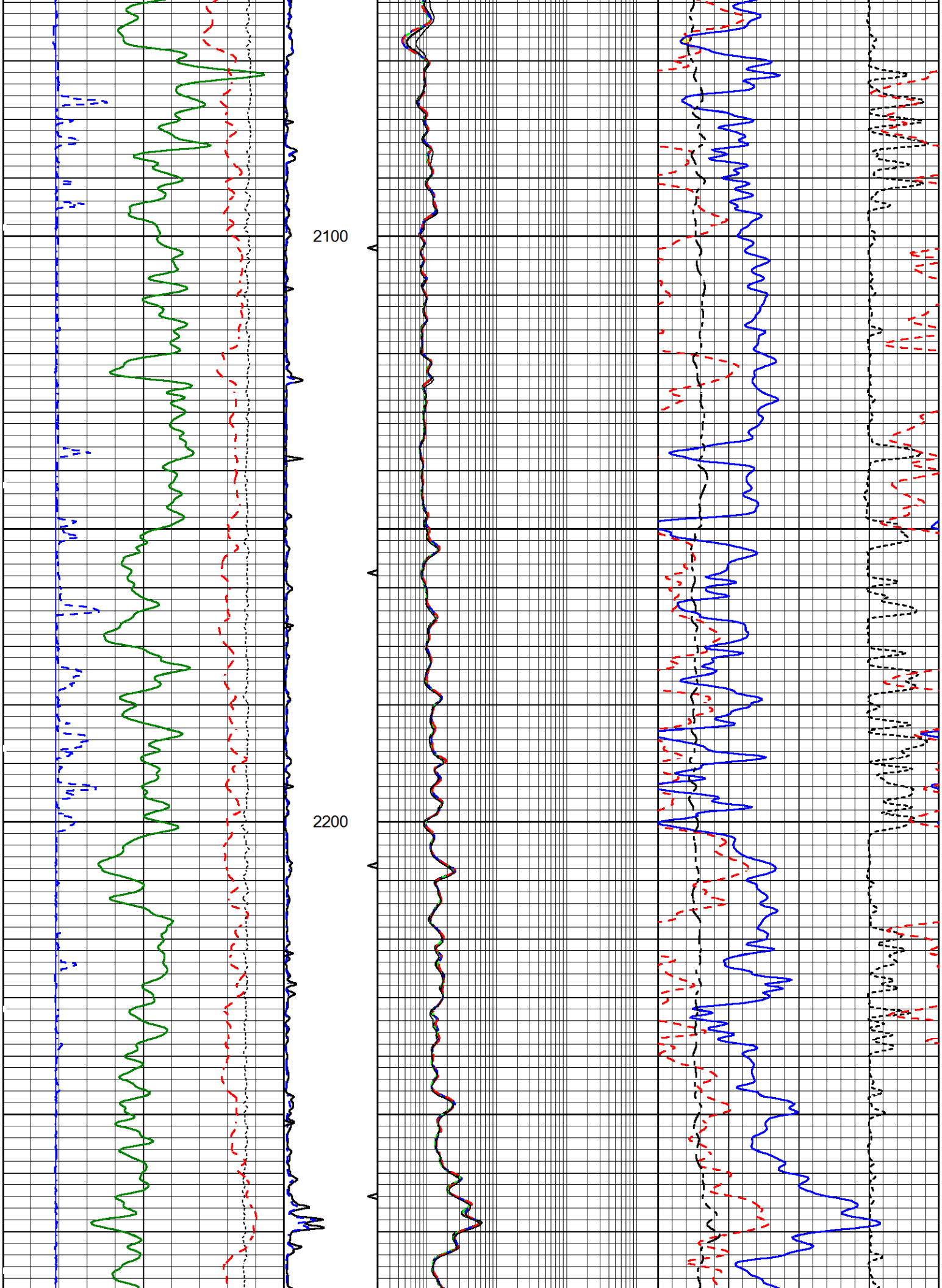
1500
1600


1700
1800


1900
2000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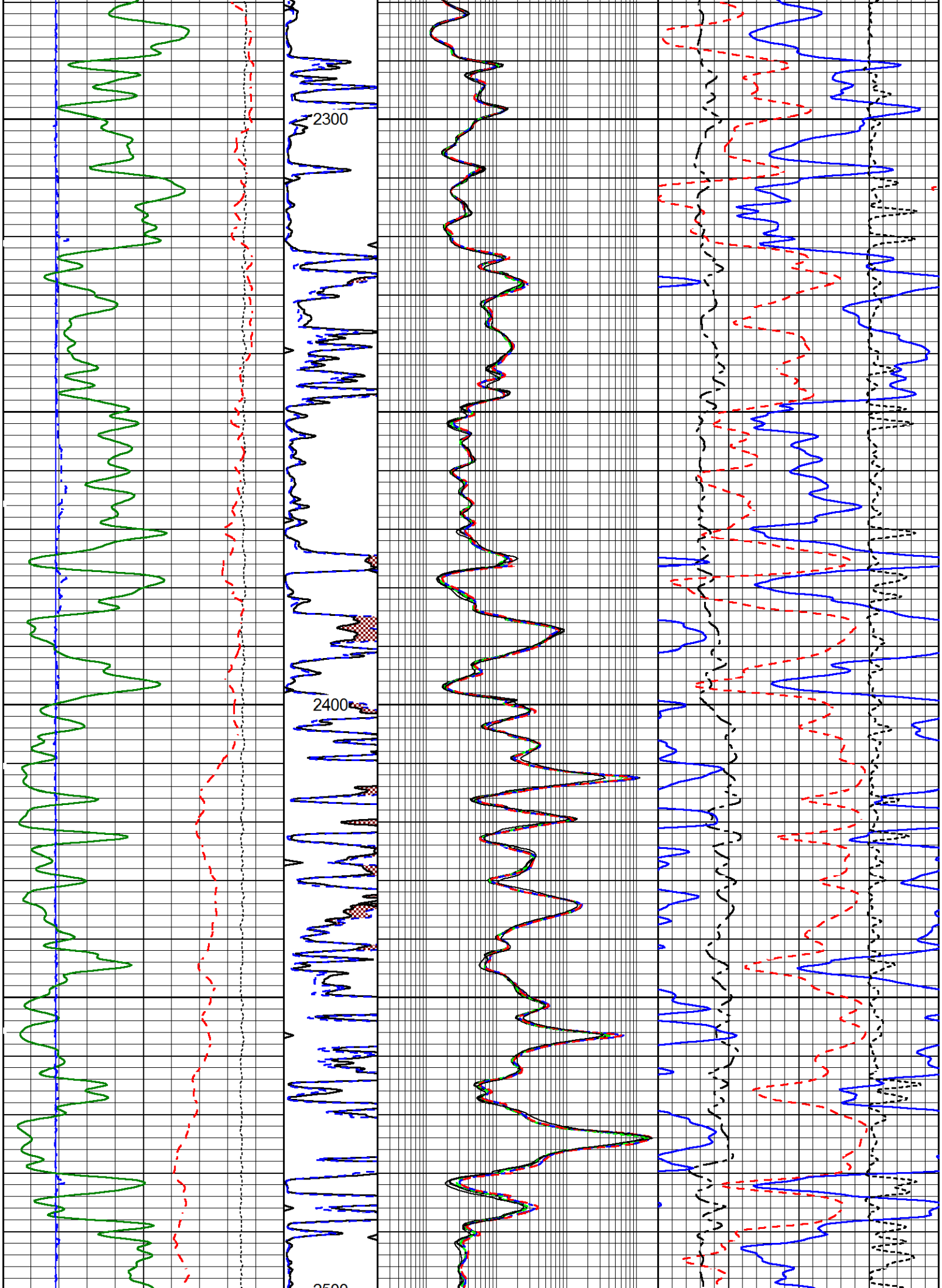
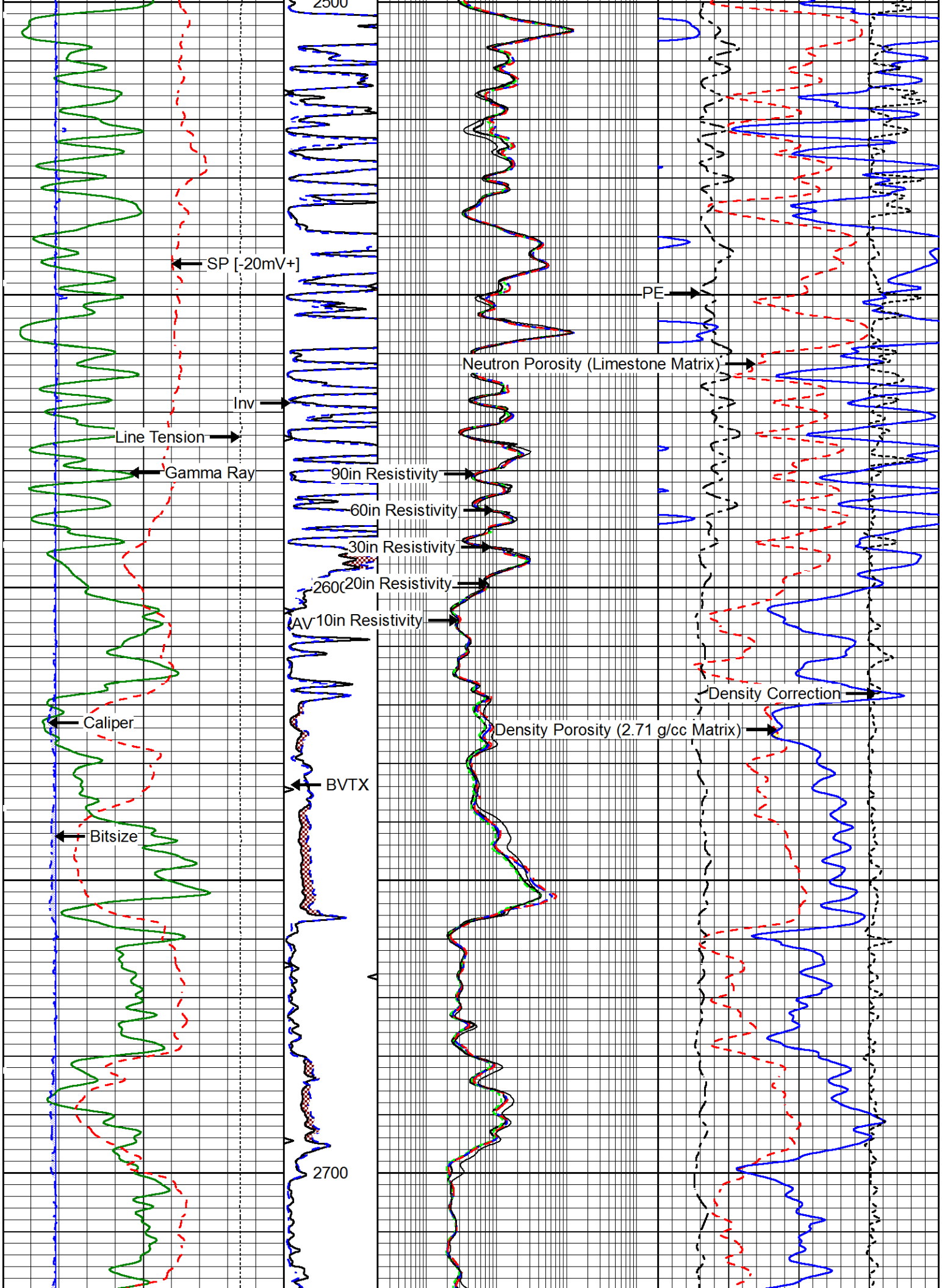
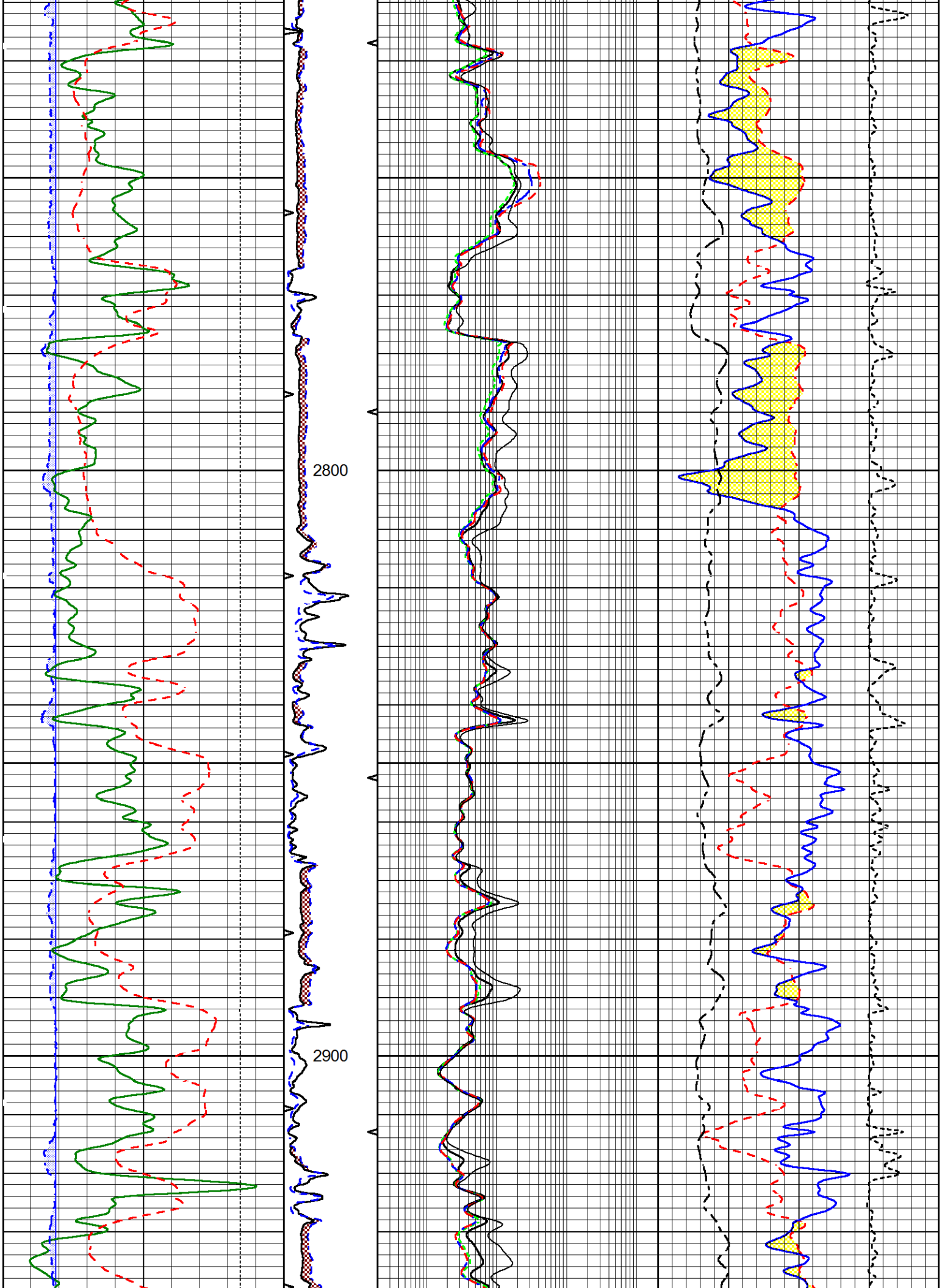
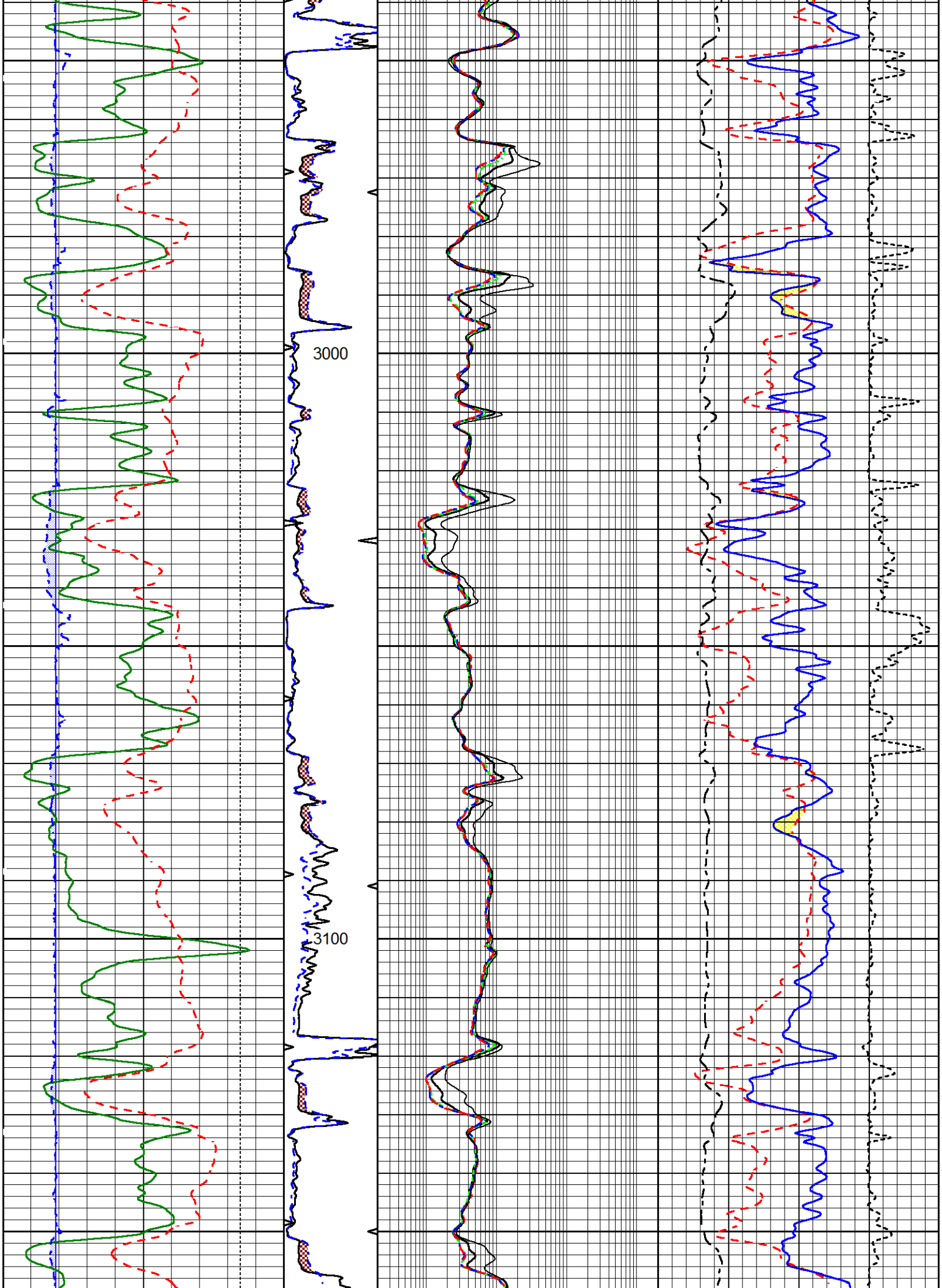
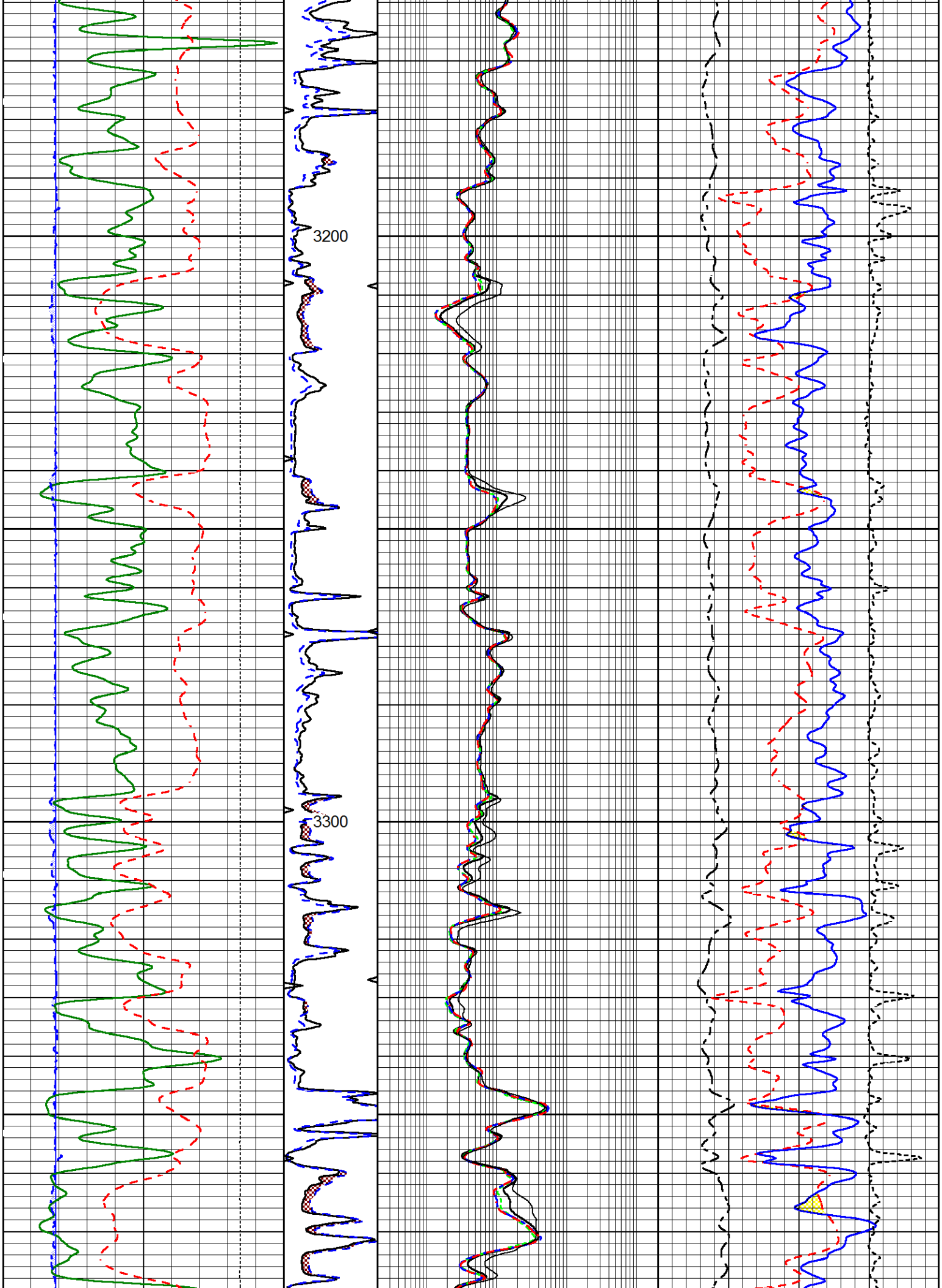
2200

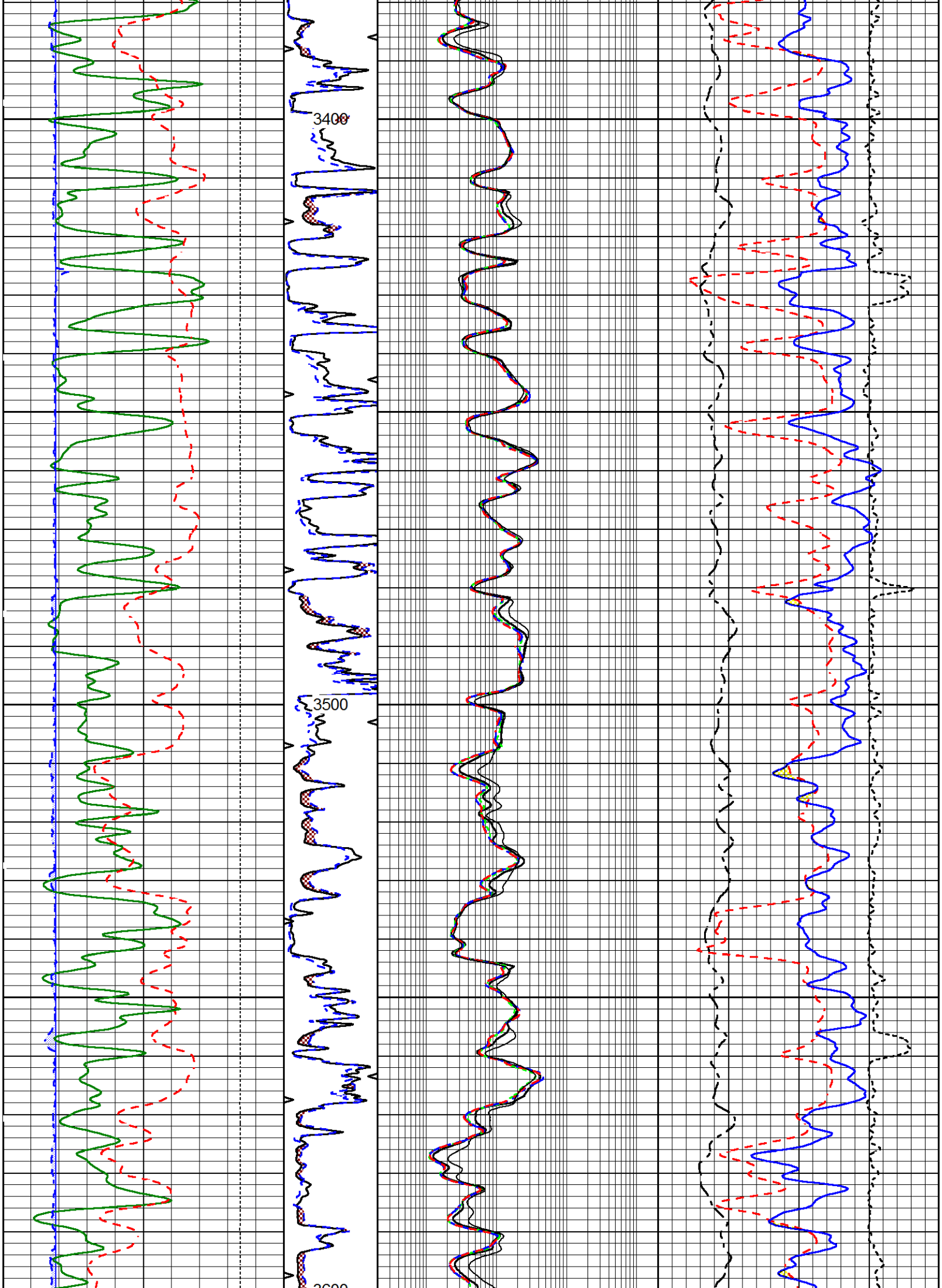

2300
2400

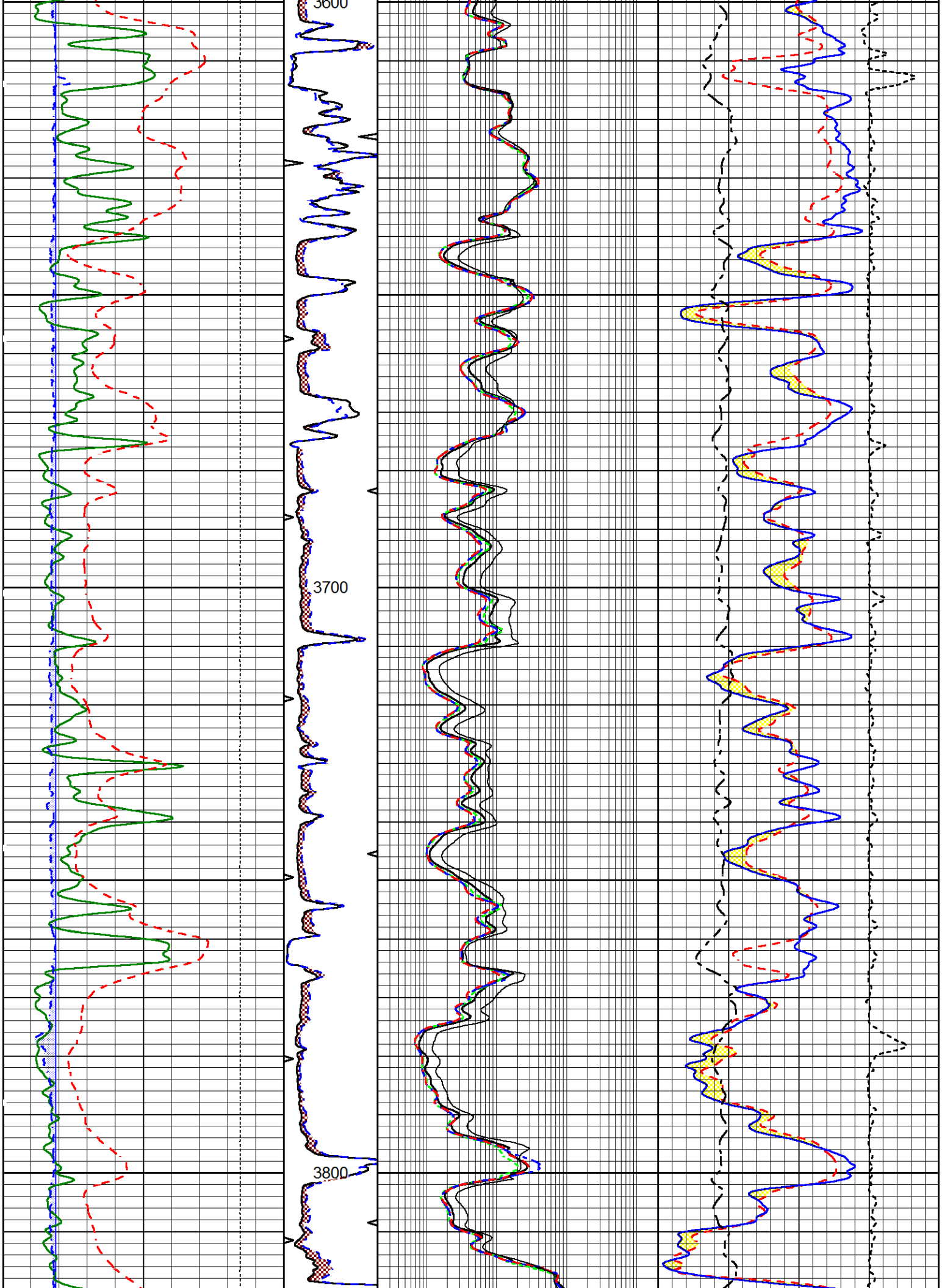

2500
SP [-20mV+]
PE
Neutron Porosity (Limestone Matrix)
Inv
Line Tension
Gamma Ray
90in Resistivity
60in Resistivity
30in Resistivity
20in Resistivity
2600
AV
10in Resistivity
Density Correction
Caliper
Density Porosity (2.71 g/cc Matrix)
BVTX
Bitsize
2700


2800
2900


3000
3100


3200
3300


3400
3500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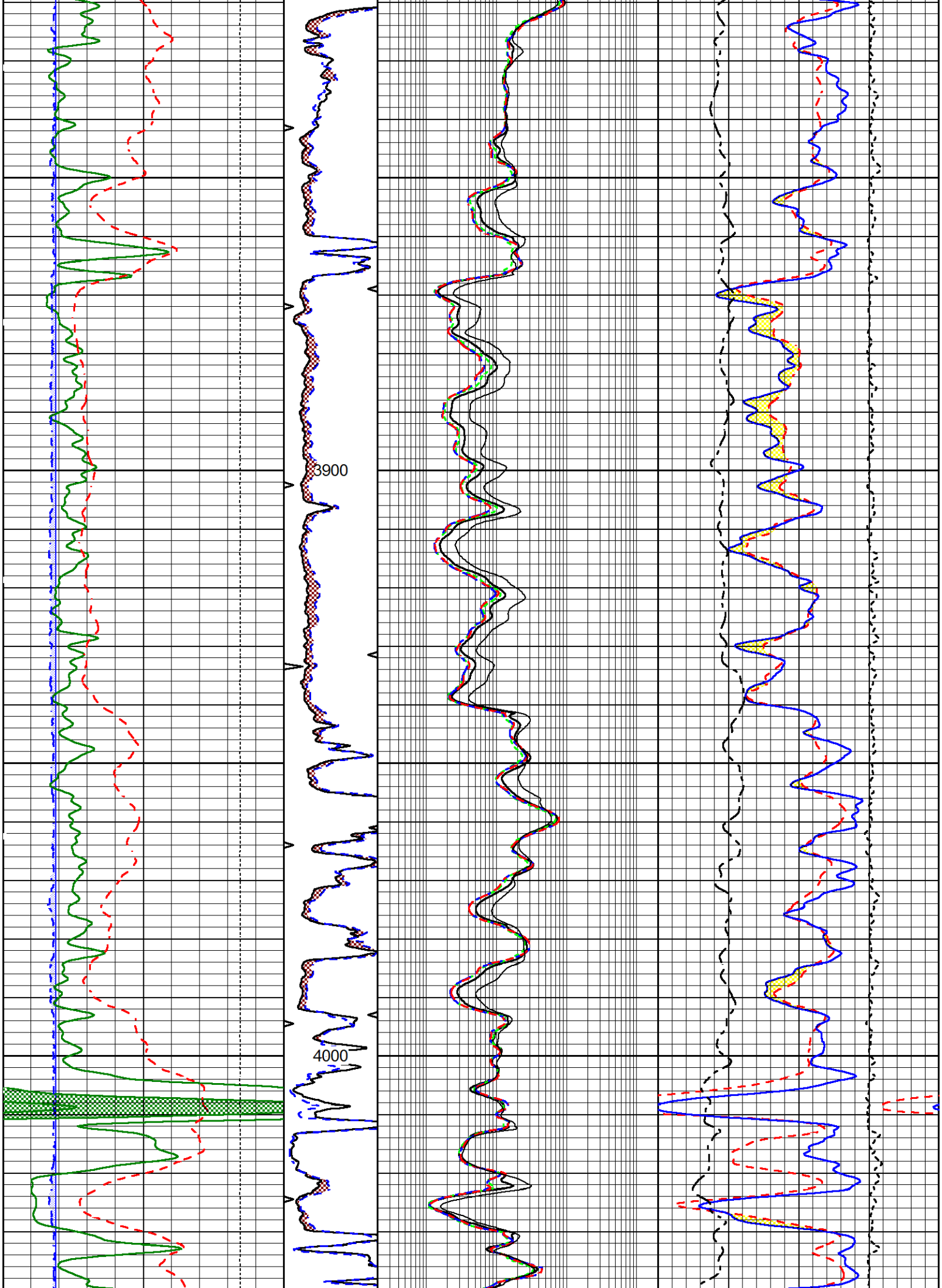
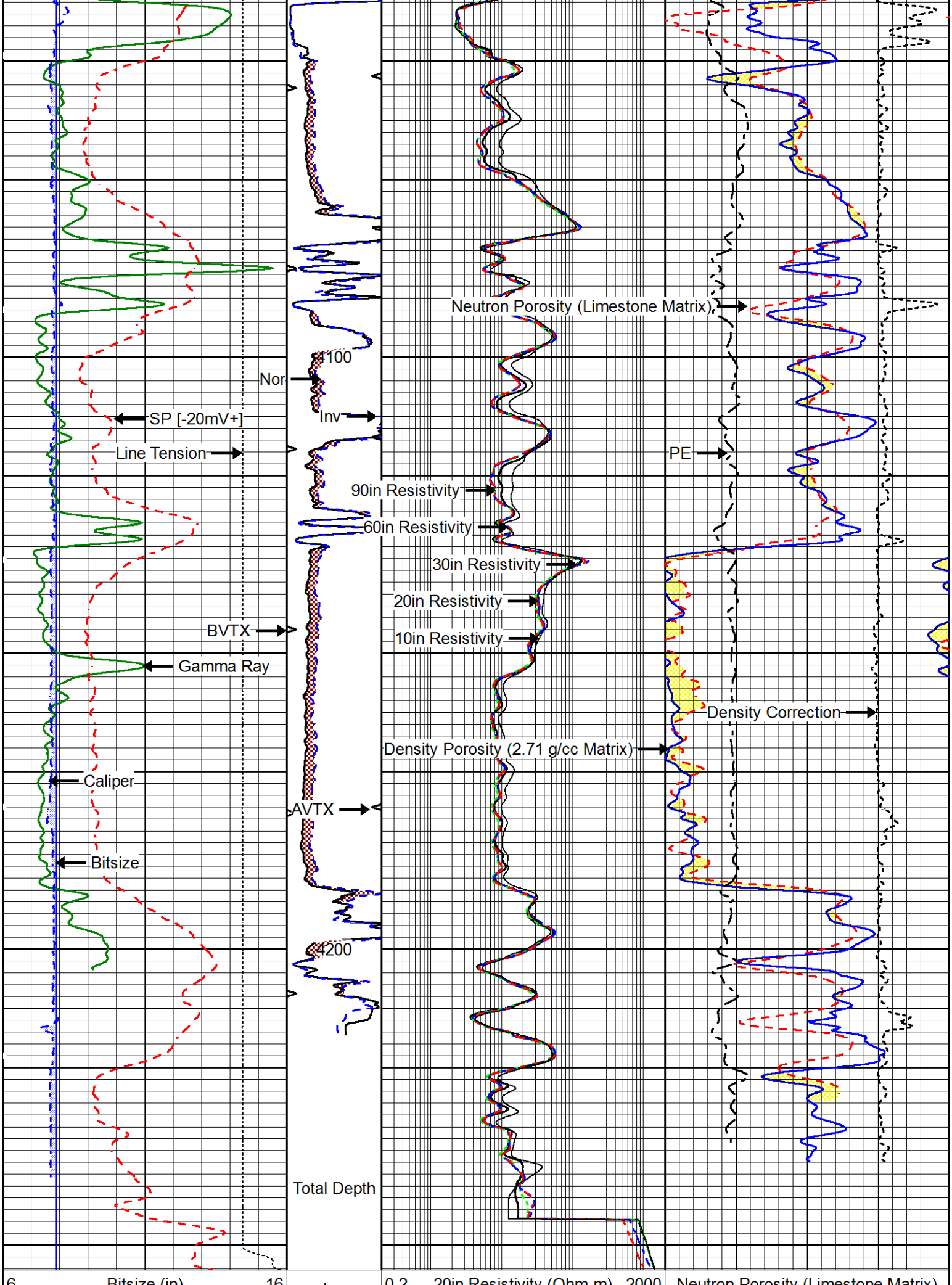
3700
3800


3900
4000


Neutron Porosity (Limestone Matrix)
4100
Nor
Inv
SP [-20mV+]
Line Tension
PE
90in Resistivity
60in Resistivity
30in Resistivity
20in Resistivity
BVTX
10in Resistivity
Gamma Ray
Density Correction
Density Porosity (2.71 g/cc Matrix)
Caliper
AVTX
Bitsize
4200
Total Depth
6
Bitsize (in)
16
Inv
0.2
20in Resistivity (Ohm-m)
2000
Neutron Porosity (Limestone Matrix)

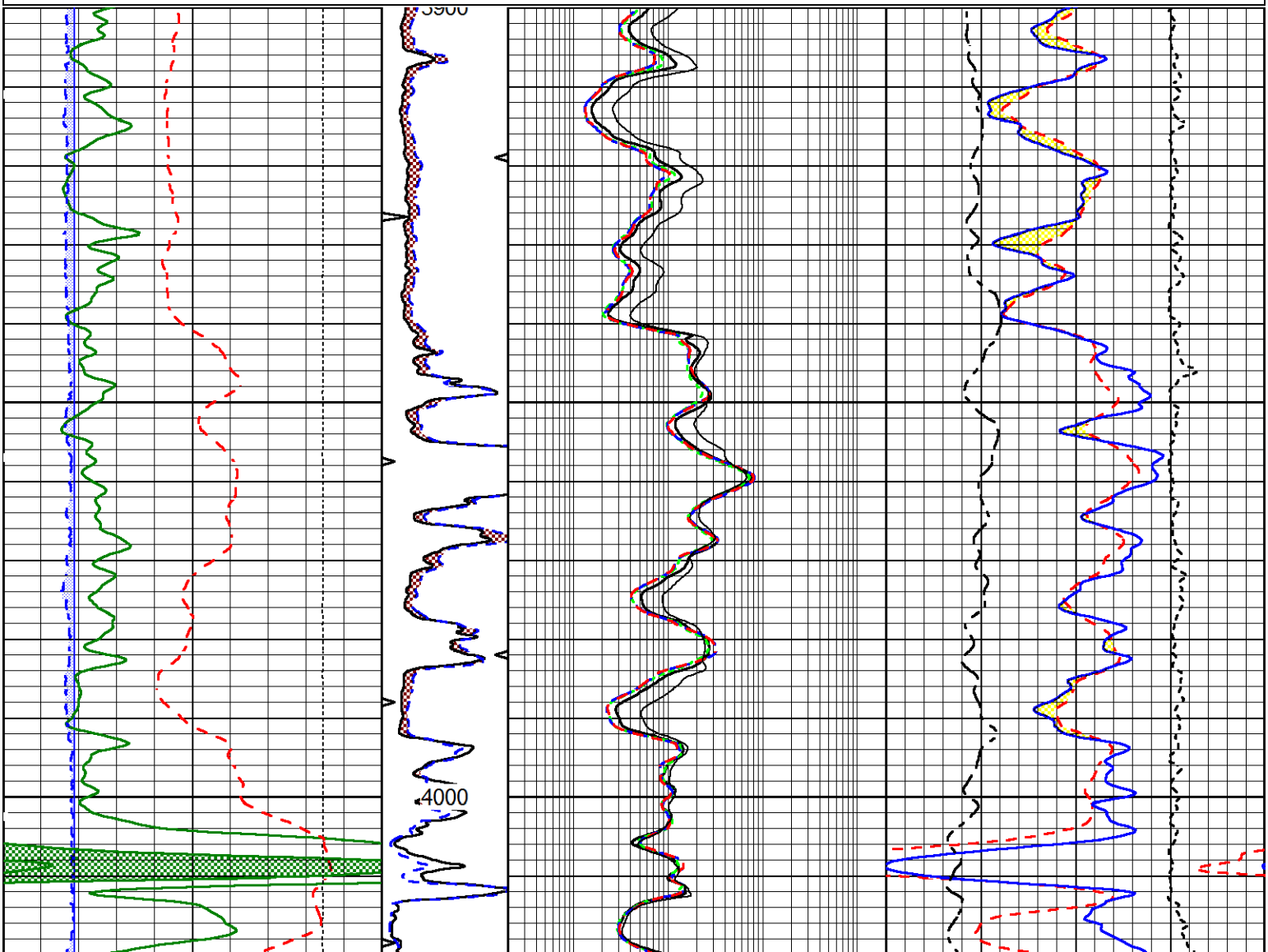
0	Gamma Ray (GAPI) 150		(Ohm-m)	0.2	30in Resistivity (Ohm-m) 2000	0.3	(Porosity Decimal Fraction) -0.1
6	Caliper (in) 16	0	40	0.2	60in Resistivity (Ohm-m) 2000		Density Porosity (2.71 g/cc Matrix)
	SP [-20mV+]		Nor	0.2	90in Resistivity (Ohm-m) 2000	0.3	(Porosity Decimal Fraction) -0.1
	Line Tension		(Ohm-m)	0.2	10in Resistivity (Ohm-m) 2000	0 PE 10	Density Correction
	10000 (lb) 0	0	40				-0.25 (g/cc) 0.25

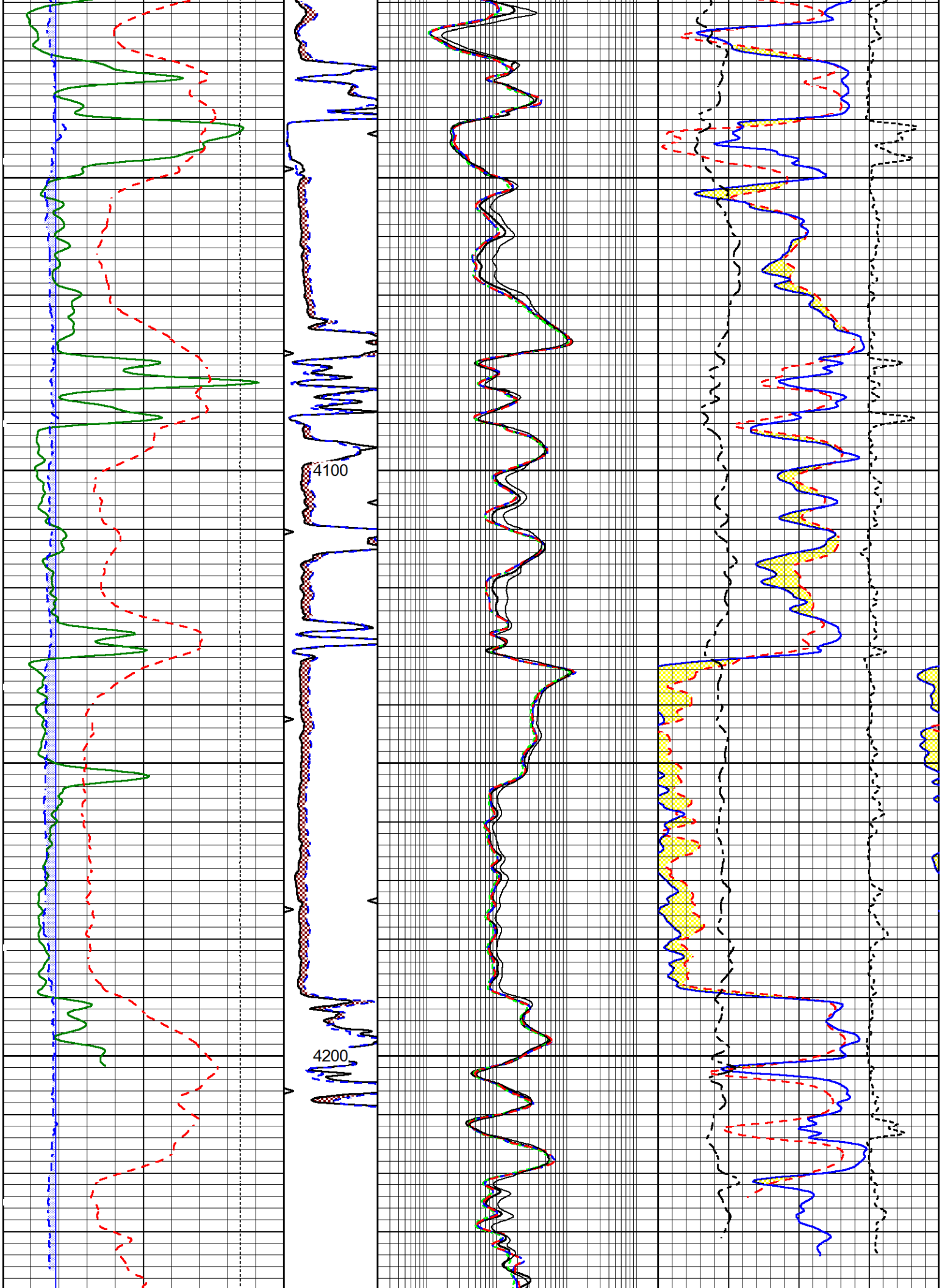
WIRELINE LOGGING SOLUTIONS

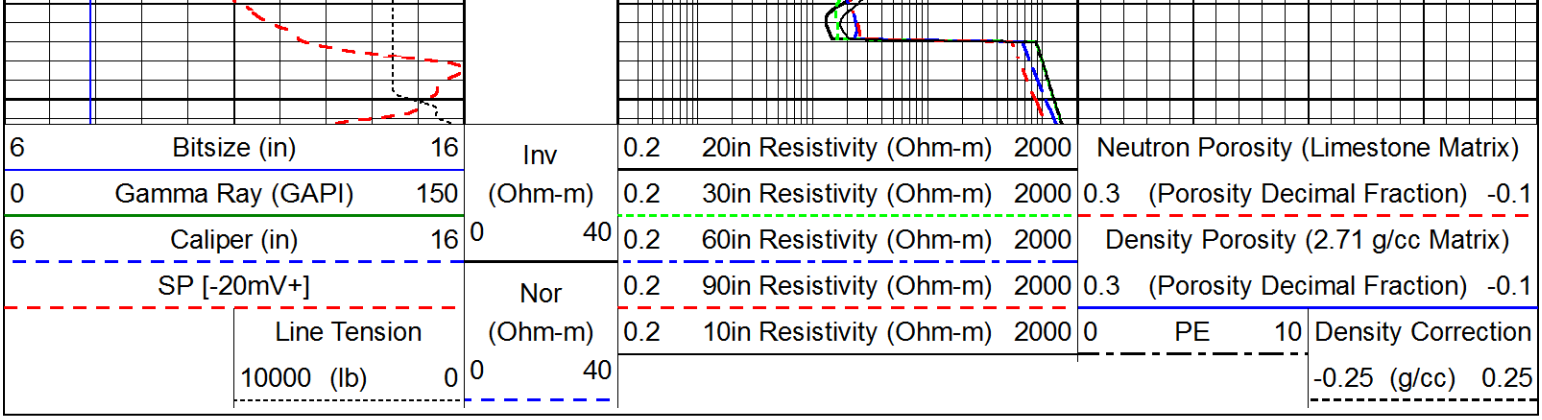
Repeat Pass

Database File	s&j-henderson a #1r.db
Dataset Pathname	pass3.1
Presentation Format	okc-3combomel-base
Dataset Creation	Wed Apr 05 12:18:05 2023 by Calc Sondex
Charted by	Depth in Feet scaled 1:240

6	Bitsize (in) 16		Inv	0.2	20in Resistivity (Ohm-m) 2000		Neutron Porosity (Limestone Matrix)
0	Gamma Ray (GAPI) 150		(Ohm-m)	0.2	30in Resistivity (Ohm-m) 2000	0.3	(Porosity Decimal Fraction) -0.1
6	Caliper (in) 16	0	40	0.2	60in Resistivity (Ohm-m) 2000		Density Porosity (2.71 g/cc Matrix)
	SP [-20mV+]		Nor	0.2	90in Resistivity (Ohm-m) 2000	0.3	(Porosity Decimal Fraction) -0.1
	Line Tension		(Ohm-m)	0.2	10in Resistivity (Ohm-m) 2000	0 PE 10	Density Correction
	10000 (lb) 0	0	40				-0.25 (g/cc) 0.25




4100
4200



Log Variables

DatabaseC:\Sondex\Sondex Warrior\Data\s&j-henderson a #1r.db
Dataset field/well/run1/pass4/_vars_

Top - 857.00 ft

AIR_HOLE?	BOREID in	BOTTEMP degF	CASED?	CASEOD in	CASETHCK in	CASEWGHT lb/ft	DE-CENT
No	12.25	95	Yes	8.625	0.264	24	Yes
DEVI deg	**FLUIDDEN g/cc**	**FRMSALIN kppm**	**MAGDEC deg**	**MATRXDEN g/cc**	**MUDSALIN kppm**	**MudWgt lb/gal**	**NPORSEL**
0	1	75	0	2.71	0	9.2	Limestone
PERFS	**SO in**	**SPSHIFT mV**	**SRFTEMP degF**	**TDEPTH ft**			
No	0.25	0	29	857			

857.00 ft - Bottom

AIR_HOLE?	**BOREID in**	BOTTEMP degF	**CASED?**	**CASEOD in**	**CASETHCK in**	**CASEWGHT lb/ft**	DE-CENT
No	**7.875**	95	**No**	**5.5**	**0.304**	**17**	Yes
DEVI deg	**FLUIDDEN g/cc**	**FRMSALIN kppm**	**MAGDEC deg**	**MATRXDEN g/cc**	**MUDSALIN kppm**	**MudWgt lb/gal**	**NPORSEL**
0	1	75	0	2.71	0	9.2	Limestone
PERFS	**SO in**	**SPSHIFT mV**	**SRFTEMP degF**	**TDEPTH ft**			
No	0.25	0	29	**4216**			

Variable Description

AIR_HOLE? : Air Filled?
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASED? : Cased hole ?
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
DE-CENT : Decentralization Flag
DEVI : Inclination
FLUIDDEN : Fluid Density
FRMSALIN : Formation Salinity
MAGDEC : Magnetic Declination
MATRXDEN : Matrix Density
MUDSALIN : Mud Salinity
MudWgt : Mud Weight
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SO : Stand Off
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
TDEPTH : Total Depth

Calibration Report

Database File	s&j-henderson a #1r.db
Dataset Pathname	pass4

Dataset Creation	Wed Apr 05 12:23:17 2023 by Log Sondex

Induction Array Tool Calibration Report

Serial Number:	10014943
Tool Model:	002

Master Calibration Performed:	Thu Jul 21 12:43:22 2016
Temperature:	92.8 degF

Sonde Error:

Array	1	2	3	4	5	6	7	
Real	206.3	-7.7	-51.8	-13.4	-4.4	1.1	3.6	mmho/m
Imaginary	204.2	69.8	56.3	22.5	-0.2	1.0	-3.7	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	810.0	777.1	1231.7	1371.6	1082.6	737.3	423.0	mmho/m
Imaginary	273.6	175.5	444.6	445.8	321.0	226.5	122.2	mmho/m
Gain (real)	0.891	0.865	1.009	1.007	1.053	0.968	0.965	
Gain (imaginary)	1.056	0.875	1.004	0.991	1.073	0.951	0.968	

Before Survey Verification Performed:	Wed May 27 19:22:33 2015
Sonde 1 Temperature:	79.5 degF
Sonde 2 Temperature:	80.4 degF
Array 1 Temperature:	80.4 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	119.8	152.3	137.5	140.5	144.5	152.5	162.5
RxCR	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
RxCX	0.1	0.1	0.2	0.0	0.0	0.1	0.1
RxC Magnitude	0.1	0.1	0.2	0.0	0.0	0.1	0.1

Tool Module Parameters

Software Version:	8.2.0.2
Borehole Size Source:	CALI
Mud Resistivity Source:	Hilchie
Mud Resistivity At Surface:	1.50 Ohm-m
Mud Resistivity Surface Temperature:	70.0 degF
Borehole Corrections:	Automatic
Minimum Standoff:	0.4 in

Litho Density Tool Calibration Report

Serial Number:	B0872S70997B
Tool Model:	B10872

Caliper Calibration Performed:	Tue Mar 14 14:20:39 2023

	Diameter		Reading	
Small Ring:	9.000	in	1800.400	cps
Large Ring:	13.000	in	2152.700	cps

Gain:	0.0114
Offset:	-11.4417

Master Calibration Performed:	Tue Mar 14 13:24:35 2023
Source Number:	70997B
Medium:	Water
Al Block Density:	2.6016 g/cc

Al Block Density: 2.6018 g/cc

	Background	Al Block	Al Block + Fe	
SS1	616.7	4120.7	3675.1	cps
SS2	1743.1	27334.7	24216.6	cps
SSTOTAL	4075.6	43431.1	38188.8	cps
LITH	67.8	463.6	283.7	cps
LL	134.8	754.4	695.7	cps
LU	383.2	912.9	869.8	cps
LS	517.9	1667.2	1565.5	cps
LSTOTAL	977.5	4179.4	3496.4	cps
SSHV	1468.3	1470.5	1471.4	V
LSHV	1470.6	1469.0	1470.1	V
SSFF	0.009	0.007	-0.006	
LSFF	-0.002	0.005	0.001	

Before Survey Verification Performed: Tue Mar 14 13:52:43 2023
After Survey Verification Performed: Tue Mar 14 13:55:37 2023

	Master Background	Before Survey Background	After Survey Background	
SS1	616.7	617.5	617.9	cps
SS2	1743.1	1736.6	1743.7	cps
SSTOTAL	4075.6	4075.6	4066.9	cps
LITH	67.8	66.5	67.0	cps
LL	134.8	133.5	134.7	cps
LU	383.2	379.9	384.6	cps
LS	517.9	513.4	519.2	cps
LSTOTAL	977.5	972.5	975.8	cps
SSHV	1468.3	1473.0	1472.9	V
LSHV	1470.6	1474.8	1474.7	V
SSFF	0.009	-0.006	-0.008	
LSFF	-0.002	0.006	-0.000	

Tool Module Parameters

Software Version: 8.2.0.2
Pad Type: 2
Borehole Size Source: CALI
Barite Mud: No

Compensated Neutron Tool Calibration Report

Serial Number: C6645S1415NC
Tool Model: 009

Master Calibration Performed: Tue Mar 14 14:58:55 2023

Source Number: 1415NC

Short Spacing Counts:	5929.90	cps
Long Spacing Counts:	227.02	cps
High Voltage:	1377.80	V
Target Ratio:	27.2000	
Ratio:	26.1201	
K-Factor:	1.0413	

Before Survey Verification Performed: Tue Mar 14 15:09:58 2023
After Survey Verification Performed: Tue Mar 14 15:11:48 2023

Verifier Number: 6508NN

Verifier Value	Master Calibration	Before Survey	After Survey

Verifier Values	Master Cal	Before Survey	After Survey	
Short Spacing Counts:	270.98	270.15	268.70	cps
Long Spacing Counts:	280.90	276.26	281.19	cps
High Voltage:	1377.84	1377.84	1377.84	V
Ratio:	0.9647	0.9779	0.9556	

Tool Module Parameters

Software Version:	8.2.0.2
Borehole Size Source:	CALI
Clip Crossplot Porosity:	YES

Lithology Identification Parameters:

	Calcite	Quartz	Dolomite	
Uma:	13.77	4.79	9.03	barns/cc
RHOma:	2.71	2.65	2.88	g/cc

Micro Electric Log Calibration Report

Serial Number:	002220331
Tool Model:	001

Caliper Calibration Performed: Fri Nov 8 10:03:57 2019

	Pad Arm			Backup Arm		
	Radius		Reading	Radius		Reading
Small Jig:	4.000	in	1346.000	4.000	in	1368.000
Large Jig:	6.000	in	1394.000	6.000	in	1413.300
Gain:			0.0417			0.0442
Offset:			-52.0833			-56.3974

Pad Calibration

	Inverse	Normal
Gain:	1.0000	1.0000
Offset:	0.0000	0.0000

Tool Module Parameters

Software Version:	8.2.0.2

Gamma Ray Calibration Report

Serial Number:	C10926
Tool Model:	001

Performed:	Tue Mar 14 15:51:31 2023	
Calibrator Value:	156.0	GAPI
Background Reading:	84.3	cps
Calibrator Reading:	541.9	cps
Sensitivity:	0.3409	GAPI/cps

Tool Module Parameters

Software Version:	8.2.0.2

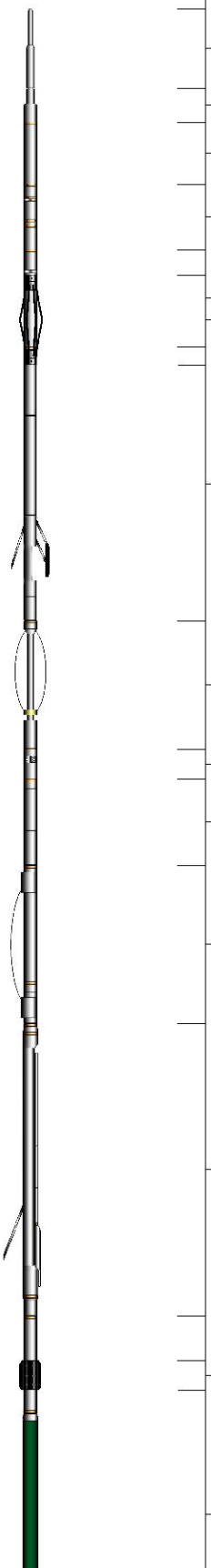
Head Tension Unit Calibration Report

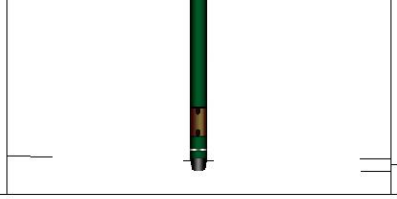
Serial Number:	00001
Tool Model:	011

Performed: Mon Mar 4 10:52:43 2013

Point #	Reference		Reading	
1	-19894.000	lb	8957.860	cps

2	-15010.000	lb	13965.100	cps
3	-9998.000	lb	19079.100	cps
4	-5007.000	lb	24133.000	cps
5	-1009.000	lb	28232.100	cps
6	1017.000	lb	30185.400	cps
7	5040.000	lb	34439.700	cps
8	9970.000	lb	39346.900	cps
9	14955.000	lb	44466.000	cps
10	19770.000	lb	49397.800	cps

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			CHD-WFT (WFT01) Weatherford Cable Head	2.67	2.25	15.00
			X-Over-WFT (0001) Weatherford X-Over	1.13	3.38	5.00
			XTU-008 (10001398) Crossover Ultrawire Toolbus to Ultralink	2.08	3.38	47.00
HTEN	50.56		HTU-011 (00001) Head Tension Unit	2.18	3.38	55.00
GR	48.54		GRT-001 (C10926) Gamma Ray Tool	3.22	3.38	69.00
			Overbody-Over-cen Overbody Centralizer	3.00	3.38	10.00
			MEL-001 (002220331) Micro Electric Log	9.17	3.38	190.00
MEL	38.55					
			CEN-001 (C10027) Inline OH Springbow Centraliser	4.27	3.38	66.00
			OJT-001 (000001) OH Offset Joint	1.00	3.38	56.00
			KJT-001 (10010514) Knuckle Joint	2.86	3.38	72.00
CNLSC	25.59		CNL-009 (C6645S1415NC) Compensated Neutron Logging Tool	5.28	3.38	100.00
CNSSC	25.09					
			LDT-B10872 (B0872S70997B) Litho Density Tool	9.75	4.50	310.00
LDT	15.44					
			Overbody-Standoff Standoff (Rubber)	1.00	4.50	4.00
IAT	8.44					
			IAT-002 (10014943) Induction Array Tool	13.22	3.88	196.00

SP	0.43		Shorty-Short Short Hole Finder	0.38	3.88	6.00

Dataset:	s&j-henderson a #1r.db: field/well/run1/pass4
Total length:	57.20 ft
Total weight:	1201.00 lb
O.D.:	4.50 in

WIRELINE LOGGING SOLUTIONS

Company	Stephens & Johnson Operating Co.
Well	Henderson ' A' #1R
Field	Pollyana
County	Grant
State	Kansas