

HALLIBURTON

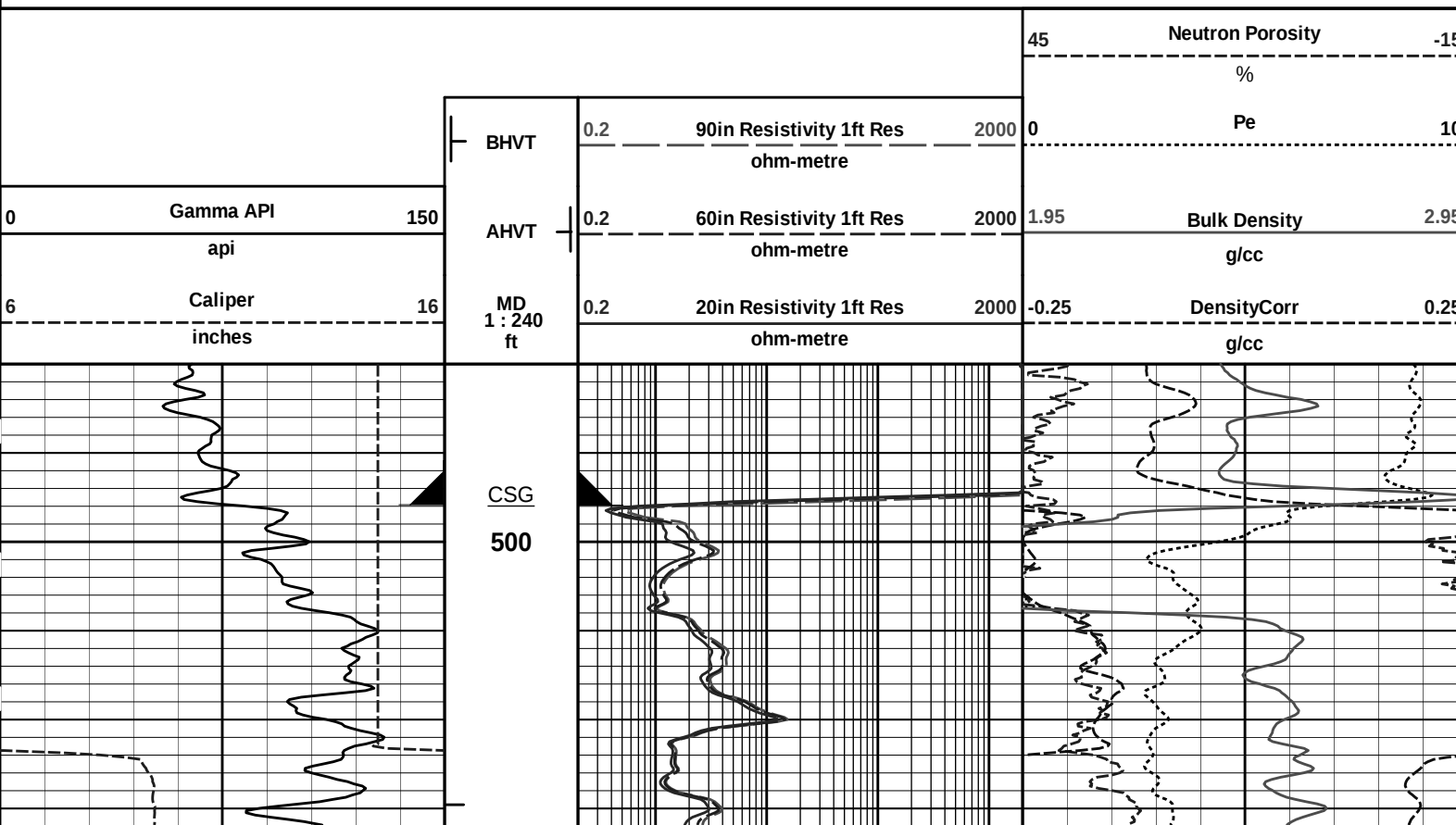
TRIPLE
COMBO
LOG

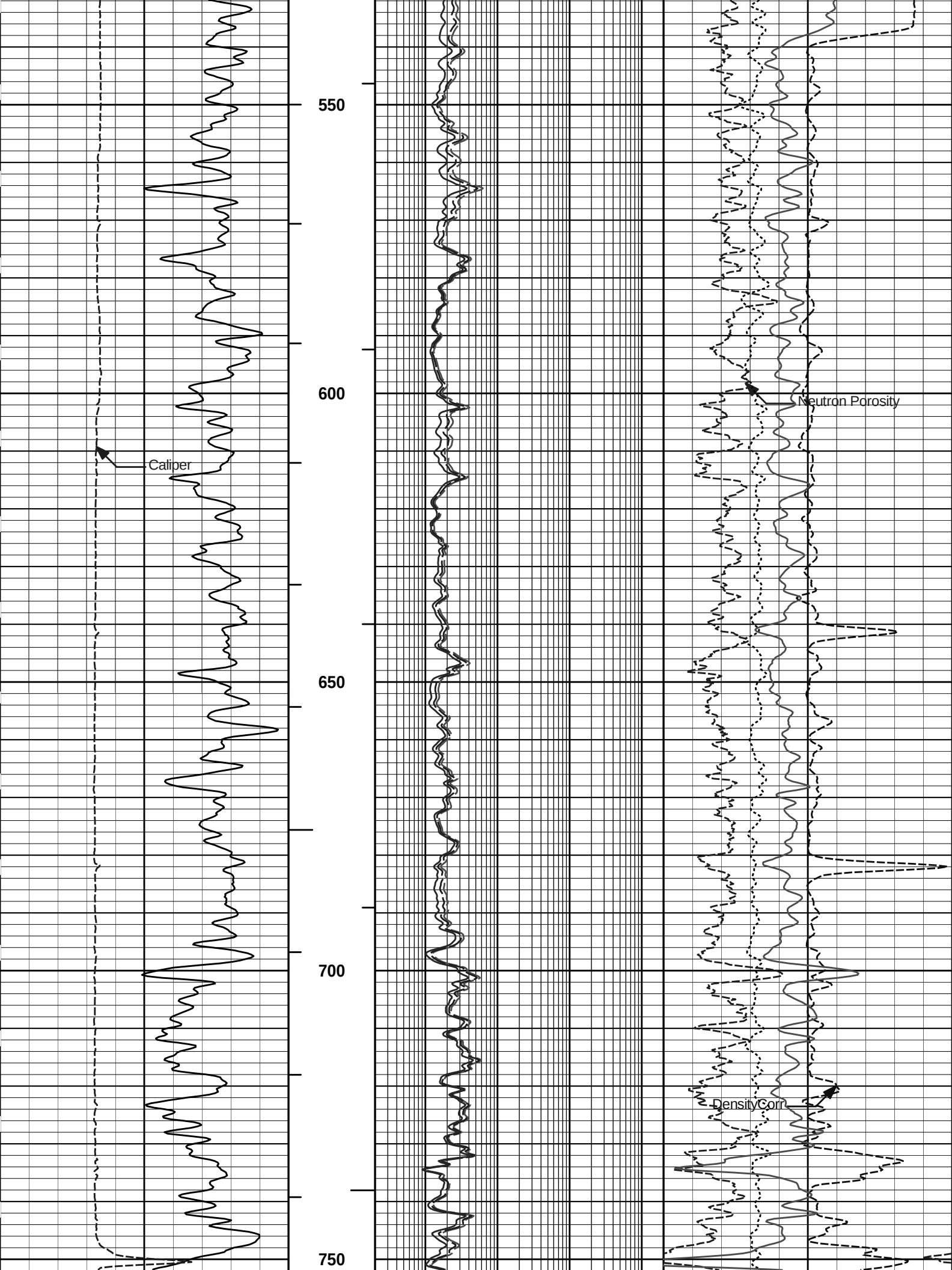
COMPANY		SHELL E&P	
WELL		CROFT FARMS 3407 27-1	
FIELD		WILDCAT	
COUNTY		HARPER	
STATE		KANSAS	
Permanent Datum		GL	
Log measured from		KB	
Drilling measured from		KB	
Date		28-Nov-12	
Run No.		ONE	
Depth - Driller		5493.00 ft	
Depth - Logger		5488.0 ft	
Bottom - Logged Interval		5478.0 ft	
Top - Logged Interval		496.0 ft	
Casing - Driller		9.625 in @ 499.0 ft	
Casing - Logger		496.0 ft	
Bit Size		8.750 in @	
Type Fluid in Hole		WATER BASED MUD	
Density		9.2 ppq 57.00 sg/cc	
PH		10.00 pH 4.0 cp/m	
Source of Sample		MUD PIT	
Rm @ Meas. Temperature		0.150 ohmm @ 75.00 degF	
Rmf @ Meas. Temperature		0.10 ohmm @ 75.00 degF	
Rmc @ Meas. Temperature		0.330 ohmm @ 75.00 degF	
Source Rmf		MEASURED	
Rm @ BHT		0.08 ohmm @ 150.0 degF	
Time Since Circulation		6.0 hr	
Time on Bottom		28-Nov-12 06:19	
Max. Rec. Temperature		150.0 degF @ 5488.0 ft	
Equipment		10546696 LIBERAL	
Recorded By		J. BOLLOW	
Witnessed By		L. SMITH	
Sect. 27		Twp. 34S	
Rge. 7W		Elev. 1385.0 ft	
Other Services:		ACRT	
SDLT, DSNT		WSTT	
ICT		IDT	
CSNG		MRIL	
Elev. 1385.0 ft		D.F. 1407.0 ft	
G.L. 1385.0 ft			

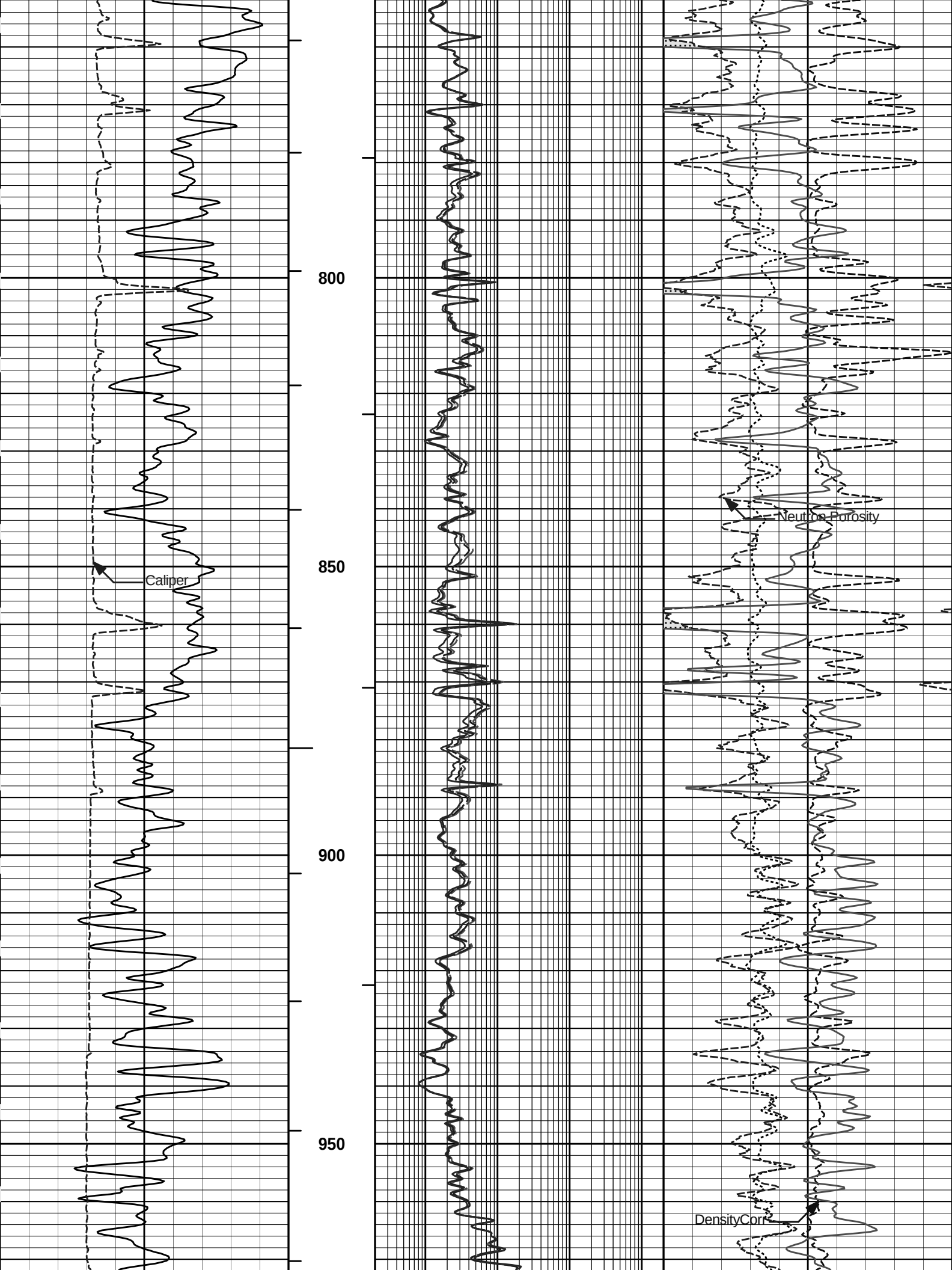
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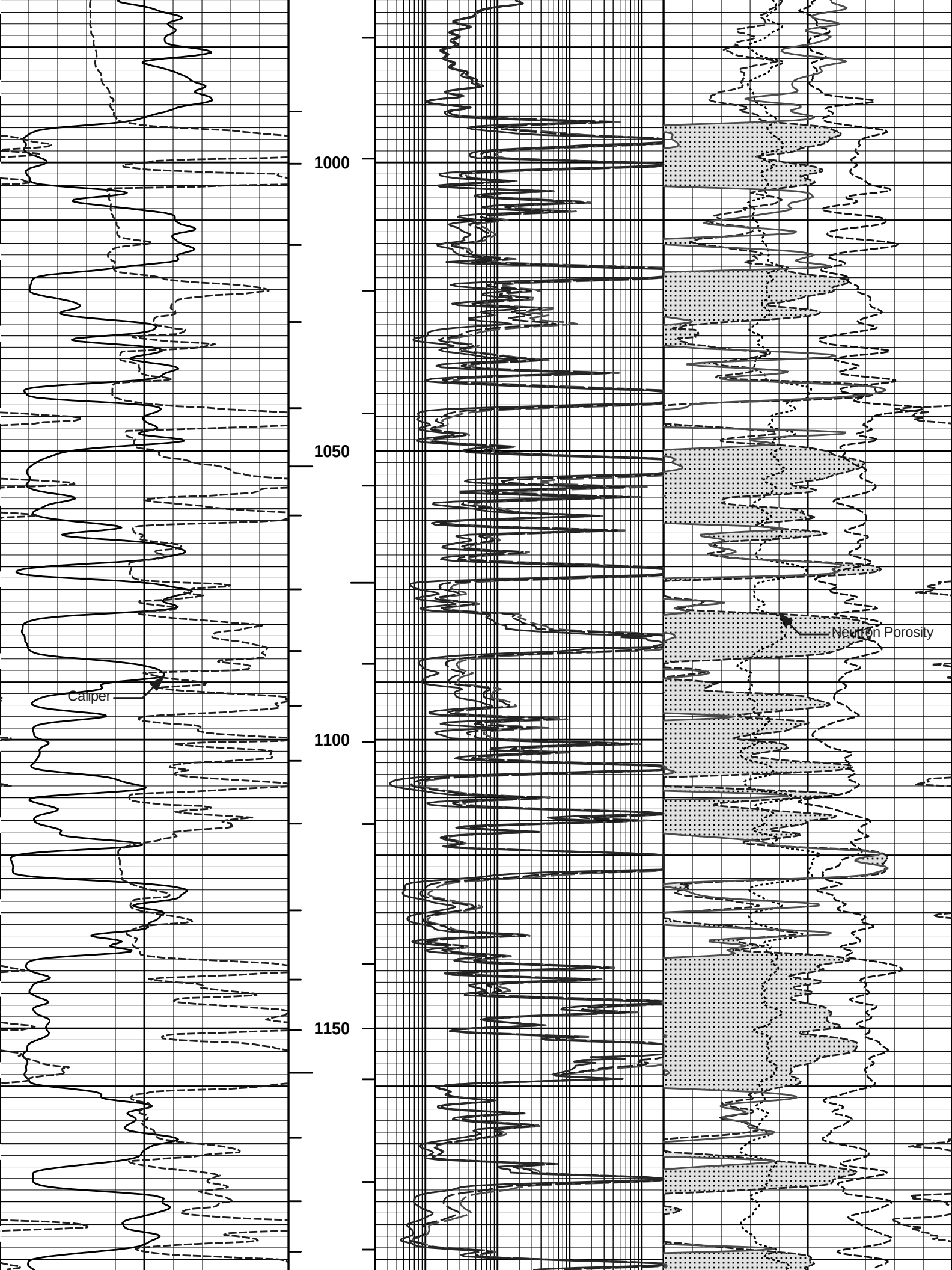
Service Ticket No.: 900033327				API Serial No.: 15-077-21842-00-00				PGM Version: WL INSITE R3.6.0 (Build 3)											
CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE				RESISTIVITY SCALE CHANGES															
Date		Sample No.						Type Log		Depth		Scale Up Hole		Scale Down Hole					
Depth-Driller																			
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.		@		@				I5059_S8385											
Source Rmf		Rmc																	
Rm @ BHT		@		@															
Rmf @ BHT		@		@															
Rmc @ BHT		@		@															
EQUIPMENT DATA																			
GAMMA				ACOUSTIC				DENSITY				NEUTRON							
Run No.		ONE		Run No.		ONE		Run No.		ONE		Run No.		ONE					
Serial No.		11039640		Serial No.		10753396		Serial No.		10865884		Serial No.		11019643					
Model No.		GTET		Model No.		WSTT		Model No.		SDLT-I		Model No.		DSNT-I					
Diameter		3.625"		No. of Cent.		2		Diameter		4.5"		Diameter		3.625"					
Detector Model No.		GTET		Spacing		6"		Log Type		GAM-GAM-		Log Type		NEU-NEU					
Type		SCINT						Source Type		CS137		Source Type		AM241BE					
Length		8'		LSA [Y/N]		YES		Serial No.		5168GW		Serial No.		DSN-424					
Distance to Source		18'		FWDA [Y/N]		YES		Strength		1.5 CI		Strength		15 CI					
LOGGING DATA																			
GENERAL				GAMMA				ACOUSTIC				DENSITY				NEUTRON			

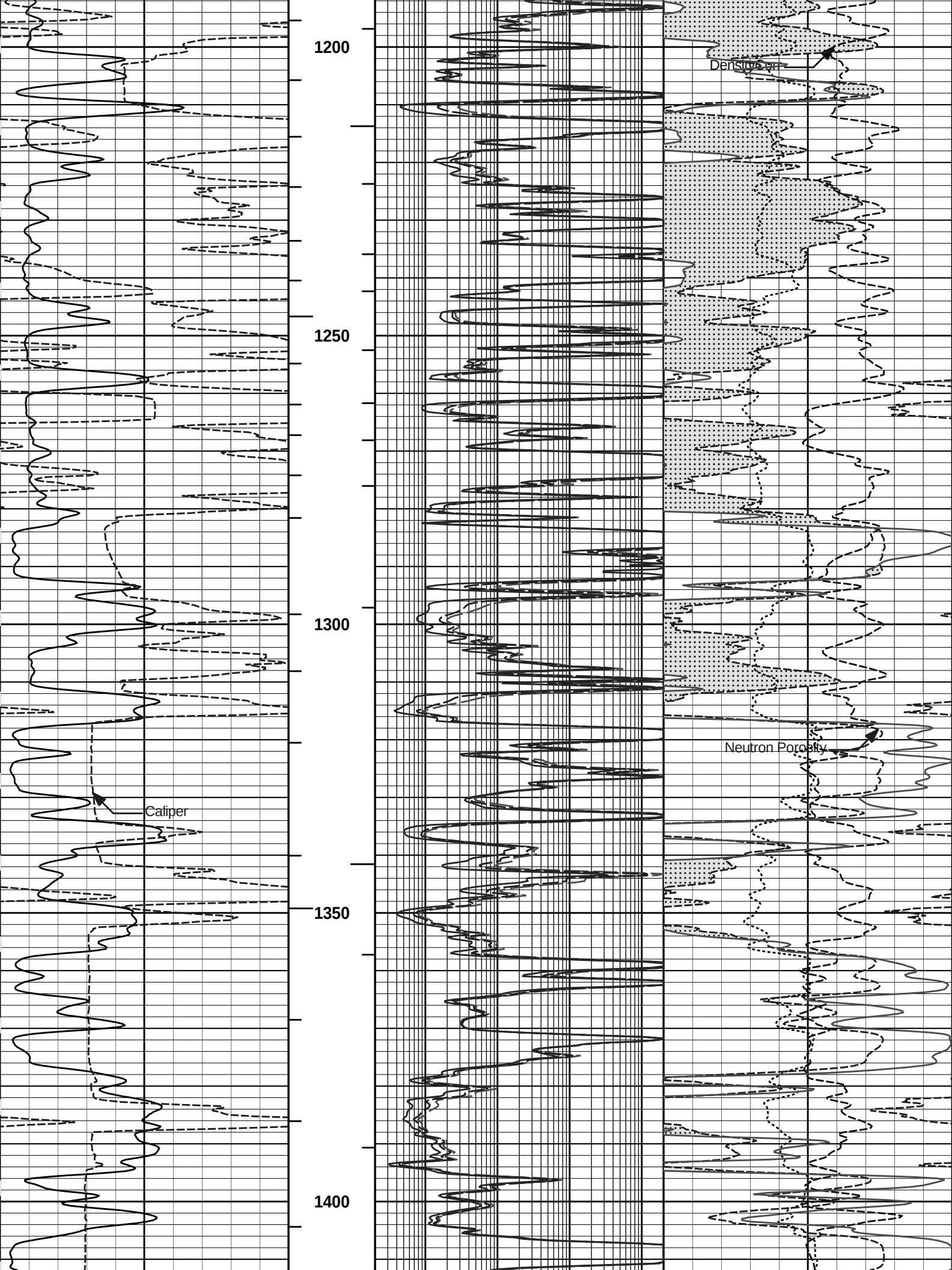
GENERAL			GAMMA		ACOUSTIC		DENSITY		NEUTRON					
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5488	496	REC	0	150	45	-15	47.6	45	-15	2.71	45	-15	LIME
DIRECTIONAL INFORMATION														
Maximum Deviation @								KOP @						
Remarks: STANDARD REMARKS: TOOL STRING RUN AS PER TOOL SKETCH. 1.5" STANDOFF USED ON ART. 2 CENTRALIZERS ON WSTT.														
1 DECENTRALIZER ON THE DSNT. FLEX SUB USED TO ENSURE DECOUPLING. 3 CENTRALIZERS ON THE MRIL.														
LOCATION DATA: LAT. 37.064 N LONG. 98.060 W														
DIPOLE USED TO ACQUIRE SHEAR AND COMPRESSIONAL DATA														
CASING CALIPER CHECK: EXP. VALUE = 8.9", CALI = 9.05", CORRECTION OF -0.15" APPLIED TO SLDLT ARM														
SONIC CURVES CHECKED INSIDE CASING, READING VALUE = 56.8 US/FT, EXPECTED VALUE - 57 US/FT														
CI - 24,000 MG/L, NaCL EQ = 32,962 PPM														
DEPTH CONTROL: ALL SUBSEQUENT RUNS CORRELATED WITH FIRST RUN. ALL HALLIBURTON DEPTH CONTROL PROCEDURES APPLIED.														
ALL LOGS ZEROED AT KELLY BUSHING														
INDUCTION LOG USES THE COMPUTE STANDOFF MODEL. THE 2 FOOT RESOLUTION DATA FROM THE INDUCTION IS PRESENTED.														
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														

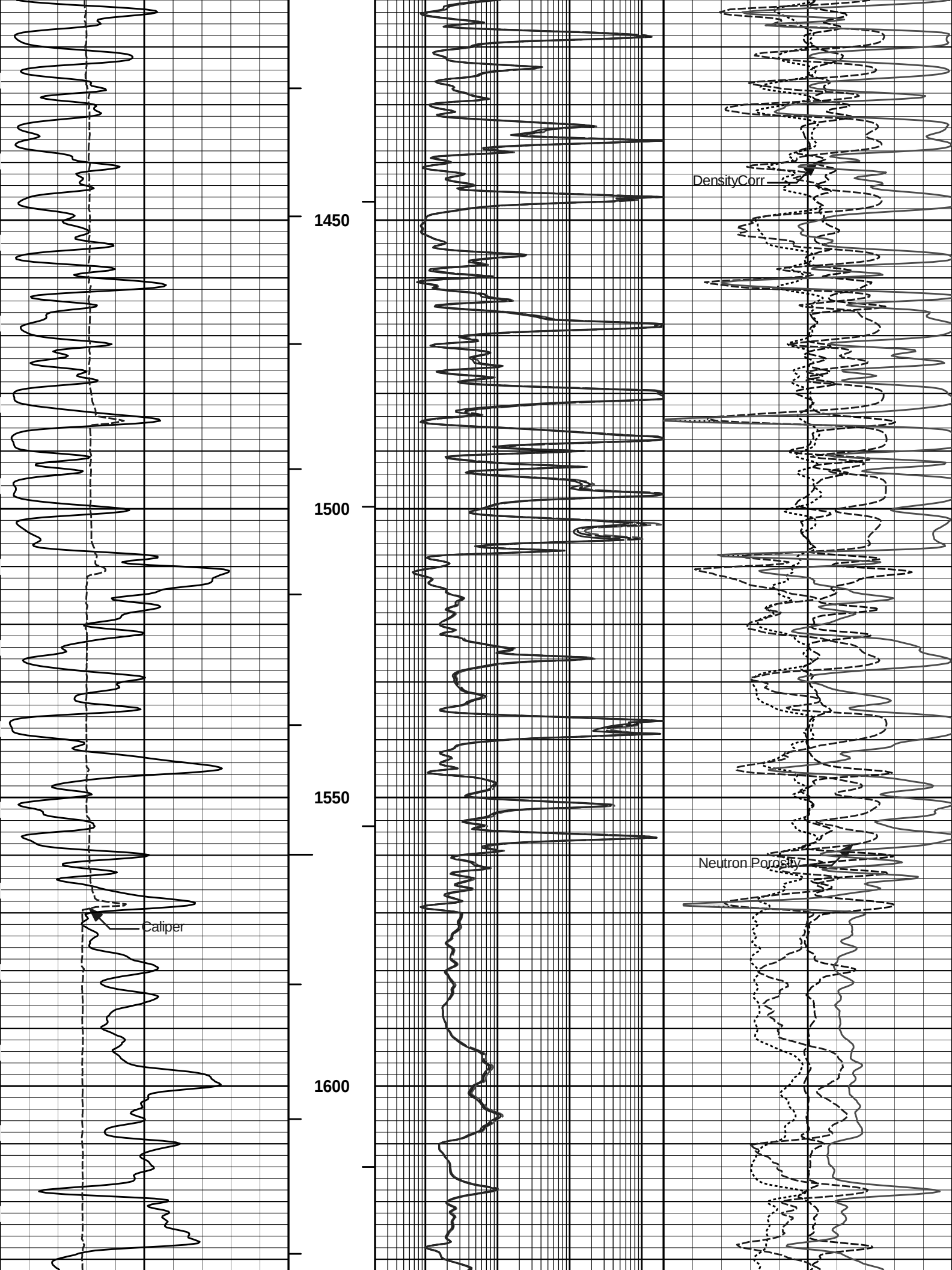


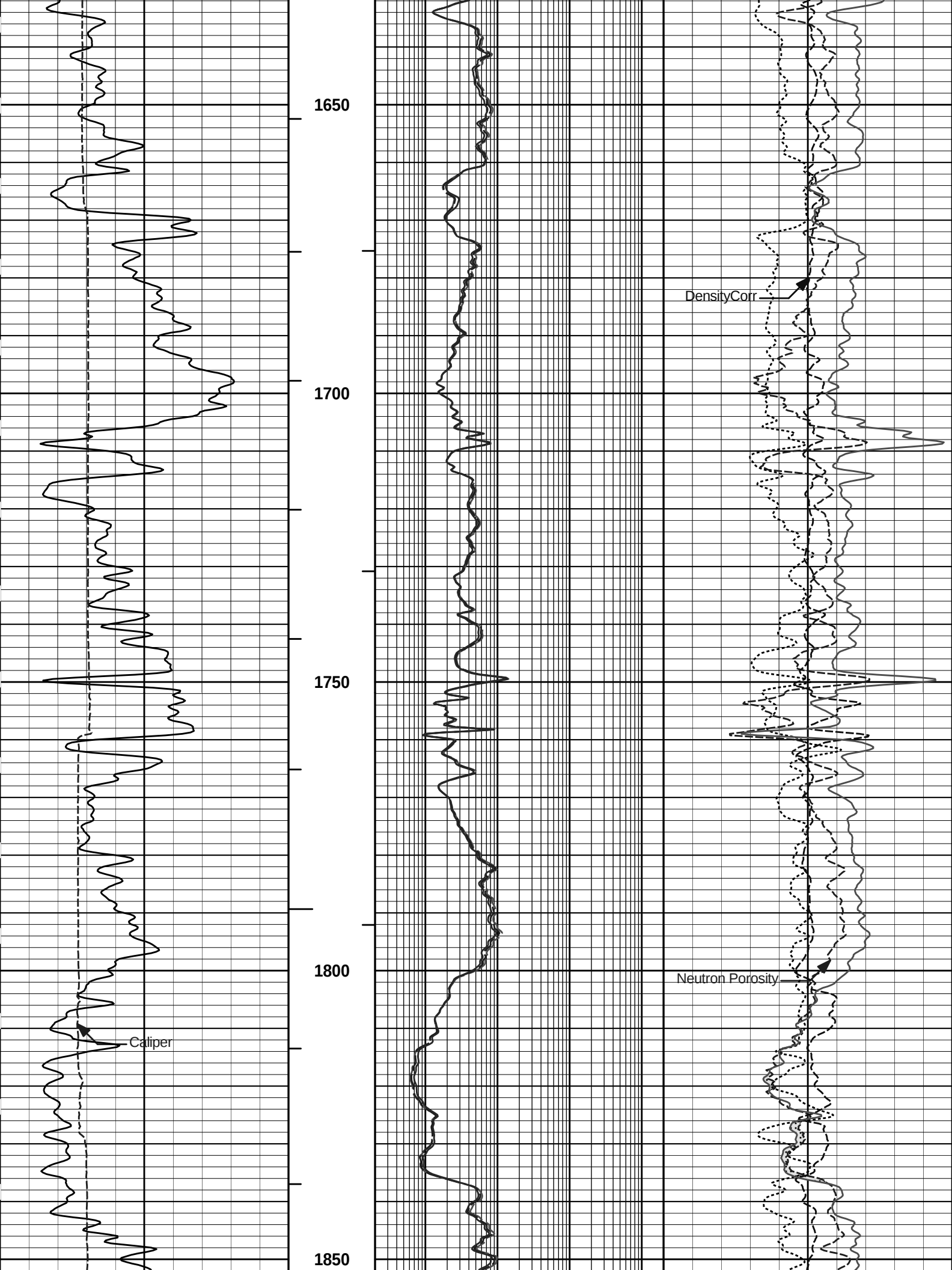


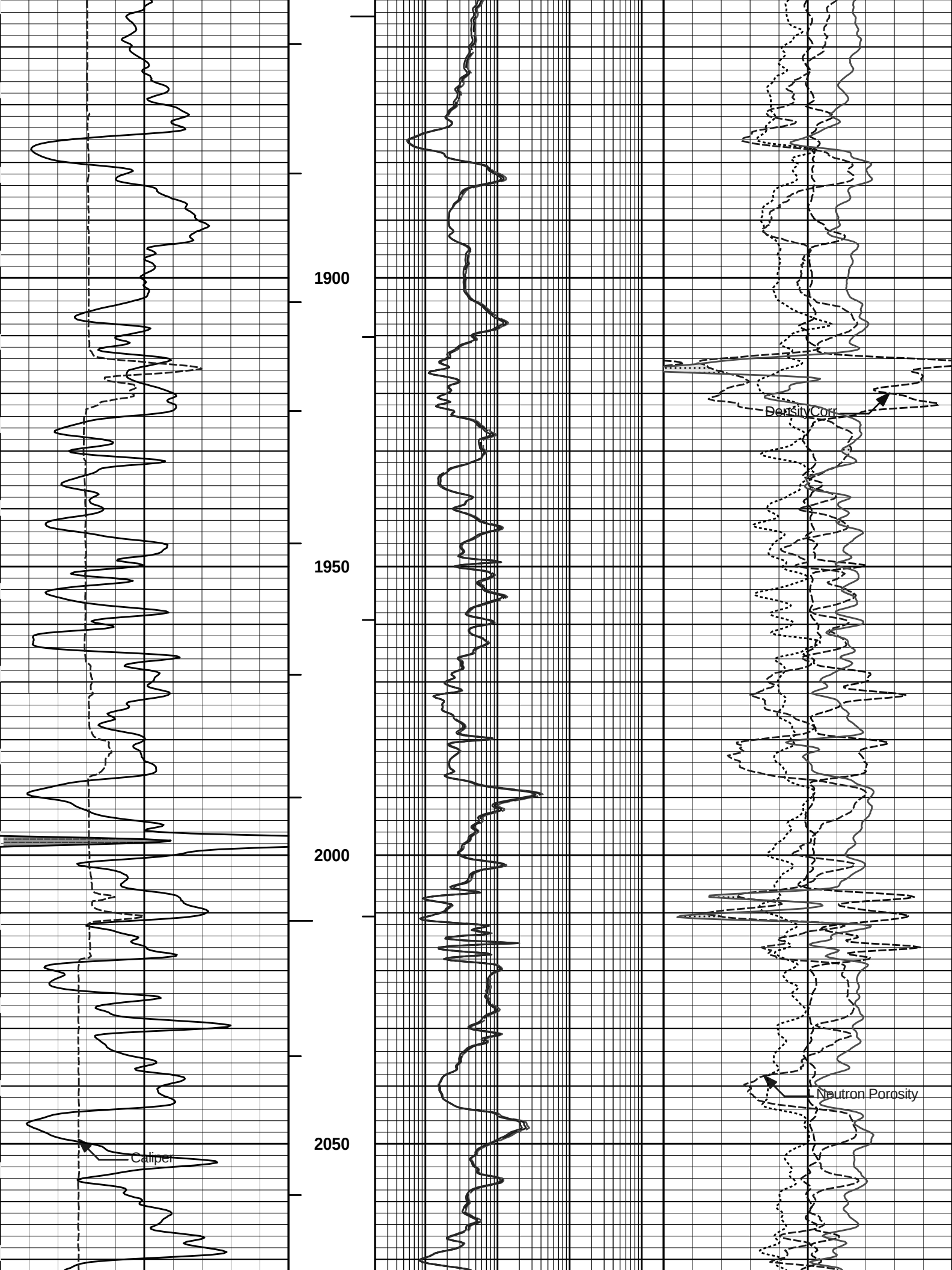


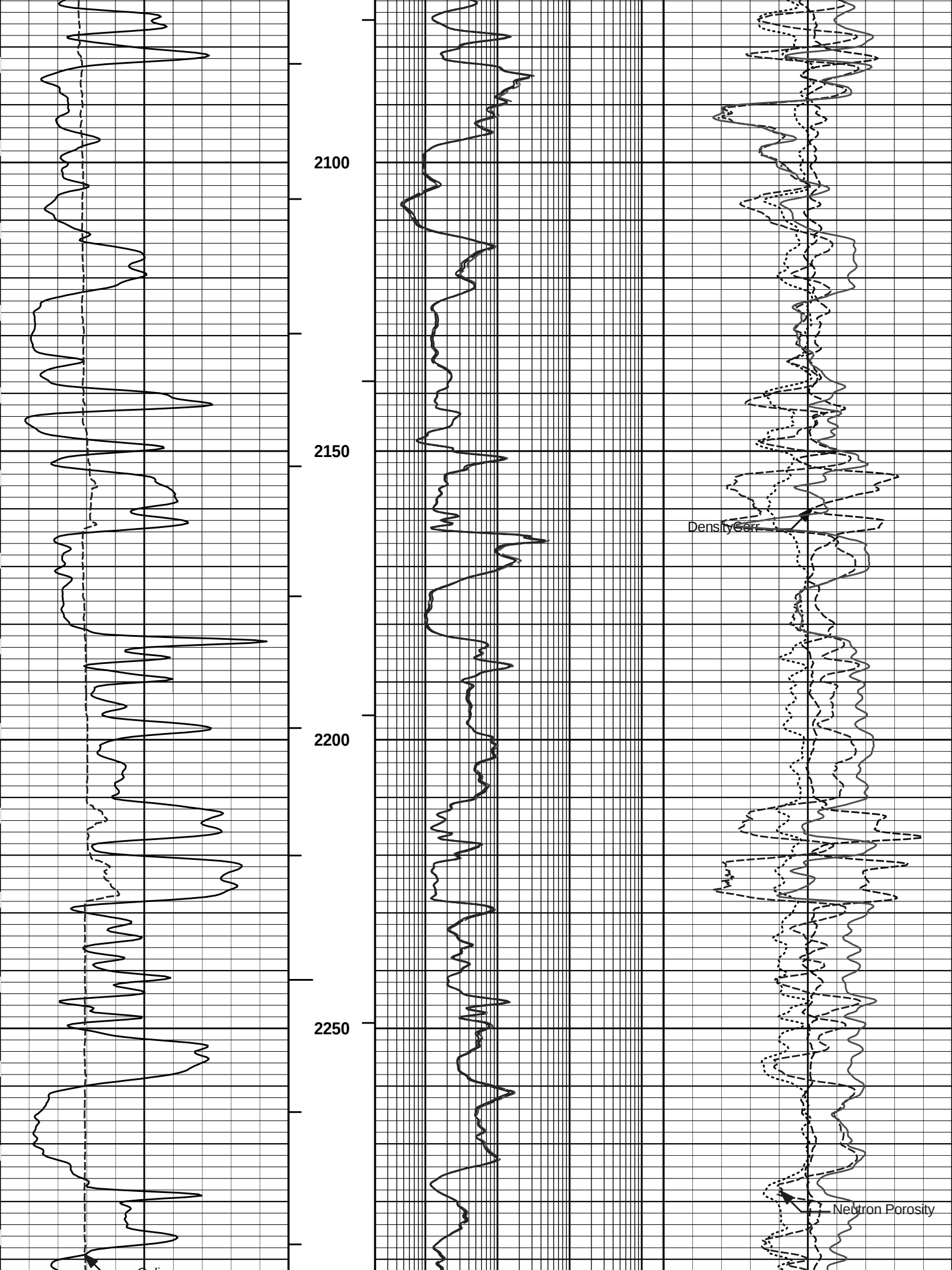


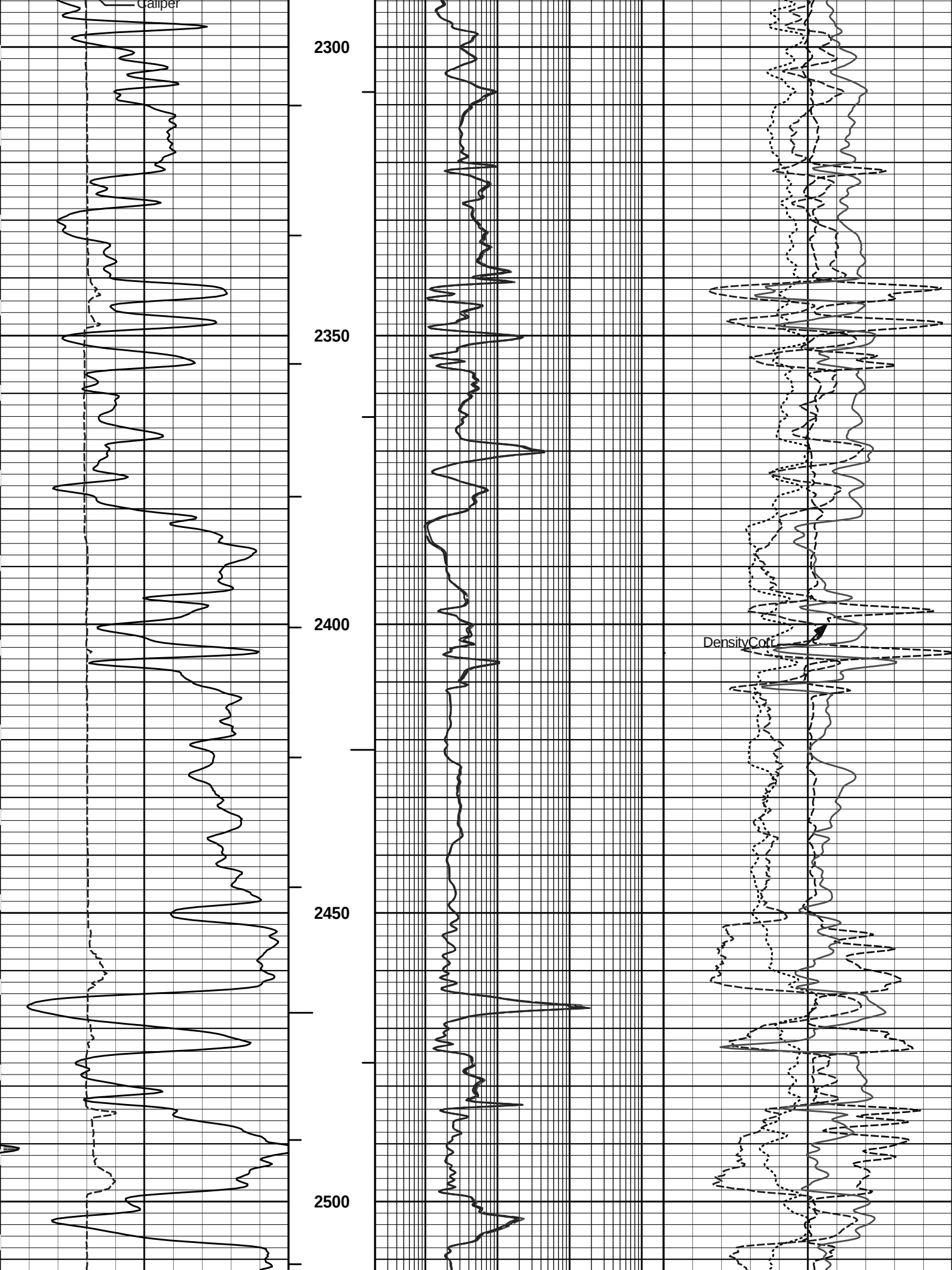


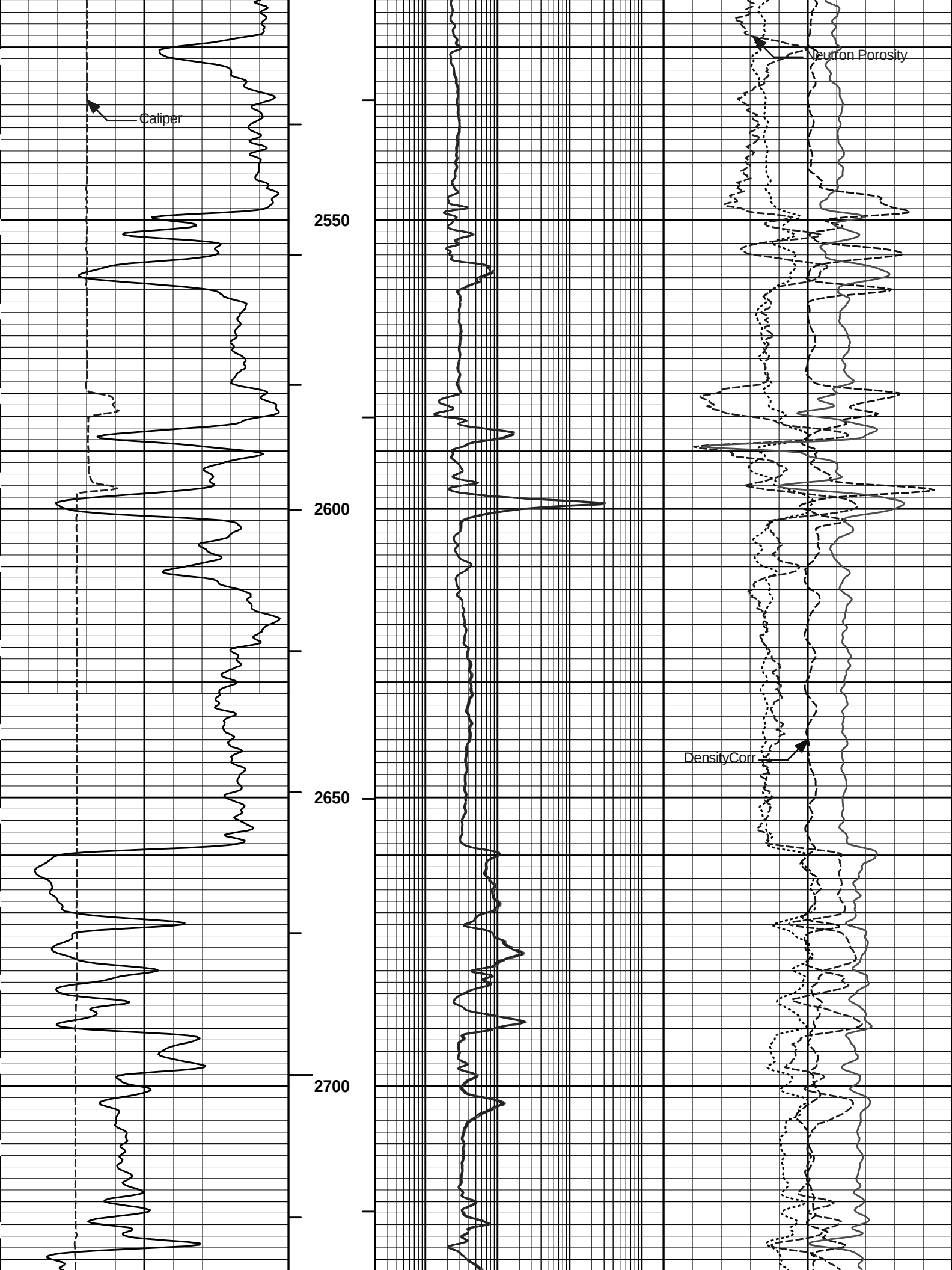


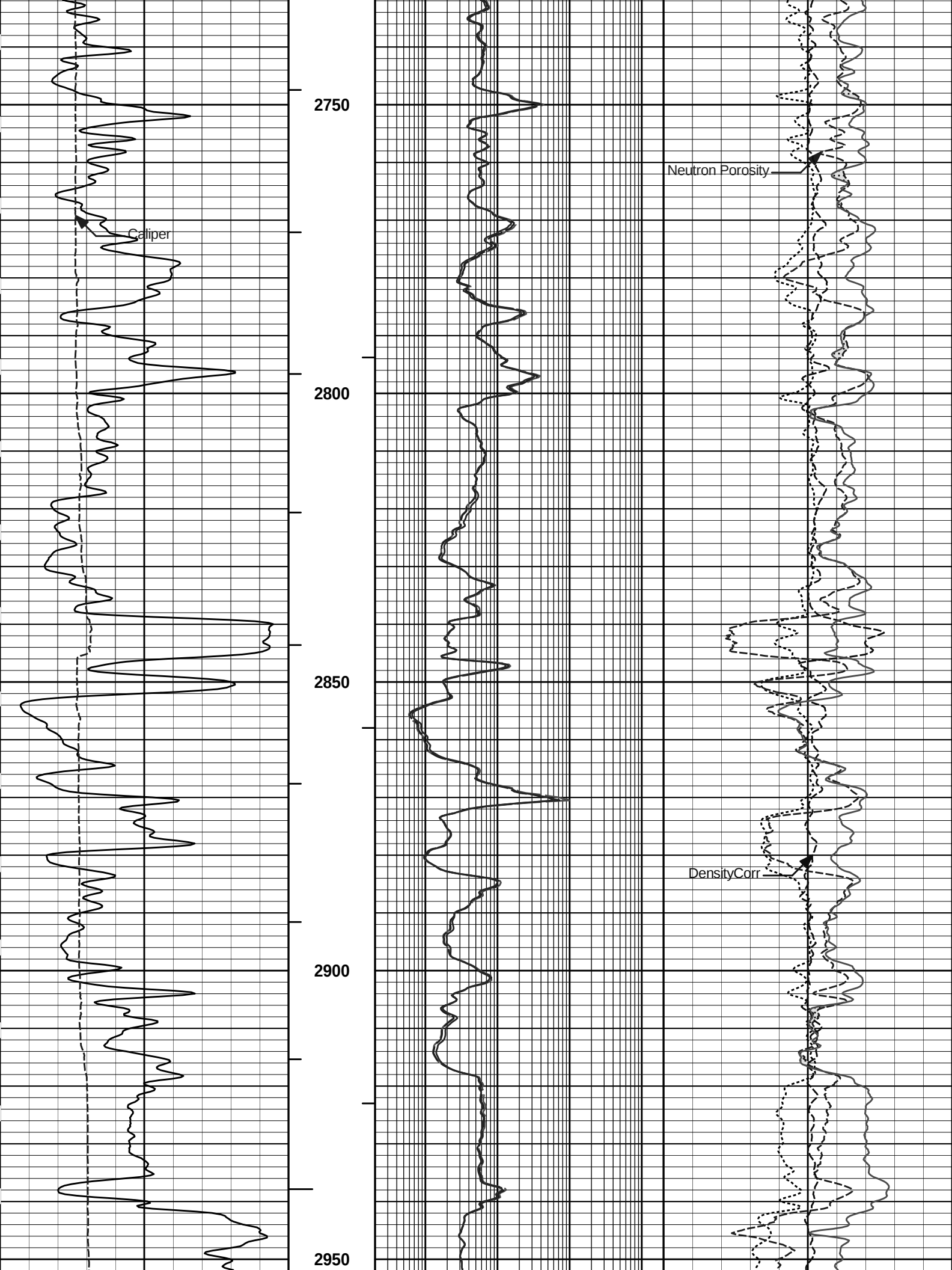


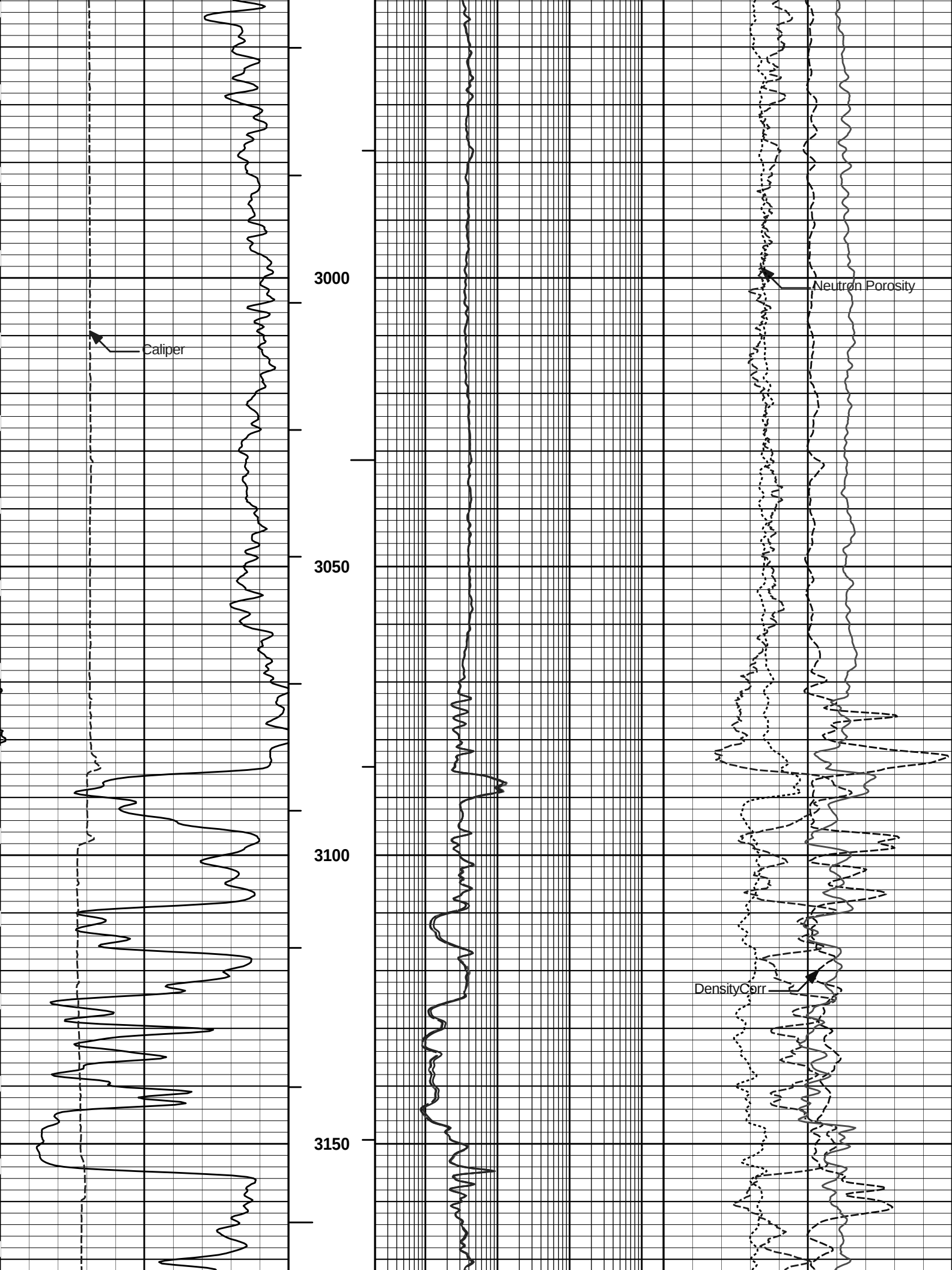


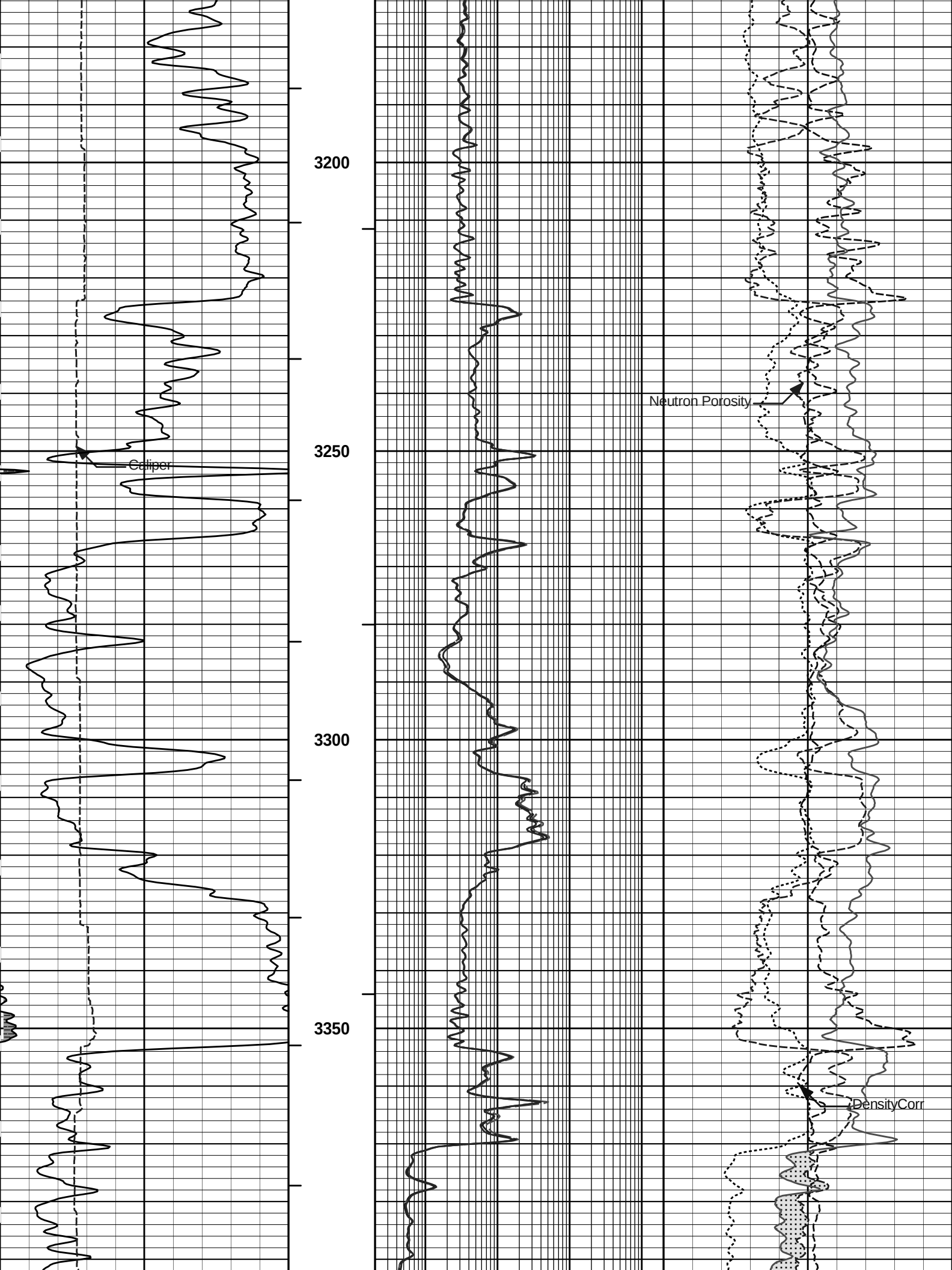


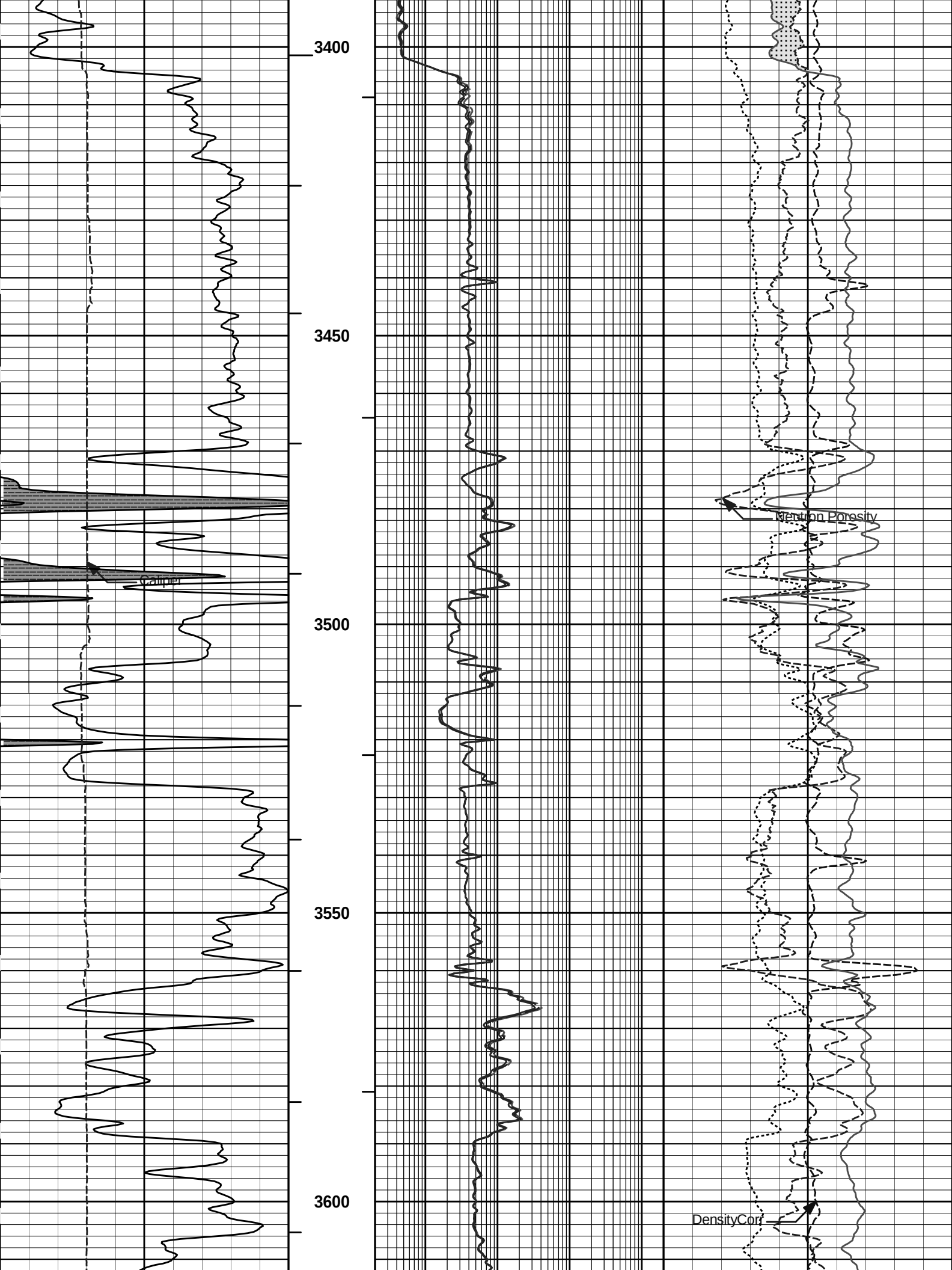




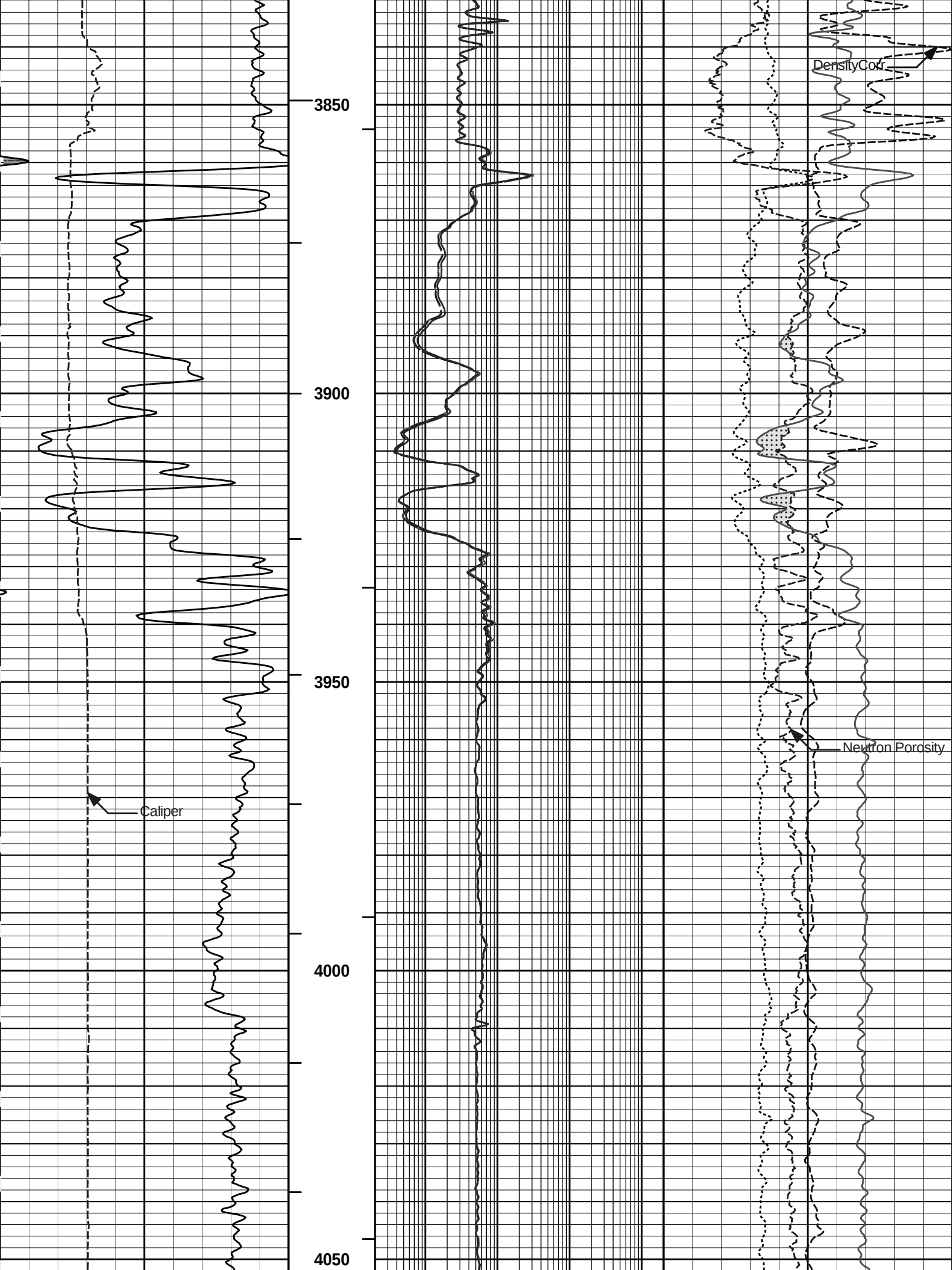


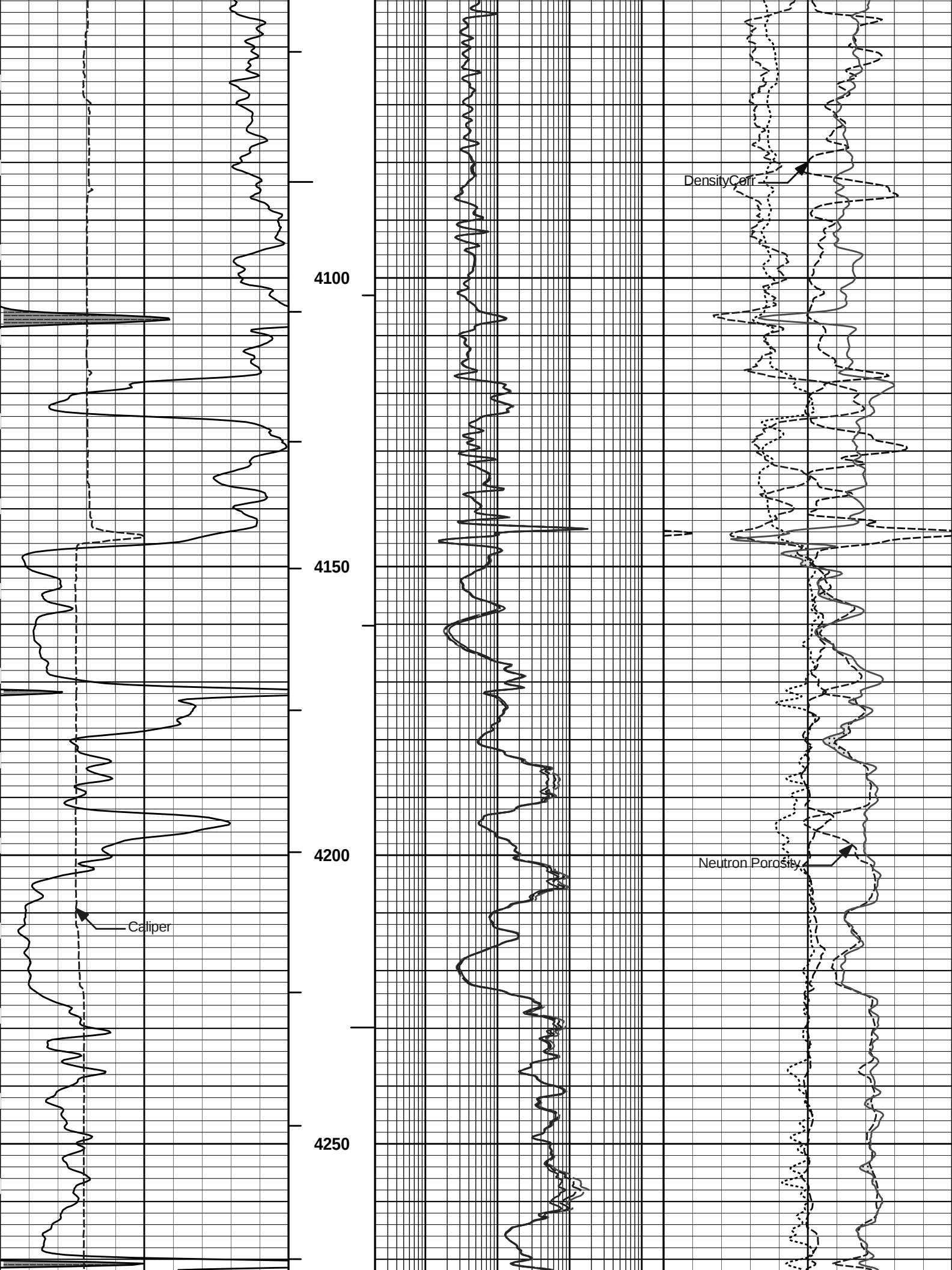


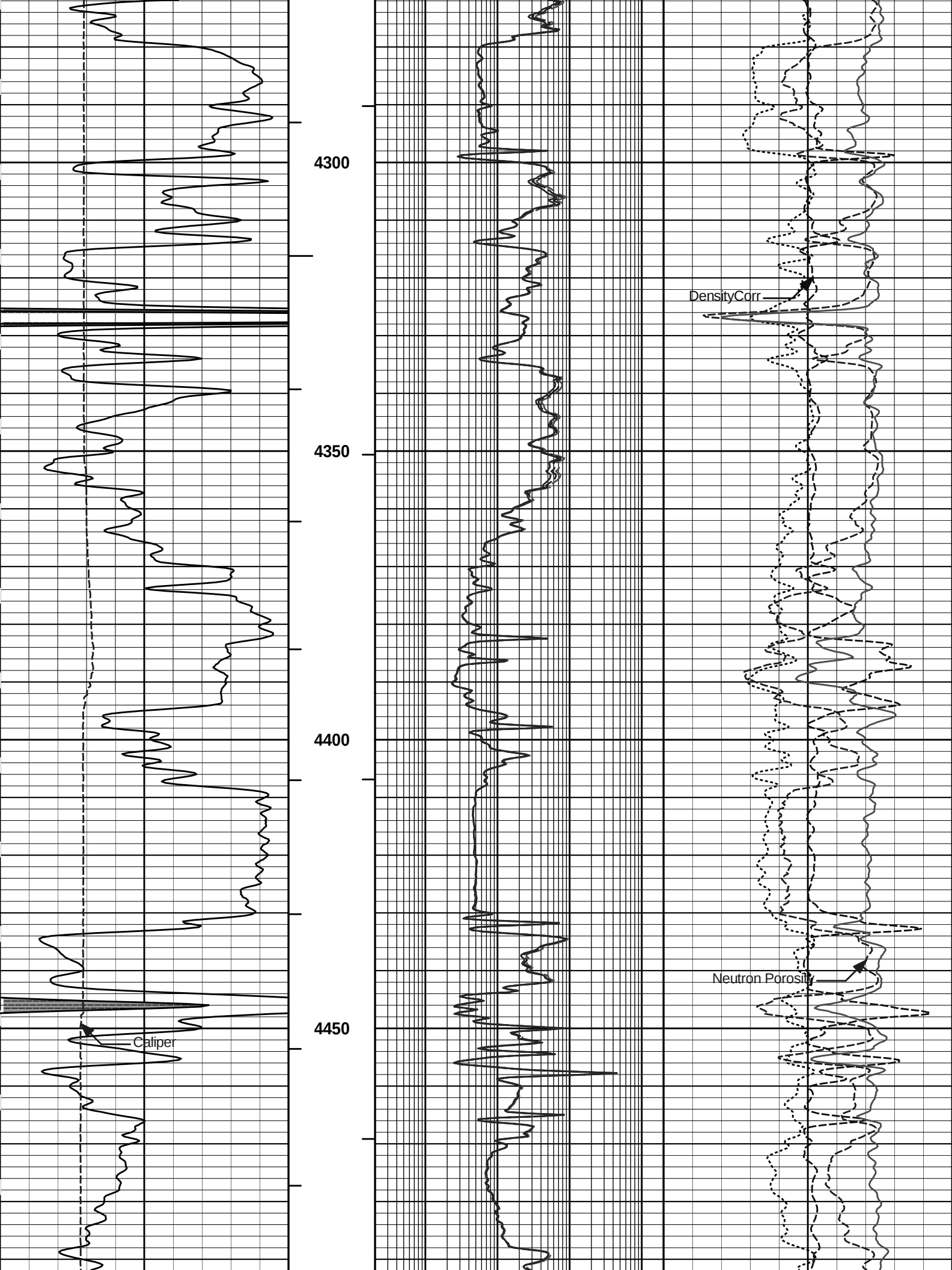


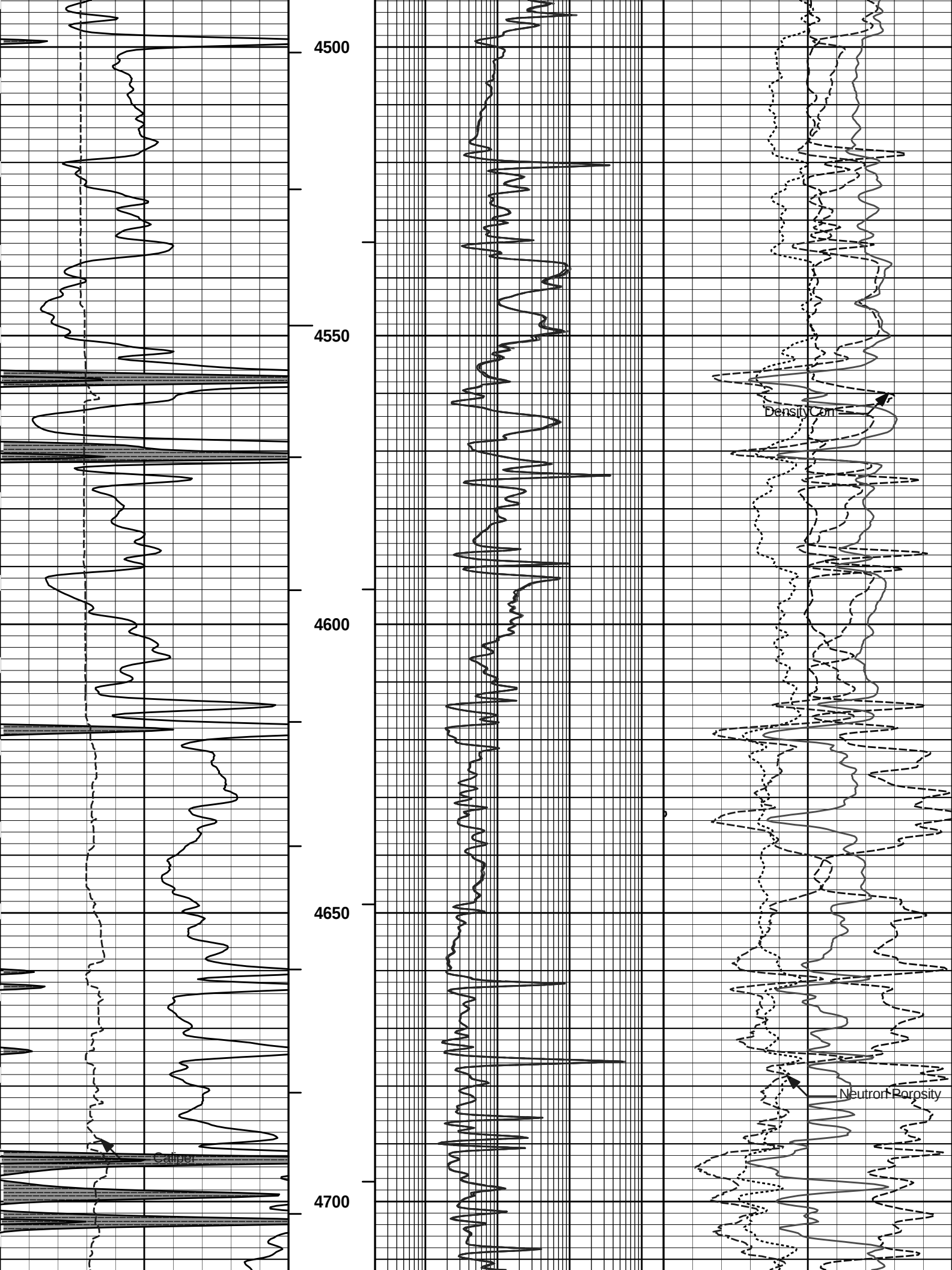


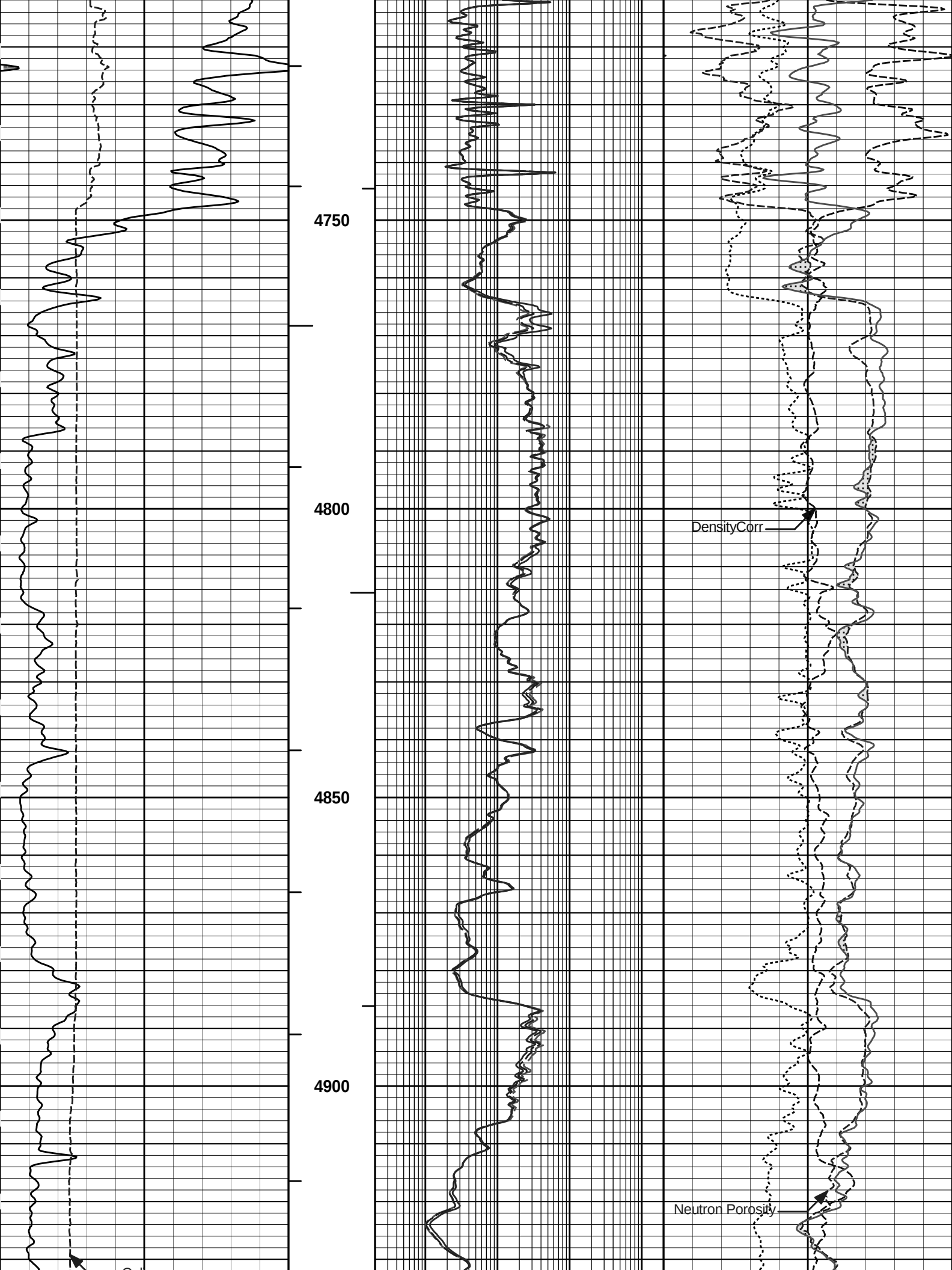


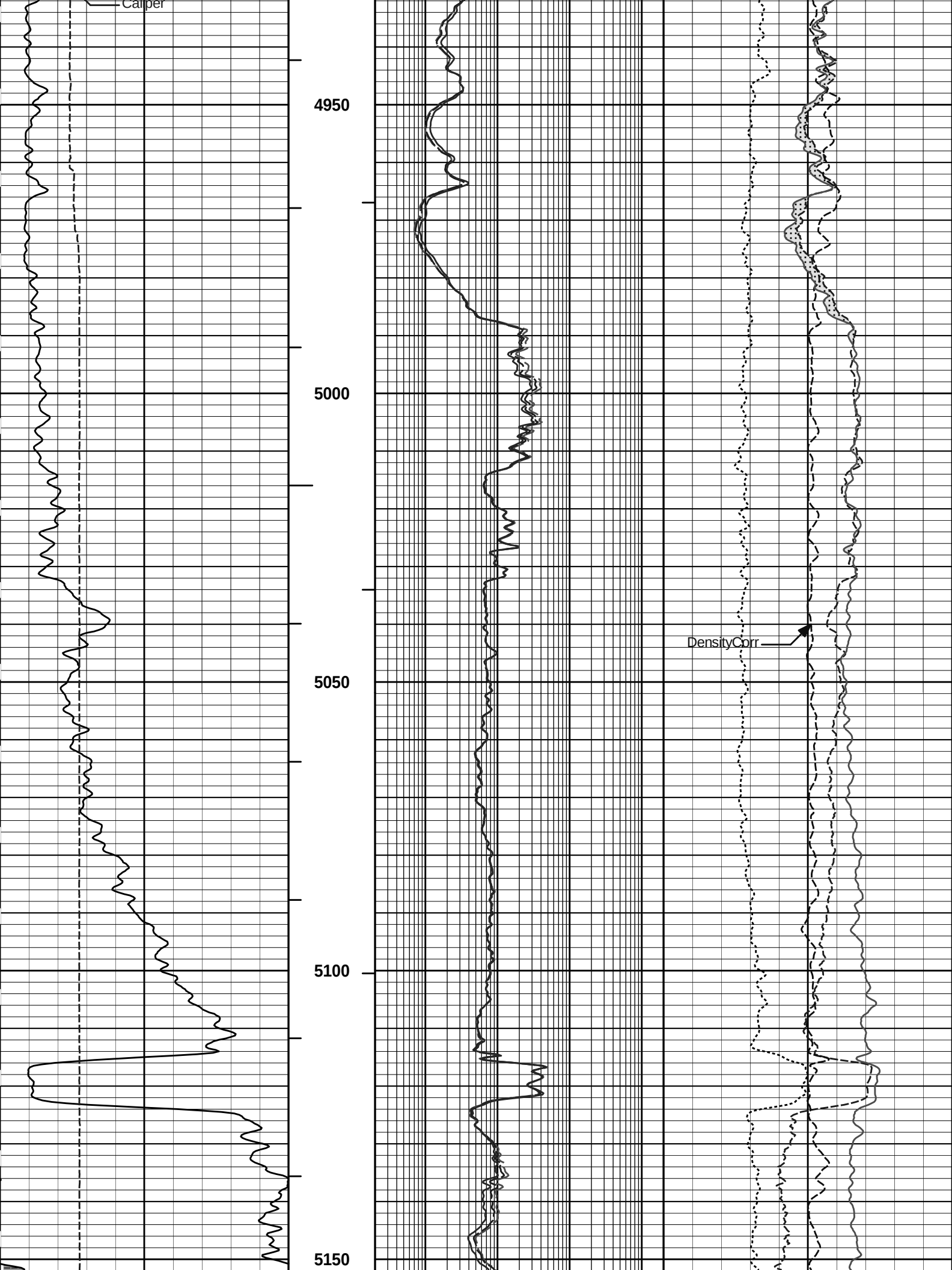


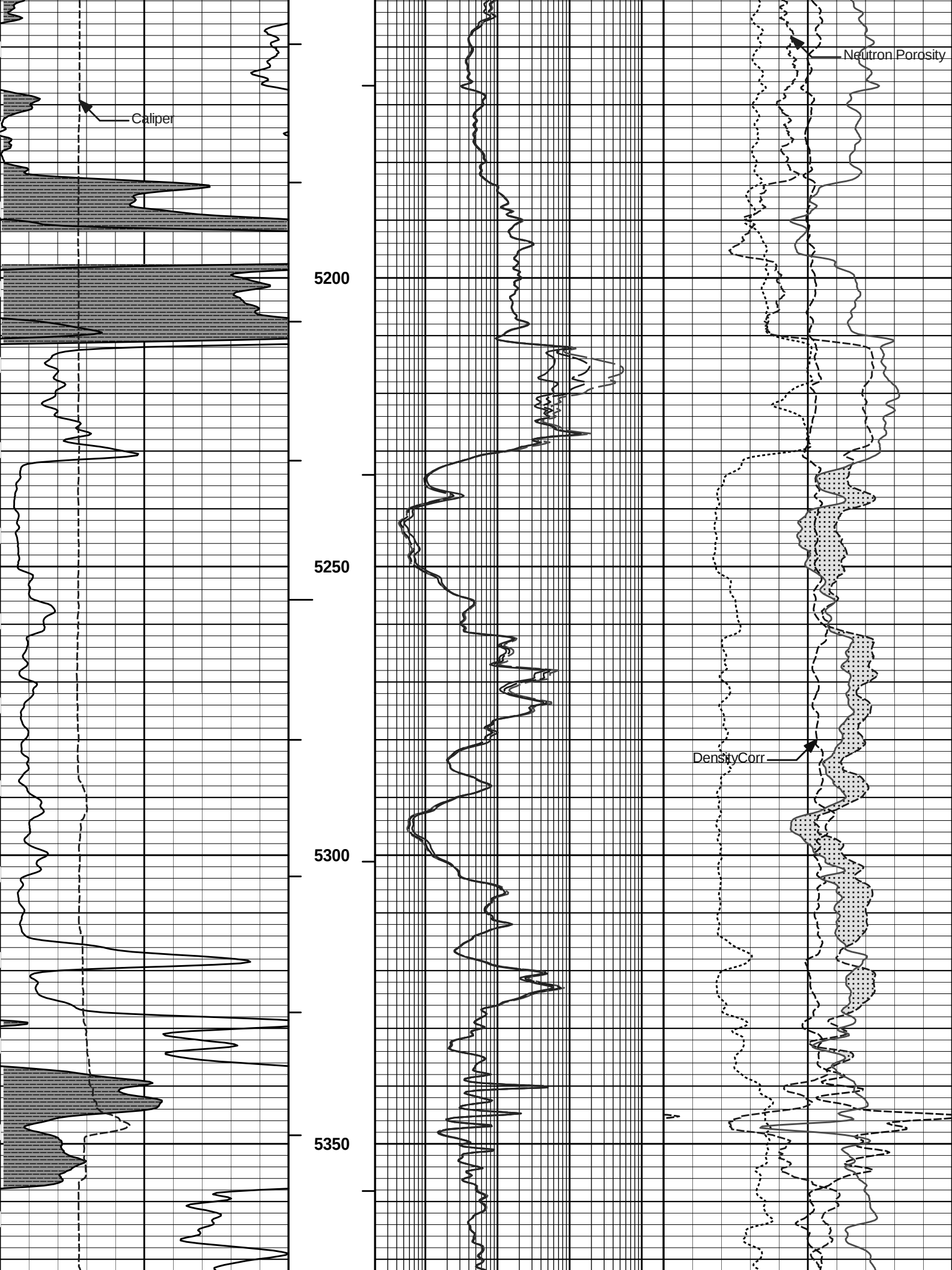


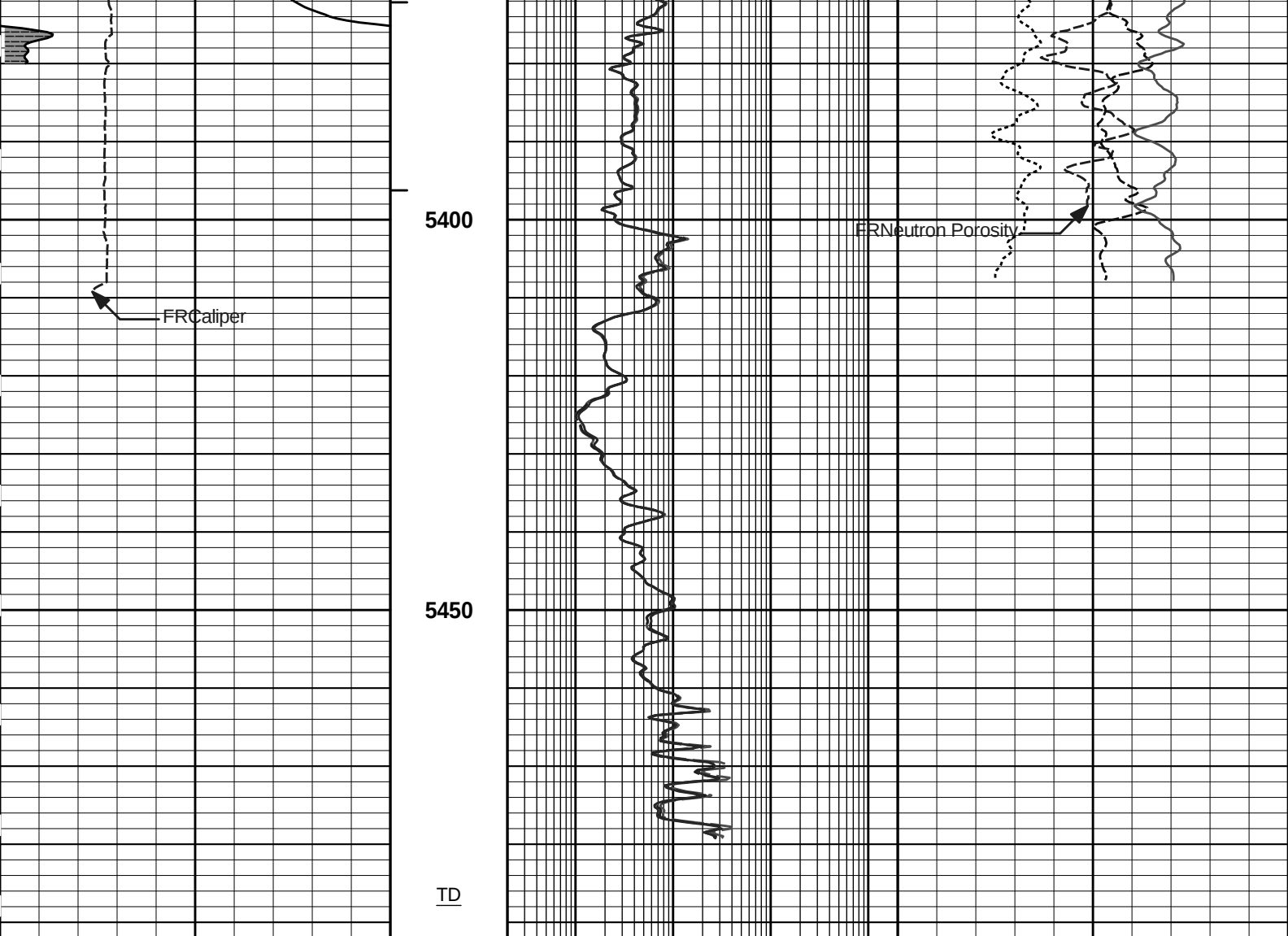












6	Caliper	16	MD 1 : 240 ft	0.2	20in Resistivity 1ft Res	2000	-0.25	DensityCorr	0.25
	inches				ohm-metre			g/cc	
0	Gamma API	150		0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre				
							45	Neutron Porosity	-15
								%	

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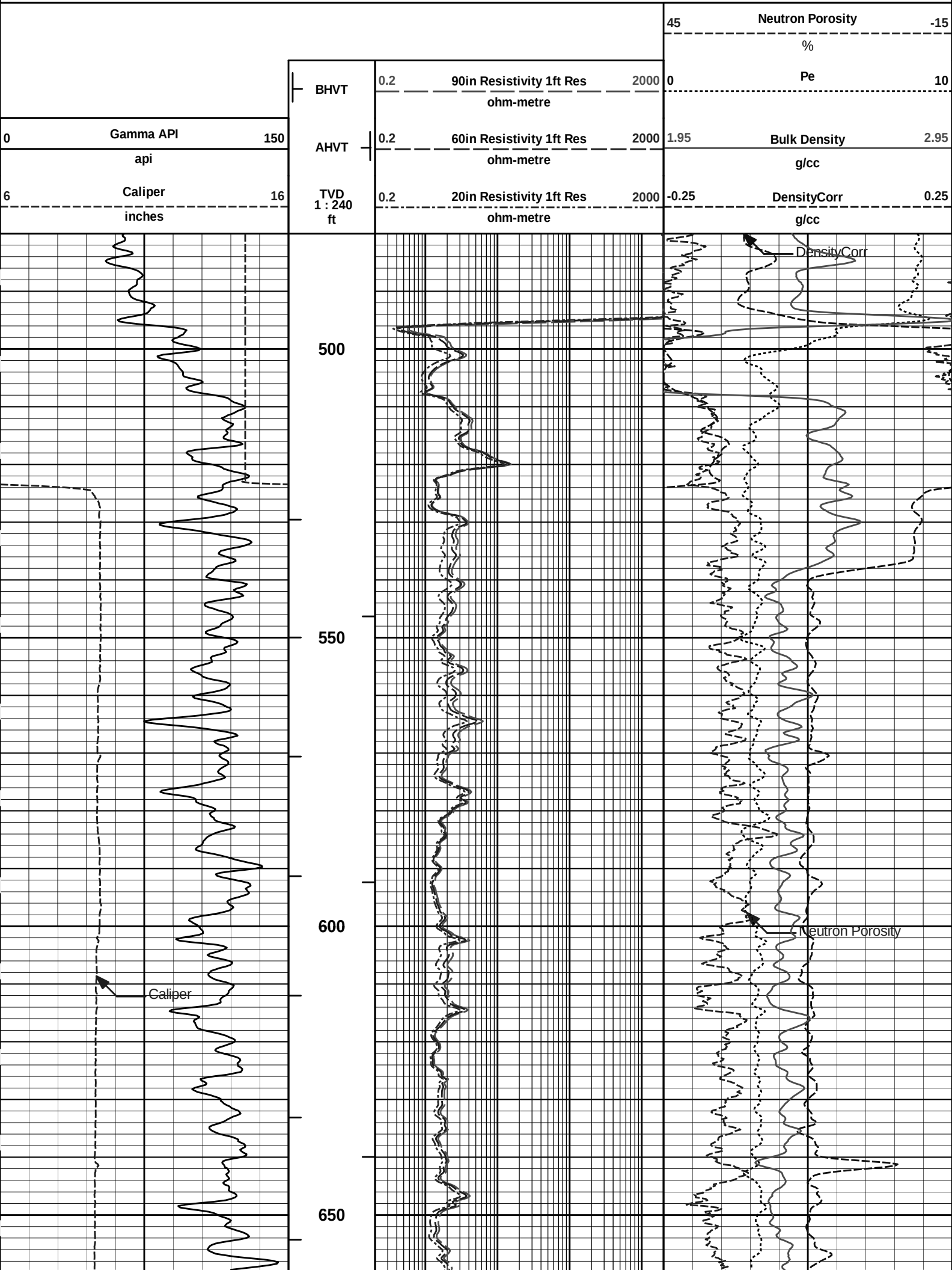
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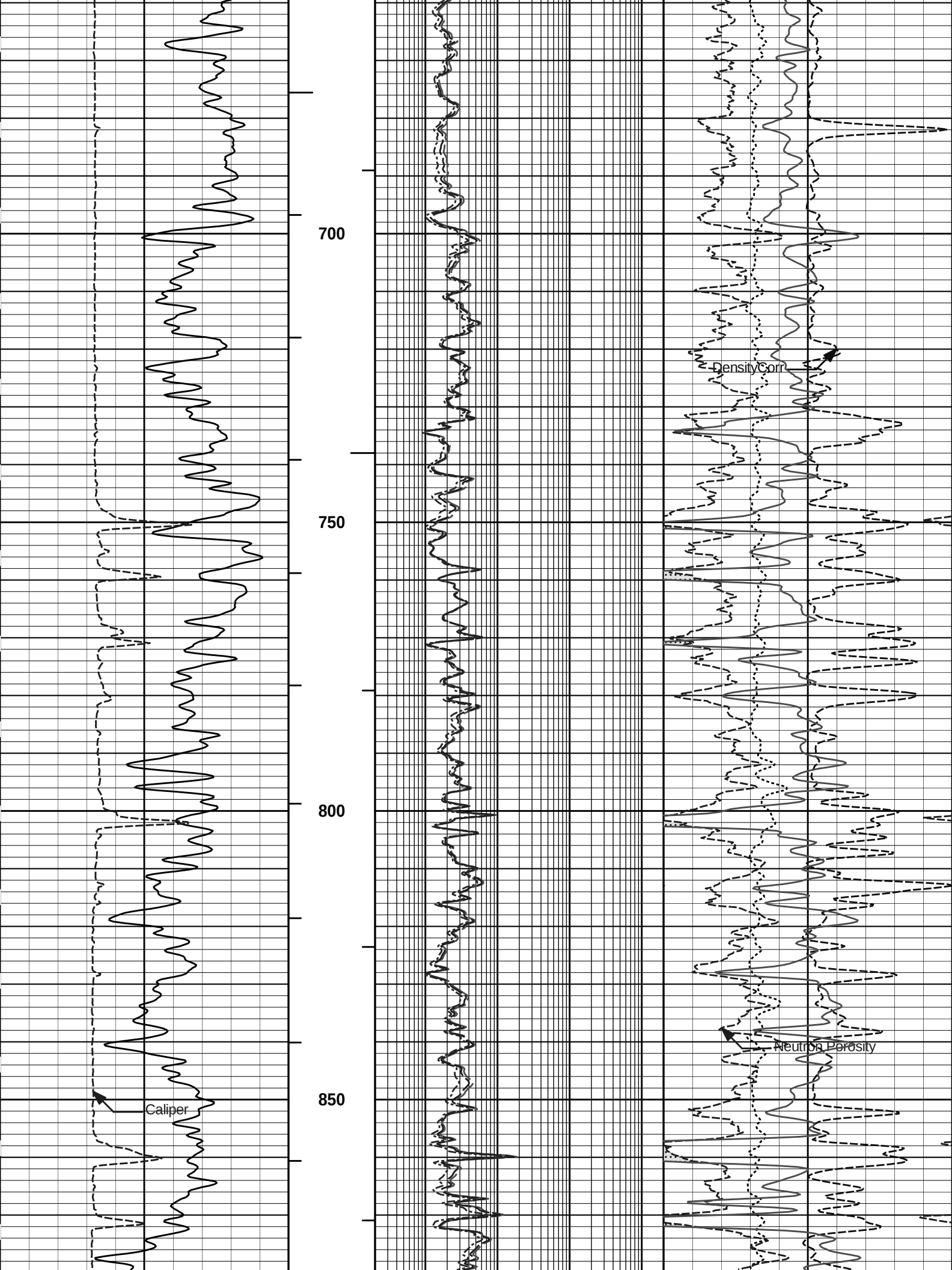
5 INCH MAIN LOG MD

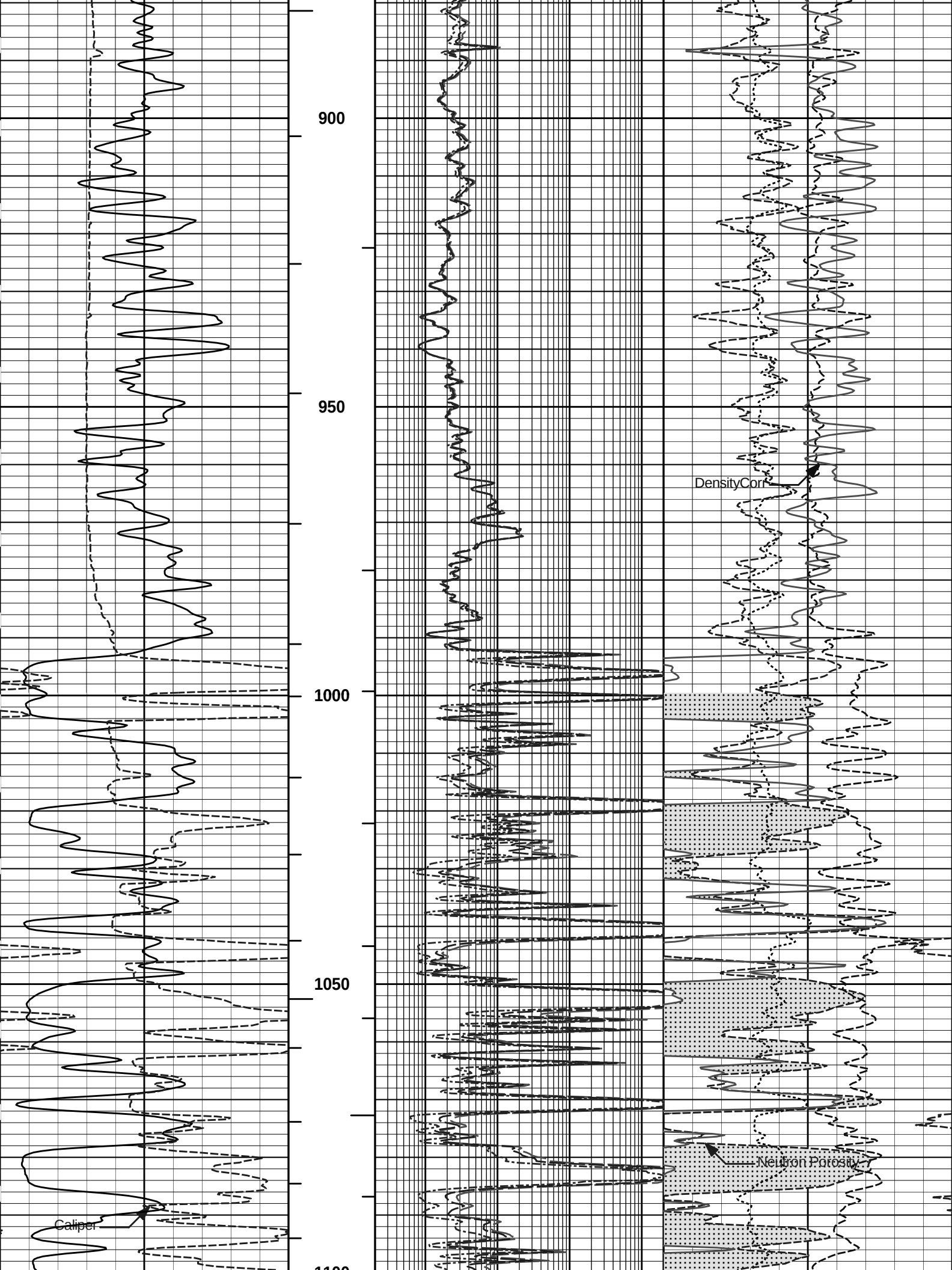
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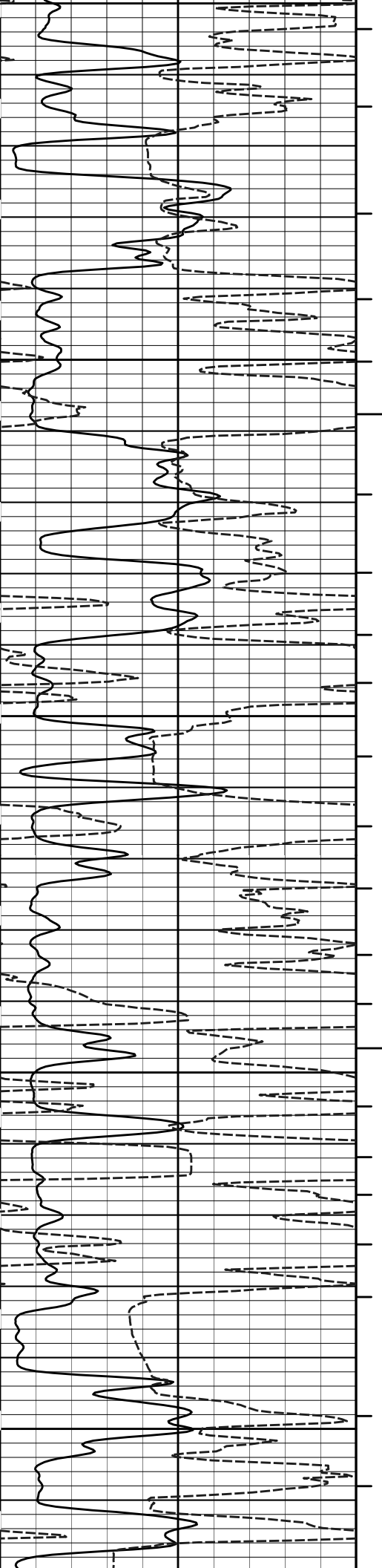
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5 INCH MAIN LOG TVD

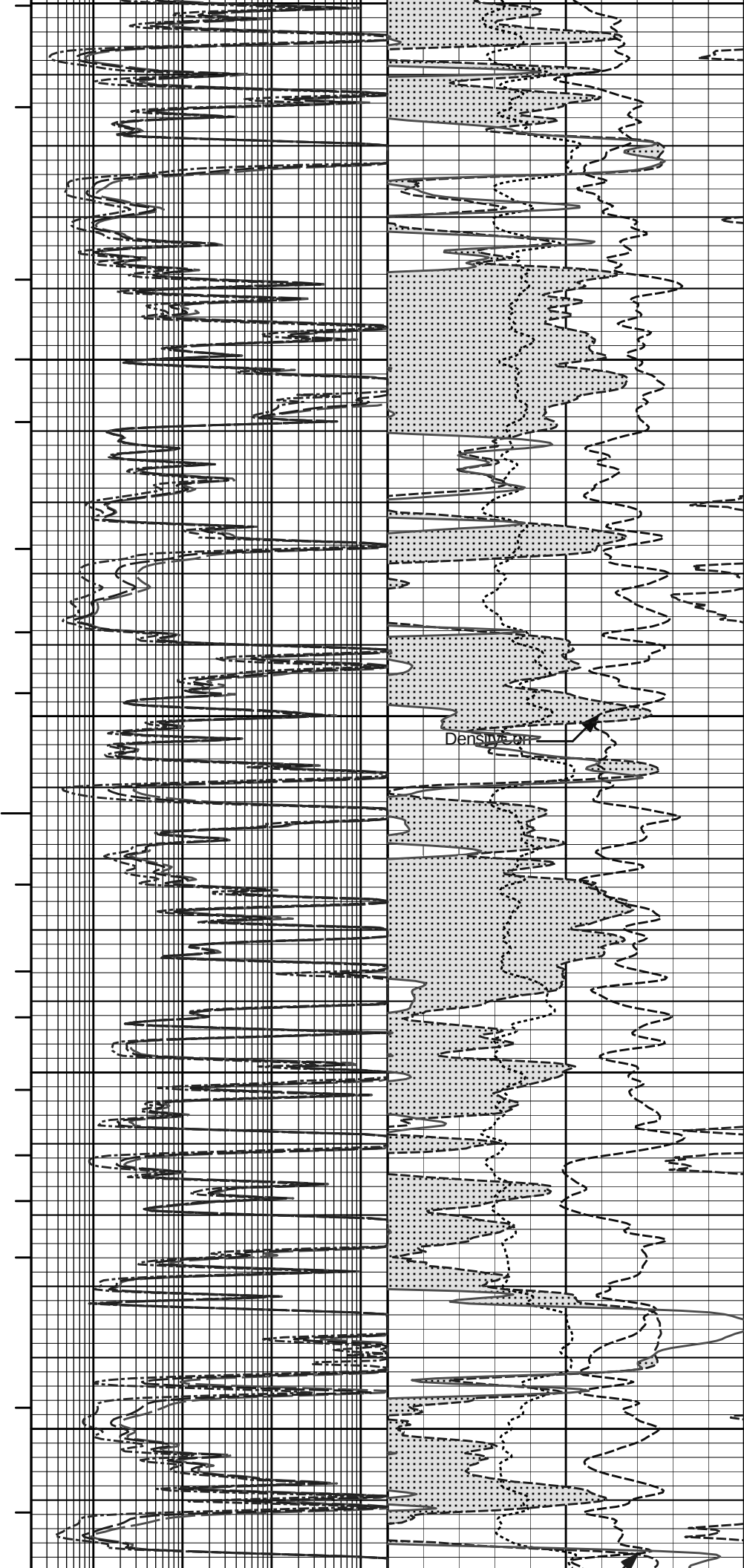


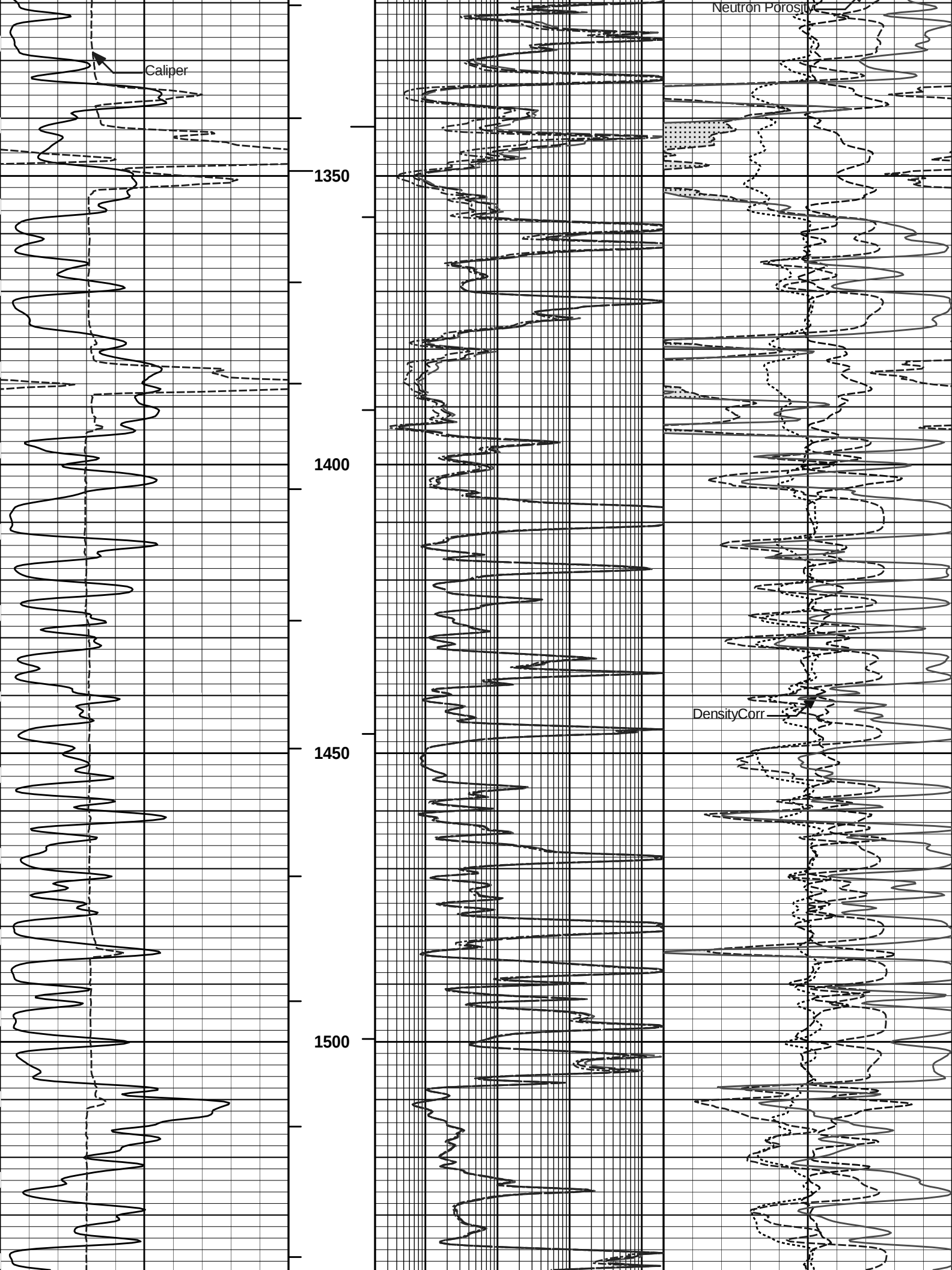


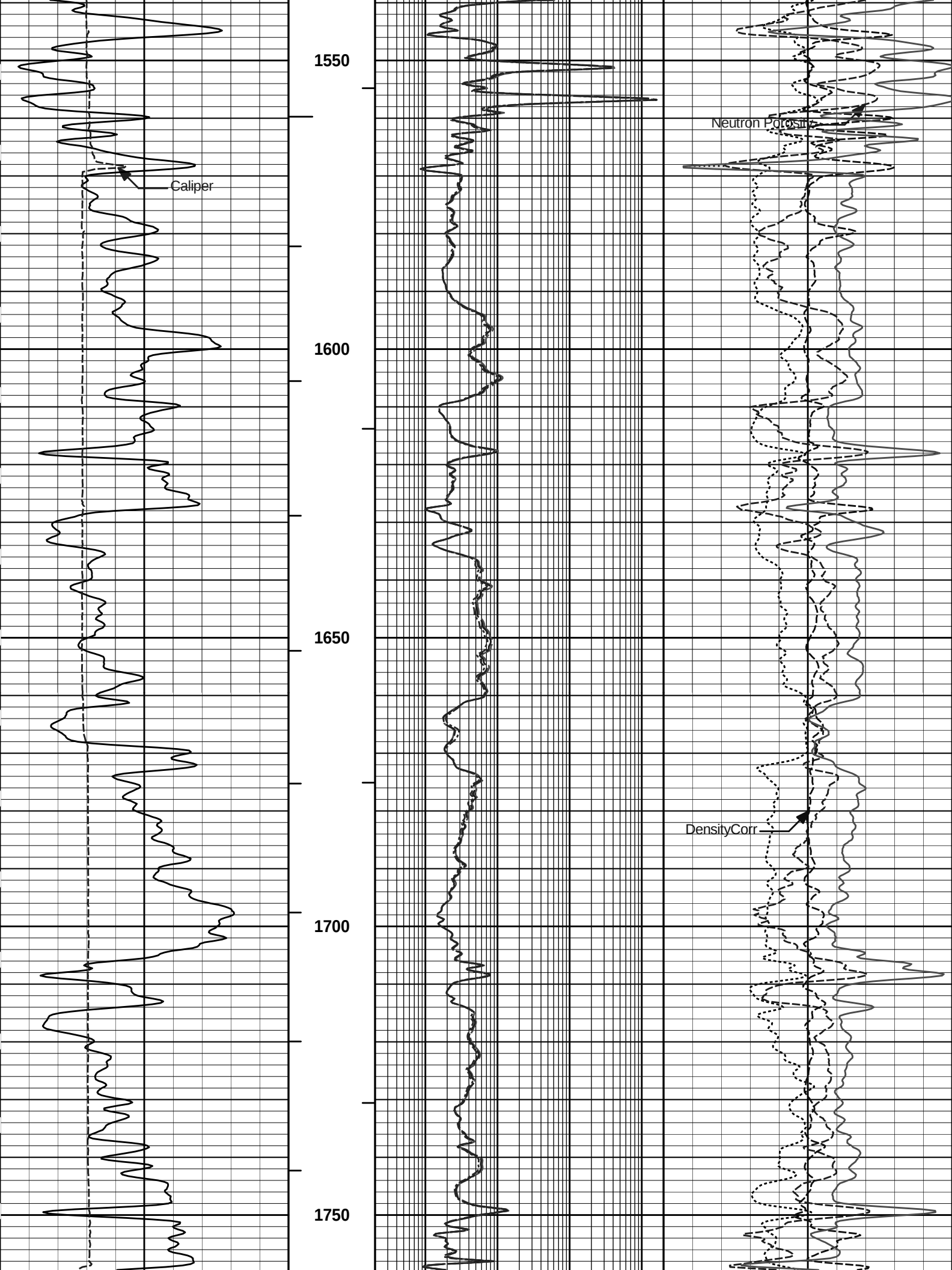


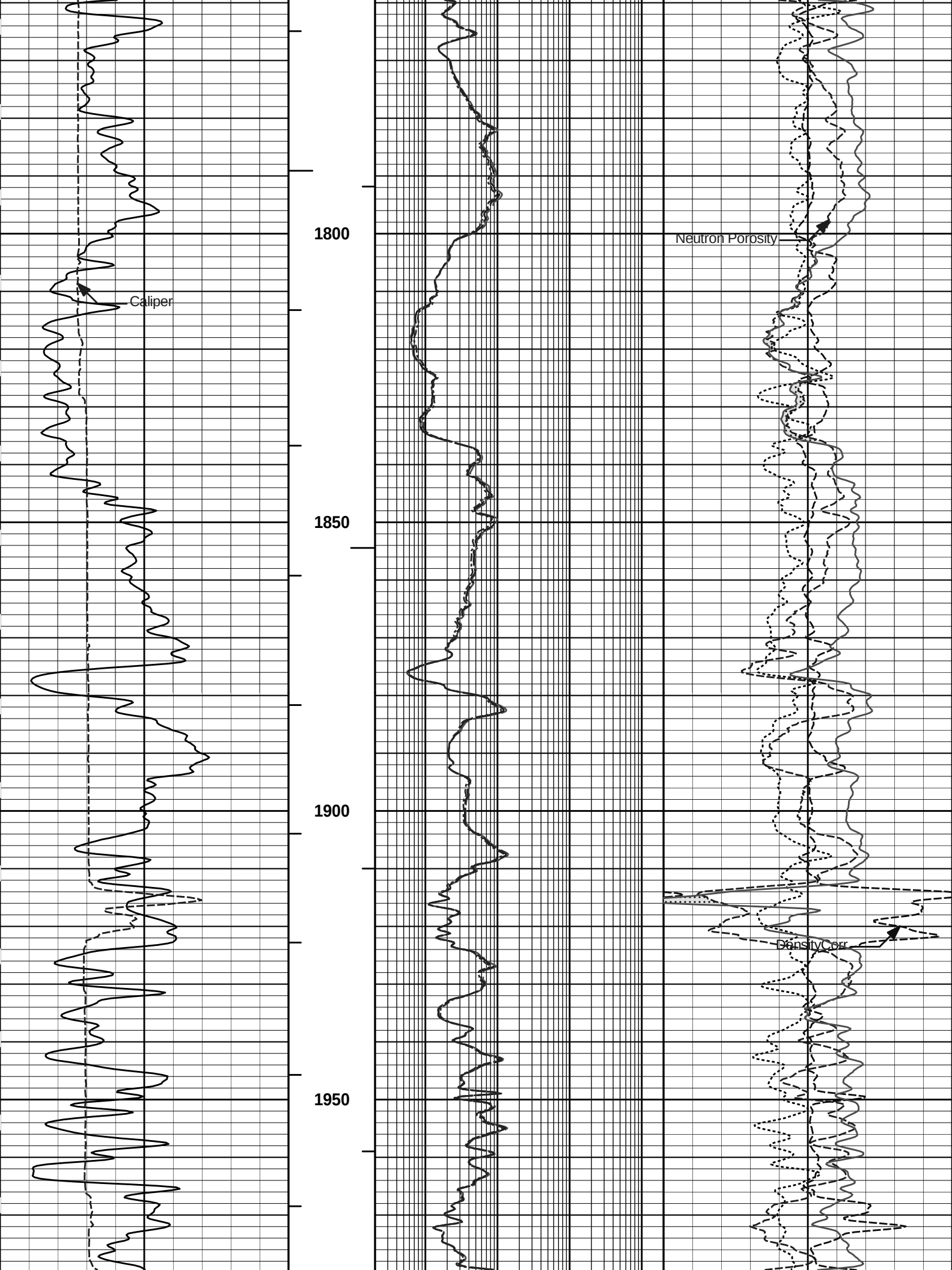


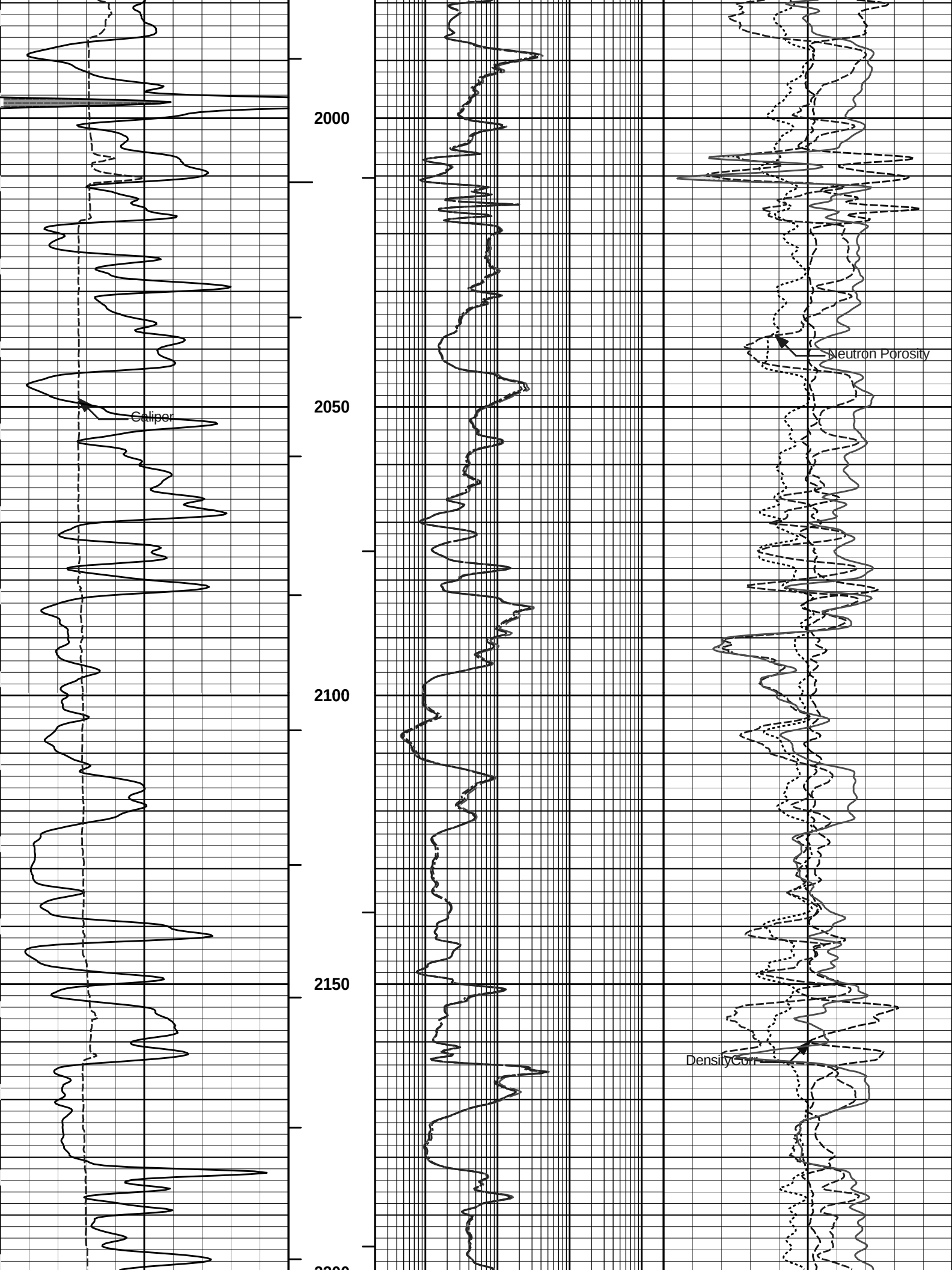
1100
1150
1200
1250
1300



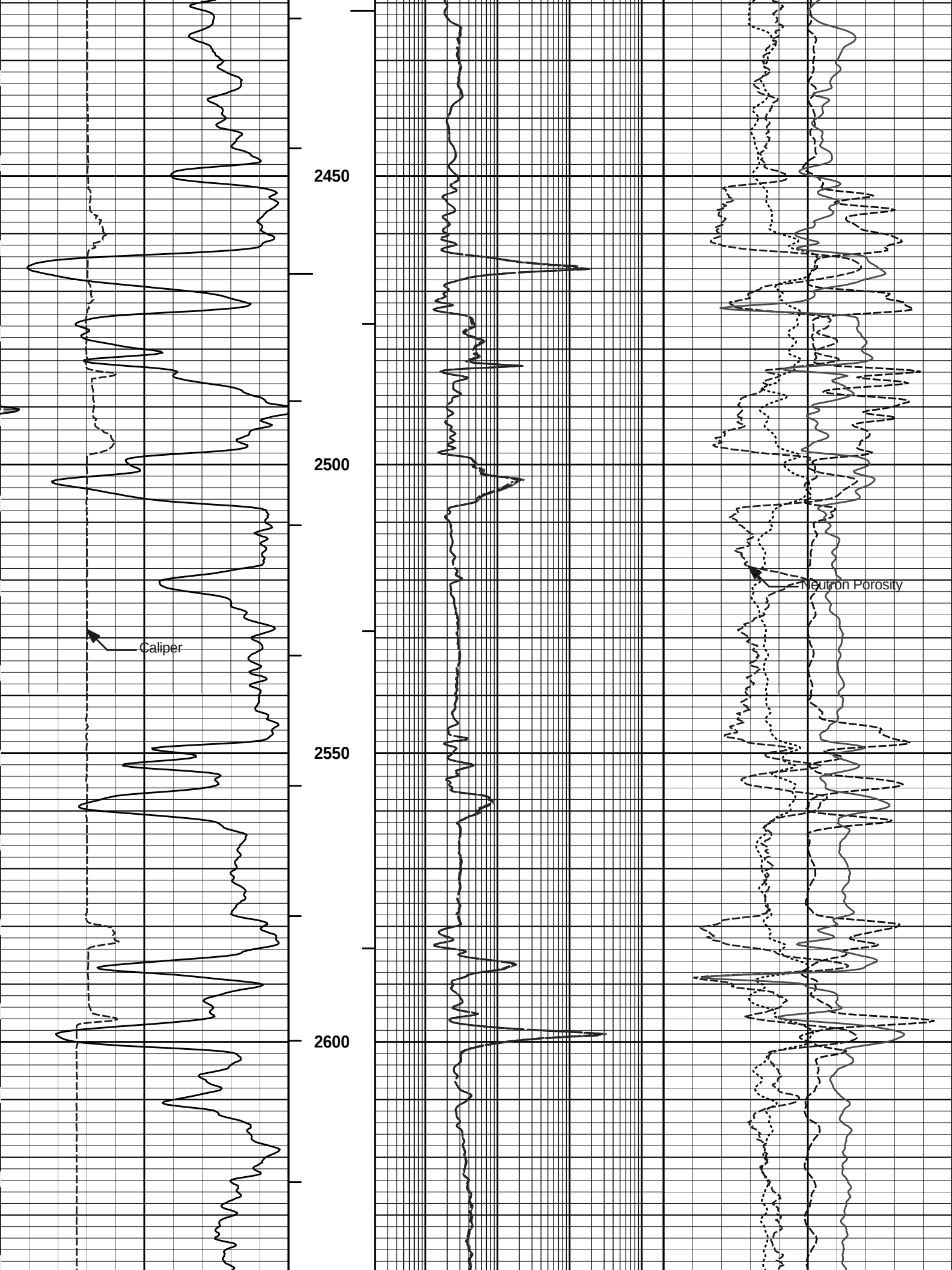


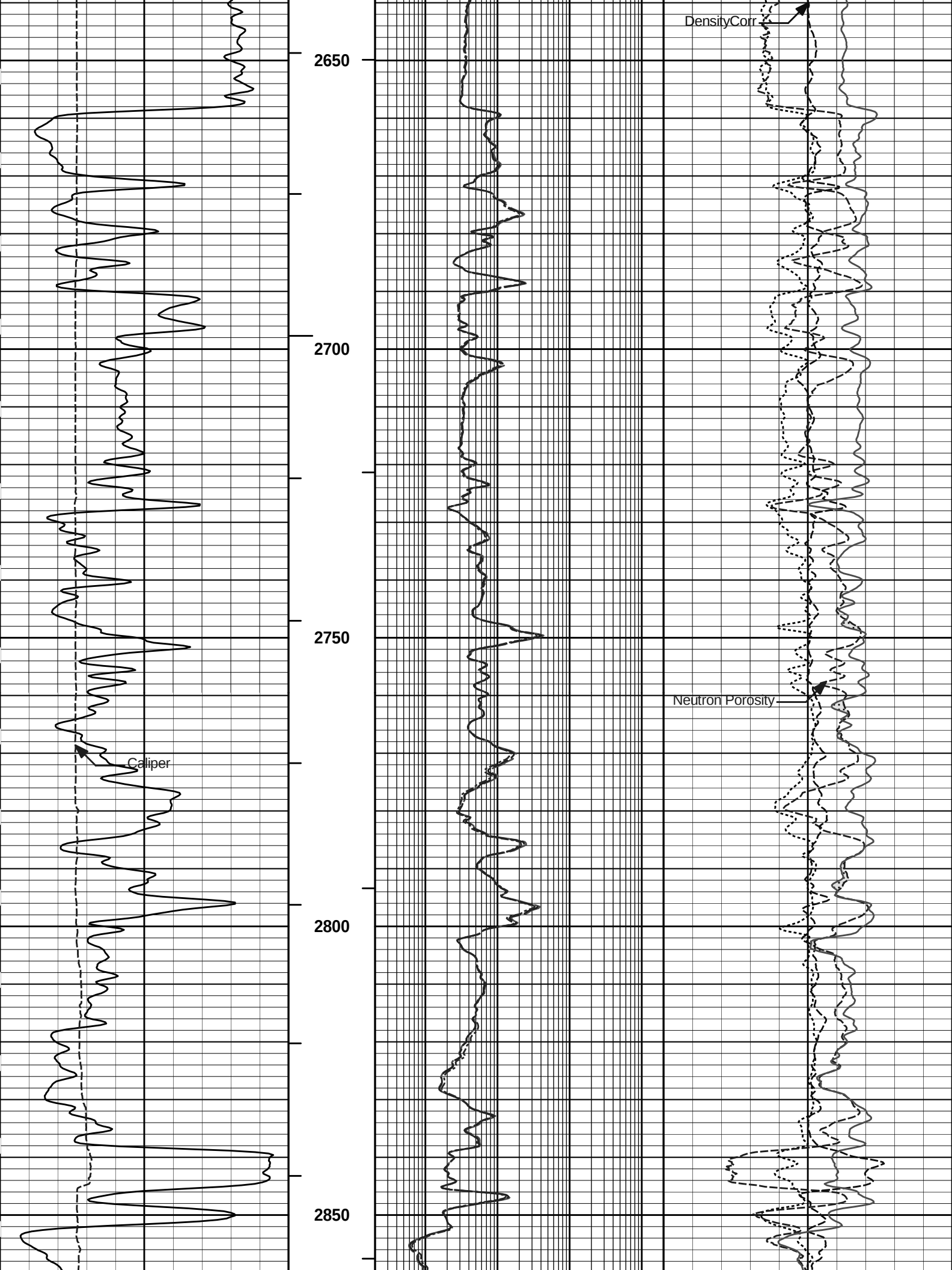


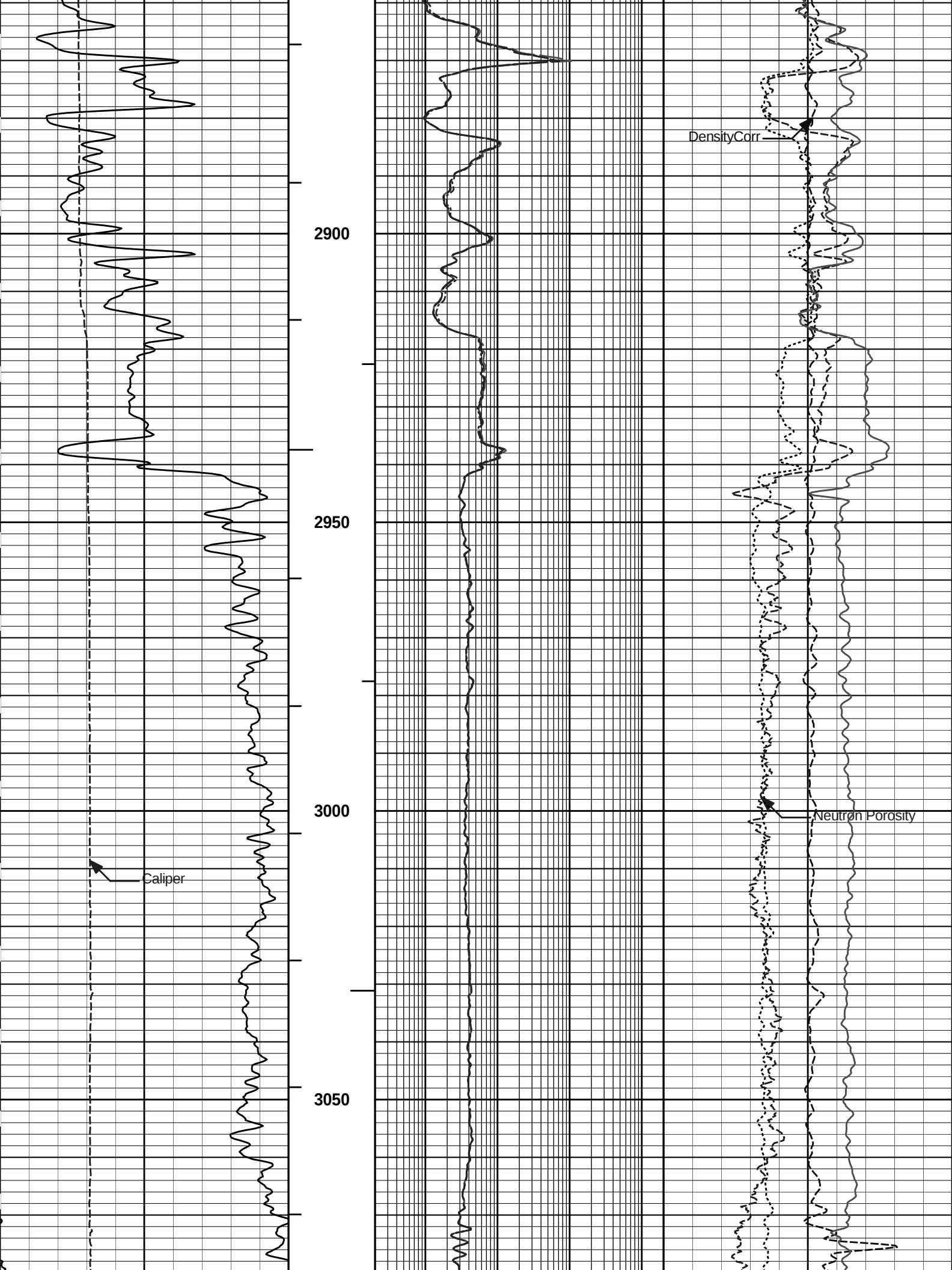


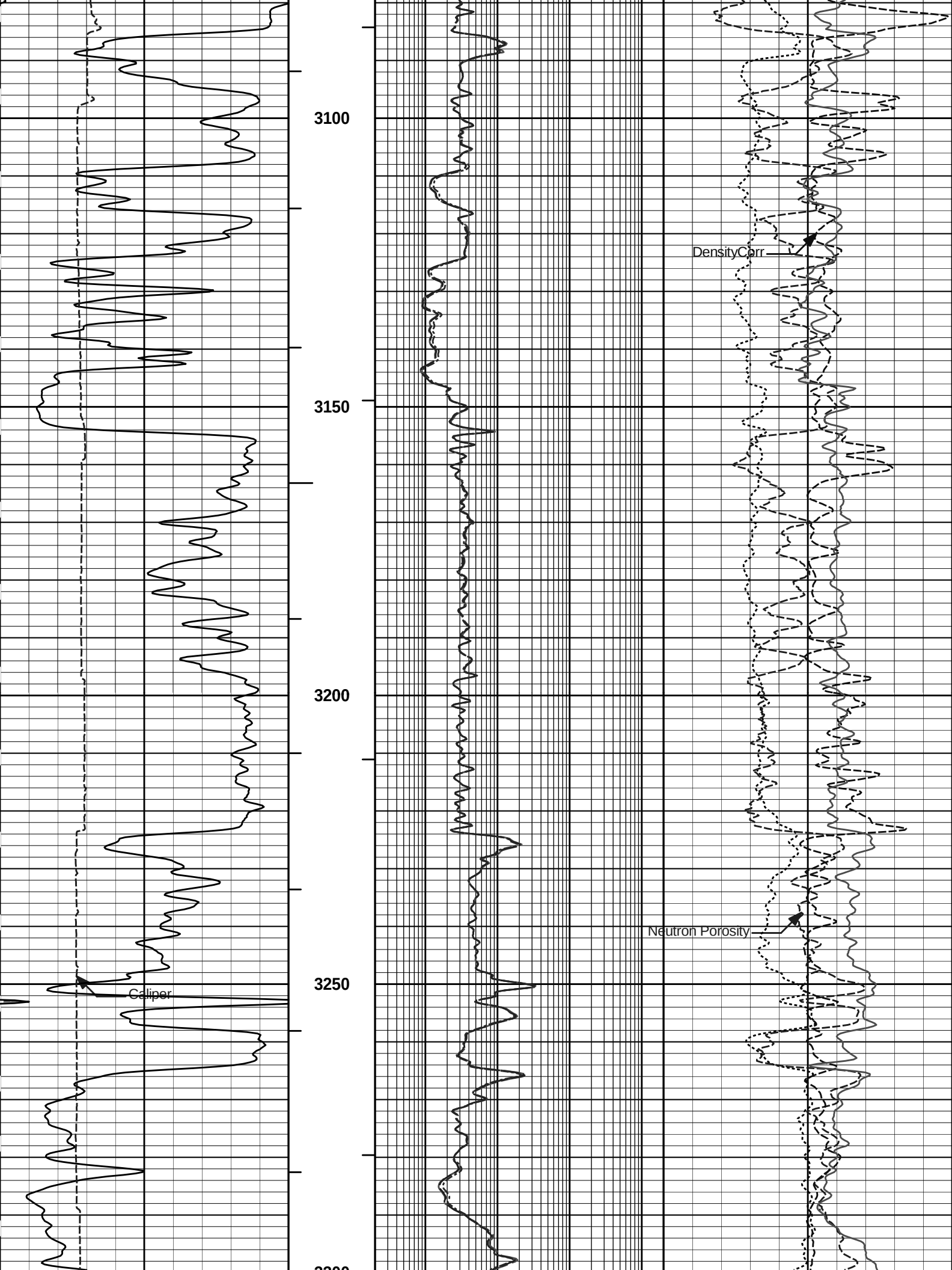


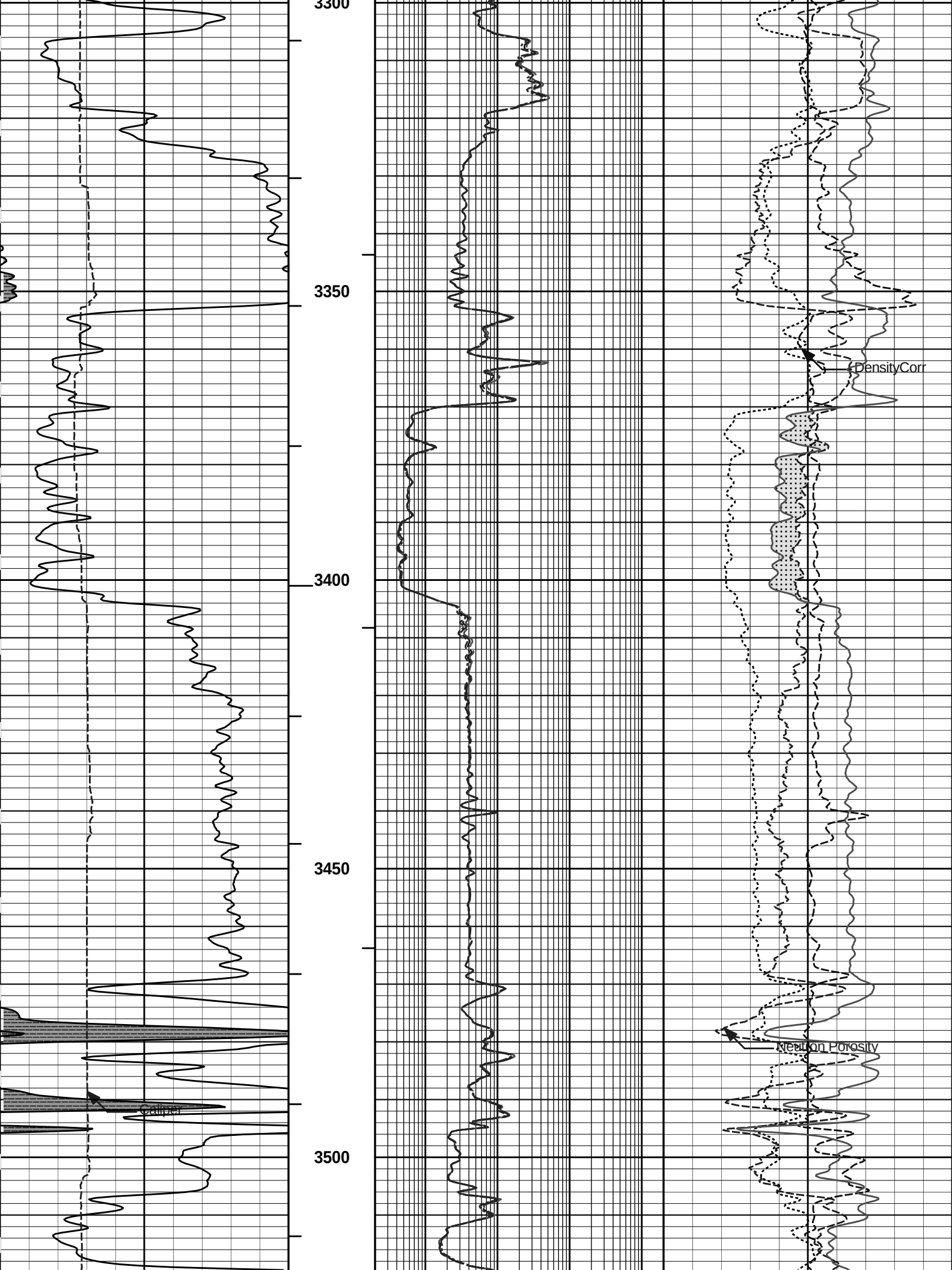


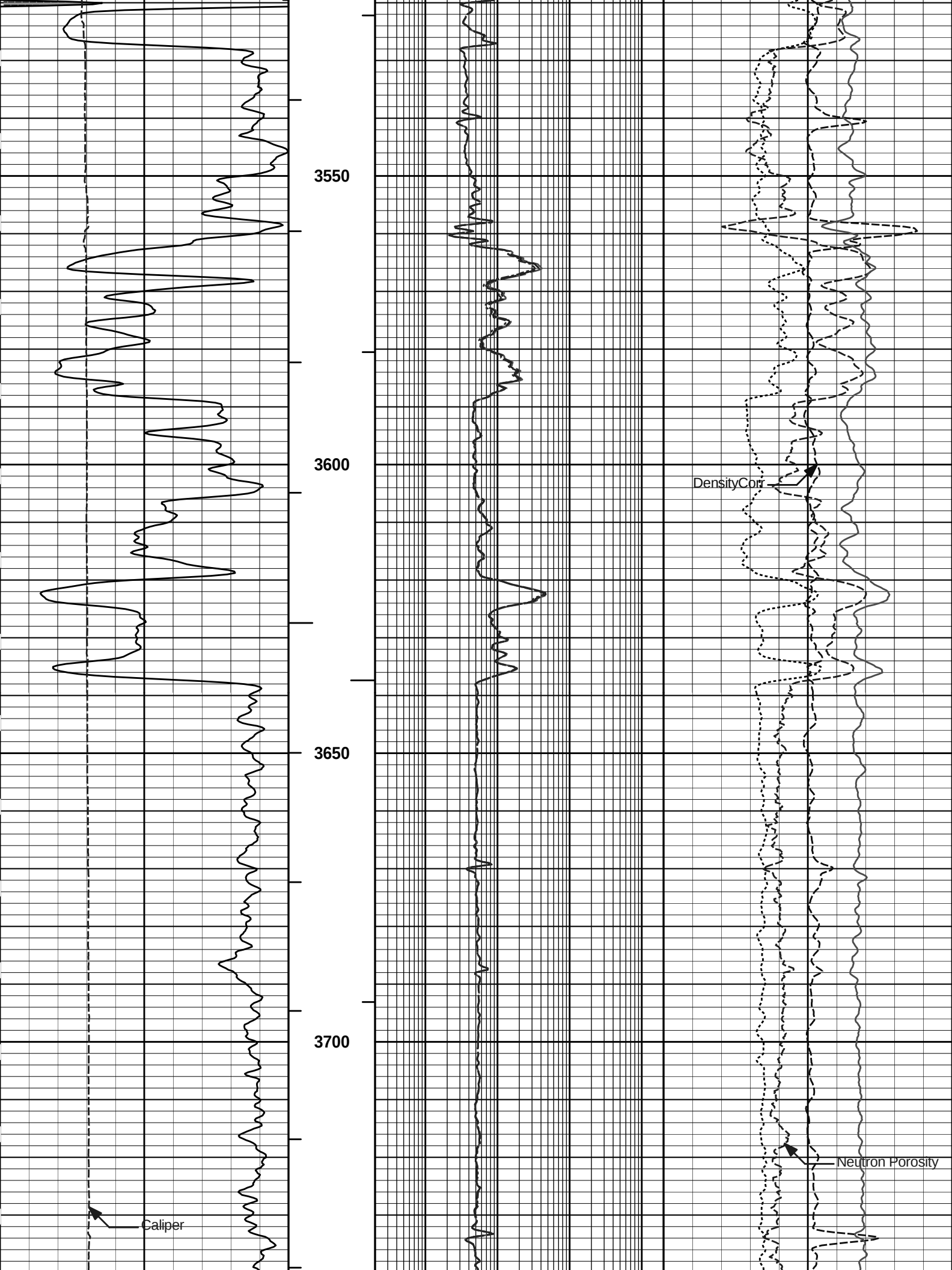


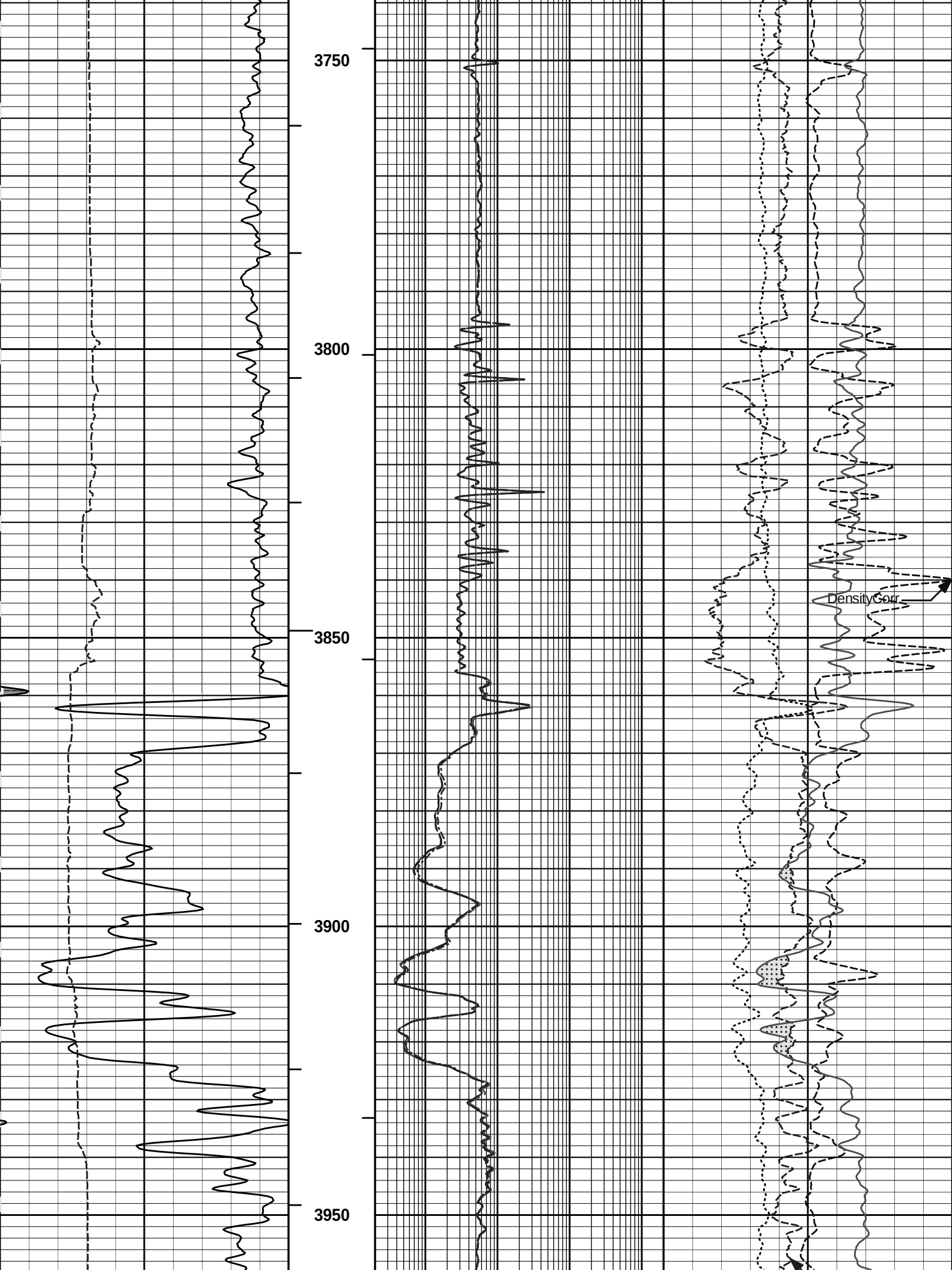


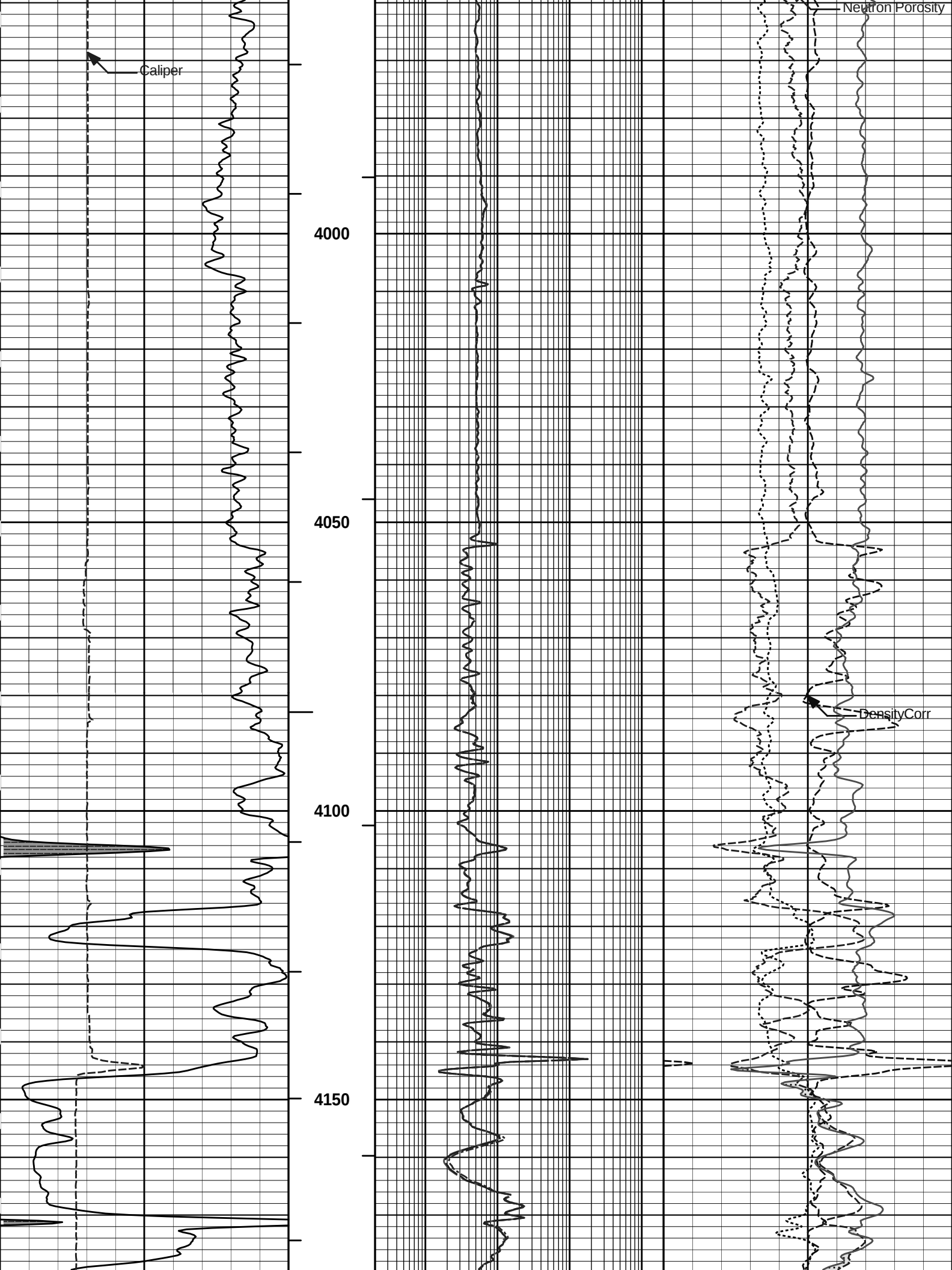


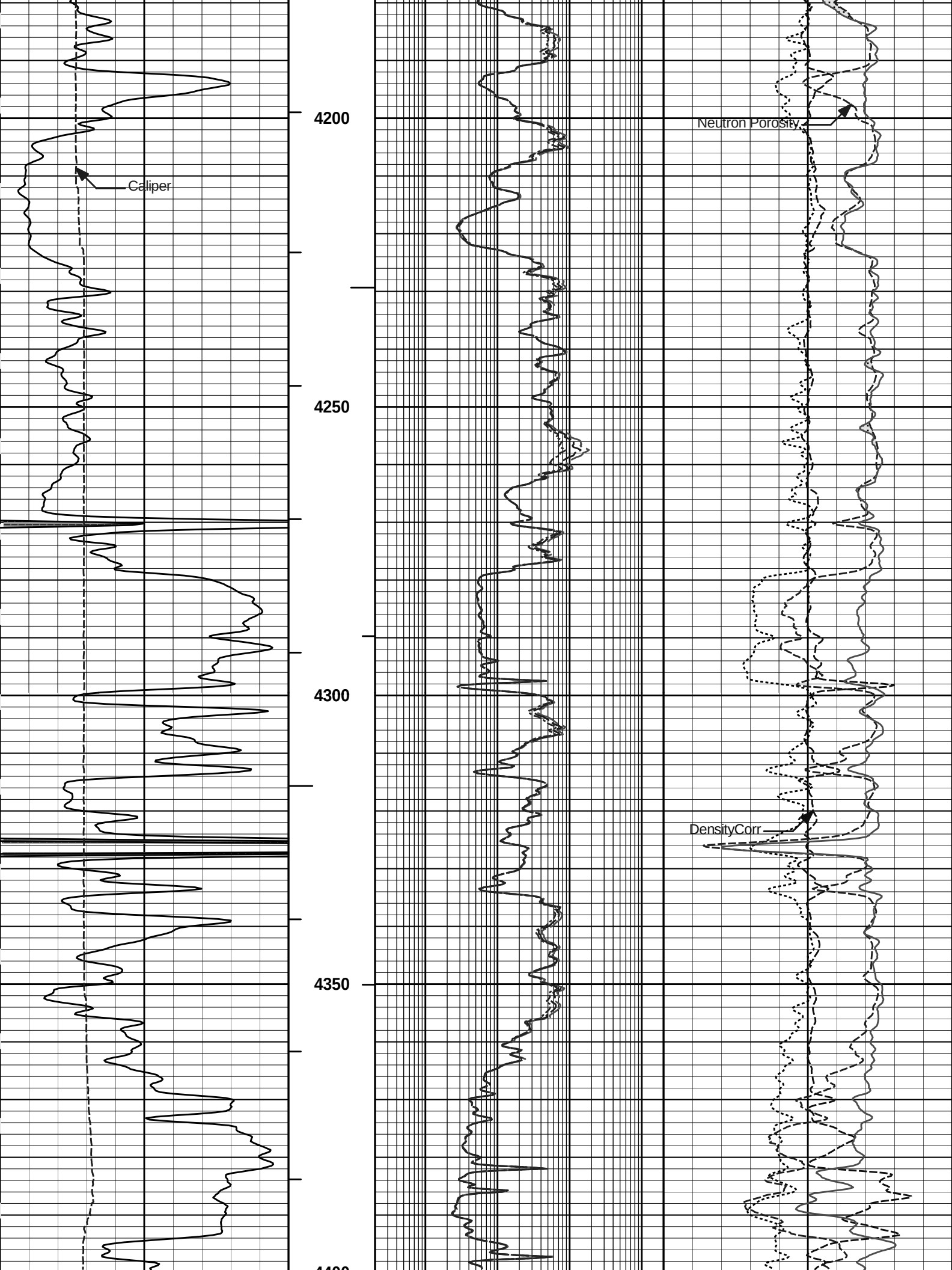


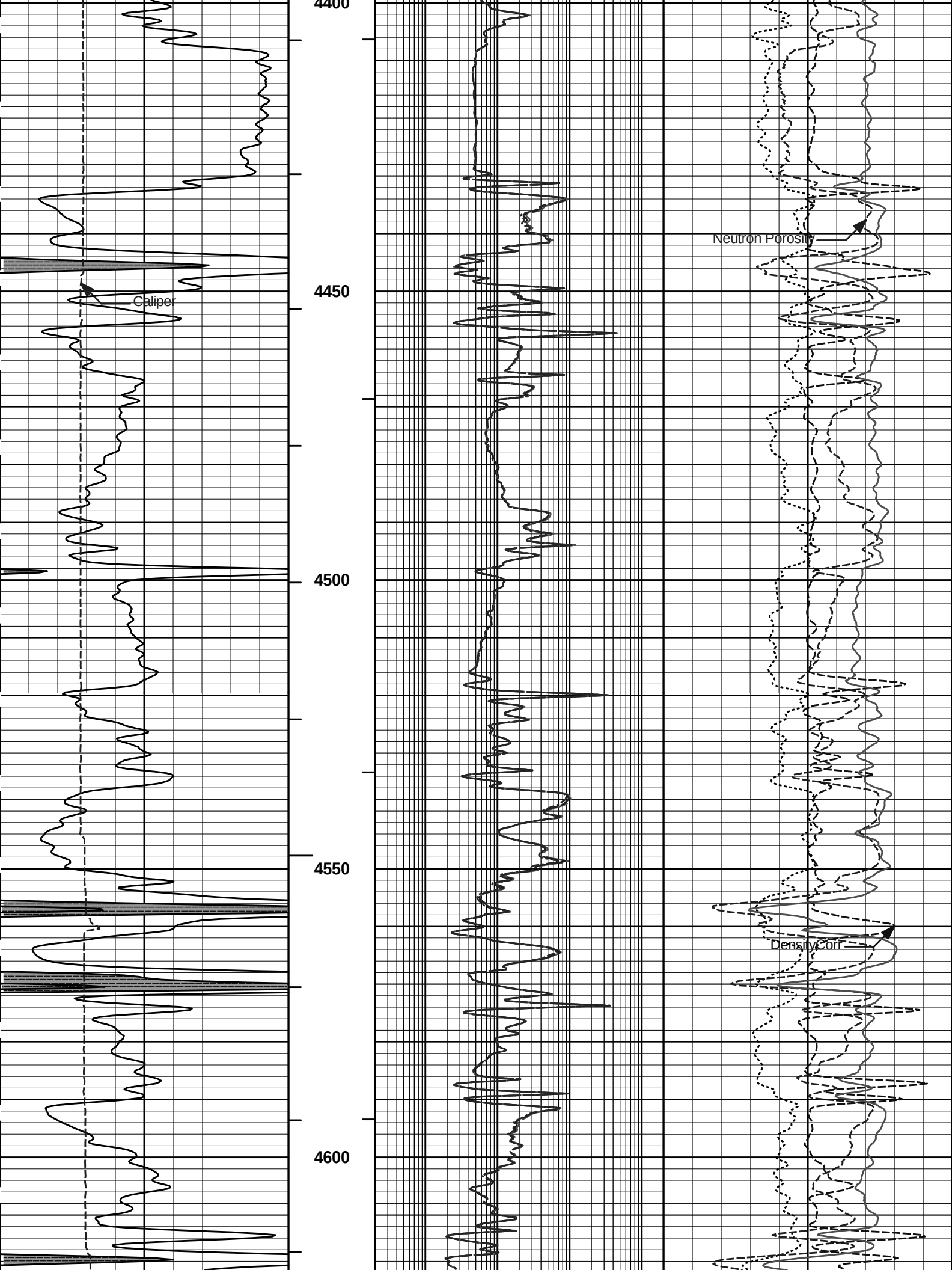


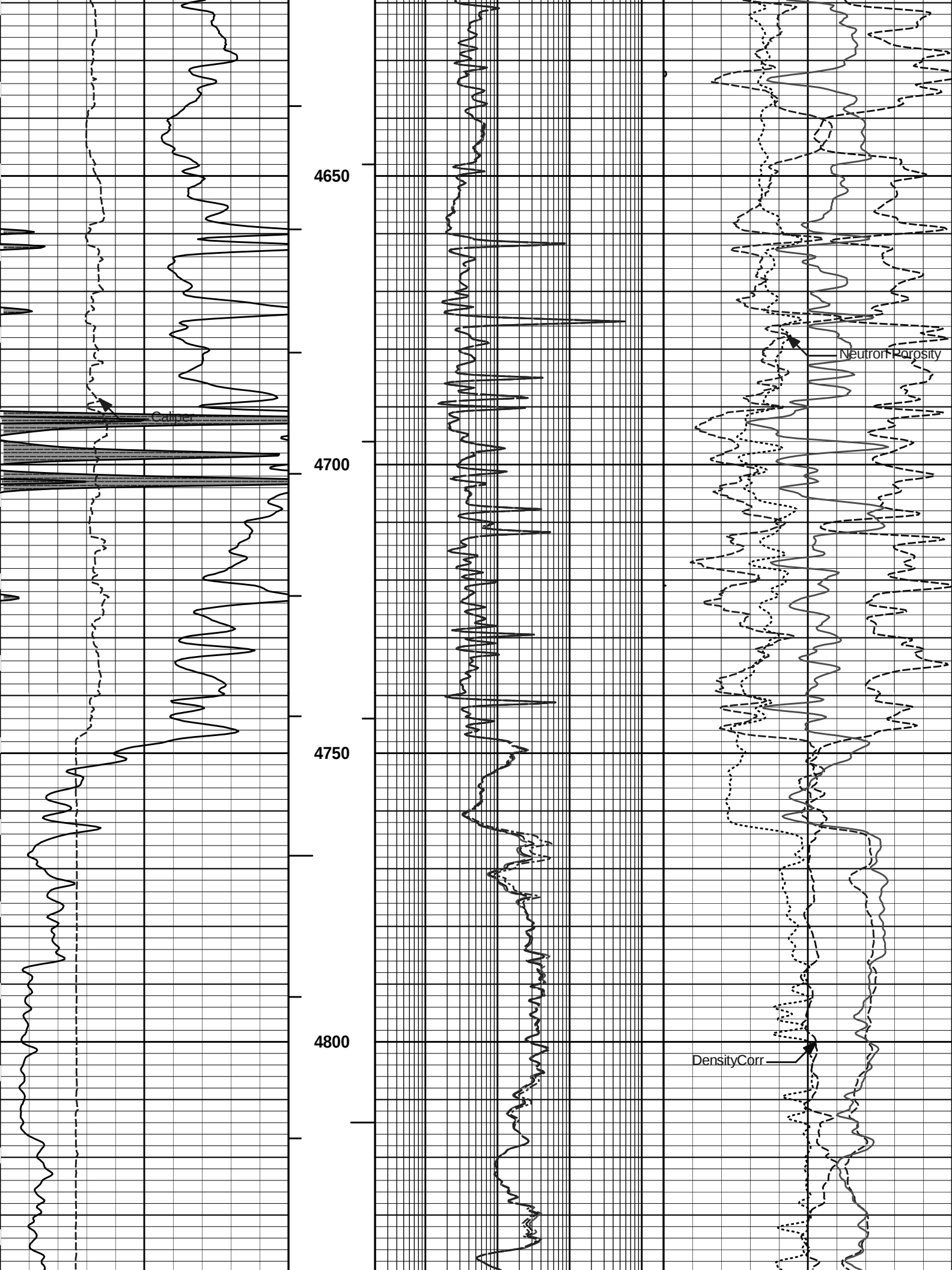


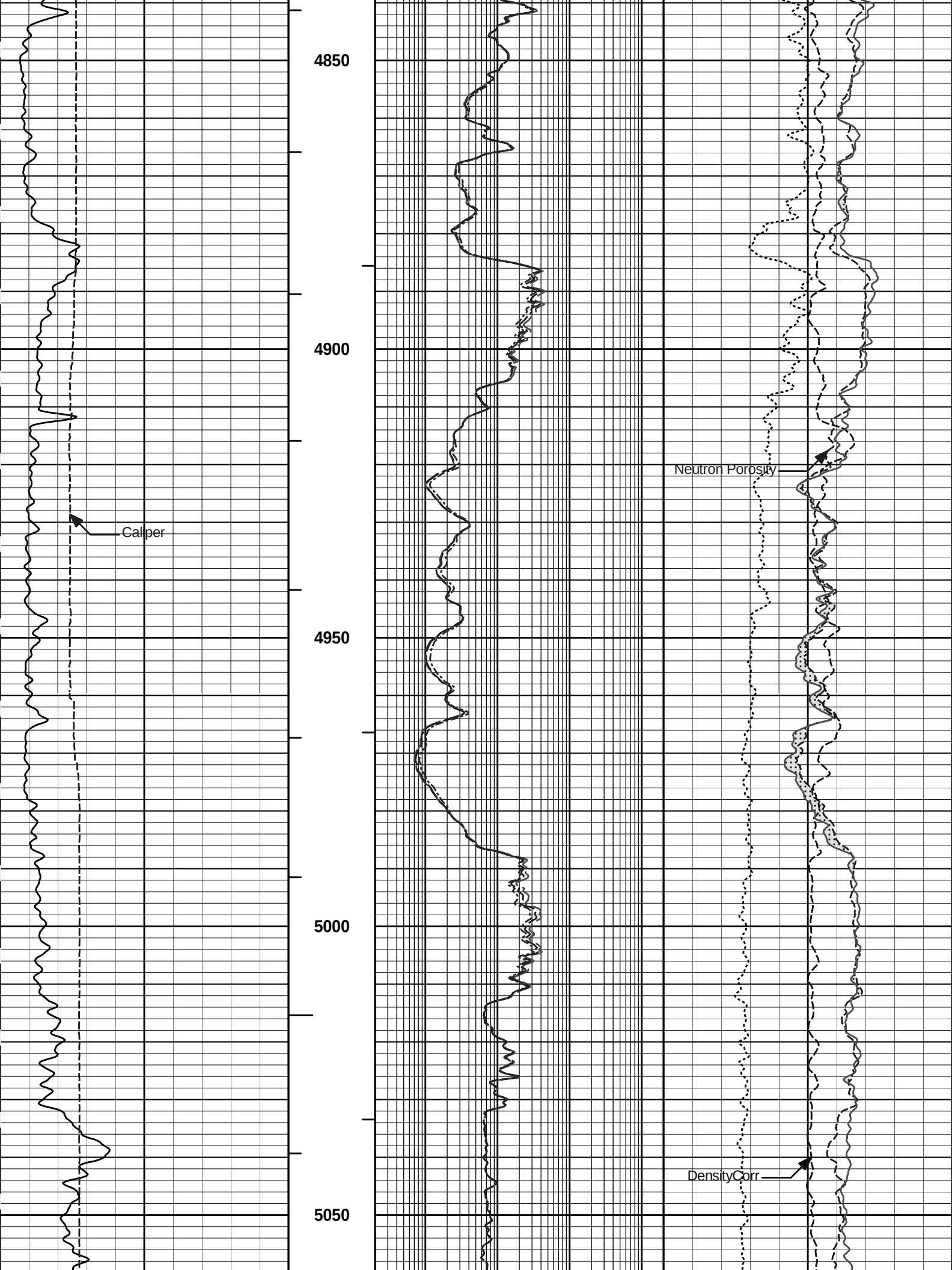


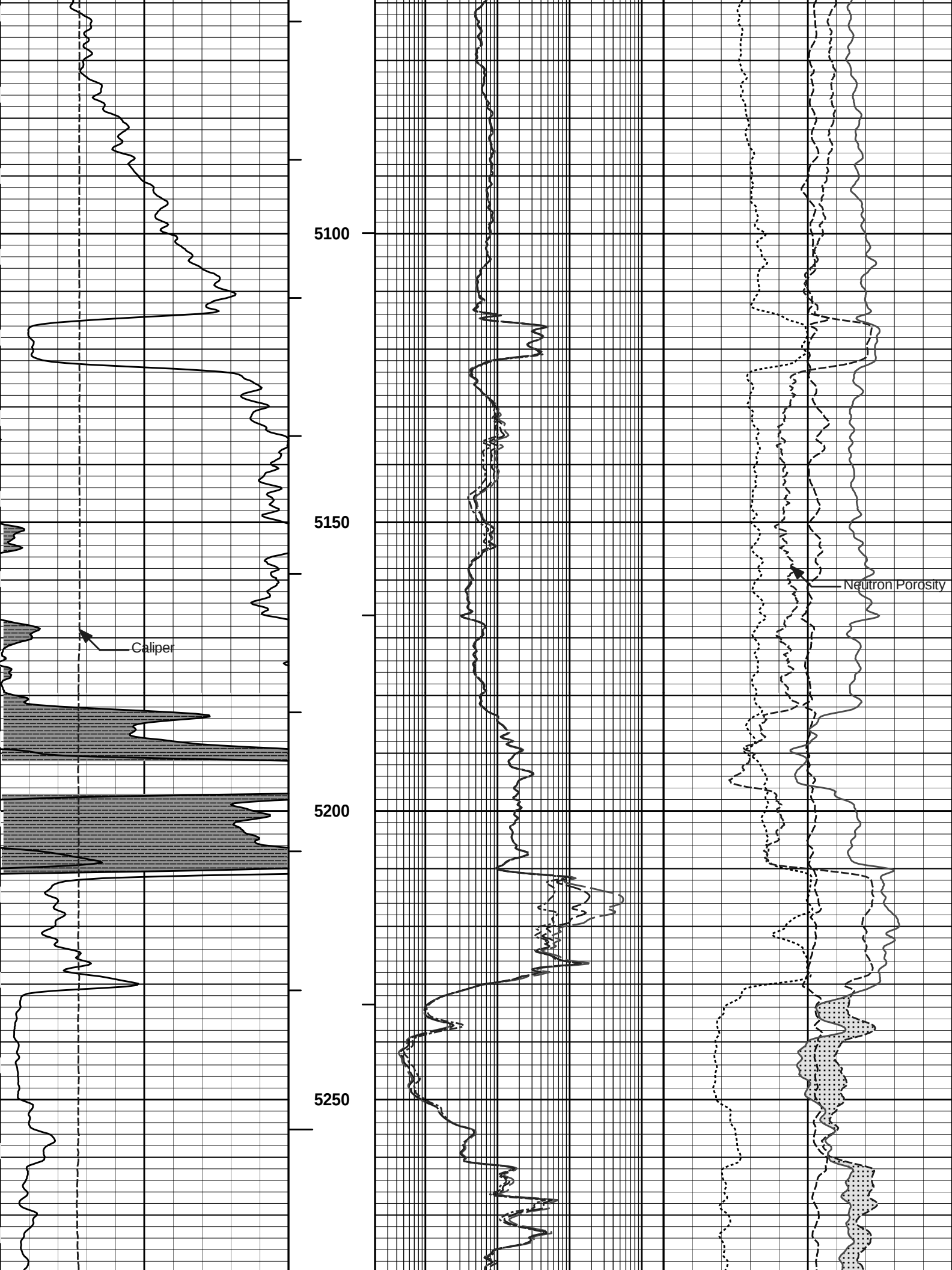


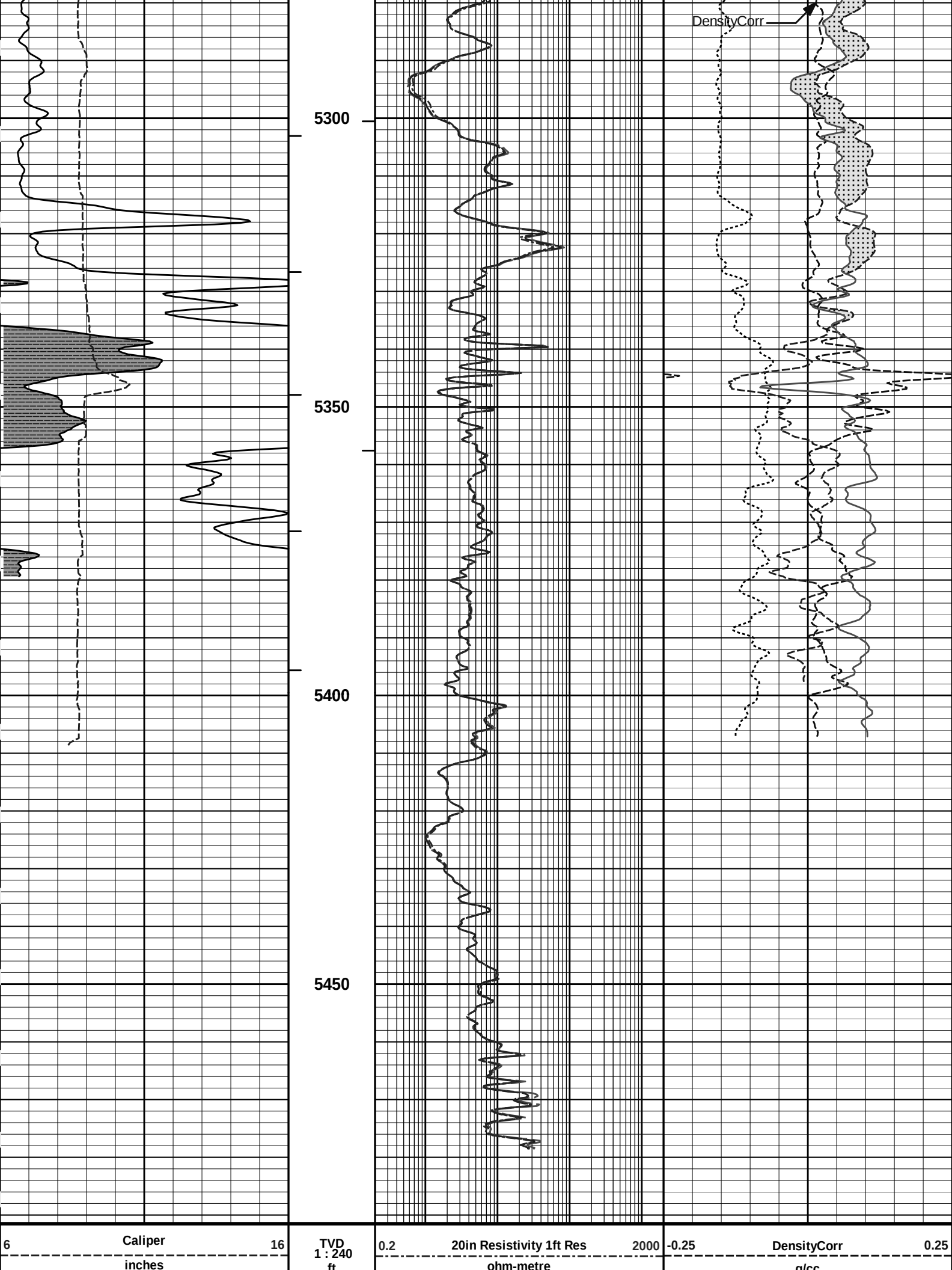












0	Gamma API	150	AHVT	0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre				
							45	Neutron Porosity	-15
								%	

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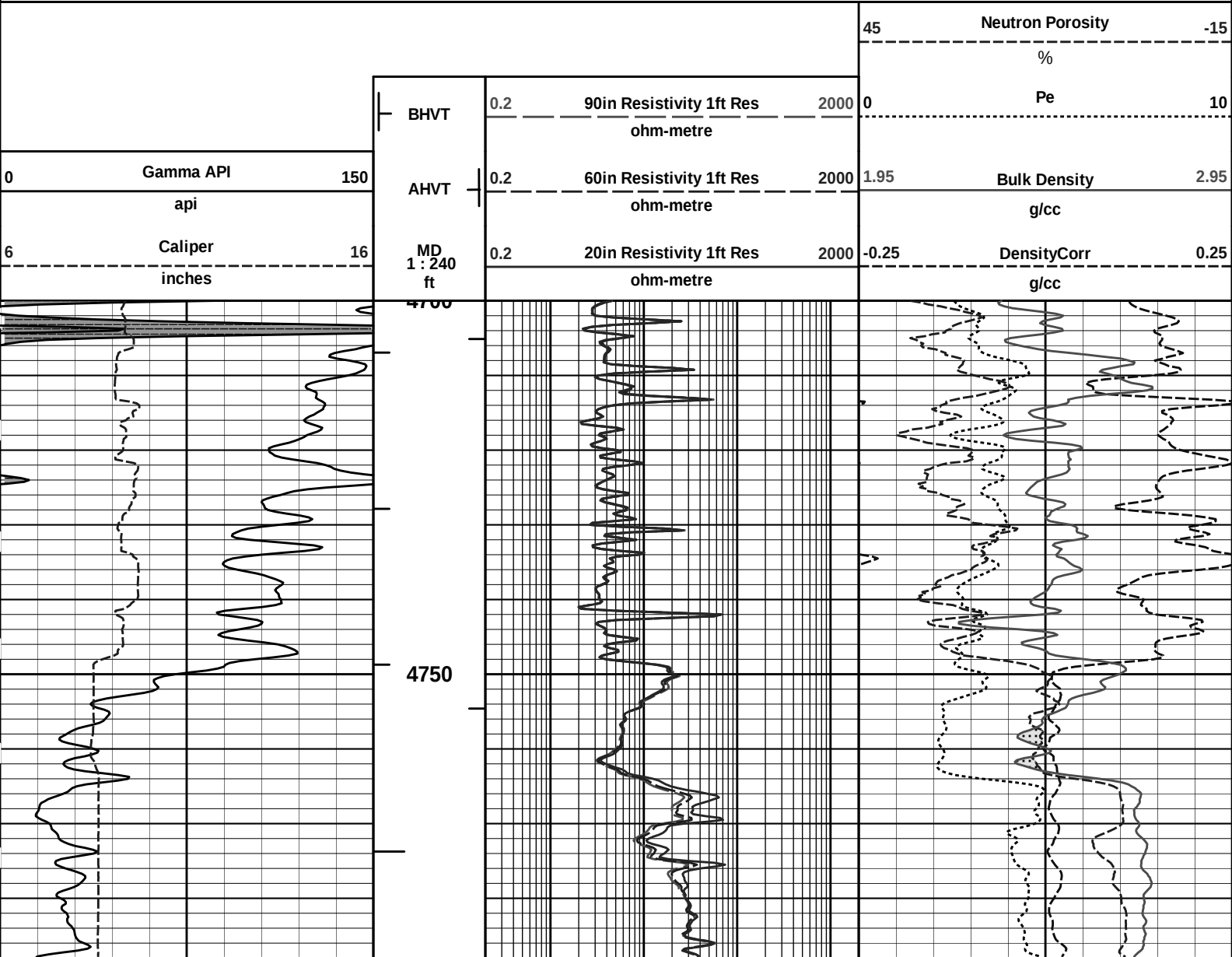
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Plot File: \\TRIPLE\TC_5_NO_ML_MAIN_SHELL

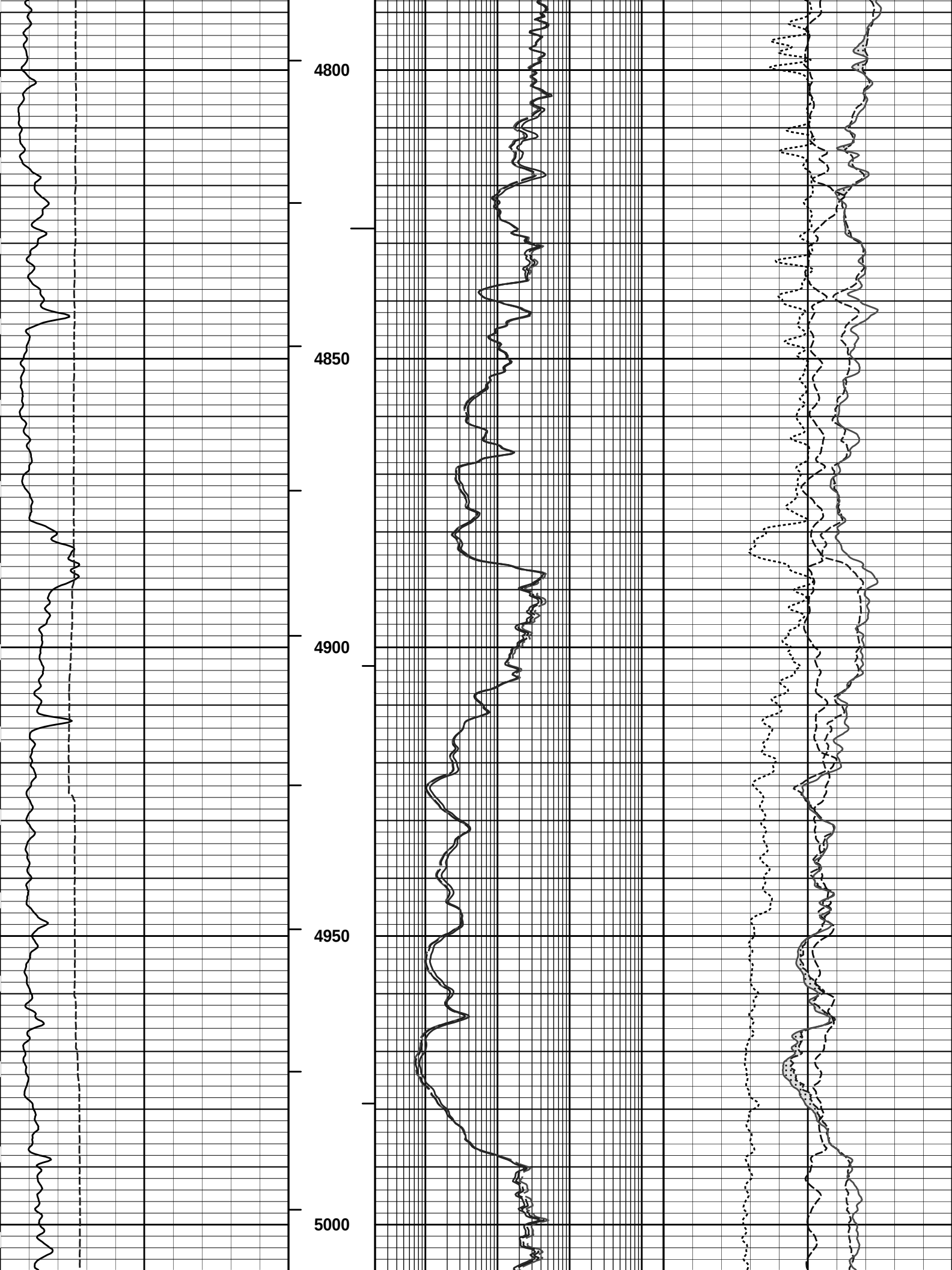
5 INCH MAIN LOG TVD

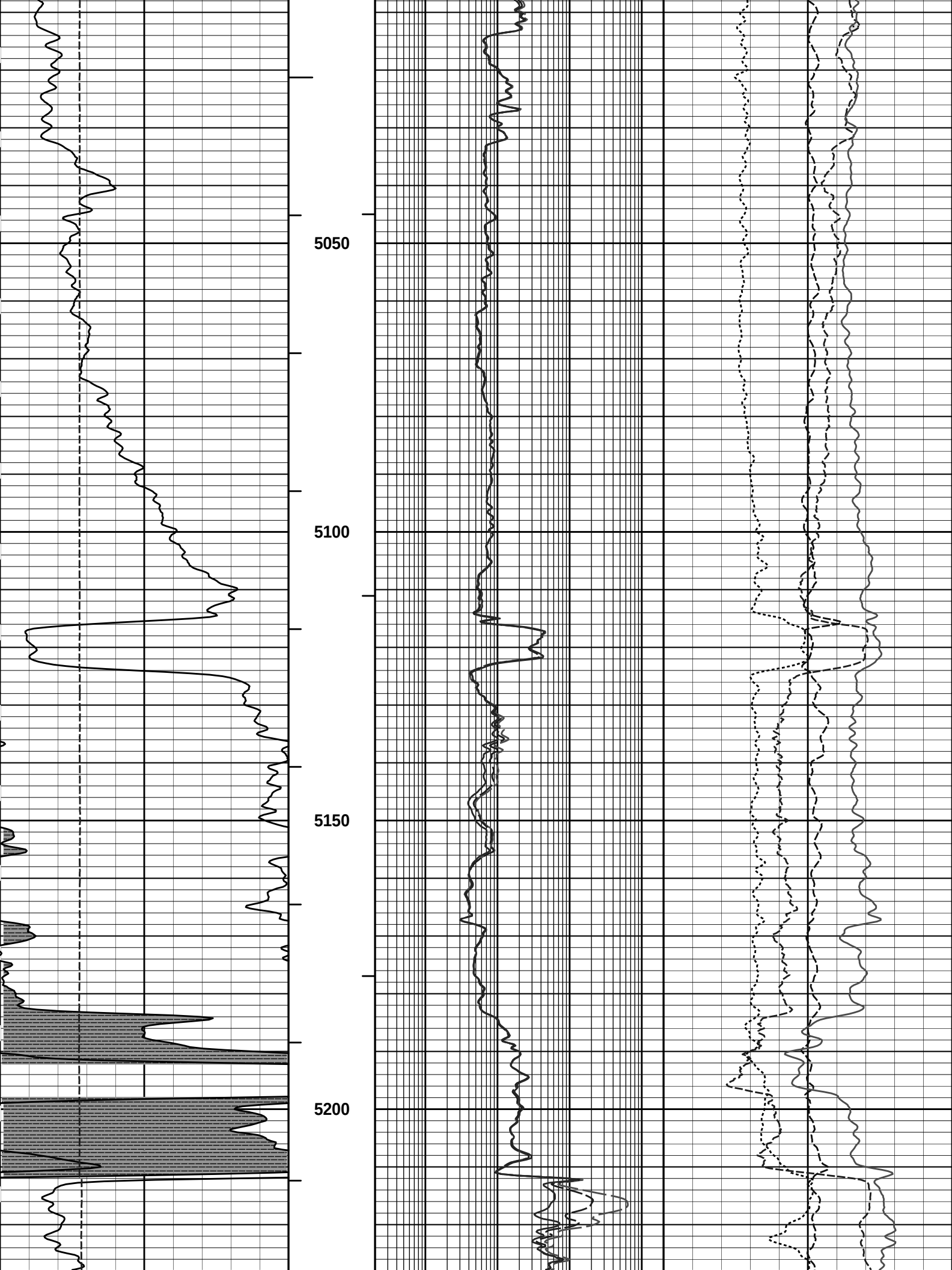
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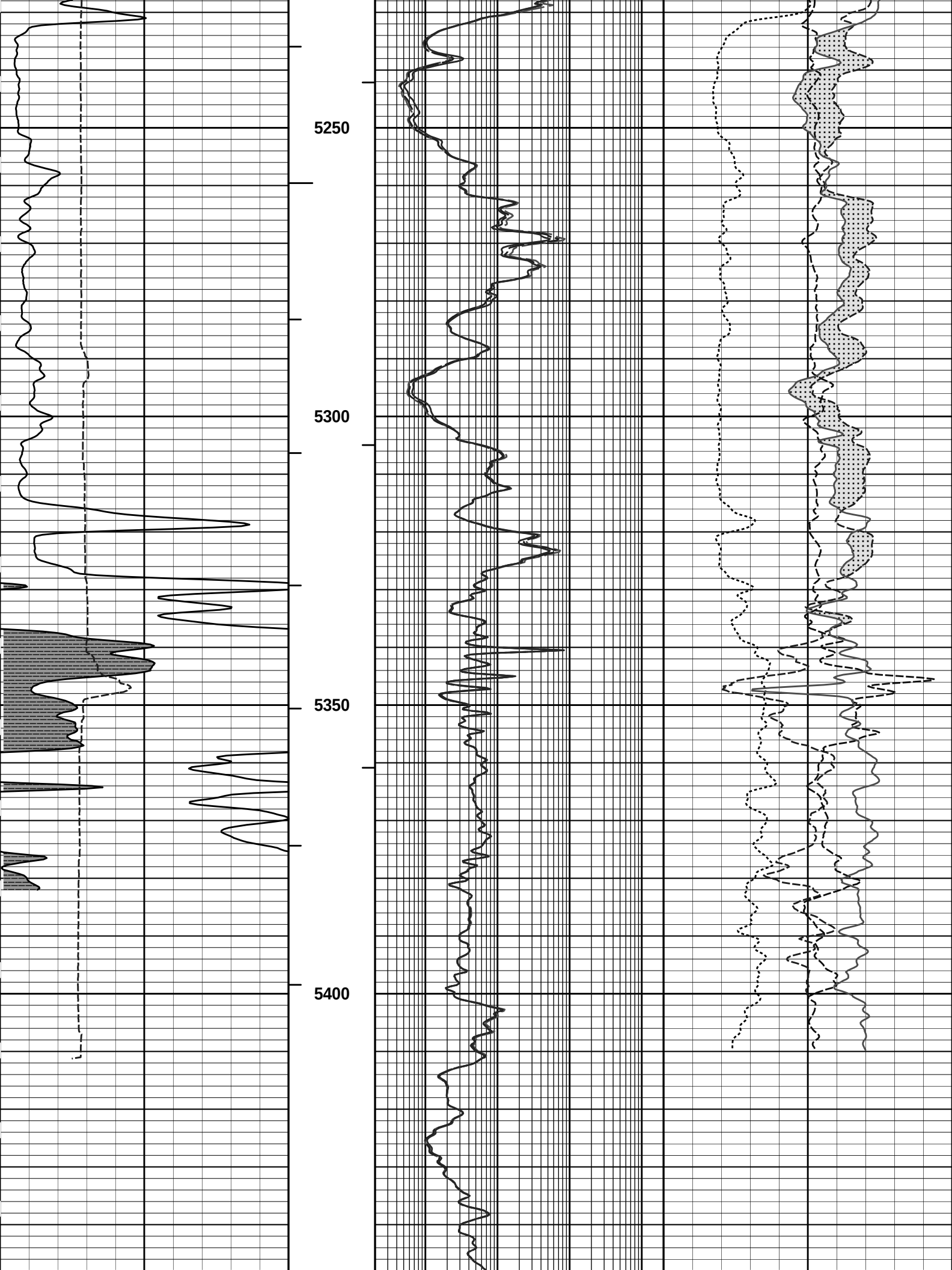
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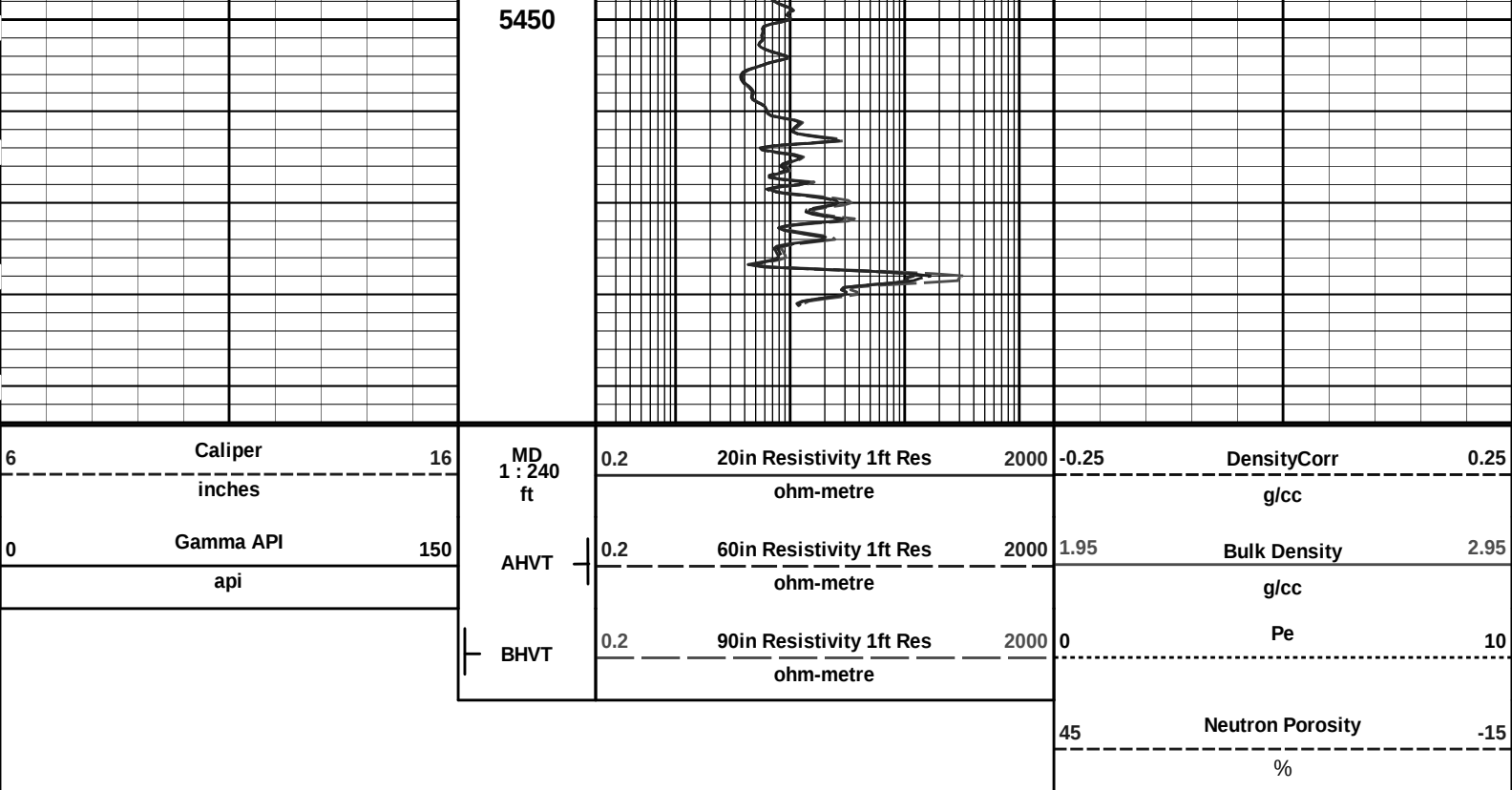
5 INCH REPEAT LOG MD











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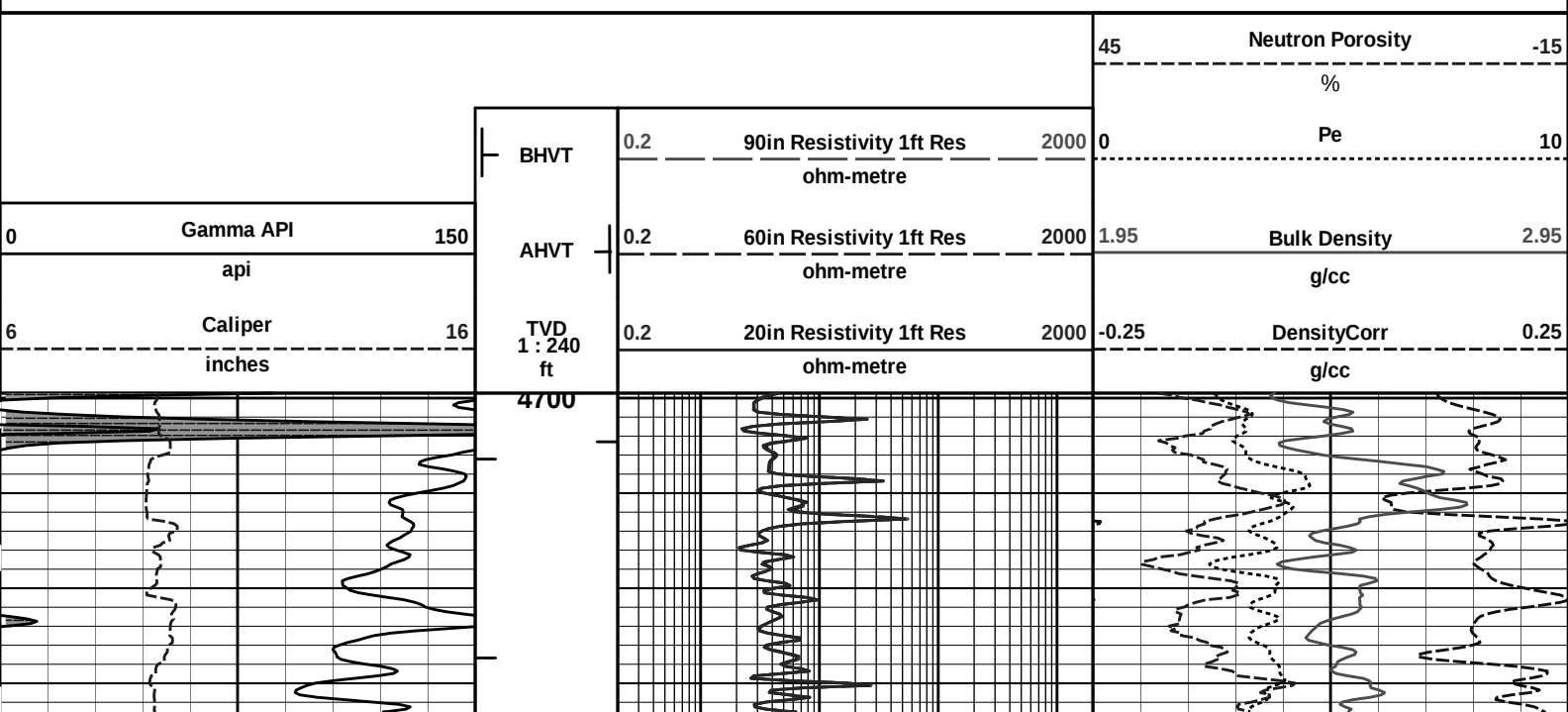
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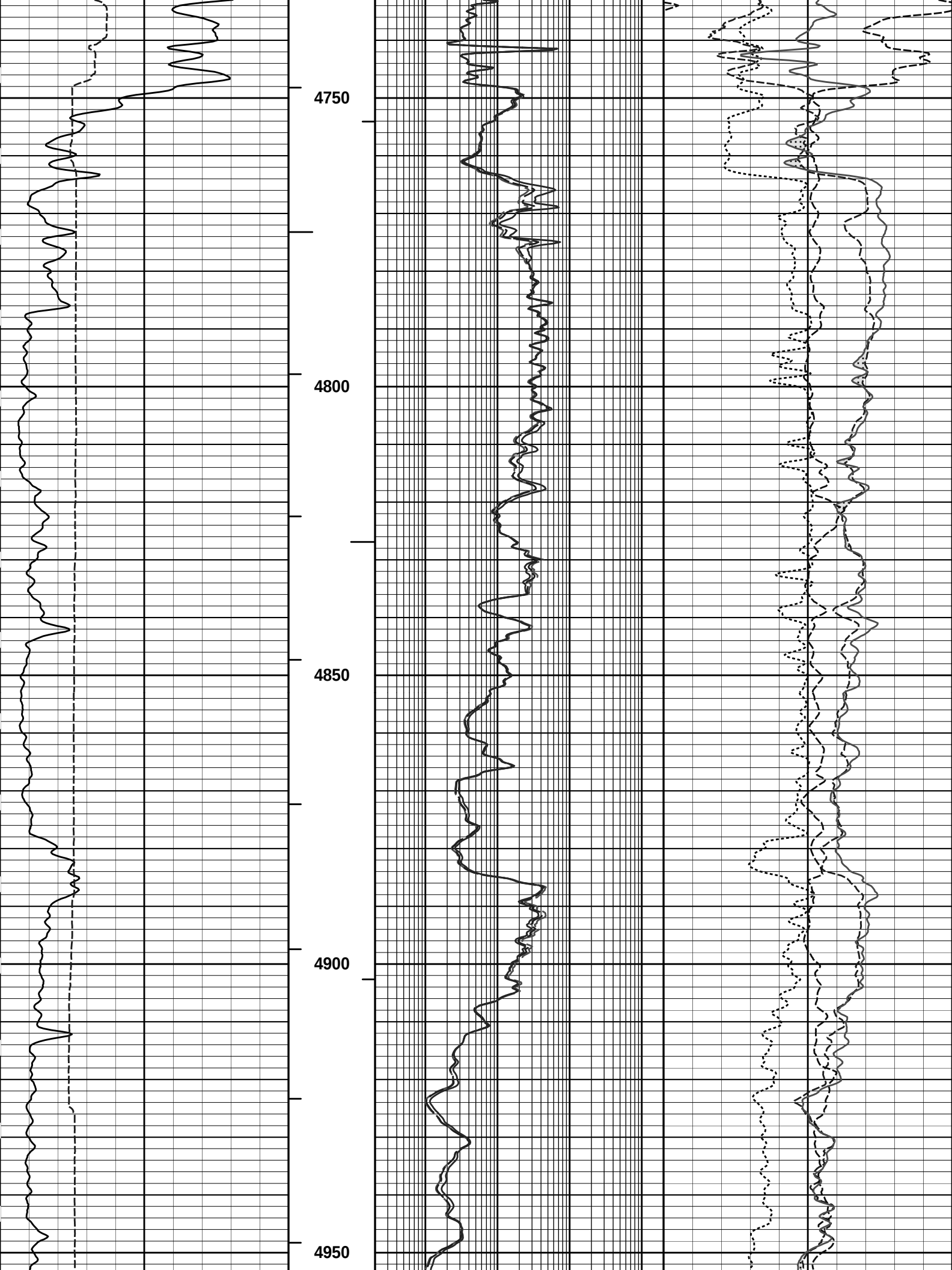
5 INCH REPEAT LOG MD

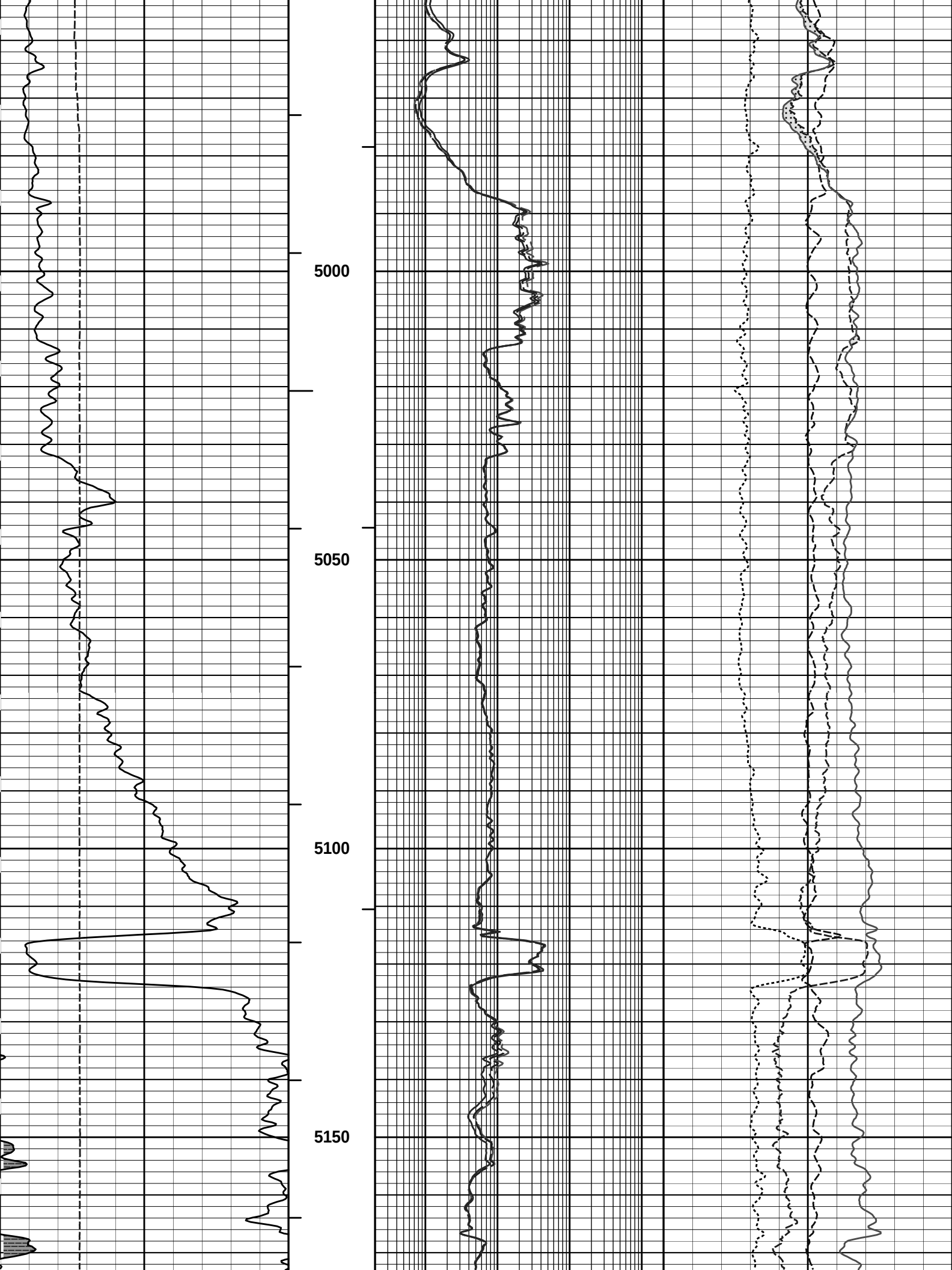
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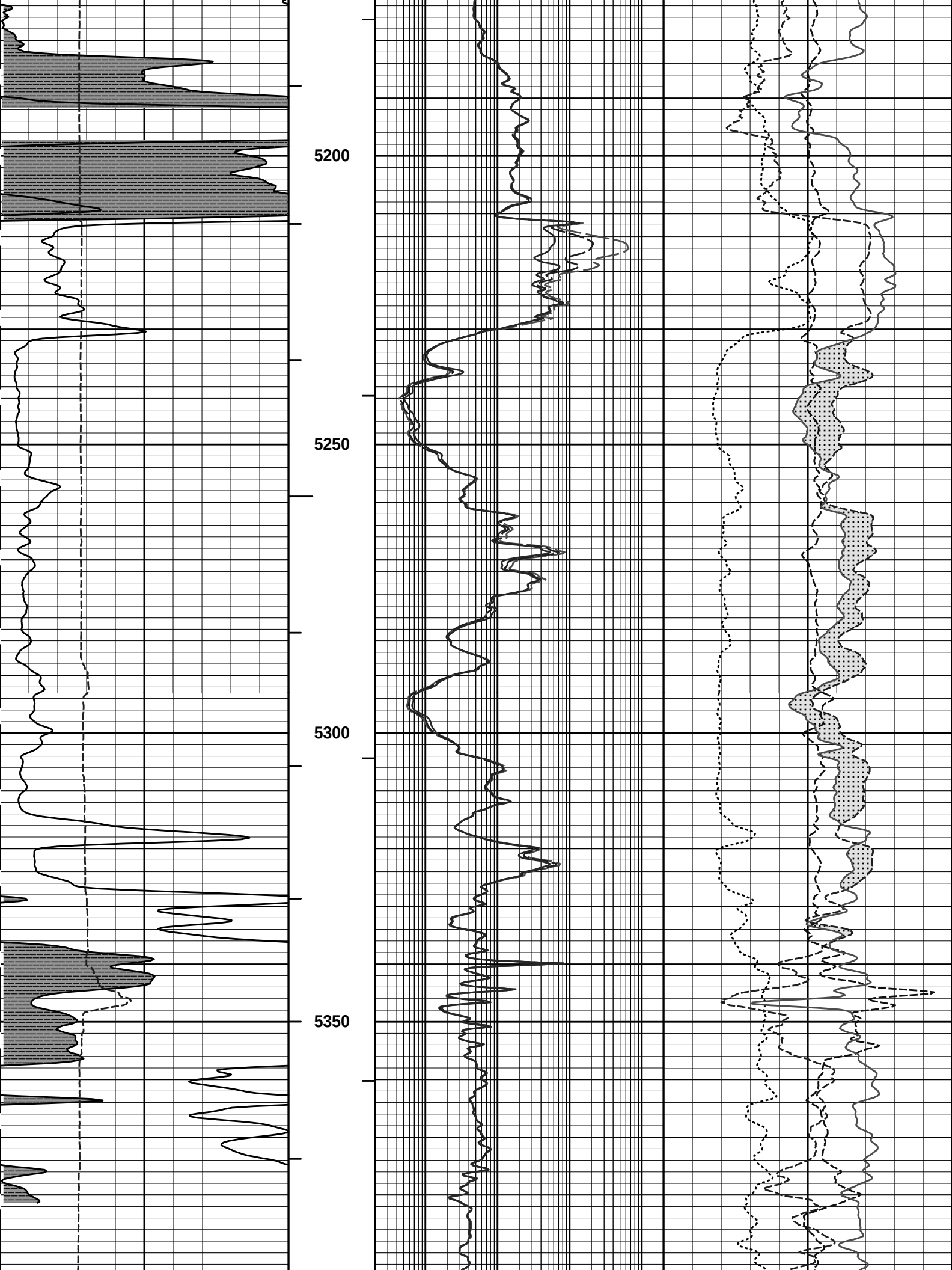
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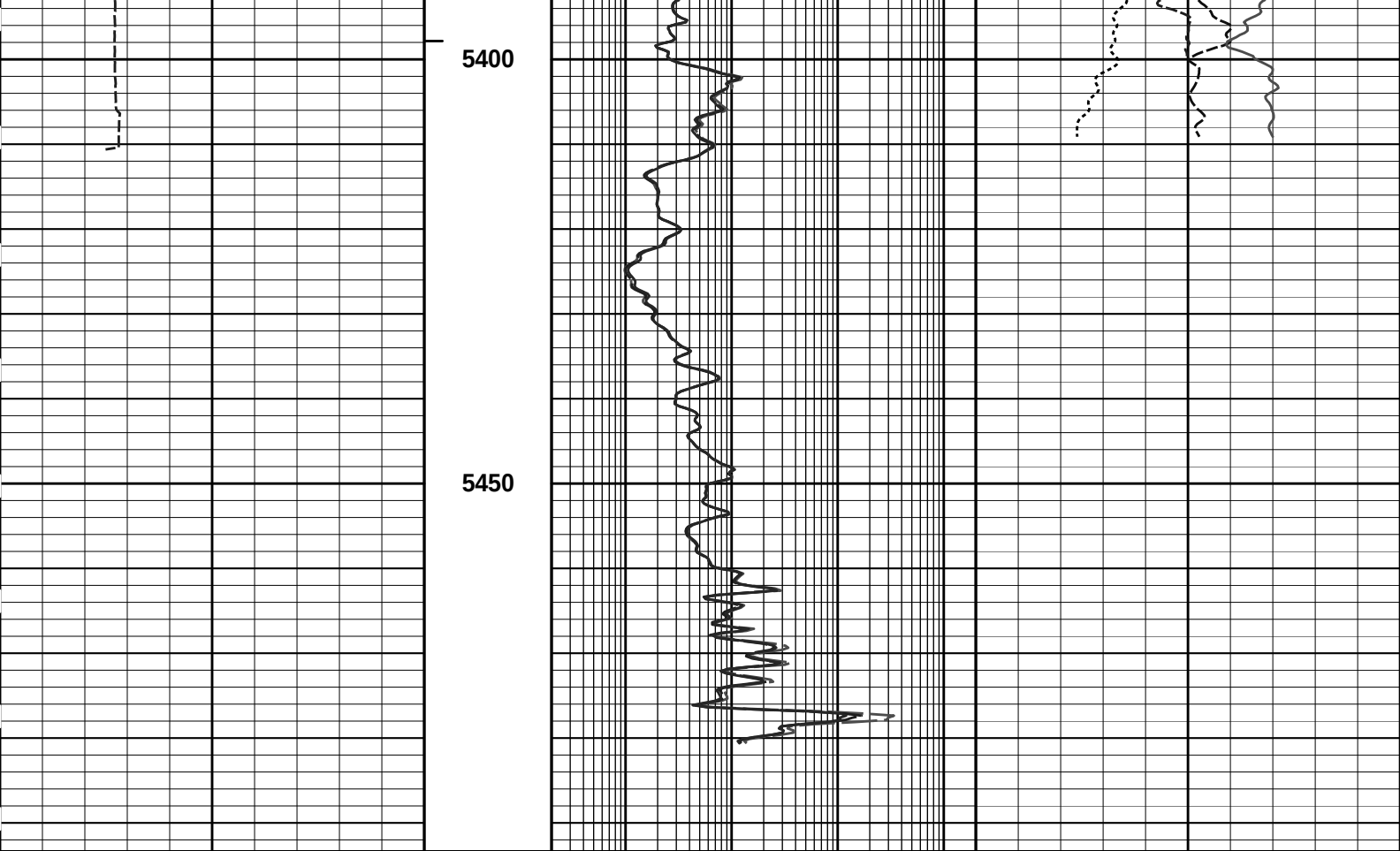
5 INCH REPEAT LOG TVD











6	Caliper	16	TVD	0.2	20in Resistivity 1ft Res	2000	-0.25	DensityCorr	0.25
	inches		1 : 240 ft		ohm-metre			g/cc	
0	Gamma API	150	AHVT	0.2	60in Resistivity 1ft Res	2000	1.95	Bulk Density	2.95
	api				ohm-metre			g/cc	
			BHVT	0.2	90in Resistivity 1ft Res	2000	0	Pe	10
					ohm-metre				
							45	Neutron Porosity	-15
								%	

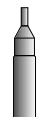
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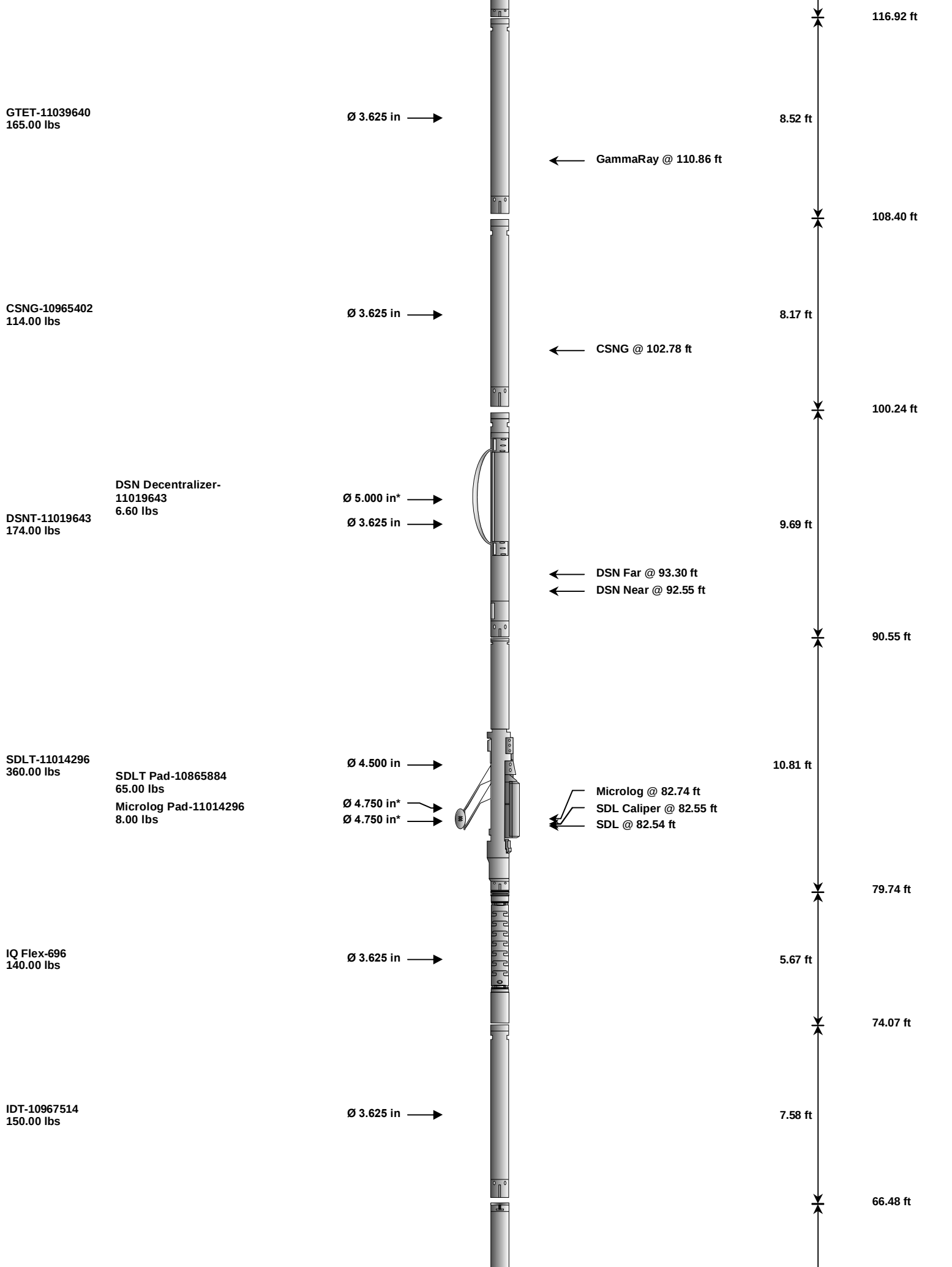
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Plot Range: 4699.46 ft to 5493.37 ft
Data: CROFT_FARMS3407\Well Based\REPEAT\
Plot File: \\TRIPLE\TC_5_NO_ML_RPT_SHELL

5 INCH REPEAT LOG TVD

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TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in →		← Temperature @ 122.66 ft	3.03 ft	123.69 ft
SP Sub-11441455 60.00 lbs		Ø 3.625 in →		← SP @ 118.88 ft	3.74 ft	120.66 ft



ICT-10880633
330.00 lbs

Ø 3.625 in →

12.83 ft

← ICT Caliper @ 56.44 ft

53.65 ft

Centralizer 25-002
8.00 lbs

Ø 4.000 in* →



Wavesonic-I-
10753396
520.00 lbs

Ø 3.625 in →

34.07 ft

← Wavesonic Delay @ 31.08 ft

Centralizer 25-001
8.00 lbs

Ø 4.000 in* →



19.58 ft

ACRt Instrument-
I5059_S8385
50.00 lbs

Regal Standoff 6_75-1
2.00 lbs

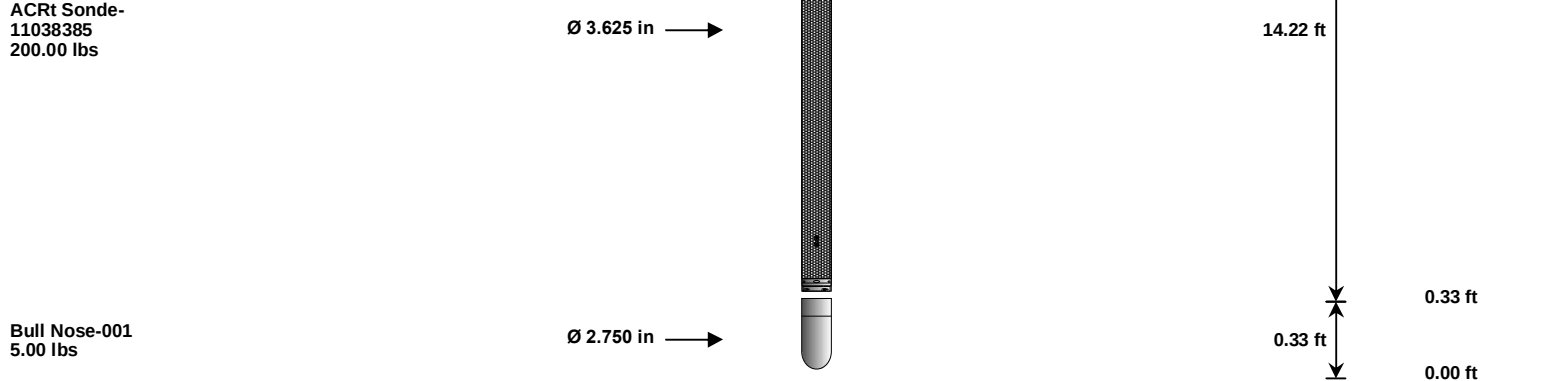
Ø 5.625 in* →
Ø 3.625 in →

5.03 ft

← Mud Resistivity @ 13.19 ft

14.55 ft

← ACRt @ 9.21 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	CH_696	37.50	3.03	120.66	300.00
SP	SP Sub	11441455	60.00	3.74	116.92	300.00
GTET	Gamma Telemetry Tool	11039640	165.00	8.52	108.40	60.00
CSNG	Compensated Spectral Natural Gamma	10965402	114.00	8.17	100.24	15.00
DSNT	Dual Spaced Neutron	11019643	174.00	9.69	90.55	60.00
DCNT	DSN Decentralizer	11019643	6.60	5.13	* 93.88	300.00
SDLT	Spectral Density Tool	11014296	360.00	10.81	79.74	60.00
SDLP	Density Insite Pad	10865884	65.00	2.55	* 81.95	60.00
MICP	Microlog Pad	11014296	8.00	1.00	* 82.24	60.00
IQF	IQ Flex tool	696	140.00	5.67	74.07	300.00
IDT	Insite Directional Tool	10967514	150.00	7.58	66.48	30.00
ICT	Six Independent Arm Caliper	10880633	330.00	12.83	53.65	30.00
WSTT	WaveSonic Insite	10753396	520.00	34.07	19.58	30.00
OBCEN	Centralizer - 25 in. Overbody	001	8.00	2.08	* 22.56	300.00
OBCEN	Centralizer - 25 in. Overbody	002	8.00	2.08	* 49.92	300.00
ACRt	Array Compensated True Resistivity Instrument Section	I5059_S8385	50.00	5.03	14.55	300.00
RSOF	Regal Standoff 6.75in	1	2.00	0.52	* 17.30	300.00
ACRt	Array Compensated True Resistivity Sonde Section	11038385	200.00	14.22	0.33	300.00
BLNS	Bull Nose	001	5.00	0.33	0.00	300.00

Total			2,403.10	123.69		
						* Not included in Total Length and Length Accumulation.
Data: CROFT_FARMS3407\0001 SP-GTET-CSNG-DSN-SDL-FLEX-IDT-ICT-WSTT-ACRT-BN\IDLE						Date: 28-Nov-12 05:15:35

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	GTET - 11039640	Reference Calibration Date:	25-Sep-12 15:48:12
Engineer:	T. HYDE	Calibration Date:	02-Nov-12 10:48:45
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Calibrator Source S/N: TB146
Calibrator API Reference:265.00 api
Equivalent Calibrator API Reference:269.6 api

Measurement	Measured	Calibrated	Units
Background	63.1	62.7	api
Background + Calibrator	334.4	332.3	api
Calibrator	271.3	269.6	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	GTET - 11039640	Reference Calibration Date:	02-Nov-12 10:48:45
Engineer:	T. HYDE	Calibration Date:	28-Nov-12 04:07:57
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Software Version: WL INSITE R3.6.0 (Build 3)

Calibration Version: 1

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Field Verification	Shop	Field	Units
Background	62.7	39.4	api
Background + Calibrator	332.3	311.1	api
Calibrator	269.6	271.7	api

Shop	Field	Difference	Tolerance
269.6	271.7	-2.1	+/- 9.00

NATURAL GAMMA RAY TOOL POST CALIBRATION			
Tool Name:	GTET - 11039640	Reference Calibration Date:	28-Nov-12 04:07:57
Engineer:	J. BOLLUM	Calibration Date:	28-Nov-12 14:45:16
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Calibrator Source S/N: TB146

Calibrator API Reference:265.00 api

Calibrator API Reference:269.6 api

Post Verification	Field	Post	Units
Background	39.4	39.6	api
Background + Calibrator	311.1	303.2	api
Calibrator	271.7	263.6	api

Shop	Field	Post	Difference	Tolerance
269.6	271.7	263.6	8.1	+/- 9.00

CSNG-FS SHOP CALIBRATION			
Tool Name:	CSNG - 10965402	Reference Calibration Date:	18-Oct-12 19:13:22
Engineer:	T. HYDE	Calibration Date:	18-Oct-12 19:36:39
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Source SN:	TB146		

TITANIUM CASE	Measured	Calibrated	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	22.8	22.7	Channel #
583 KEV Peak Channel #	51.3	51.3	Channel #
2614 KEV Peak Channel #	211.1	211.0	Channel #
Calibrate Temperature	99.3	103.9	degF

Pass/Fail Summary	Centroid
239 KEV Peak	Passed
583 KEV Peak	Passed
2614 KEV Peak	Passed

Blanket Reference Value: 265.00 API

Calibrator Value: 301.0 API

	Counts	Units	Measured	Calibrated	Units
Thorium Blanket	1563.8	CPS	340.4	346.3	API
Background	204.8	CPS	39.4	45.4	API

Gamma Ray Gain: 1.11
Expected Gain Range: 0.85 - 1.15
Gamma Gain Check: Passed

CSNG-FS FIELD CALIBRATION

Tool Name:	CSNG - 10965402	Reference Calibration Date:	18-Oct-12 19:36:39
Engineer:	T. HYDE	Calibration Date:	28-Nov-12 04:16:19
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Source SN:			

TITANIUM CASE	Shop	Field	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	22.7	23.1	Channel #
583 KEV Peak Channel #	51.3	51.9	Channel #
2614 KEV Peak Channel #	211.0	213.4	Channel #
Calibrate Temperature	103.9	62.0	degF

Pass/Fail Summary	Centroid
239 KEV Peak	Passed
583 KEV Peak	Passed
2614 KEV Peak	Passed

Blanket Reference Value: 265.00 API
Calibrator Value: 301.0 API

	Counts	Units	Measured	Calibrated	Units
Thorium Blanket	1474.2	CPS	346.3	335.5	API
Background	151.8	CPS	45.4	34.5	API

Gamma Ray Gain: 1.15
Expected Gain Range: 0.85 - 1.15
Gamma Gain Check: Passed

CSNG-FS POST CALIBRATION

Tool Name:	CSNG - 10965402	Reference Calibration Date:	28-Nov-12 04:16:19
Engineer:	J. BOLLUM	Calibration Date:	28-Nov-12 15:00:03
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Source SN:			

TITANIUM CASE	Field Survey	Post Survey	Units
60 KEV Peak Channel #	48.0	48.0	Channel #
239 KEV Peak Channel #	23.1	22.9	Channel #
583 KEV Peak Channel #	51.9	51.2	Channel #
2614 KEV Peak Channel #	213.4	210.7	Channel #
Calibrate Temperature	62.0	138.3	degF

Pass/Fail Summary	Centroid
239 KEV Peak	Passed
583 KEV Peak	Passed
2614 KEV Peak	Passed

Blanket Reference Value: 265.00 API
Calibrator Value: 301.0 API

	Counts	Units	Measured	Calibrated	Units
Thorium Blanket	1482.8	cps	335.5	337.3	API
Background	159.8	cps	34.5	36.3	API

Gamma Ray Gain: 1.14
Expected Gain Range: 0.85 - 1.15
Gamma Gain Check: Passed

DUAL SPACED NEUTRON SHOP CALIBRATION

Tool Name:	DSNT - 11019643	Reference Calibration Date:	10-Aug-12 09:57:43
Engineer:	T. HYDE	Calibration Date:	15-Oct-12 10:00:41
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Logging Source S/N: 696
Tank Serial Number: LIBERAL_NEUTRON
Reference value assigned to Tank: 51.680
Snow Block S/N: 696
Calibration Tank Water Temperature: 75 degF
Min. Tool Housing Outside Diameter: 3.620 in

CALIBRATION CONSTANTS			
Measurement	Prev. Value	New Value	Control Limit On New Value

Gain:	0.952	0.956	0.900 - 1.100
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WATER TANK SUMMARY (Horizontal Water Tank)				
Measurement	Current Reading (Previous Coef.)	Calibrated (New Coef.)	Change	Control Limit On Change
Porosity (decp):	0.2093	0.2107	0.0013	+/- 0.0020
Calibrated Ratio:	9.67	9.72	0.044	+/- 0.050

VERIFIER		
Measurement	Value	Control Limit
Snow-Block Porosity (decp):	0.0649	0.02000 - 0.09000

PASS/FAIL SUMMARY	
Background Check:	Passed
Gain-Range Check:	Passed
Snow-Block Check:	Passed

DUAL SPACED NEUTRON FIELD CALIBRATION

Tool Name:	DSNT - 11019643	Reference Calibration Date:	15-Oct-12 10:00:41
Engineer:	T. HYDE	Calibration Date:	28-Nov-12 04:19:36
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Logging Source S/N: 696
Snow Block S/N: 696

NEUTRON FIELD-CHECK SUMMARY				
	Shop	Field	Difference	Control Limit On Change
Snow-Block Porosity (decp):	0.0649	0.0628	-0.0021	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed

Snow Block Stat Check:	Passed
Temperature Check:	Passed

DUAL SPACED NEUTRON POST CALIBRATION			
Tool Name:	DSNT - 11019643	Reference Calibration Date:	28-Nov-12 04:19:36
Engineer:	J. BOLLUM	Calibration Date:	28-Nov-12 15:18:10
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Logging Source S/N: 696

Snow Block S/N: 696

NEUTRON POST-CHECK SUMMARY				
	Field Value	Post Value	Difference	Control Limit On Change
Snow-Block Porosity (decg):	0.0628	0.0524	-0.0104	+/- 0.0150

PASS/FAIL SUMMARY	
Block Change Check:	Passed
Snow Block Stat Check:	Passed
Temperature Check:	Passed

DENSITY CALIPER SHOP CALIBRATION			
Tool Name:	SDLT - 11014296	Reference Calibration Date:	28-Nov-12 04:25:38
Engineer:	T. HYDE	Calibration Date:	28-Nov-12 04:30:32
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Host Tool Name:	DSNT - 11019643		

CALIBRATION COEFFICIENTS			
Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-3953.13	-3713.25	-7000.00 - -1000.00
Pad Gain	0.0003876	0.0003771	0.000200 - 0.000600
Arm Offset	-2989.89	-3798.42	-5000.00 - 3000.00
Arm Gain	0.0004854	0.0005741	0.000300 - 0.000700
Arm Power	-0.000001650	-0.000007496	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS				
Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	1.96	2.00	0.04	+/- 0.20
Medium Ring (in)	3.76	3.75	-0.01	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.56	6.50	-0.06	+/- 0.20
Medium Ring (in)	8.11	8.25	0.14	+/- 0.20
Large Ring (in)	15.00	15.00	0.00	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed
PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SPECTRAL DENSITY SHOP CALIBRATION			
Tool Name:	SDLT Pad - 10865884	Reference Calibration Date:	03-Oct-12 11:22:25
Engineer:	T. HYDE	Calibration Date:	02-Nov-12 09:31:35

Logging Source S/N: 5168GW

Aluminum Block S/N: LIBERAL

Magnesium Block S/N: LIBERAL

Density: 2.598g/cc

Density: 1.684g/cc

Pe: 3.170

Pe: 2.598

DENSITY CALIBRATION SUMMARY			
Measurement	Previous Value	New Value	Control Limit
Near Bar Gain	1.0410	1.0382	0.90 - 1.10
Near Dens Gain	1.0113	1.0184	0.90 - 1.10
Near Peak Gain	1.0095	1.0140	0.90 - 1.10
Near Lith Gain	0.9932	0.9939	0.90 - 1.10
Far Bar Gain	1.0156	1.0143	0.90 - 1.10
Far Dens Gain	1.0021	1.0013	0.90 - 1.10
Far Peak Gain	0.9957	0.9932	0.90 - 1.10
Far Lith Gain	0.9726	0.9741	0.90 - 1.10
Near Bar Offset	-0.1824	-0.1554	NONE
Near Dens Offset	0.0560	-0.0056	NONE
Near Peak Offset	0.0479	0.0100	NONE
Near Lith Offset	0.1420	0.1364	NONE
Far Bar Offset	-0.0028	0.0088	NONE
Far Dens Offset	0.0935	0.0972	NONE
Far Peak Offset	0.1237	0.1436	NONE
Far Lith Offset	0.2707	0.2546	NONE
Near Bar Background	839.77	840.78	700 - 1450
Near Dens Background	277.12	276.69	230 - 480
Near Peak Background	121.11	121.05	100 - 210
Near Lith Background	148.58	148.21	125 - 260
Far Bar Background	519.76	518.34	450 - 900
Far Dens Background	203.54	202.25	175 - 345
Far Peak Background	79.88	79.38	70 - 140
Far Lith Background	82.71	83.90	75 - 145

CALIBRATION BLOCK SUMMARY				
Measurement	Current Reading (Previous Coef)	Calibrated (New Coef)	Change	Control Limit On Change
MAGNESIUM				
Density (g/cc)	1.682	1.684	0.002	+/- 0.015
Pe	2.555	2.555	0.000	+/- 0.150
ALUMINUM				
Density (g/cc)	2.598	2.598	-0.000	+/- 0.01500
Pe	3.113	3.124	0.011	+/- 0.150

TOOL SUMMARY				
Measurement	Near Detector		Far Detector	
	Value	Control Limits	Value	Control Limits
QUALITY				
Background	-0.0004	+/- 0.0110	0.0007	+/- 0.0140
Magnesium Block	0.0009	+/- 0.0110	0.0007	+/- 0.0140
Aluminum Block	-0.0003	+/- 0.0110	-0.0009	+/- 0.0140
Resolution	9.17	6.00 - 11.50	8.94	6.00 - 11.50
Internal Verifier(B+D+P+L)	1387	1200 - 2700	884	800 - 1700

PASS/FAIL SUMMARY				
Background Quality Check:		Passed		
Background Range Check:		Passed		
Background Resolution Check:		Passed		
Background Verification Check:		Passed		
Magnesium Quality Check:		Passed		
Aluminum Quality Check:		Passed		
Gains Check:		Passed		
Changes in Calibration Blocks:		Passed		

SPECTRAL DENSITY FIELD CHECK				
Tool Name:	SDLT Pad - 10865884		Reference Calibration Date:	02-Nov-12 09:31:35
Engineer:	T. HYDE		Calibration Date:	28-Nov-12 04:08:12
Software Version:	WL INSITE R3.6.0 (Build 3)		Calibration Version:	1

Pad Temperature: 36.4 degF

DENSITY FIELD CALIBRATION SUMMARY				
Measurement	Shop	Field	Change	Control Limit +/-
Near (B+D+P+L) cps	1386.731	1378.608	-8.123	15.044
Far (B+D+P+L) cps	883.870	885.796	1.926	16.212
Near Resolution	9.17	9.53	0.360	0.50
Far Resolution	8.94	9.45	0.510	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SPECTRAL DENSITY POST CHECK				
Tool Name:	SDLT Pad - 10865884		Reference Calibration Date:	28-Nov-12 04:08:12
Engineer:	J. BOLLLOM		Calibration Date:	28-Nov-12 15:22:40
Software Version:	WL INSITE R3.6.0 (Build 3)		Calibration Version:	1

Pad Temperature: 64.7 degF

DENSITY POST CALIBRATION SUMMARY				
Measurement	Field	Post	Change	Control Limit +/-
Near (B+D+P+L) cps	1378.608	1386.552	7.944	15.044
Far (B+D+P+L) cps	885.796	895.453	9.657	16.212
Near Resolution	9.53	9.45	-0.080	0.50
Far Resolution	9.45	9.70	0.250	1.00

PASS/FAIL SUMMARY	
Bkg Quality Check:	Passed
Bkg Resolution Check:	Passed
Bkg Verification Check:	Passed

SDLT CALIPER FIELD CALIBRATION				
Tool Name:	SDLT - 11014296		Reference Calibration Date:	28-Nov-12 04:30:32
Engineer:	T. HYDE		Calibration Date:	28-Nov-12 04:33:49
Software Version:	WL INSITE R3.6.0 (Build 3)		Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Shop	Field	Change	Control Limit On

Measurement	Shop	Field	Change	New Value
Pad Extension	3.75	3.69	-0.06	+/- 0.10
Ring Diameter	8.25	8.15	-0.10	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

SDLT CALIPER POST CALIBRATION			
Tool Name:	SDLT - 11014296	Reference Calibration Date:	28-Nov-12 04:33:49
Engineer:	J. BOLLUM	Calibration Date:	28-Nov-12 15:21:23
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

MEASURED CALIPER VALUES				
Measurement	Field	Post	Change	Control Limit On New Value
Pad Extension	3.69	3.72	0.04	+/- 0.10
Ring Diameter	8.15	8.20	0.05	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

ACCELEROMETER AND MAGNETOMETER SHOP CALIBRATION			
Tool Name:	IDT - 10967514	Reference Calibration Date:	25-Feb-10 10:04:50
Engineer:	T. HYDE	Calibration Date:	14-Aug-12 15:10:43
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

Reference Gravity Field: 1.0000 g
Reference Magnetic Field: 54093.0000 nT

* QF : value of 0 is shown for bad quality if | data - reference | > (2 * standard deviation) and > (0.5% of reference value)

ACCELEROMETER CALIBRATION RAW DATA VALUE					
Raw Acc X	Raw Acc Y	Raw Acc Z	Quality(Gravity)	Quality Error(%)	QF
0.2907	-0.6561	-0.0089	0.9988	99.8754	1
-0.6929	-0.2546	-0.0090	1.0008	99.9160	1
-0.3266	0.6707	-0.0080	0.9987	99.8750	1
0.6228	0.3750	-0.0076	1.0011	99.8939	1
0.0040	0.7434	-0.0098	1.0001	99.9850	1
0.6616	0.0814	0.1250	1.0001	99.9922	1
-0.0212	0.7438	-0.0095	1.0005	99.9451	1
0.7177	-0.0152	-0.0101	0.9993	99.9308	1
-0.0129	-0.7235	-0.0111	1.0010	99.9031	1
-0.7410	-0.0046	-0.0110	0.9995	99.9519	1
-0.1670	0.0128	0.3432	1.0000	99.9983	1
-0.6589	-0.0231	-0.1779	1.0000	99.9976	1

ACCELEROMETER QUALITY SUMMARY	
Average Calculated Gravity Field	1.0000 g
Standard Deviation Calculated Gravity Field	0.0008 g

ACCELEROMETER GAIN AND OFFSET		
	GAIN	OFFSET
ACC X	1.3697259426	0.0157147683
ACC Y	1.3639539480	-0.0140932603

ACC Z

2.7579212189

0.0306457058

* QF : value of 0 is shown for bad quality if | data - reference | > (3 * standard deviation) and > (1% of reference value)

MAGNETOMETER CALIBRATION RAW DATA VALUE

Raw Mag X	Raw Mag Y	Raw Mag Z	Quality(Magnetic)	Quality Error(%)	QF
0.0603	1.2769	-0.0006	53534.9414	98.9683	1
1.2664	-0.1417	-0.0017	53876.5078	99.5998	1
-0.0225	-1.2928	-0.0027	53510.5938	98.9233	1
-1.2599	-0.0657	-0.0037	53699.5625	99.2727	1
-0.0098	-1.1543	0.5793	54093.5000	99.9991	1
-1.2506	-0.0575	-0.1316	53638.0430	99.1589	1
0.0122	-1.1515	-0.6020	54746.4570	98.7920	1
-1.1213	0.0455	-0.6031	54940.3867	98.4335	1
0.0177	1.1372	-0.6014	54782.2070	98.7259	1
1.1356	0.0029	-0.6011	55092.7109	98.1519	1
0.2695	-0.5941	1.0711	54403.4609	99.4261	1
0.6782	0.0066	-0.9847	52508.6484	97.0711	1

MAGNETOMETER QUALITY SUMMARY

Average Calculated Magnetic Field	54068.9180 nT
Standard Deviation Calculated Magnetic Field	755.4872 nT

MAGNETOMETER GAIN AND OFFSET

	GAIN	OFFSET
MAG X	42444.9140625000	-166.3116760254
MAG Y	41629.1054687500	322.7136230469
MAG Z	44418.2734375000	-280.8706970215

Noise Level Value: 0.000210 cnts

Noise Level Cal Value: 0.0006 g

ICT SHOP CALIBRATION

Tool Name:	ICT - 10880633	Reference Calibration Date:	30-Sep-12 16:02:49
Engineer:	T. HYDE	Calibration Date:	30-Sep-12 16:08:11
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1

CALIPERS AND RINGS

Ring	Measured	Calibrated	Units
CALIPER 1:			
Small Ring	3.62	3.65	in
Medium Ring	8.02	8.00	in
Large Ring	15.00	15.00	in
X-Large Ring	21.00	21.00	in
CALIPER 2:			
Small Ring	3.63	3.65	in
Medium Ring	8.00	8.00	in
Large Ring	14.99	15.00	in
X-Large Ring	21.00	21.00	in
CALIPER 3:			
Small Ring	3.65	3.65	in
Medium Ring	8.03	8.00	in
Large Ring	15.00	15.00	in
X-Large Ring	21.00	21.00	in
CALIPER 4:			
Small Ring	3.61	3.65	in
Medium Ring	8.02	8.00	in

Medium Ring	8.02	8.00	in
Large Ring	15.00	15.00	in
X-Large Ring	21.00	21.00	in
CALIPER 5:			
Small Ring	3.60	3.65	in
Medium Ring	8.03	8.00	in
Large Ring	15.01	15.00	in
X-Large Ring	21.00	21.00	in
CALIPER 6:			
Small Ring	3.65	3.65	in
Medium Ring	8.00	8.00	in
Large Ring	15.00	15.00	in
X-Large Ring	21.00	21.00	in

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION			
Tool Name:	ACRt Sonde - 11038385	Reference Calibration Date:	15-Oct-12 13:54:03
Engineer:	T. HYDE	Calibration Date:	21-Nov-12 12:04:08
Software Version:	WL INSITE R3.6.0 (Build 3)	Calibration Version:	1
Host Tool Name:	ACRt Instrument - I5059_S8385		

TYPICAL GAIN RANGE									
Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper
A1 (80")	0.95	1.02	1.05	0.95	1.03	1.05	0.95	1.03	1.05
A2 (50")	0.95	1.01	1.05	0.95	1.02	1.05	0.95	1.02	1.05
A3 (29")	0.95	1.01	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A4 (17")	0.95	1.00	1.05	0.95	1.01	1.05	0.95	1.01	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.01	1.05	0.95	1.01	1.05
A6 (6")	N/A	N/A	N/A	0.95	0.99	1.05	0.95	0.99	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	-1.22	2	-6	-4.66	-2	-8	-4.68	-2
A2 (50")	-7	-2.79	0	-7	-3.82	0	-7	-4.51	0
A3 (29")	-27	-14.92	-9	-9	-4.20	-3	-7	-2.33	-1
A4 (17")	-180	-102.69	-60	-45	-32.42	-15	-39	-25.84	-13
A5 (10")	N/A	N/A	N/A	-150	-82.58	-50	-80	-41.98	-10
A6 (6")	N/A	N/A	N/A	175	341.00	525	90	168.75	270

TRANSMITTER CURRENT GAIN					R-MUD VERIFICATION			
Signal	Lower	R	Upper		Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
12K	0.6	0.88	1.3		Mud Cell	0.95	1.00	1.05
36K	1.0	1.35	2.0					
72K	1.0	1.62	2.0					

PASS/FAIL SUMMARY	
GAIN RANGE CHK	PASS
SONDE OFFSET RANGE CHK	PASS
Tx CURRENT GAIN	PASS
Rmud VERIFICATION	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY						
Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-11039640						
Gamma Ray Calibrator	269.6	271.7	263.6	8.1	+/- 9.00	api
CSNG-10965402						
60 KEV Peak Channel #	48.0	48.0	48.0	0.0	-----	Channel #
239 KEV Peak Channel #	22.7	23.1	22.9	0.2	-----	Channel #
583 KEV Peak Channel #	51.3	51.9	51.2	0.7	-----	Channel #
2614 KEV Peak Channel #	211.0	213.4	210.7	2.7	-----	Channel #
DSNT-11019643						
Snow-Block Porosity	0.0649	0.0628	0.0524	0.0104	+/- 0.0150	decp
SDLT-11014296						
Pad Extension	3.75	3.69	3.72	-0.03	+/-0.10	in
Ring Diameter	8.25	8.15	8.20	-0.05	+/-0.15	in
SDLT Pad-10865884						
Near(B+D+P+L)	1386.731	1378.608	1386.552	-7.944	+/-15.044	cps
Far(B+D+P+L)	883.870	885.796	895.453	-9.657	+/-16.212	cps
ICT-10880633						
Caliper 1	8.00	-----	-----	0.00	-----	in
Caliper 2	8.00	-----	-----	0.00	-----	in
Caliper 3	8.00	-----	-----	0.00	-----	in
Caliper 4	8.00	-----	-----	0.00	-----	in
Caliper 5	8.00	-----	-----	0.00	-----	in
Caliper 6	8.00	-----	-----	0.00	-----	in
ACRt Sonde-11038385						
Mud Cell	1.00	-----	-----	0.00	-----	ohm-m
Data: CROFT_FARMS3407\0001 SP-GTET-CSNG-DSN-SDL-FLEX-IDT-ICT-WSTT-ACRT-BN\IDLE						
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HALLIBURTON					
PARAMETERS REPORT					
Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	8.750	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	9.150	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	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	7.000	in

	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5493.00	ft
	SHARED	BHT	Bottom Hole Temperature	200.0	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	
	CSNG	CGOK	Process CSNG Data?	Yes	
	CSNG	CENT	Is Tool Centralized?	No	
	CSNG	GBOK	Gamma Enviromental 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	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	
	Microlog Pad	MLOK	Process MicroLog 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
	IDT	WRTI	Survey Writing Interval	30	ft
	IDT	SOPT	Smoothing Option	None	
	ICT	CLOK	Process Caliper Outputs?	Yes	
	ICT	NAVS	Navigation Source Tool	IDT	
	Wavesonic-I	WSOK	Process WSTT?	Yes	
	Wavesonic-I	AFIL	Adaptive Filtering?	No	
	Wavesonic-I	PINT	Process 1 Sample and Skip	0	
	Wavesonic-I	PRCM	Process Multiple Passes	1	

Wavesonic-I	PROM	Process Mode: M=1,MX=2,MY=3,MXY=4		
Wavesonic-I	DTSH	Delta -T Shale	100.00	uspf
Wavesonic-I	DTMT	Delta -T Matrix Type	User define	
Wavesonic-I	DTMA	Delta -T Matrix	47.60	uspf
Wavesonic-I	DTFL	Delta -T Fluid	189.00	uspf
Wavesonic-I	RHOM	Matrix Density	2.7100	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	IDT	
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	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_____				

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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
SP Sub				
PLTC	Plot Control Mask	118.88	NO	
SP	Spontaneous Potential	118.88	BLK	1.250
SPR	Raw Spontaneous Potential	118.88	NO	
SPO	Spontaneous Potential Offset	118.88	NO	
GTET				
TPUL	Tension Pull	110.86	NO	
GR	Natural Gamma Ray API	110.86	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	110.86	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	110.86	W	1.416 , 0.750
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
CSNG				
TPUL	Tension Pull	102.78	NO	
STAT	Status	102.78	NO	
FRMC	Tool Frame Count	102.78	BLK	0.250
TFRM	Total Frames	102.78	NO	
LSPD	Line Speed	102.78	BLK	0.250

CTIM	Accumulation time for sample	102.78	BLK	0.250
NOIS	Spectral Noise	102.78	BLK	0.250
STAB	Stabilizer Voltage in mv	102.78	BLK	0.250
STBP	Stabilizer 60 KEV Peak	102.78	BLK	0.250
AMER	Americium	102.78	BLK	0.250
FTMP	Flask PCB Temperature	102.78	BLK	0.250
SPEL	Low Energy Spectrum	102.78	BLK	0.250
SPEH	High Energy Spectrum	102.78	BLK	0.250
SSP	Stabilization Energy Spectrum	102.78	BLK	0.250
CSPC	CSNG Lo Hi Spectrum Data	102.78	NO	
DSNT				
TPUL	Tension Pull	92.45	NO	
RNDS	Near Detector Telemetry Counts	92.55	BLK	1.417
RFDS	Far Detector Telemetry Counts	93.30	TRI	0.583
DNTT	DSN Tool Temperature	92.55	NO	
DSNS	DSN Tool Status	92.45	NO	
ERND	Near Detector Telemetry Counts EVR	92.55	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	93.30	BLK	0.000
ENTM	DSN Tool Temperature EVR	92.55	NO	
SDLT				
TPUL	Tension Pull	82.55	NO	
PCAL	Pad Caliper	82.55	TRI	0.250
ACAL	Arm Caliper	82.55	TRI	0.250
IDT				
TPUL	Tension Pull	67.48	NO	
ACCX	Accelerometer X	67.48	NO	
ACCY	Accelerometer Y	67.48	NO	
ACCZ	Accelerometer Z	67.48	NO	
MAGX	magnetometer x with unit	67.48	NO	
MAGY	Magnetometer Y with unit	67.48	NO	
MAGZ	magnetometer z with unit	67.48	NO	
IAMP	Accelerometer Temperature	67.48	NO	
MTMP	Magnetometer Temperature	67.48	NO	
ICT				
TPUL	Tension Pull	56.44	NO	
	Arm Potentiometer excitation V	53.65	NO	
	Caliper 1 measurement	56.44	BLK	1.250
	Caliper 2 measurement	56.44	BLK	1.250
	Caliper 3 measurement	56.44	BLK	1.250
	Caliper 4 measurement	56.44	BLK	1.250
	Caliper 5 measurement	56.44	BLK	1.250
	Caliper 6 measurement	56.44	BLK	1.250
	Caliper Global measurement	56.44	BLK	1.250
MOTI	Motor Current	53.65	NO	
MOT1	Motor Voltage Monitor 1	53.65	NO	
STA1	Status word #1	53.65	NO	
STA2	Status word #2	53.65	NO	
PRES	Caliper percentage of total compression of the spring	53.65	NO	
HAZI	Hole Azimuth	56.44	NO	
RB	Relative Bearing	56.44	NO	
AZI1	PAD1 Azimuth	56.44	NO	
DEVI	Inclination	56.44	NO	

Wavesonic-I			
TPUL	Tension Pull	31.08	NO
DPSX	Dipole Source X StructureI	19.58	NO
DPSY	Dipole Source Y StructureI	19.58	NO
DPSM	Monopole Source Structure	19.58	NO
WVST	Wavesonic Compressed Data	31.08	NO
TPUL	Tension Pull	31.08	NO
XMS1	Wave Sonic Status Word 1	19.58	NO
XMS2	Wave Sonic Status Word 2	19.58	NO
XMS1	Wave Sonic XMITStatus Word 1	19.58	NO
XMS1	Wave Sonic XMITStatus Word 2	19.58	NO
F1HA	Dipole 1 HV After	19.58	NO
F1HB	Dipole 1 HV Before	19.58	NO
F2HA	Dipole 2 HV After	19.58	NO
F2HB	Dipole 2 HV Before	19.58	NO
F3HA	Monopole HV After	19.58	NO
F3HB	Monopole HV Before	19.58	NO
INVT	Input Voltage	19.58	NO
5VOL	5 Volts	19.58	NO
MI5A	Minus 5 Volts Analog	19.58	NO
ITMP	Instrument Temperature	19.58	NO
PL5A	Plus 5 Volts Analog	19.58	NO
5VD	Plus 5 Volts Digital	19.58	NO
TCUR	Tool Current	19.58	NO
SUPV	Supply Voltage	19.58	NO
PRVT	Preregulated voltage	19.58	NO
PRVT	Pre-regulated voltage Xmter	19.58	NO
TEMP	Temperature	19.58	NO
ACQN	Acquisition Number	19.58	NO
XDP	Delay Reference	31.08	NO
MITM	MIT Mode	31.08	NO
VERS	Version	19.58	NO
D1CT	Dipole 1 Compressed Word Count	31.08	NO
D2CT	Dipole 2 Compressed Word Count	31.08	NO
MCNT	Monopole Compressed Word Count	31.08	NO
SEQN	Sequence Number	19.58	NO
FREV	Firmware Revision	19.58	NO
MSMP	Monopole Sample Rate	19.58	NO
MSMP	Dipole Sample Rate	19.58	NO
MFWF	Monopole Firing Waveform	19.58	NO
MFRQ	Monopole Frequency	19.58	NO
MDLY	Monopole Delay	19.58	NO
DXWF	Dipole X Firing Waveform	19.58	NO
XFRQ	Dipole X Frequency	19.58	NO
XDLY	Dipole X Delay	19.58	NO
DYWF	Dipole Y Firing Waveform	19.58	NO
YFRQ	Dipole Y Frequency	19.58	NO
YDLY	Dipole Y Delay	19.58	NO
DPSX	Dipole Source X StructureI	19.58	NO
DPSY	Dipole Source Y StructureI	19.58	NO
DPSM	Monopole Source Structure	19.58	NO
WVST	Wavesonic Compressed Data	31.08	NO
AUTM	Auto Mode	19.58	NO
SONM	tool mode for sonic - 0 for normal or 3 for calibration	19.58	NO
MSL	Monopole Lower Travel Time	31.08	NO

MSH	Monopole Upper Travel Time	31.08	NO
MLFC	Monopole-1 Lower Filter Bandpass Frequency Cut-off	19.58	NO
MUFC	Monopole-1 Upper Filter Bandpass Frequency Cut-off	19.58	NO
DLTT	Dipole Lower Travel Time	19.58	NO
DUTT	Dipole Upper Travel Time	19.58	NO
DLFC	Dipole Lower Filter Bandpass Frequency Cut-off	19.58	NO
DUFC	Dipole Upper Filter Bandpass Frequency Cut-off	19.58	NO
MUTE	WaveSonic Mute/Enable Channels and Sides map	19.58	NO
MUTS	Mute/Enable Sides	19.58	NO
WSRB	Relative Bearing	31.08	NO
WSAZ	WSX Azimuth Pad 1	31.08	NO
TPUL	Tension Pull	31.08	NO
WMP	Summed array of Monopole for SIDES - A,B,C,D	31.08	NO
WXX	Dipole X for SIDES - A-C	31.08	NO
WYY	Dipole Y for SIDES - B-D	31.08	NO
WXY	Dipole X for SIDES - B-D	31.08	NO
WYX	Dipole Y for SIDES - A-C	31.08	NO
TPUL	Tension Pull	31.08	NO
WMA	Monopole Waveform Side A - Channel 1 to Channel 8 Receivers	31.08	NO
WMB	Monopole Waveform Side B - Channel 1 to Channel 8 Receivers	31.08	NO
WMC	Monopole Waveform Side C - Channel 1 to Channel 8 Receivers	31.08	NO
WMD	Monopole Waveform Side D - Channel 1 to Channel 8 Receivers	31.08	NO
WXA	Dipole X Waveform Side A - Channel 1 to Channel 8 Receivers	31.08	NO
WXB	Dipole X Waveform Side B - Channel 1 to Channel 8 Receivers	31.08	NO
WXC	Dipole X Waveform Side C - Channel 1 to Channel 8 Receivers	31.08	NO
WXD	Dipole X Waveform Side D - Channel 1 to Channel 8 Receivers	31.08	NO
WYA	Dipole Y Waveform Side A - Channel 1 to Channel 8 Receivers	31.08	NO
WYB	Dipole Y Waveform Side B - Channel 1 to Channel 8 Receivers	31.08	NO
WYC	Dipole Y Waveform Side C - Channel 1 to Channel 8 Receivers	31.08	NO
WYD	Dipole Y Waveform Side D - Channel 1 to Channel 8 Receivers	31.08	NO
GAR1	Gain Side A Receiver 1	19.58	NO
GAR2	Gain Side A Receiver 2	19.58	NO
GAR3	Gain Side A Receiver 3	19.58	NO
GAR4	Gain Side A Receiver 4	19.58	NO
GAR5	Gain Side A Receiver 5	19.58	NO
GAR6	Gain Side A Receiver 6	19.58	NO
GAR7	Gain Side A Receiver 7	19.58	NO
GAR8	Gain Side A Receiver 8	19.58	NO
GBR1	Gain Side B Receiver 1	19.58	NO
GBR2	Gain Side B Receiver 2	19.58	NO
GBR3	Gain Side B Receiver 3	19.58	NO
GBR4	Gain Side B Receiver 4	19.58	NO
GBR5	Gain Side B Receiver 5	19.58	NO
GBR6	Gain Side B Receiver 6	19.58	NO
GBR7	Gain Side B Receiver 7	19.58	NO
GBR8	Gain Side B Receiver 8	19.58	NO
GCR1	Gain Side C Receiver 1	19.58	NO
GCR2	Gain Side C Receiver 2	19.58	NO
GCR3	Gain Side C Receiver 3	19.58	NO
GCR4	Gain Side C Receiver 4	19.58	NO

GCR4	Gain Side C Receiver 4	19.58	NO	
GCR5	Gain Side C Receiver 5	19.58	NO	
GCR6	Gain Side C Receiver 6	19.58	NO	
GCR7	Gain Side C Receiver 7	19.58	NO	
GCR8	Gain Side C Receiver 8	19.58	NO	
GDR1	Gain Side D Receiver 1	19.58	NO	
GDR2	Gain Side D Receiver 2	19.58	NO	
GDR3	Gain Side D Receiver 3	19.58	NO	
GDR4	Gain Side D Receiver 4	19.58	NO	
GDR5	Gain Side D Receiver 5	19.58	NO	
GDR6	Gain Side D Receiver 6	19.58	NO	
GDR7	Gain Side D Receiver 7	19.58	NO	
GDR8	Gain Side D Receiver 8	19.58	NO	
ACRt Sonde				
TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000

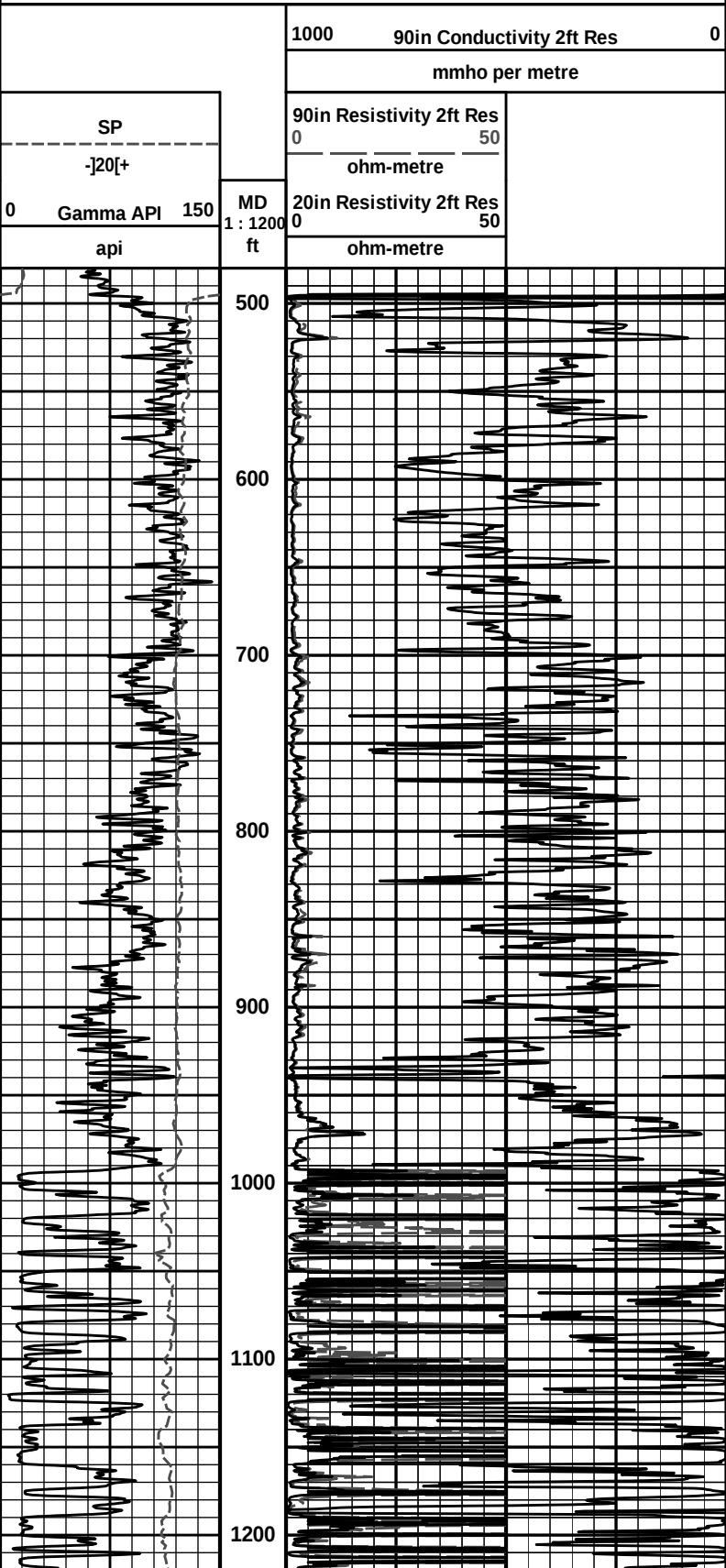
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
Microlog Pad				
TPUL	Tension Pull	82.74	NO	
MINV	Microlog Lateral	82.74	BLK	0.750
MNOR	Microlog Normal	82.74	BLK	0.750
SDLT Pad				
TPUL	Tension Pull	82.54	NO	
NAB	Near Above	82.37	BLK	0.920
NHI	Near Cesium High	82.37	BLK	0.920
NLO	Near Cesium Low	82.37	BLK	0.920
NVA	Near Valley	82.37	BLK	0.920
NBA	Near Barite	82.37	BLK	0.920
NDE	Near Density	82.37	BLK	0.920
NPK	Near Peak	82.37	BLK	0.920
NLI	Near Lithology	82.37	BLK	0.920
NBAU	Near Barite Unfiltered	82.37	BLK	0.250
NLIU	Near Lithology Unfiltered	82.37	BLK	0.250
FAB	Far Above	82.72	BLK	0.250
FHI	Far Cesium High	82.72	BLK	0.250
FLO	Far Cesium Low	82.72	BLK	0.250
FVA	Far Valley	82.72	BLK	0.250
FBA	Far Barite	82.72	BLK	0.250
FDE	Far Density	82.72	BLK	0.250
FPK	Far Peak	82.72	BLK	0.250
FLI	Far Lithology	82.72	BLK	0.250
PTMP	Pad Temperature	82.55	BLK	0.920
NHV	Near Detector High Voltage	81.95	NO	
FHV	Far Detector High Voltage	81.95	NO	
ITMP	Instrument Temperature	81.95	NO	
DDHV	Detector High Voltage	81.95	NO	
Data: CROFT_FARMS340710001 SP-GTET-CSNG-DSN-SDL-FLEX-IDT-ICT-WSTT-ACRT-BNIDLE			Date: 28-Nov-12 05:18:07	

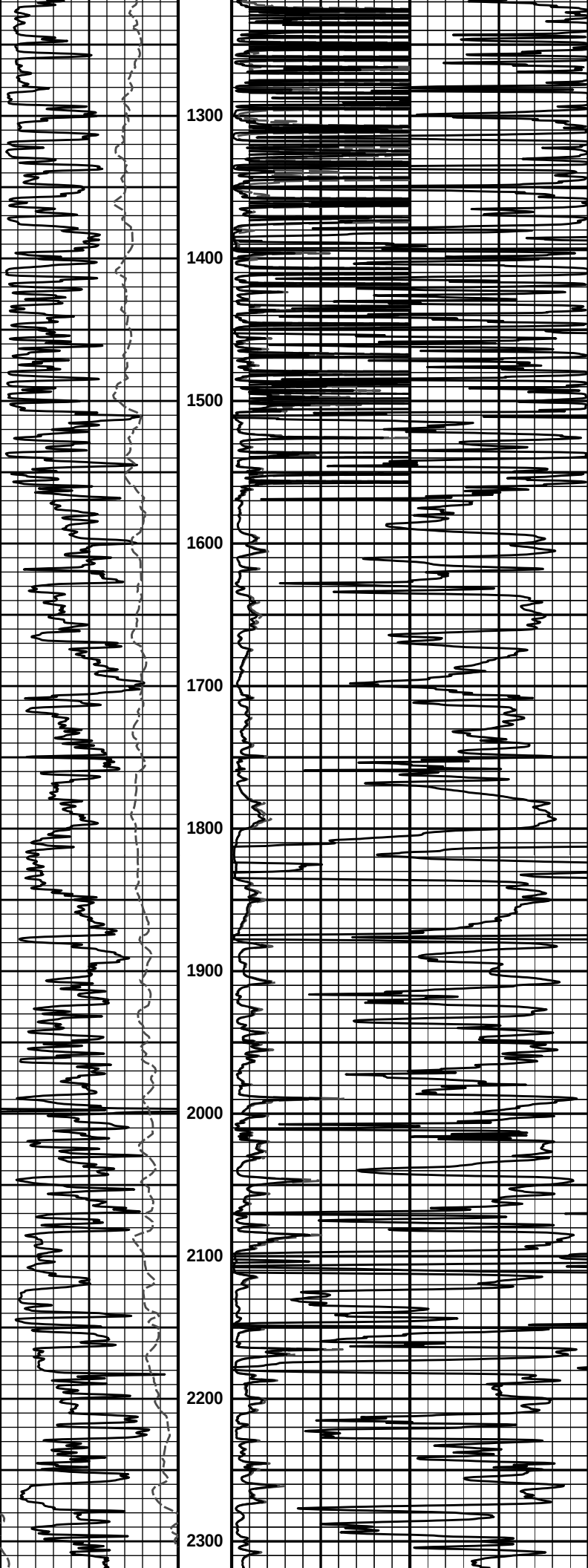
COMPANY	SHELL E&P		
WELL	CROFT FARMS 3407 27-1		
FIELD	WILDCAT		
COUNTY	HARPER	STATE	KANSAS
		TRIPLE E	

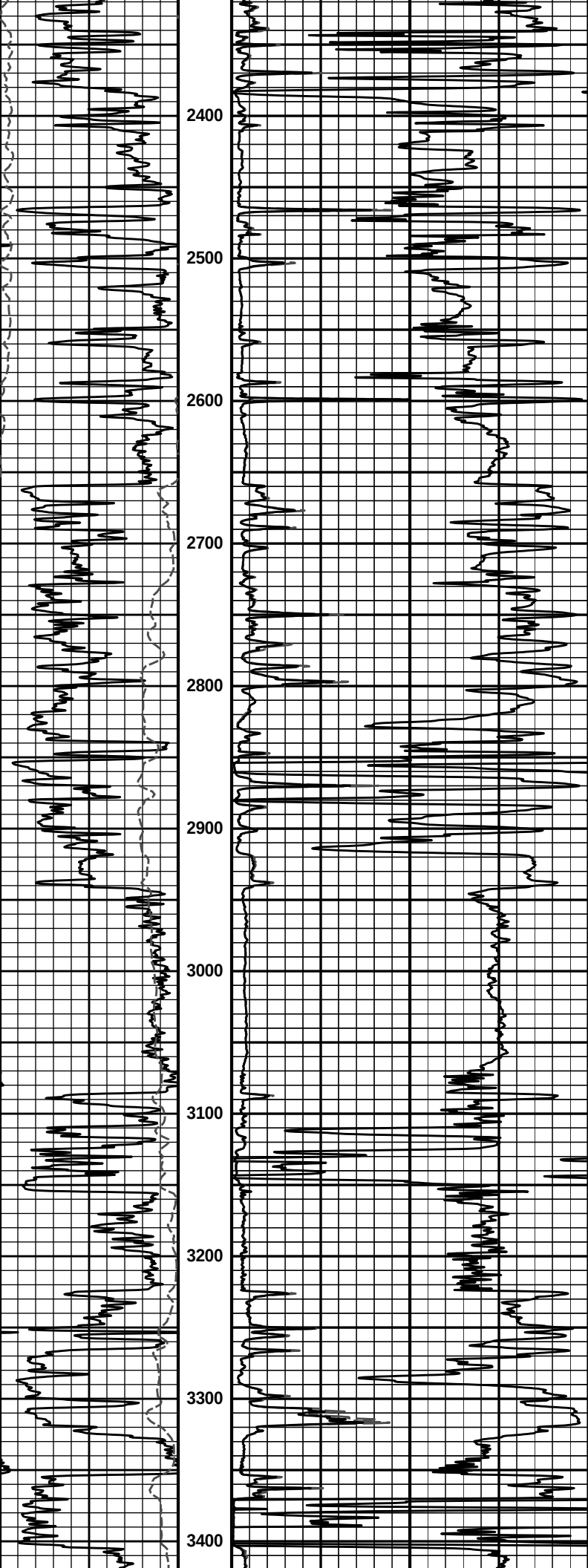
HALLIBURTON

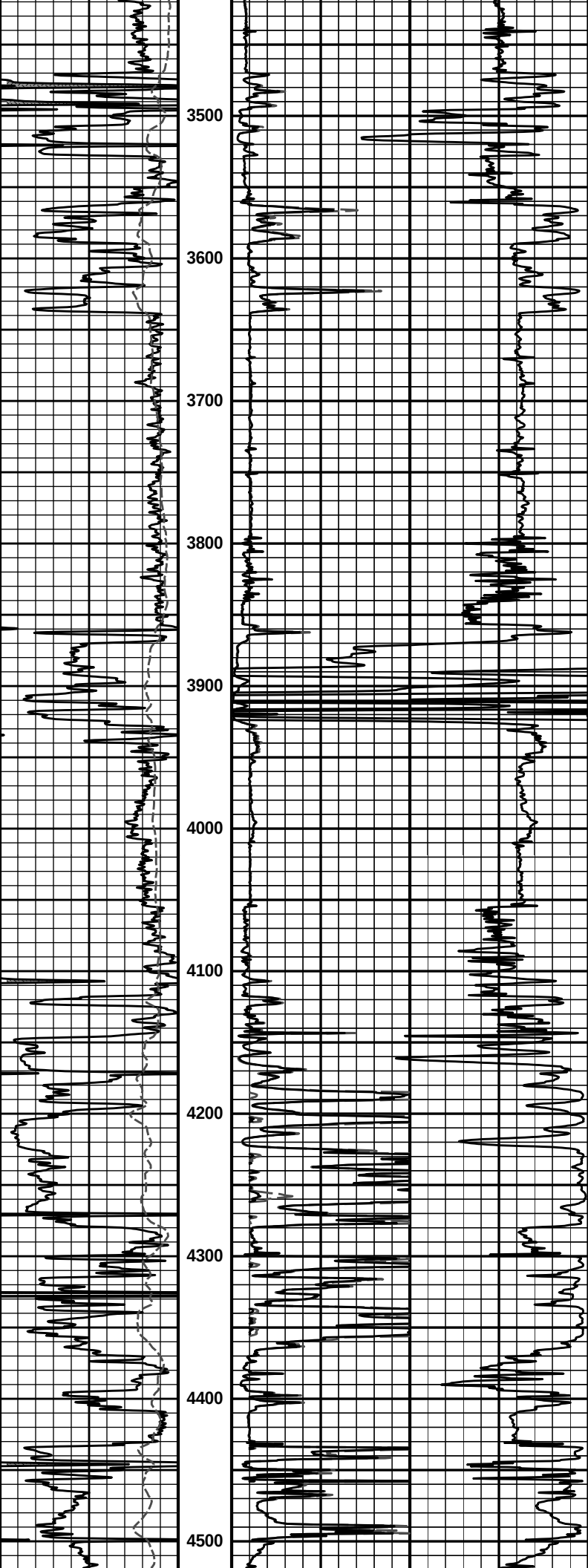
Plot Time: 19-Dec-12 11:58:27
Plot Range: 480 ft to 5479.25 ft
Data: CROFT_FARMS3407\Well Based\CASING\
Plot File: \\LOCAL-CROFT_FARMS3407\0001 SP-GTET-CSNG-DSN-SDL-FLEX-IDT-ICT-WSTT-ACRT-BM...\\ACRT_1.lib

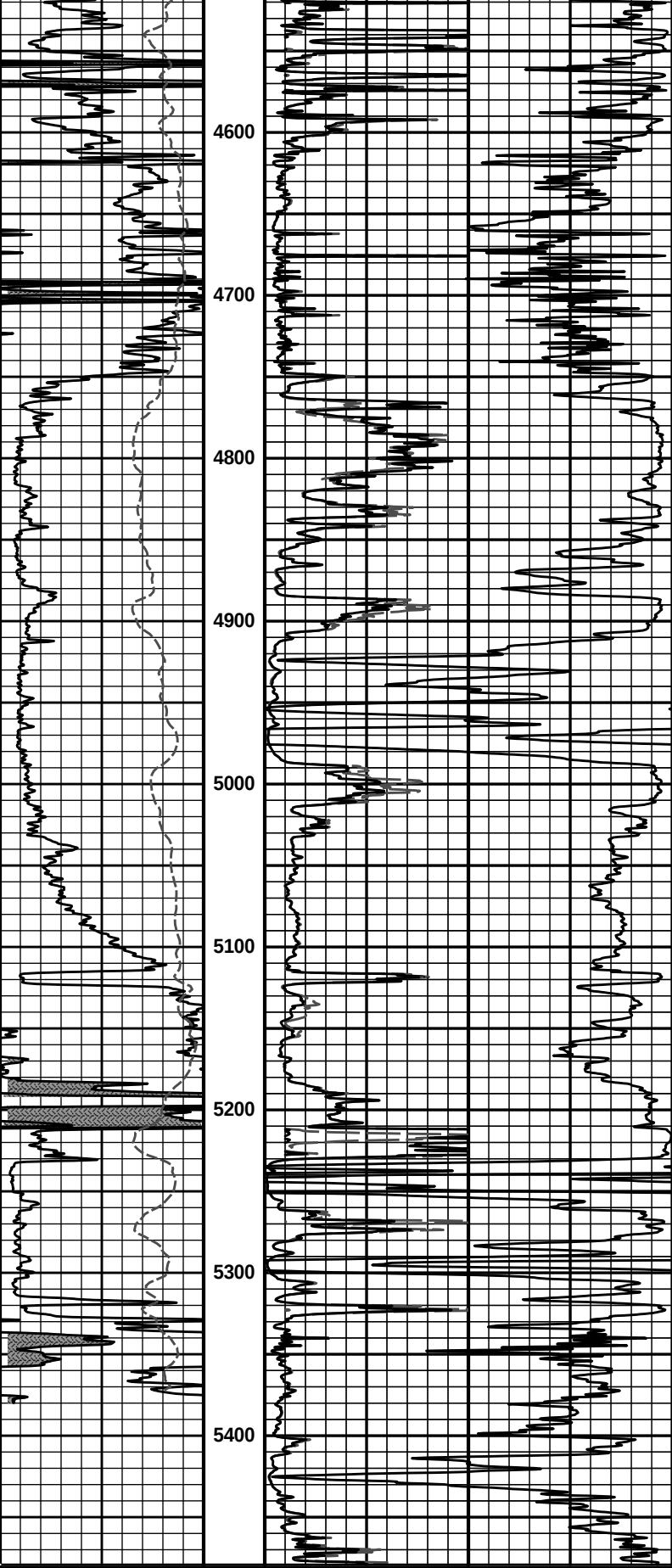
1 INCH MAIN LOG











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

minimo per metre

HALLIBURTON

Plot Time: 19-Dec-12 11:58:29
Plot Range: 480 ft to 5479.25 ft
Data: CROFT_FARMS3407\Well Based\CASING\
Plot File: \\LOCAL\CROFT_FARMS3407\0001 SP-GTET-CSNG-DSN-SDL-FLEX-IDT-ICT-WSTT-ACRT-BN...\ACRT_1.lib

1 INCH MAIN LOG