

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

HALLIBURTON										ARRAY COMPENSATED TRUE RESISTIVITY LOG																													
COMPANY					OXY USA, INC.					COMPANY					OXY USA, INC.																								
WELL					BLASDEL A-3					WELL					BLASDEL A-3																								
FIELD					LEMON					FIELD					LEMON																								
COUNTY					HASKELL					COUNTY					HASKELL																								
STATE					KANSAS					COUNTY					HASKELL																								
STATE					KANSAS					STATE					KANSAS																								
Permanent Datum					GL					Sect. 4					Twp. 30S					Rge. 33W					Other Services: DSNT / SDLT MICRO IDT BSAT														
Log measured from					KB					Location					440' FNL & 330' FWL					Elev. 2961.0 ft					D.F. 2976.0 ft														
Drilling measured from					KB															16.0 ft above perm. Datum					G.L. 2961.0 ft														
Date					06-May-12																																		
Run No.					ONE																																		
Depth - Driller					5611.00 ft																																		
Depth - Logger					5580.0 ft																																		
Bottom - Logged Interval					5571.0 ft																																		
Top - Logged Interval					1823.0 ft																																		
Casing - Driller					8.625 in					@ 1822.0 ft										@																			
Casing - Logger					1823.0 ft																				@														
Bit Size					7.875 in															@																			
Type Fluid in Hole					WATER																				@														
Density					9.2 ppg					63.00 s/qt																													
PH					10.50 pH					6.0 cpm																													
Source of Sample					FLOWLINE																																		
Rm @ Meas. Temperature					1.120 ohmm					@ 84.00 degF										@										@									
Rmf @ Meas. Temperature					1.10 ohmm					@ 78.00 degF										@										@									
Rmc @ Meas. Temperature					1.450 ohmm					@ 78.00 degF										@										@									
Source Rmf					Rmc					MEAS					MEAS																								
Rm @ BHT					0.75 ohmm					@ 147.0 degF										@										@									
Time Since Circulation					15.1 hr																																		
Time on Bottom					06-May-12 05:33																																		
Max. Rec. Temperature					147.0 degF					@ 5580.0 ft										@										@									
Equipment					336					LIBERAL																													
Recorded By					C.HAVERKAMP																																		
Witnessed By					M.ATWOOD																																		

Fold here

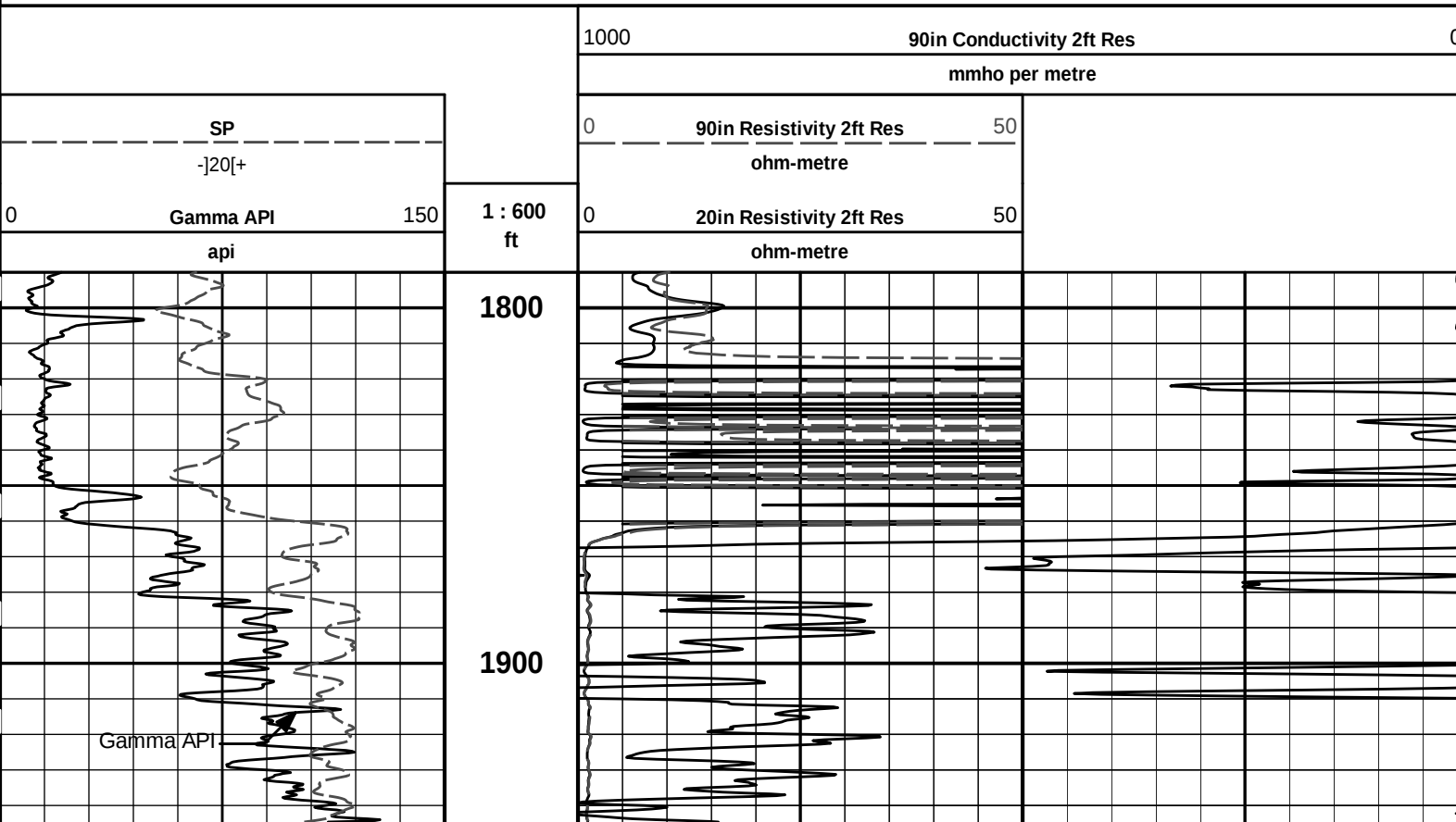
Service Ticket No.: 9466919						API Serial No.: 15-081-21969						PGM Version: WL INSITE R3.4.2 (Build 2)																	
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE												RESISTIVITY SCALE CHANGES																	
Date		Sample No.										Type Log		Depth		Scale Up Hole				Scale Down Hole									
Depth-Driller																													
Type Fluid in Hole																													
Density		Viscosity																											
Ph		Fluid Loss																											
Source of Sample												RESISTIVITY EQUIPMENT DATA																	
Rm @ Meas. Temp				@				@				Run No.		Tool Type & No.				Pad Type				Tool Pos.				Other			
Rmf @ Meas. Temp.				@				@				ONE		ACRT				N/A				1.5" S.O.				N/A			
Rmc @ Meas. Temp.				@				@						90148388_e95															
Source Rmf		Rmc																											
Rm @ BHT				@				@																					
Rmf @ BHT				@				@																					
Rmc @ BHT				@				@																					
EQUIPMENT DATA																													
GAMMA						ACOUSTIC						DENSITY						NEUTRON											
Run No.		ONE				Run No.						Run No.						Run No.											
Serial No.		11021138				Serial No.						Serial No.						Serial No.											
Model No.		GTET				Model No.						Model No.						Model No.											
Diameter		3.625"				No. of Cent.						Diameter						Diameter											
Detector Model No.		T-102				Spacing						Log Type						Log Type											
Type		SCINT										Source Type						Source Type											
Length		8"				LSA [Y/N]						Serial No.						Serial No.											
Distance to Source		10'				FWDA [Y/N]						Strength						Strength											

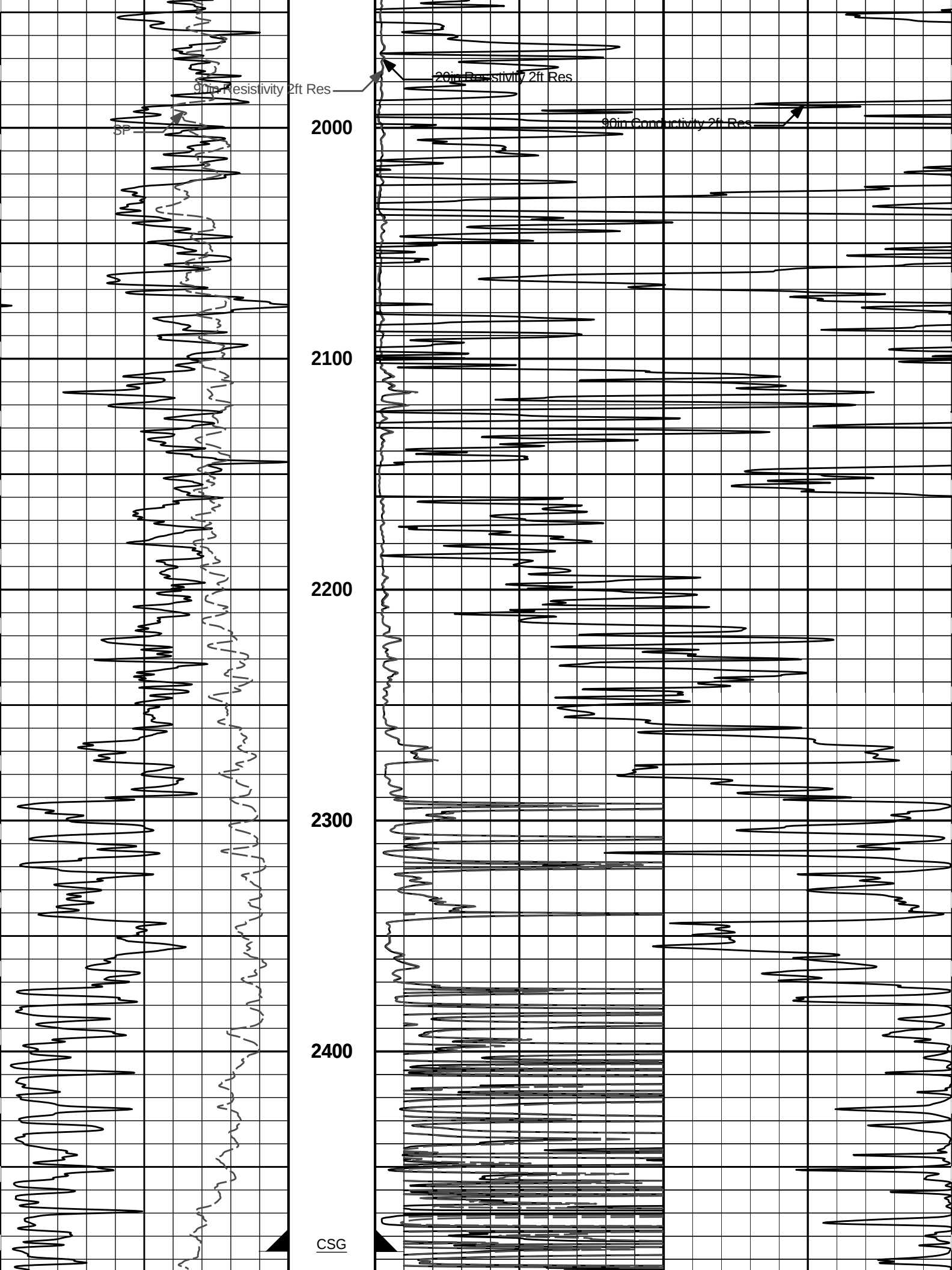
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON					
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	TD	CSG	REC	0	150									
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: SP-GTET-IDT-DSNT-SDLT-BSAT-ACRT RAN IN COMBINATION.														
ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.														
CHLORIDES REPORTED AT 1500 MG/L.														
LCM REPORTED AT 6 LB/BBL.														
POST TOOL SURVEYS NOT PERFORMED PER CUSTOMER REQUEST.														
YOUR CREW: M. DUNAWAY, B. TERRELL														
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES. LIBERAL, KS 620-624-8123														
HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.														
HALLIBURTON														

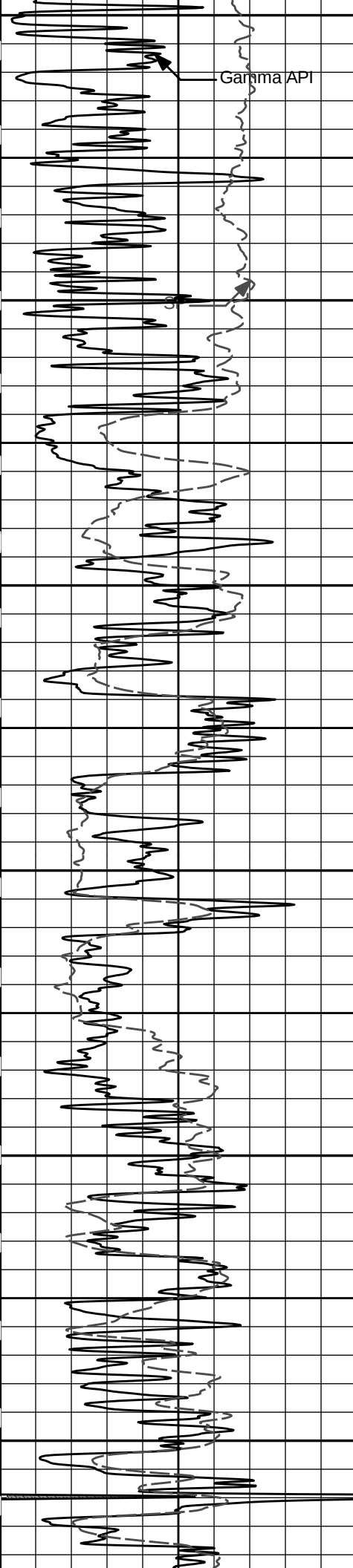
HALLIBURTON

Plot Time: 06-May-12 08:57:57
Plot Range: 1790 ft to 5583.33 ft
Data: BLASDEL_A_3\Well Based\R1_CASING\
Plot File: \\LOCAL-1\BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_2_lib

2 INCH MAIN LOG







2500

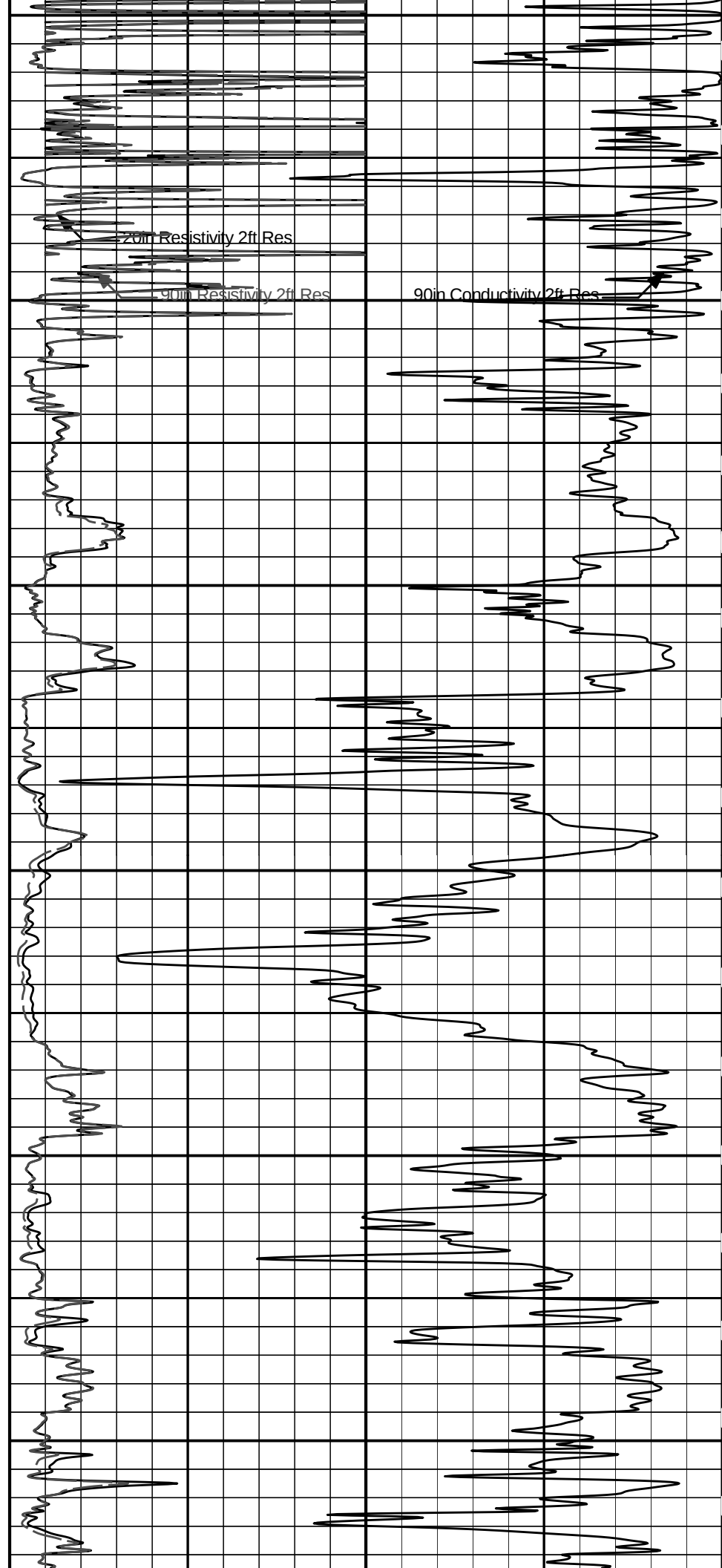
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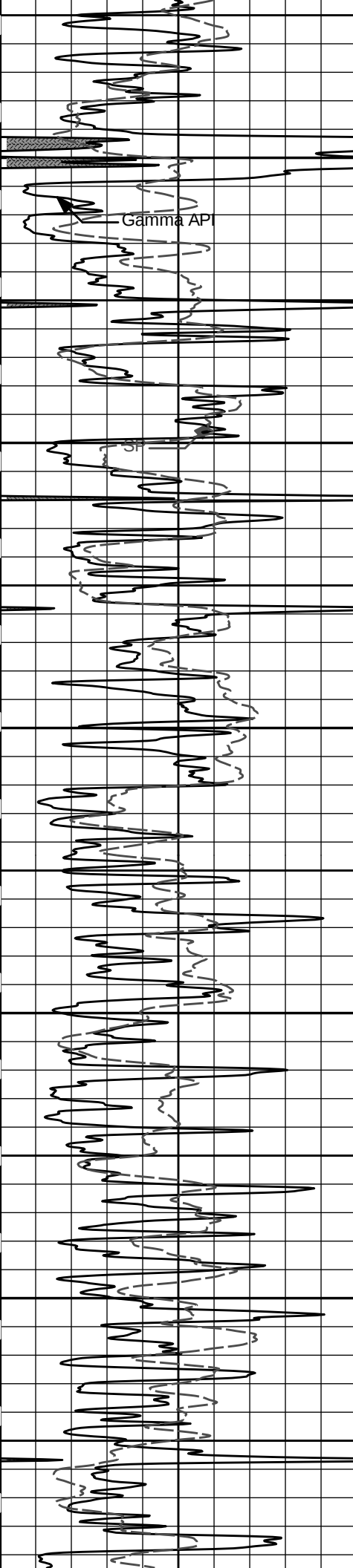
2700

2800

2900

3000





3100

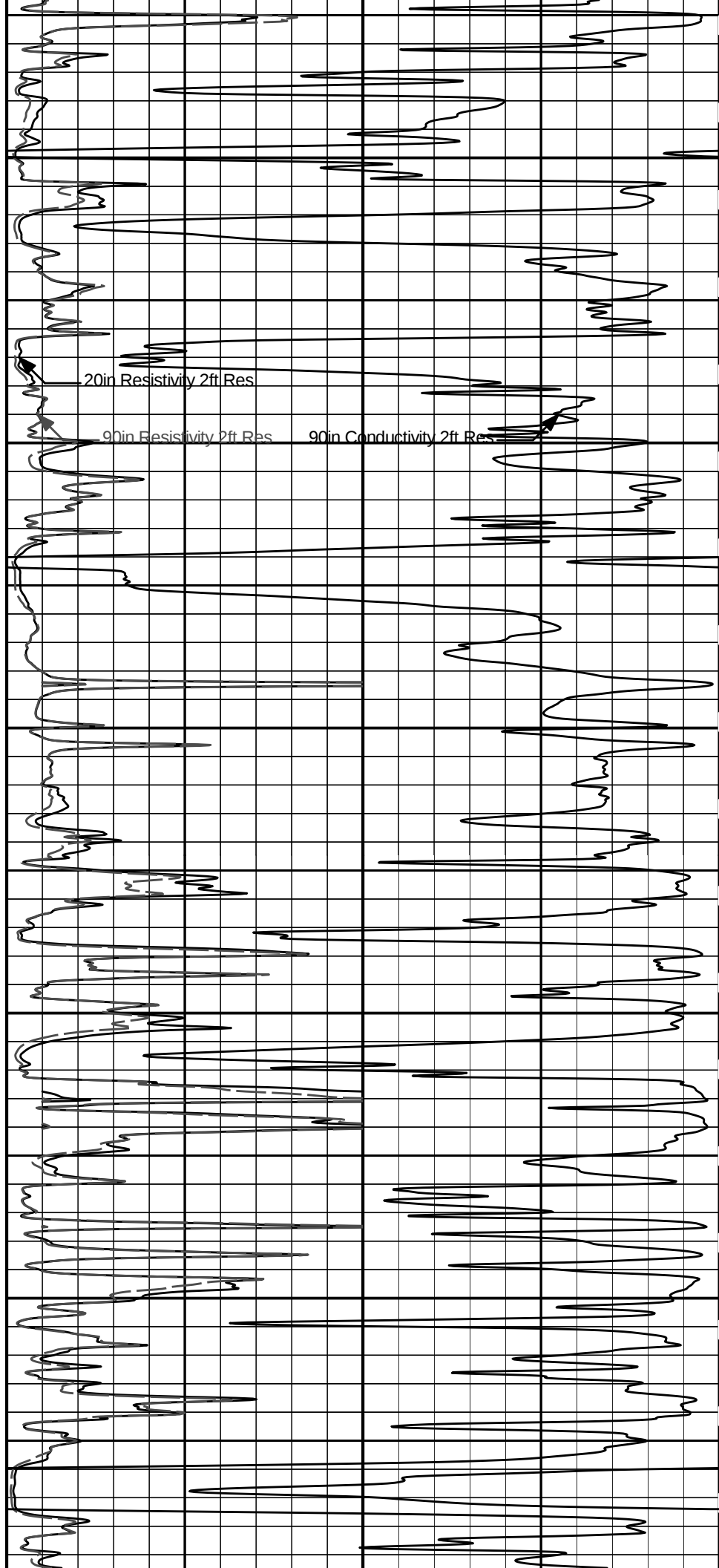
Gamma API

3200

3300

3400

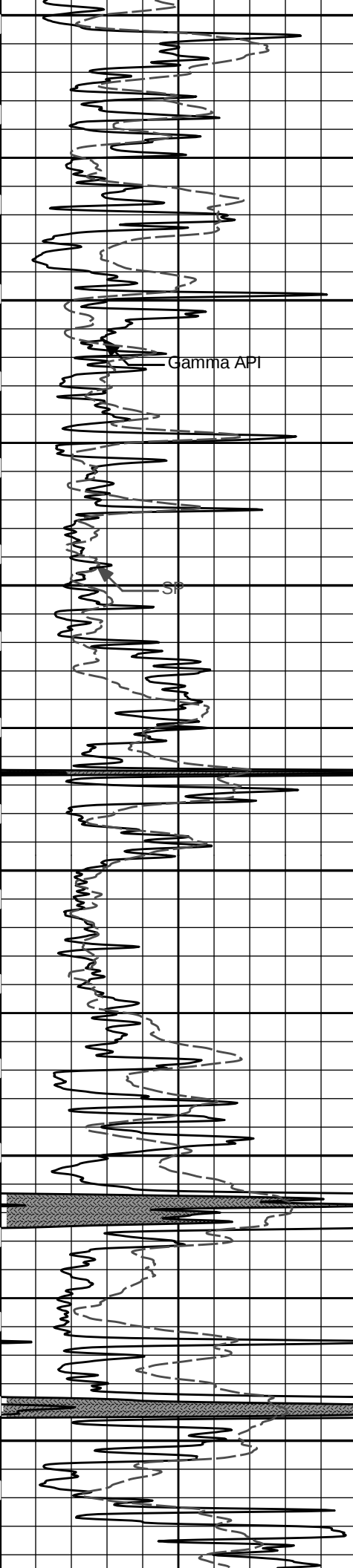
3500



20in Resistivity 2ft Res

90in Resistivity 2ft Res

90in Conductivity 2ft Res



3600

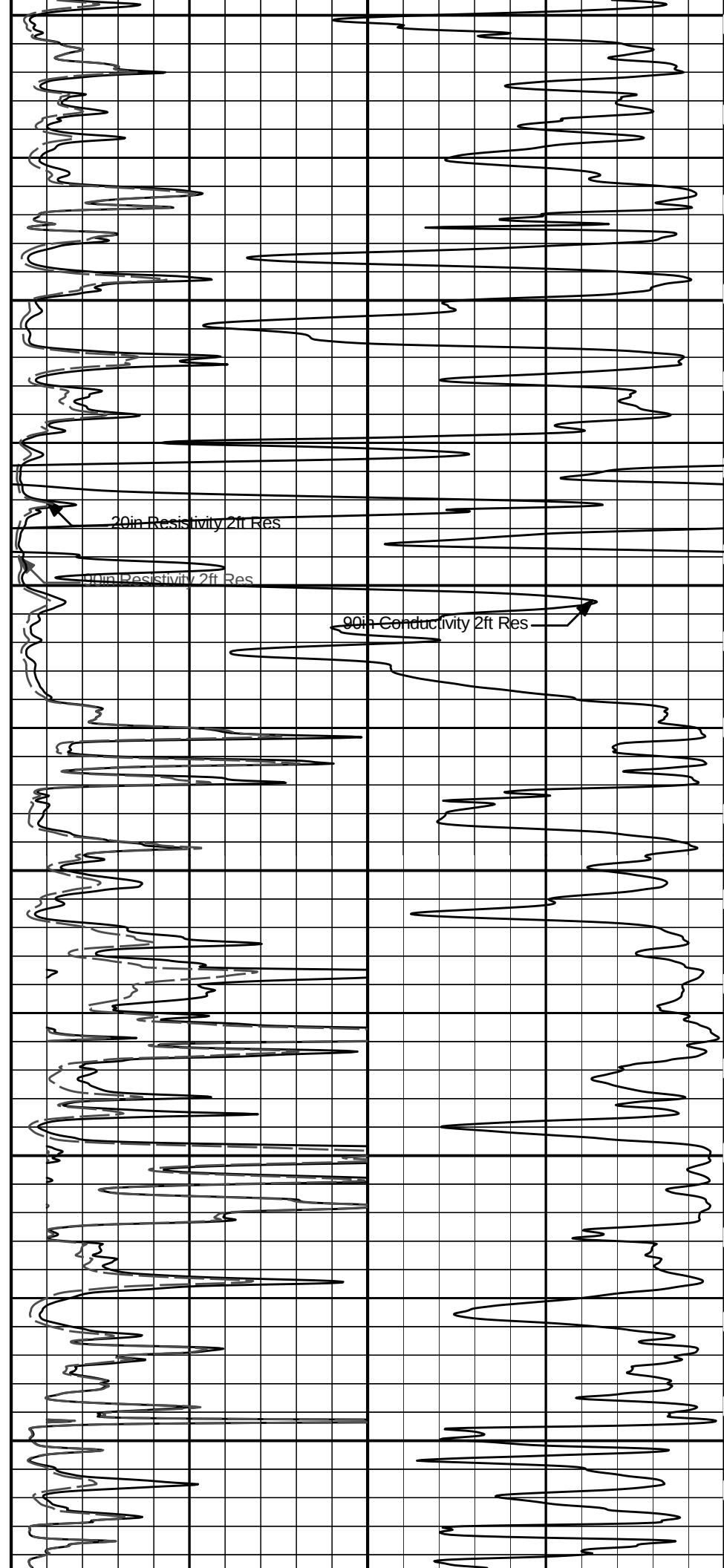
3700

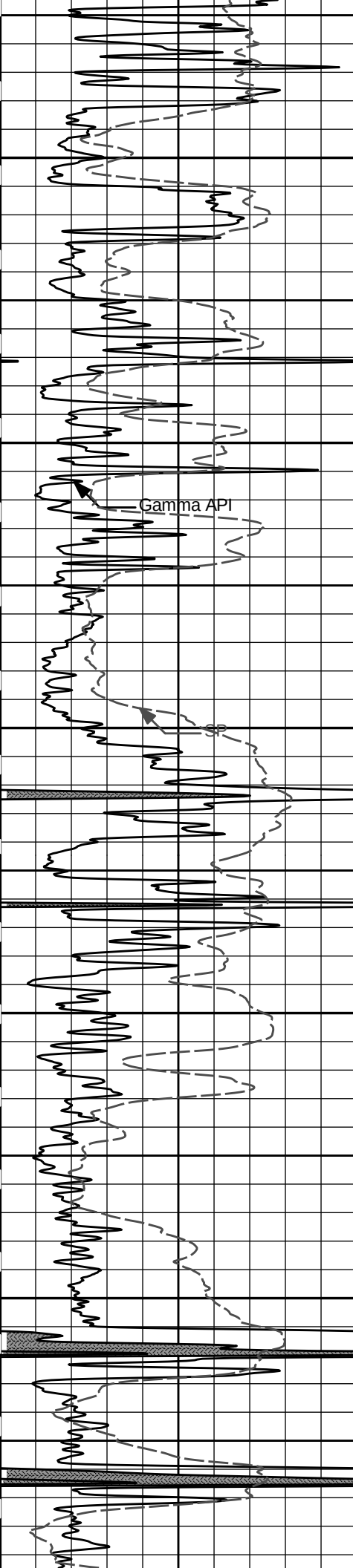
3800

3900

4000

4100





4200

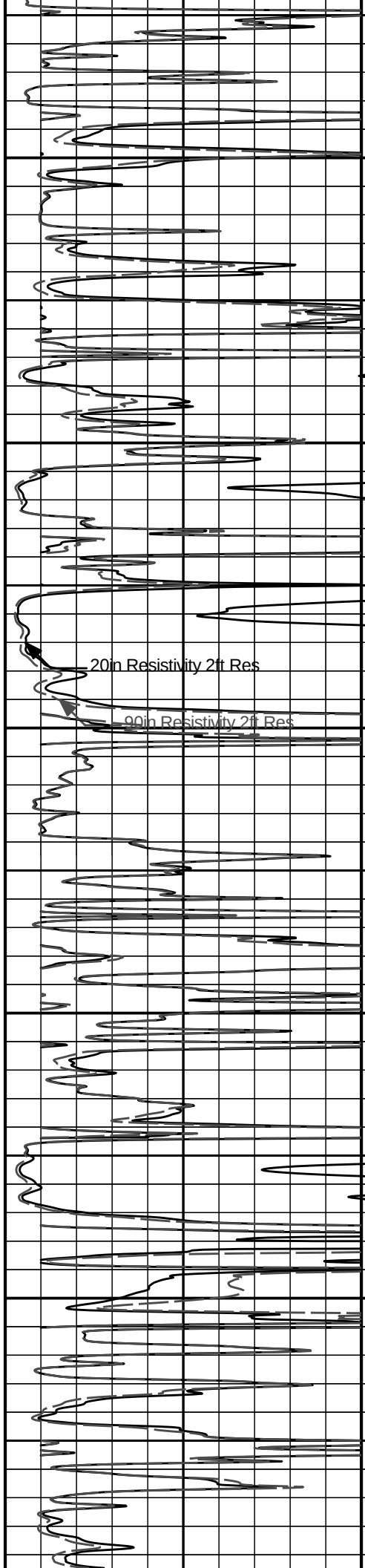
4300

4400

4500

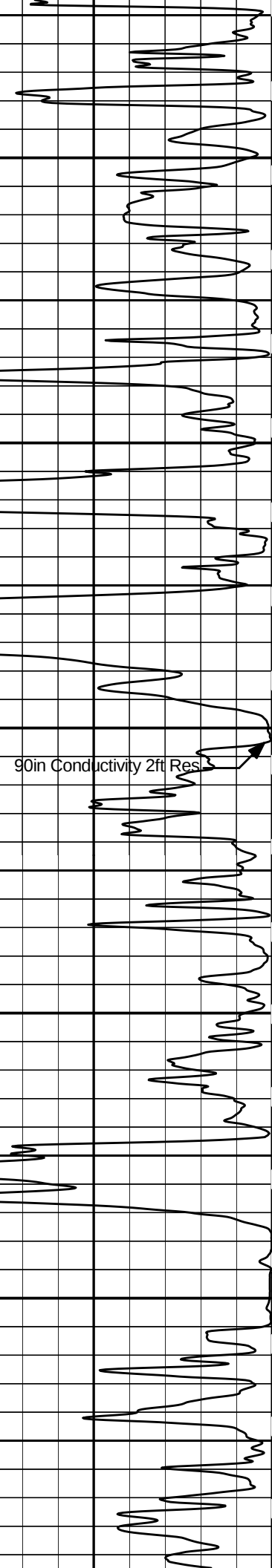
4600

Gamma API

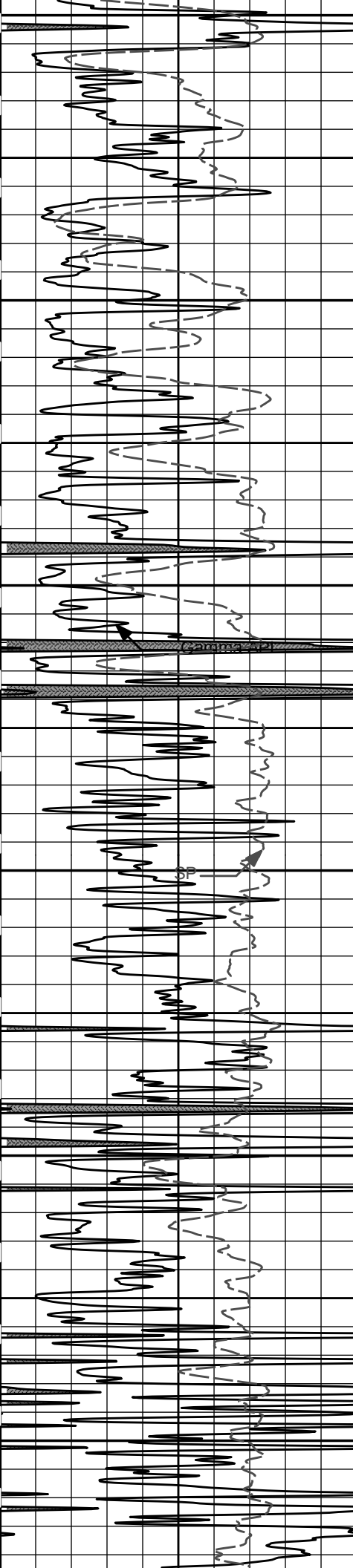


20in Resistivity 2ft Res

90in Resistivity 2ft Res



90in Conductivity 2ft Res



4700

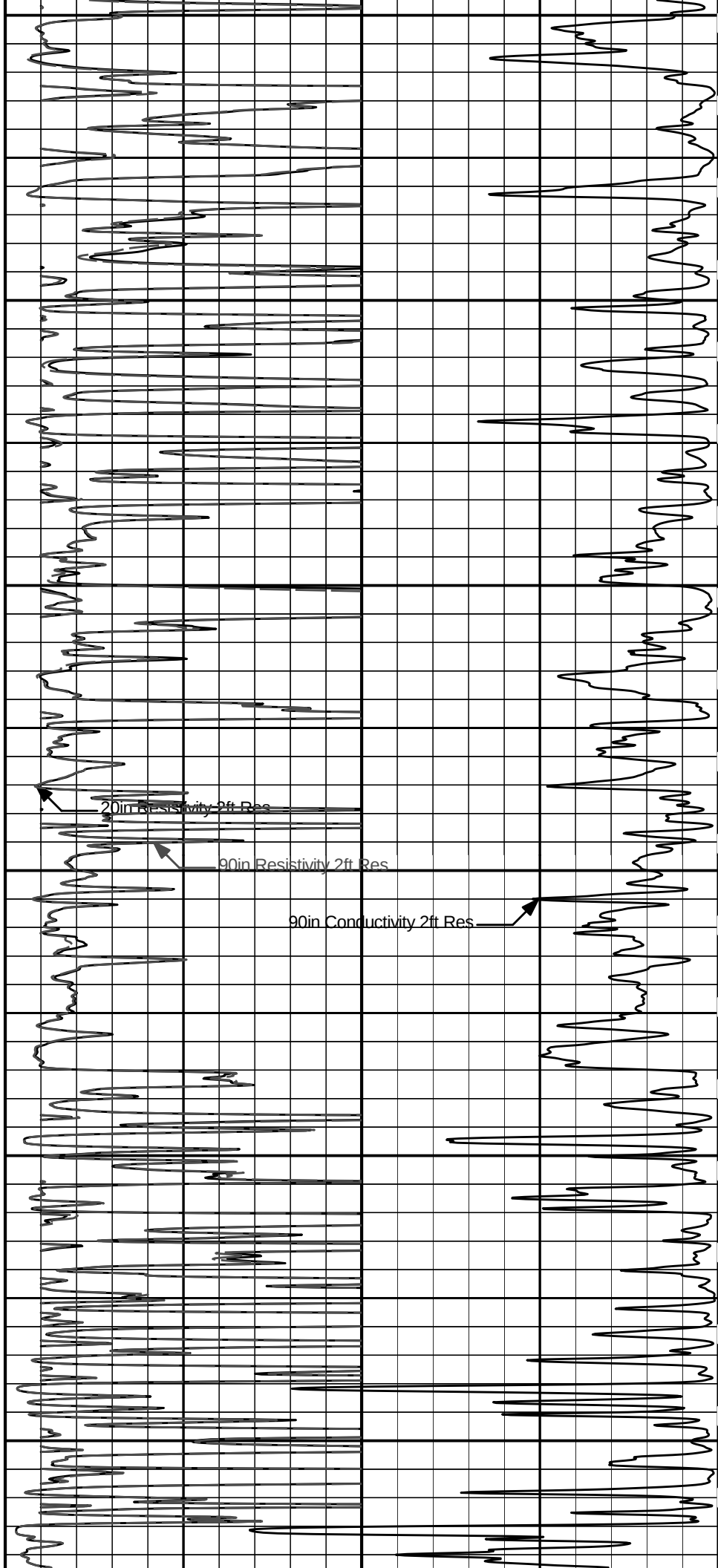
4800

4900

5000

5100

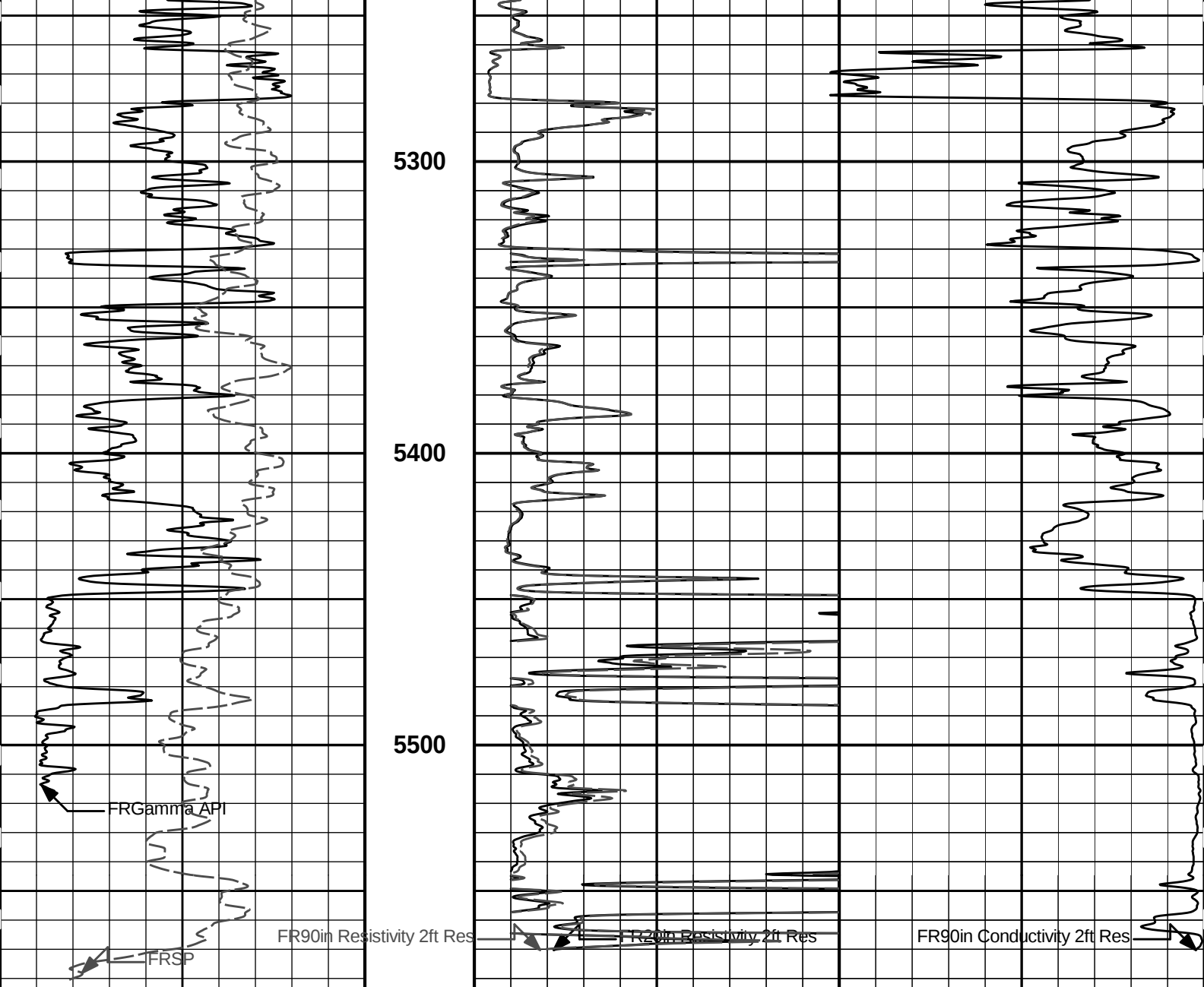
5200



20in Resistivity 2ft Res

90in Resistivity 2ft Res

90in Conductivity 2ft Res



0	Gamma API	150	1 : 600 ft	0	20in Resistivity 2ft Res	50	
	api				ohm-metre		
	SP			0	90in Resistivity 2ft Res	50	
	- 20 +				ohm-metre		
				1000	90in Conductivity 2ft Res		0
					mmho per metre		

HALLIBURTON

Plot Time: 06-May-12 08:58:07
 Plot Range: 1790 ft to 5583.33 ft
 Data: BLASDEL_A_3\Well Based\IR1_CASING\
 Plot File: \\-LOCAL-\\BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRTIACRTIACRT_2_lib

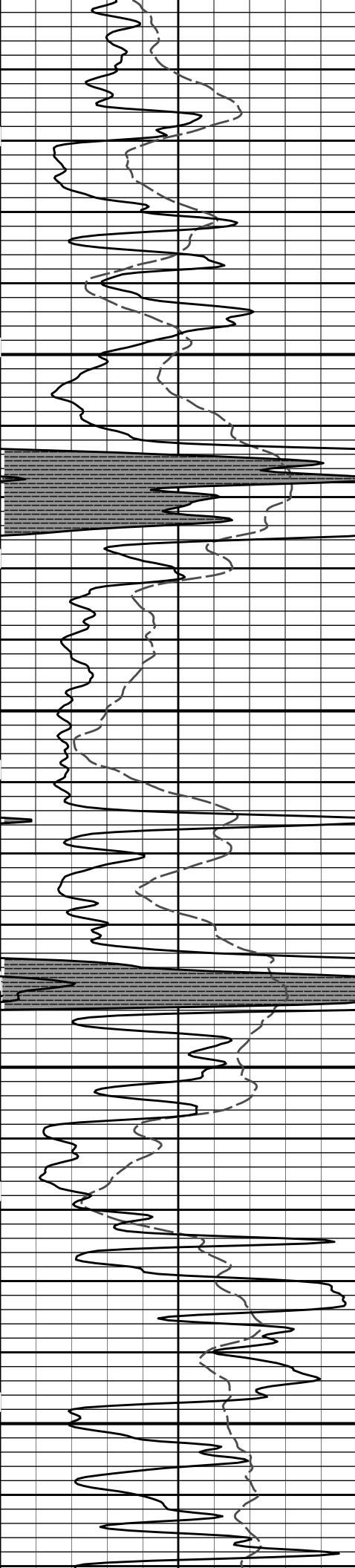
2 INCH MAIN LOG

HALLIBURTON

Plot Time: 06-May-12 08:58:08
 Plot Range: 3796 ft to 5583.33 ft
 Data: BLASDEL_A_3\Well Based\IR1_DETAIL\
 Plot File: \\-LOCAL-\\BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRTIACRTIACRT_5_main_lib

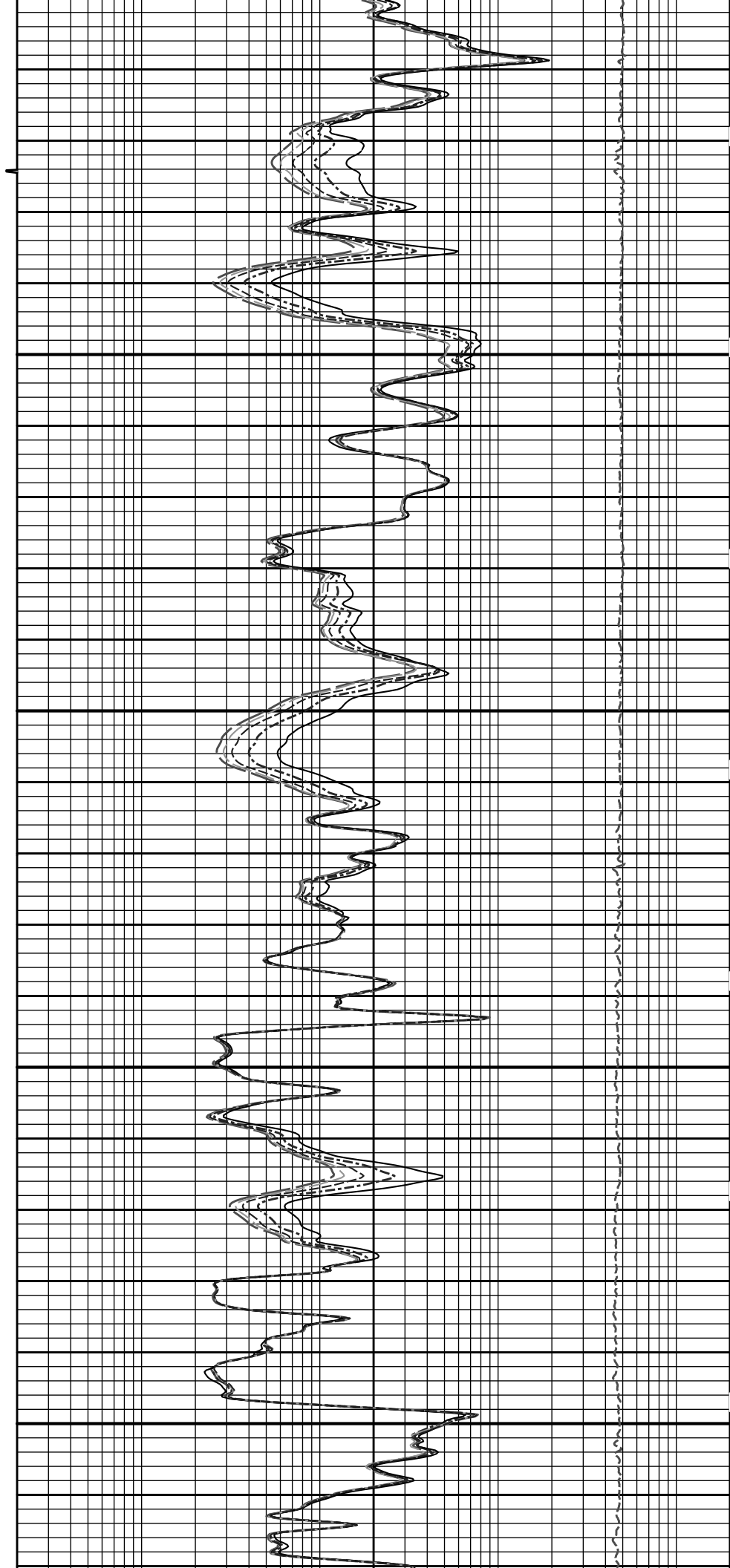
5 INCH MAIN LOG

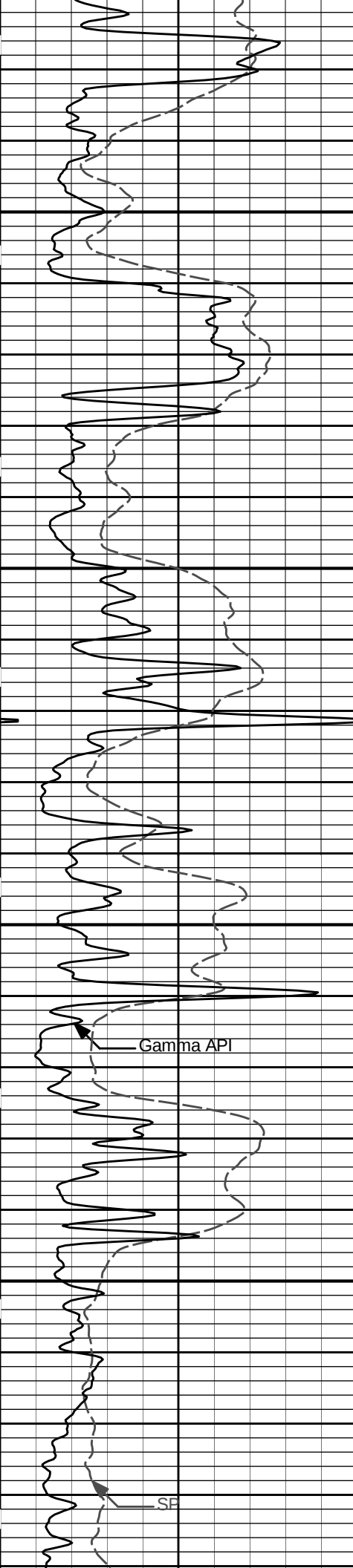
[illegible]



4000

4100



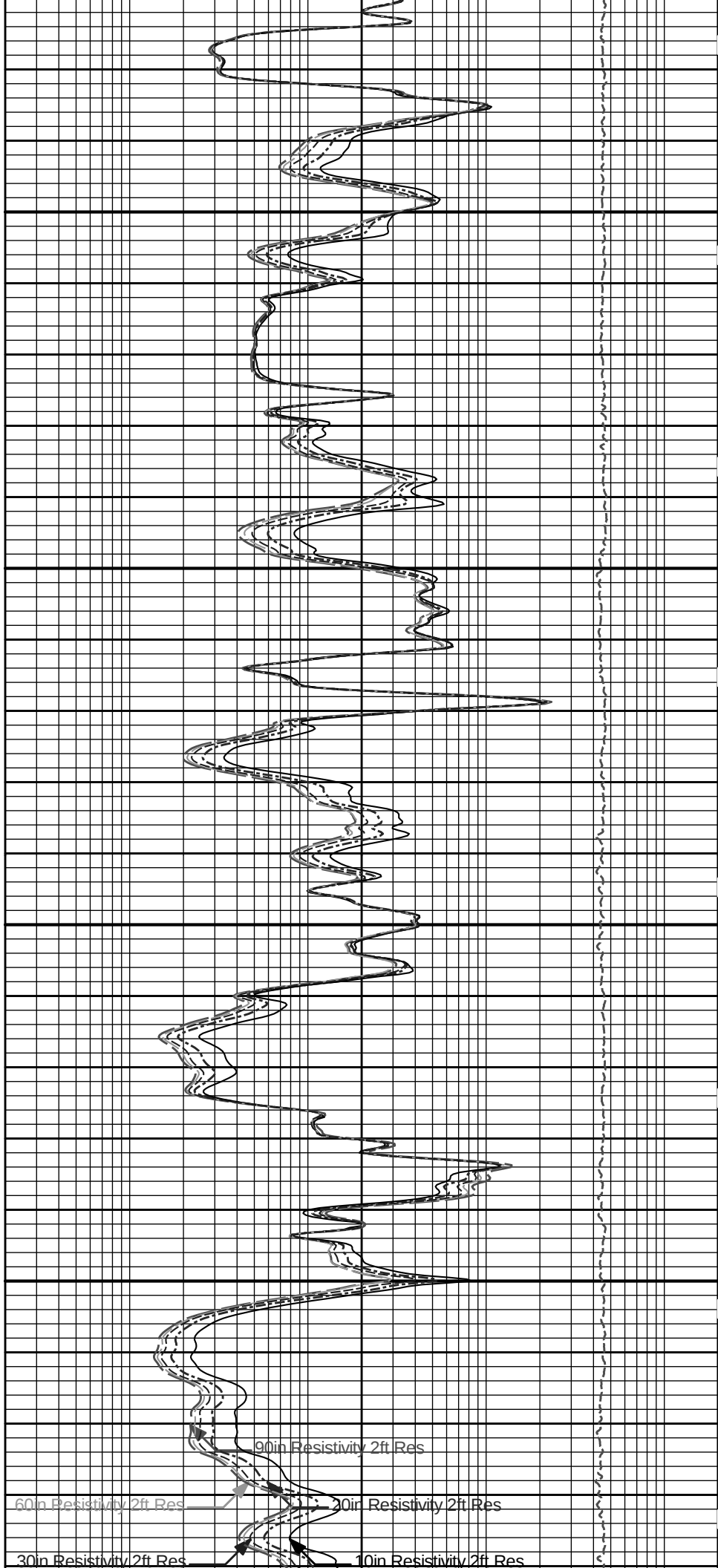


4200

4300

Gamma API

SP



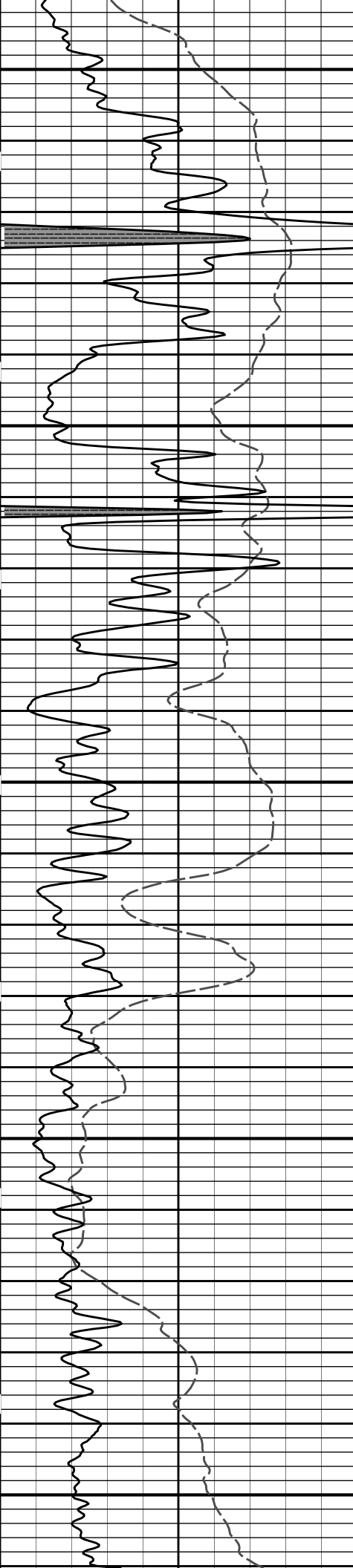
90in Resistivity 2ft Res

60in Resistivity 2ft Res

30in Resistivity 2ft Res

30in Resistivity 2ft Res

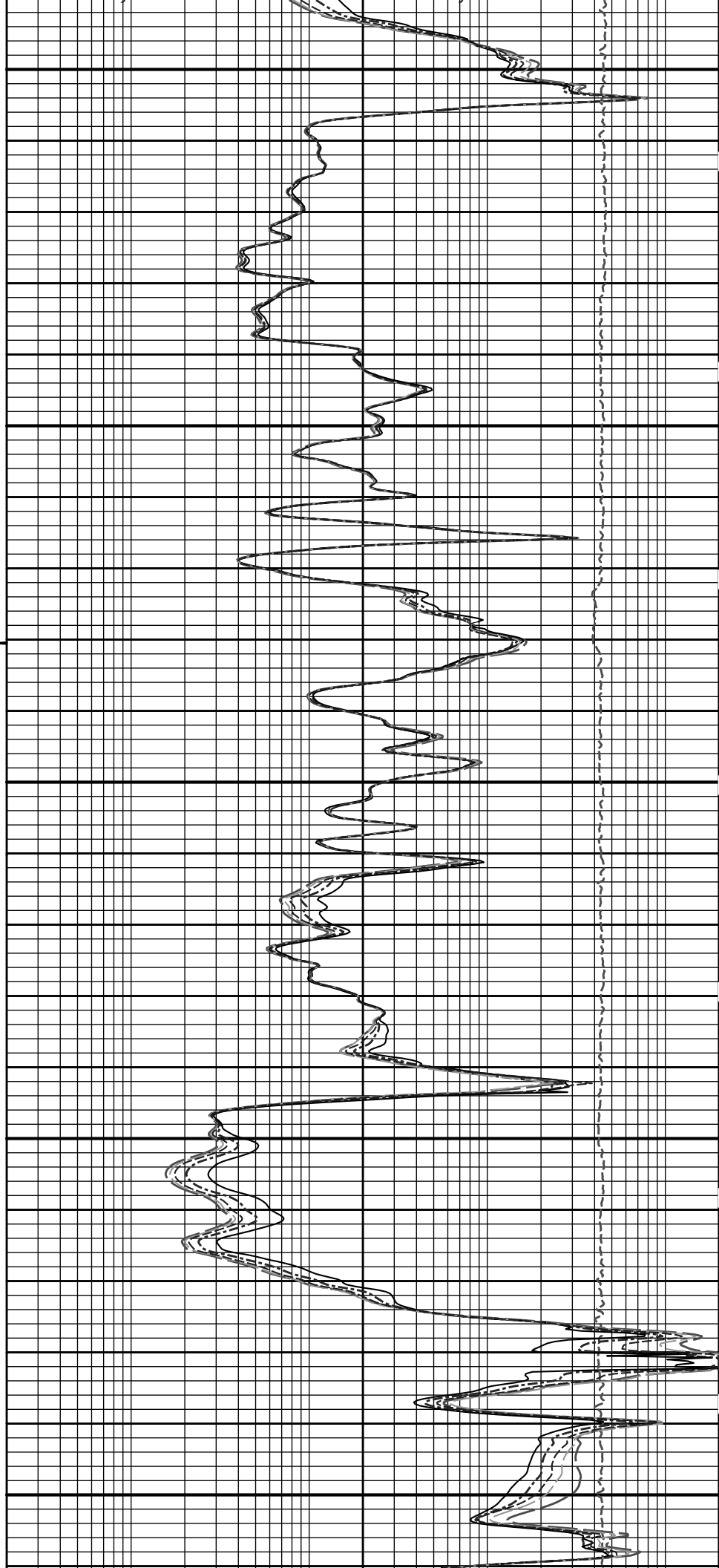
10in Resistivity 2ft Res

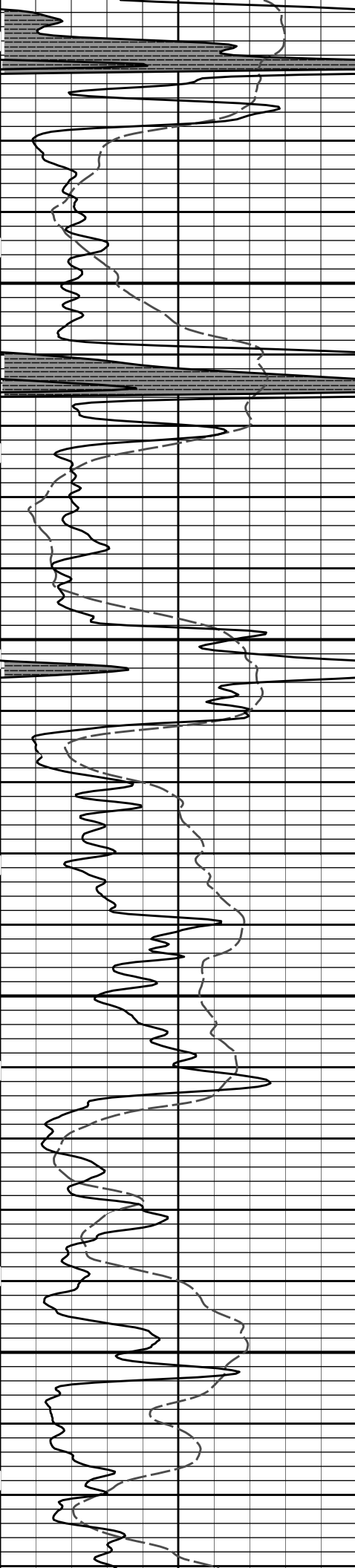


4400

4500

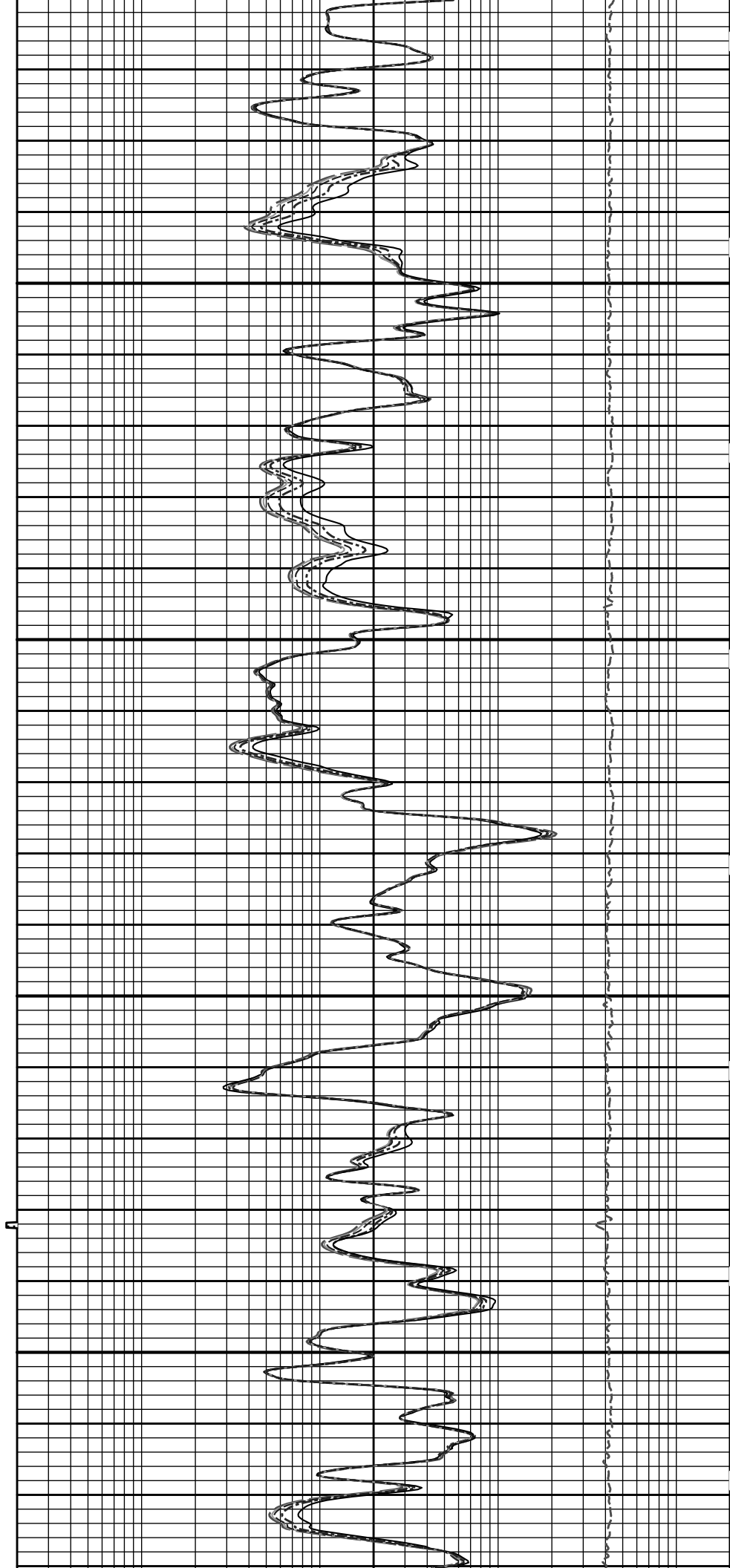
4600

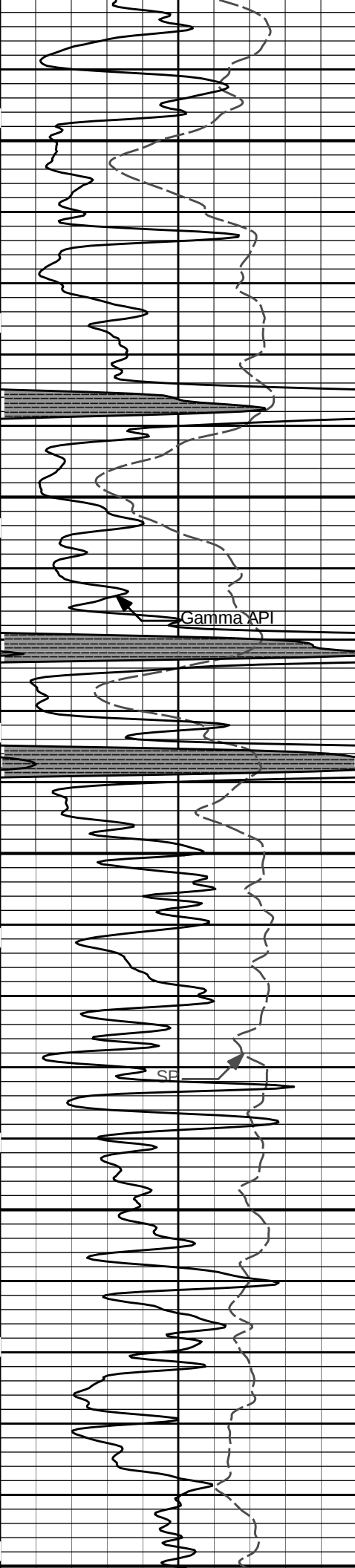




4700

4800



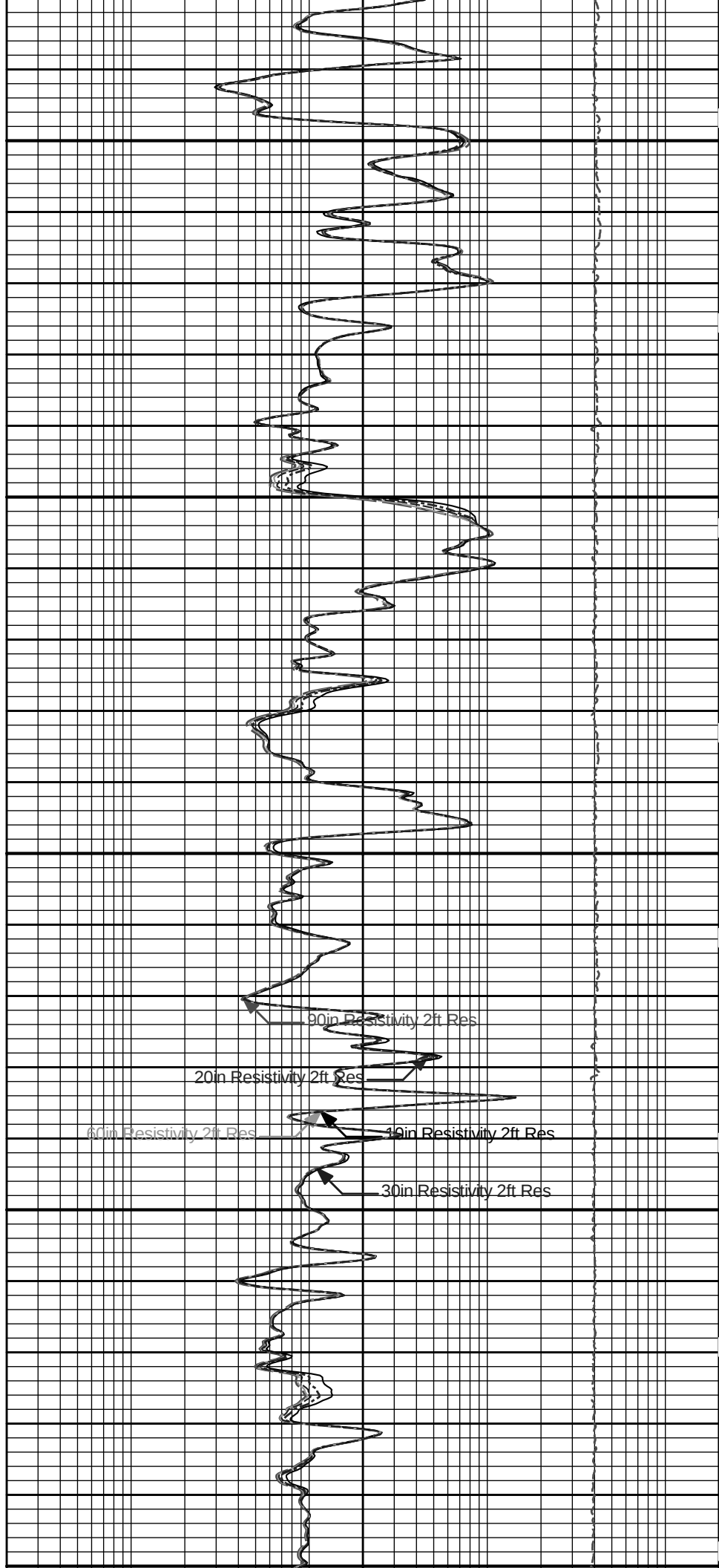


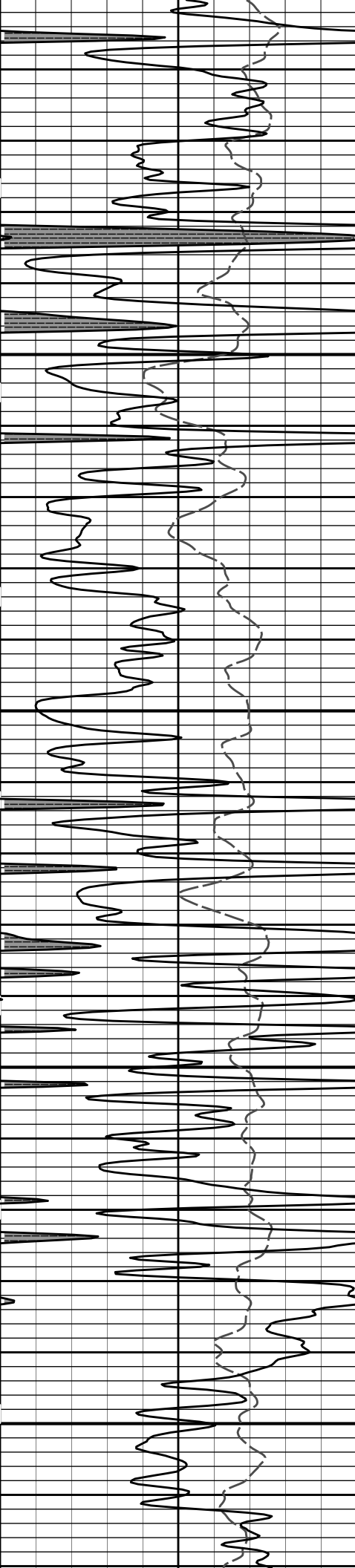
4900

Gamma API

SP

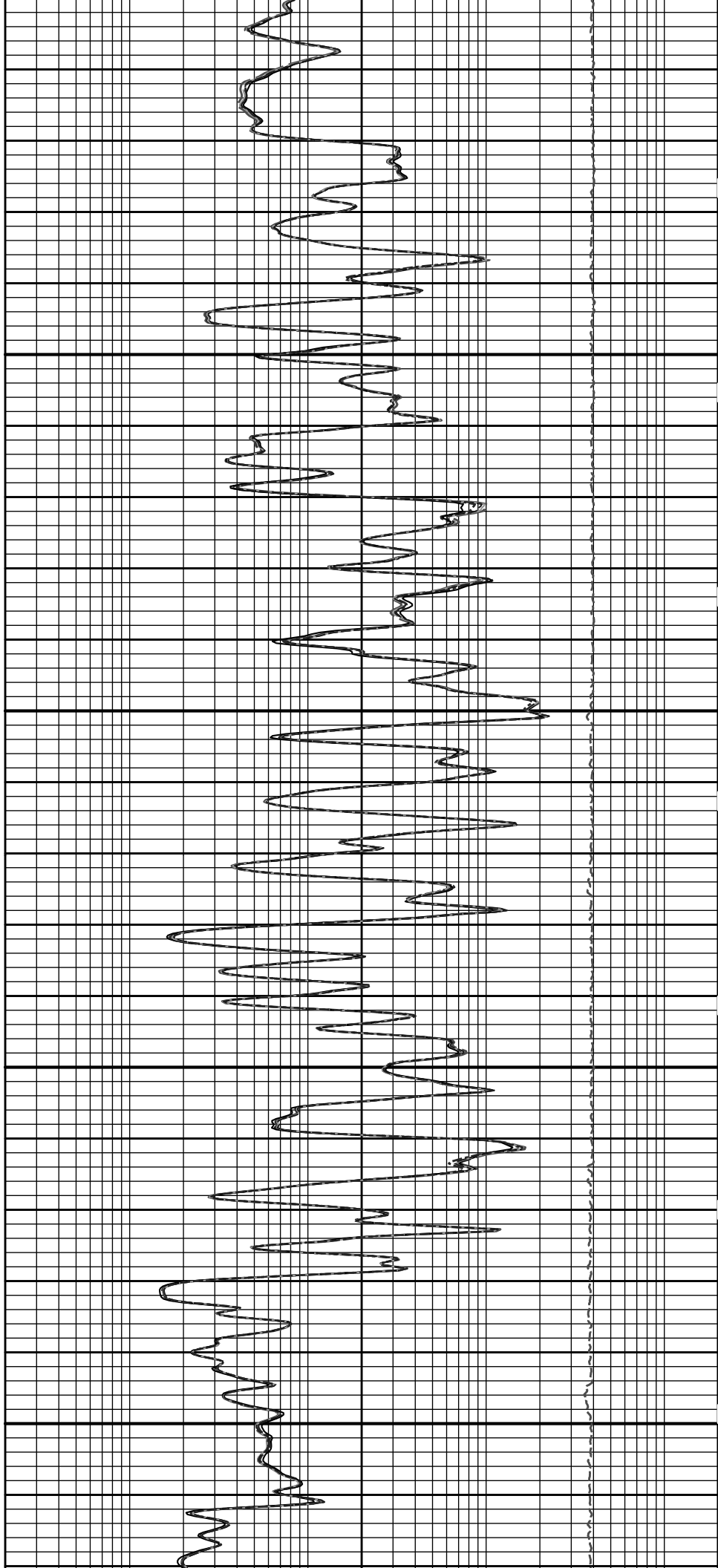
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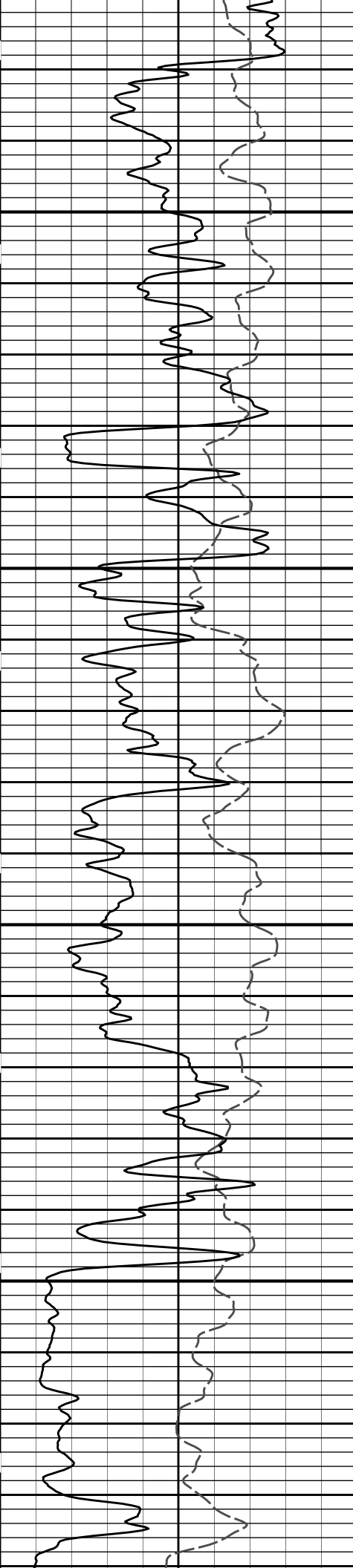




5100

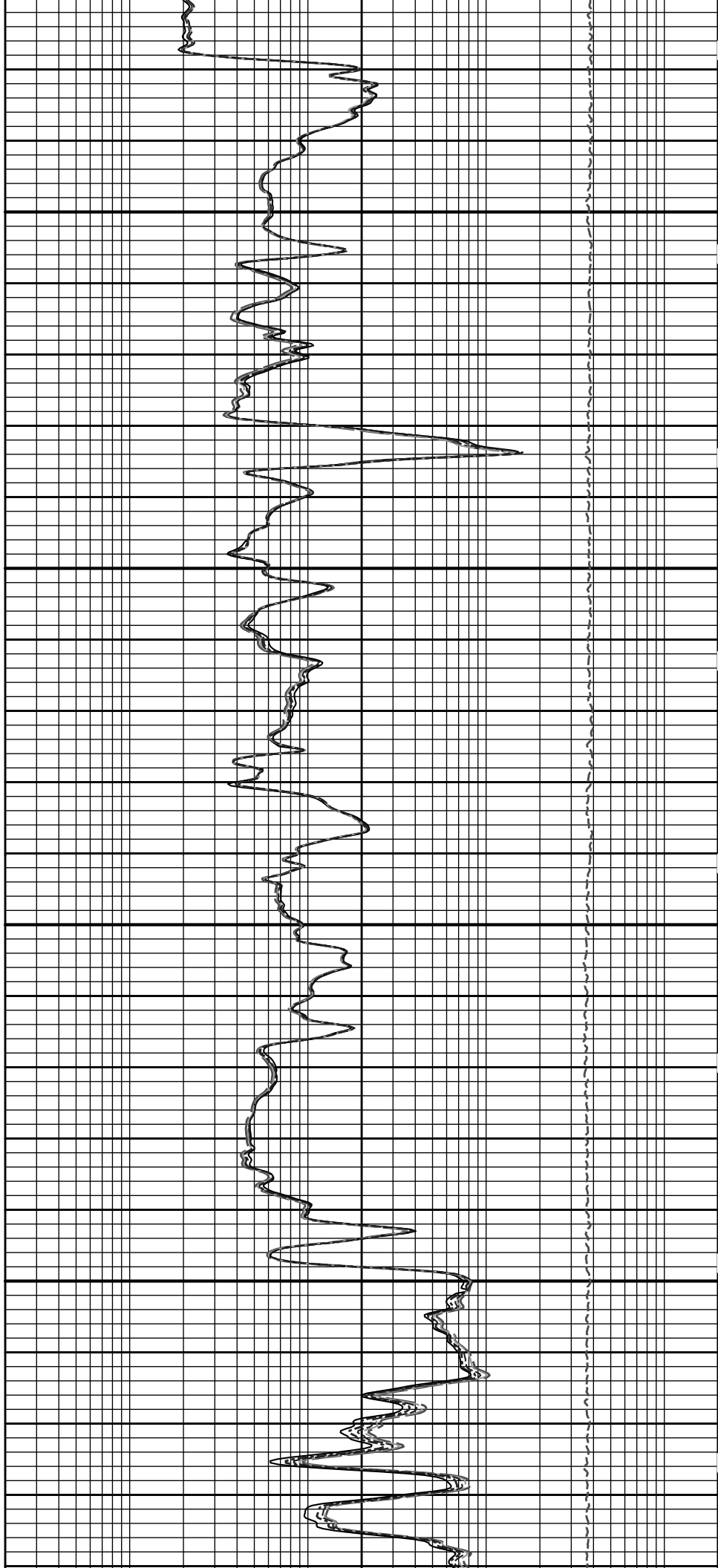
5200

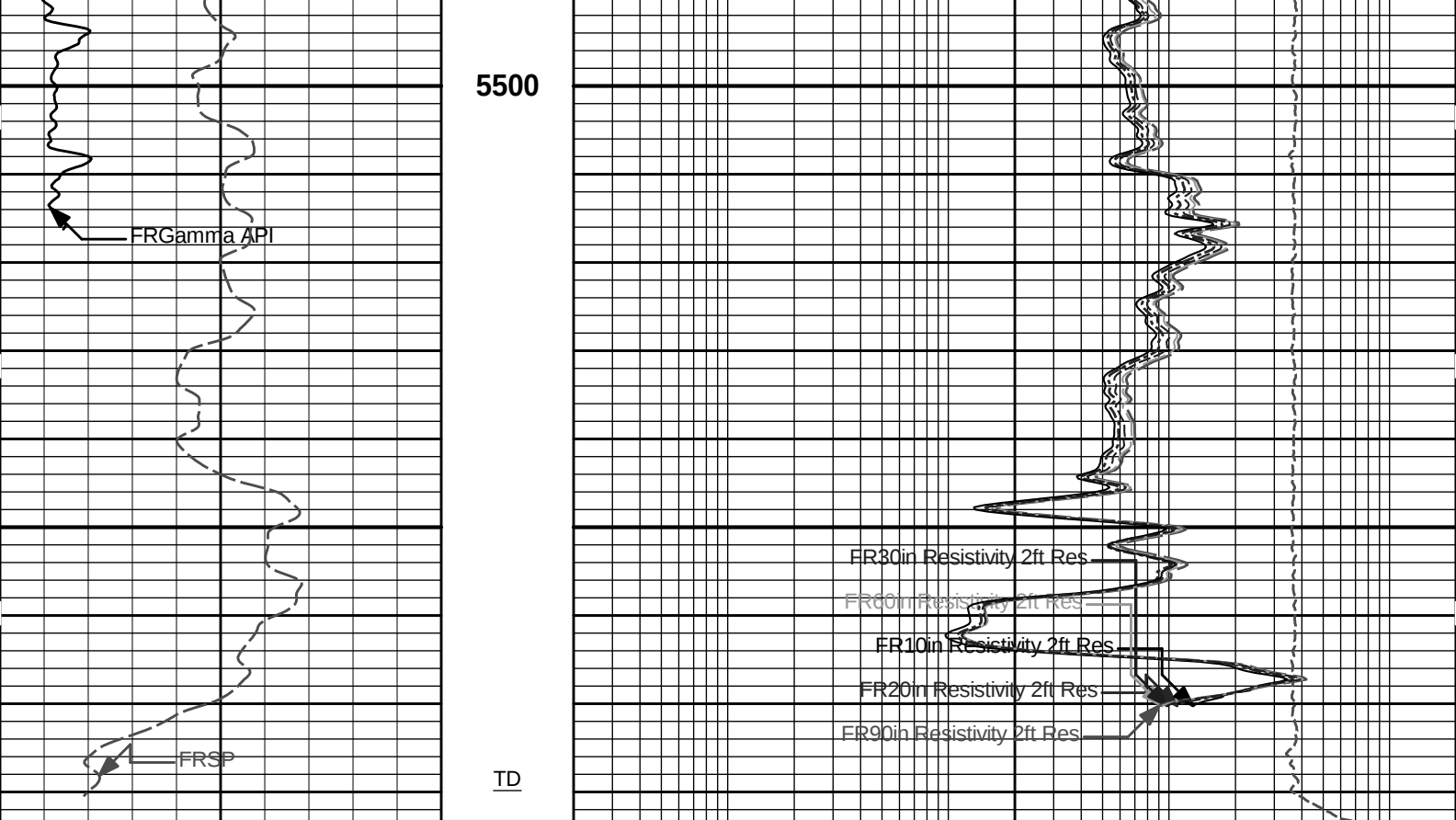




5300

5400





SP		1 : 240 ft	10K		Tension	0
-]20[+			pounds			
0	Gamma API	150	Tension Pull	0.2	10in Resistivity 2ft Res	2000
	api		10		ohmm	
SHALE		Tension Pull	0.2	20in Resistivity 2ft Res	2000	
				ohmm		
			0.2	30in Resistivity 2ft Res	2000	
				ohm-metre		
			0.2	60in Resistivity 2ft Res	2000	
				ohmm		
			0.2	90in Resistivity 2ft Res	2000	
				ohmm		

HALLIBURTON

Plot Time: 06-May-12 08:58:10
Plot Range: 3796 ft to 5583.33 ft
Data: BLASDEL_A_3\Well Based\IR1_DETAIL\
Plot File: \\-LOCAL-\\BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_5_main_lib

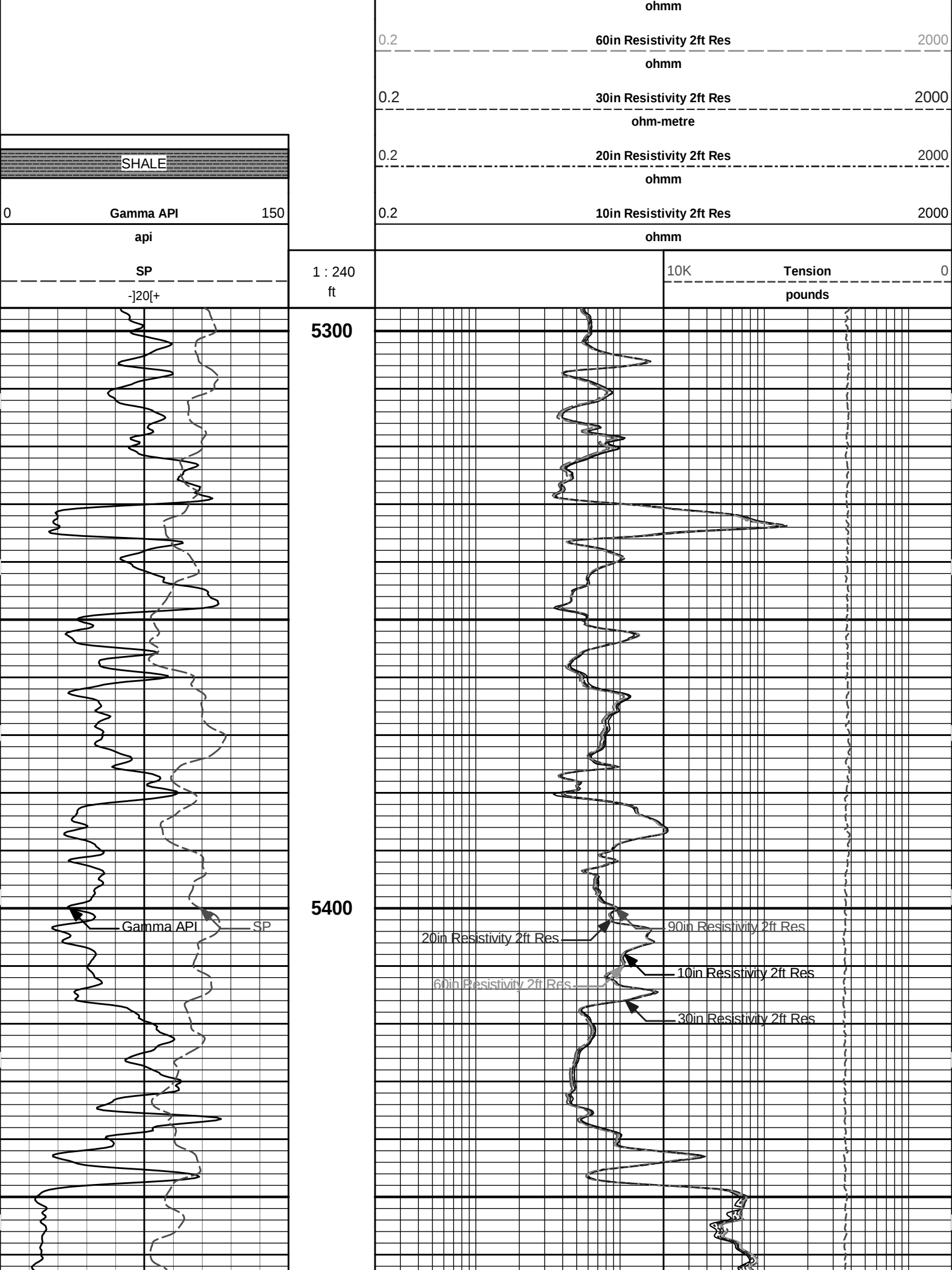
5 INCH MAIN LOG

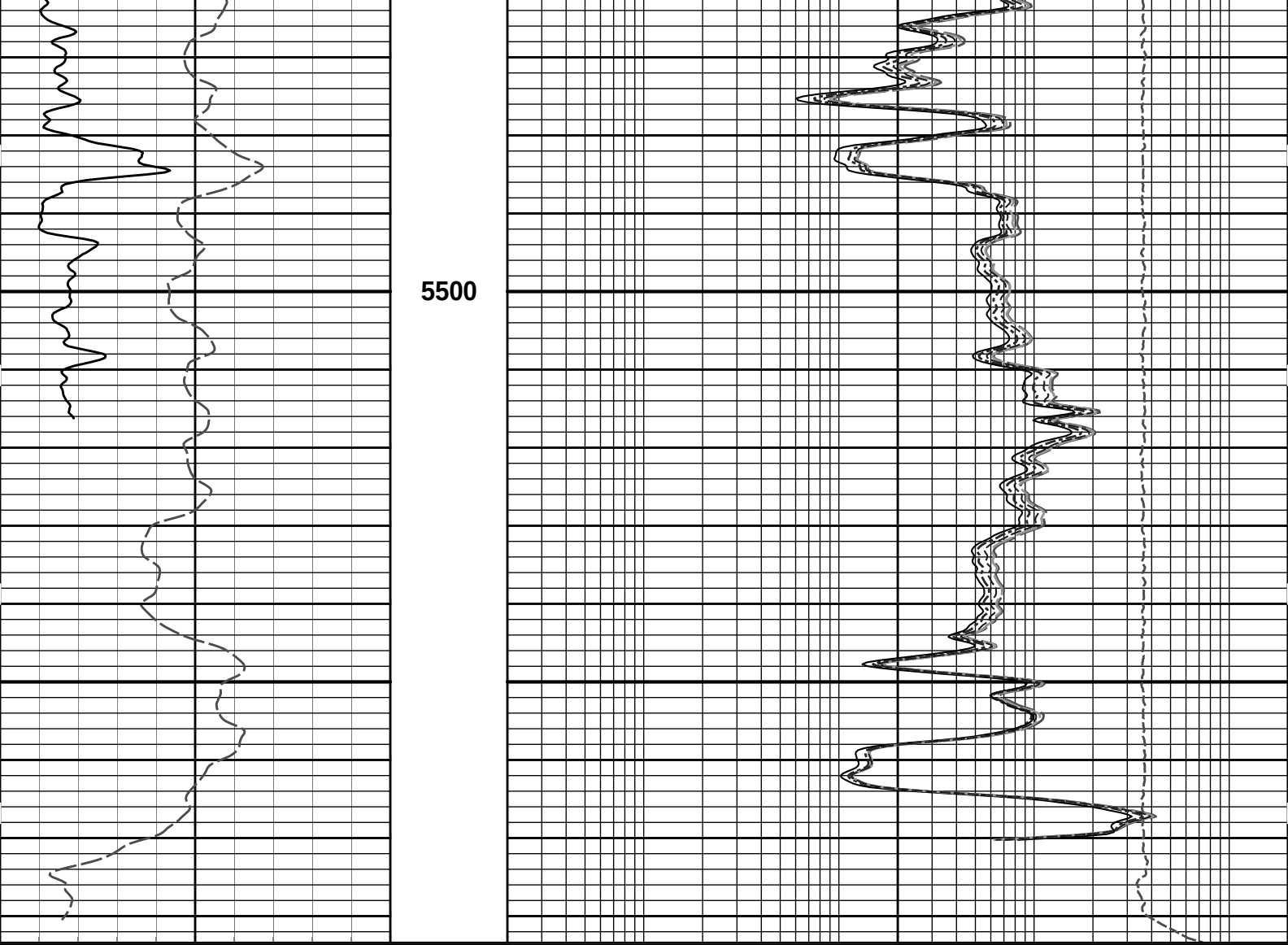
HALLIBURTON

Plot Time: 06-May-12 08:58:11
Plot Range: 5296 ft to 5583.42 ft
Data: BLASDEL_A_3\Well Based\IR1_REPEAT\
Plot File: \\-LOCAL-\\BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRT\ACRT\ACRT_5_repeat_lib

REPEAT SECTION

0.2	90in Resistivity 2ft Res	2000
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SP		1 : 240 ft	10K		Tension	0	
-]20[+			pounds				
0	Gamma API	150		0.2	10in Resistivity 2ft Res	2000	
api				ohmm			
SHALE				0.2	20in Resistivity 2ft Res		2000
				ohmm			
				0.2	30in Resistivity 2ft Res		2000
				ohm-metre			
				0.2	60in Resistivity 2ft Res		2000
				ohmm			
			0.2	90in Resistivity 2ft Res		2000	
			ohmm				

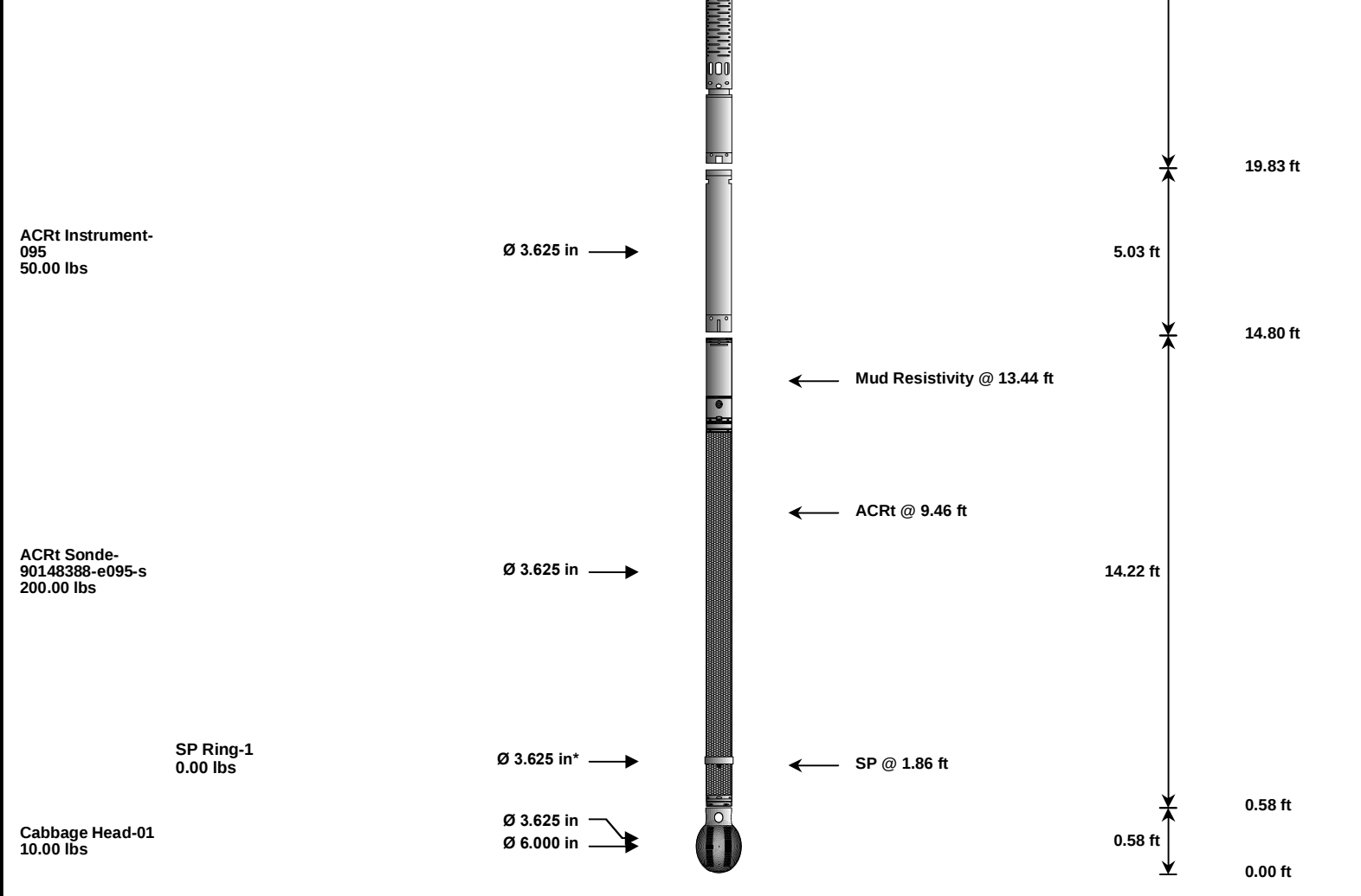
HALLIBURTON

Plot Time: 06-May-12 08:58:13
Plot Range: 5296 ft to 5583.42 ft
Data: BLASDEL_A_3\Well Based\IR1_REPEAT\
Plot File: \\-LOCAL-BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRTIACRTIACRT_5_repeat_lib

REPEAT SECTION

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-336-I 37.50 lbs		Ø 2.750 in →		← Temperature @ 74.21 ft	3.03 ft	75.24 ft
GTET-11021138 165.00 lbs		Ø 3.625 in →		← GammaRay @ 66.15 ft	8.52 ft	72.21 ft
IDT-11231094 150.00 lbs		Ø 3.625 in →			7.58 ft	63.69 ft
DSNT-11023947 174.00 lbs	DSN Decentralizer- PROT01 6.60 lbs	Ø 5.000 in* → Ø 3.625 in →		← DSN Far @ 49.17 ft ← DSN Near @ 48.42 ft	9.69 ft	56.11 ft
SDLT- I947M315P774 360.00 lbs	SDLT Pad-I947M315P774 65.00 lbs Microlog Pad- I947M315P774 8.00 lbs	Ø 4.500 in → Ø 4.750 in* → Ø 4.750 in* →		Microlog @ 38.61 ft SDL Caliper @ 38.42 ft SDL @ 38.41 ft	10.81 ft	46.42 ft
						35.61 ft
BSAT-10747686 300.00 lbs		Ø 3.625 in →		← Sonic Receivers @ 27.09 ft	15.77 ft	



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)	Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	336-I	37.50	3.03	72.21	300.00
GTET	Gamma Telemetry Tool	11021138	165.00	8.52	63.69	60.00
IDT	Insite Directional Tool	11231094	150.00	7.58	56.11	30.00
DSNT	Dual Spaced Neutron	11023947	174.00	9.69	46.42	60.00
DCNT	DSN Decentralizer	PROT01	6.60	5.13	* 49.75	300.00
SDLT	Spectral Density Tool	I947M315P774	360.00	10.81	35.61	60.00
MICP	Microlog Pad	I947M315P774	8.00	1.00	* 38.11	60.00
SDLP	Density Insite Pad	I947M315P774	65.00	2.55	* 37.82	60.00
BSAT	Borehole Sonic Array Tool	10747686	300.00	15.77	19.83	60.00
ACRt	Array Compensated True Resistivity Instrument Section	095	50.00	5.03	14.80	300.00
ACRt	Array Compensated True Resistivity	90148388-e095-s	200.00	14.22	0.58	300.00
SP	SP Ring	1	0.00	0.25	* 1.86	300.00
CBHD	Cabbage Head	01	10.00	0.58	0.00	300.00
Total			1,526.10	75.24		
* Not included in Total Length and Length Accumulation.						
Data: BLASDEL_A_3I0001 GTET-IDT-DSNT-SDLT-BSAT-ACRTIDLE						Date: 06-May-12 03:47:02

HALLIBURTON			
CALIBRATION REPORT			
NATURAL GAMMA RAY TOOL SHOP CALIBRATION			
Tool Name:	GTET - 11021138	Reference Calibration Date:	22-Apr-12 21:06:30
Engineer:	C.HAVERKAMP	Calibration Date:	03-May-12 05:08:24
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1
Calibrator Source S/N: MD051907-02			

Calibrator Source S/N: MP051807-02

Calibrator API Reference:234.00 api

Equivalent Calibrator API Reference:238.1 api

Measurement	Measured	Calibrated	Units
Background	114.5	117.6	api
Background + Calibrator	342.4	351.6	api
Calibrator	237.1	234.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11021138	Reference Calibration Date:	03-May-12 05:08:24
Engineer:	C.HAVERKAMP	Calibration Date:	06-May-12 03:15:30
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

Calibrator Source S/N: MP051807-02

Calibrator API Reference:234.00 api

Equivalent Calibrator API Reference:238.1 api

Field Verification	Shop	Field	Units
Background	117.6	54.1	api
Background + Calibrator	351.6	293.2	api
Calibrator	234.0	239.1	api

Shop	Field	Difference	Tolerance
234.0	239.1	-5.1	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name:	ACRt Sonde - 90148388-e095-s	Reference Calibration Date:	03-Jan-12 10:32:19
Engineer:	HOFKAMP	Calibration Date:	05-Apr-12 10:07:44
Software Version:	WL INSITE R3.4.2 (Build 2)	Calibration Version:	1

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.0407	1.05	0.95	1.0202	1.05	0.95	1.0097	1.05
A2 (50")	0.95	1.0426	1.05	0.95	1.0224	1.05	0.95	1.0143	1.05
A3 (29")	0.95	1.0472	1.05	0.95	1.0255	1.05	0.95	1.0152	1.05
A4 (17")	0.95	1.0561	1.05	0.95	1.0319	1.05	0.95	1.0229	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0160	1.05	0.95	1.0055	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.0144	1.05	0.95	1.0038	1.05

TYPICAL SONDE OFFSET RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	-5	1.559	2	-6	-4.588	-2	-8	-5.719	-2
A2 (50")	-7	1.289	-1	-6	-2.900	-2	-7	-5.669	-2
A3 (29")	-27	-13.036	-9	-9	-3.871	-3	-7	-4.030	-1
A4 (17")	-180	-95.001	-60	-45	-29.016	-15	-39	-24.719	-13
A5 (10")	N/A	N/A	N/A	-150	-108.311	-50	-80	-49.470	-10
A6 (6")	N/A	N/A	N/A	175	328.534	525	90	165.861	270

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.8545	1.3
36K	1.0	1.3171	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	0.996	1.05

72K	1.0	1.6050	2.0			
CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11021138						
Gamma Ray Calibrator	234.0	239.1	-----	-5.1	+/- 9.00	api
ACRt Sonde-90148388-e095-s						
Mud Cell	0.996	-----	-----	0.000	-----	ohm-m
Data: BLASDEL_A_3I0001 GTET-IDT-DSNT-SDLT-BSAT-ACRTIDLE				Date: 06-May-12 03:48:14		
HALLIBURTON						
PARAMETERS REPORT						
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units	
TOP						
	SHARED	BS	Bit Size	7.875	in	
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No		
	SHARED	MDBS	Mud Base	Water		
	SHARED	MDWT	Borehole Fluid Weight	9.200	ppg	
	SHARED	WAGT	Weighting Agent	Natural		
	SHARED	BSAL	Borehole salinity	1500.00	ppm	
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm	
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%	
	SHARED	RMUD	Mud Resistivity	2.000	ohmm	
	SHARED	TRM	Temperature of Mud	75.0	degF	
	SHARED	CSD	Logging Interval is Cased?	No		
	SHARED	ICOD	AHV Casing OD	5.500	in	
	SHARED	ST	Surface Temperature	75.0	degF	
	SHARED	TD	Total Well Depth	5611.00	ft	
	SHARED	BHT	Bottom Hole Temperature	130.0	degF	
	SHARED	SVTM	Navigation and Survey Master Tool	IDT		
	SHARED	AZTM	High Res Z Accelerometer Master Tool	IDT		
	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		
	IDT	WRTI	Survey Writing Interval	30	ft	
	IDT	SOPT	Smoothing Option	None		

IDT	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Limestone	
	DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	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	2.710	g/cc
	SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
	Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
	BSAT	MBOK	Compute BCAS Results?	Yes	
	BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
	BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
	BSAT	DTFL	Delta -T Fluid	189.00	uspf
	BSAT	DTMT	Delta -T Matrix Type	User define	
	BSAT	DTMA	Delta -T Matrix	47.60	uspf
	BSAT	DTSH	Delta -T Shale	100.00	uspf
	BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
	ACRt Sonde	RTOK	Process ACRt?	Yes	
	ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
	ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Up	
	ACRt Sonde	TPOS	Tool Position	Free Hanging	
	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	
BOTTOM					
Data: BLASDEL_A_3I0001 GTET-IDT-DSNT-SDLT-BSAT-ACRT				IDLE	
				Date: 06-May-12 03:47:40	

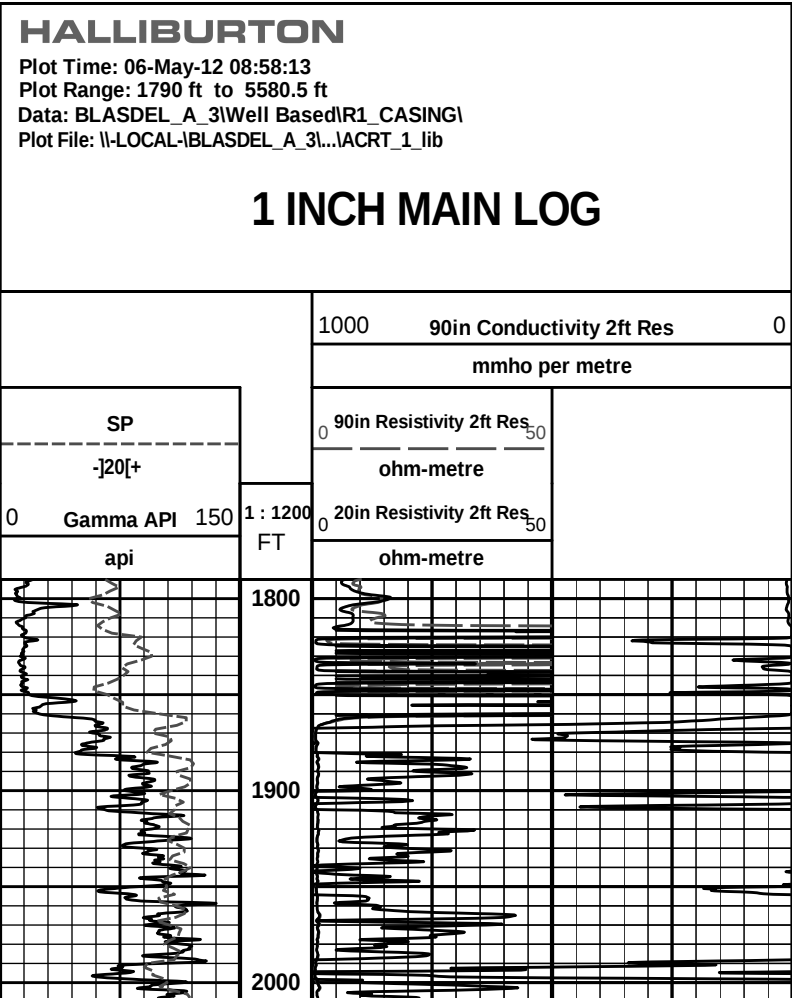
HALLIBURTON					
INPUTS, DELAYS AND FILTERS TABLE					
Mnemonic		Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel					
TENS	Tension		0.00	NO	
CH_HOS					
DHTN	DownholeTension		0.00	BLK	0.000
GTET					
TPUL	Tension Pull		66.15	NO	
GR	Natural Gamma Ray API		66.15	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API		66.15	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution		66.15	W	1.416 , 0.750

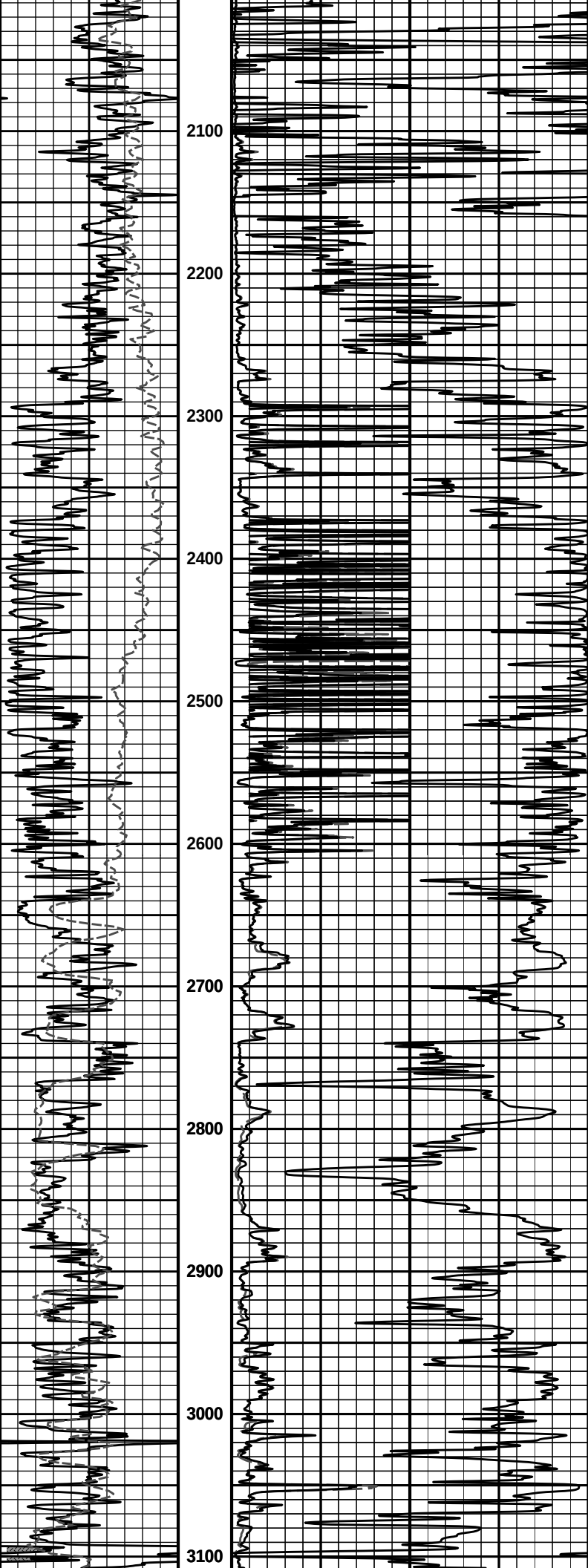
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
IDT				
TPUL	Tension Pull	57.10	NO	
ACCX	Accelerometer X	57.10	NO	
ACCY	Accelerometer Y	57.10	NO	
ACCZ	Accelerometer Z	57.10	NO	
MAGX	magnetometer x with unit	57.10	NO	
MAGY	Magnetometer Y with unit	57.10	NO	
MAGZ	magnetometer z with unit	57.10	NO	
IAMP	Accelerometer Temperature	57.10	NO	
MTMP	Magnetometer Temperature	57.10	NO	
DSNT				
TPUL	Tension Pull	48.32	NO	
RNDS	Near Detector Telemetry Counts	48.42	BLK	1.417
RFDS	Far Detector Telemetry Counts	49.17	TRI	0.583
DNTT	DSN Tool Temperature	48.42	NO	
DSNS	DSN Tool Status	48.32	NO	
ERND	Near Detector Telemetry Counts EVR	48.42	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	49.17	BLK	0.000
ENTM	DSN Tool Temperature EVR	48.42	NO	
SDLT				
TPUL	Tension Pull	38.42	NO	
PCAL	Pad Caliper	38.42	TRI	0.250
ACAL	Arm Caliper	38.42	TRI	0.250
BSAT				
TPUL	Tension Pull	27.09	NO	
STAT	Status	27.09	NO	
DLYT	Delay Time	27.09	NO	
SI	Sample Interval	27.09	NO	
TXRX	Raw Telemetry 10 Receivers	27.09	NO	
FRMC	Tool Frame Count	27.09	NO	
ACRt Sonde				
TPUL	Tension Pull	2.97	NO	
F1R1	ACRT 12KHz - 80in R value	9.22	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	9.22	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.72	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.72	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	5.22	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	5.22	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	4.22	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	4.22	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.72	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.72	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.47	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.47	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	9.22	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	9.22	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.72	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.72	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	5.22	BLK	0.000

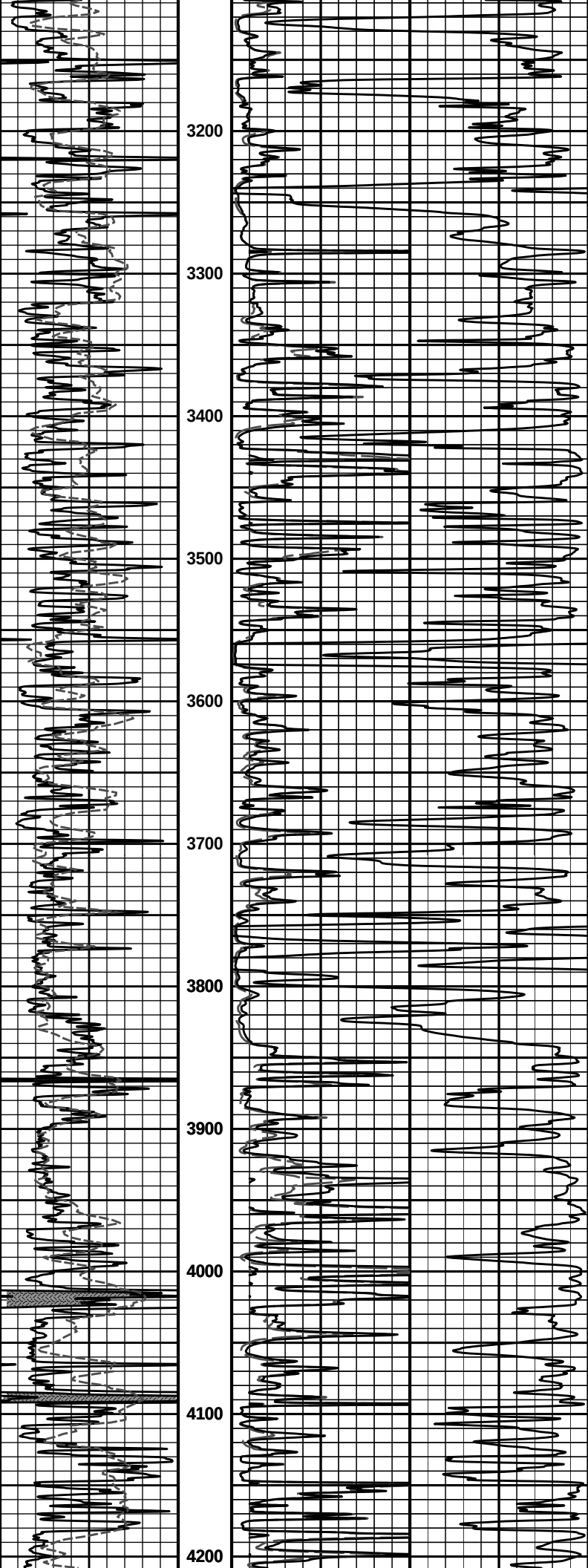
F2X3	ACRT 36KHz - 29in X value	5.22	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	4.22	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	4.22	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.72	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.72	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.47	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.47	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	9.22	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	9.22	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.72	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.72	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	5.22	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	5.22	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	4.22	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	4.22	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.72	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.72	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.47	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.47	BLK	0.000
RMUD	Mud Resistivity	12.76	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.97	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.97	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.97	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.97	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.97	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.97	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.97	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.97	BLK	0.000
ITMP	Instrument Temperature	2.97	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.97	NO	
TIDV	Instrument Temperature Derivative	2.97	NO	
TUDV	Upper Temperature Derivative	2.97	NO	
TLDV	Lower Temperature Derivative	2.97	NO	
TRBD	Receiver Board Temperature	2.97	NO	
SDLT Pad				
TPUL	Tension Pull	38.41	NO	
NAB	Near Above	38.24	BLK	0.920
NHI	Near Cesium High	38.24	BLK	0.920
NLO	Near Cesium Low	38.24	BLK	0.920
NVA	Near Valley	38.24	BLK	0.920
NBA	Near Barite	38.24	BLK	0.920
NDE	Near Density	38.24	BLK	0.920
NPK	Near Peak	38.24	BLK	0.920
NLI	Near Lithology	38.24	BLK	0.920
NBAU	Near Barite Unfiltered	38.24	BLK	0.250
NLIU	Near Lithology Unfiltered	38.24	BLK	0.250
FAB	Far Above	38.58	BLK	0.250
FHI	Far Cesium High	38.58	BLK	0.250
FLO	Far Cesium Low	38.58	BLK	0.250
FVA	Far Valley	38.58	BLK	0.250
FBA	Far Barite	38.58	BLK	0.250
FDE	Far Density	38.58	BLK	0.250
FPK	Far Peak	38.58	BLK	0.250
FLI	Far Lithology	38.58	BLK	0.250

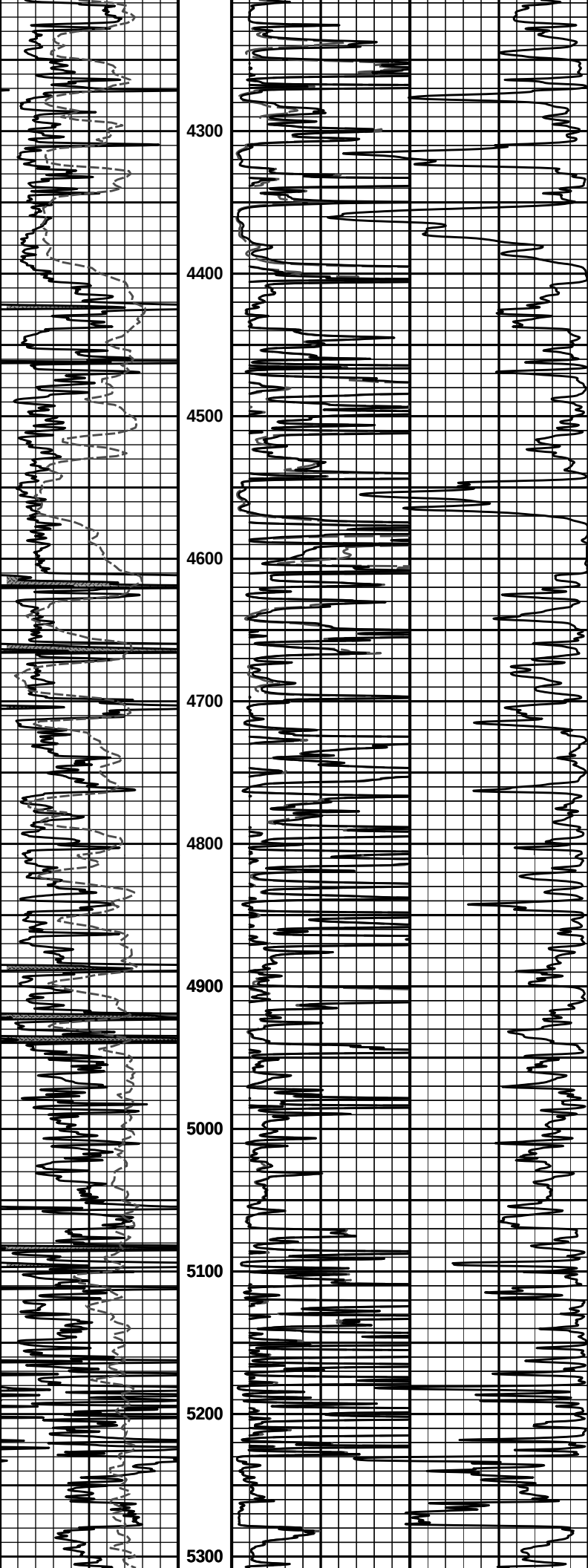
PTMP	Pad Temperature	38.42	BLK	0.920
NHV	Near Detector High Voltage	37.81	NO	
FHV	Far Detector High Voltage	37.81	NO	
ITMP	Instrument Temperature	37.81	NO	
DDHV	Detector High Voltage	37.81	NO	
Microlog Pad				
TPUL	Tension Pull	38.60	NO	
MINV	Microlog Lateral	38.60	BLK	0.750
MNOR	Microlog Normal	38.60	BLK	0.750
SP Ring				
PLTC	Plot Control Mask	1.86	NO	
SP	Spontaneous Potential	1.86	BLK	1.250
SPR	Raw Spontaneous Potential	1.86	NO	
SPO	Spontaneous Potential Offset	1.86	NO	
Data: BLASDEL_A_3\0001 GTET-IDT-DSNT-SDLT-BSAT-ACRT\IDLE			Date: 06-May-12 03:47:49	

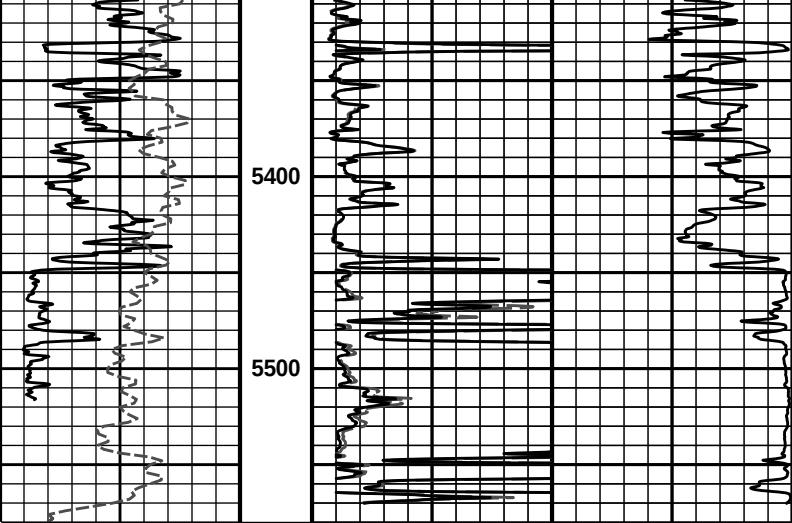
COMPANY	OXY USA, INC.		
WELL	BLASDEL A-3		
FIELD	LEMON		
COUNTY	HASKELL	STATE	KANSAS
HALLIBURTON		ARRAY COMPENSATED TRUE RESISTIVITY LOG	











0	Gamma API	150	1 : 1200	0	20in Resistivity 2ft Res	50	
	api		FT		ohm-metre		
	SP			0	90in Resistivity 2ft Res	50	
	- 20 +				ohm-metre		
				1000	90in Conductivity 2ft Res	0	
					mmho per metre		

HALLIBURTON
Plot Time: 06-May-12 08:58:15
Plot Range: 1790 ft to 5580.5 ft
Data: BLASDEL_A_3\Well Based\R1_CASING\
Plot File: \\-LOCAL-\\BLASDEL_A_3\\...\\ACRT_1.lib

1 INCH MAIN LOG