

HALLIBURTON

COMPENSATED SPECTRAL NATURAL GAMMA

COMPANY	GREAT BEAR PETROLEUM		
WELL	ALCOR #1	FIELD	WILDCAT
COUNTY	NORTH SLOPE		
STATE	ALASKA		
COMPANY GREAT BEAR PETROLEUM			
WELL ALCOR #1			
FIELD WILDCAT			
COUNTY	NORTH SLOPE		
STATE	STATE ALASKA		
API No. 50029200260000			
Location SURFACE: 2452' FSL & 652' FEL			
Sect.	5	Twp.	7N
Rge.	14E		
Permanent Datum GL			
Elev. 178.00 ft			
Log measured from DF			
Elev.: K.B. 187.00 ft			
Drilling measured from DF			
D.F. 186.00 ft			
G.L. 163.70 ft			
Date	10-Jul-12		
Run No.	ONE		
Depth - Driller	8320.00 ft		
Depth - Logger	8319.00 ft		
Bottom - Logged Interval	8237.0 ft		
Top - Logged Interval	CASING		
Casing - Driller	9.625 in	@ 2491.00 ft	
Casing - Logger	2491.00 ft		
Bit Size	8.500 in		
Type Fluid in Hole	ENVIROMUL		
Density	F. Viscosity	9.5 ppg	85.00 spqt
Alkalinity	P. Viscosity	38.0 cP	
HTHP @ Meas. Temperature		2.4 mptm	@ 200.00 degF
Solids	Wgt. Material	BARITE	
Oil	Water Ratio	80	20
Water Phase Salinity 234.00 ppm Cl-			
Oil Type	Brine Type		
Electrical Stability		720 V	
Time Since Circulation		12.0 hr	
Time on Bottom		10-Jul-12 12:28	
Max. Rec. Temperature		180.0 degF @ 8319.0 ft	
Equipment	Location	11640435	PRUDHOE BA'
Recorded By		C. GULLETT	
Witnessed By		P. STILES	

Fold here			
PGM Version: WL INSITE R3.6.0 (Build 3)			
RESISTIVITY SCALE CHANGES			
Service Ticket No.:	API Serial No.: 50029200260000		
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE			
Date	Sample No.	Type Log	Depth
Depth-Driller			
Type Fluid in Hole			
Density	F. Viscosity	@	
Alkalinity	P. Viscosity	@	
HTHP @ Meas. Temp.		@	
Solids	Wgt. Mat.	@	
Oil	Water Ratio	@	
Water Phase Salinity			
Oil Type	Water Type	@	
Electrical Stability			
EQUIPMENT DATA			
GAMMA	ACOUSTIC		DENSITY
Run No.	Run No.	One	Run No.
Serial No.	Serial No.	126	Run No.
Model No.	Model No.	WSTT	Serial No.
Diameter	No. of Cent.	2	Model No.
Detector Model No.	Spacing	0.5'	SDLT
Type	SCINT.		Model No.
Length	LSA [Y/N]	Y	Diameter
Distance to Source	FWDA [Y/N]	Y	Log Type
NEUTRON			
GAMMA	ACOUSTIC		DENSITY
Run No.	Run No.	One	Run No.
Serial No.	Serial No.	10951320	Run No.
Model No.	Model No.	SDLT	Serial No.
Diameter	No. of Cent.	4.5'	Model No.
Detector Model No.	Spacing	GAMMA-GAMMA	DSNT
Type	SCINT.	Source Type	Diaméter
Length	LSA [Y/N]	5176 GW	Log Type
Distance to Source	FWDA [Y/N]	Y	Source Type
THERMAL			
Am241Be			
21484B			
LOGGING DATA			
GENERAL GAMMA	ACOUSTIC		
GENERAL GAMMA	DENITRON		

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	8.500	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Oil	
	SHARED	MDWT	Borehole Fluid Weight	9.500	ppg
	SHARED	WAGT	Weighting Agent	Barite	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	WPHS	OBM Water Phase Salinity NaCl	0.00	ppm
	SHARED	OLOW	Base Oil Fraction from Oil/Water Ratio	1.00	
	SHARED	OBMT	Oil based Mud Type	Diesel	
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	7.000	in
	SHARED	ST	Surface Temperature	50.0	degF
	SHARED	TD	Total Well Depth	8320.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	SHARED	BHSM	Borehole Size Master Tool	NONE	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes		
Rwa / CrossPlot	FCHO	Select Source of F	Automatic		

Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
CSNG	CGOK	Process CSNG Data?	Yes	
CSNG	CENT	Is Tool Centralized?	No	
CSNG	GBOK	Gamma Environmental Corrections?	Yes	
CSNG	BARF	Barite Correction Factor	1.00	
CSNG	ORDG	Use Fixed Gain	No	
CSNG	ORDO	Use Fixed Offset	No	
CSNG	ORDR	Use Fixed Resolution Degradation Factor	No	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Sandstone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.000	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.650	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
Wavesonic-I	WSOK	Process WSTT?	Yes	
Wavesonic-I	AFIL	Adaptive Filtering?	No	
Wavesonic-I	PINT	Process 1 Sample and Skip	0	
Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4	4	
Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
Wavesonic-I	DTMT	Delta -T Matrix Type	Sandstone 55.5	
Wavesonic-I	DTMA	Delta -T Matrix	55.50	uspf
Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
Wavesonic-I	RHOM	Matrix Density	2.6500	g/cc
Wavesonic-I	RHOF	Fluid Density	1.0000	g/cc
Wavesonic-I	SMTH	Semblance Threshold	0.25	
Wavesonic-I	VPVS	VPVS Ratio for Porosity	1.40	
Wavesonic-I	APEQ	Acoustic Porosity Equation	Wylie	
Wavesonic-I	NAVS	Navigation Source Tool	NONE	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	TMSC	Tool Matrix	None	

ACRt Sonde	RMOP	Rmud Source		Mud Cell
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm

BOTTOM

Data: GB_ALCOR_#1\0001 QUAD\IDLE

Date: 10-Jul-12 14:18:59

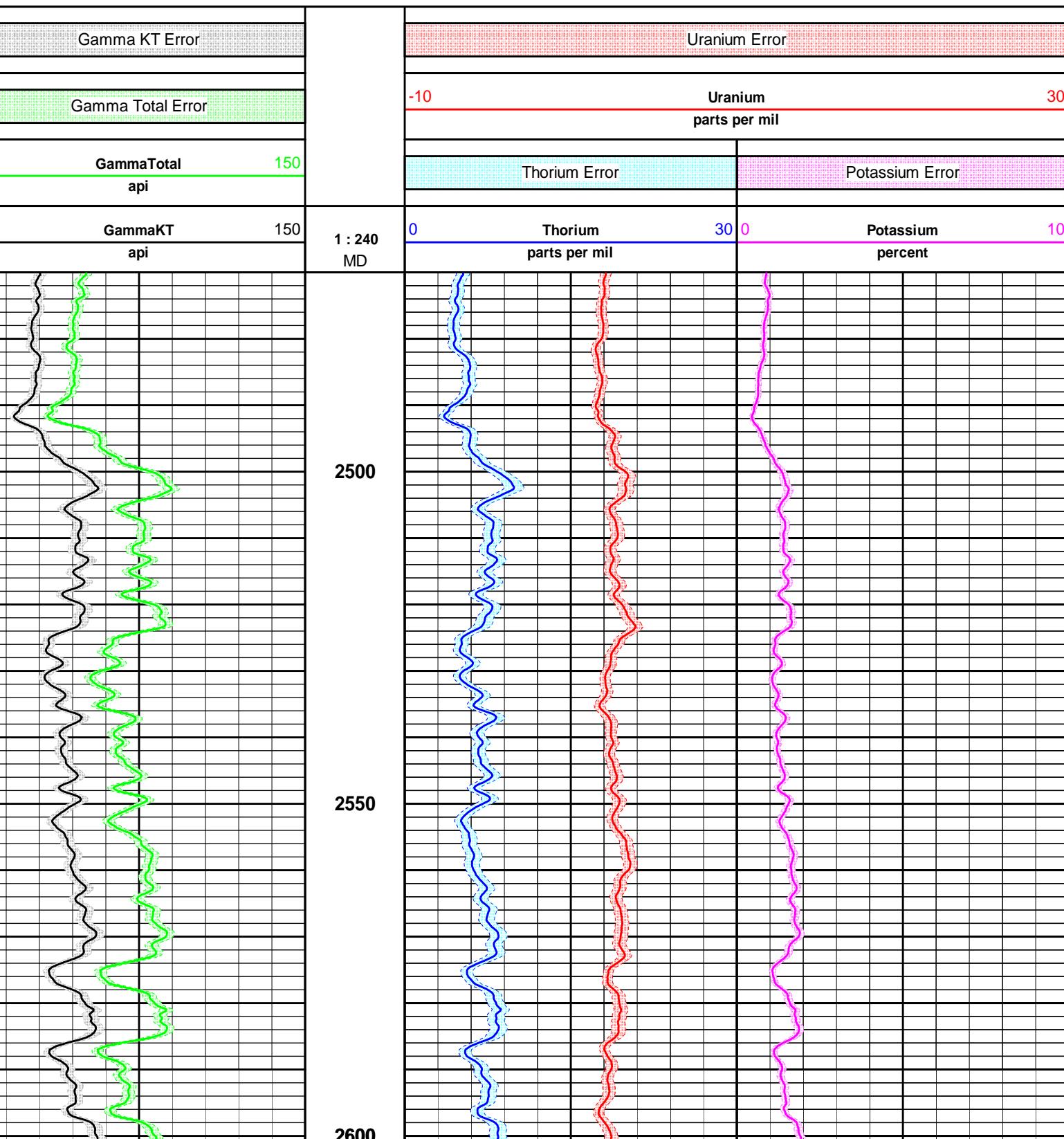
HALLIBURTON

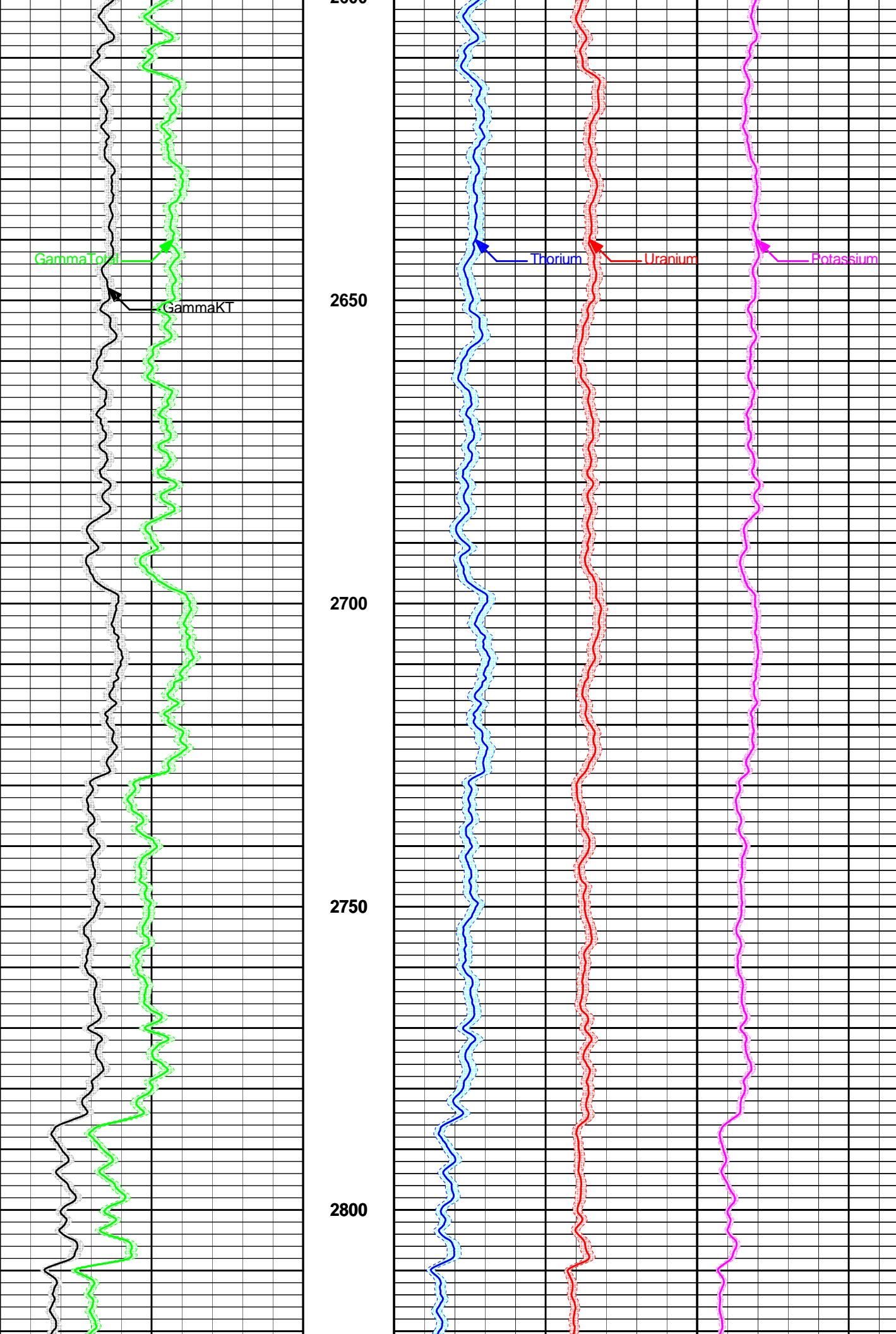
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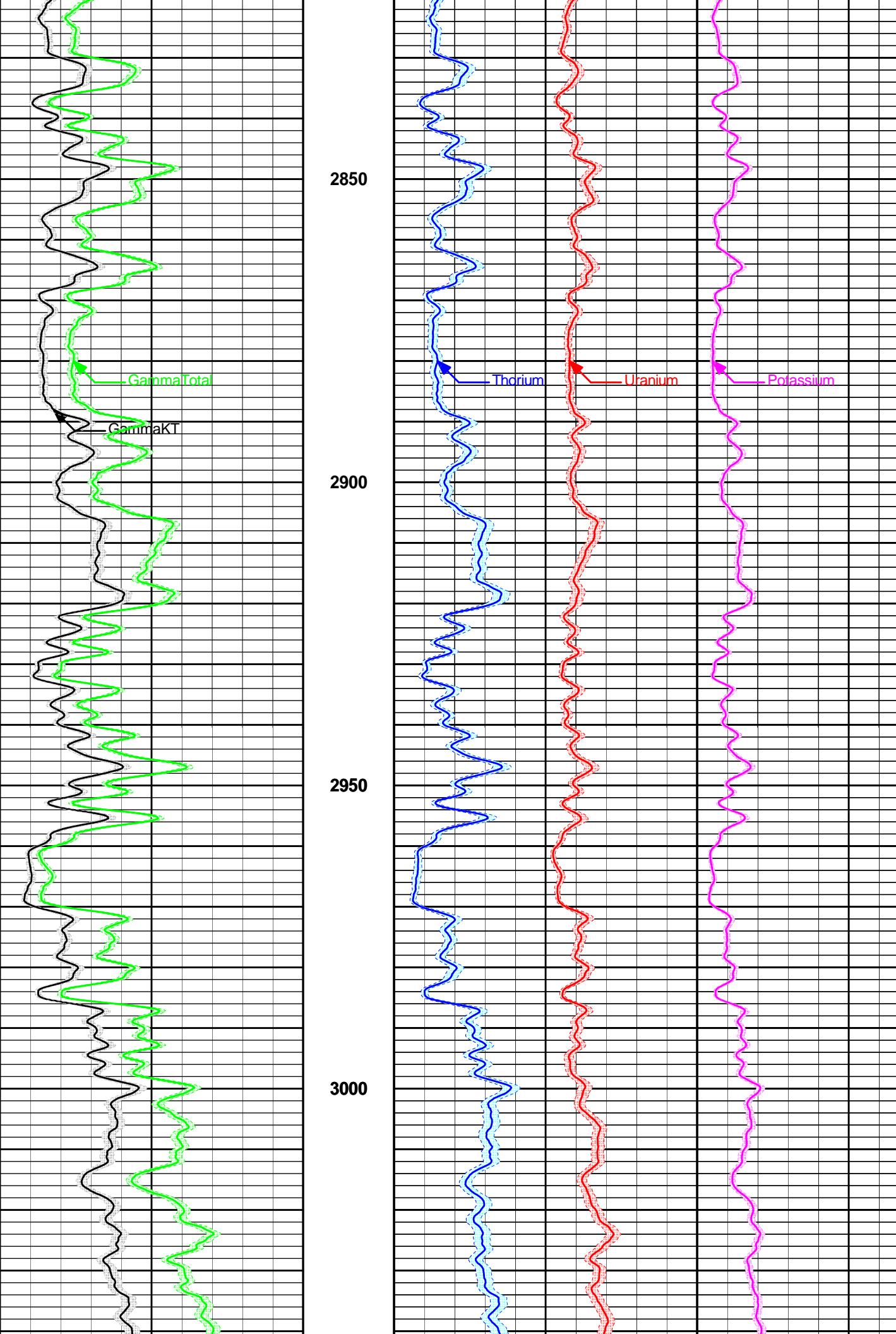
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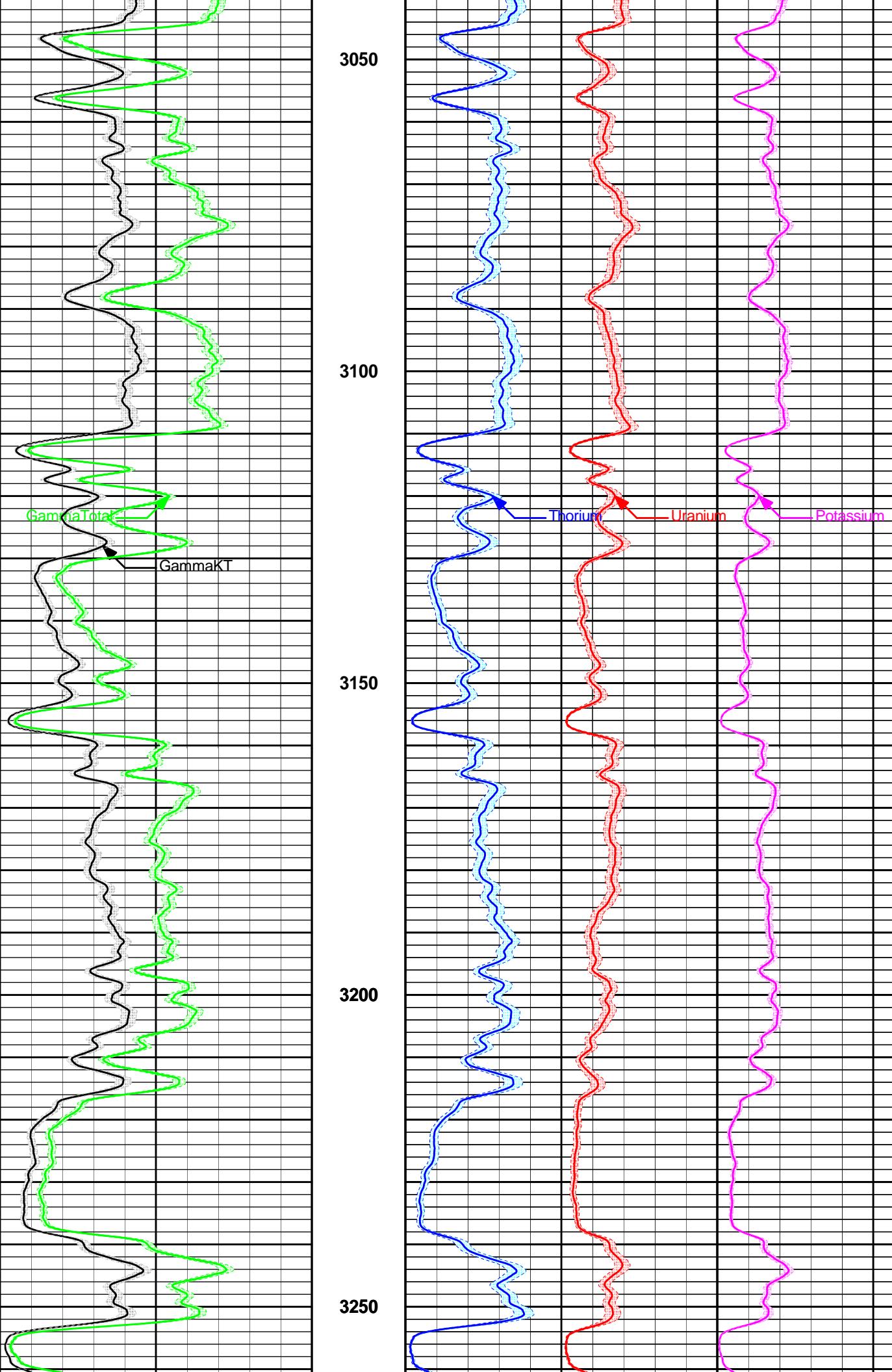
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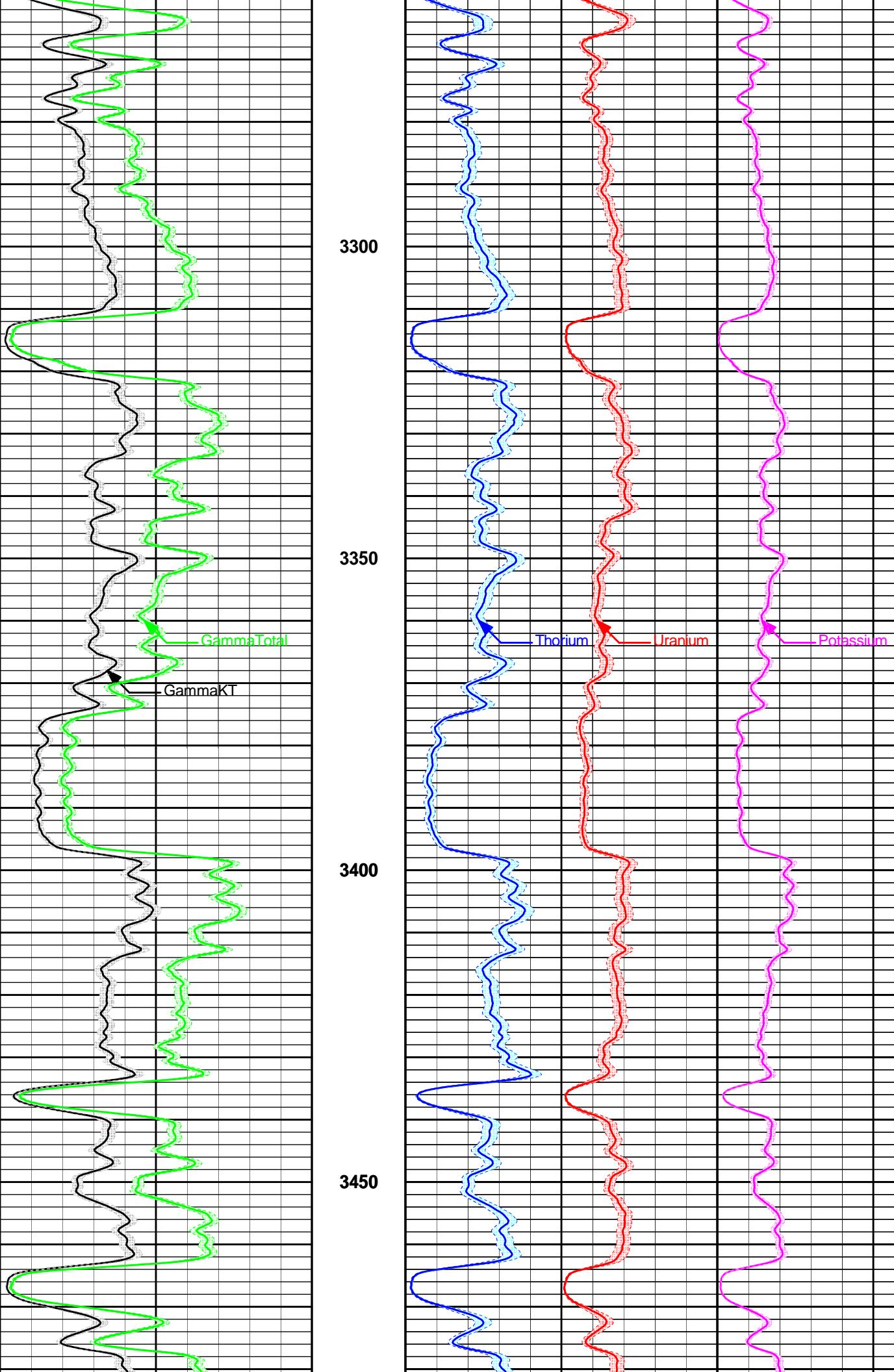
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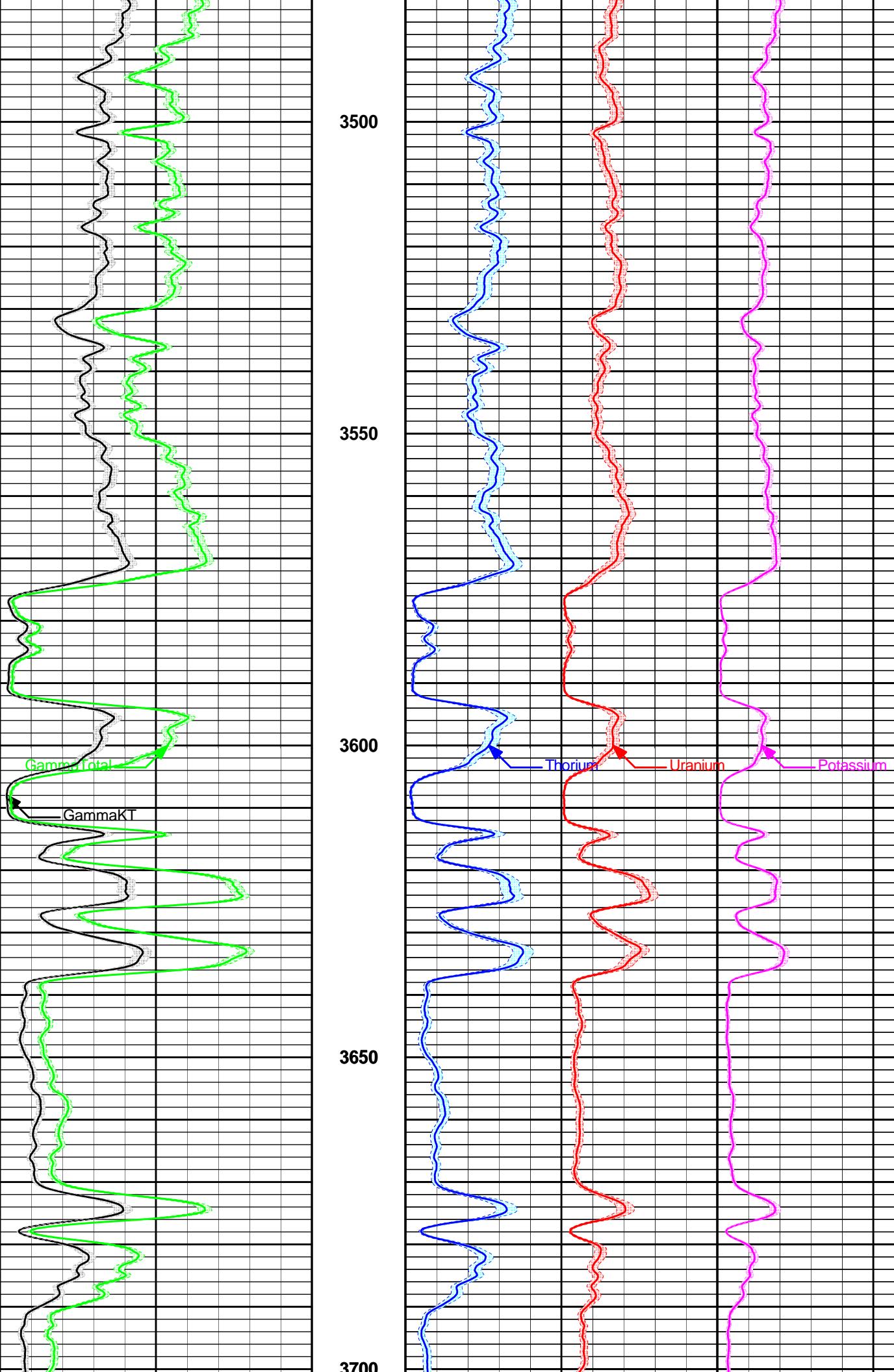


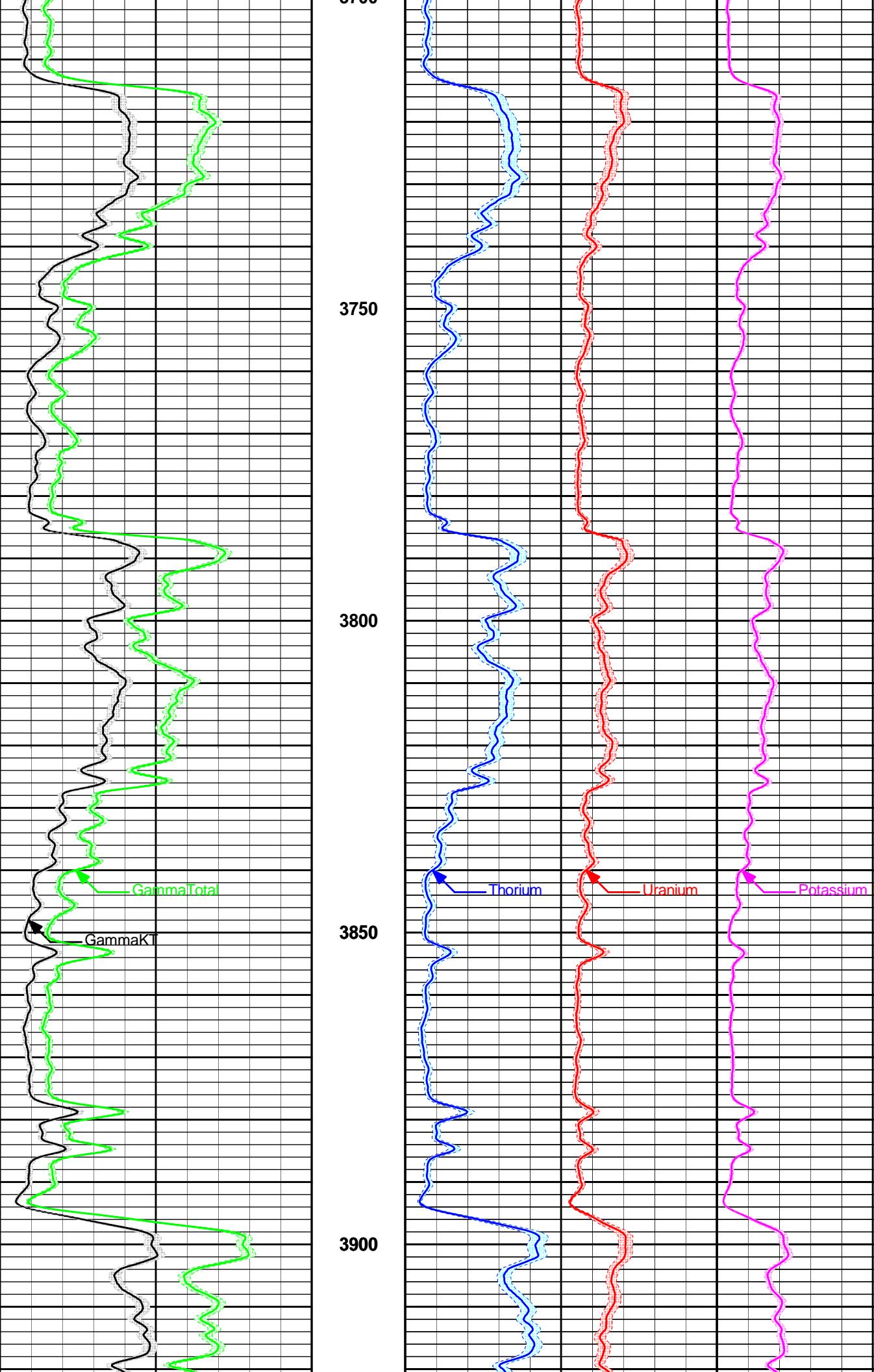


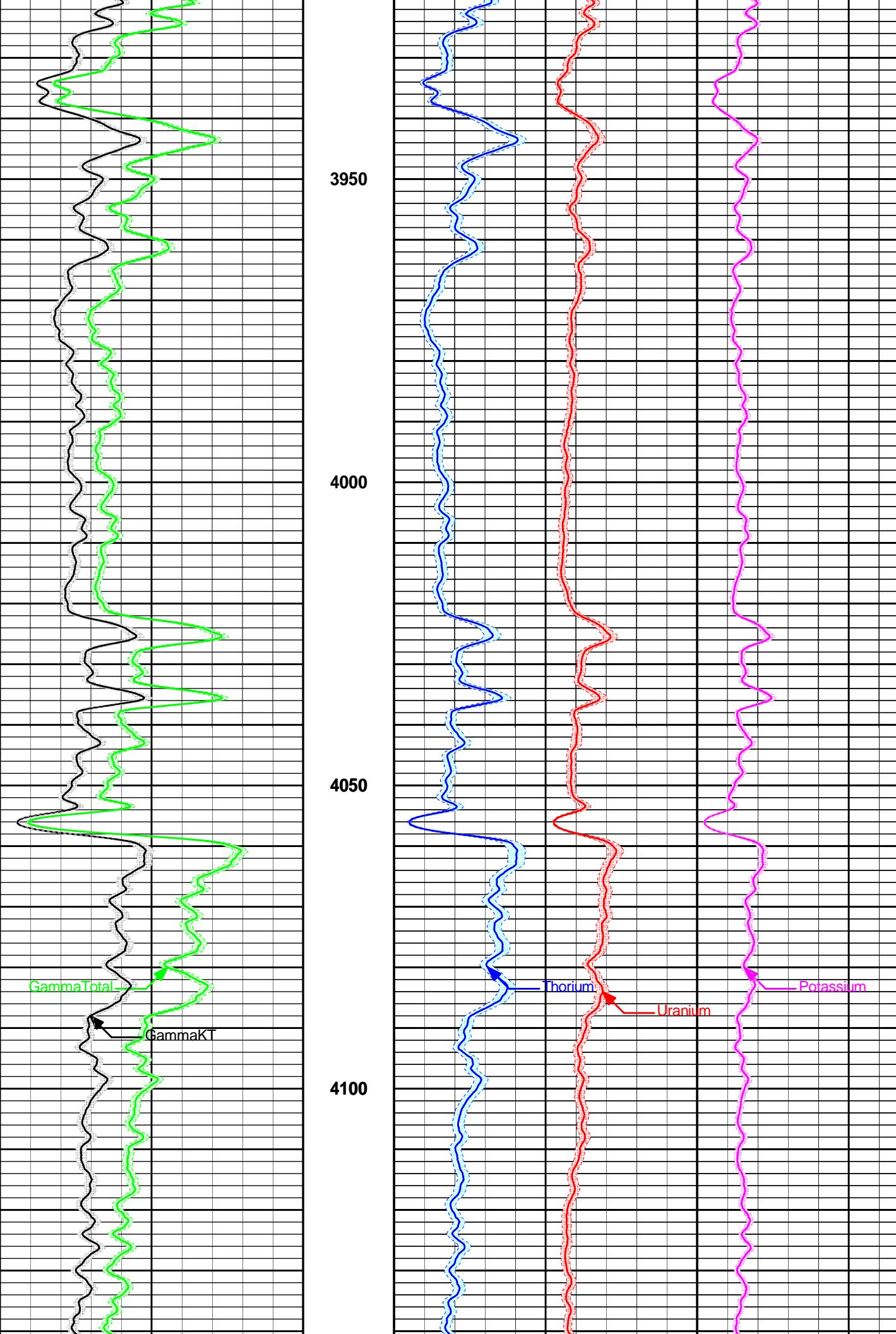


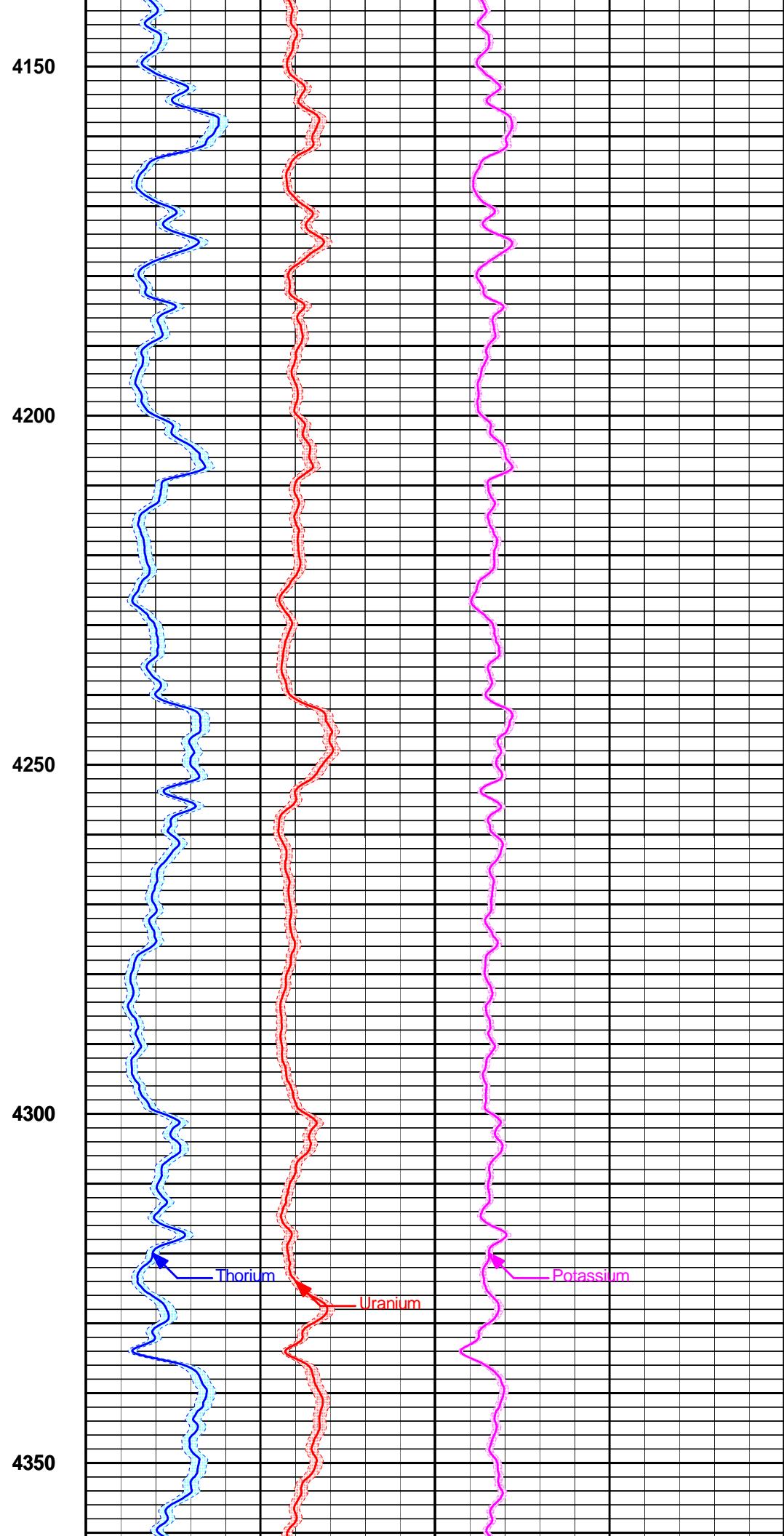
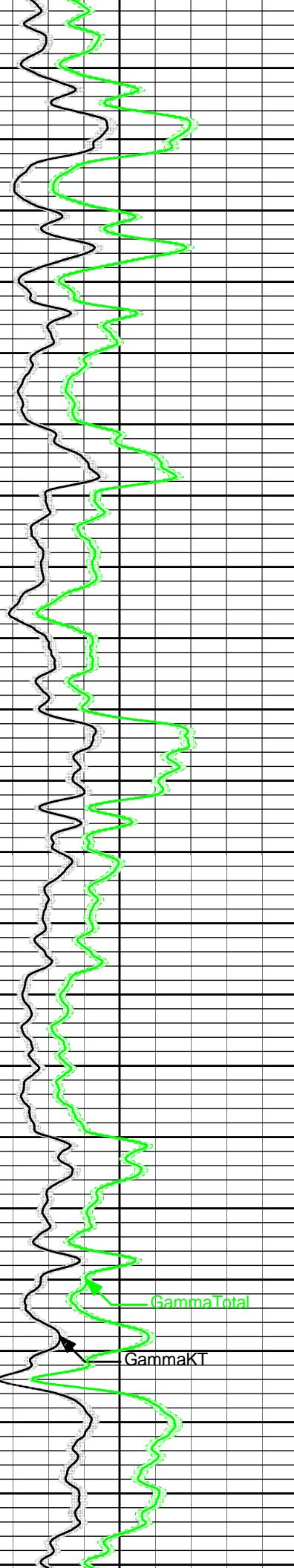


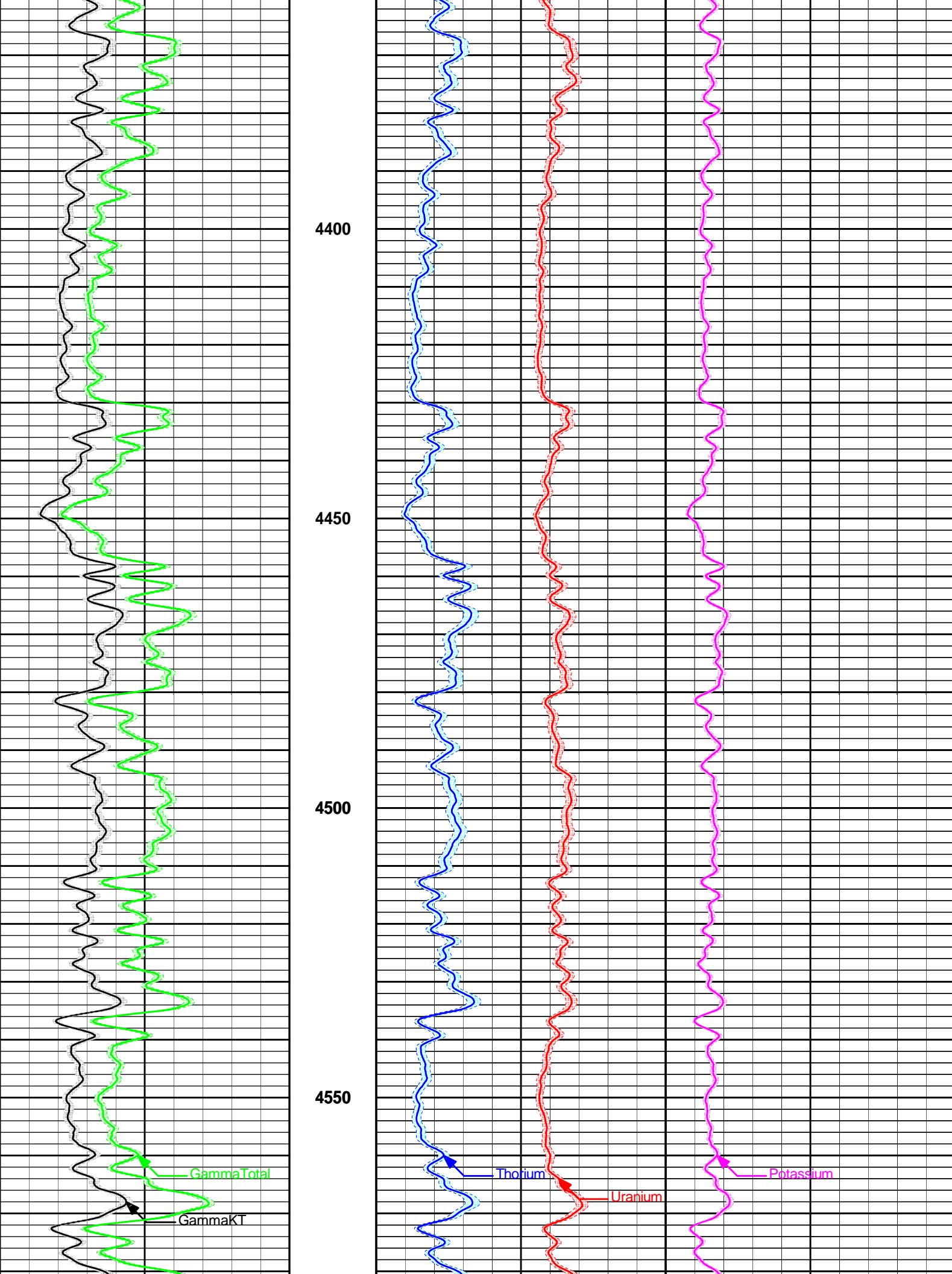


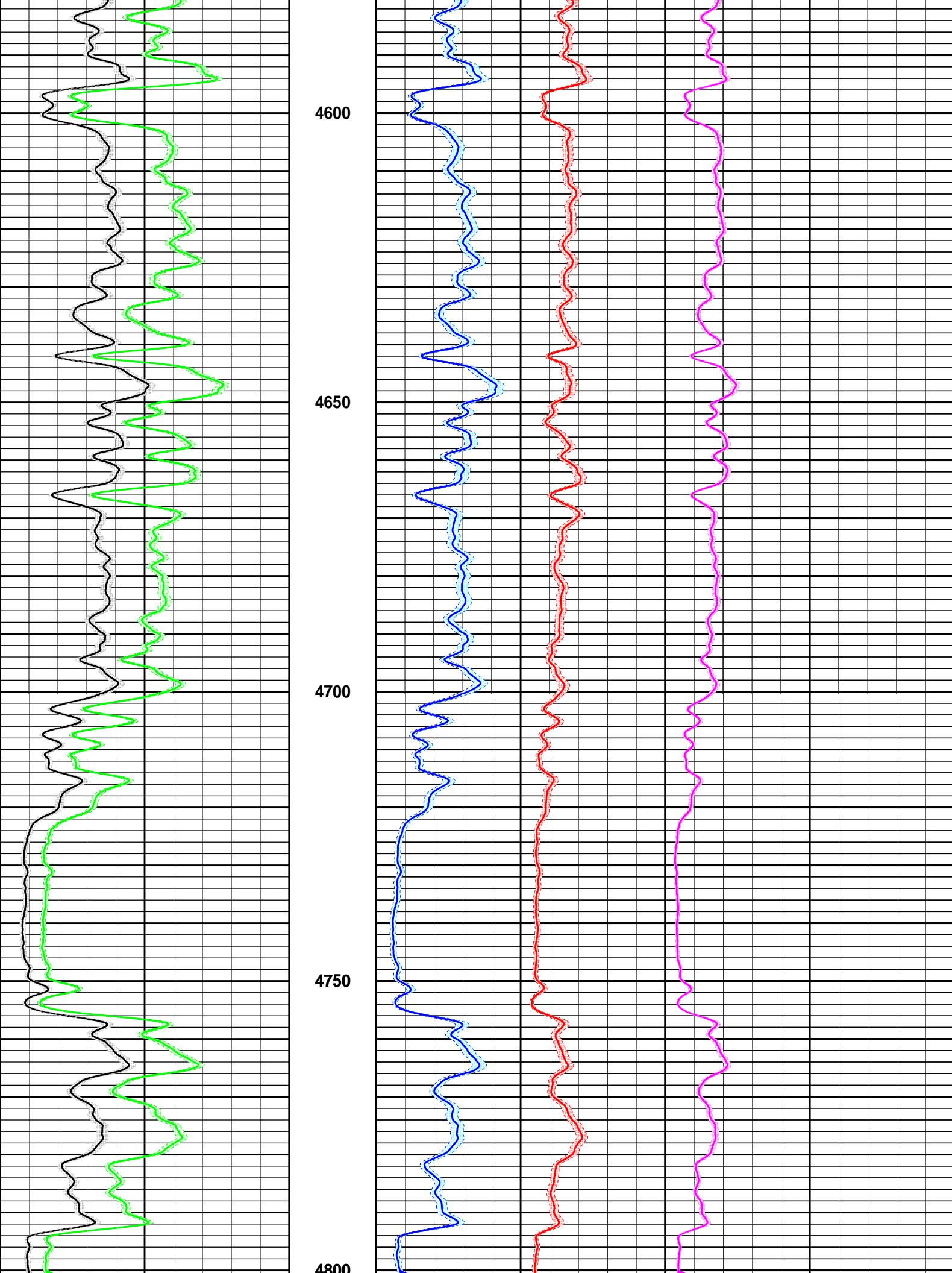


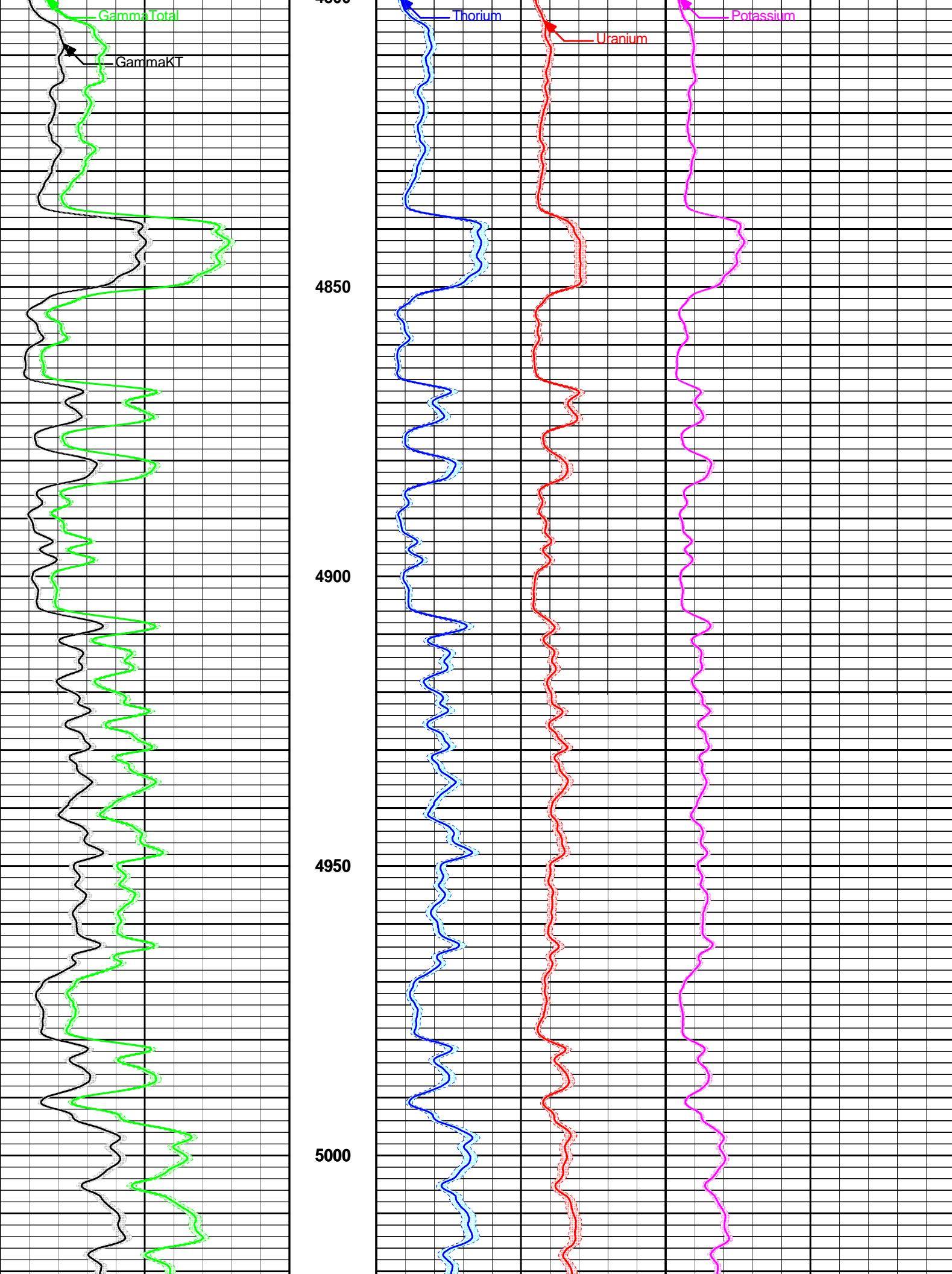


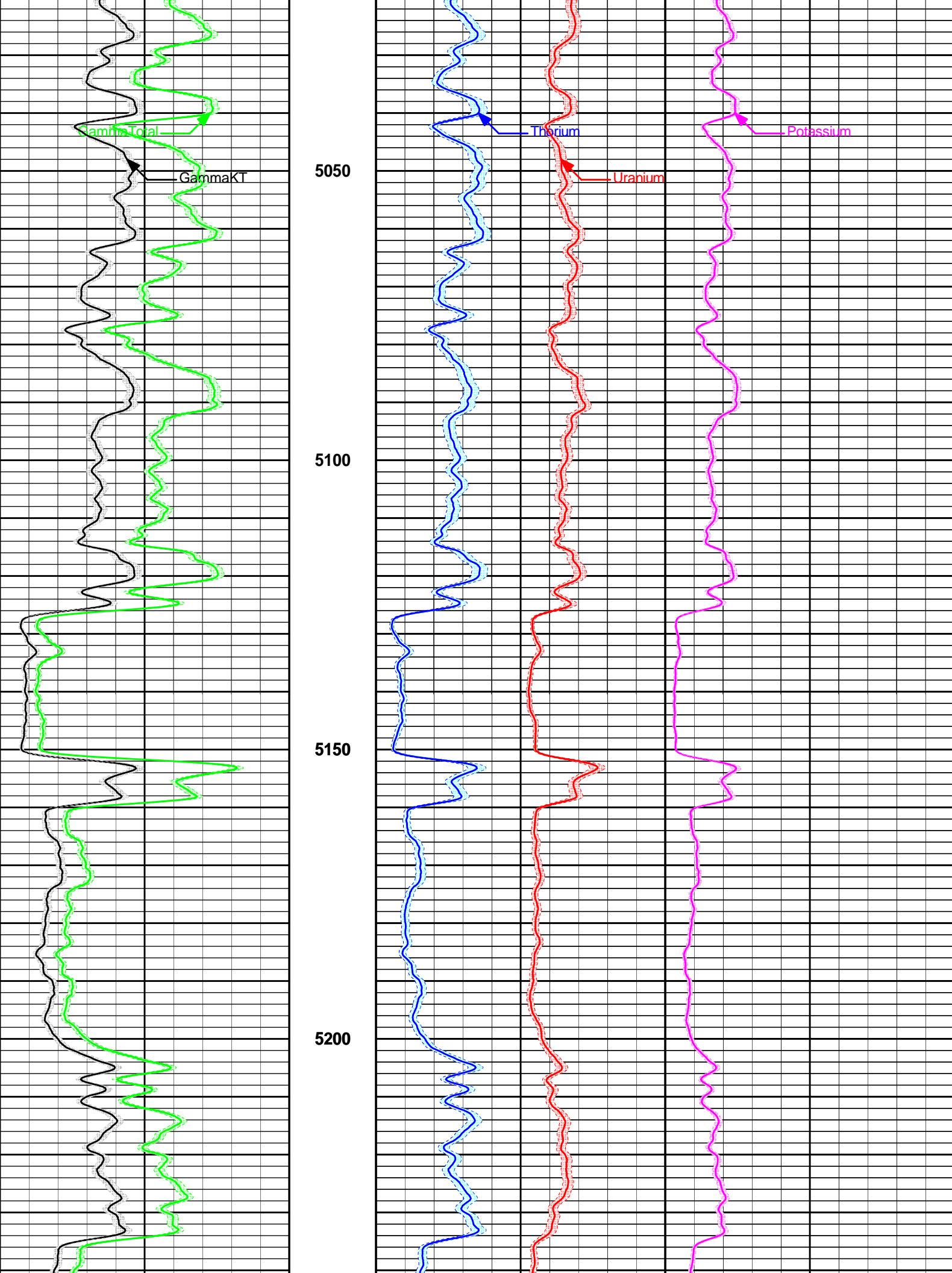


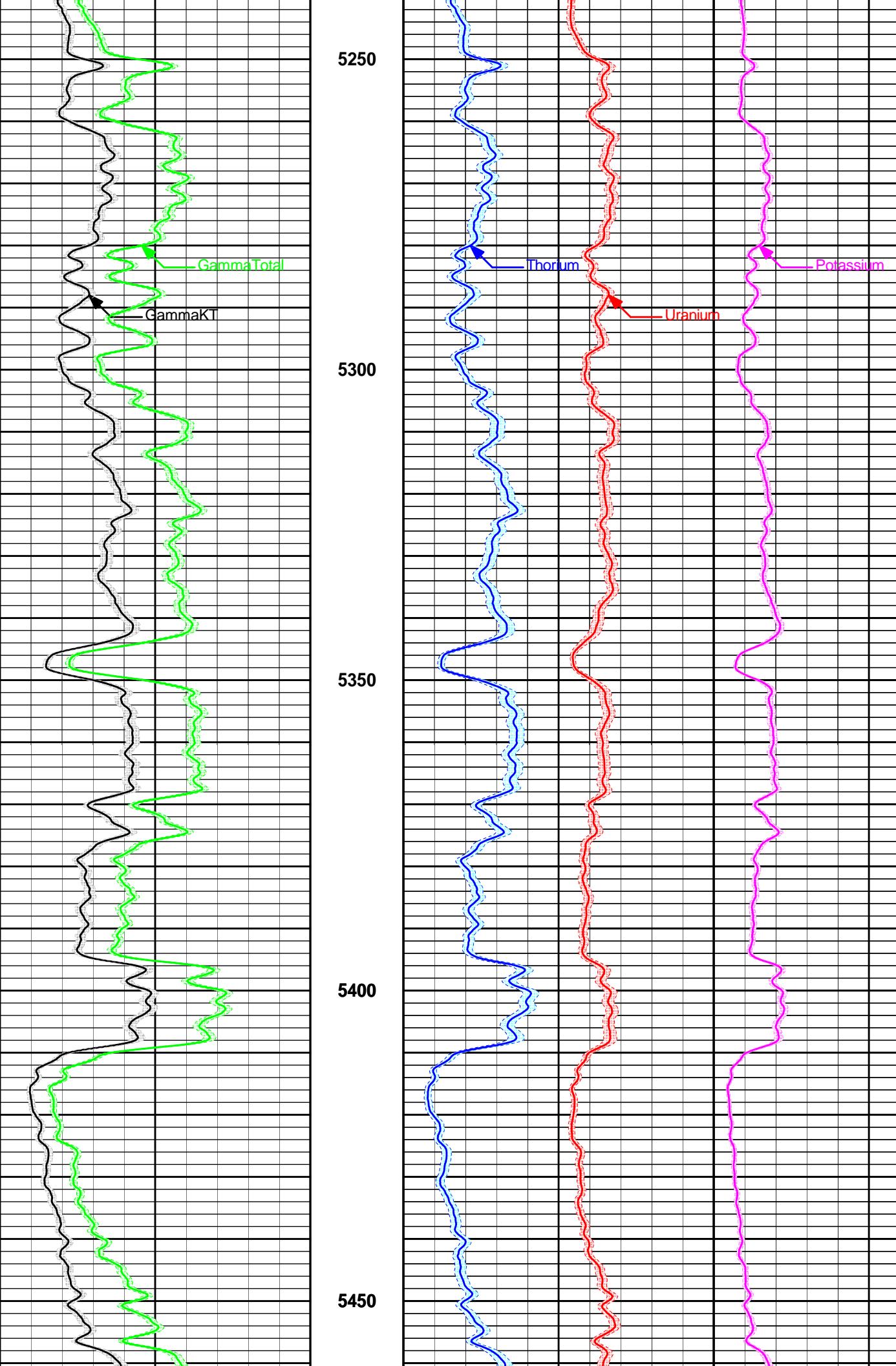


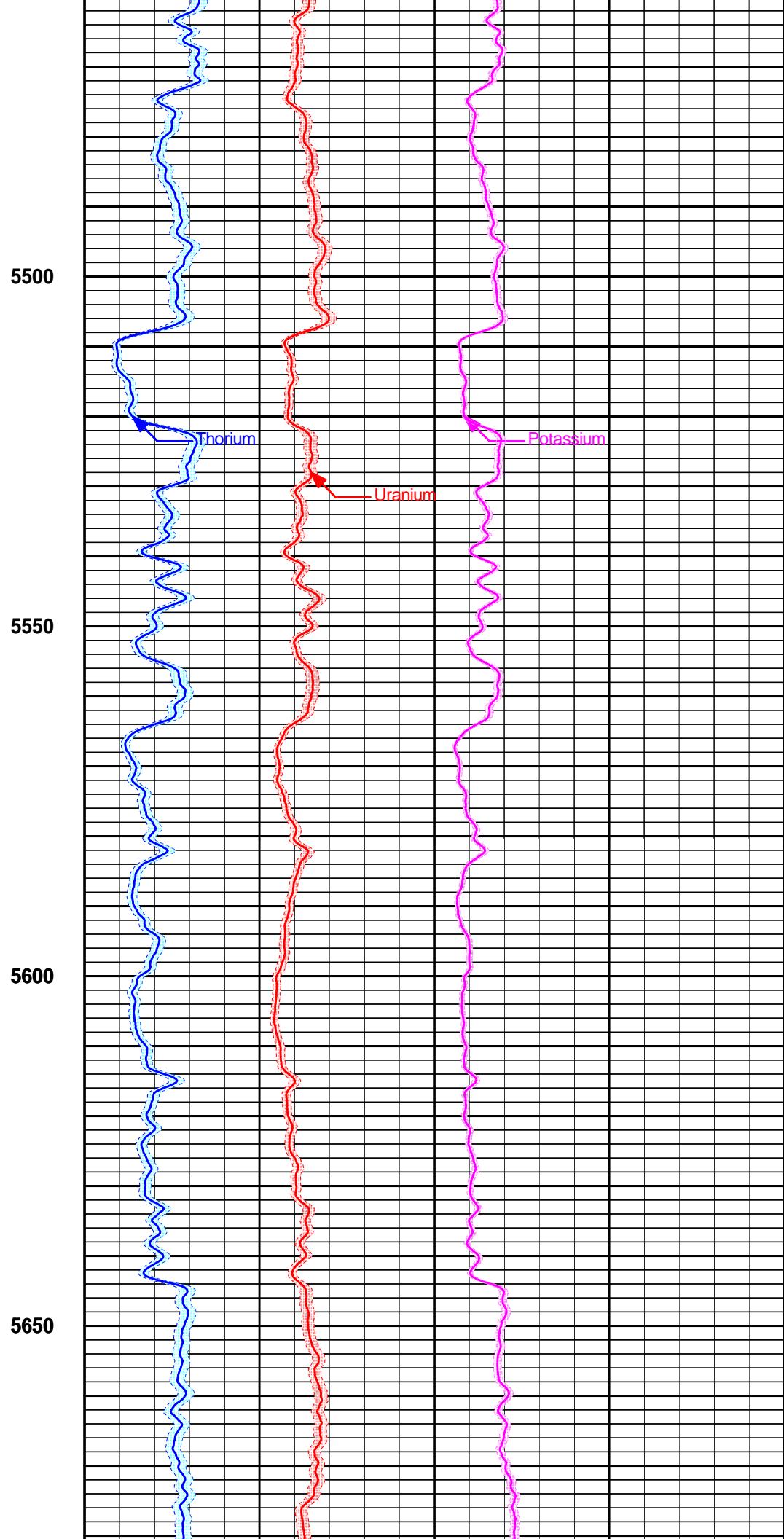
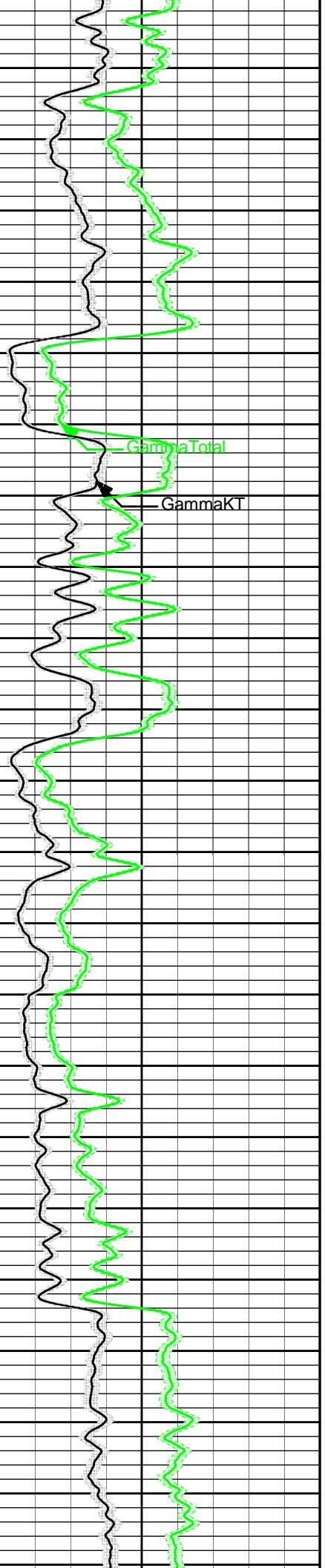


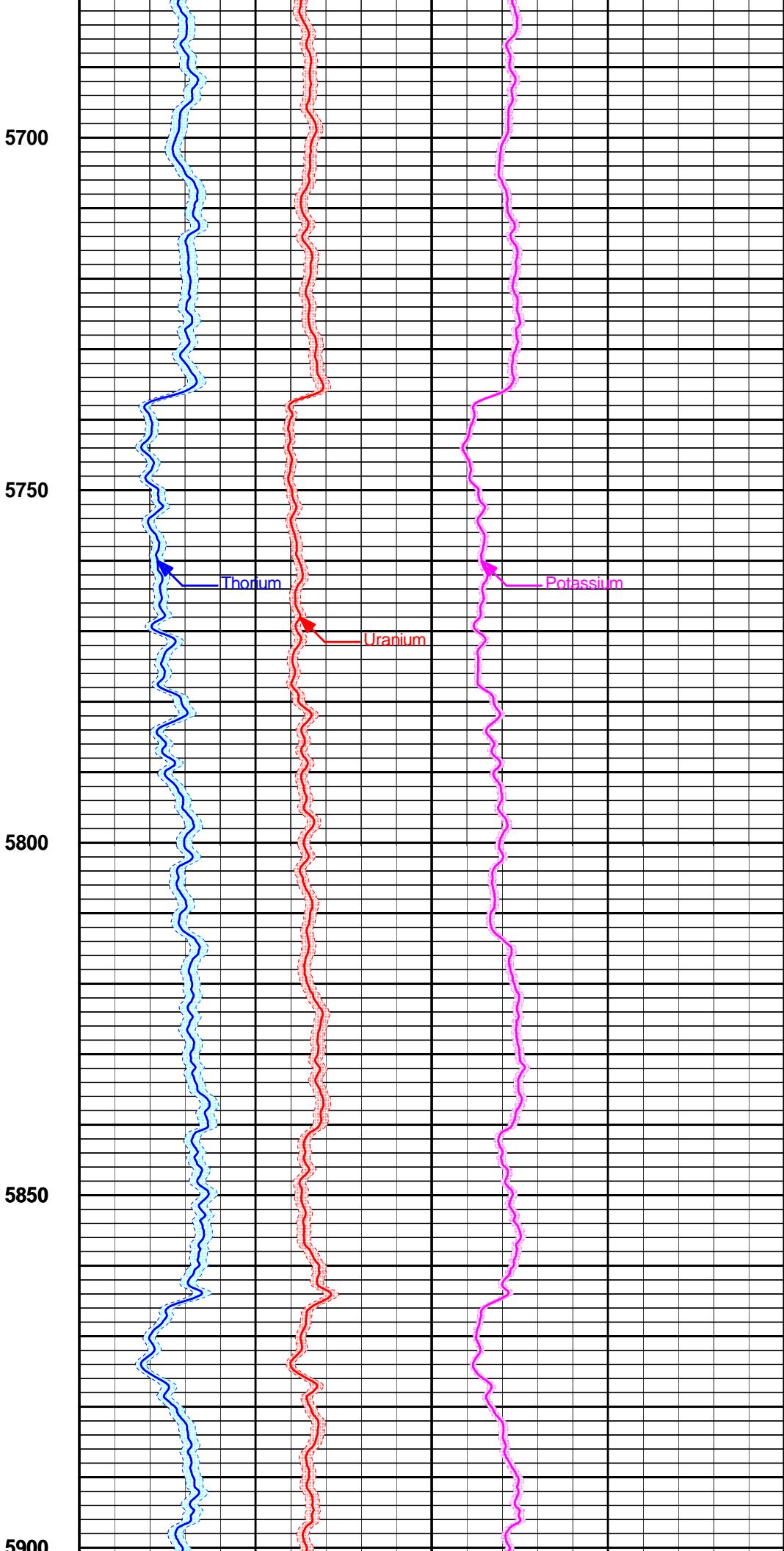
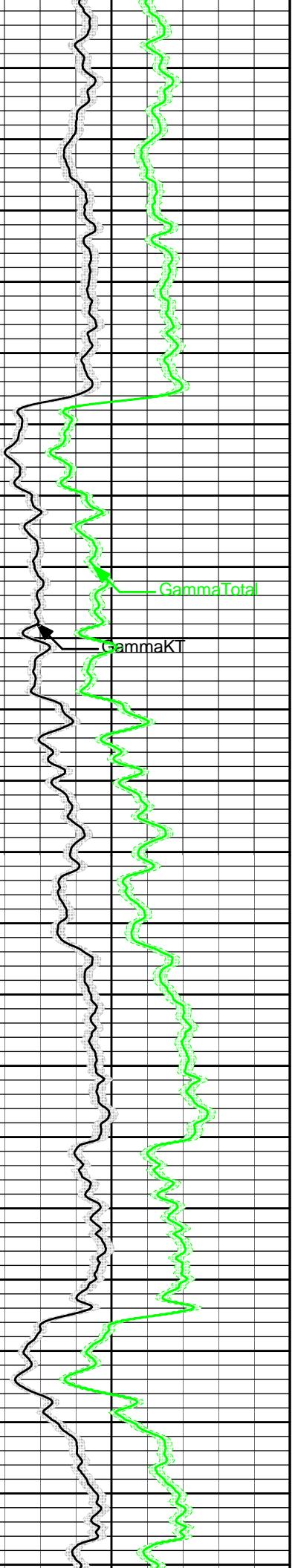


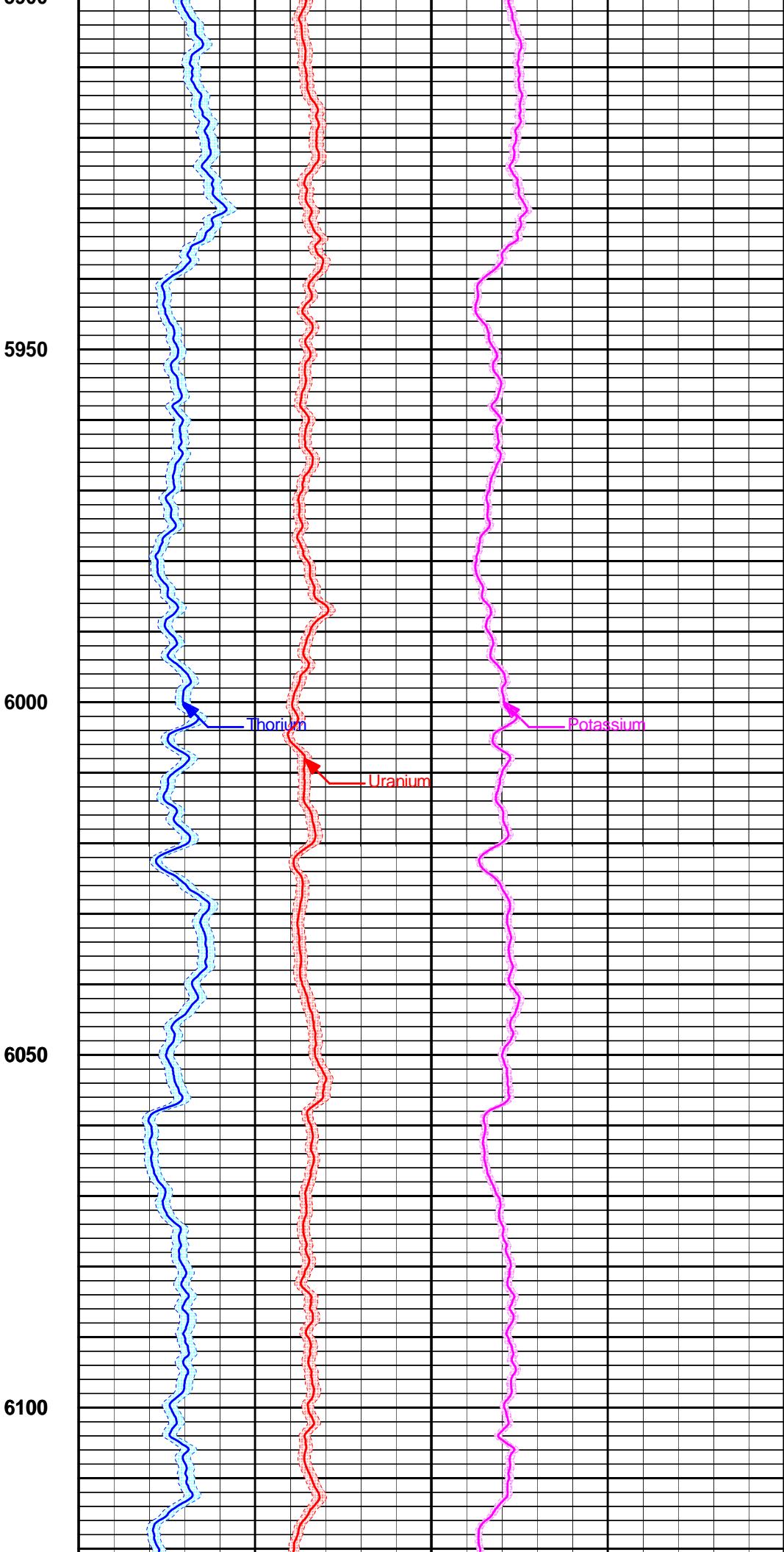
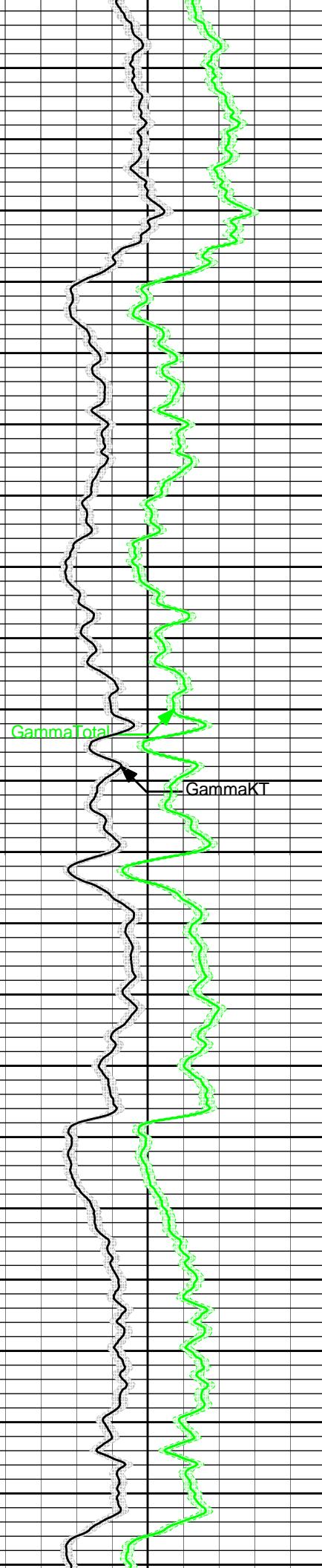


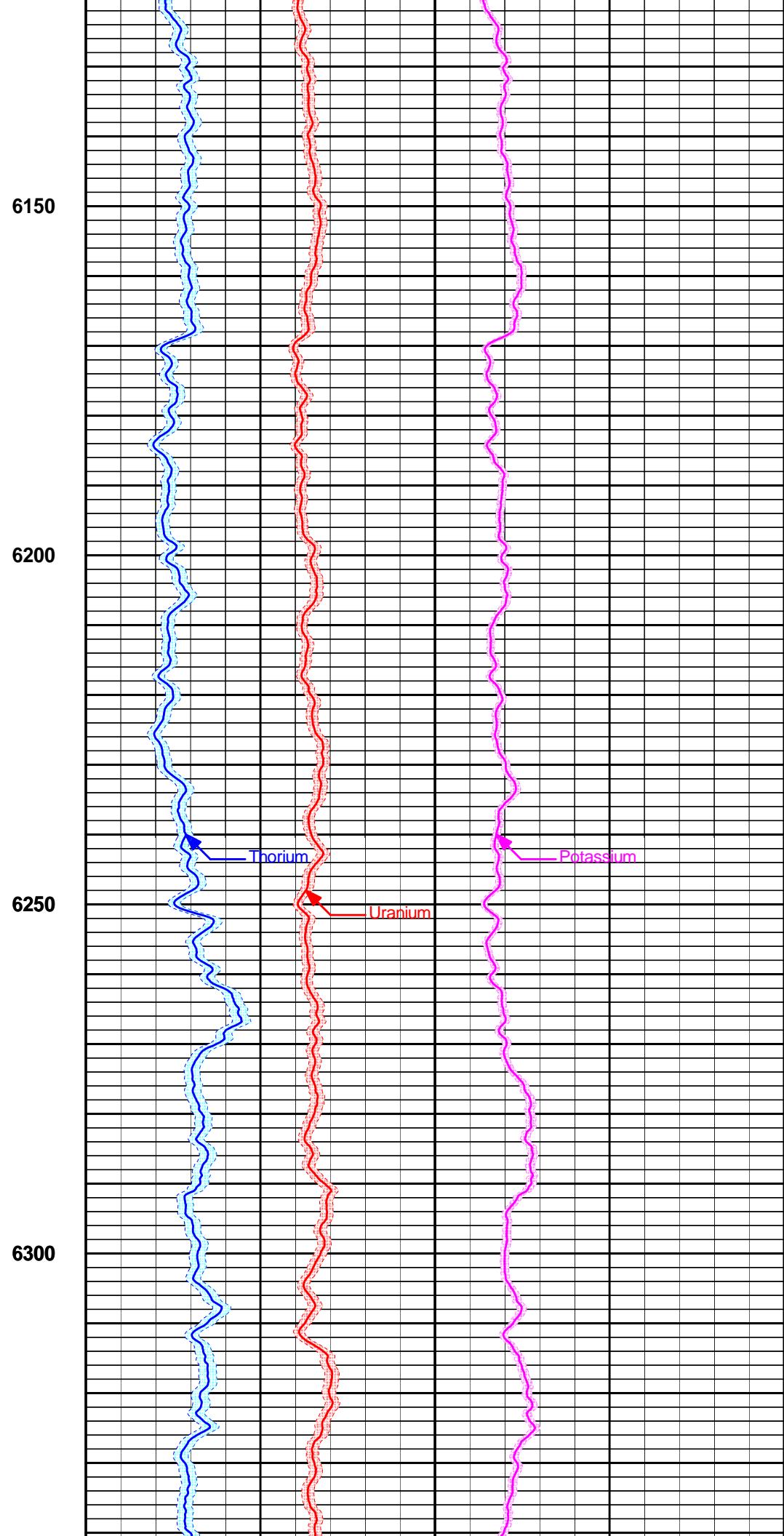
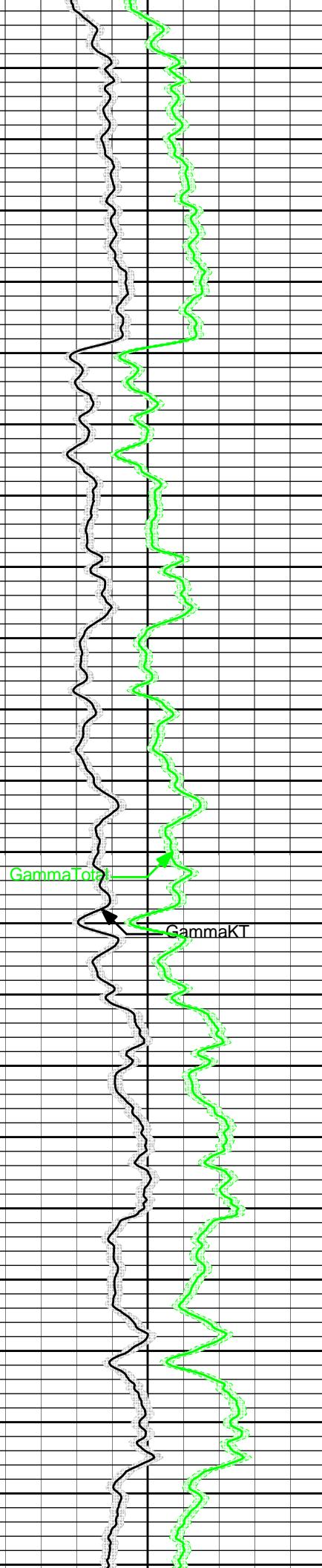


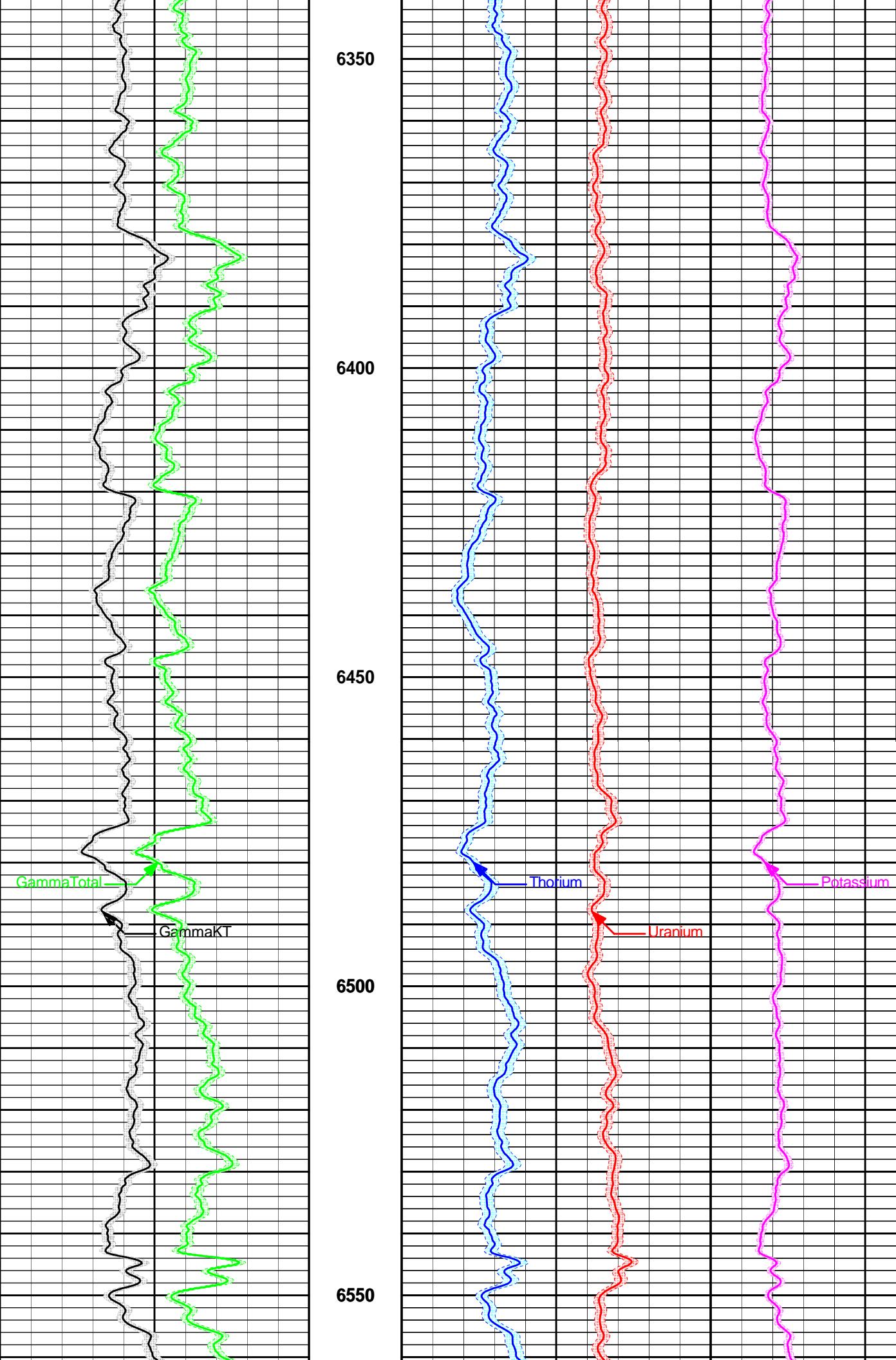


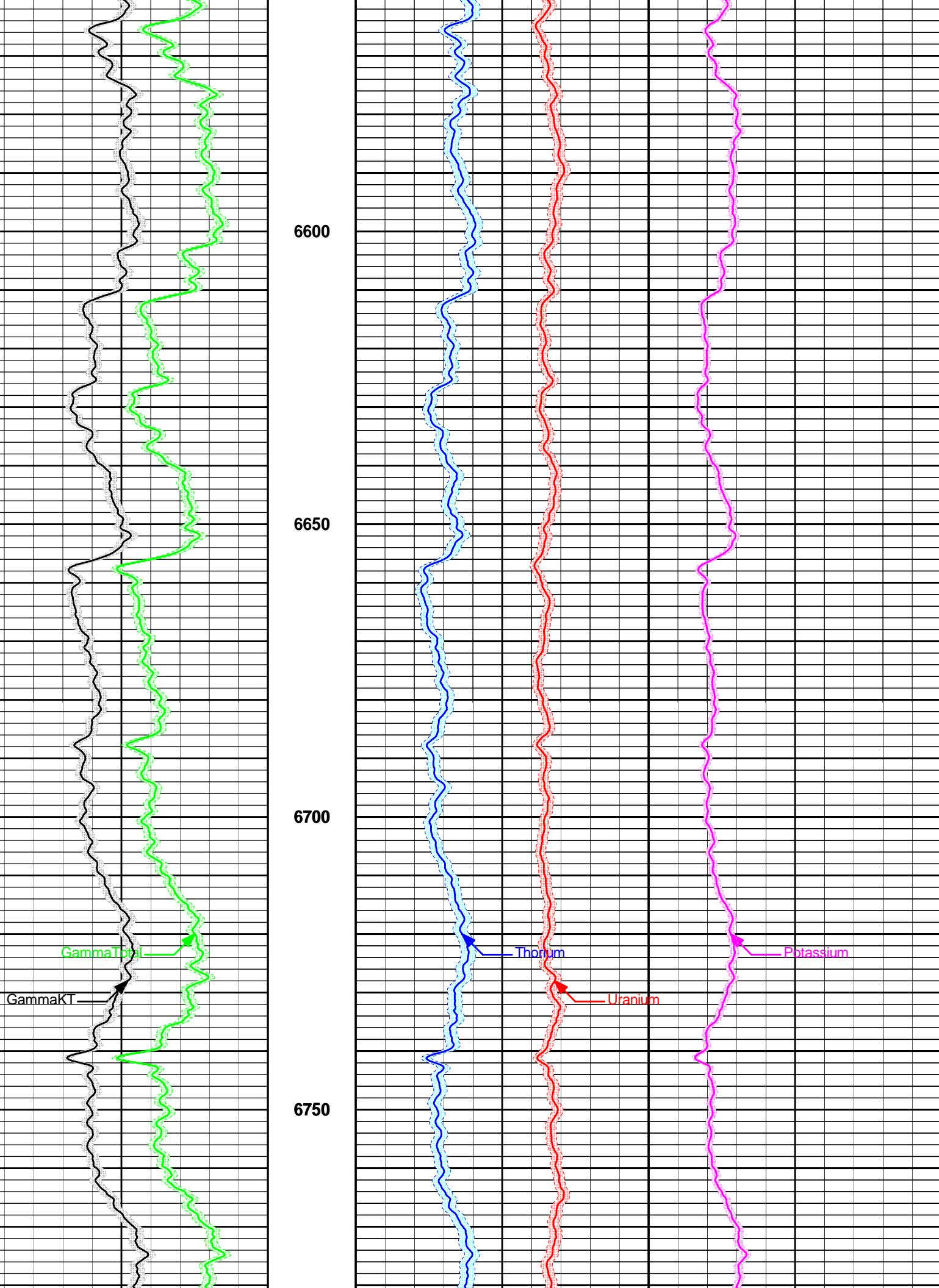


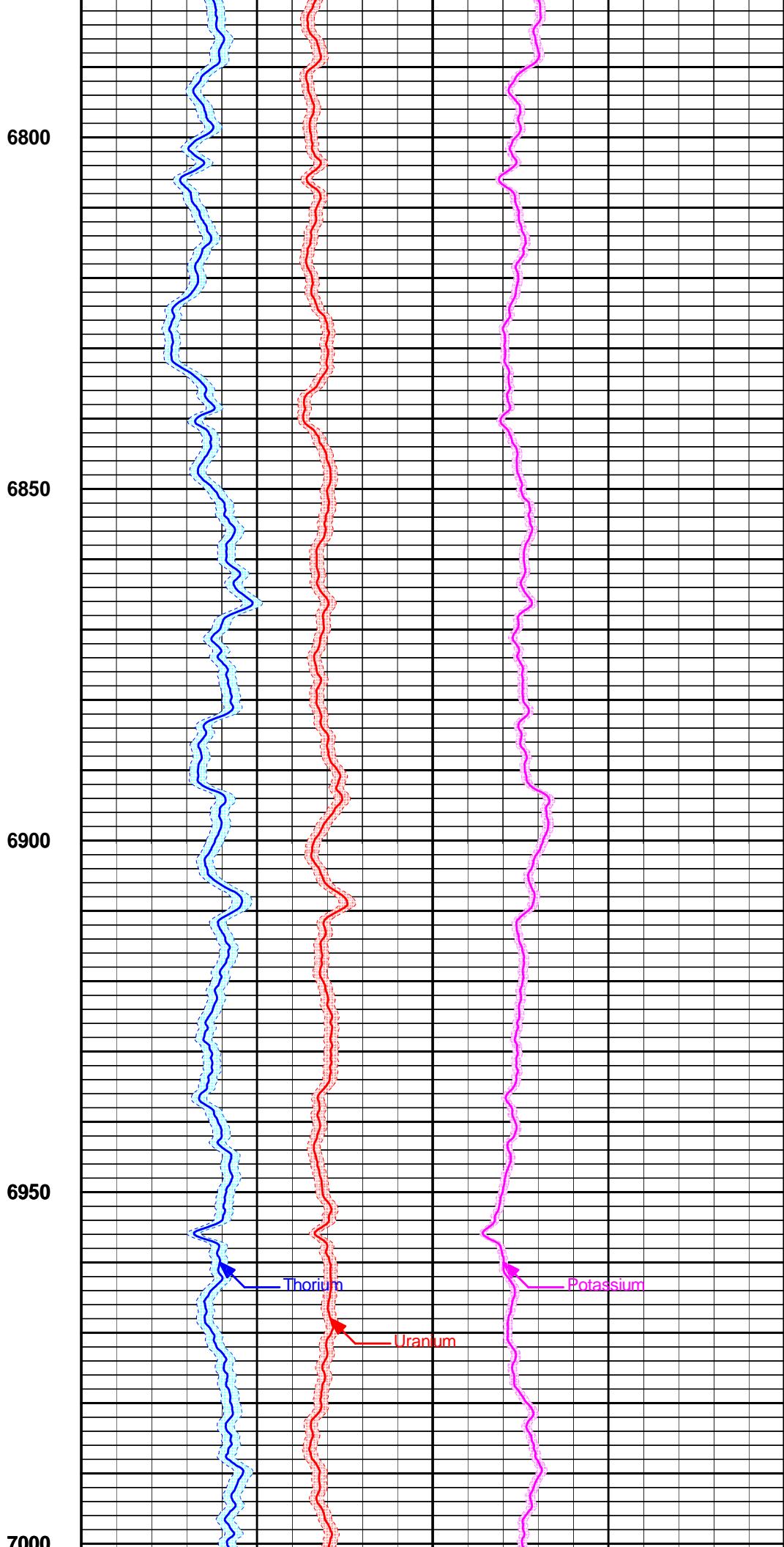
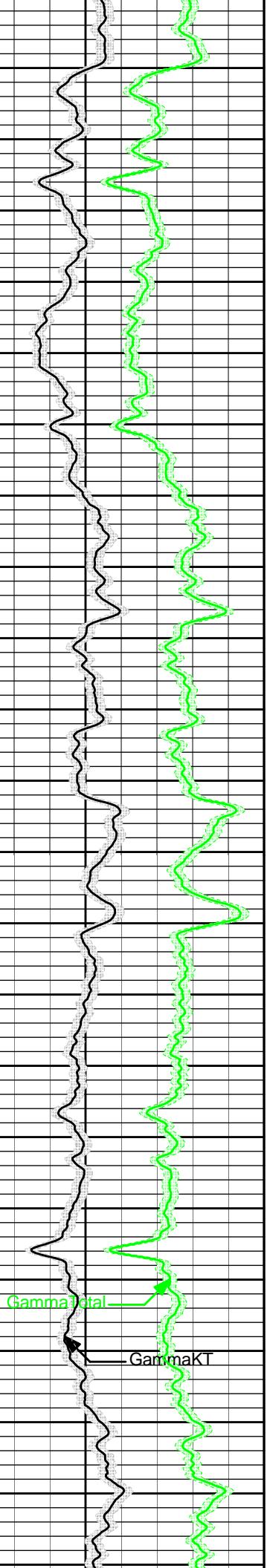


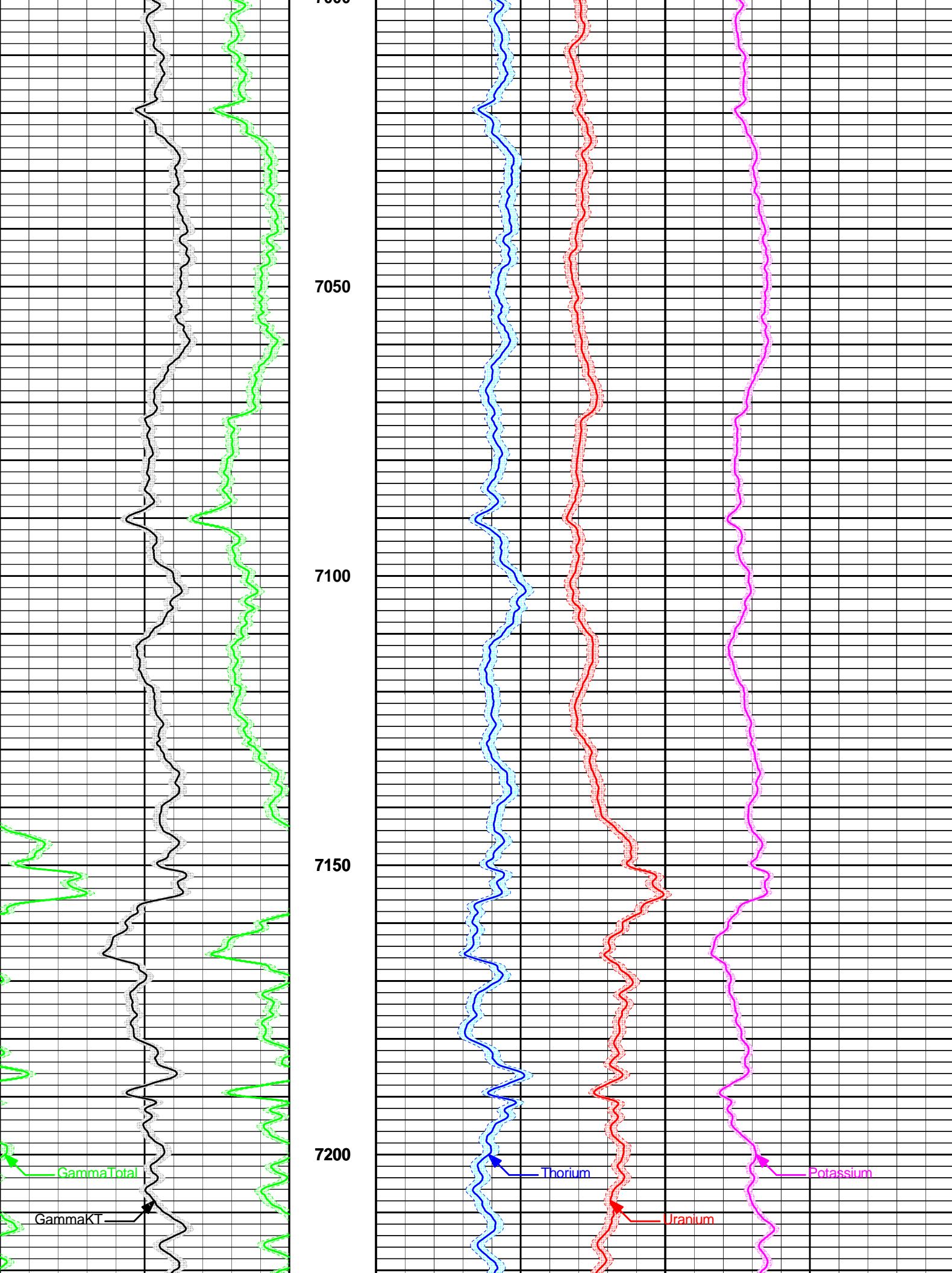


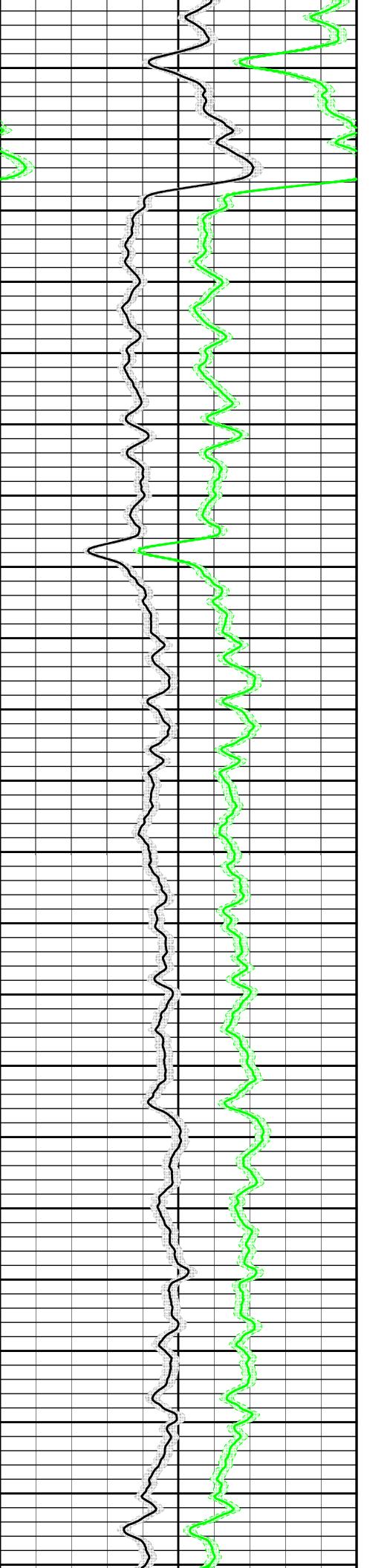










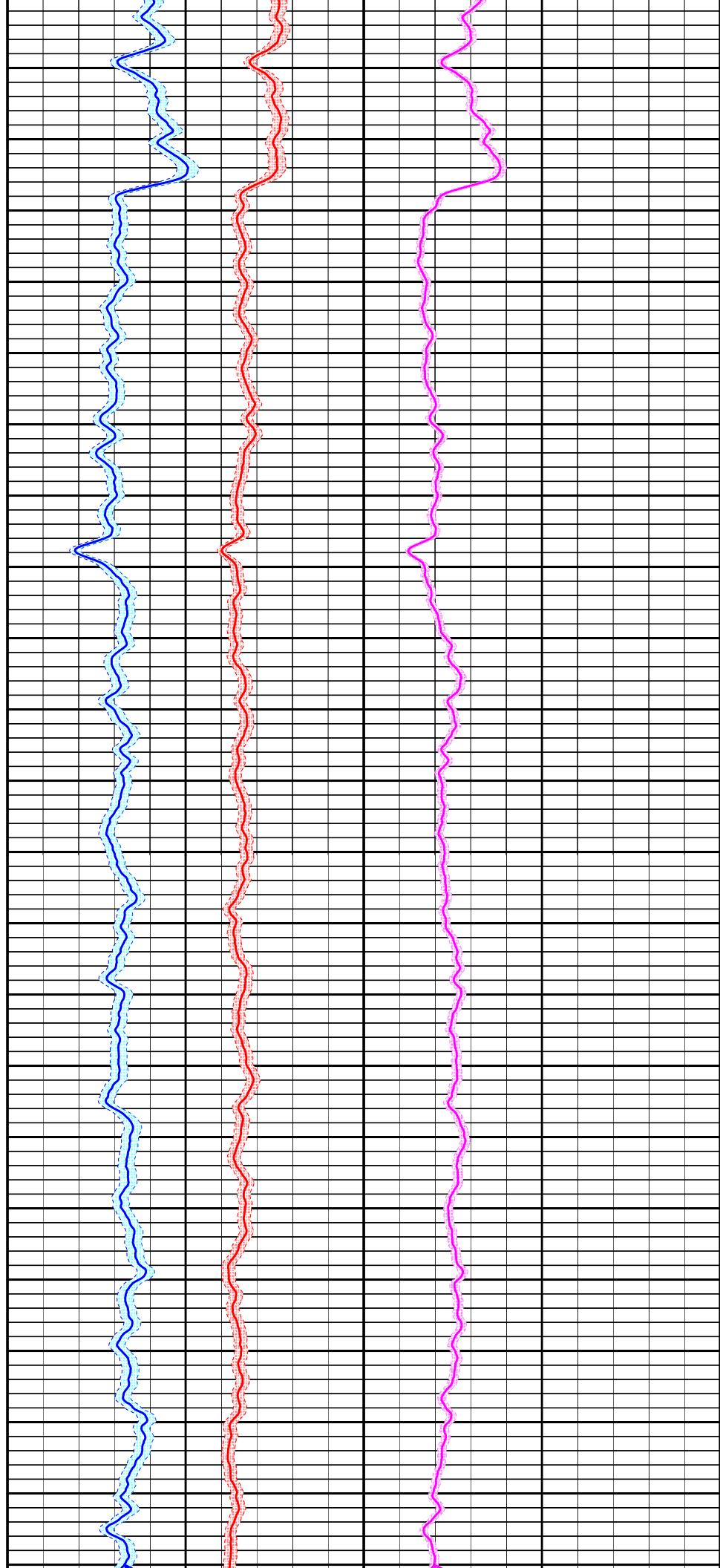


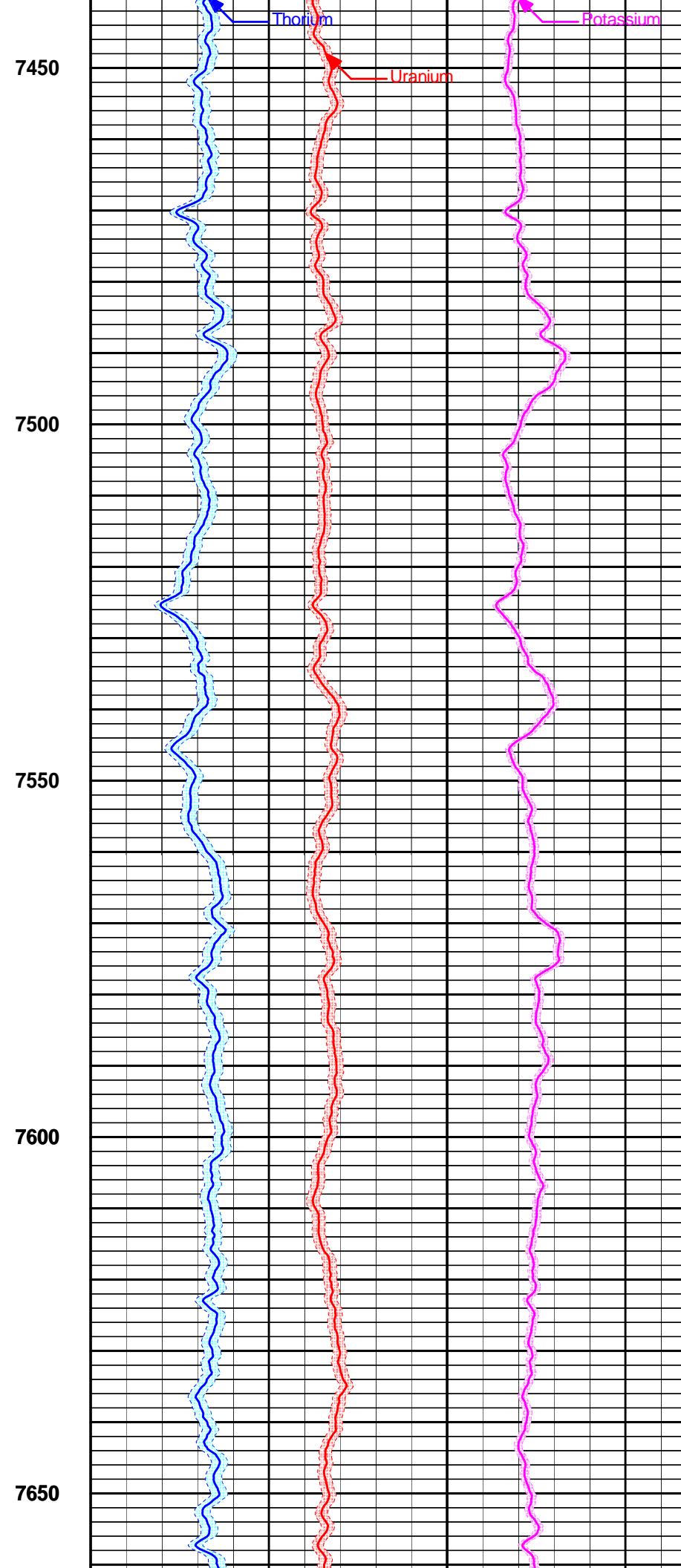
7250

7300

7350

7400





Gamma Total

GammaKT

7700

7750

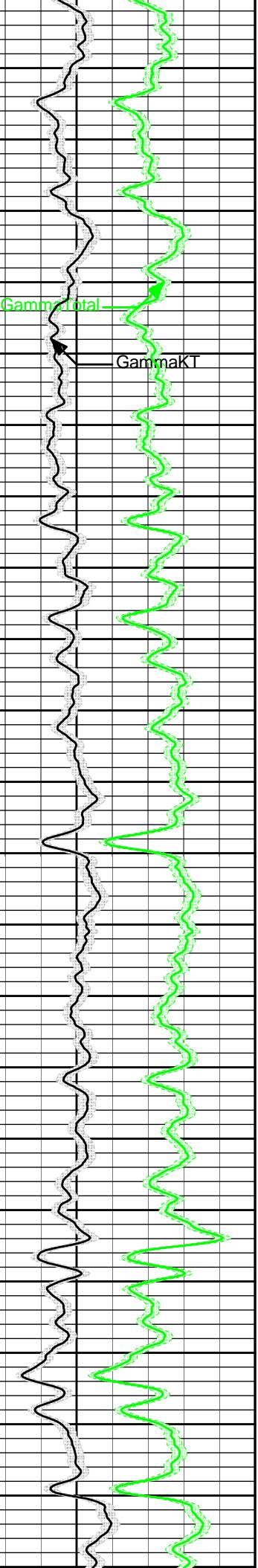
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7850

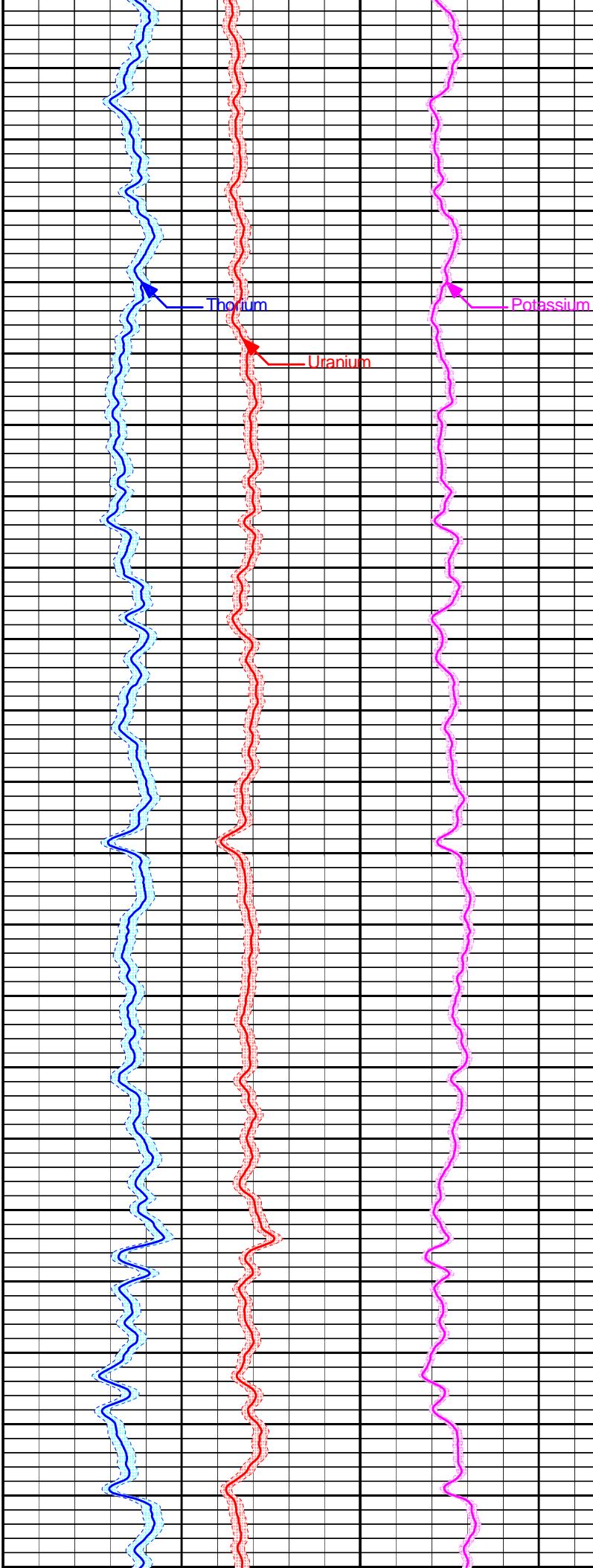
Thorium

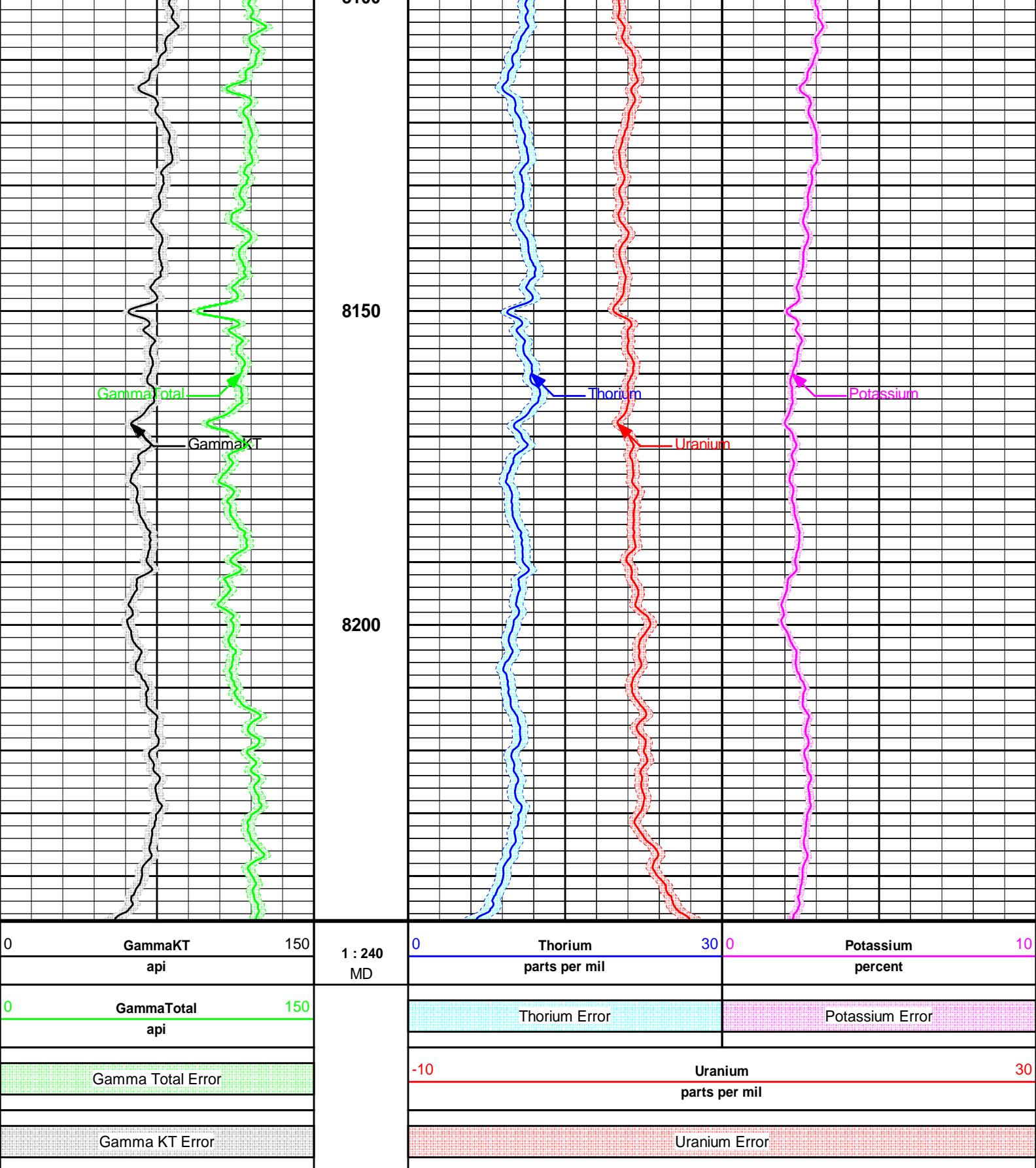
Uranium

Potassium



7900
7950
8000
8050
8100



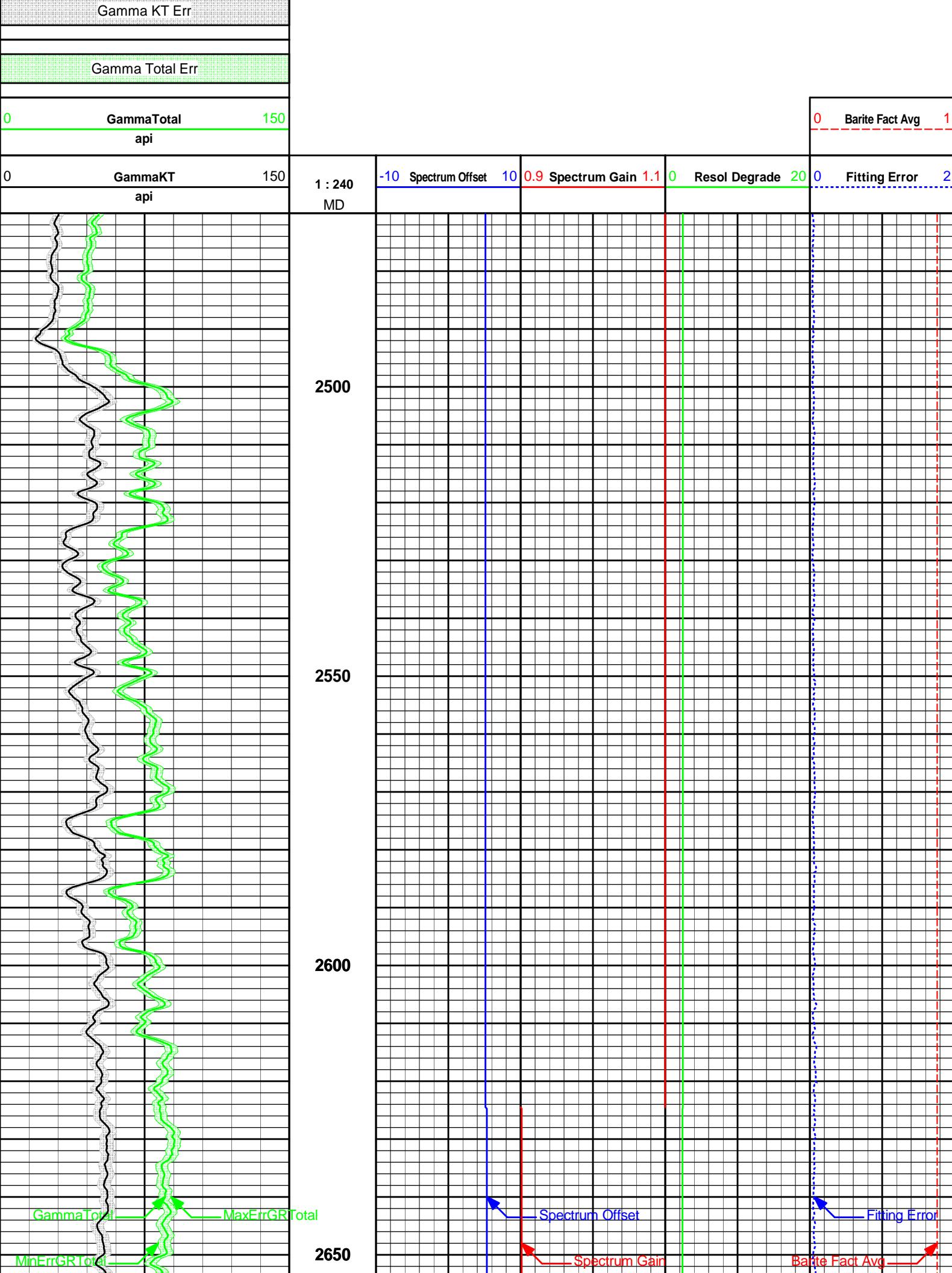


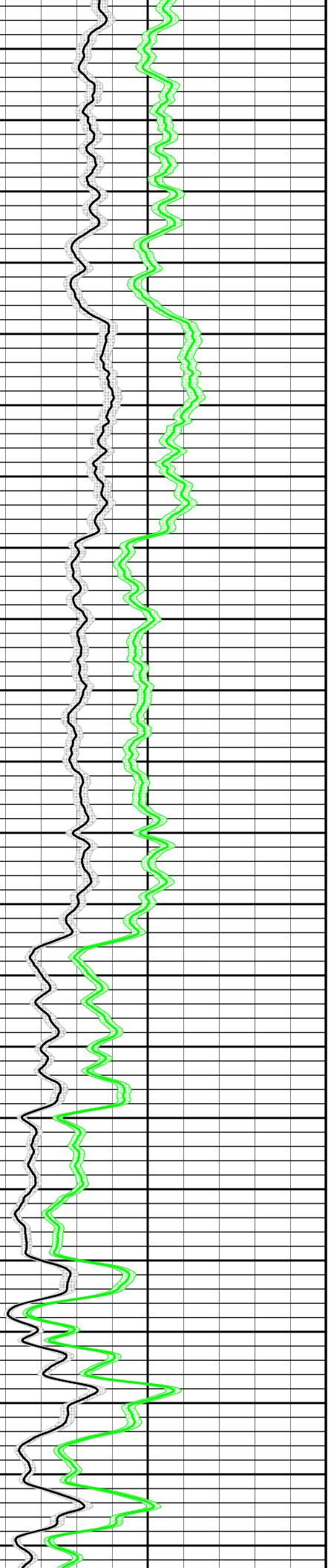
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HALLIBURTON

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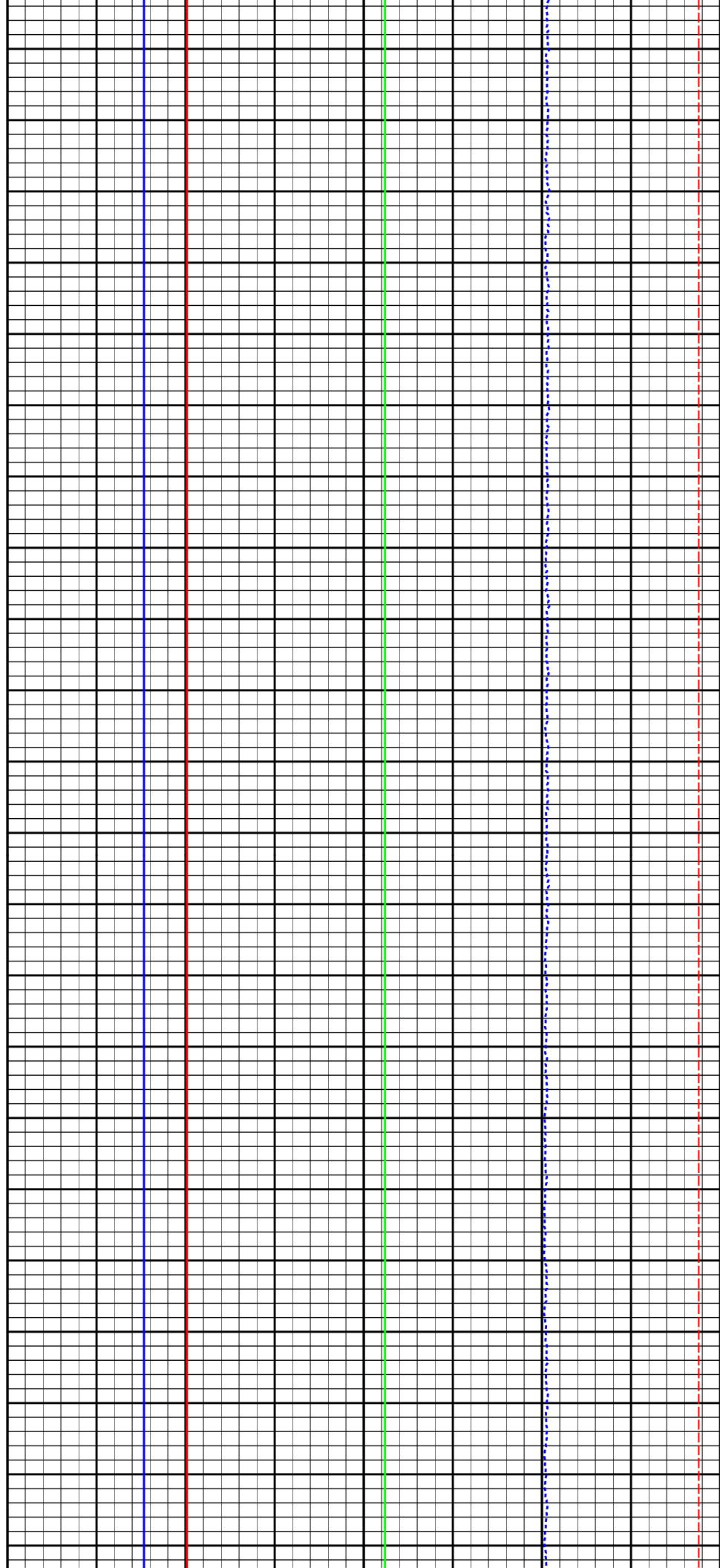


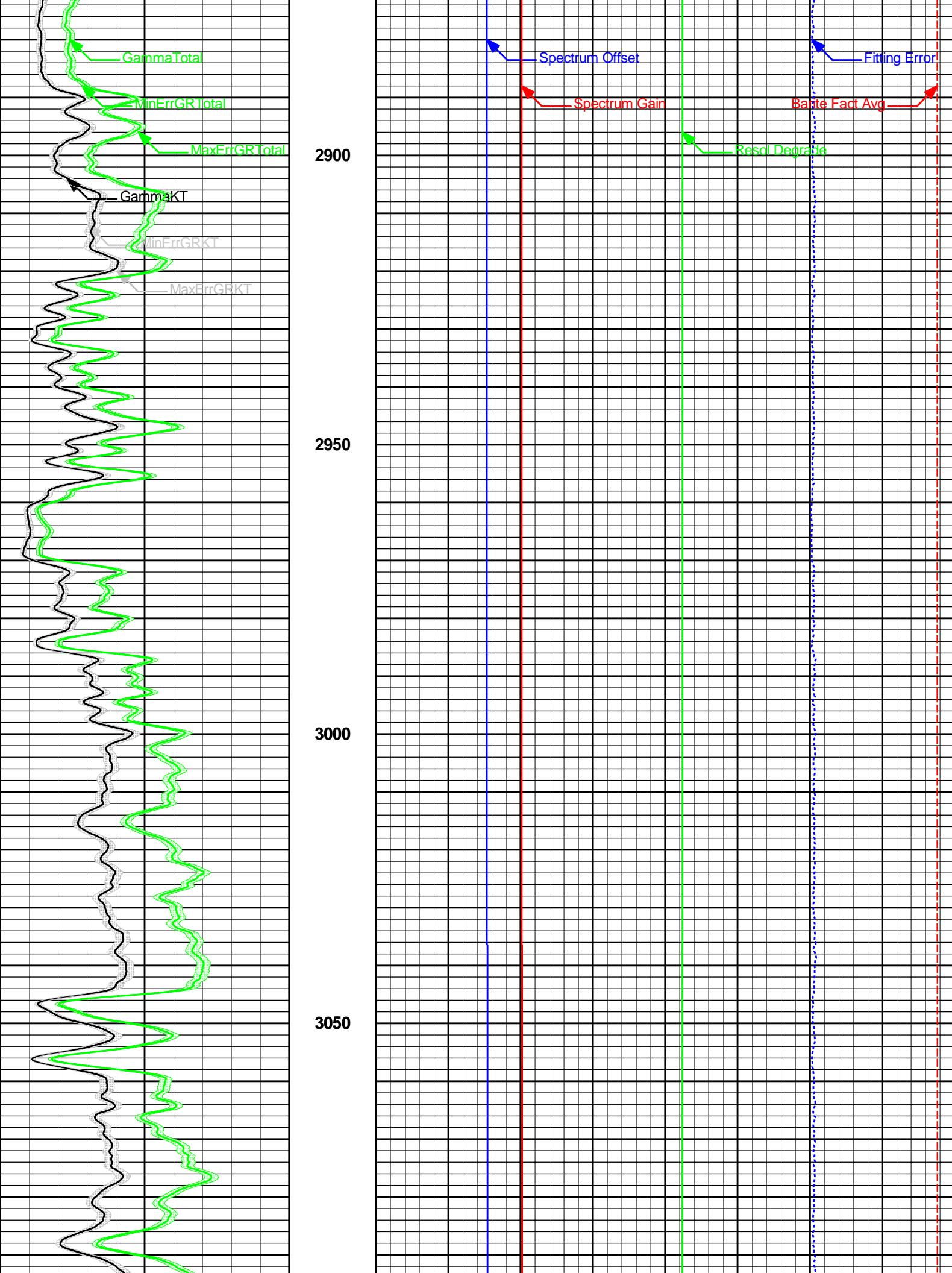
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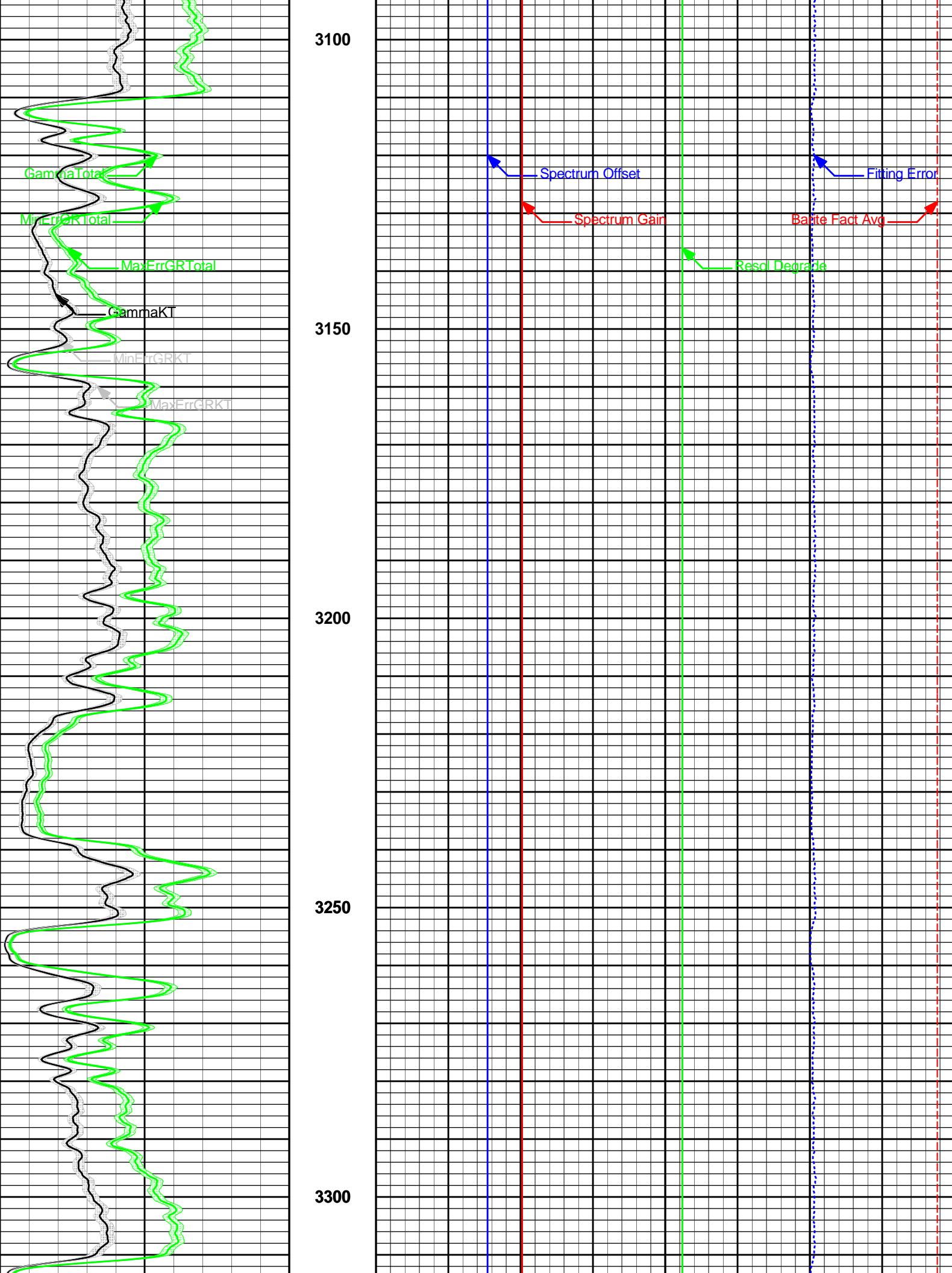
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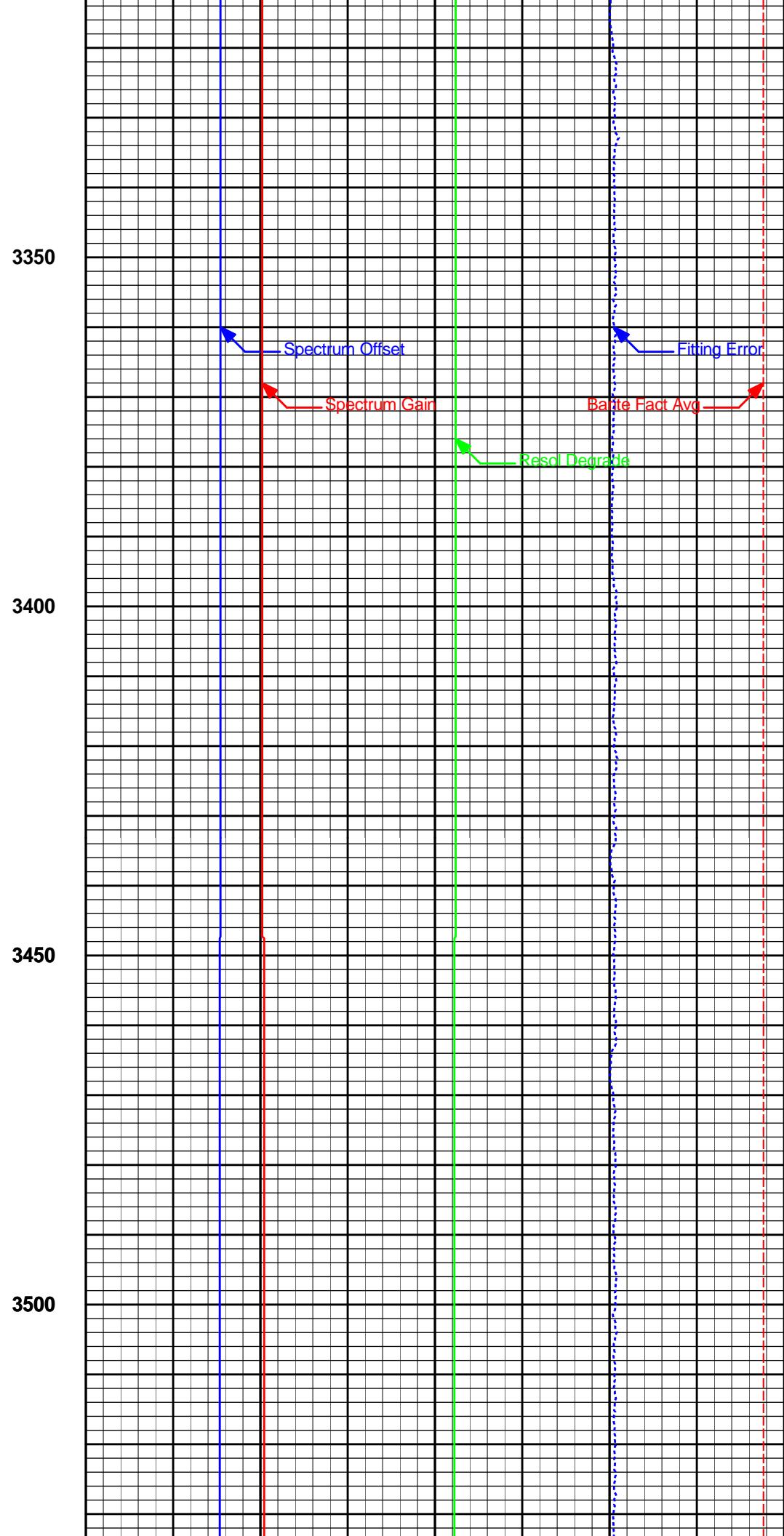
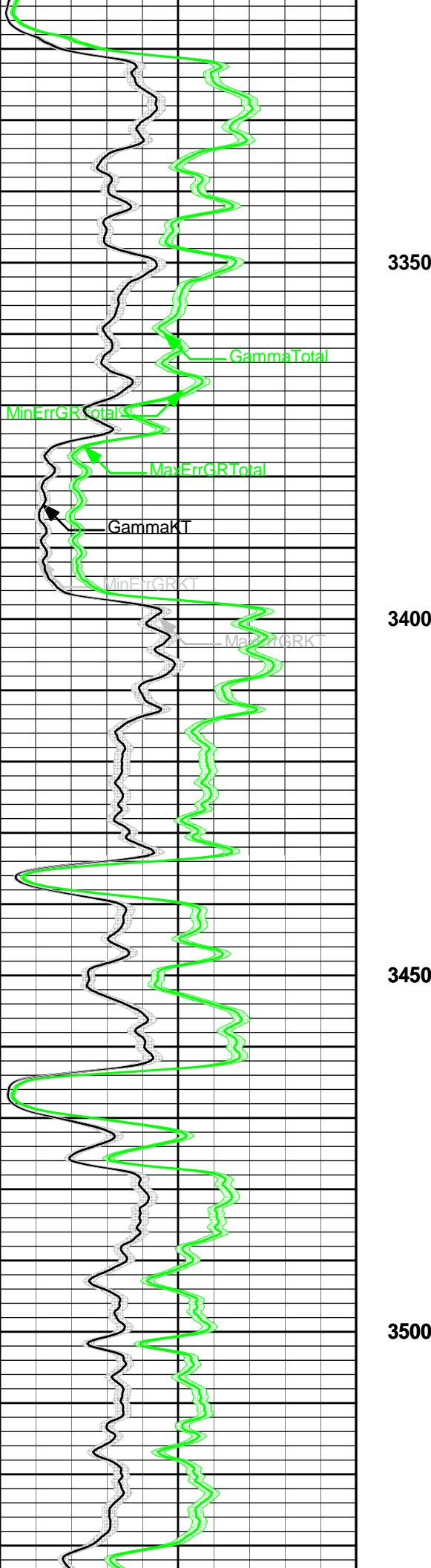
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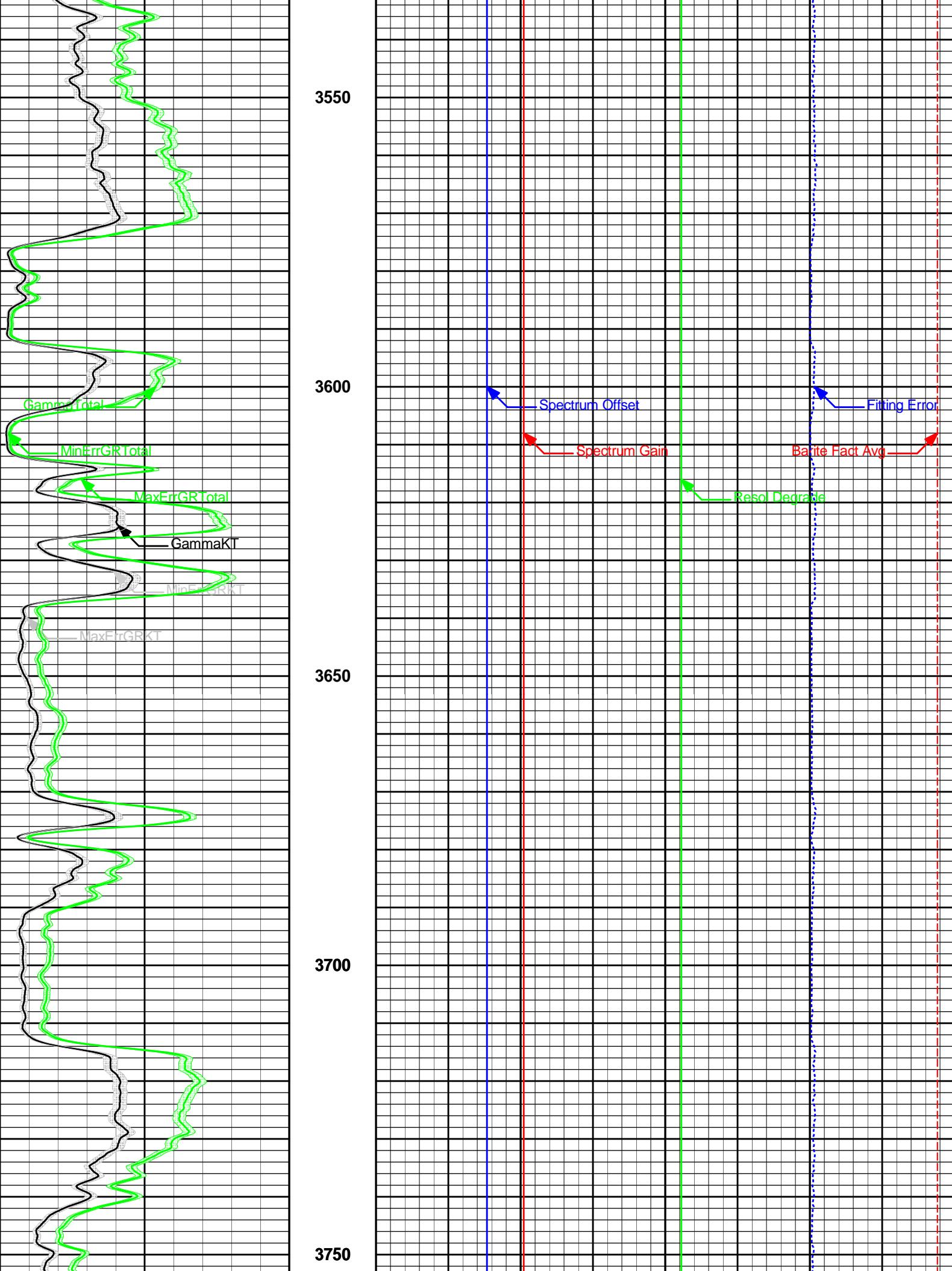
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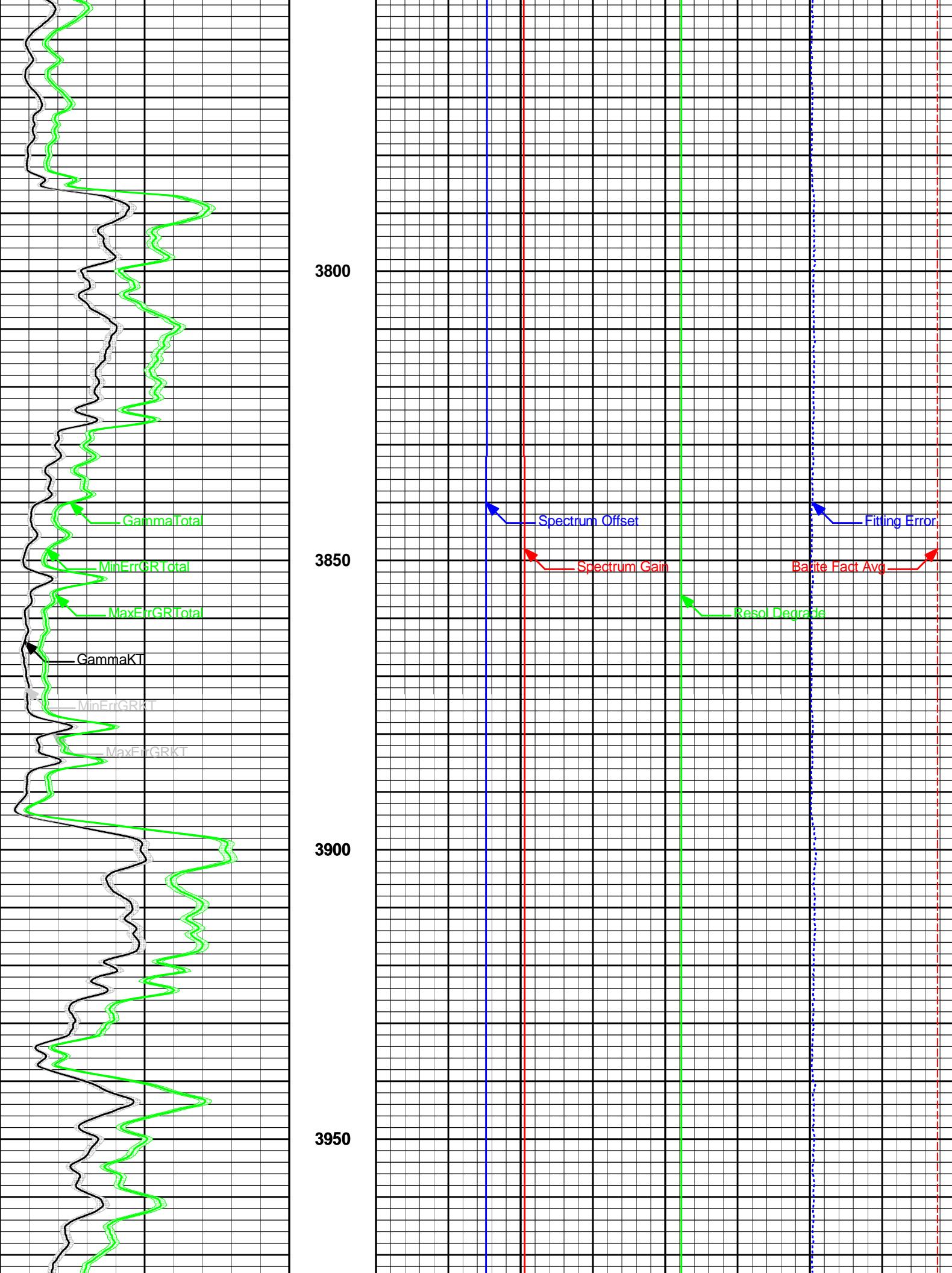


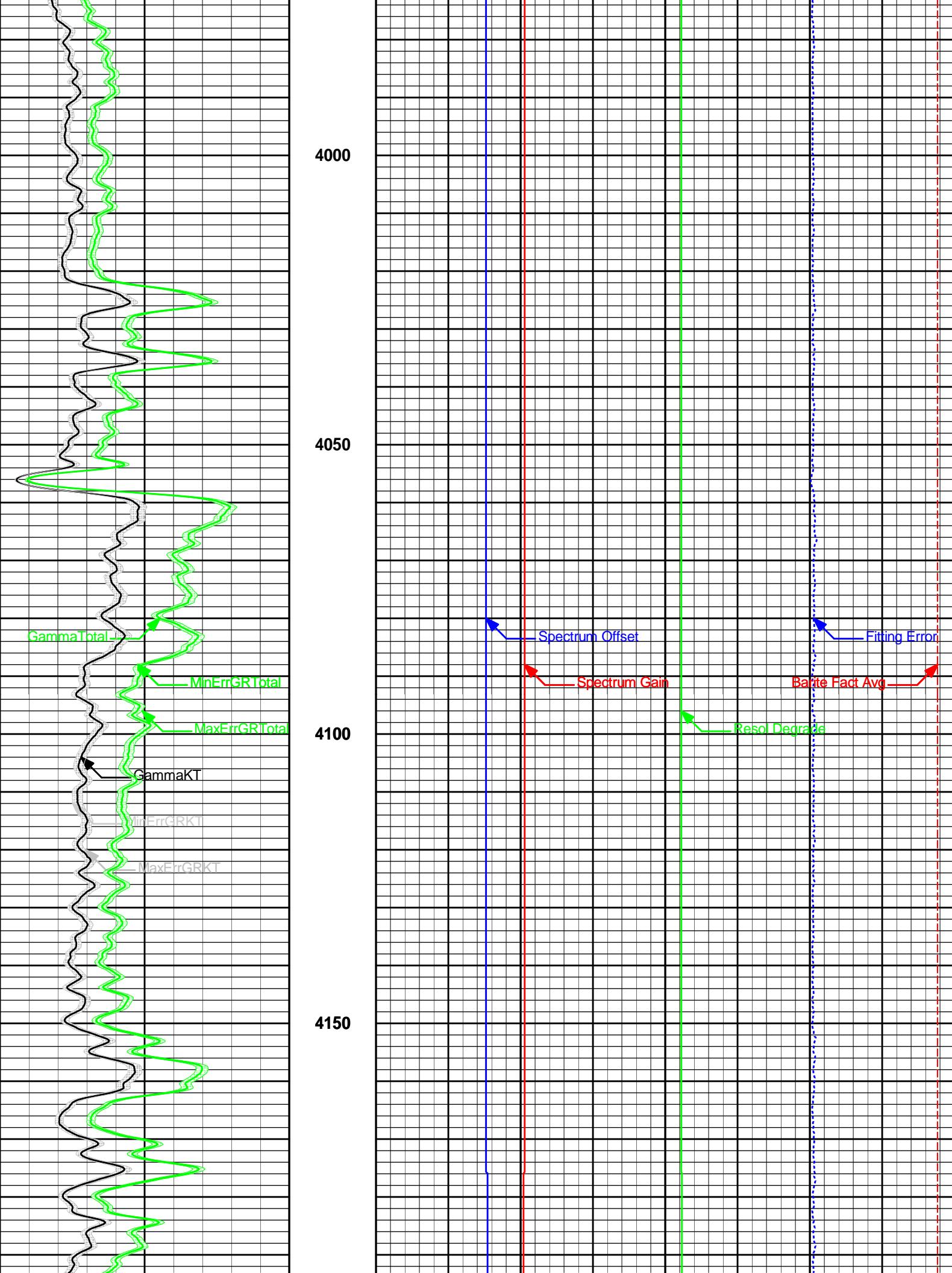


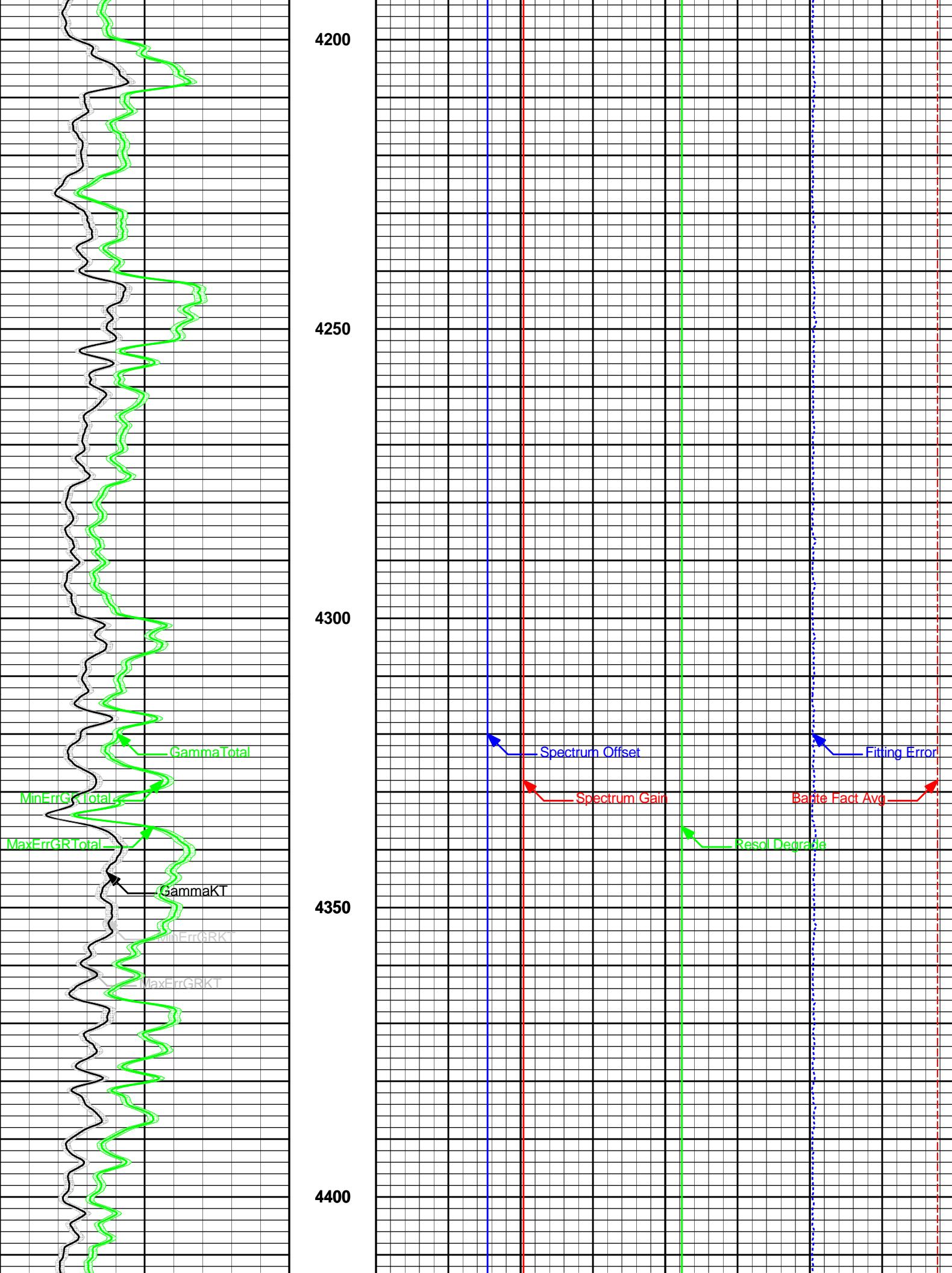


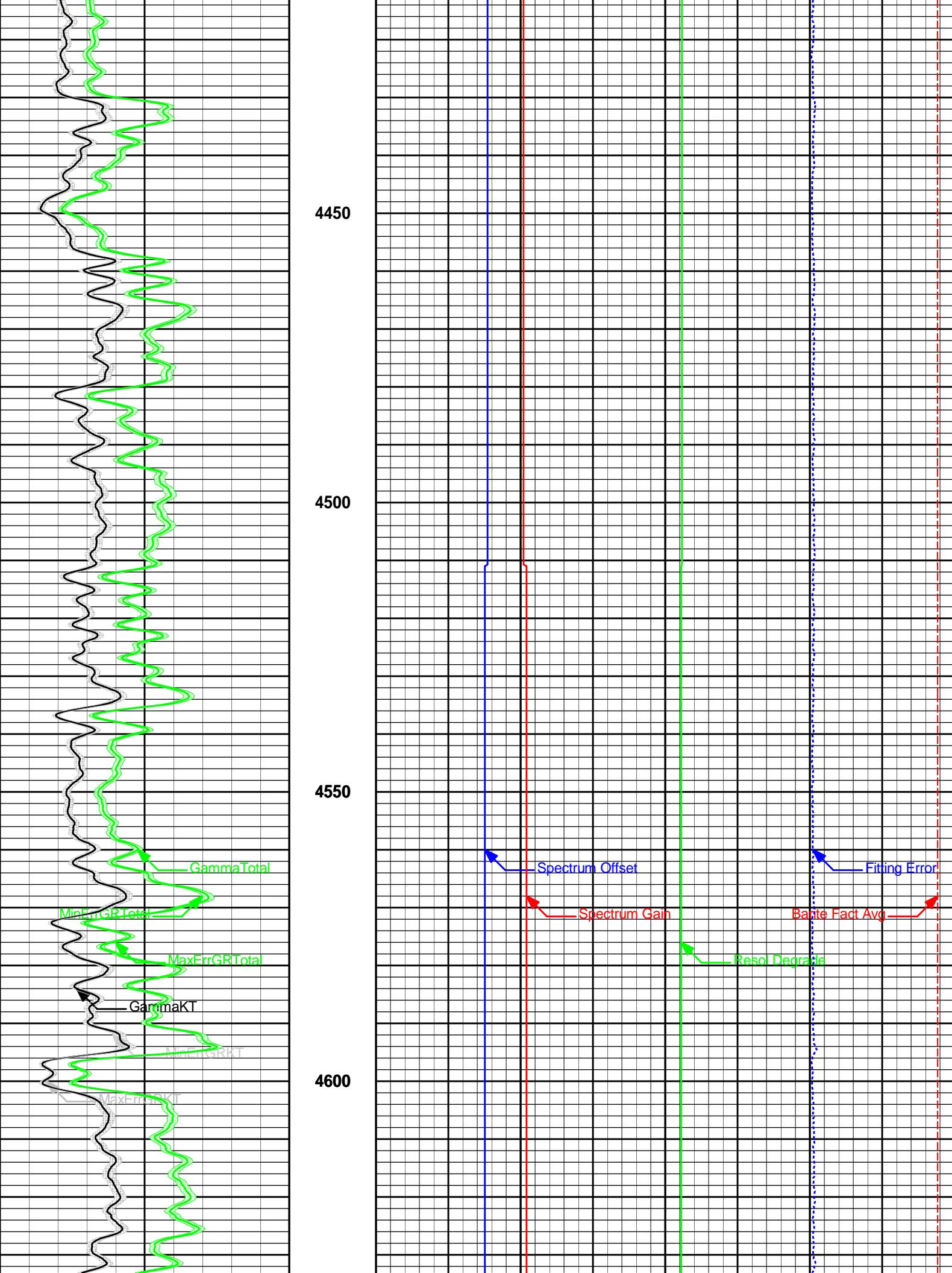


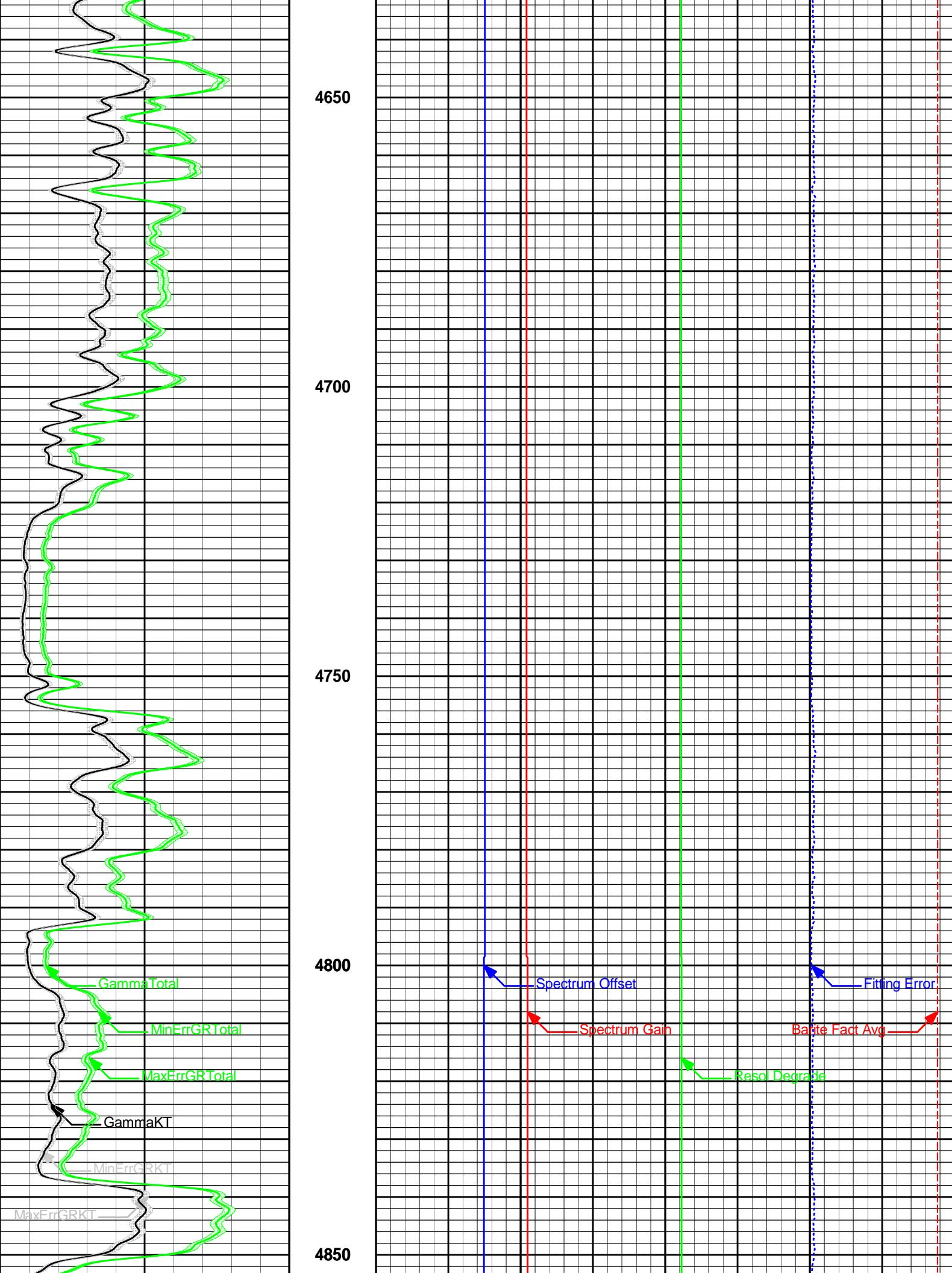


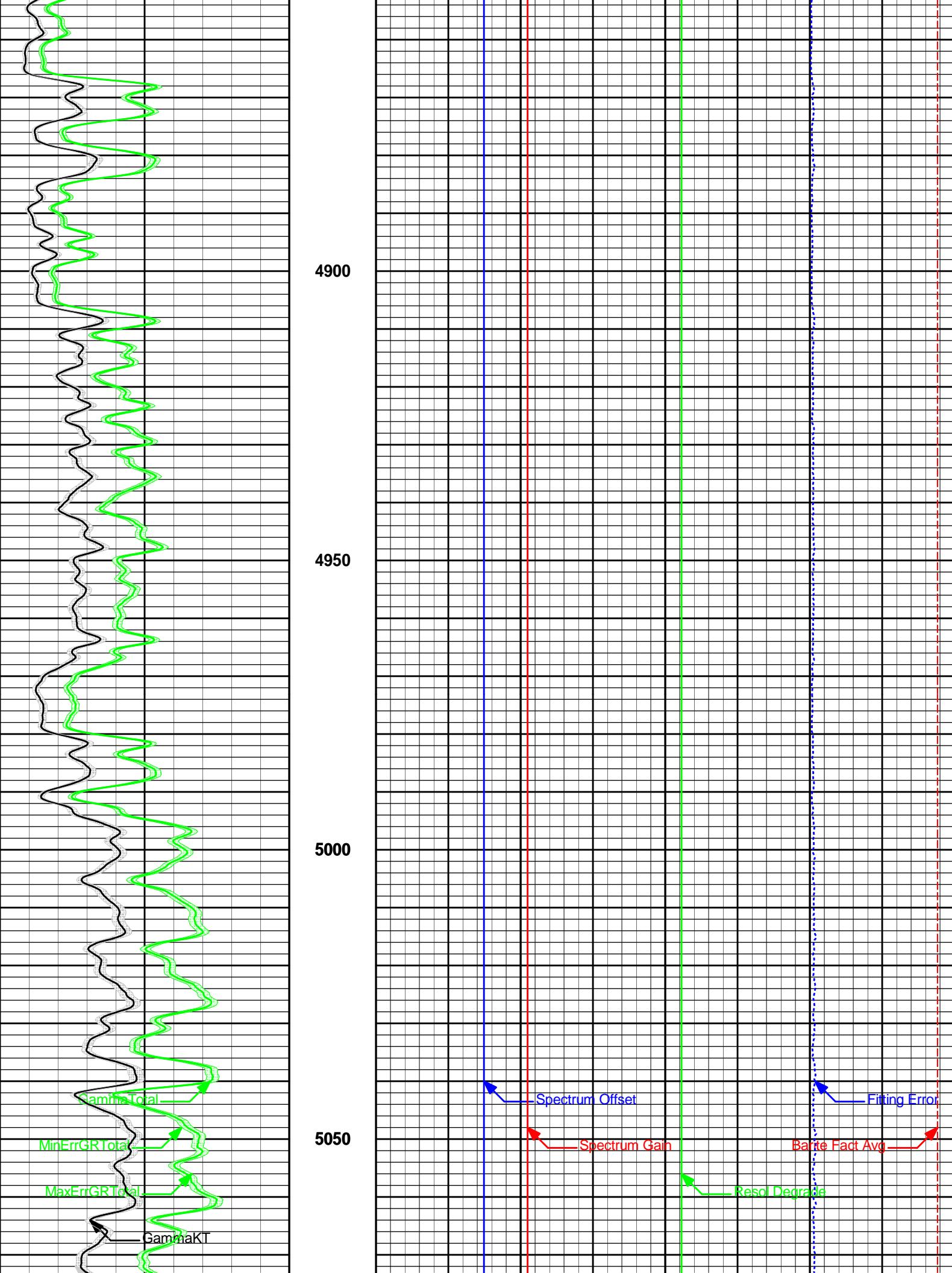


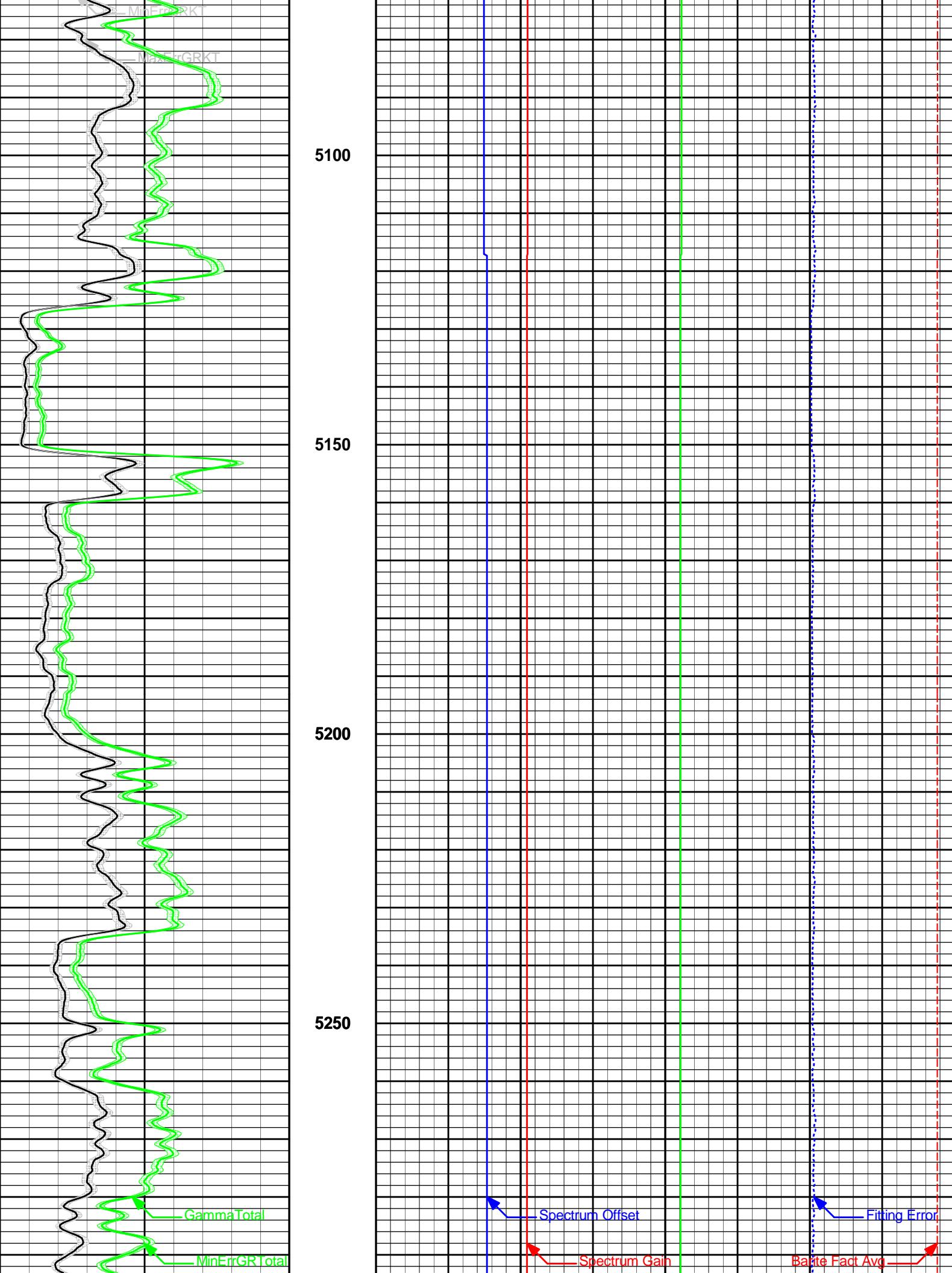


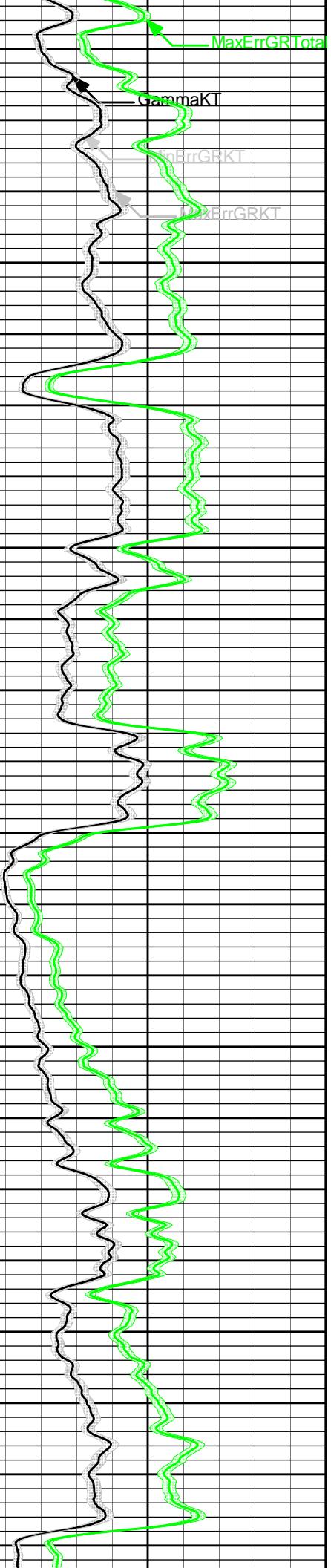












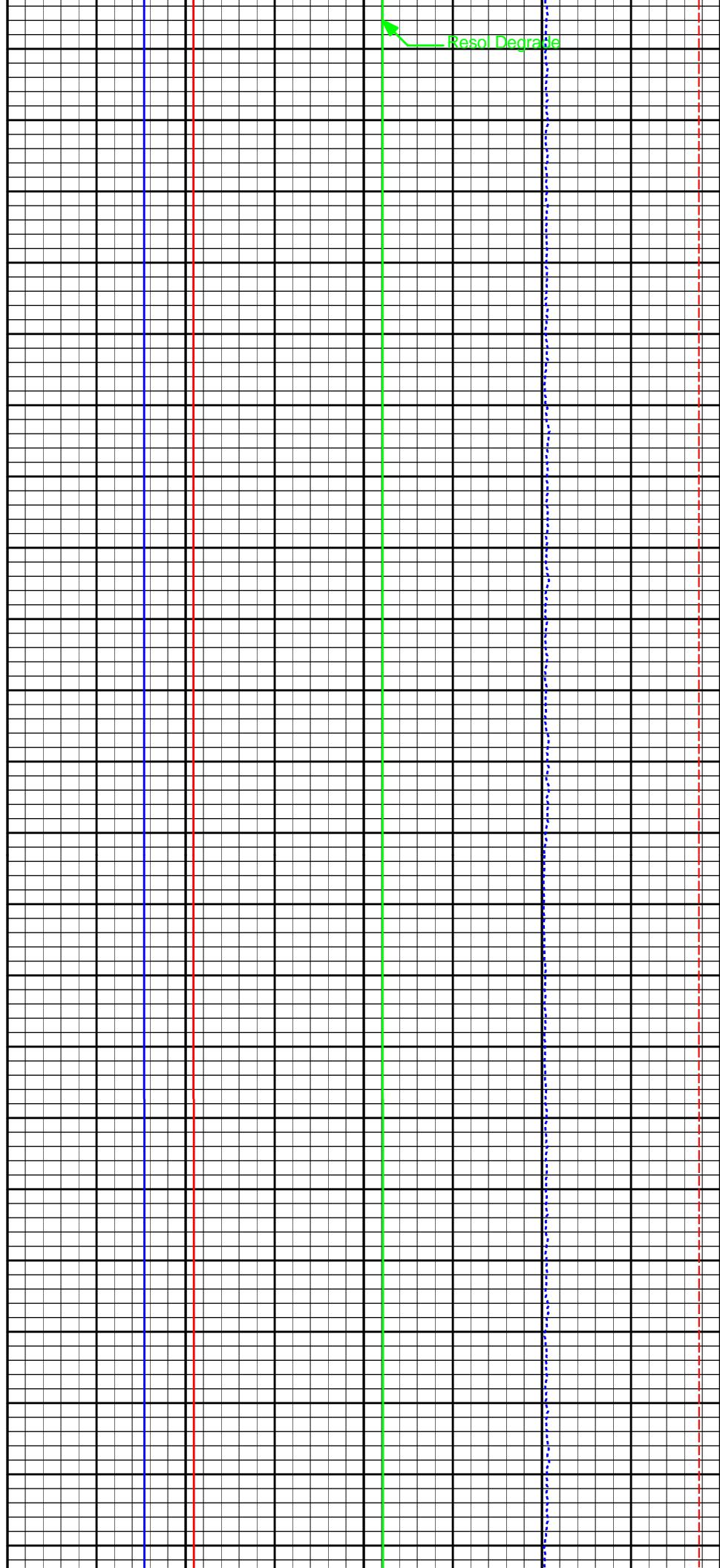
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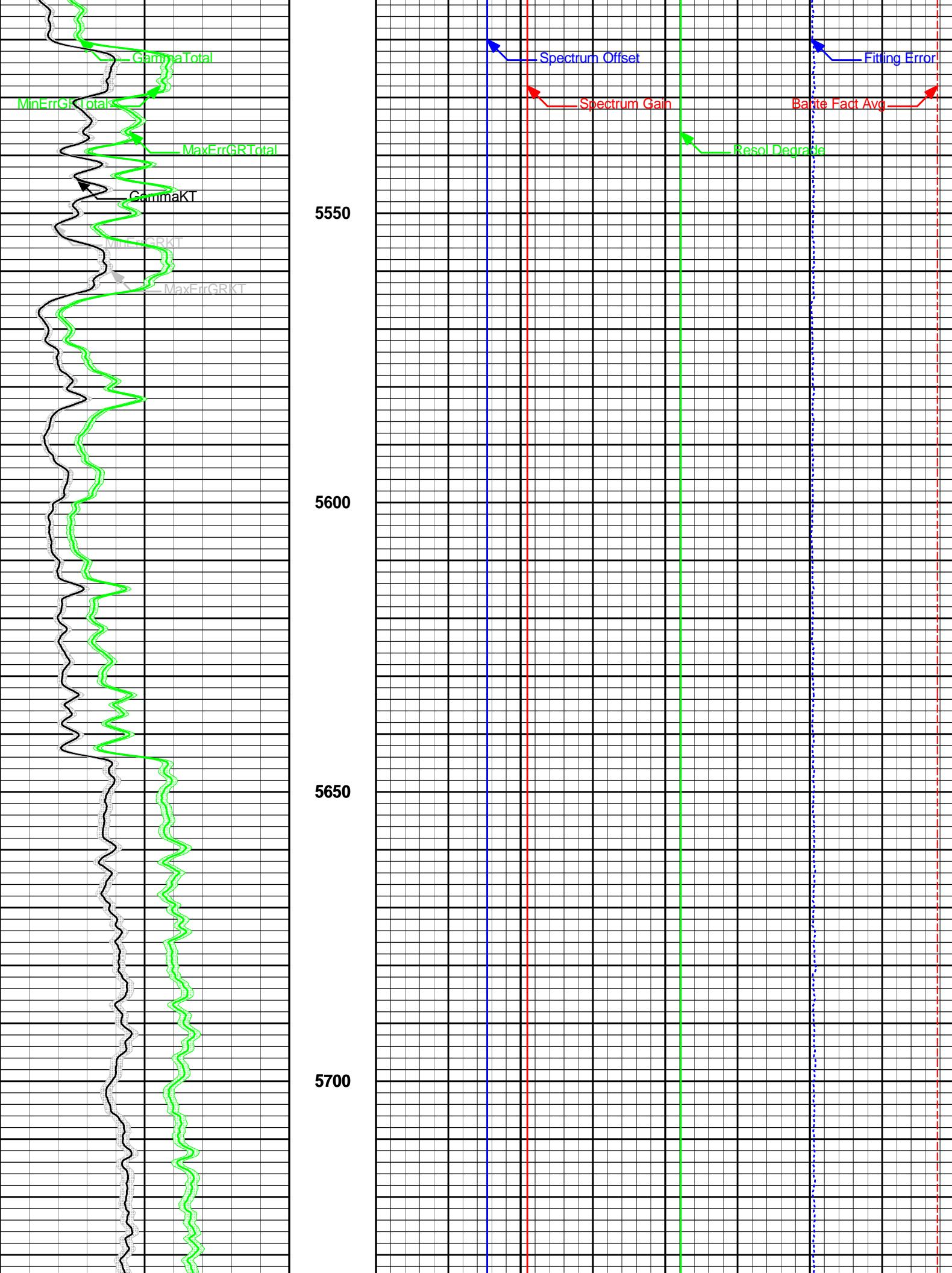
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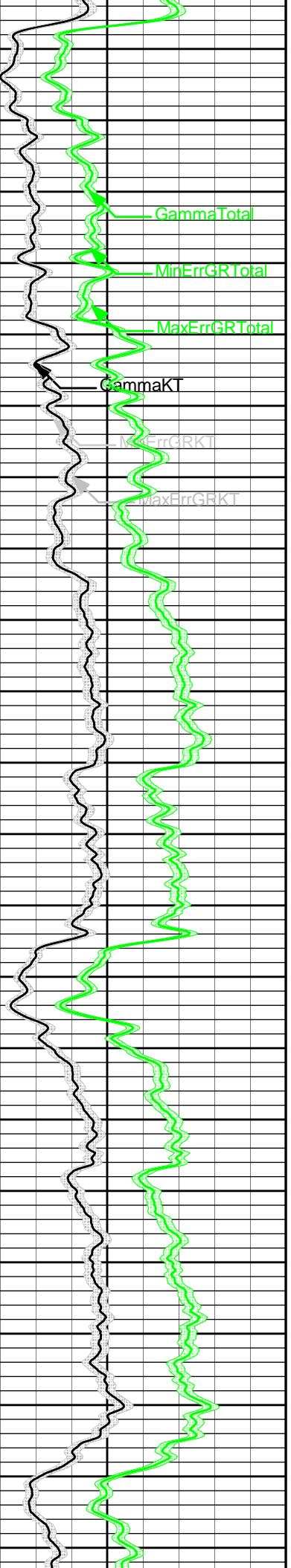
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5500







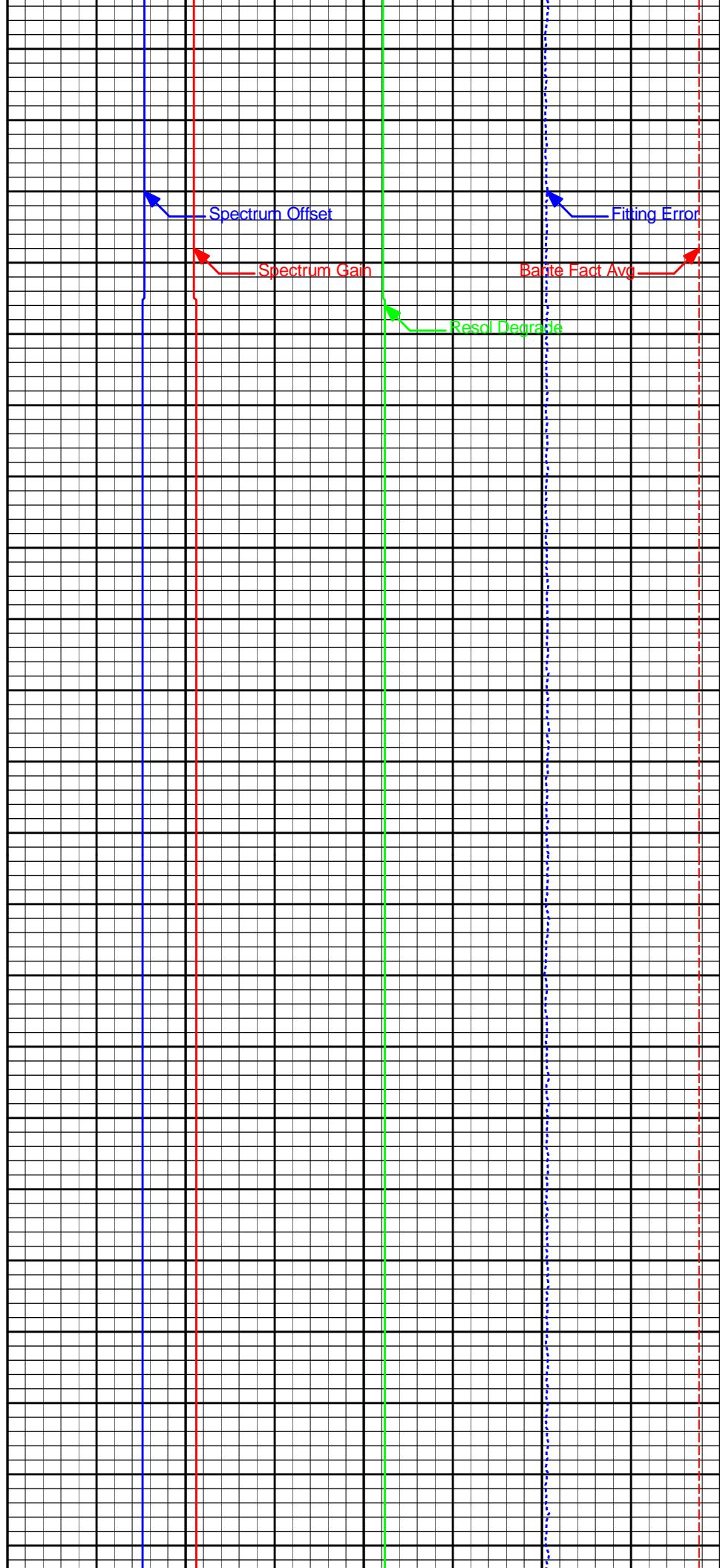
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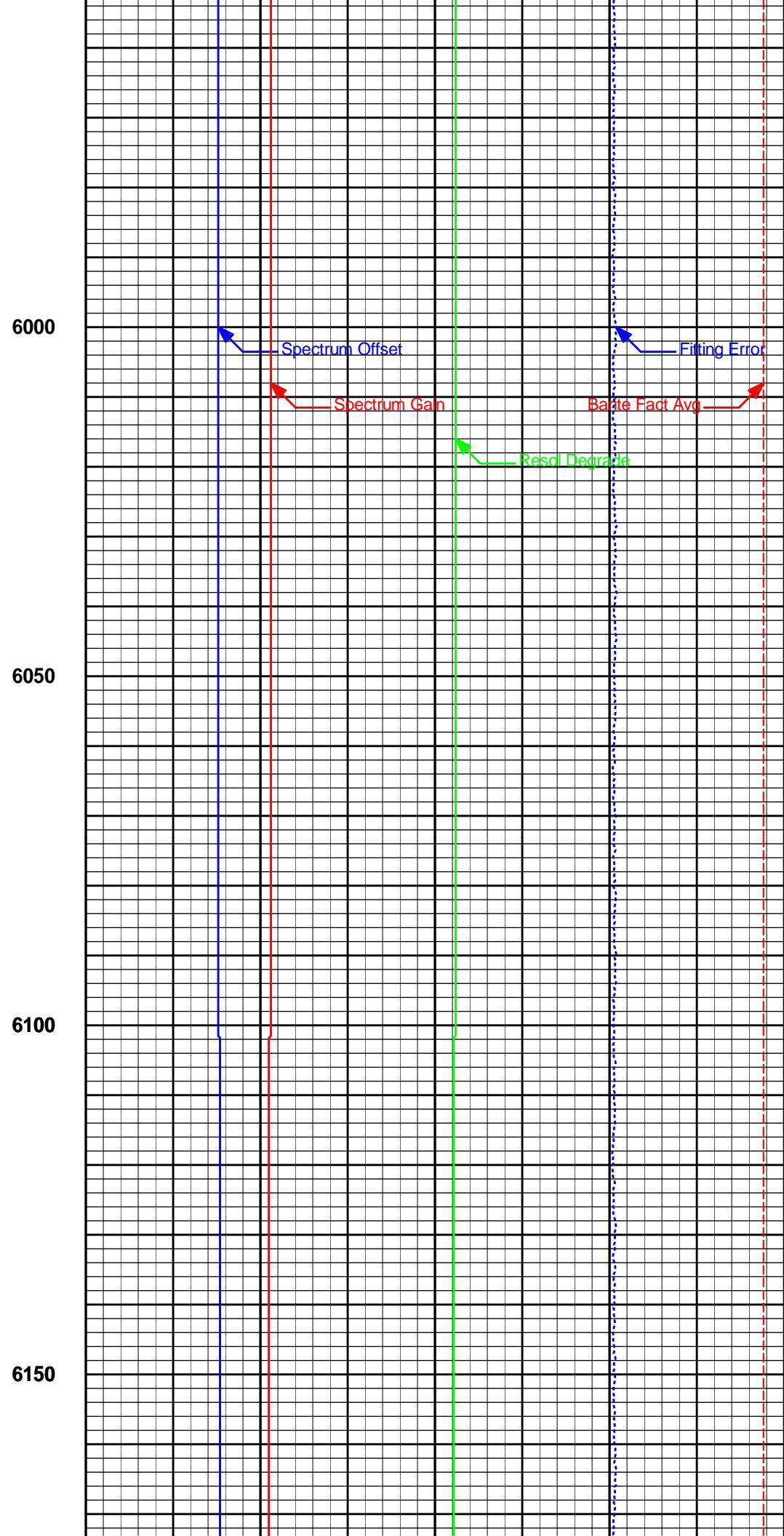
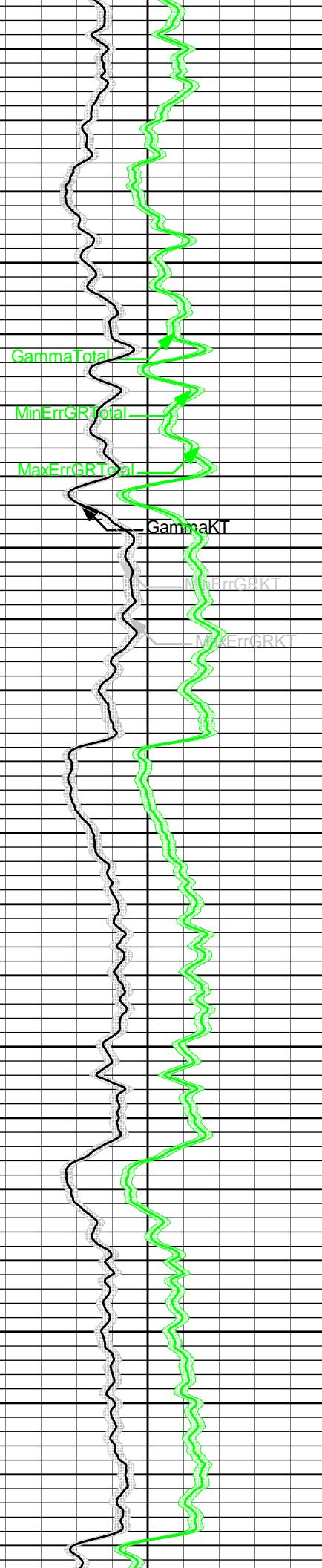
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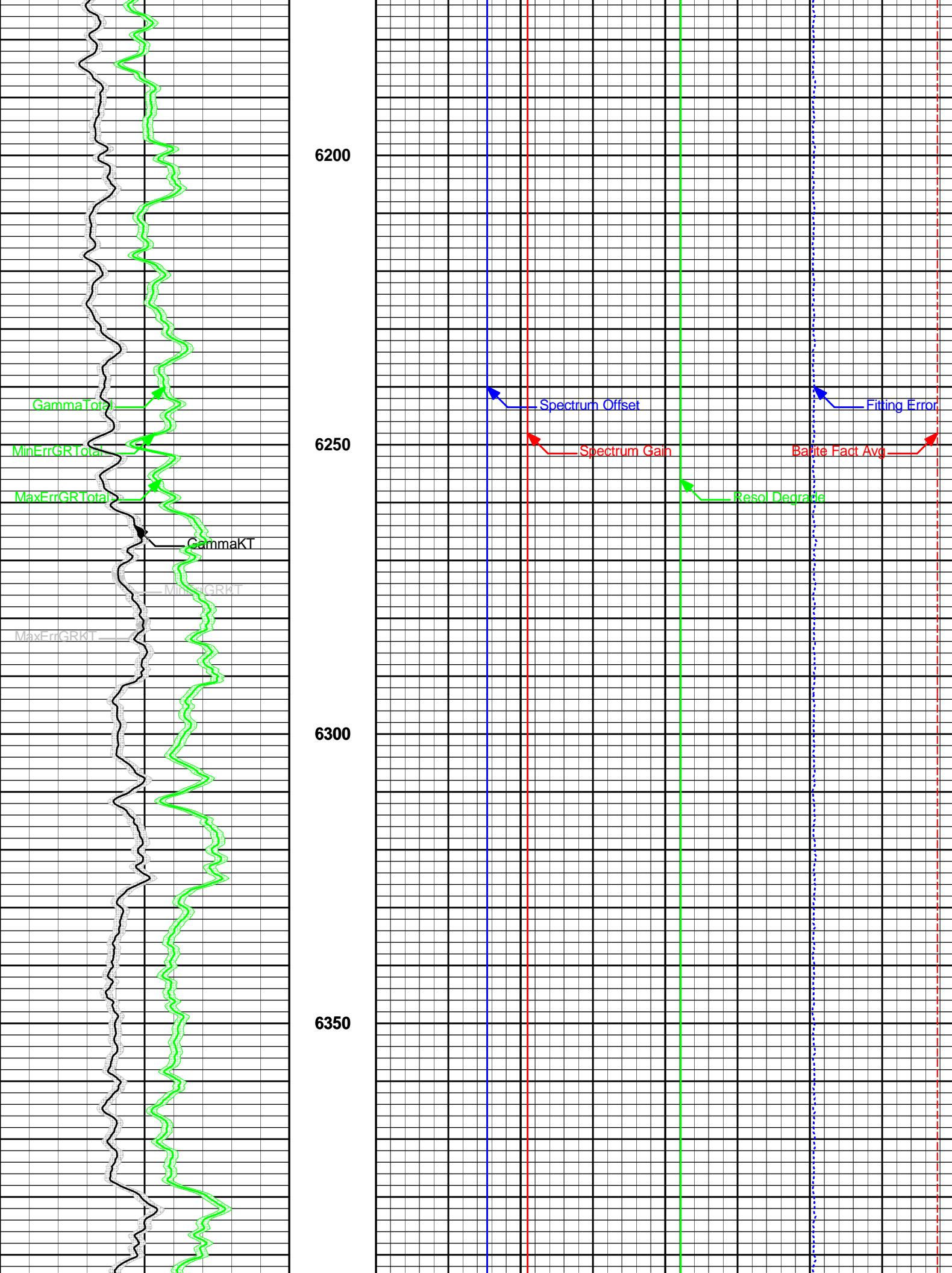
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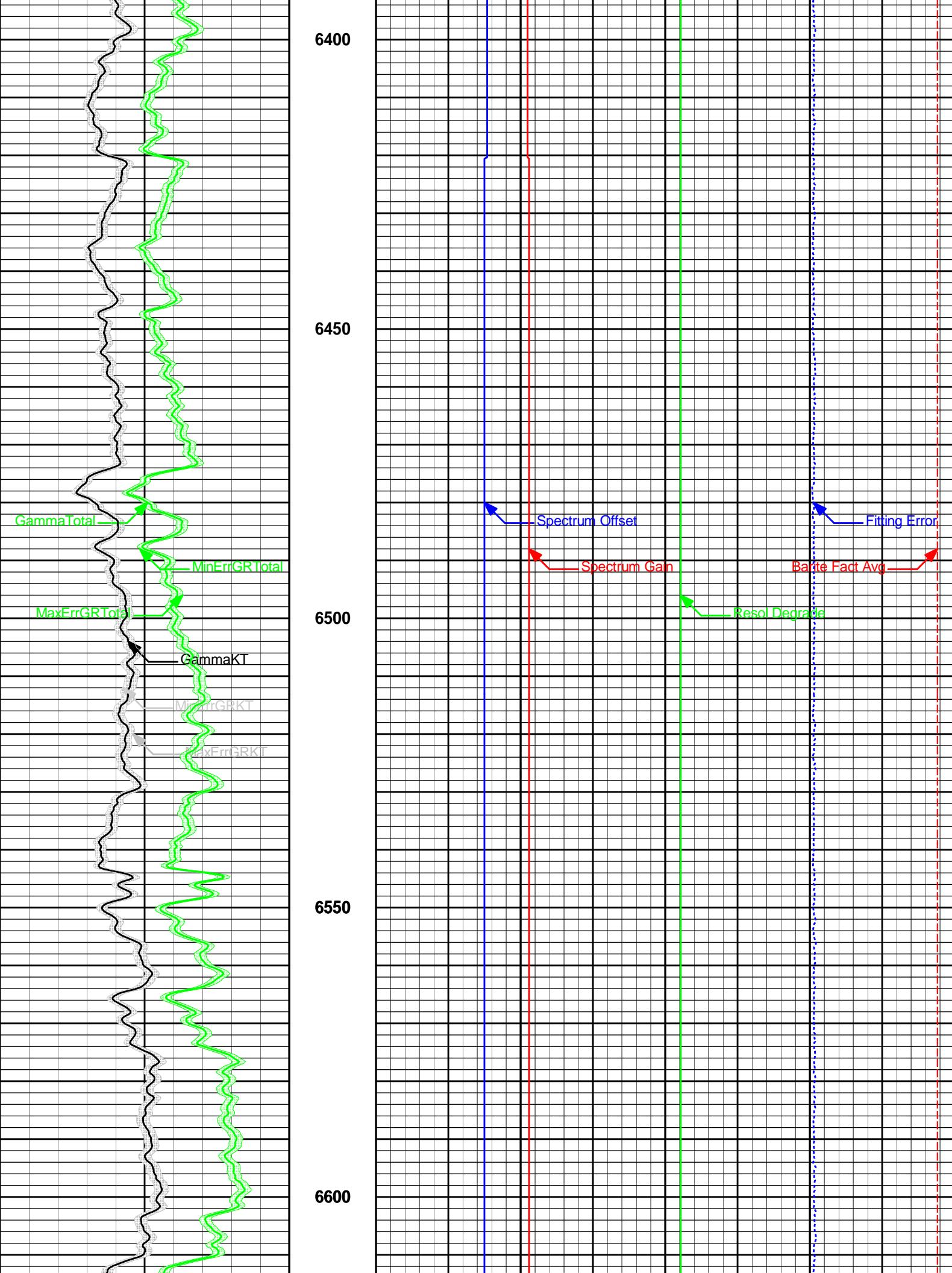
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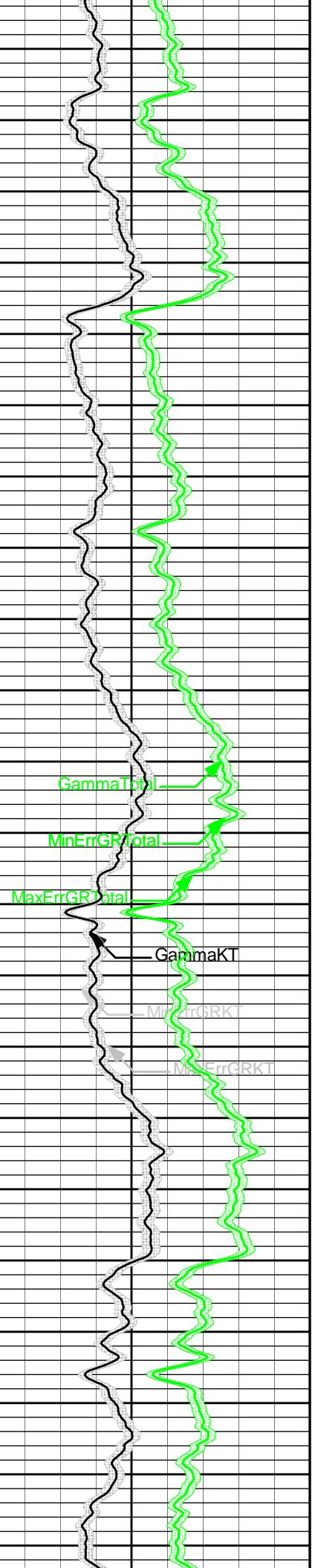
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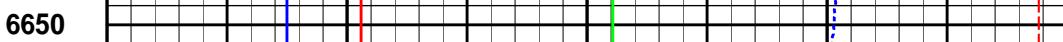


6650

6700

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6800



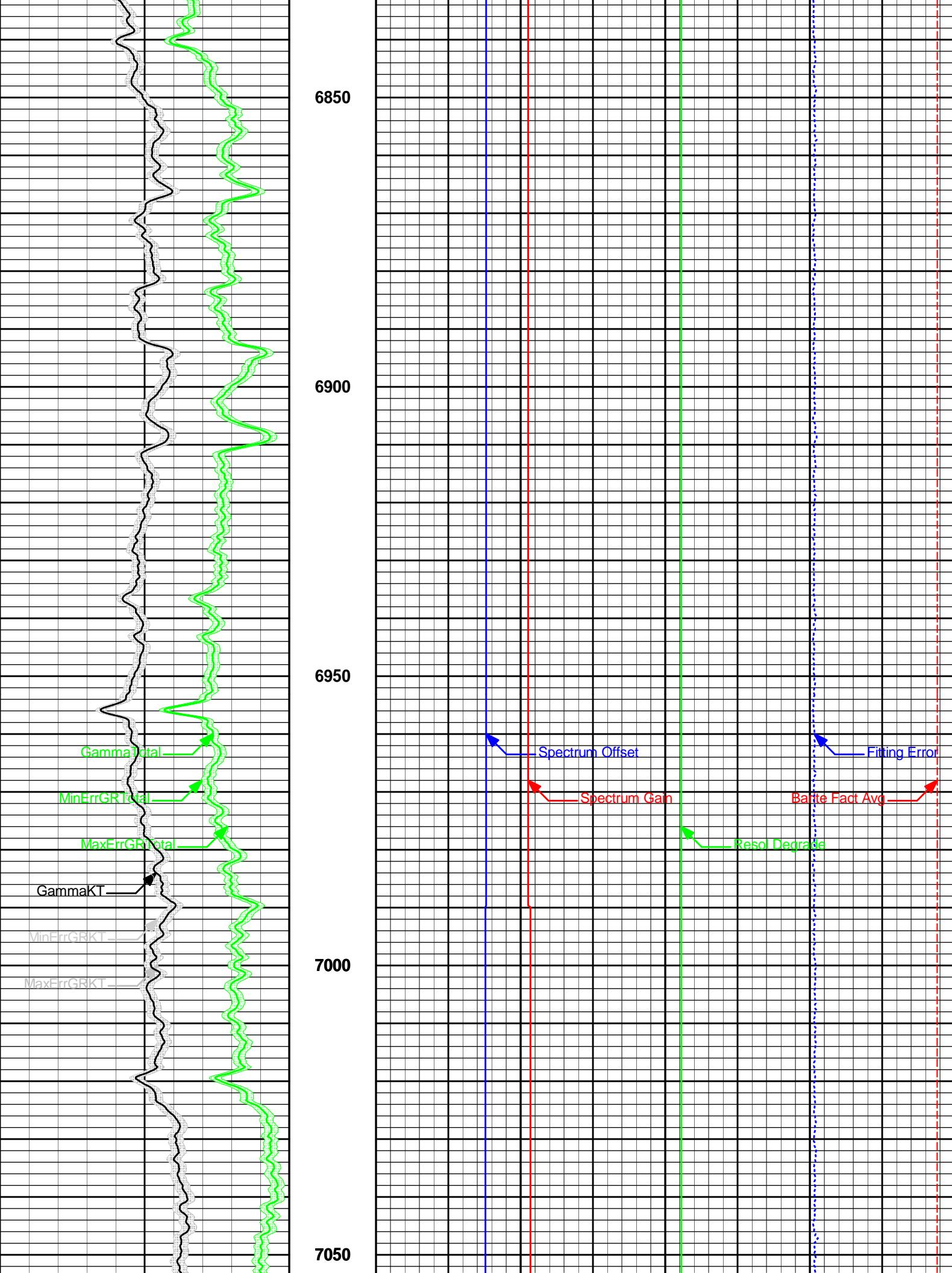
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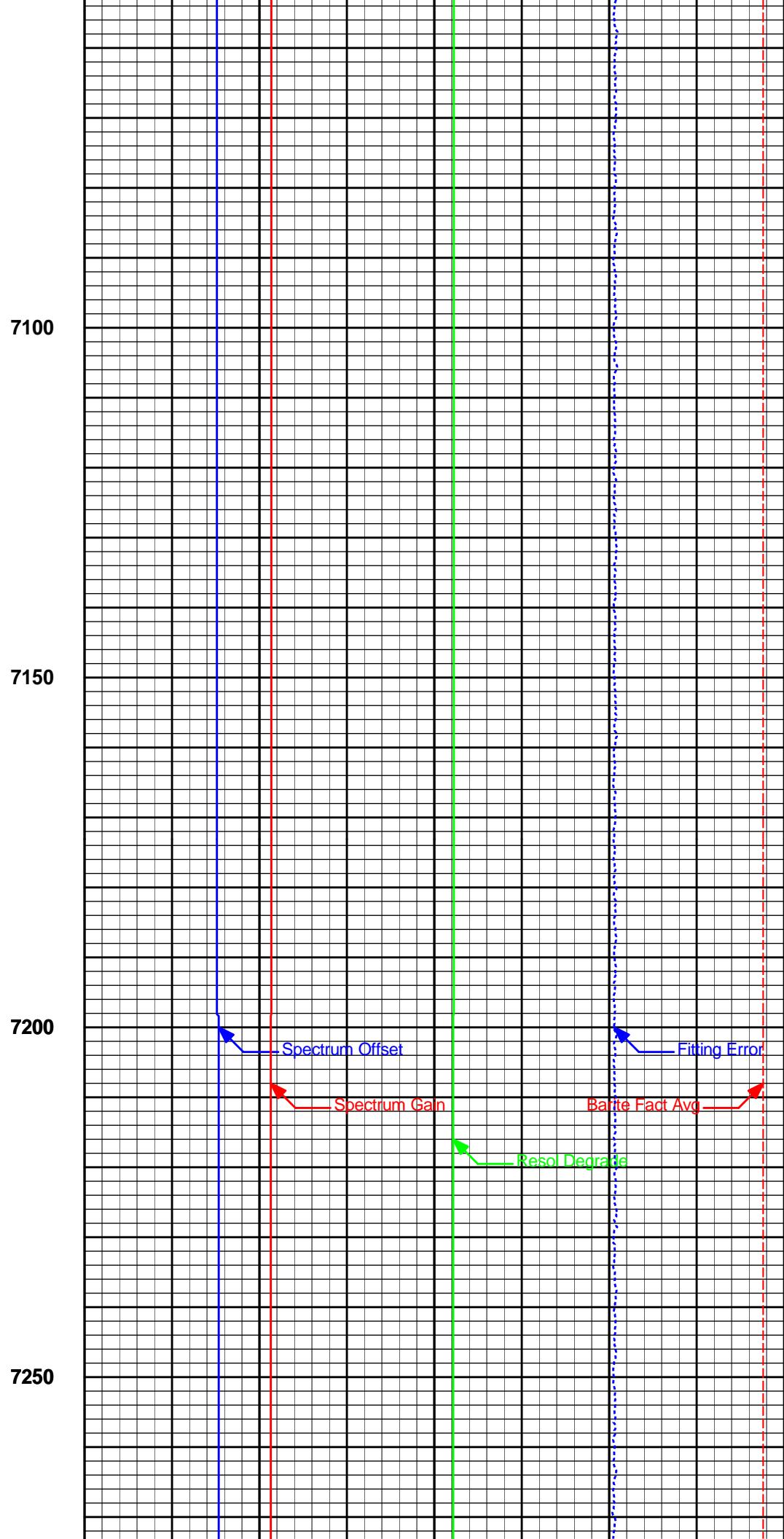
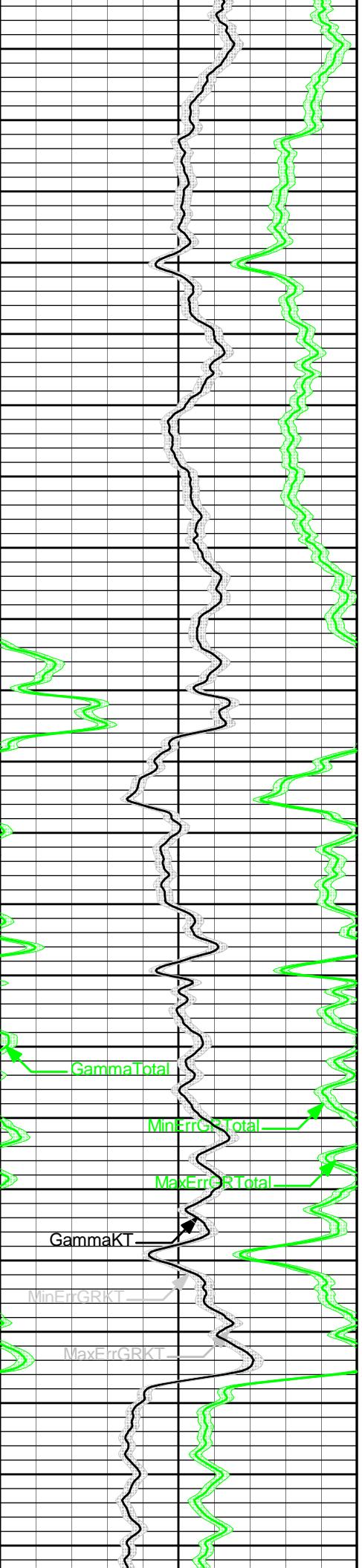
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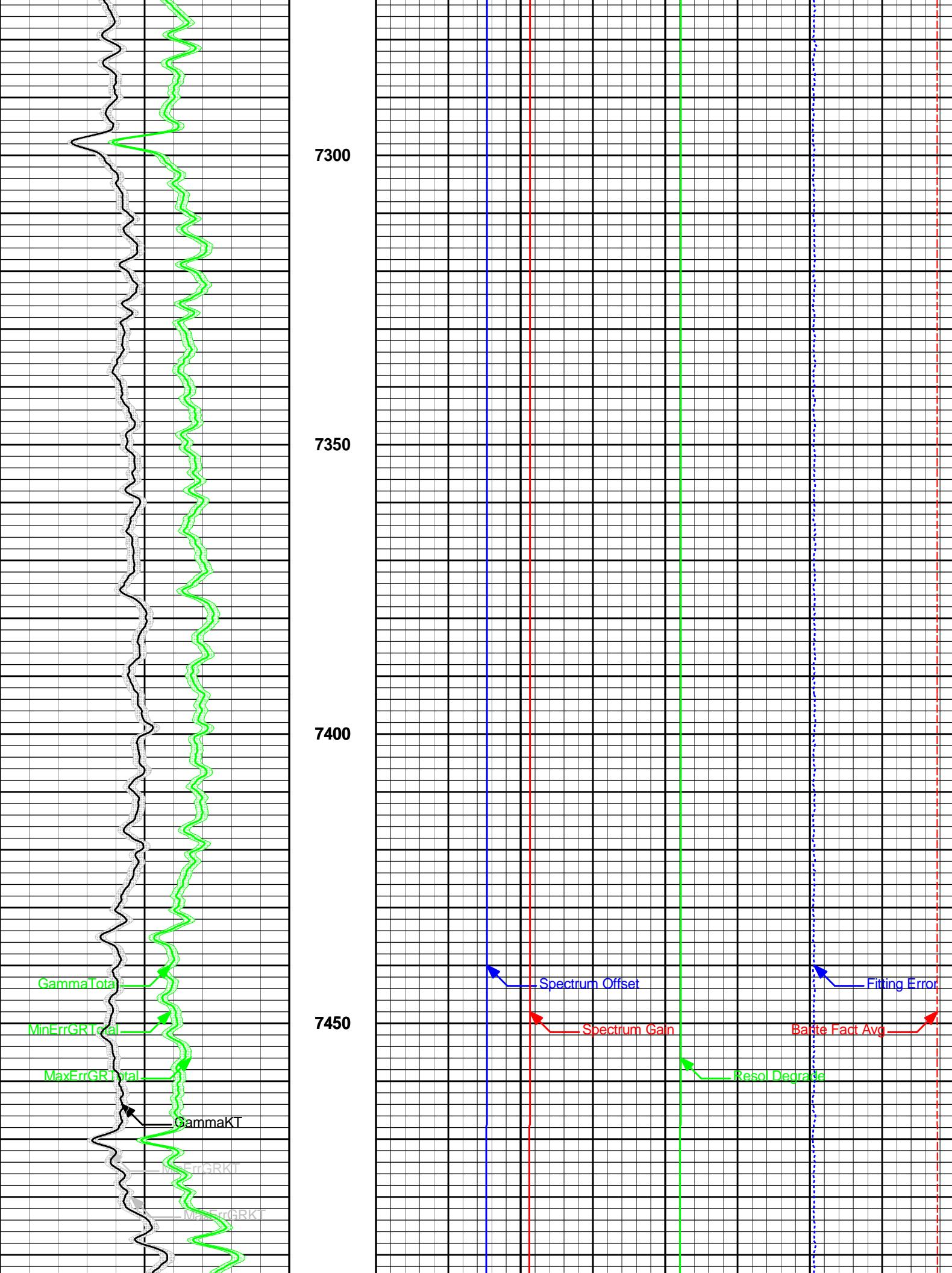
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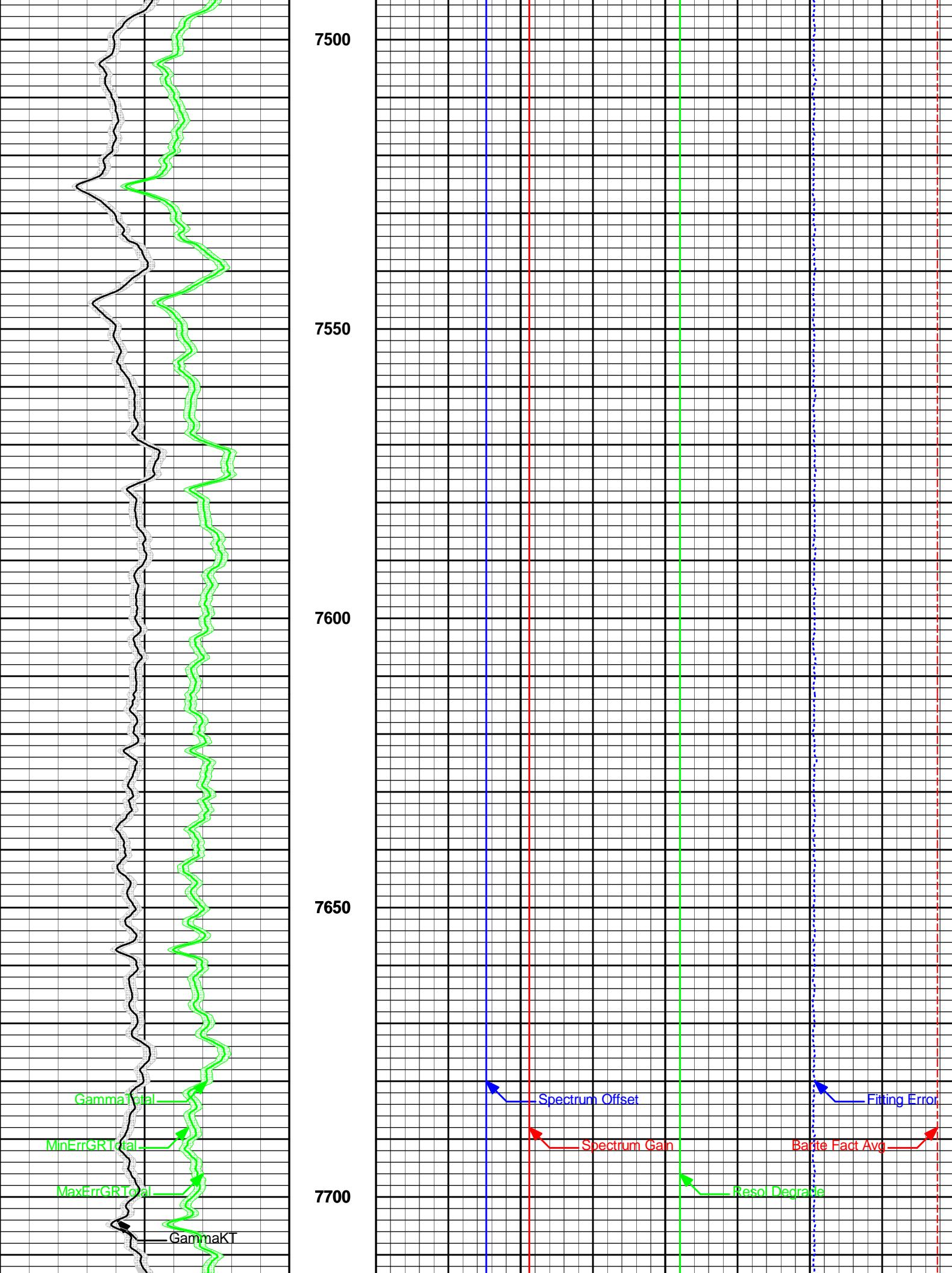
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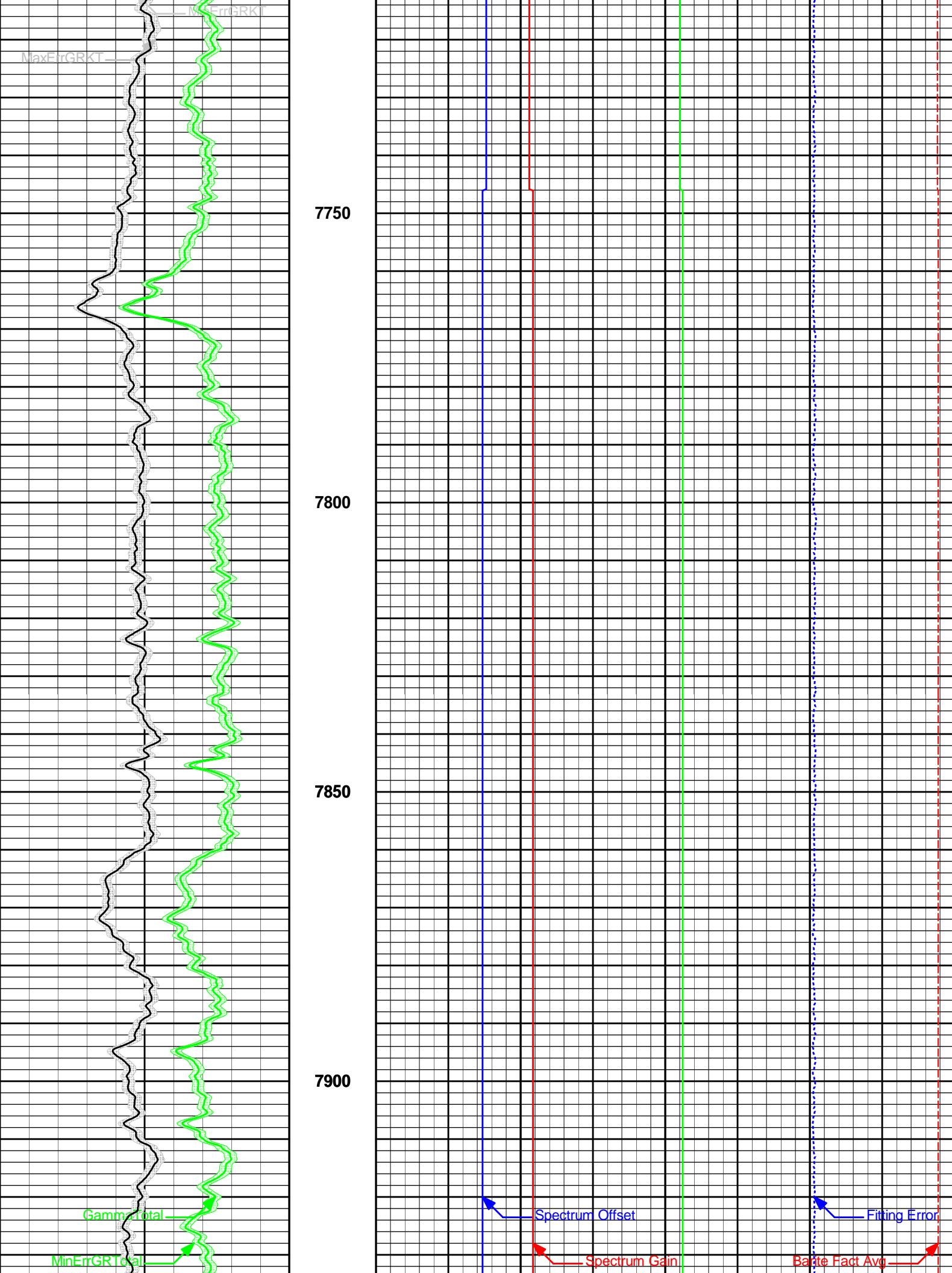
Fitting Error

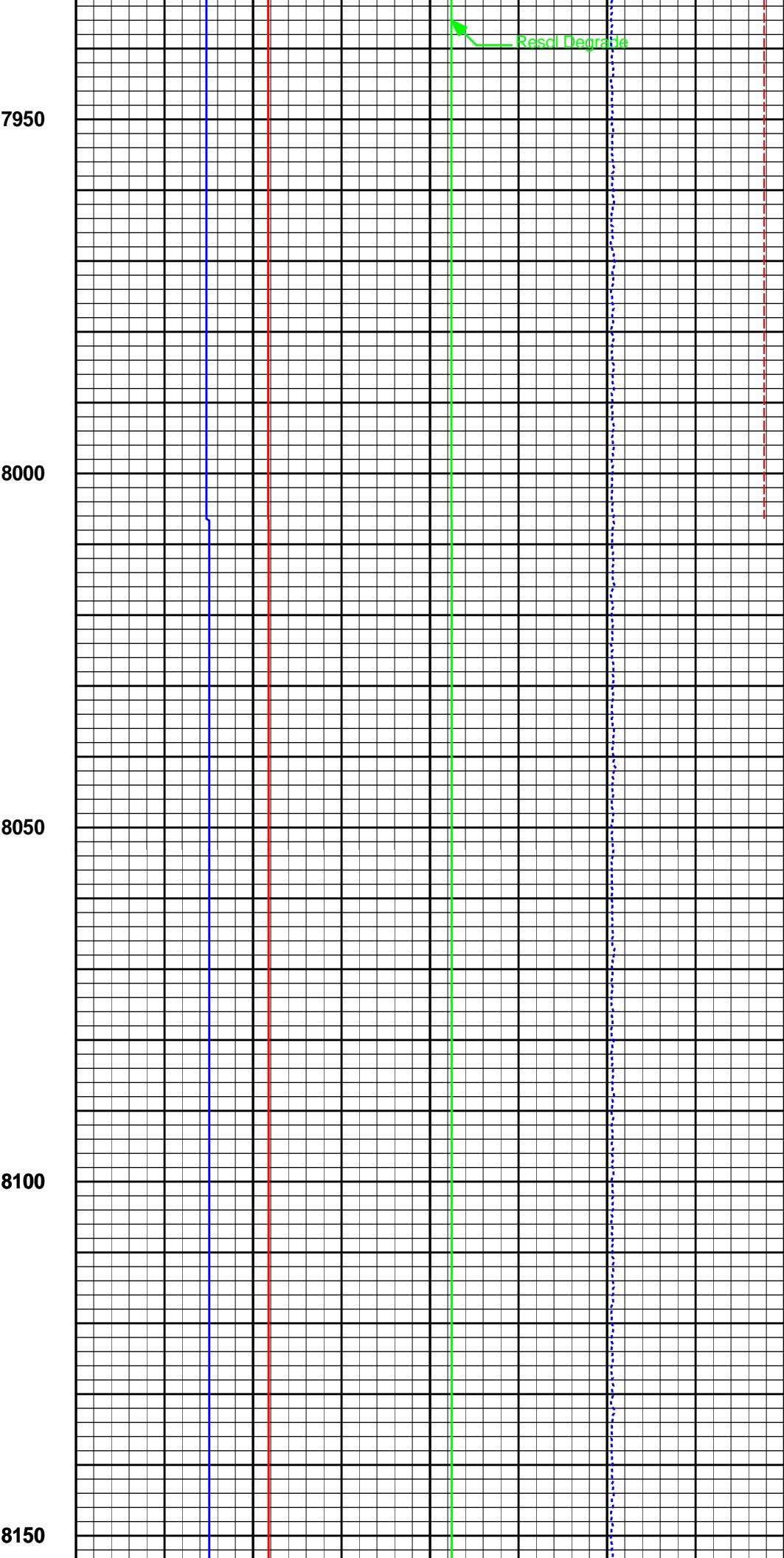
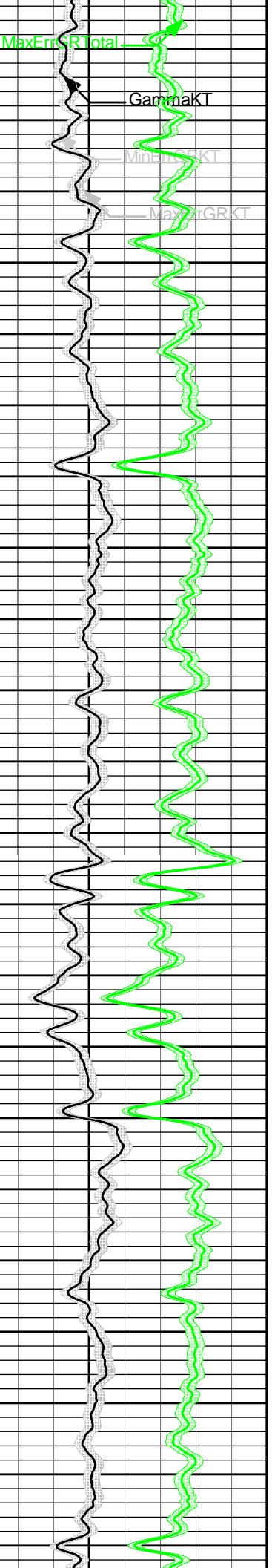


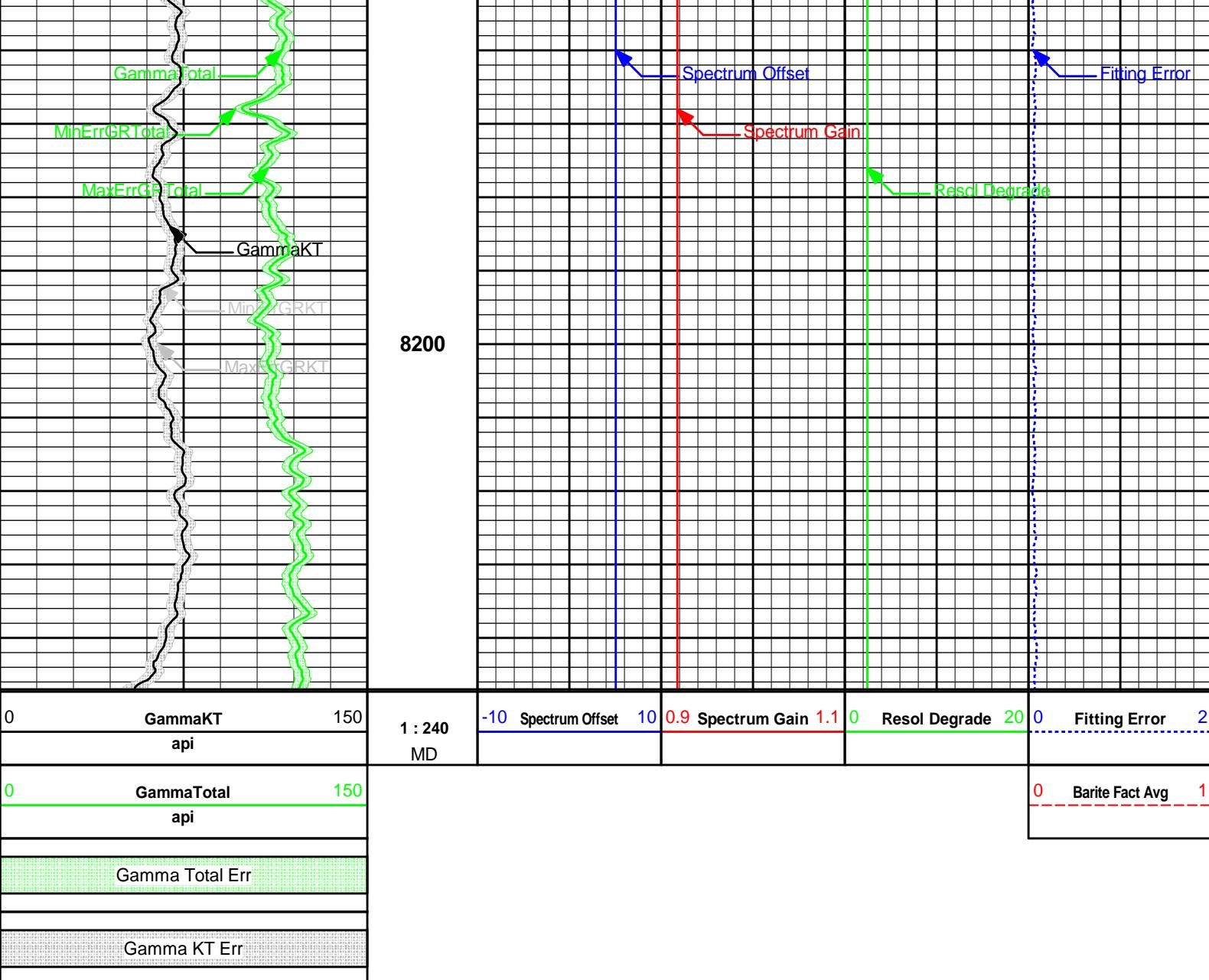






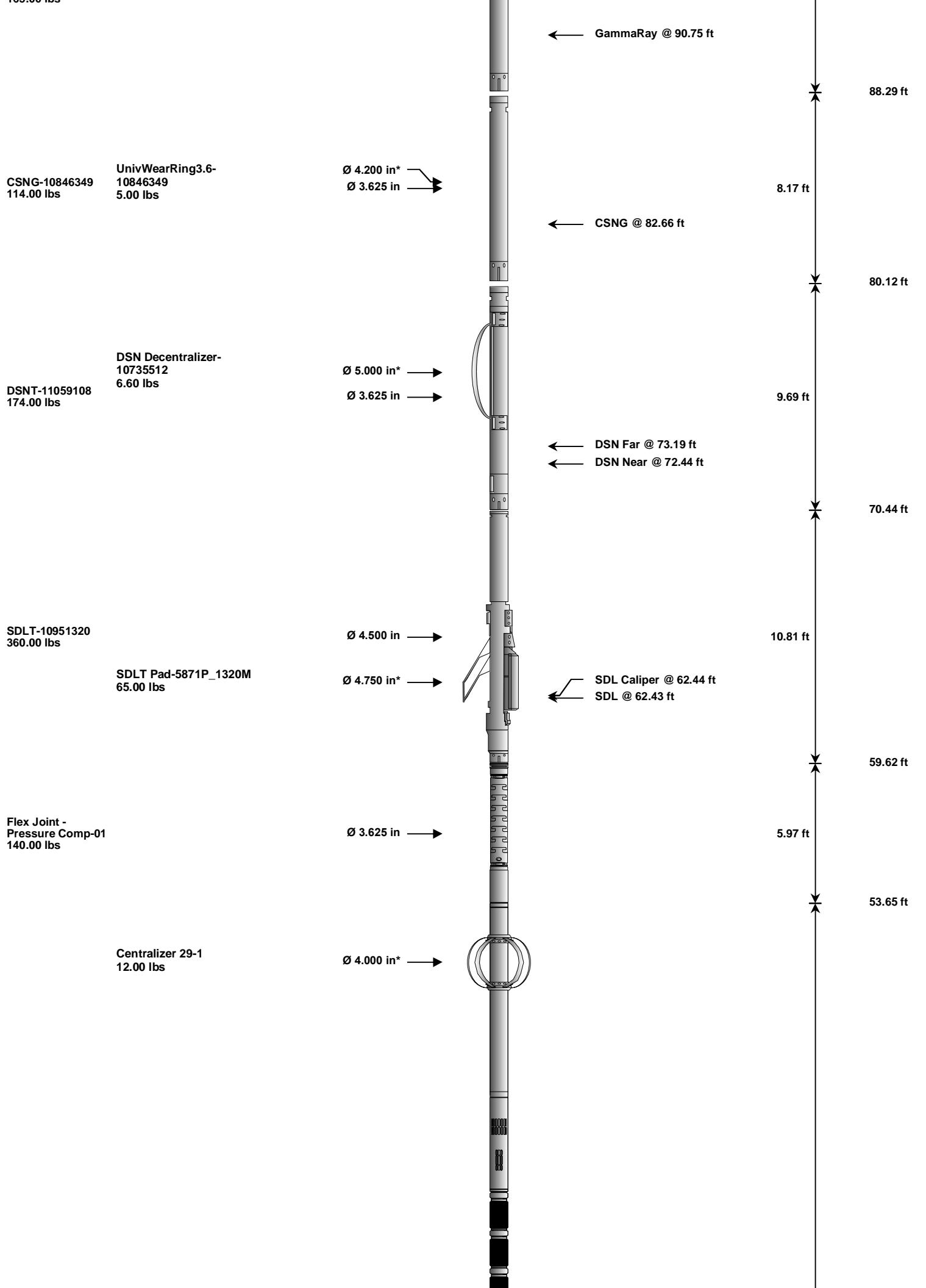






TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
RWCH-3377 135.00 lbs		Ø 3.625 in →		Load Cell @ 99.38 ft BH Temperature @ 98.81 ft	6.25 ft	103.06 ft
GTET-10995697 165.00 lbs		Ø 3.625 in →			8.52 ft	96.81 ft



Wavesonic-I-126

520.00 lbs

Ø 3.625 in →

34.07 ft

← Wavesonic Delay @ 31.08 ft

Centralizer 29-2
12.00 lbs

Ø 4.000 in* →

19.58 ft

Regal Standoff 6_75-1
20.00 lbsØ 6.750 in* →
Ø 3.625 in →

5.03 ft

14.55 ft

ACRt Instrument-
10967818
50.00 lbs

← Mud Resistivity @ 13.19 ft

ACRt Sonde-e7818-
s1994
200.00 lbs

Ø 3.625 in →

14.22 ft

← ACRt @ 9.21 ft

SP Ring-1
0.00 lbs

Ø 3.625 in* →

← SP @ 1.61 ft

0.33 ft

Bull Nose-01
5.00 lbs

Ø 2.750 in →

0.33 ft

0.00 ft

Ø 3.625 in →

← SP @ 1.61 ft

0.33 ft

0.00 ft

Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log Speed (fpm)	
RWCH	Releasable Wireline Cable Head	3377	135.00	6.25	96.81	300.00	
GTET	Gamma Telemetry Tool	10995697	165.00	8.52	88.29	60.00	
CSNG	Compensated Spectral Natural Gamma	10846349	114.00	8.17	80.12	15.00	
UWR3P6	Universal Wear Ring 3 5-8 inch	10846349	5.00	0.35	*	84.20	300.00
DSNT	Dual Spaced Neutron	11059108	174.00	9.69	70.44	60.00	
DCNT	DSN Decentralizer	10735512	6.60	5.13	*	73.77	300.00
SDLT	Spectral Density Tool	10951320	360.00	10.81	59.62	60.00	
SDLP	Density Insite Pad	5871P_1320M	65.00	2.55	*	61.83	60.00
FLEX	Flex Joint - Pressure Compensated	01	140.00	5.97	53.65	300.00	
WSTT	WaveSonic Insite	126	520.00	34.07	19.58	30.00	
OBCEN	Centralizer - 29 in.Overbody	1	12.00	2.42	*	49.94	300.00
OBCEN	Centralizer - 29 in.Overbody	2	12.00	2.42	*	21.93	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10967818	50.00	5.03	14.55	300.00	
RSOF	Regal Standoff 6.75in	1	20.00	0.52	*	17.32	300.00
ACRt	Array Compensated True Resistivity Sonde Section	e7818-s1994	200.00	14.22	0.33	300.00	
SP	SP Ring	1	0.00	0.25	*	1.61	300.00
BNCS	Bull Nose	01	5.00	0.22	0.22	300.00	

BLNS	Bull Nose	01	5.00	0.33	0.00	300.00
Total			1,983.60	103.06		
Data: GB_ALCOR_#1\0001 QUAD\IDLE			* Not included in Total Length and Length Accumulation.		Date: 10-Jul-12 09:33:14	

COMPANY **GREAT BEAR PETROLEUM**
WELL **ALCOR #1**
FIELD **WILDCAT**
COUNTY **NORTH SLOPE** STATE **ALASKA**

HALLIBURTON

**COMPENSATED SPECTRAL
NATURAL GAMMA**