Schlumberger

Company: Lamont Doherty

Well: IODP Exp 305 Site U1309D
Field: Atlantis Massif
Rig: Joides Resolution Ocean: Atlantic Ocean

Rig: Joides Resolution
Field: Atlantis Massif
Location: Mid-Atlantic Ridge
Well: IODP Exp 305 Site U1309D
Company: Lamont Doherty

Hostile Litho-Density,
Accelerator Porosity
Gamma-Ray

LOCATION

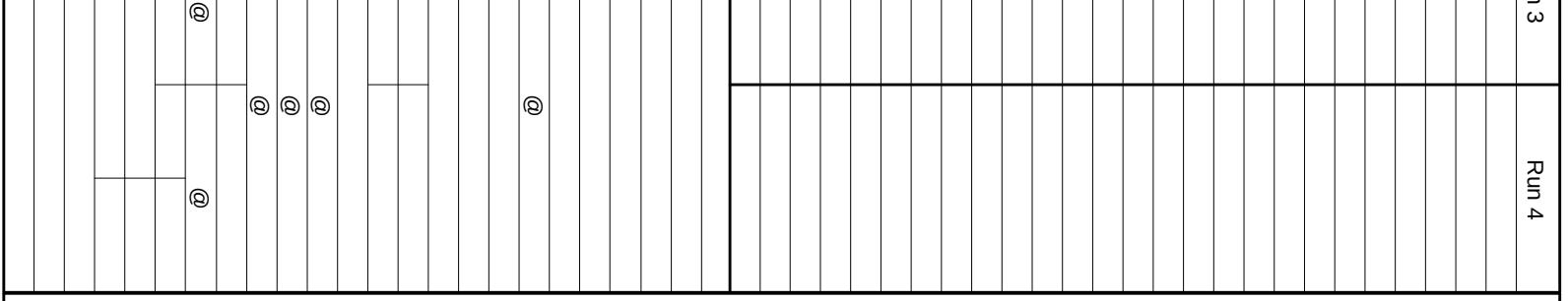
Mid-Atlantic Ridge

Elev.: K.B. 11.3 m
G.L. -1656 m
D.F. 11 m

Permanent Datum: Mean Sea Level Elev.: 0 m
Log Measured From: Drill Floor 11.3 m above Perm. Datum
Drilling Measured From: Drill Floor

API Serial No.	Max. Hole Devi.	Longitude	Latitude

	Run 1	Run 2	Run 3
Logging Date	24-Feb-2005		
Run Number	Three		
Depth Driller	3071.5 m		
Schlumberger Depth	3070 m		
Bottom Log Interval	3065 m		
Top Log Interval	1850 m		
Casing Driller Size @ Depth	0.000 in @ 1850 m	@	@
Casing Schlumberger	1850 m		
Bit Size	9.875 in		
Type Fluid In Hole	Fresh Water		
MUD Density / Viscosity	1.2 g/cm3		
MUD Fluid Loss / PH			
MUD Source Of Sample			
RM @ Measured Temperature	0.322 ohm.m @ 50 degC	@	@
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF / RMC			
RM @ MRT / RMF @ MRT	0.190 @ 118 / @ 118	@ / @	@ / @
Maximum Recorded Temperatures	100 degC 118		
Circulation Stopped / Time	23-Feb-2005 / 15:00		
Logger On Bottom / Time	24-Feb-2005 / 3:47		
Unit Number / Location	2082 / Houston		
Recorded By	Javier Espinosa		
Witnessed By	Heike Delius, Margarete Linek		



DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: DLT	OS1:
OS2: HNGS	OS2:
OS3: MEST/DSI	OS3:
OS4: UBI	OS4:
OS5: WST	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Tool ran as per sketch below	
Parameters as per IODP standards	
Fresh water circulated before logging operation	

RUN 1

SERVICE ORDER #:
PROGRAM VERSION: 12C0-301
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

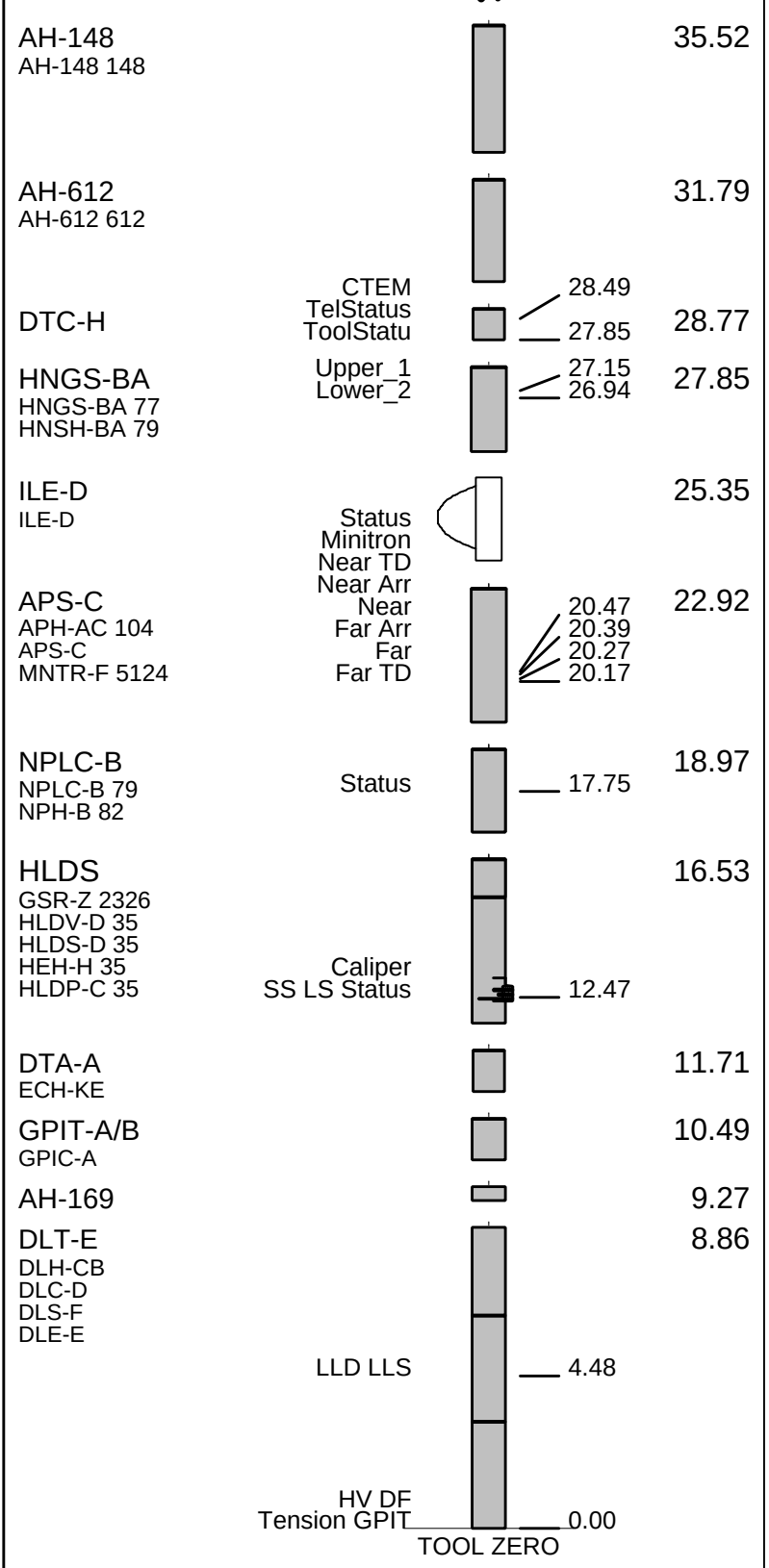
RUN 1

SURFACE EQUIPMENT

LCM-AA
SFT-281 6250
SFT-178 6250
GSR-U 135
WITM (DTS)-A

DOWNHOLE EQUIPMENT

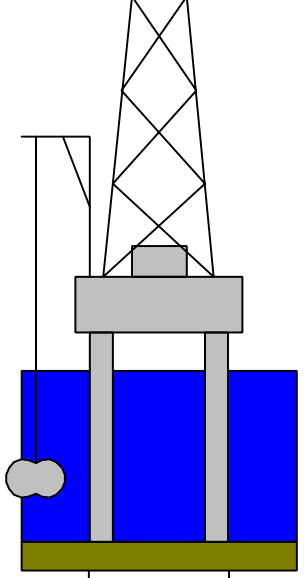
RUN 2



MAXIMUM STRING DIAMETER 3.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String

Kelly Bushing Elevation	11.3				
Derrick Floor Elevation	11.0				
Mean Sea Level	0.0				
Seismic Gun depth below MSL	2.0				
			0.0	5.000	Casing String
			1656.0	9.875	Borehole Segment
			1850.0	5.000	Casing Shoe



Schlumberger

MAIN PASS

MAXIS Field Log

Output DLIS Files

DEFAULT	DLL_LDL_APS_NGS_020LUP	FN:22	PRODUCER	24-Feb-2005 04:05	3072.4 M	1811.7 M
REDUCED	DLL_LDL_APS_NGS_020LUP	FN:23	PRODUCER	24-Feb-2005 04:05	3072.4 M	1811.7 M

OP System Version: 12C0-301

MCM

DLT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time

LLOO	OFF		BOTH		3071.3	04:06:34
	BOTH		OFF		3069.7	04:06:55
	OFF		BOTH		3053.5	04:10:26
	BOTH		OFF		3052.0	04:10:47
	OFF		BOTH		1913.1	08:18:57
	BOTH		OFF		1911.3	08:19:37
	OFF		BOTH		1858.6	08:31:27
TDL	3070.00	M	-50000.00	M	2932.0	04:37:14

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 15

HLDS Long Spaced Photoelectric Effect (PEFL)
0 (----) 10

HLDS Bulk Density Correction (DRH)
-0.25 (G/C3) 0.25

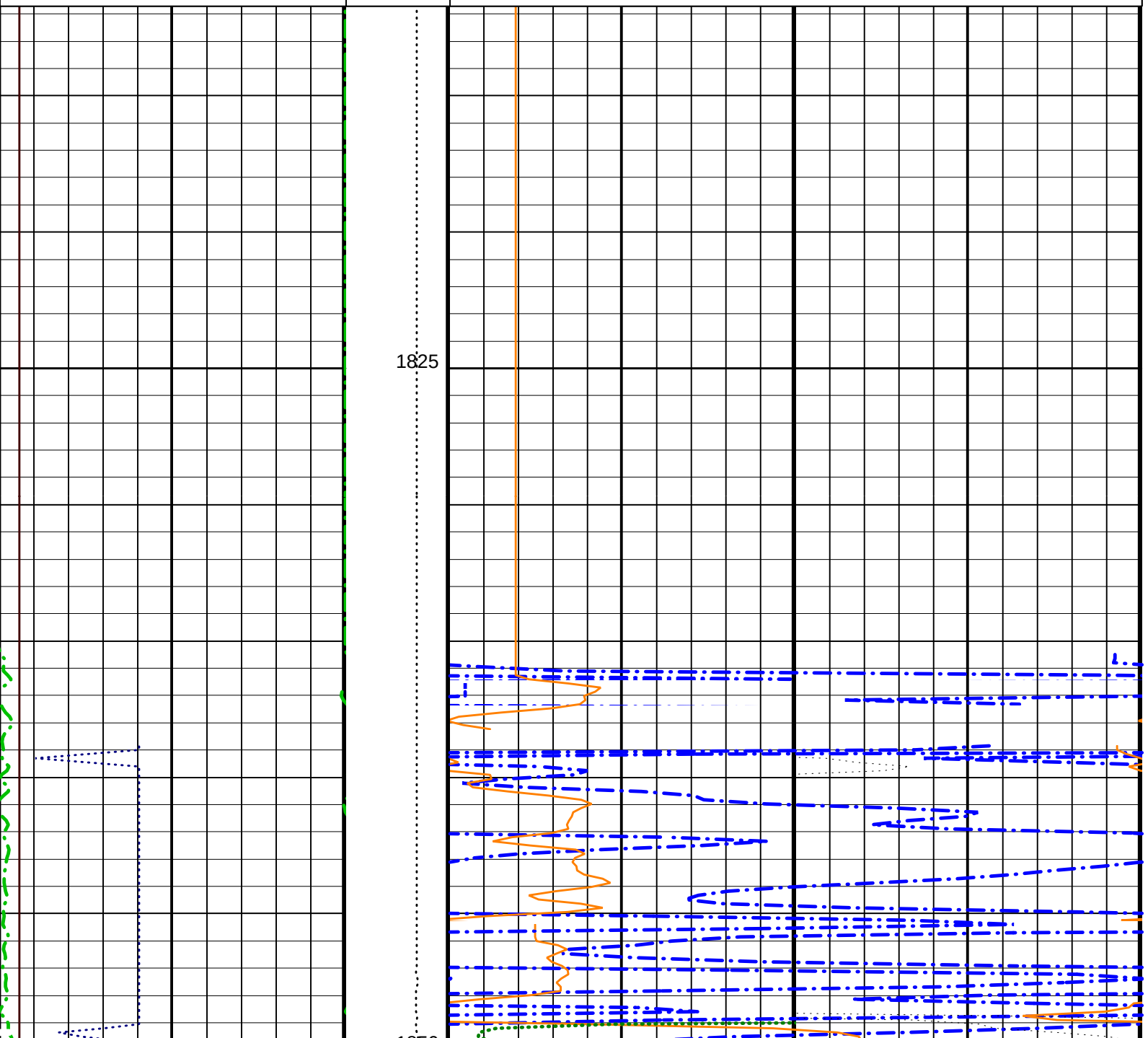
APS Effective Standoff in Limestone (STOF)
0 (IN) 5

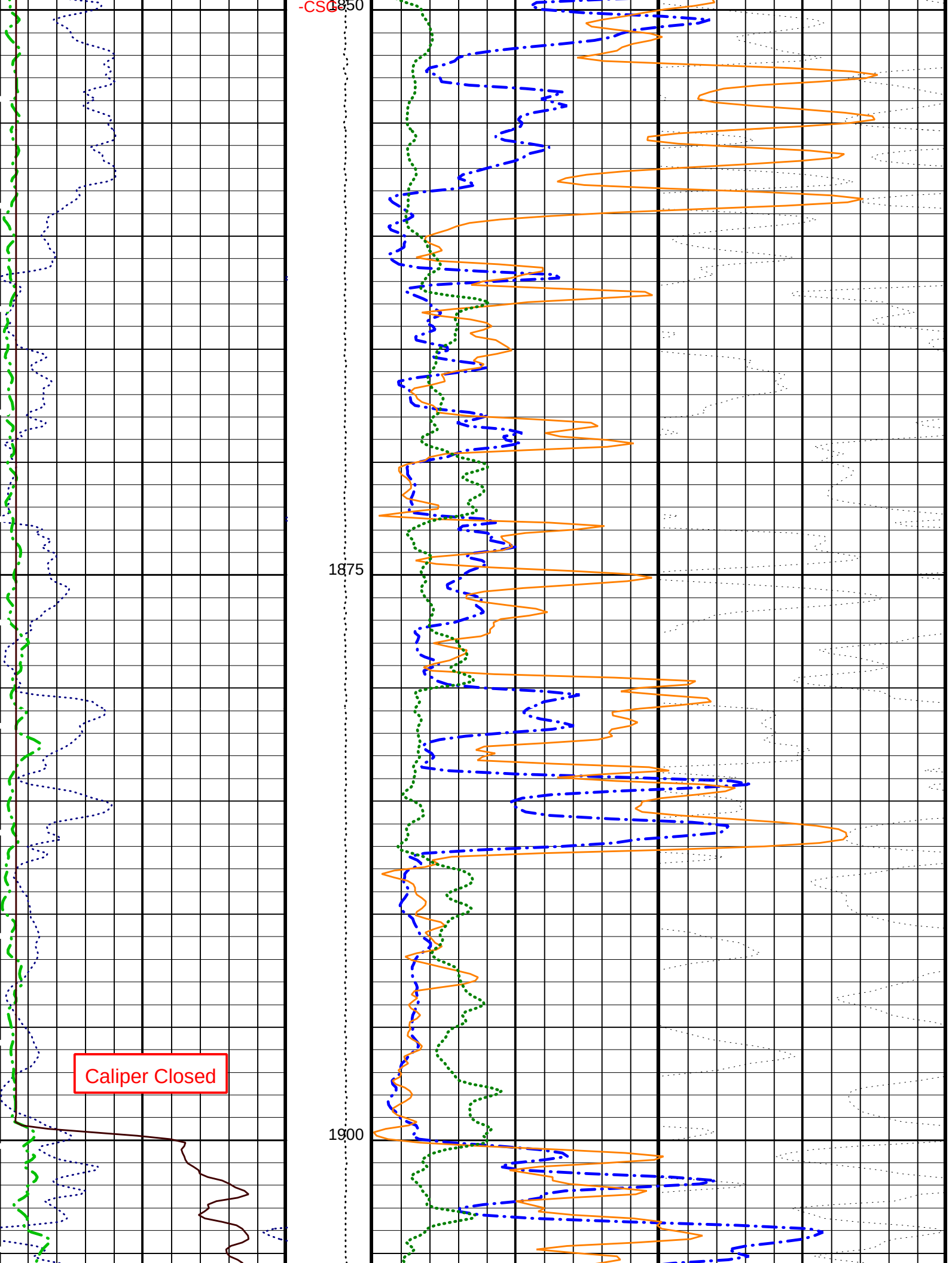
HLDS Bulk Density (RHOM)
3 (G/C3) 1

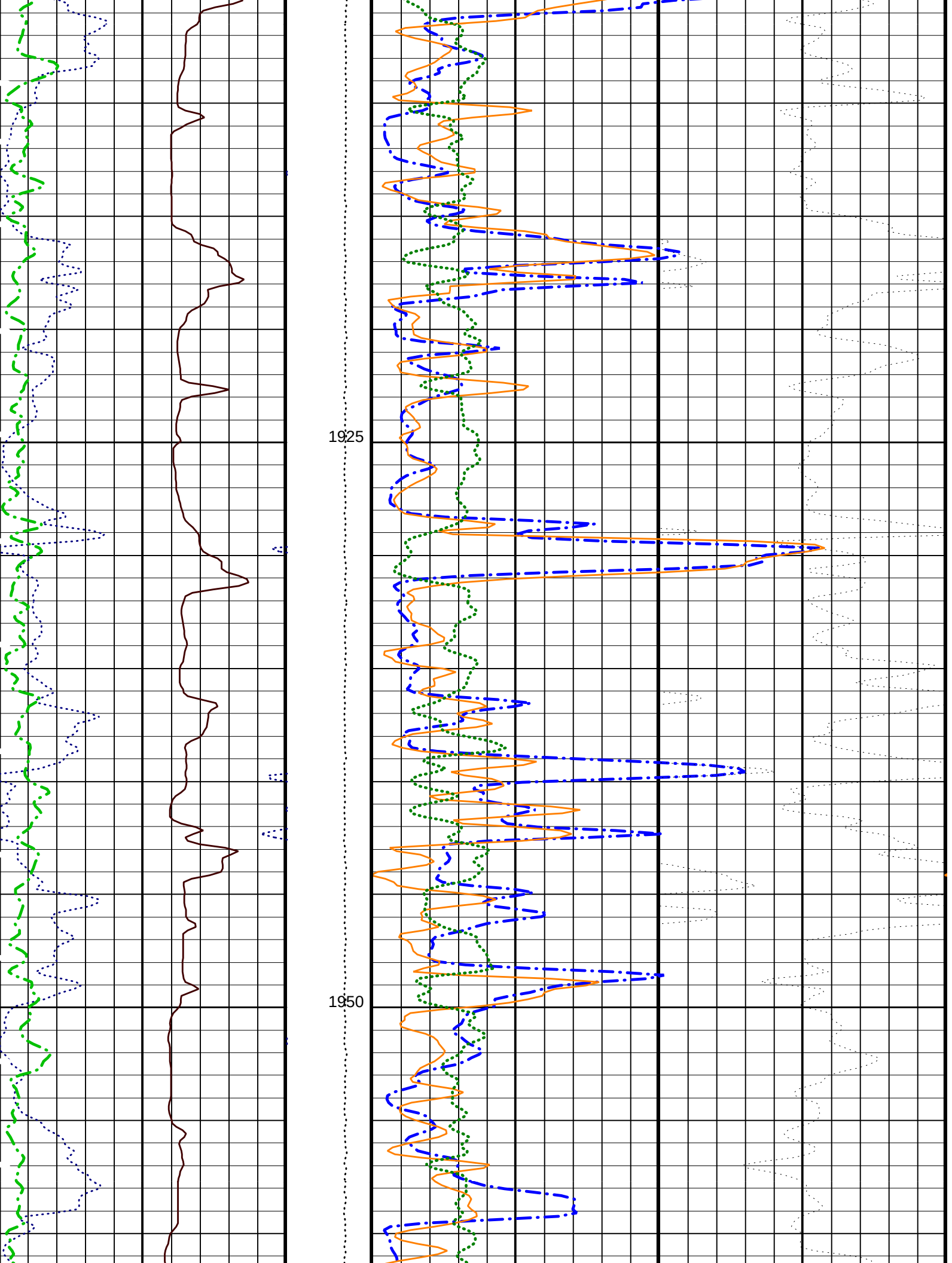
HLDS Caliper (LCAL)
0 (IN) 20

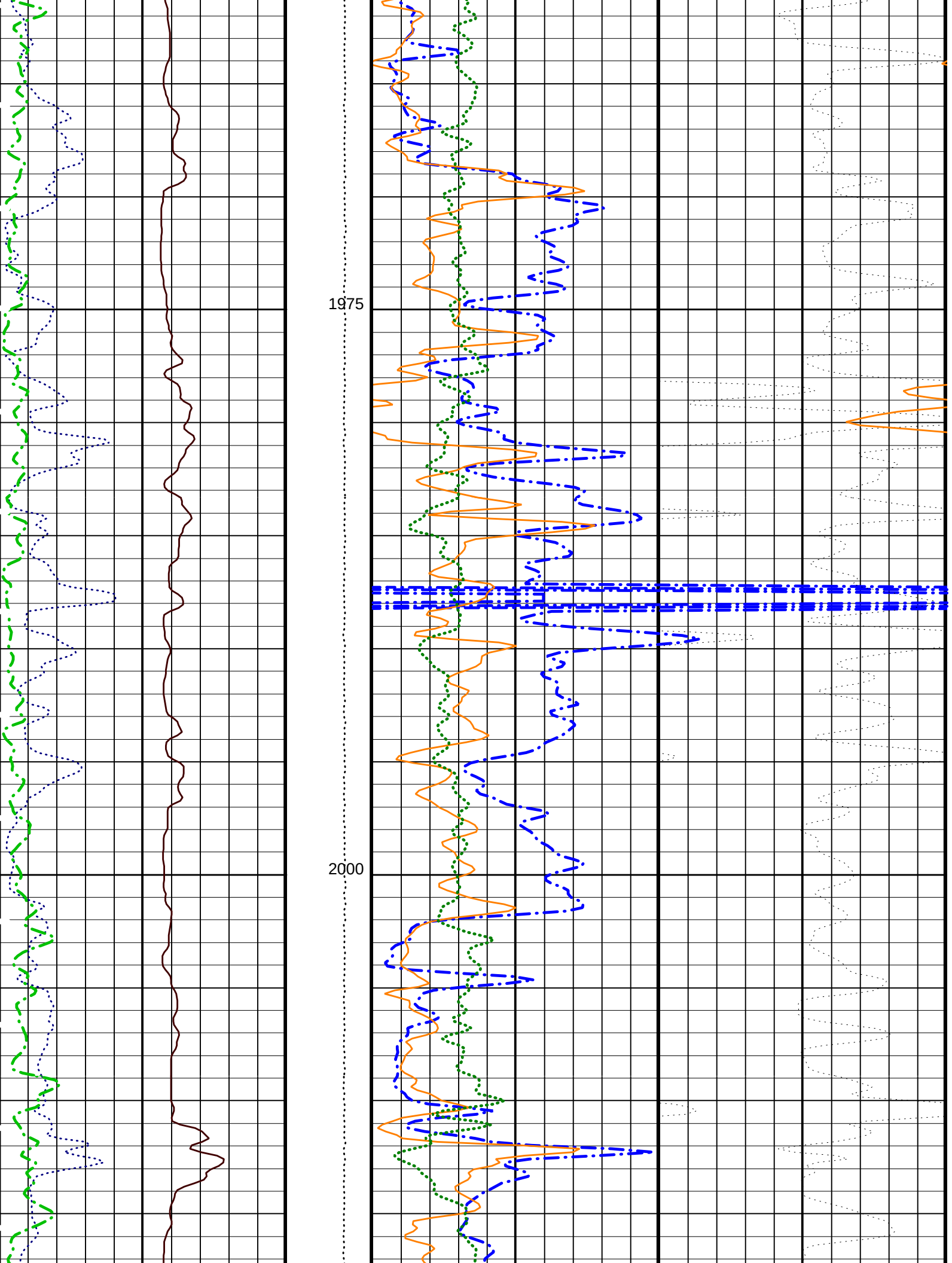
Tension (TENS) (LBF)
10000 0

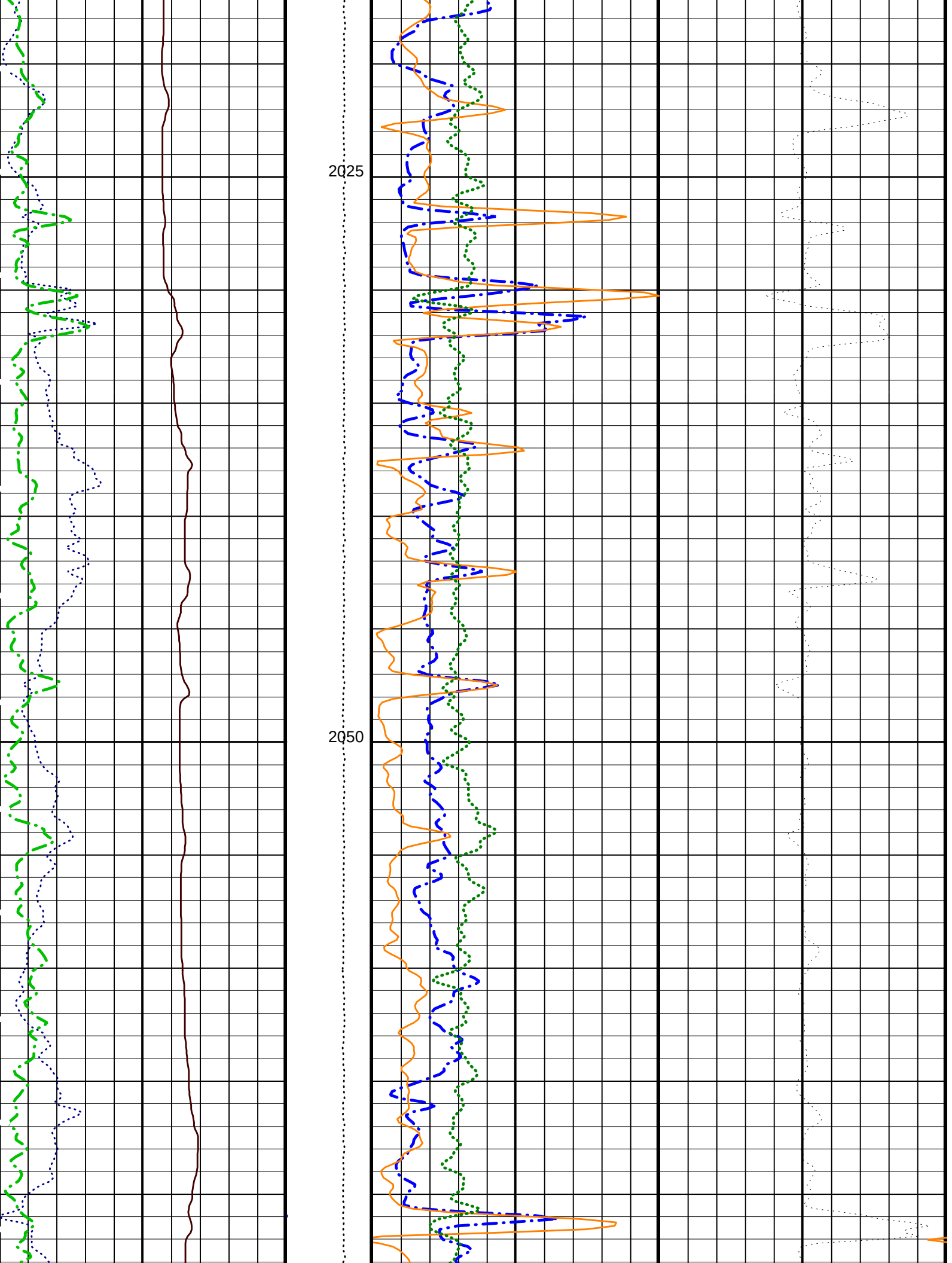
APS Near/Array Corrected Limestone Porosity (APLC)
0 (PU) 100

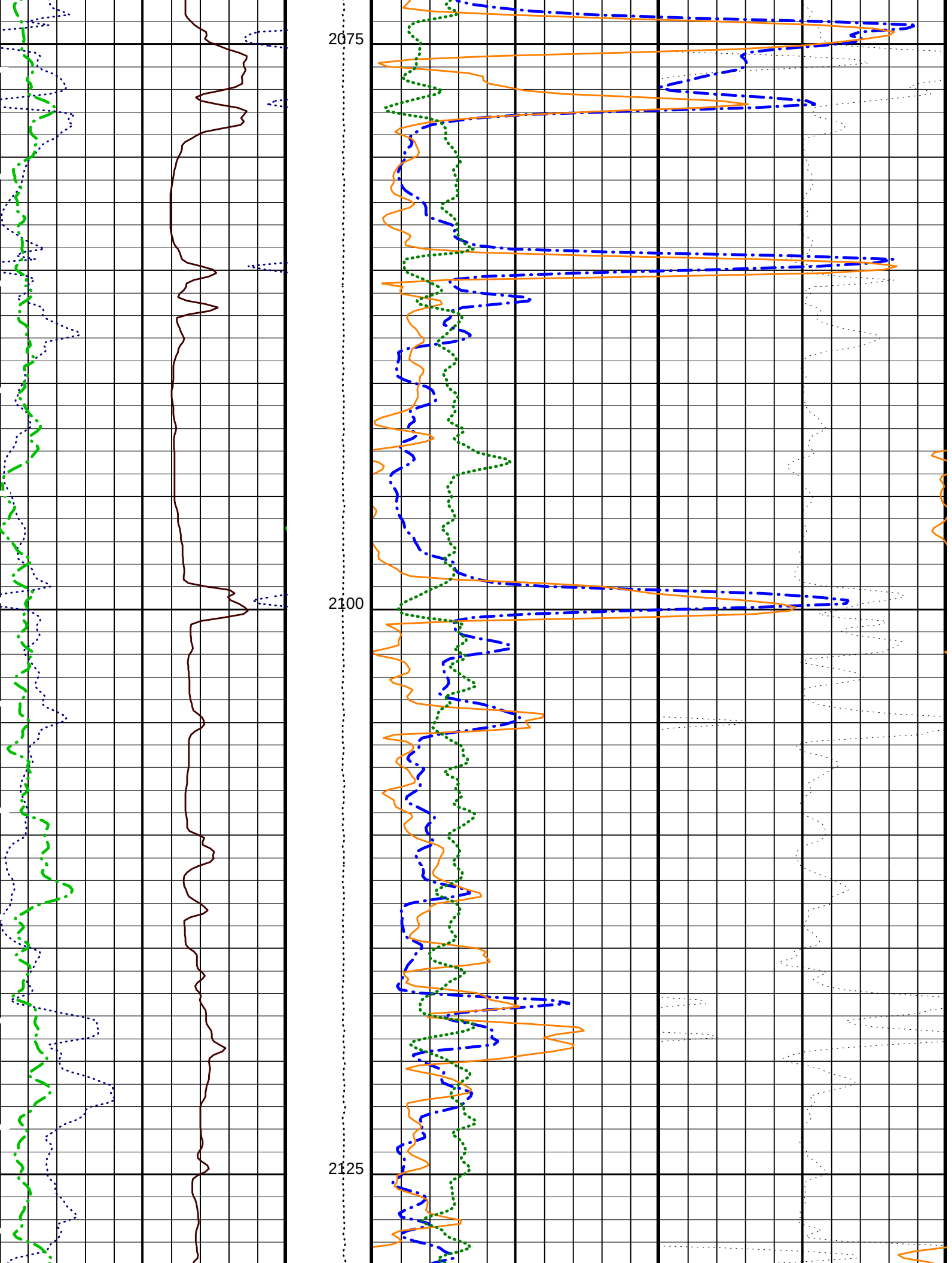


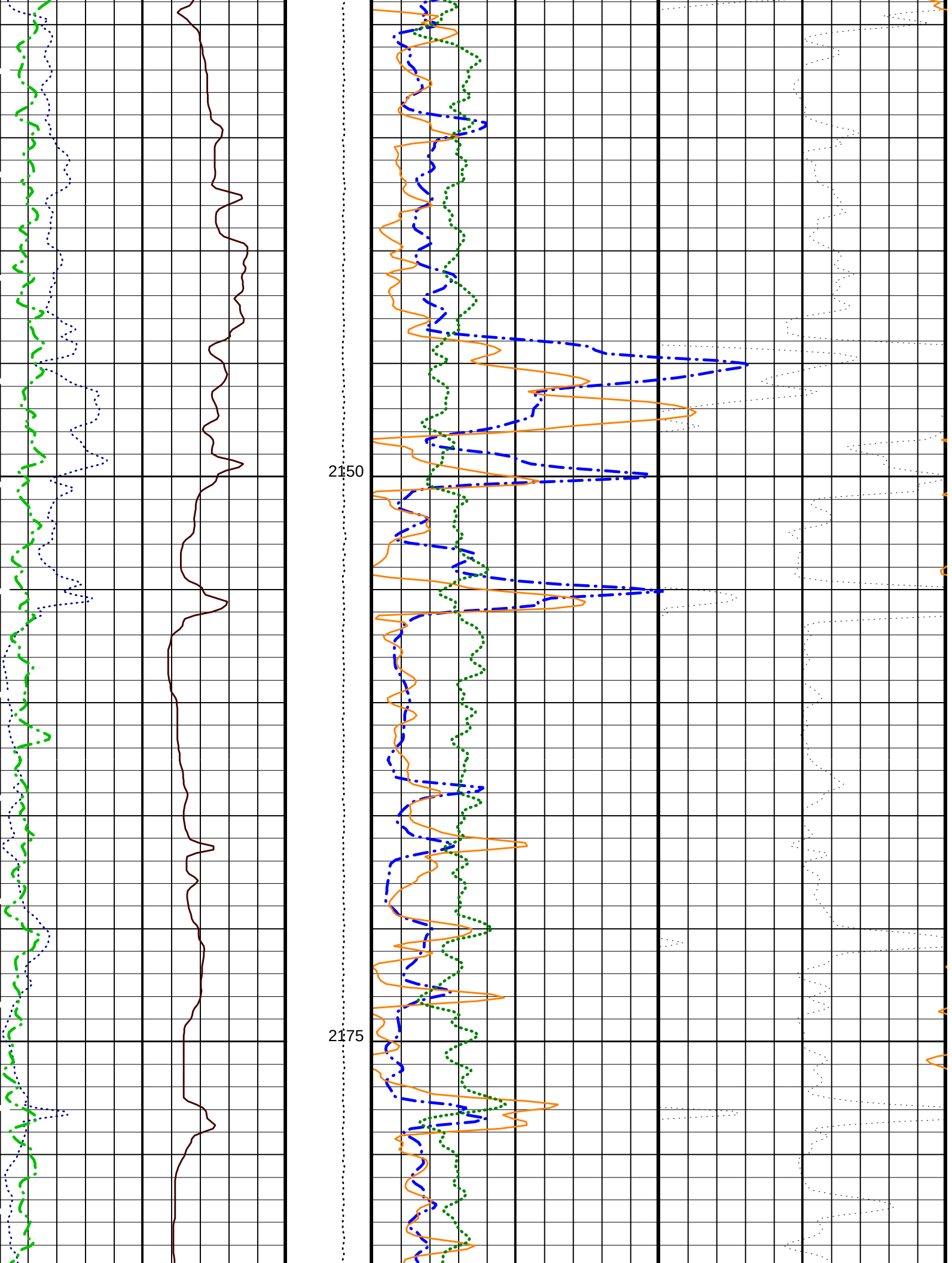

-CSG
1850
1875
1900
Caliper Closed

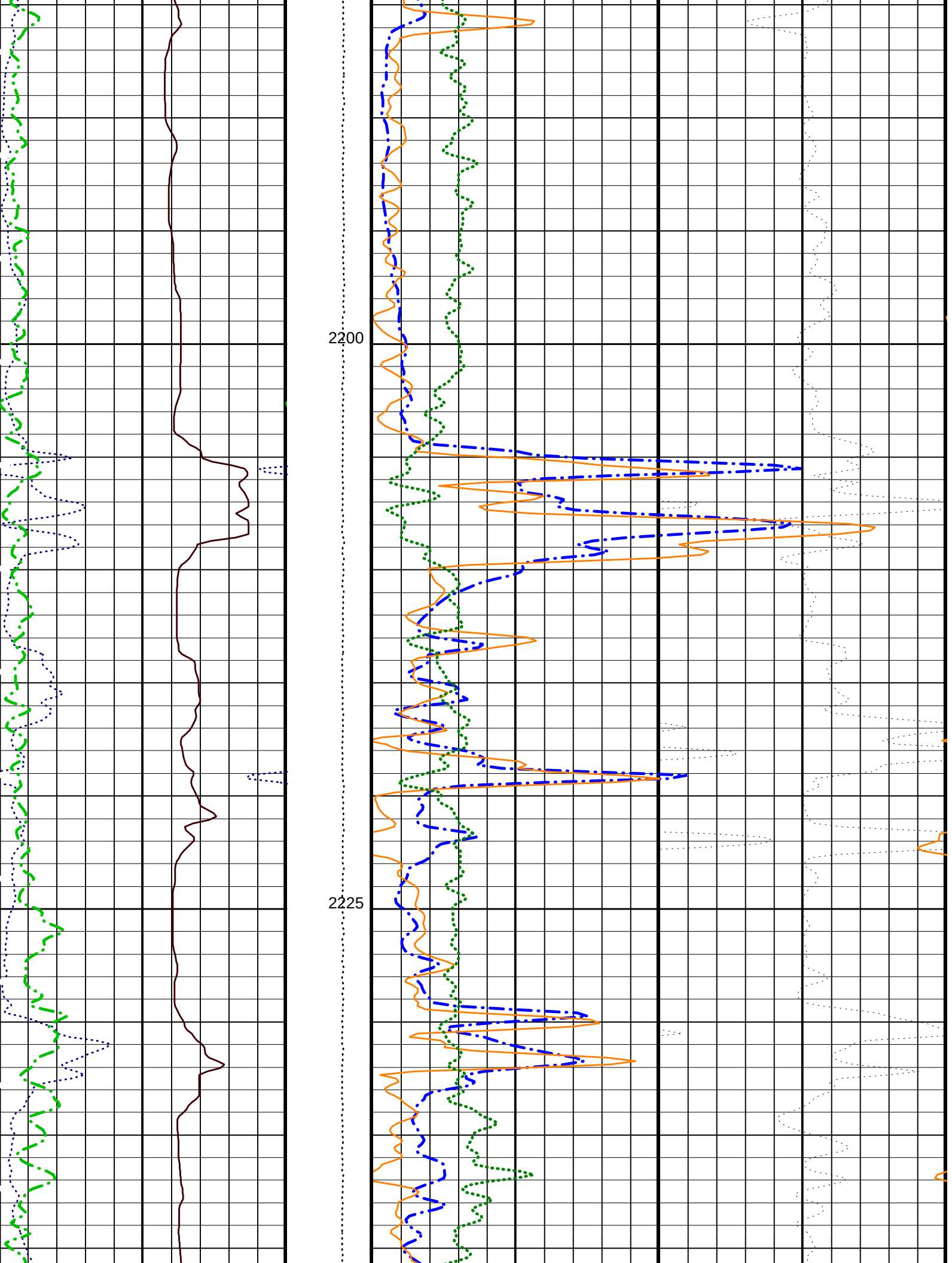

1925
1950

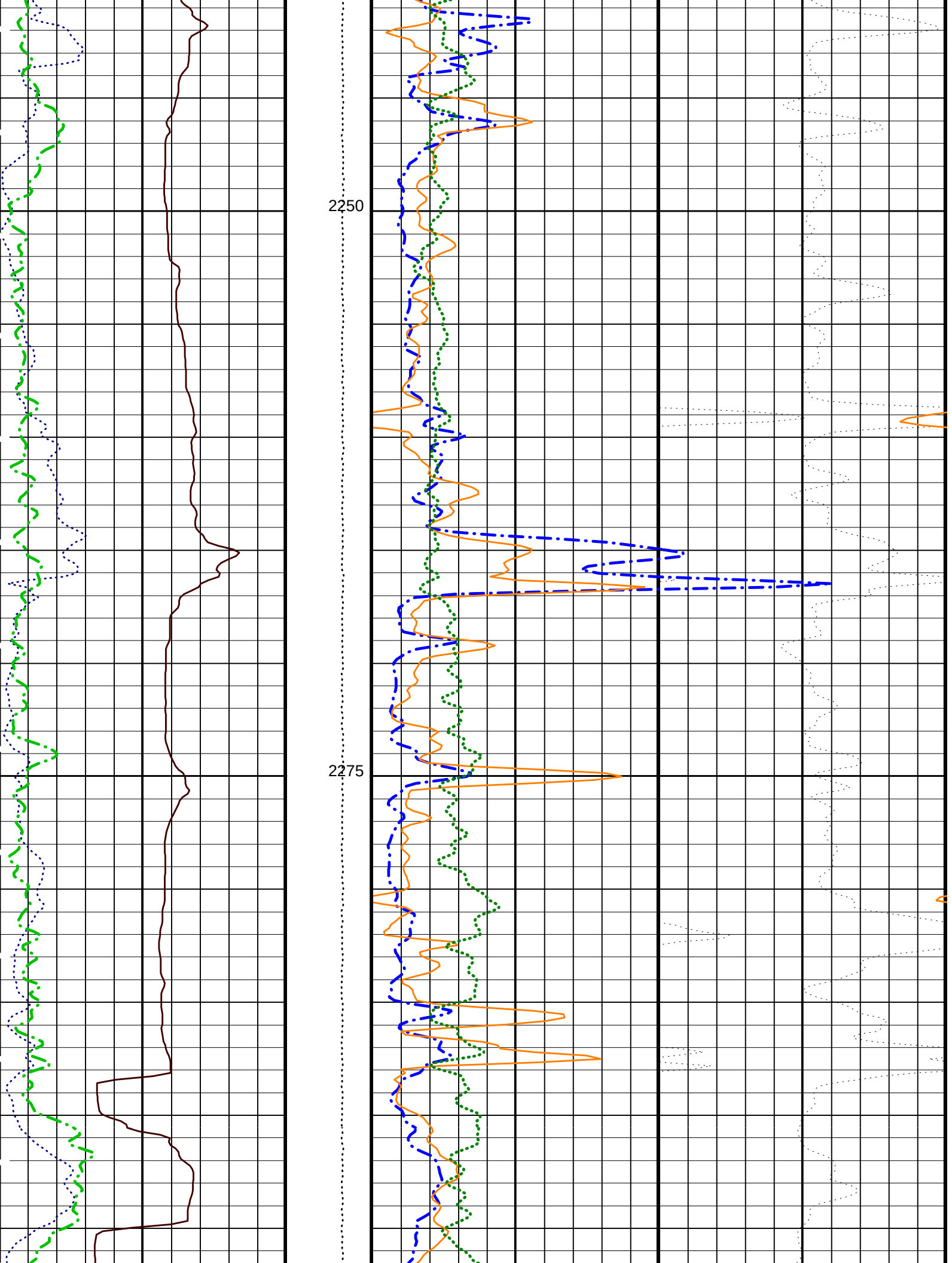

1975
2000

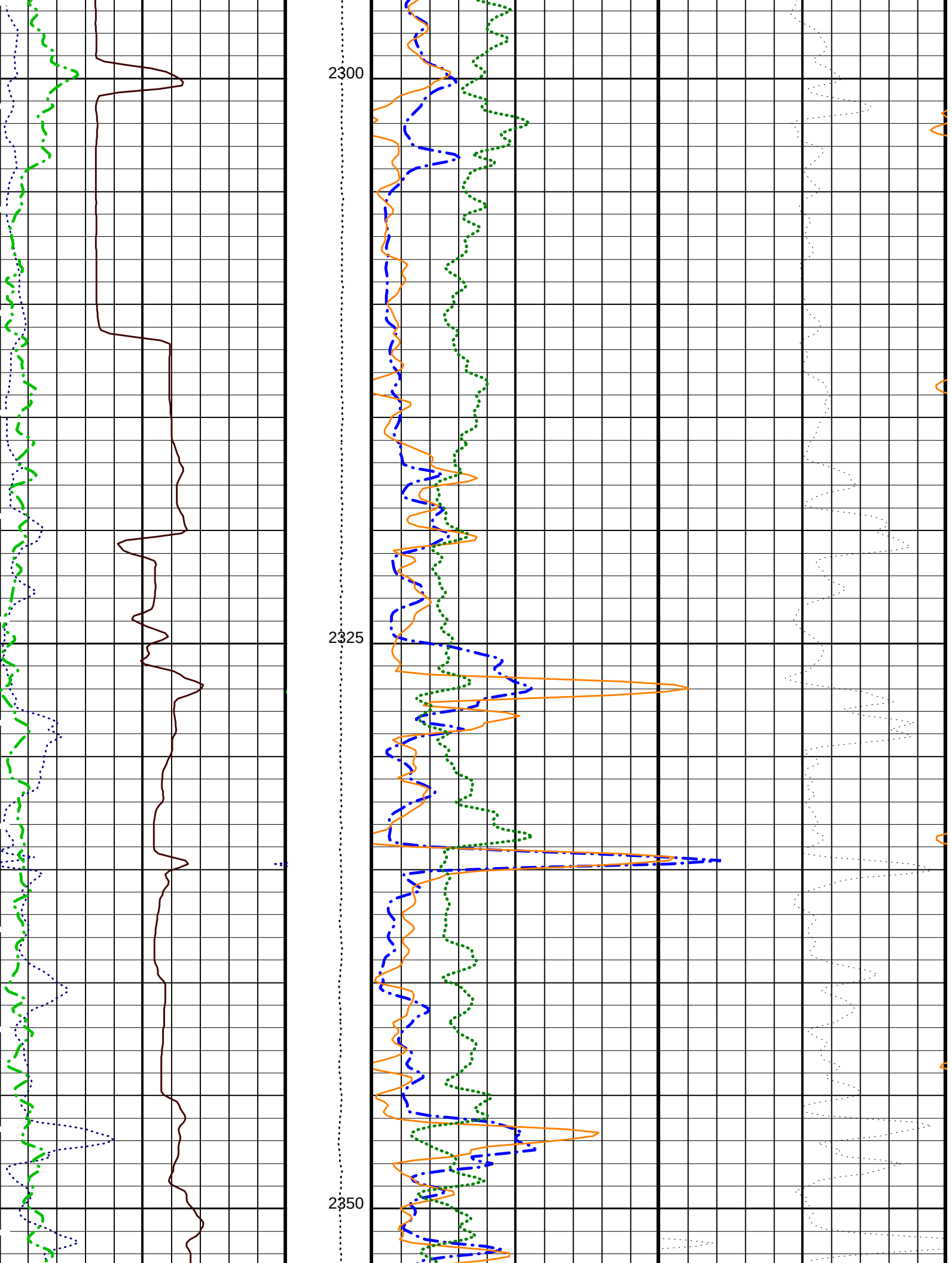

2025
2050

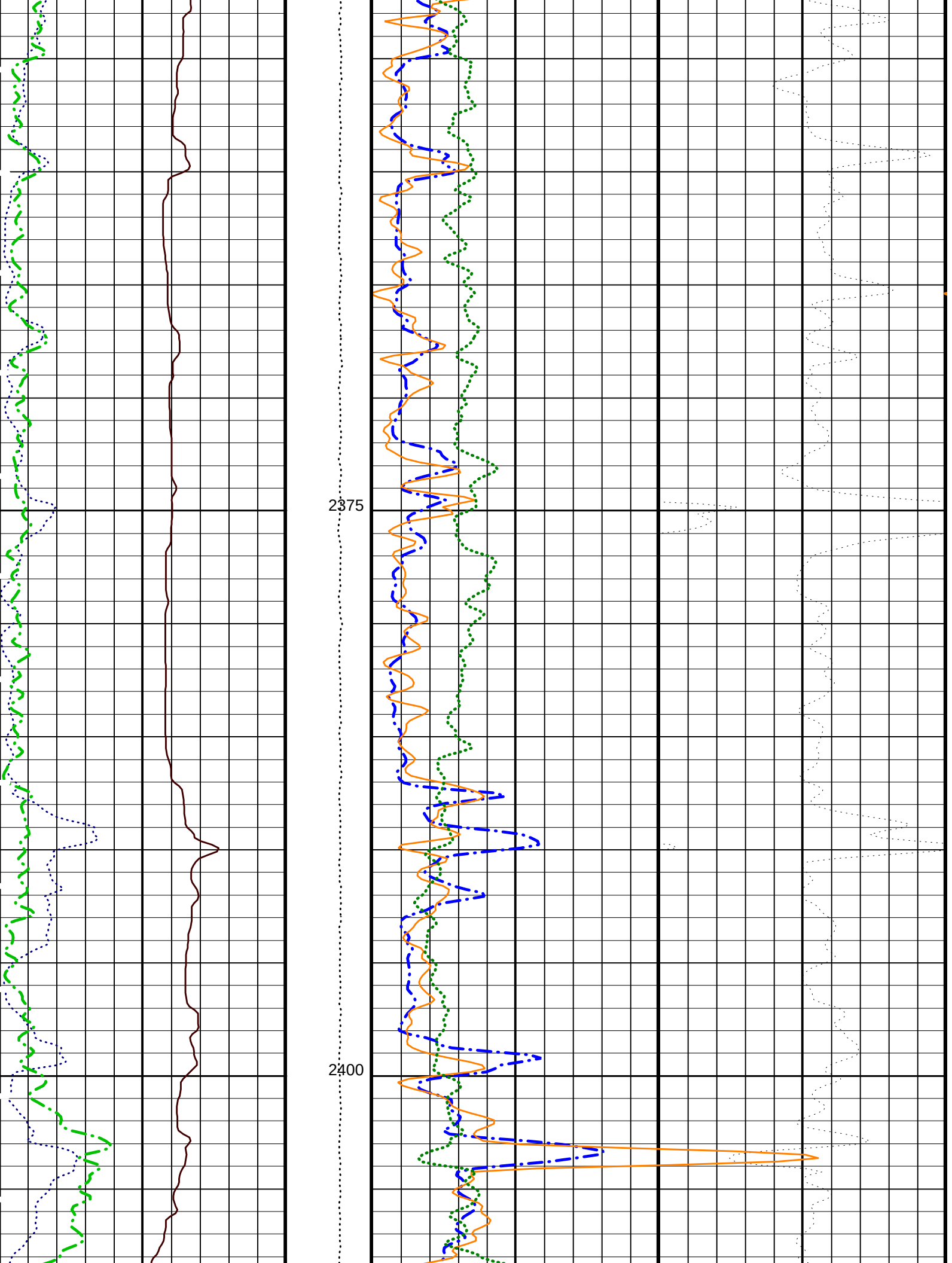

2075
2100
2125

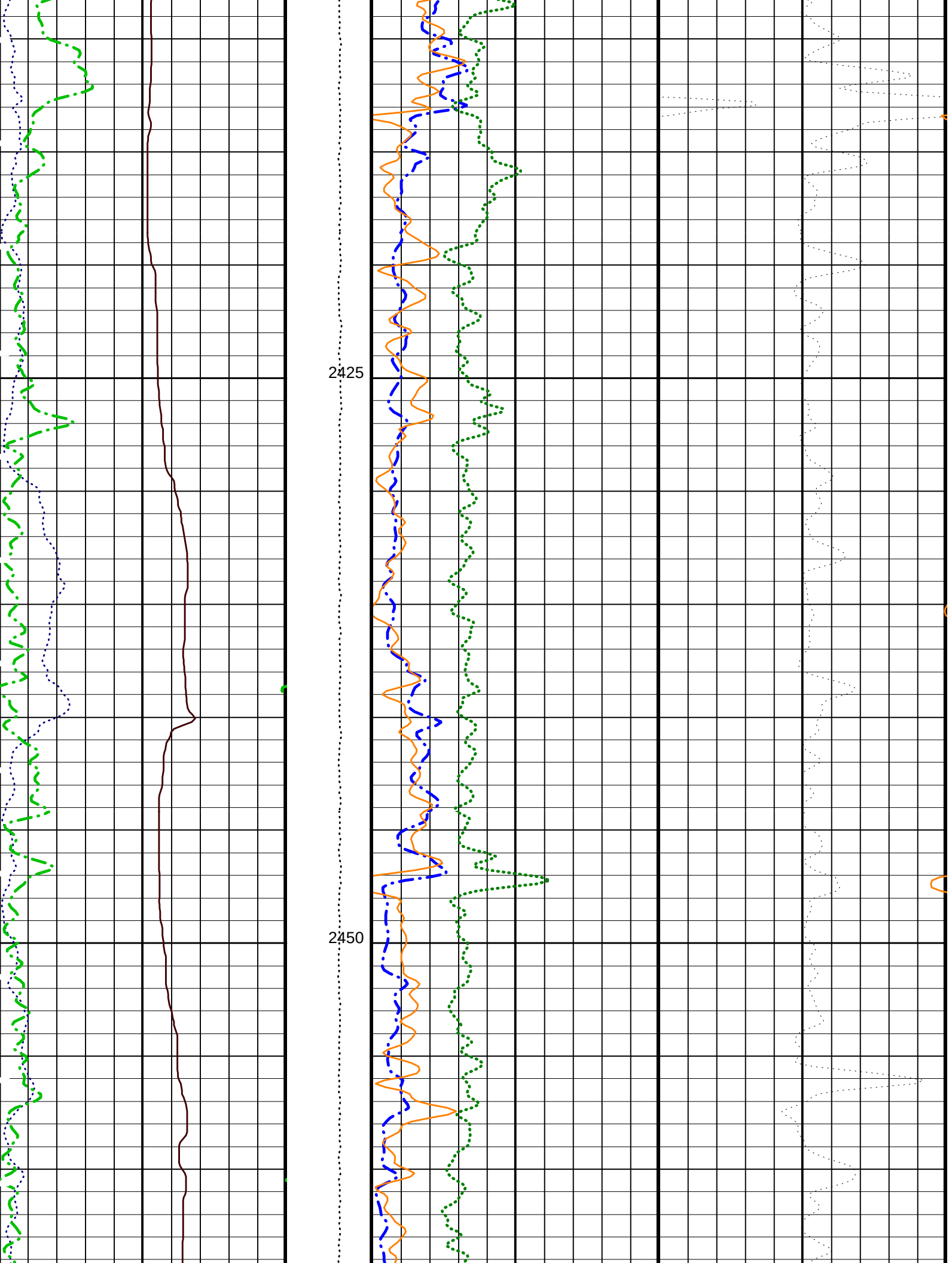

2150
2175

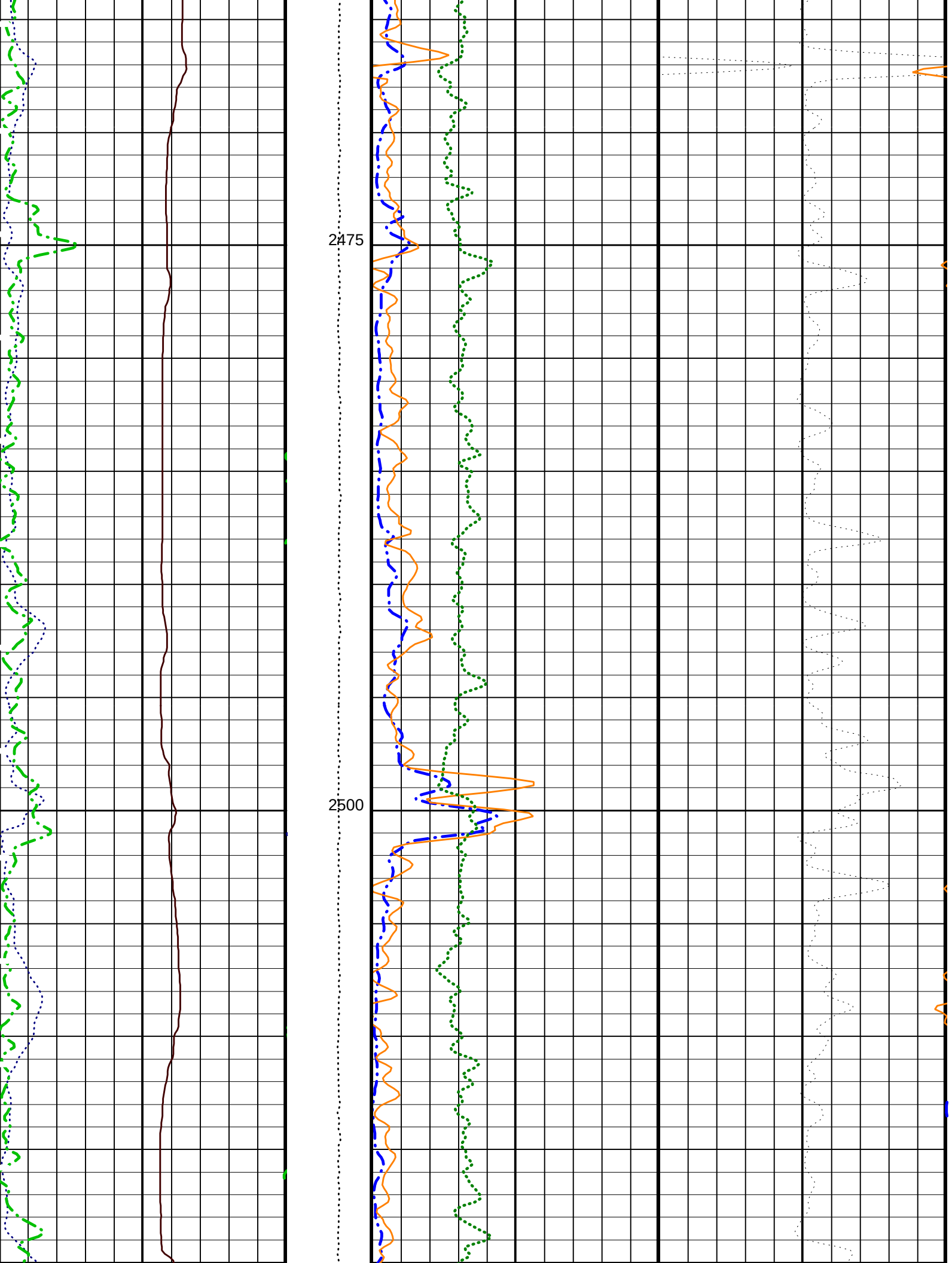

2200
2225

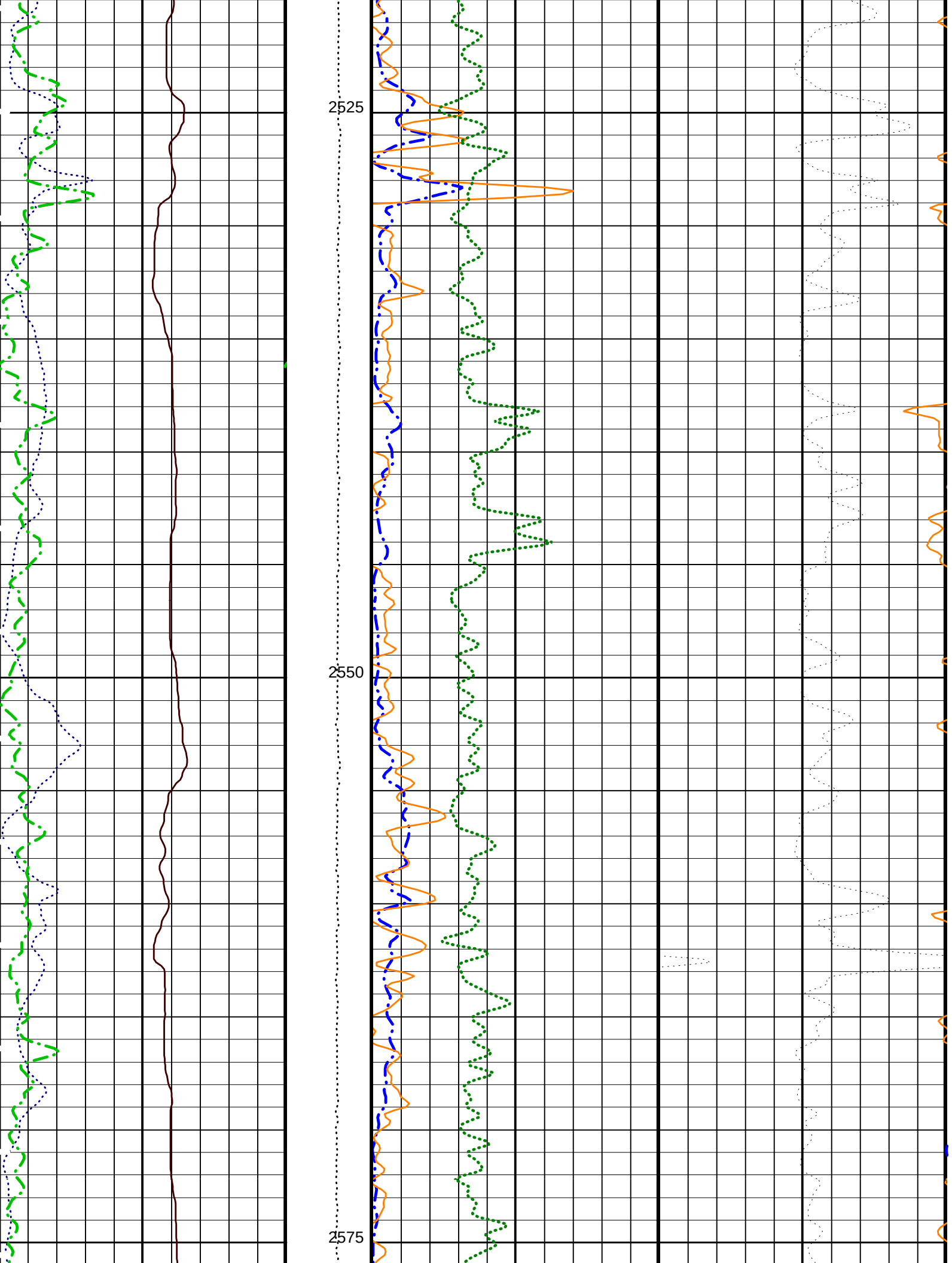

2250
2275

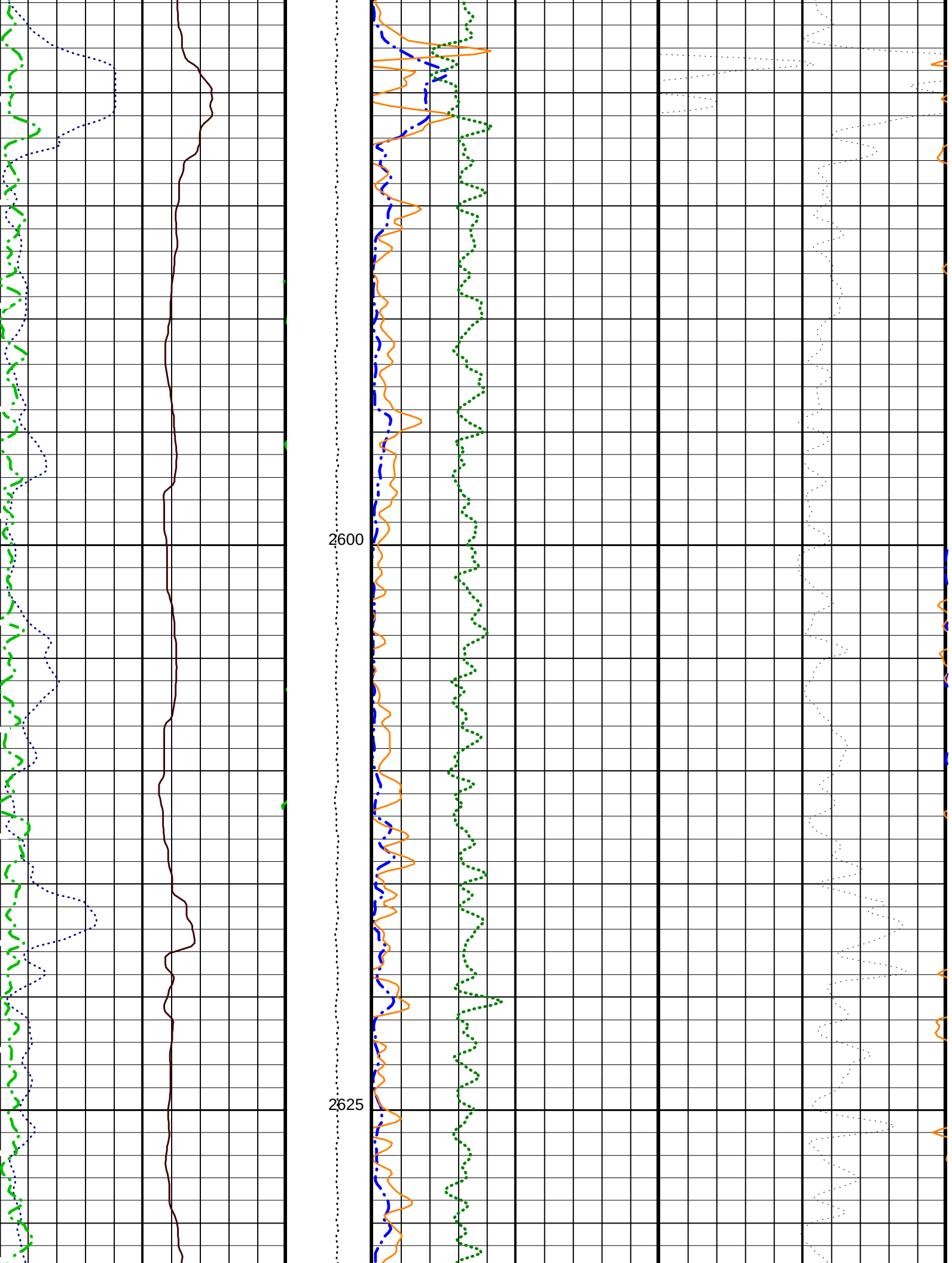

2300
2325
2350

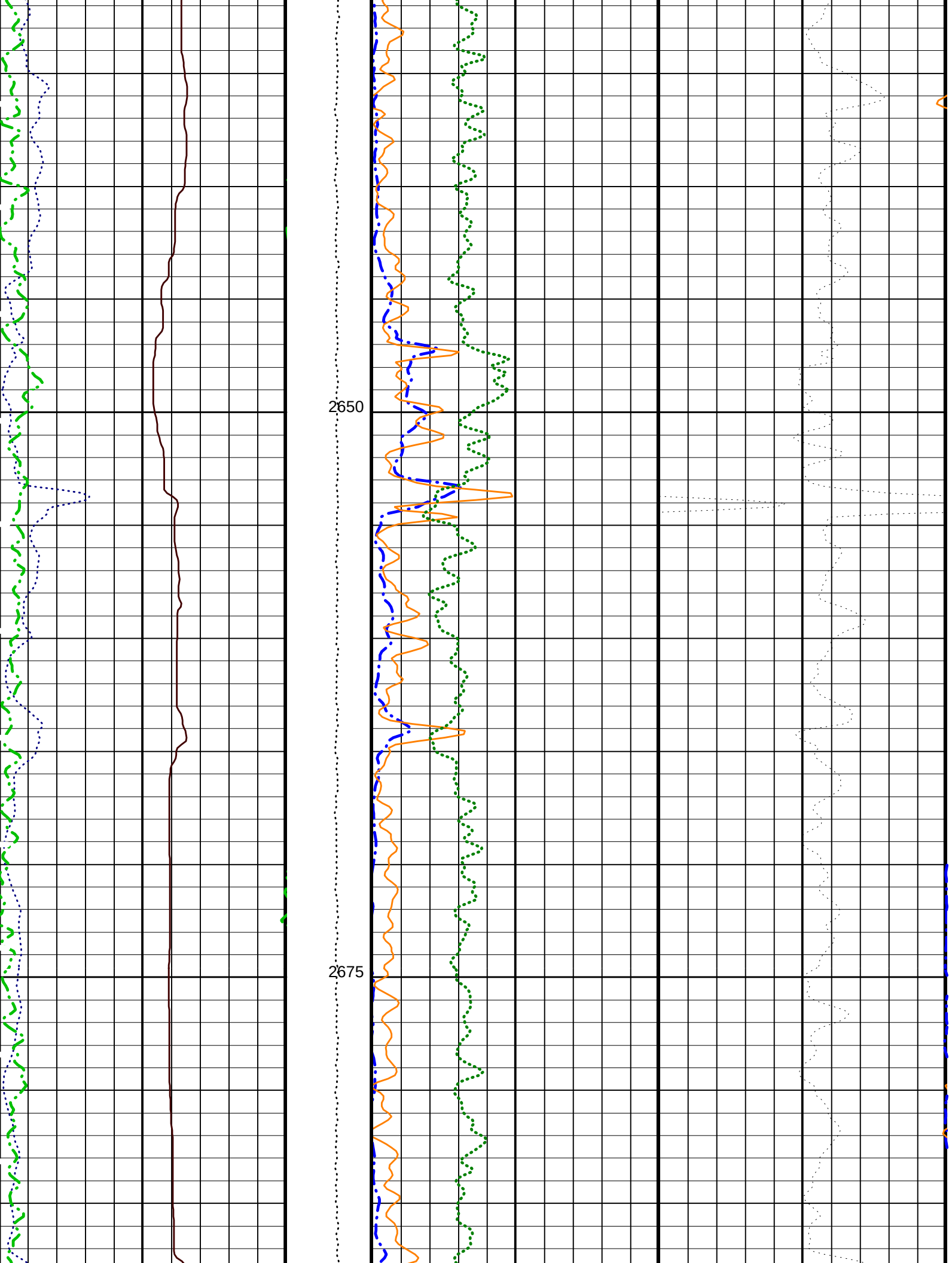

2375
2400

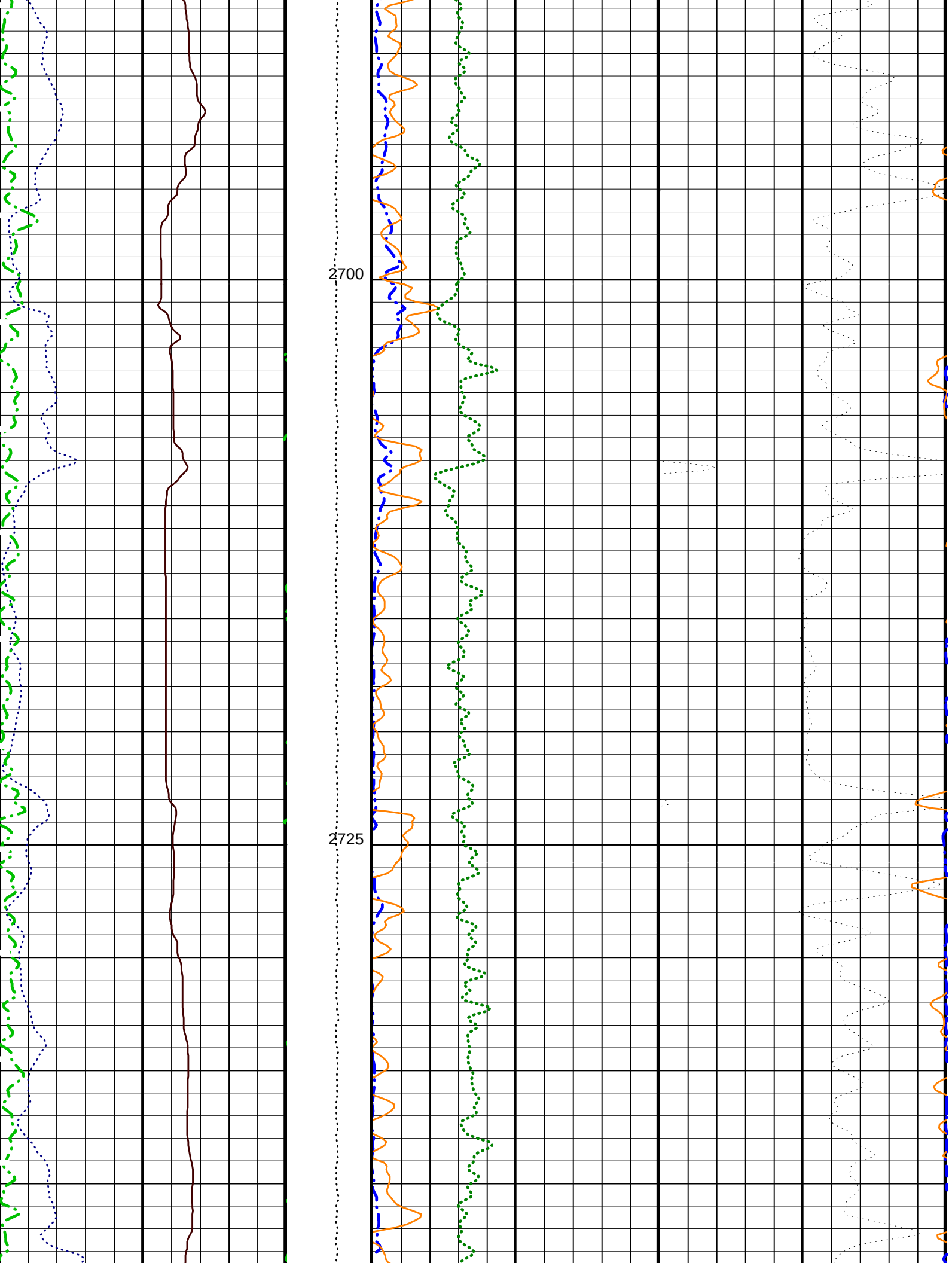

2425
2450

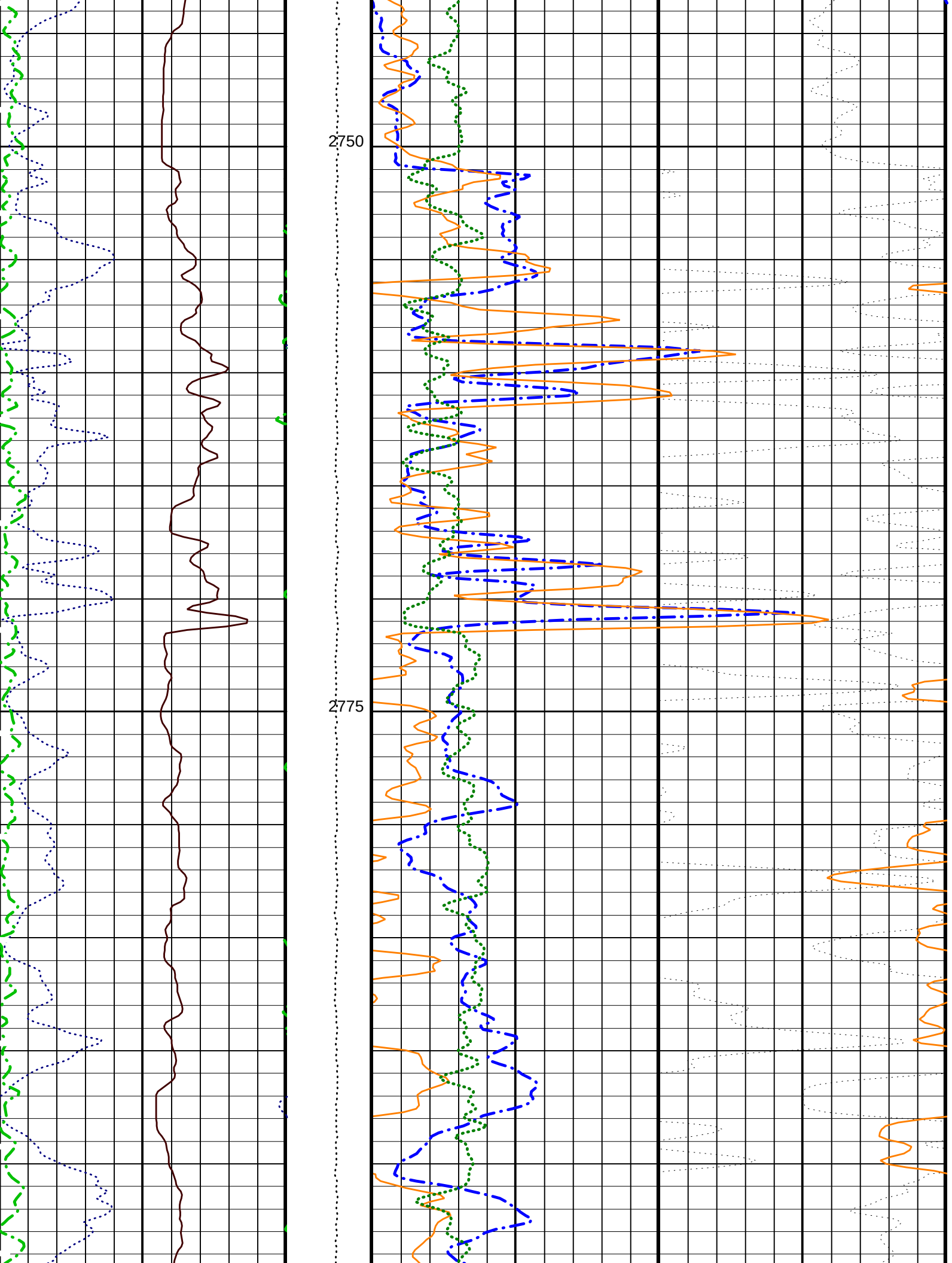

2475
2500

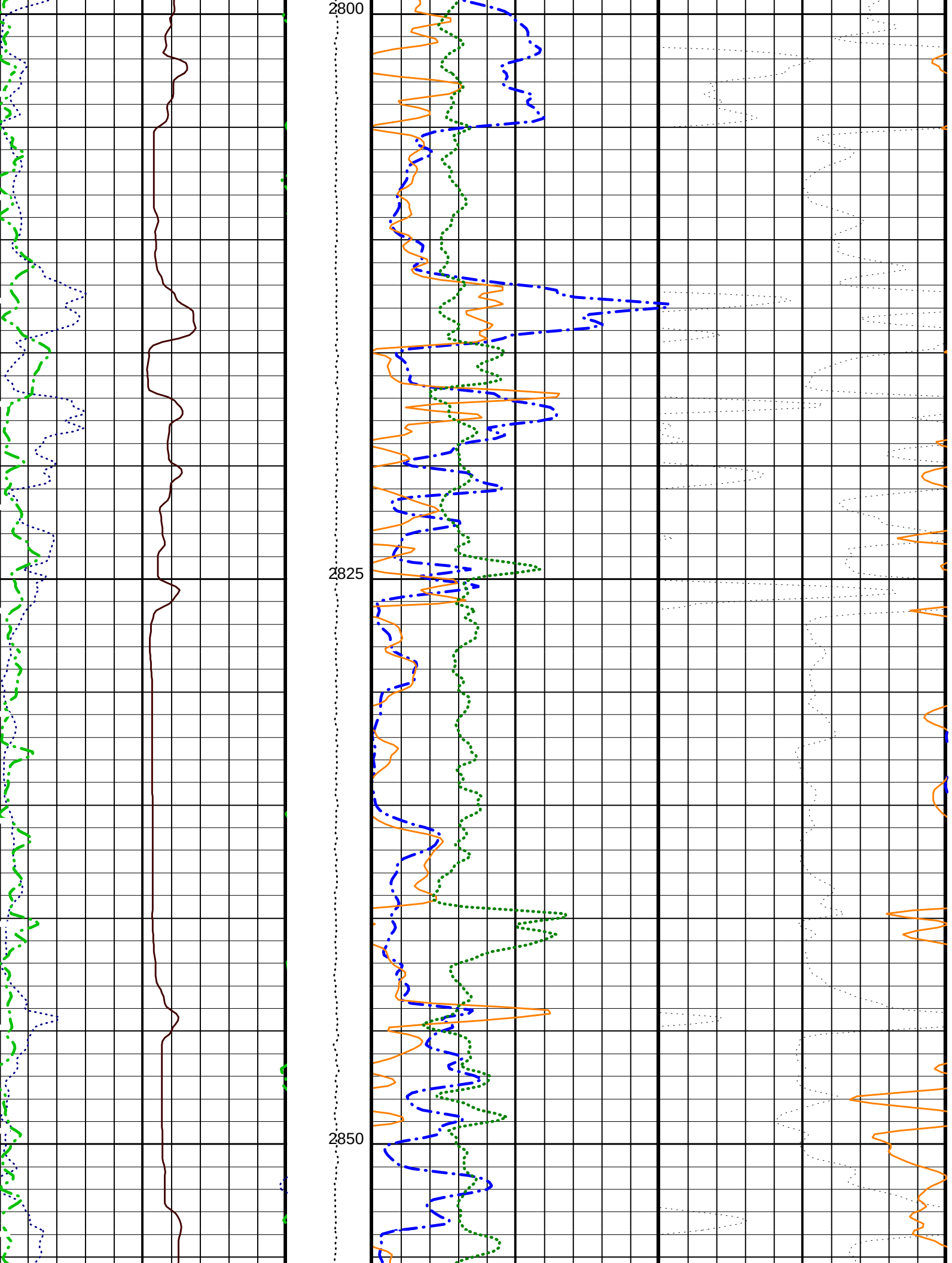

2525
2550
2575

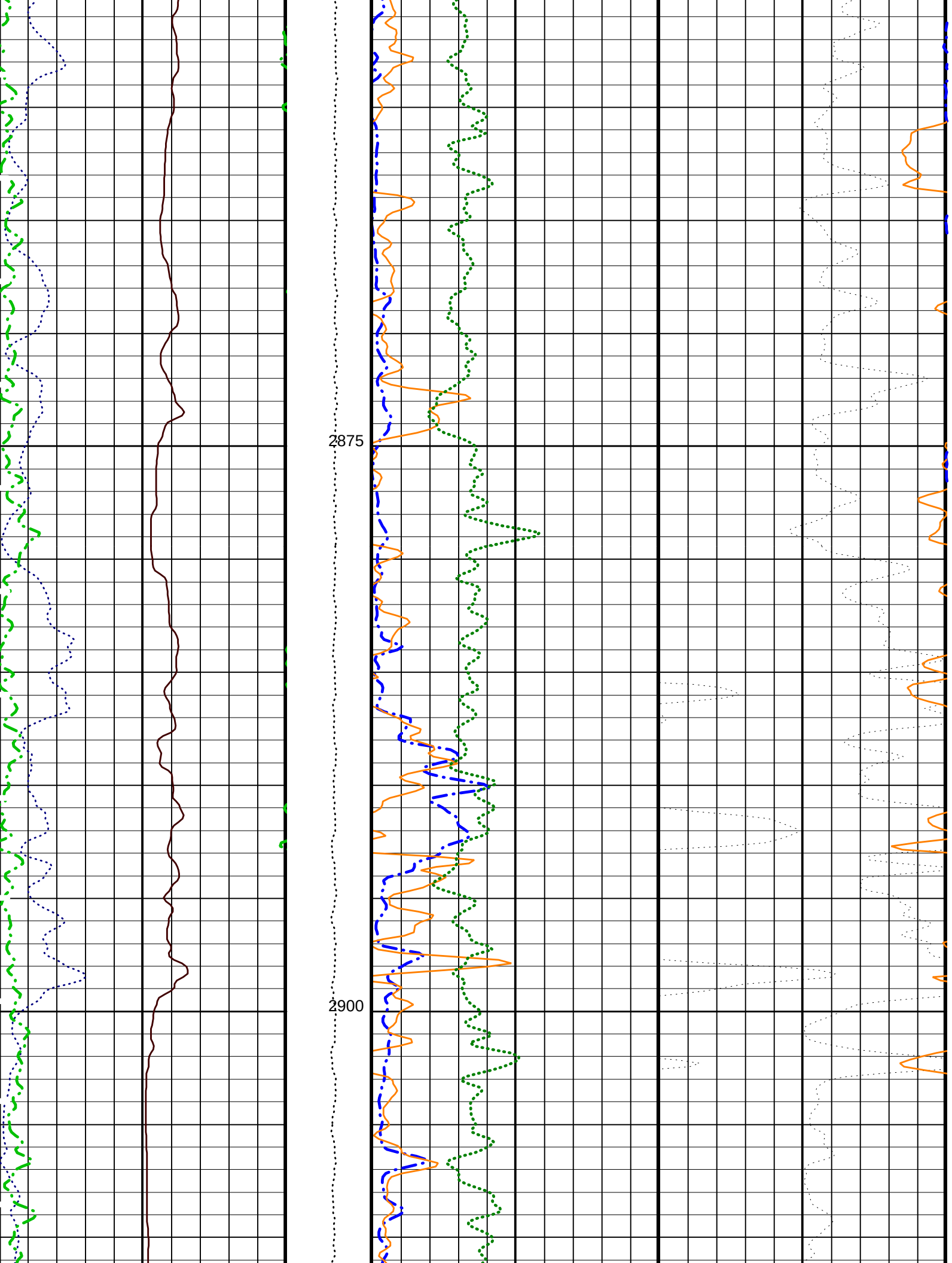

2600
2625

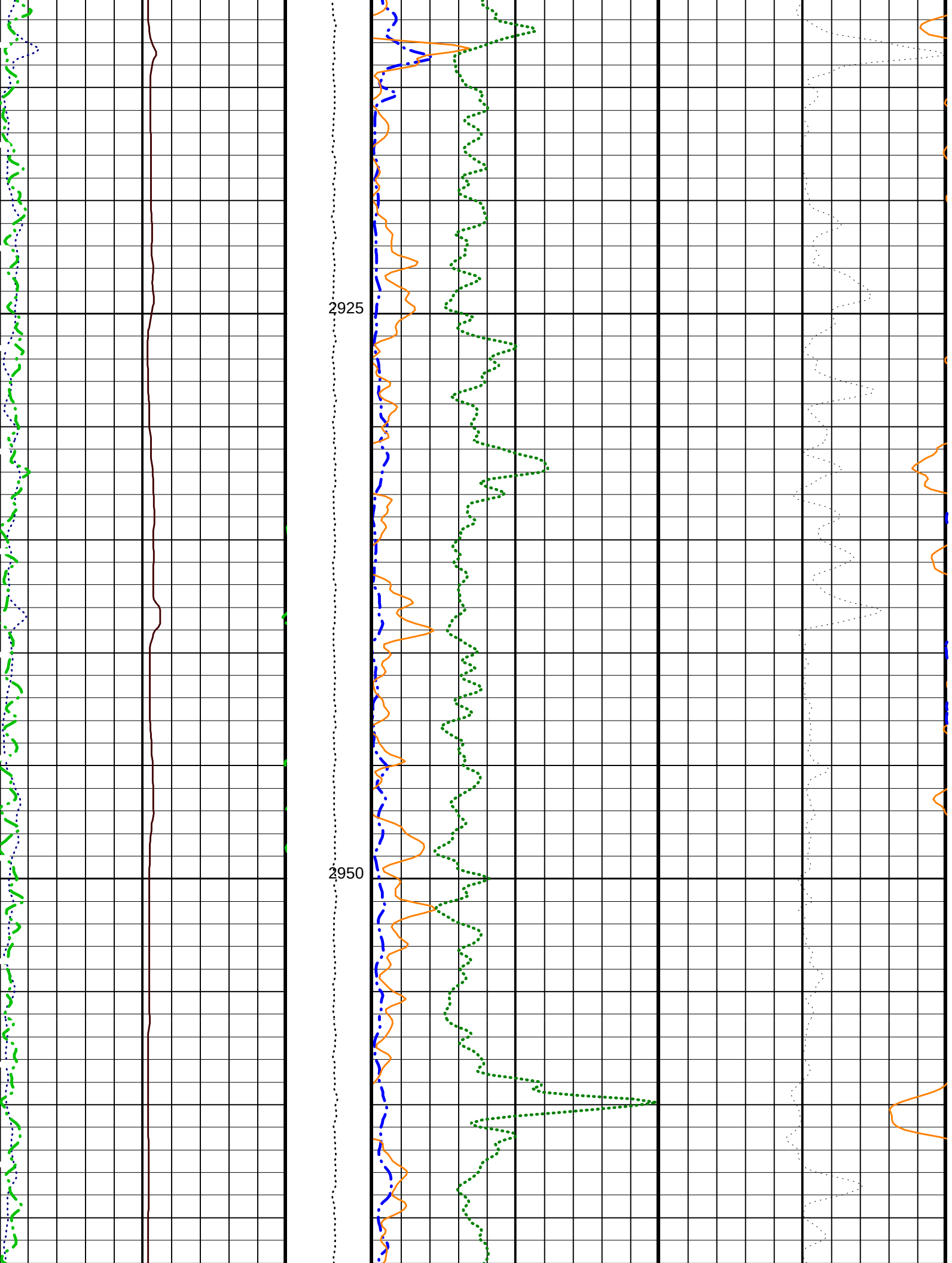

2650
2675

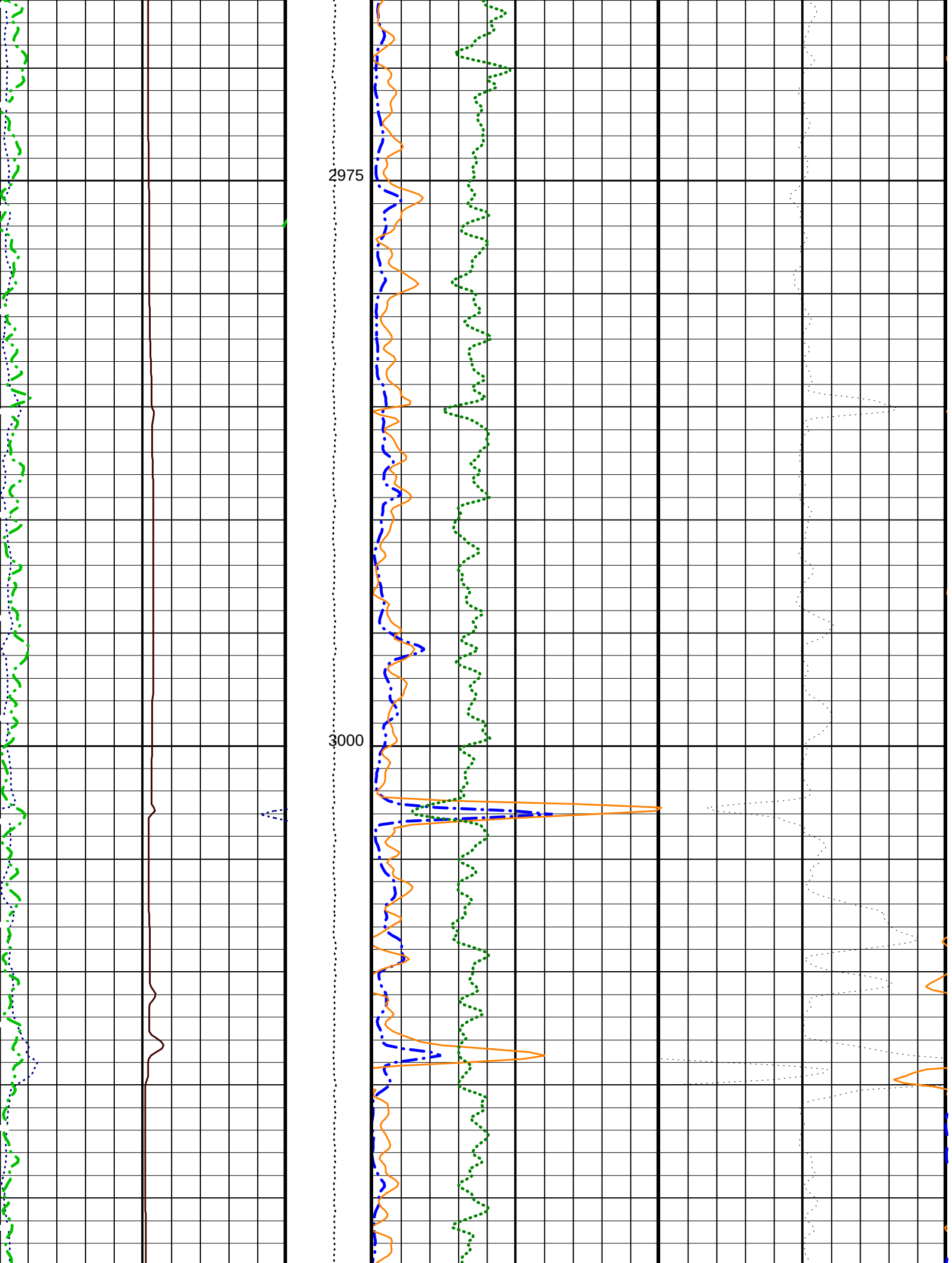

2700
2725

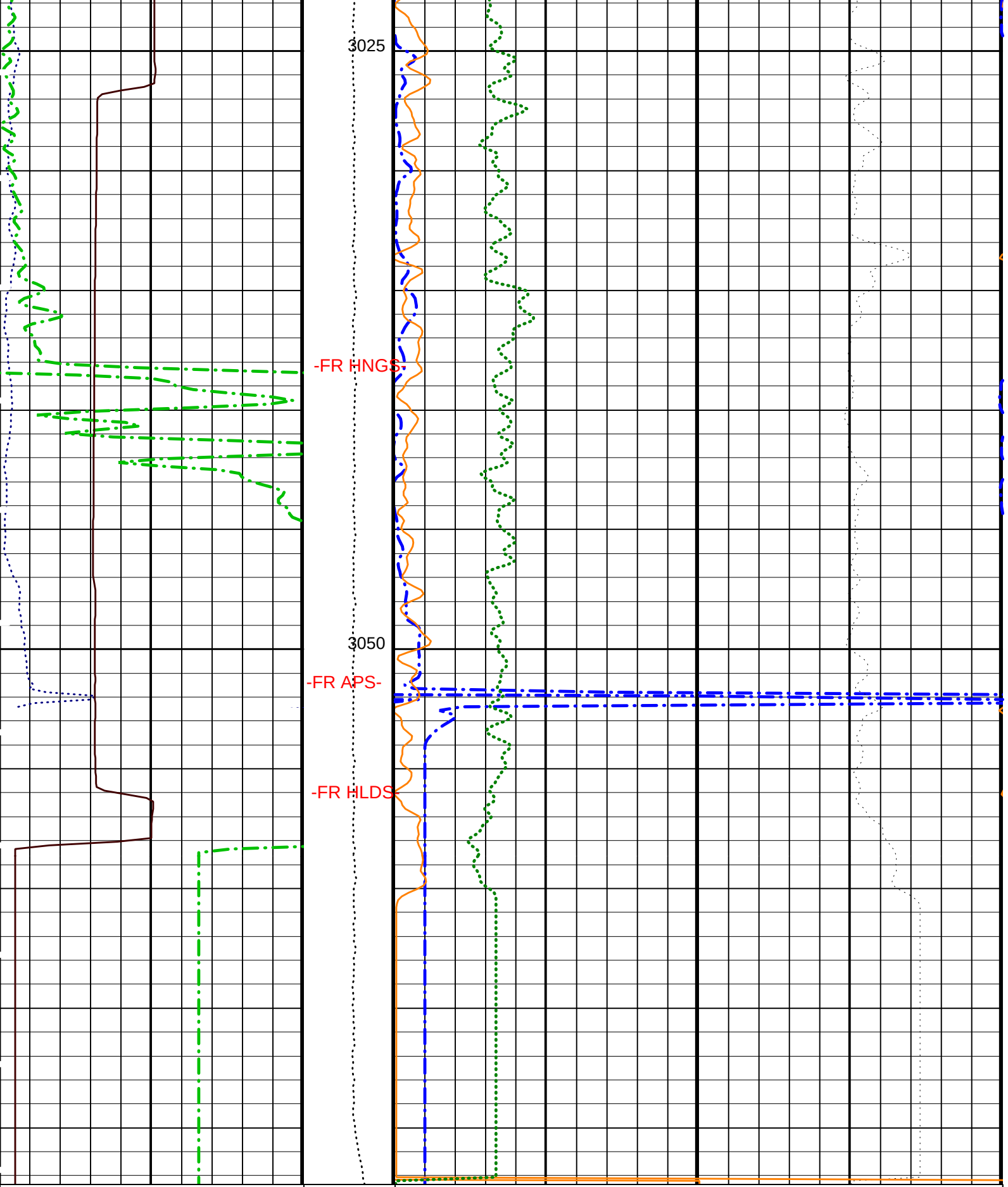

2750
2775


2800
2825
2850


2875
2900


2925
2950


2975
3000



HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

APS Near/Array Corrected Limestone Porosity (APLC)
0 (PU) 100

APS Effective Standoff in Limestone (STOF)
0 (IN) 5

HLDS Bulk Density (RHOM)
3 (G/C3) 1

HNGS Spectroscopy Gamma Ray (HSGR)		HLDS Long Spaced Photoelectric Effect (PEFL)		HLDS Bulk Density Correction (DRH)	
0	(GAPI) 15	0	(----) 10	-0.25	(G/C3) 0.25

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DLT-E: DUAL LATEROLOG - E		
DPRF	DEEP REFERENCE POWER	550	NW
KFAC	K FACTOR	SOND	
LLOO	LATEROLOG LOOP	BOTH	
PLRM	POWER LOOP REFERENCE MODE	DEEP	
SPRF	SHALLOW REFERENCE POWER	550	NW
	GPIT-A/B: General Purpose Inclinometer		
ACPP	Accelerometer PROM Presence	PRESENT	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ART	Accelerometer Reference Temperature	20	DEGC
GLM	GPIT Logging Mode	DIPM	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	-15.6929	DEG
MRTE	Magneto Reference Temperature	19	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
	HLDS: Hostile Litho-Density Sonde		
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.71	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	16000	
PSDS	HLDS SS Pulse Shape Compensation DAC	16000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	
	NPLC-B: Nuclear Porosity Lithology Cartridge - B		
NOTS	NPLC Old Temperature Sensor	NO	
	APS-C: Accelerator-Porosity Tool		
	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1968.16	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2081.33	V
AHCS	APS Holesize Correction Source	BS	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1737.68	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	110	DEGC
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	-50000	PPM
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NARC	APS Near/Array Calibration Ratio	0.988759	
NFRC	APS Near/Far Calibration Ratio	0.954468	
SHT	Surface Hole Temperature	20	DEGC
	HNGS-BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	110	DEGC
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F

CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0	
BSP: Bridle SP			
SPNV	SP Next Value	0	MV
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	0.000	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.20	G/C3
MST	Mud Sample Temperature	50.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3071.5	M
TDD	Total Depth - Driller	3071.50	M
TDL	Total Depth - Logger	-50000.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: APS_HLDS_PORO Vertical Scale: 1:200 Graphics File Created: 24-Feb-2005 04:05

OP System Version: 12C0-301

MCM

DLT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

Output DLIS Files

DEFAULT	DLL_LDL_APS_NGS_020LUP	FN:22	PRODUCER	24-Feb-2005 04:05	
REDUCED	DLL_LDL_APS_NGS_020LUP	FN:23	PRODUCER	24-Feb-2005 04:05	

Schlumberger

REPEAT SECTION

MAXIS Field Log

Output DLIS Files

DEFAULT	DLL_LDL_APS_NGS_021LUP	FN:24	PRODUCER	24-Feb-2005 09:03	2939.8 M	2722.5 M
REDUCED	DLL_LDL_APS_NGS_021LUP	FN:25	PRODUCER	24-Feb-2005 09:03	2939.8 M	2722.5 M

OP System Version: 12C0-301

MCM

DLT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301
BSP	12C0-301		

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
LLOO	OFF BOTH	BOTH OFF	2938.3 09:04:29 2936.9 09:04:46

PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 15

APS Effective Standoff in Limestone (STOF)
0 (IN) 5

HLDS Caliper (LCAL)
0 (IN) 20

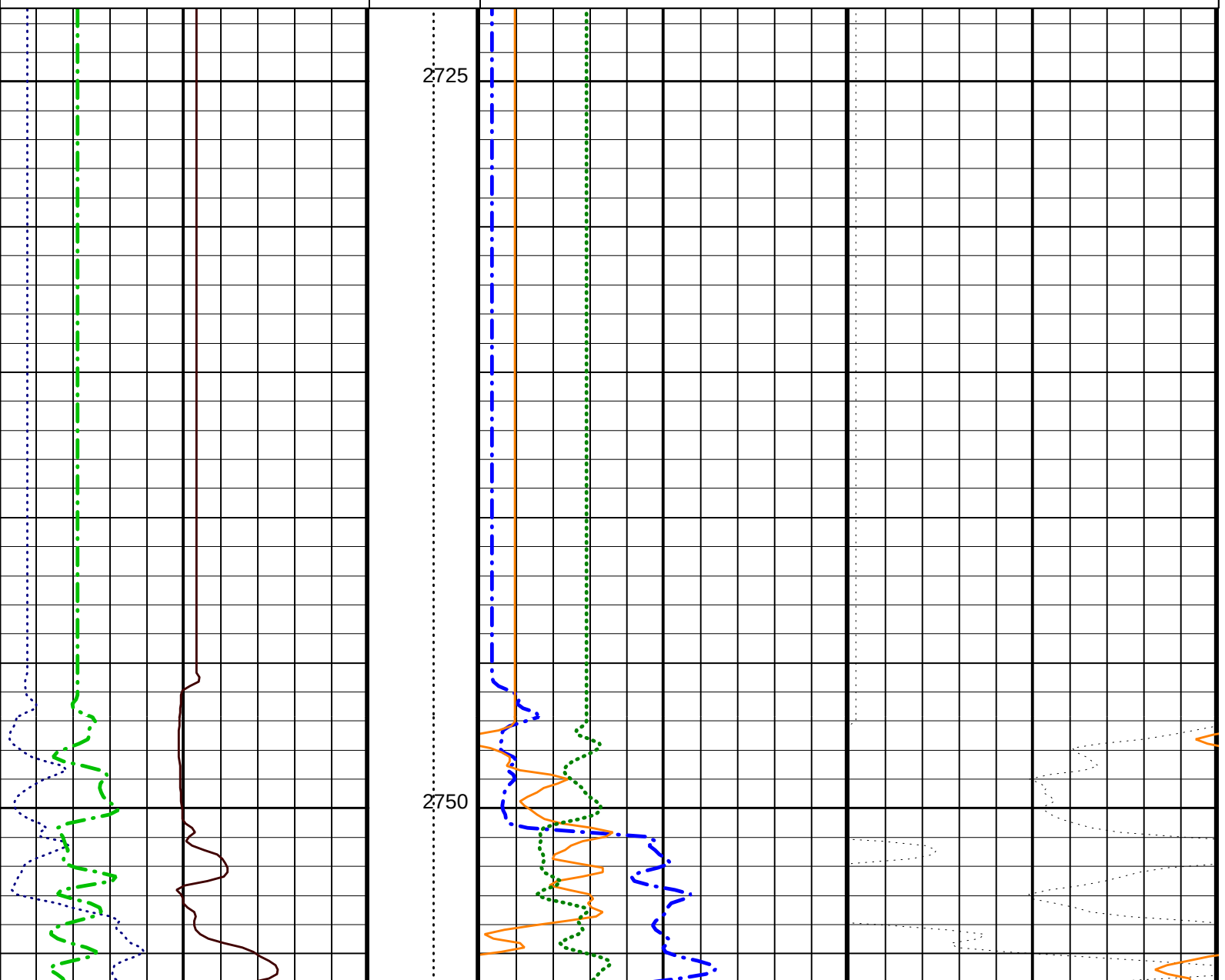
Tension (TENS) (LBF)
10000 0

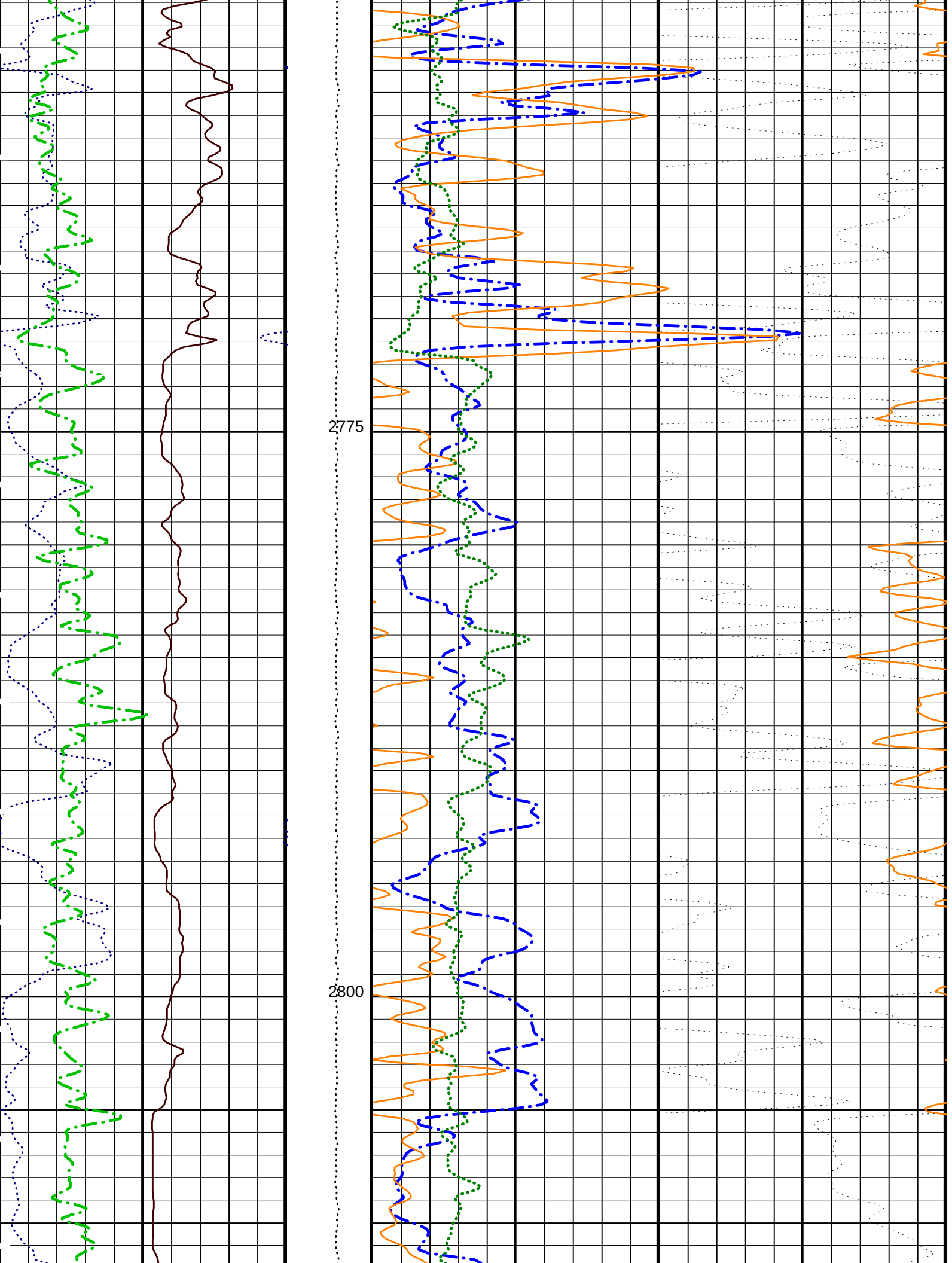
HLDS Long Spaced Photoelectric Effect (PEFL)
0 (----) 10

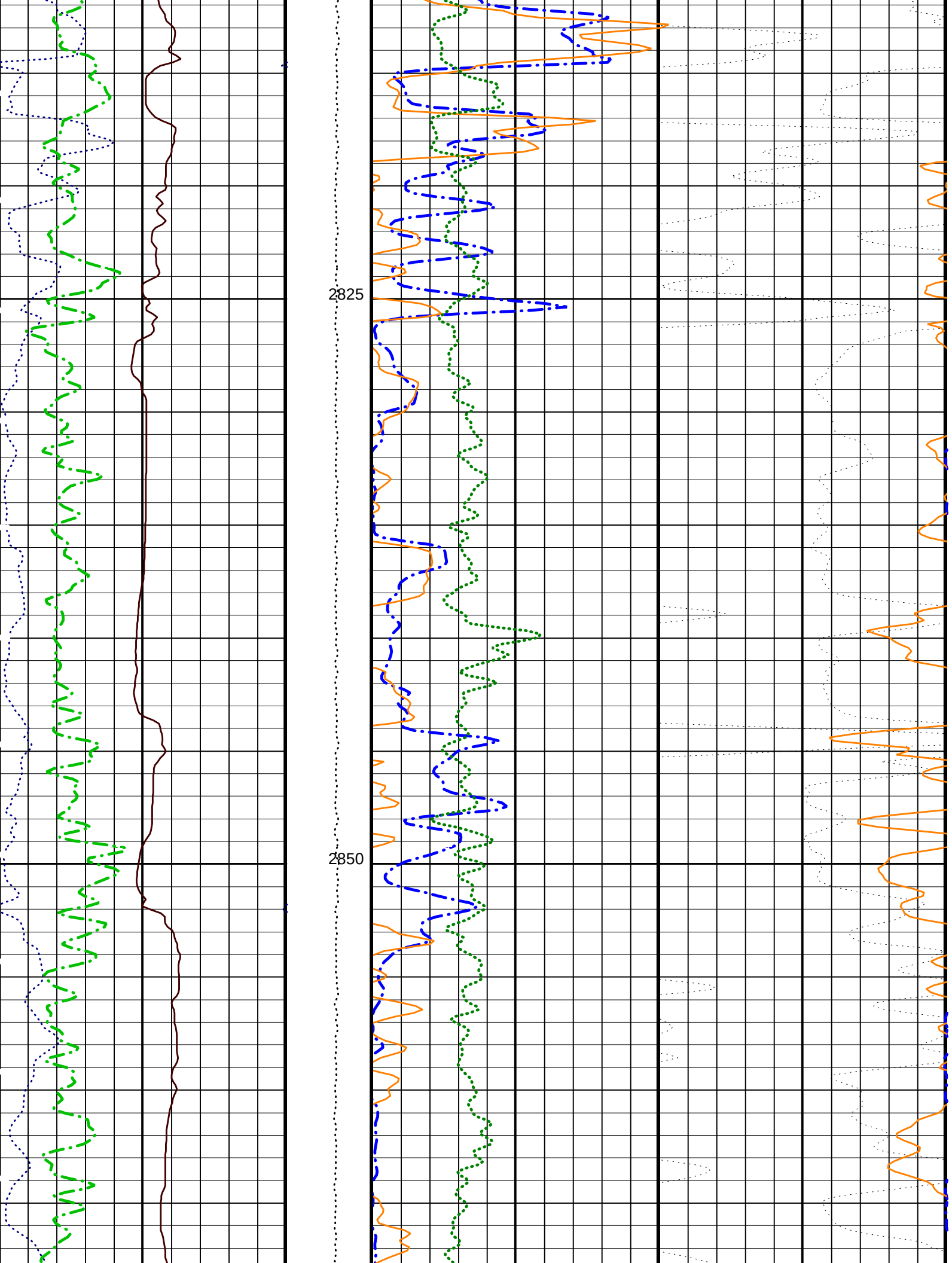
HLDS Bulk Density Correction (DRH)
-0.25 (G/C3) 0.25

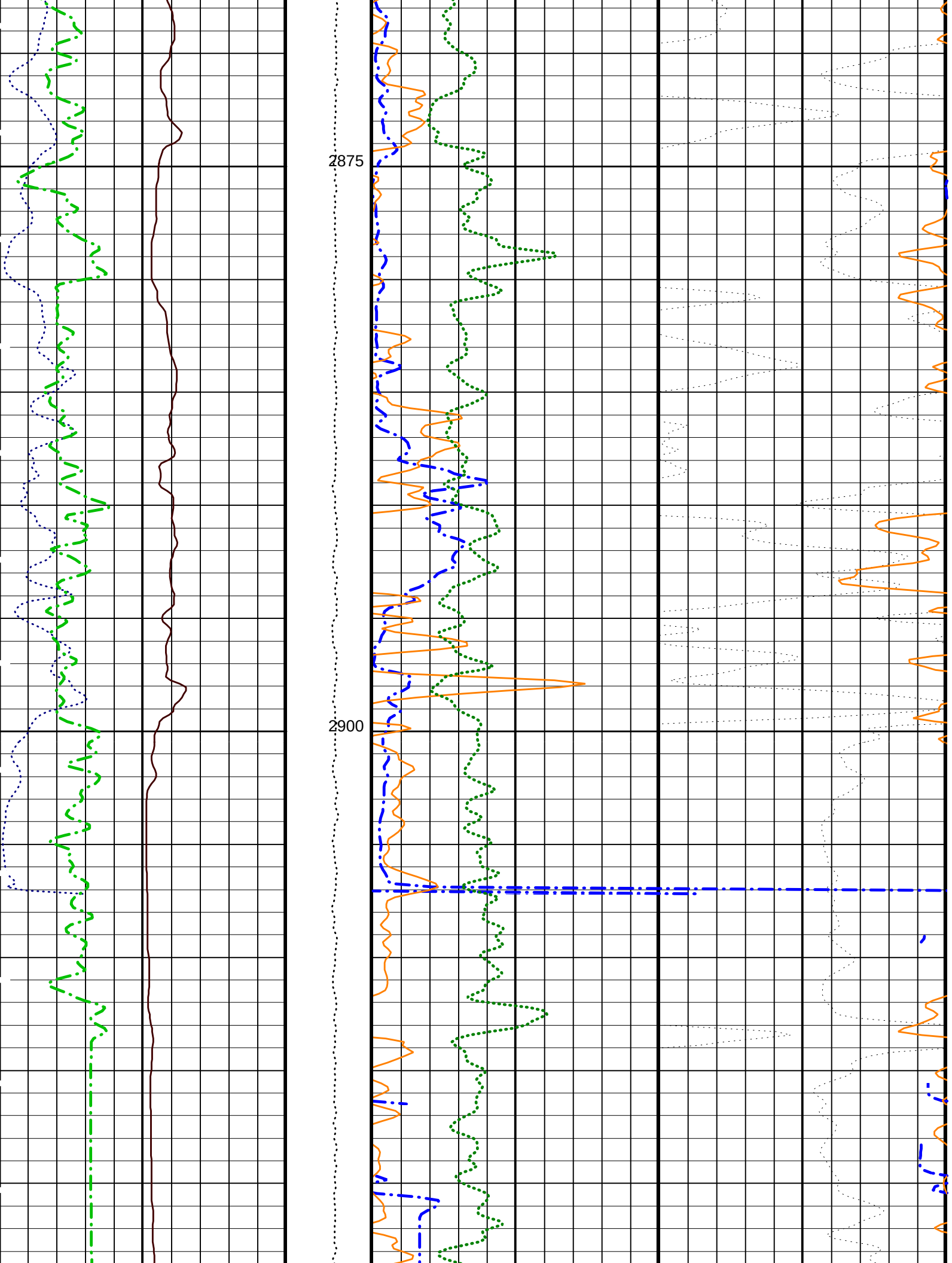
HLDS Bulk Density (RHOM)
3 (G/C3) 1

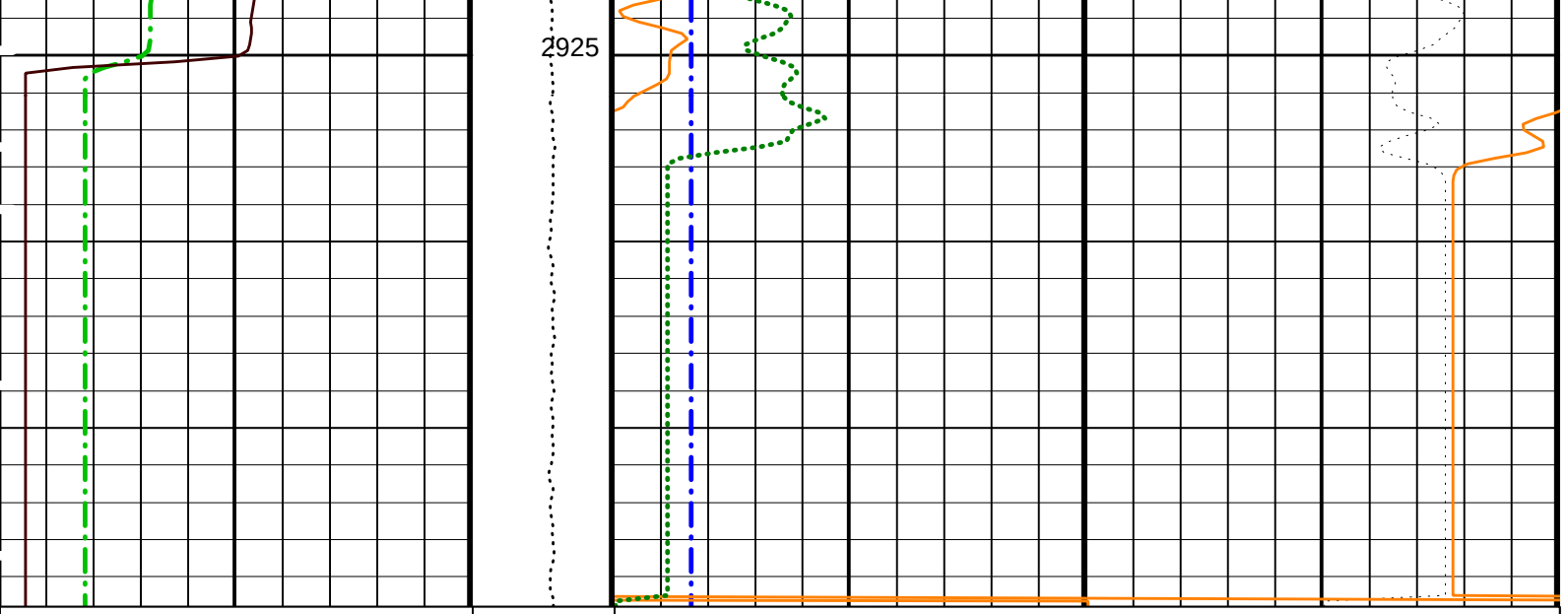
APS Near/Array Corrected Limestone Porosity (APLC)
0 (PU) 100




2775
2800


2825
2850


2875
2900



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DLT-E: DUAL LATEROLOG - E		
DPRF	DEEP REFERENCE POWER	550	NW
KFAC	K FACTOR	SOND	
LLOO	LATEROLOG LOOP	BOTH	
PLRM	POWER LOOP REFERENCE MODE	DEEP	
SPRF	SHALLOW REFERENCE POWER	550	NW
	GPIT-A/B: General Purpose Inclinometer		
ACPP	Accelerometer PROM Presence	PRESENT	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ART	Accelerometer Reference Temperature	20	DEGC
GLM	GPIT Logging Mode	DIPM	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	-15.6929	DEG
MRTE	Magneto Reference Temperature	19	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
	HLDS: Hostile Litho-Density Sonde		
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT	
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT	
CLLS	HLDS Mode Loop Long Spacing	AUTO	
CLSS	HLDS Mode Loop Short Spacing	AUTO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LATC	HLDS Activation Correction	ON	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
MDEN	Matrix Density	2.71	G/C3
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	16000	
PSDS	HLDS SS Pulse Shape Compensation DAC	16000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	

	NPLC-B: Nuclear Porosity Lithology Cartridge - B		
NOTS	NPLC Old Temperature Sensor	NO	
	APS-C: Accelerator-Porosity Tool		
	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1968.16	V
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2081.33	V
AHCS	APS Holesize Correction Source	BS	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1737.68	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	ON	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	110	DEGC
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	-50000	PPM
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NARC	APS Near/Array Calibration Ratio	0.988759	
NFRC	APS Near/Far Calibration Ratio	0.954468	
SHT	Surface Hole Temperature	20	DEGC
	HNGS-BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	110	DEGC
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.0037973	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.502	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.02099	
	BSP: Bridle SP		
SPNV	SP Next Value	0	MV
	System and Miscellaneous		
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	0.000	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.20	G/C3
MST	Mud Sample Temperature	50.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3071.5	M
TDD	Total Depth - Driller	3071.50	M
TDL	Total Depth - Logger	3070.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: APS_HLDS_PORO Vertical Scale: 1:200 Graphics File Created: 24-Feb-2005 09:03

OP System Version: 12C0-301

MCM

DLT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

BSP	12C0-301

Output DLIS Files

DEFAULT	DLL_LDL_APS_NGS_021LUP	FN:24	PRODUCER	24-Feb-2005 09:03
REDUCED	DLL_LDL_APS_NGS_021LUP	FN:25	PRODUCER	24-Feb-2005 09:03

Schlumberger

CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
DUAL LATEROLOG - E Wellsite Calibration - DLT ELECTRONICS CALIBRATION Laterolog Measurement							
Before: 24-Feb-2005 3:10							
MEASURED LLD	31.62	N/A	31.98	N/A	N/A	0.9000	OHMM
MEASURED LLS	31.62	N/A	31.24	N/A	N/A	0.9000	OHMM
General Purpose Inclinometer Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 24-Feb-2005 1:37							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	92	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	448	N/A	N/A	N/A	
General Purpose Inclinometer Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 24-Feb-2005 1:37							
TEMPERATURE REFERENCE :	N/A	N/A	19	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	428	N/A	N/A	N/A	
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 18-Jan-2005 10:17 Before: 20-Feb-2005 10:56							
SS Cs Resolution Bkg	9.000	8.392	8.337	N/A	N/A	1.800	%
LS Cs Resolution Bkg	9.000	8.031	8.107	N/A	N/A	1.800	%
LSW1 Background	100.0	82.46	81.17	N/A	N/A	3.000	CPS
LSW2 Background	100.0	74.65	75.30	N/A	N/A	3.000	CPS
LSW3 Background	200.0	168.0	165.7	N/A	N/A	6.000	CPS
LSW4 Background	250.0	211.4	206.4	N/A	N/A	7.500	CPS
LSW5 Background	600.0	472.3	466.4	N/A	N/A	18.00	CPS
SSW1 Background	100.0	79.79	79.68	N/A	N/A	3.000	CPS
SSW2 Background	200.0	142.9	139.9	N/A	N/A	6.000	CPS
SSW3 Background	500.0	377.8	378.5	N/A	N/A	15.00	CPS
SSW4 Background	270.0	202.0	201.6	N/A	N/A	8.100	CPS
SSW5 Background	200.0	147.1	145.6	N/A	N/A	6.000	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement							
Master: 18-Jan-2005 11:11							
LSW1 Aluminum	600.0	548.6	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	836.5	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	1031	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	521.0	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	484.2	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2443	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7110	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10290	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4376	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	601.1	N/A	N/A	N/A	N/A	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement							
Master: 18-Jan-2005 10:52							

LSW1 Iron	400.0	384.7	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	686.2	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	913.5	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	468.3	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	445.5	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1801	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5868	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9265	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3942	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	520.1	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration
Before: 18-Feb-2005 16:27

HLDS Caliper Small Ring	8.000	N/A	10.65	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	12.00	N/A	14.80	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration - Detector Background
Master: 12-Feb-2005 18:09 Before: 20-Feb-2005 10:59

Near Det Bkg Cntrate	30.00	25.38	25.14	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	26.80	27.30	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	26.94	26.94	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	25.86	26.56	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	24.64	24.09	N/A	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios
Master: 12-Feb-2005 18:09

Near/Far Calibration Ratio	0.9250	0.9545	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	0.9888	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.009	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration - Tank Check
Master: 12-Feb-2005 18:09

Array-1 Standoff Porosity	11.75	11.83	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.75	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.819	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9860	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9957	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.16	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration - CCR7 signal boxes
Master: 12-Feb-2005 18:09

Near Detector Plateau Setting	1650	1738	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2081	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1968	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check
Master: 18-Feb-2005 16:19 Before: 20-Feb-2005 10:58

Na 511 Peak Loc	40.00	40.57	40.57	N/A	N/A	1.000	
Na 511 Peak Res	15.50	18.51	18.56	N/A	N/A	2.000	%
High Voltage	1150	1254	1254	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	144.9	145.2	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.816	10.75	N/A	N/A	2.000	%
Temperature	15.50	24.76	25.56	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	45.52	45.16	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check
Master: 18-Feb-2005 16:19 Before: 20-Feb-2005 10:58

Na 511 Peak Loc	40.00	40.56	40.73	N/A	N/A	1.000	
Na 511 Peak Res	15.50	17.19	17.71	N/A	N/A	2.000	%
High Voltage	1150	1274	1275	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	144.5	144.4	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.803	10.85	N/A	N/A	2.000	%
Temperature	15.50	24.17	24.75	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	45.69	45.29	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2
Master: 18-Feb-2005 16:19 Before: 20-Feb-2005 10:58

Coincidence Count Rate Ratio	1.000	0.9968	0.9962	N/A	N/A	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration
Master: 18-Feb-2005 16:04

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.0	--	--	--	--	
Th Peak Res	7.000	8.459	--	--	--	--	%
Background Count Rate	142.5	38.37	--	--	--	--	CPS
Gain Ratio	1.000	0.9803	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration
Master: 18-Feb-2005 16:04

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	207.7	--	--	--	--	
Th Peak Res	7.000	8.551	--	--	--	--	%

Background Count Rate	142.5	40.08	--	--	--	--	CPS
Gain Ratio	1.000	0.9743	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting 1738 V
Far Detector Plateau Setting 2081 V
Array Detector Plateau Setting 1968 V

DUAL LATEROLOG - E / Equipment Identification

Primary Equipment:

Auxiliary Equipment:

Dual Laterolog Electrode	DLE - E
Dual Laterolog Sonde	DLS - F
Dual Laterolog Housing	DLH - CB
Dual Laterolog Cartridge	DLC - D
Laterolog Control Module	LCM - AA

DUAL LATEROLOG - E Wellsite Calibration

DLT ELECTRONICS CALIBRATION Laterolog Measurement

Phase	MEASURED LLD OHMM	Value	Phase	MEASURED LLS OHMM	Value
Before		31.98	Before		31.24
	29.00 (Minimum) 31.62 (Nominal) 40.00 (Maximum)			29.00 (Minimum) 31.62 (Nominal) 40.00 (Maximum)	

Before: 24-Feb-2005 3:10

DUAL LATEROLOG - E Wellsite Calibration

DLT Electronics Calibration Plus Measurement

Phase	Deep Current Plus UA	Value	Phase	Deep Voltage Plus MV	Value	Phase	Groningen Voltage Plus MV	Value
Before		341.2	Before		10.91	Before		11.39
	317.5 (Minimum) 342.5 (Nominal) 367.5 (Maximum)			9.830 (Minimum) 10.83 (Nominal) 11.83 (Maximum)			9.830 (Minimum) 10.83 (Nominal) 11.83 (Maximum)	
Phase	Shallow Current Plus UA	Value	Phase	Shallow Voltage Plus MV	Value			
Before		344.0	Before		10.75			
	317.5 (Minimum) 342.5 (Nominal) 367.5 (Maximum)			9.830 (Minimum) 10.83 (Nominal) 11.83 (Maximum)				

Before: 24-Feb-2005 3:10

DUAL LATEROLOG - E Wellsite Calibration

DLT Electronics Calibration Zero Measurement

Phase	Deep Current Zero UA	Value	Phase	Deep Voltage Zero MV	Value	Phase	Groningen Voltage Zero MV	Value
Before		-0.09438	Before		-0.01155	Before		-0.004639
	-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			-0.1000 (Minimum) 0 (Nominal) 0.1000 (Maximum)			-0.1000 (Minimum) 0 (Nominal) 0.1000 (Maximum)	
Phase	Shallow Current Zero UA	Value	Phase	Shallow Voltage Zero MV	Value			
Before		-0.1288	Before		-0.007723			
	-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			-0.1000 (Minimum) 0 (Nominal) 0.1000 (Maximum)				

Before: 24-Feb-2005 3:09

General Purpose Inclinometer / Equipment Identification

Primary Equipment:

GPIT Cartridge - A	GPIC - A

Auxiliary Equipment:

GPIT Housing	GPIH - A

Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:		
Hostile Litho Density Sonde	HLDS - D	35
Hostile Litho Density High Voltage	HLDV - D	35
Gamma Source Radioactive	GSR - Z	2326
Auxiliary Equipment:		
Hostile Litho Density Pad	HLDP - C	35
Hostile Litho Density High Voltage Housi	HEH - H	35

Hostile Litho-Density Sonde Wellsite Calibration

Background Measurement

Phase	SS Cs Resolution Bkg %	Value
Master		8.392
Before		8.337
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		8.031
Before		8.107
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LSW1 Background CPS	Value
Master		82.46
Before		81.17
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		74.65
Before		75.30
	50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		168.0
Before		165.7
	110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		211.4
Before		206.4
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		472.3
Before		466.4
	330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		79.79
Before		79.68
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	SSW2 Background CPS	Value
Master		142.9
Before		139.9
	100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)	

Phase	SSW3 Background CPS	Value
Master		377.8
Before		378.5
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		202.0
Before		201.6
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		147.1
Before		145.6
	110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Master: 18-Jan-2005 10:17 Before: 20-Feb-2005 10:56

Hostile Litho-Density Sonde Master Calibration

Detector Background Measurement

Phase	LSW1 Background CPS	Value
Master		82.46
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		74.65
	50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		168.0
	110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		211.4
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		472.3
	330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		8.031
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		79.79
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	SSW2 Background CPS	Value
Master		142.9
	100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)	

Phase	SSW3 Background CPS	Value
Master		377.8
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		202.0
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		147.1
	110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Phase	SS Cs Resolution Bkg %	Value
Master		8.392
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Master: 18-Jan-2005 10:17

Hostile Litho-Density Sonde Master Calibration

Detector Aluminum Measurement (bkgd-subtracted)

Phase	LSW1 Aluminum CPS	Value
Master		548.6
	420.0 (Minimum) 600.0 (Nominal) 700.0 (Maximum)	

Phase	LSW2 Aluminum CPS	Value
Master		836.5
	650.0 (Minimum) 900.0 (Nominal) 1050 (Maximum)	

Phase	LSW3 Aluminum CPS	Value
Master		1031
	800.0 (Minimum) 1100 (Nominal) 1300 (Maximum)	

Phase	LSW4 Aluminum CPS	Value
Master		521.0
	410.0 (Minimum) 580.0 (Nominal) 670.0 (Maximum)	

Phase	LSW5 Aluminum CPS	Value
Master		484.2
	410.0 (Minimum) 570.0 (Nominal) 660.0 (Maximum)	

Phase	SSW1 Aluminum CPS	Value
Master		2443
	2000 (Minimum) 2800 (Nominal) 3200 (Maximum)	

Phase	SSW2 Aluminum CPS	Value
Master		7110
5800 (Minimum)	8000 (Nominal)	9300 (Maximum)

Phase	SSW3 Aluminum CPS	Value
Master		10290
8300 (Minimum)	11600 (Nominal)	13500 (Maximum)

Phase	SSW4 Aluminum CPS	Value
Master		4376
3500 (Minimum)	5000 (Nominal)	5800 (Maximum)

Phase	SSW5 Aluminum CPS	Value
Master		601.1
470.0 (Minimum)	660.0 (Nominal)	770.0 (Maximum)

Master: 18-Jan-2005 11:11

Hostile Litho-Density Sonde Master Calibration

Detector Litholog Measurement (bkgd-subtracted)

Phase	LSW1 Iron CPS	Value
Master		384.7
290.0 (Minimum)	400.0 (Nominal)	470.0 (Maximum)

Phase	LSW2 Iron CPS	Value
Master		686.2
520.0 (Minimum)	730.0 (Nominal)	850.0 (Maximum)

Phase	LSW3 Iron CPS	Value
Master		913.5
720.0 (Minimum)	1000 (Nominal)	1160 (Maximum)

Phase	LSW4 Iron CPS	Value
Master		468.3
370.0 (Minimum)	520.0 (Nominal)	600.0 (Maximum)

Phase	LSW5 Iron CPS	Value
Master		445.5
340.0 (Minimum)	470.0 (Nominal)	550.0 (Maximum)

Phase	SSW1 Iron CPS	Value
Master		1801
1500 (Minimum)	2100 (Nominal)	2400 (Maximum)

Phase	SSW2 Iron CPS	Value
Master		5868
4900 (Minimum)	6800 (Nominal)	7900 (Maximum)

Phase	SSW3 Iron CPS	Value
Master		9265
7800 (Minimum)	10800 (Nominal)	12600 (Maximum)

Phase	SSW4 Iron CPS	Value
Master		3942
3300 (Minimum)	4600 (Nominal)	5400 (Maximum)

Phase	SSW5 Iron CPS	Value
Master		520.1
420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)

Master: 18-Jan-2005 10:52

Hostile Litho-Density Sonde Master Calibration

Quality Ratios

Phase	AL CALIBRATION RATIO 1	Value
Master		1.025
0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)

Phase	AL CALIBRATION RATIO 2	Value
Master		2.067
1.900 (Minimum)	2.100 (Nominal)	2.300 (Maximum)

Phase	AL CALIBRATION RATIO 3	Value
Master		0.5457
0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)

Phase	AL CALIBRATION RATIO 4	Value
Master		0.4909
0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)

Phase	Pad-Wear SS Ratio	Value
Master		0.9881
0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)

Phase	Pad-Wear LS Ratio	Value
Master		0.9884
0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)

Phase	Pad-Position SS Ratio	Value
Master		1.001
0.9900 (Minimum)	0.9940 (Nominal)	1.015 (Maximum)

Phase	Pad-Position LS Ratio	Value
Master		1.001
0.9850 (Minimum)	0.9940 (Nominal)	1.010 (Maximum)

Master: 18-Jan-2005 10:43

Nuclear Porosity Lithology Cartridge - B / Equipment Identification

Primary Equipment:		
NPLC Cartridge	NPLC - B	79
Auxiliary Equipment:		
NPLC Housing	NPH - B	82

Accelerator-Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator-Porosity Sonde	APS - C	202
APS Minitron	MNTR - F	5124
Auxiliary Equipment:		
Accelerator-Porosity Housing	APH - AC	104
APS Calibration Water Tank	SFT - 178	6250
APS Aluminum Calibrator Sleeve	SFT - 281	6250

Accelerator-Porosity Tool Wellsite Calibration

Detector Background

Phase	Near Det Bkg Cntrate CPS	Value
Master		25.38
Before		25.14

1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)

Phase	Far Det Bkg Cntrate CPS	Value
Master		26.80
Before		27.30

1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)

Phase	Array-1 Det Bkg Cntrate CPS	Value
Master		26.94
Before		26.94

1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)

Phase	Array-2 Det Bkg Cntrate CPS	Value
Master		25.86
Before		26.56

1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)

Phase	Array Therm Det Bkg Cntrate CPS	Value
Master		24.64
Before		24.09

1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)

Master: 12-Feb-2005 18:09 Before: 20-Feb-2005 10:59

Accelerator-Porosity Tool Wellsite Calibration

Calibration Ratios

Phase	Near/Far Calibration Ratio	Value
Master		0.9545

0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)

Phase	Near/Array Calibration Ratio	Value
Master		0.9888

0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)

Phase	Near/Array Cal Ratio Up/Down	Value
Master		1.009

0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum)

Master: 12-Feb-2005 18:09

Accelerator-Porosity Tool Wellsite Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value
Master		11.83

9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)

Phase	Array-2 Standoff Porosity PU	Value
Master		11.75

9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)

Phase	Average Slowing Down Time US	Value
Master		5.819

5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)

Phase	Array-1 SDT Ratio Up/Down	Value
Master		0.9860

0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)

Phase	Array-2 SDT Ratio Up/Down	Value
Master		0.9957

0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)

Phase	Sigma Formation CU	Value
Master		27.16

20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)

Master: 12-Feb-2005 18:09

Accelerator-Porosity Tool Master Calibration

Detector Calibration

Phase	Near/Far Calibration Ratio	Value
Master		0.9545

0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)

Phase	Near/Array Calibration Ratio	Value
Master		0.9888

0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)

Phase	Near/Array Cal Ratio Up/Down	Value
Master		1.009

0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum)

Master: 12-Feb-2005 18:09

Accelerator-Porosity Tool Master Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value
Master		11.83

9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)

Phase	Array-2 Standoff Porosity PU	Value
Master		11.75

9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)

Phase	Average Slowing Down Time US	Value
Master		5.819

5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)

Phase	Array-1 SDT Ratio Up/Down	Value
Master		0.9860

0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)

Phase	Array-2 SDT Ratio Up/Down	Value
Master		0.9957

0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)

Phase	Sigma Formation CU	Value
Master		27.16

20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)

Master: 12-Feb-2005 18:09

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS - BA	77
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH - BA	79
Gamma Source Radioactive	GSR - U	135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		40.57
Before		40.57
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		18.51
Before		18.56
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1254
Before		1254
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		144.9
Before		145.2
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		9.816
Before		10.75
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		24.76
Before		25.56
	-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		45.52
Before		45.16
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 18-Feb-2005 16:19 Before: 20-Feb-2005 10:58

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		40.56
Before		40.73
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		17.19
Before		17.71
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1274
Before		1275
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		144.5
Before		144.4
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		9.803
Before		10.85
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		24.17
Before		24.75
	-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		45.69
Before		45.29
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 18-Feb-2005 16:19 Before: 20-Feb-2005 10:58

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9968
Before		0.9962
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 18-Feb-2005 16:19
Before: 20-Feb-2005 10:58

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 1 Calibration

Phase	Na 511 Peak Set Point	Value
Master		41.00
	38.00 (Minimum) 40.00 (Nominal) 42.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		209.0
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		8.459
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		38.37
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		0.9803
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 18-Feb-2005 16:04

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 2 Calibration

Phase	Na 511 Peak Set Point	Value
Master		41.00
	38.00 (Minimum) 40.00 (Nominal) 42.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		207.7
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		8.551
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		40.08
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		0.9743
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 18-Feb-2005 16:04

Company: Lamont Doherty

Schlumberger

Well: IODP Exp 305 Site U1309D
Field: Atlantis Massif
Rig: Joides Resolution
Ocean: Atlantic Ocean

Hostile Litho-Density,
Accelerator Porosity
Gamma-Ray