

COMPANY: Lamont Doherty

WELL: ODP Leg 197, Site He-3A, Hole 1203A

FIELD: Detroit Seamount, Emperor Seamount

Chain OCEAN: Pacific

Natural Gamma Ray  
**Schlumberger** HNGS

Chain: Detroit Seamount, Emperor Sea

Location: ODP Leg 197, Site He-3A, Hole 1

Company: Lamont Doherty

LOCATION		Elev.:	K.B.	11.3 m
Permanent Datum:	MSL	G.L.	-2604 m	
Log Measured From:	RKB	D.F.	11 m	
Drilling Measured From:	RKB	Elev.:	0 m	
API Serial No.	Max. Hole Devi.	11.3 m above Perm. Datum		
	1 deg	Longitude	167.74 E	
		Latitude	50.95 N	

Logging Date	23-Jul-2001
Run Number	1
Depth Driller	3519 m
Schlumberger Depth	3520 m
Bottom Log Interval	3492 m
Top Log Interval	2604 m
Casing Driller Size @ Depth	0.000 in @ 2806 m
Casing Schlumberger	2806 m
Bit Size	9.875 in
Type Fluid In Hole	Sepiolite
Density	1.066 g/cm3
Fluid Loss	PH
Fluid Loss	80 s
Source Of Sample	Flowline
RM @ Measured Temperature	0.284 ohm.m @ 21 degC
RMF @ Measured Temperature	@ @
RMC @ Measured Temperature	@ @
Source RMF	RMC
RM @ MRT	0.320 @ 16 @ 16
Maximum Recorded Temperatures	16 degC
Circulation Stopped	23-Jul-2001 0:00
Logger On Bottom	23-Jul-2001 14:13
Unit Number	99 Houston
Recorded By	Kerry M. Swain
Witnessed By	Florence Einaudi, Arno Buysch

Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
Fluid Loss			
Source Of Sample			
RM @ Measured Temperature			
RMF @ Measured Temperature			
RMC @ Measured Temperature			
Source RMF			
RM @ MRT			
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Recorded By			
Witnessed By			

Logging Date		Run 1	Run 2	Run
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth				
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
Density				
Fluid Loss				
Fluid Loss				
Source Of Sample				
RM @ Measured Temperature				
RMF @ Measured Temperature				
RMC @ Measured Temperature				
Source RMF				
RM @ MRT				
Maximum Recorded Temperatures				
Circulation Stopped				
Logger On Bottom				
Unit Number				
Recorded By				
Witnessed By				

**DISCLAIMER**

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OTHER SERVICES1  
 OS1: HLDT/APS  
 OS2: TAP  
 OS3: DLT  
 OS4:  
 OS5:

OTHER SERVICES2  
 OS1:  
 OS2:  
 OS3:  
 OS4:  
 OS5:

REMARKS: RUN NUMBER 1  
 Hole cored with RCB.  
 WHC used on all runs.  
 Calm seas.  
 Log measured in meters below rig floor (MBRF).  
 TD Driller- 3519 MBRF, Logger- 3520 MBRF.  
 Sea Floor Driller-2604 MBRF. Sea floor could not be determined from Log data.  
 Bottom of drill pipe Driller- 2806 MBRF, Logger- 2809 MBRF.  
 Sepiolite mud used to displace hole before logging.  
 Low background measurement for HNGS master calibration due to weak background source and does not affect actual calibration/gain.

REMARKS: RUN NUMBER 2

RUN 1  
 SERVICE ORDER #:  
 PROGRAM VERSION: 9C2-303  
 FLUID LEVEL:

RUN 2  
 SERVICE ORDER #:  
 PROGRAM VERSION:  
 FLUID LEVEL:

LOGGED INTERVAL	START	STOP


LOGGED INTERVAL	START	STOP


**EQUIPMENT DESCRIPTION**

RUN 1  
**SURFACE EQUIPMENT**  
 LCM-AA  
 SFT-281 24  
 SFT-178 4722  
 GSR-U 135  
 DTM-B

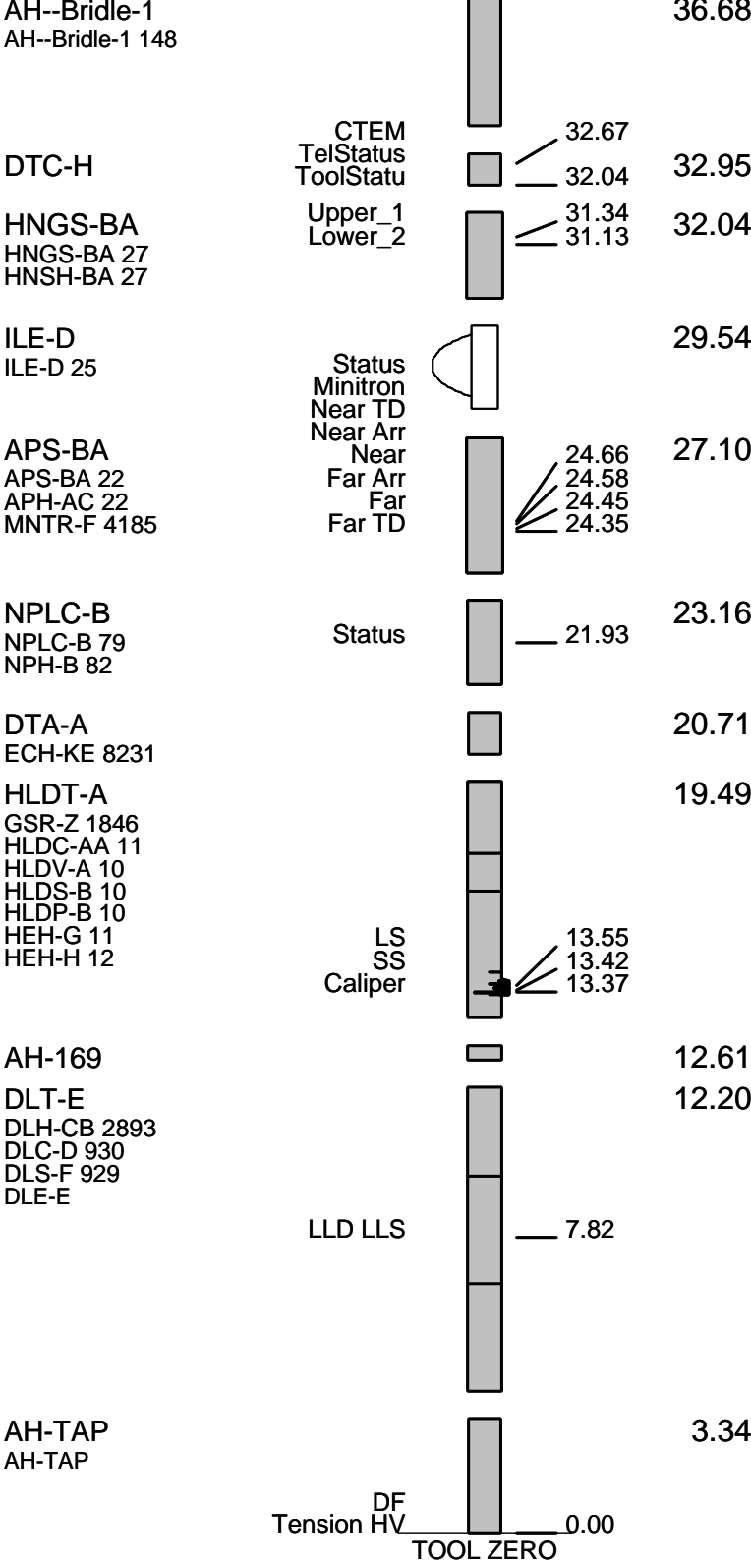
RUN 2

**DOWNHOLE EQUIPMENT**

LEH-QT  41.30

AH--Bridle-2  40.41

AH--Bridle-2 612



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

### Input DLIS Files

DEFAULT	SPLICE_DLL_LDL_APS_025	FN:1	PRODUCER	25-Jul-2001 05:32	3522.7 M	2581.1 M
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### Output DLIS Files

DEFAULT	DLL_LDL_APS_HNGS_026PUP	FN:42	PRODUCER	25-Jul-2001 05:35	3522.7 M	2590.2 M
REDUCE	DLL_LDL_APS_HNGS_026PUP	FN:43	PRODUCER	25-Jul-2001 05:35	3522.7 M	2590.2 M

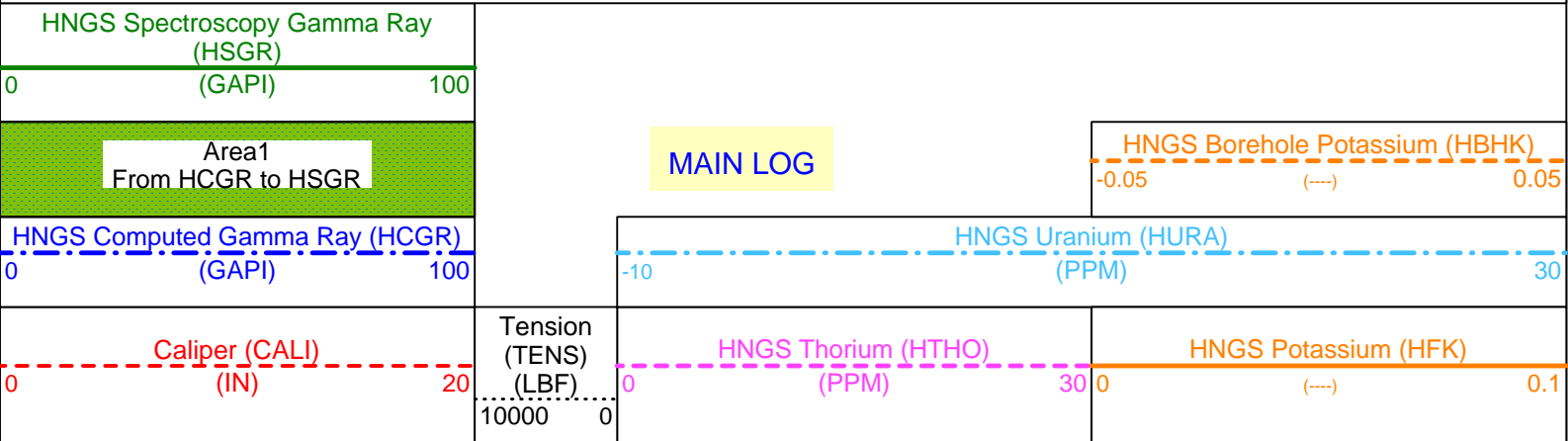
### OP System Version: 9C2-303

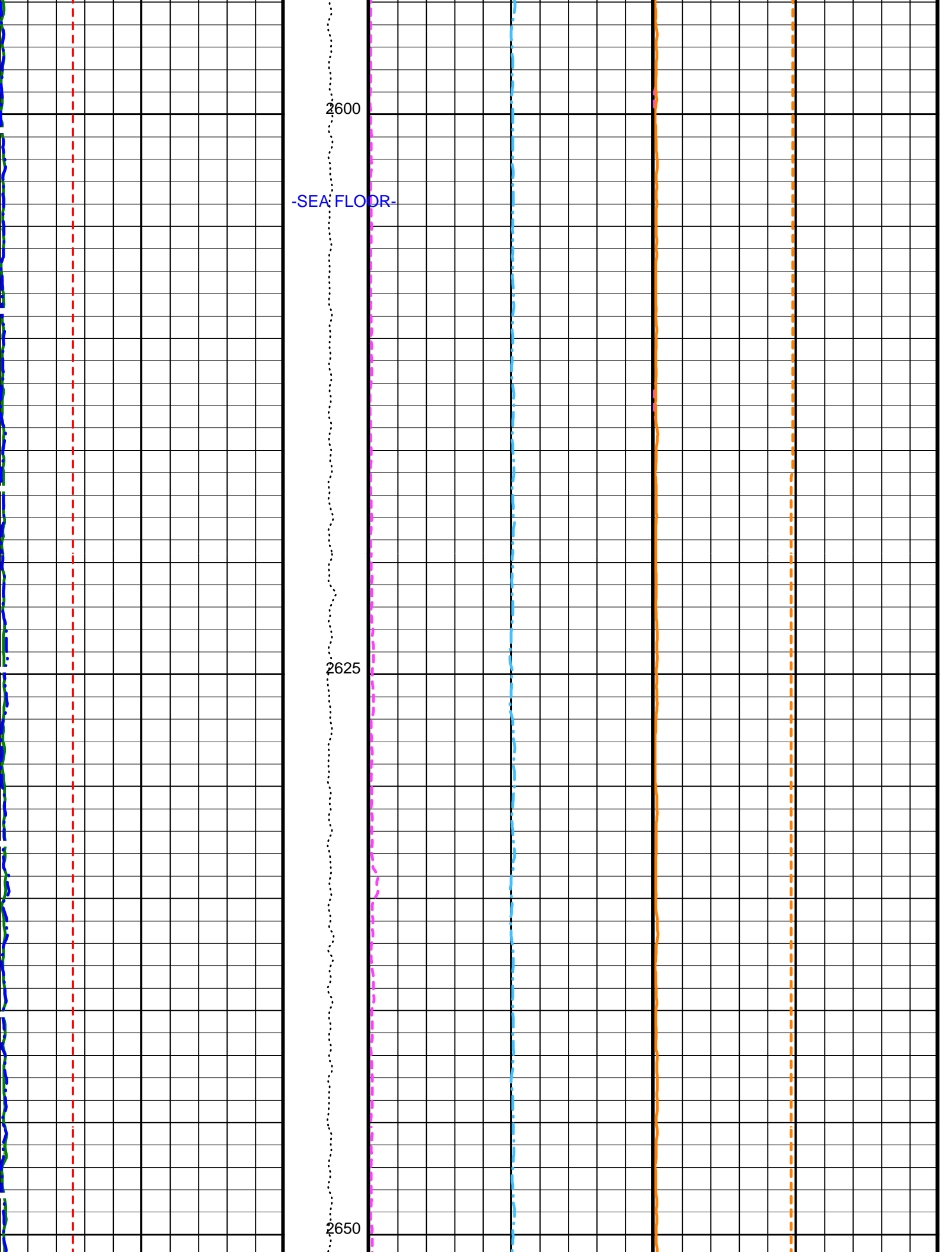
MCM

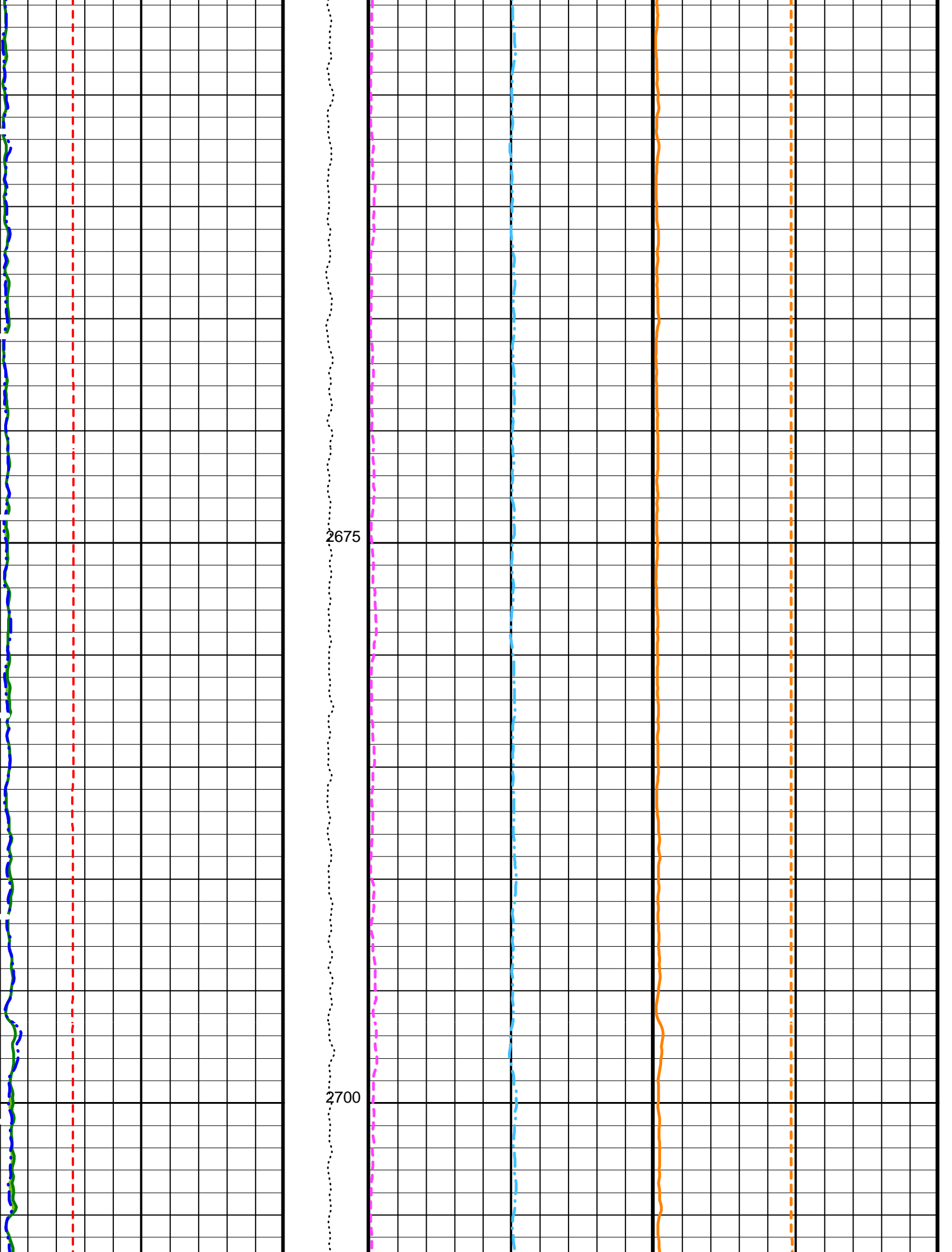
DLT-E	9C2-303	HLDT-A	9C2-303
DTA-A	9C2-303	NPLC-B	9C2-303
APS-BA	9C2-303	HNGS-BA	9C2-303
DTC-H	9C2-303		

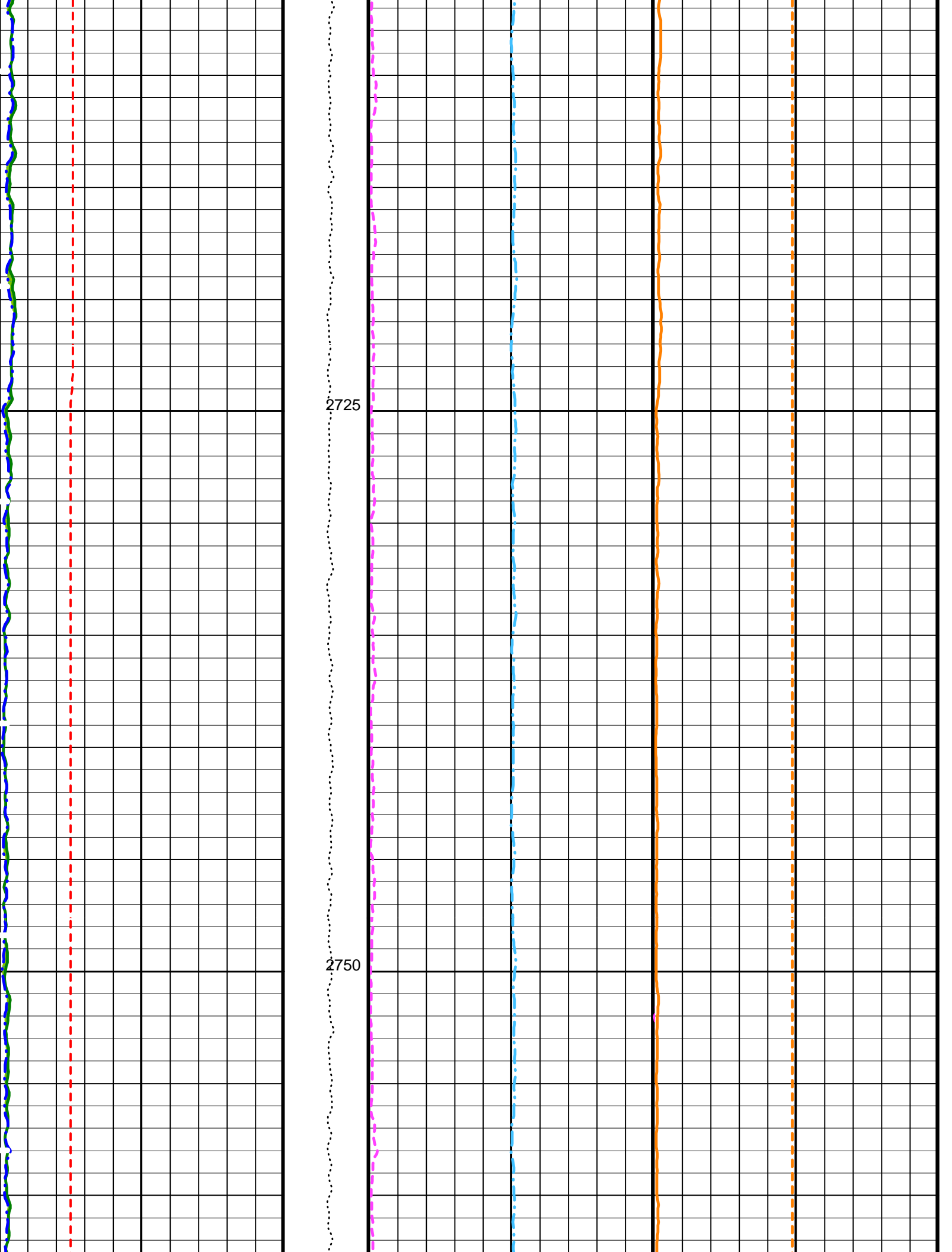
### PIP SUMMARY

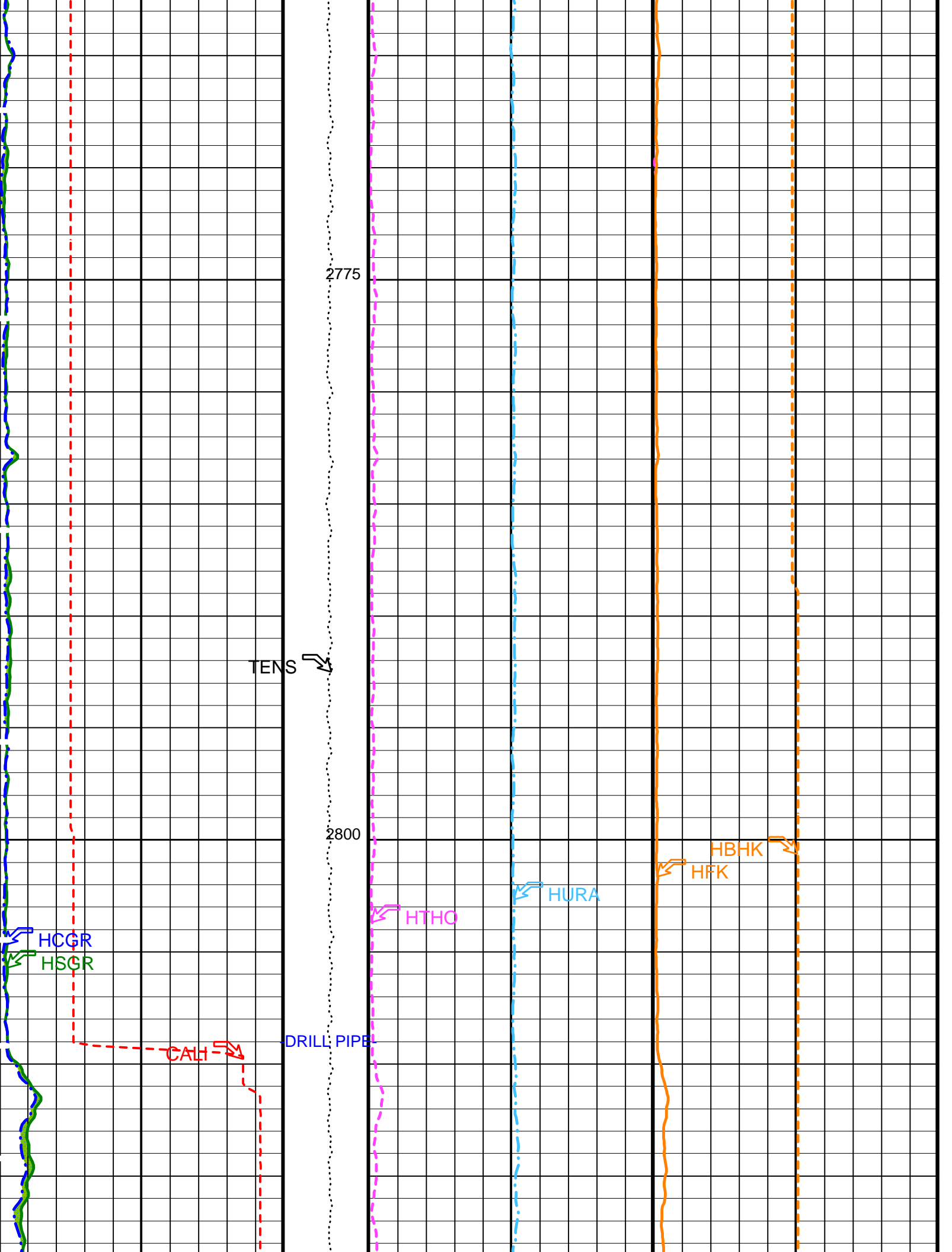
Time Mark Every 60 S



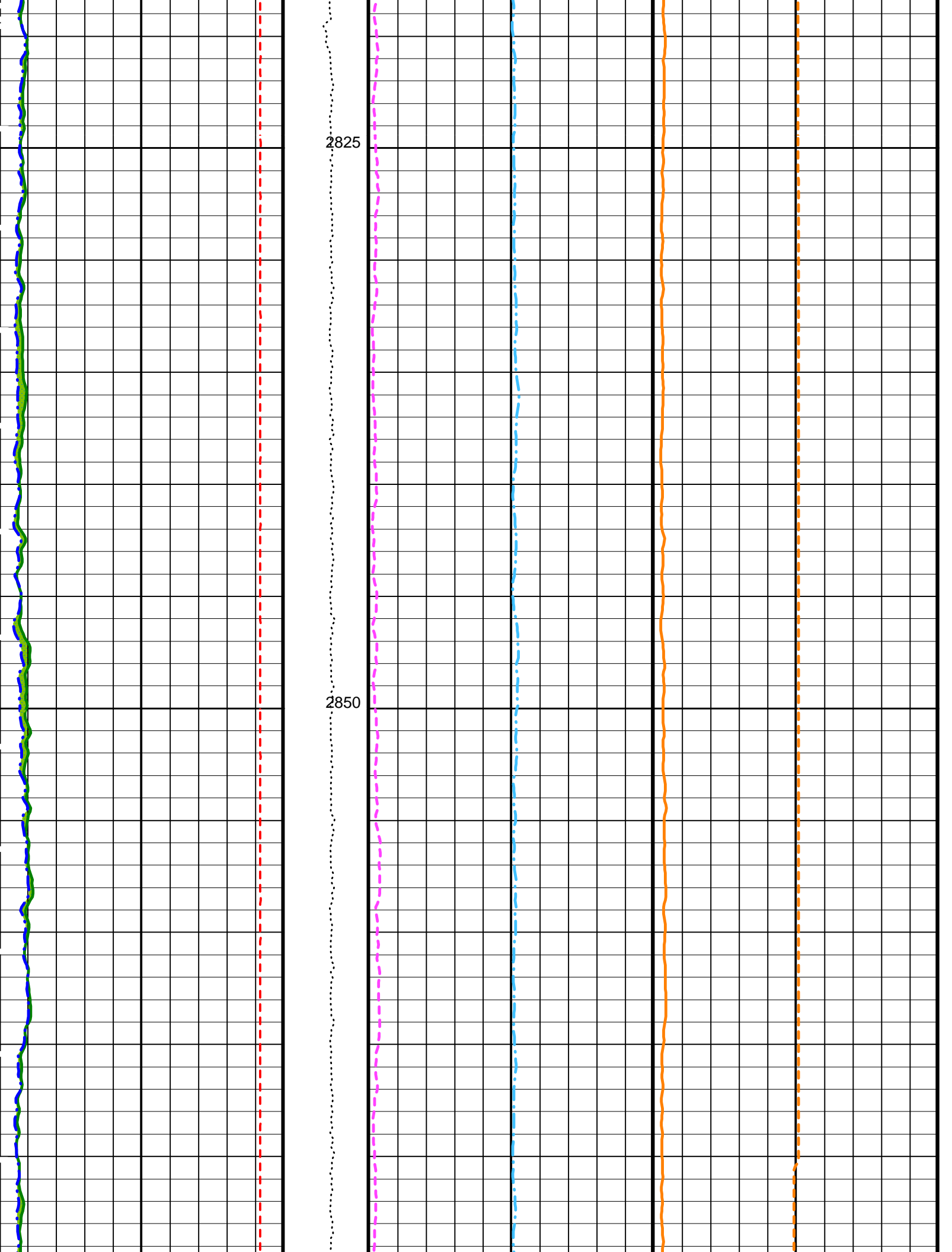


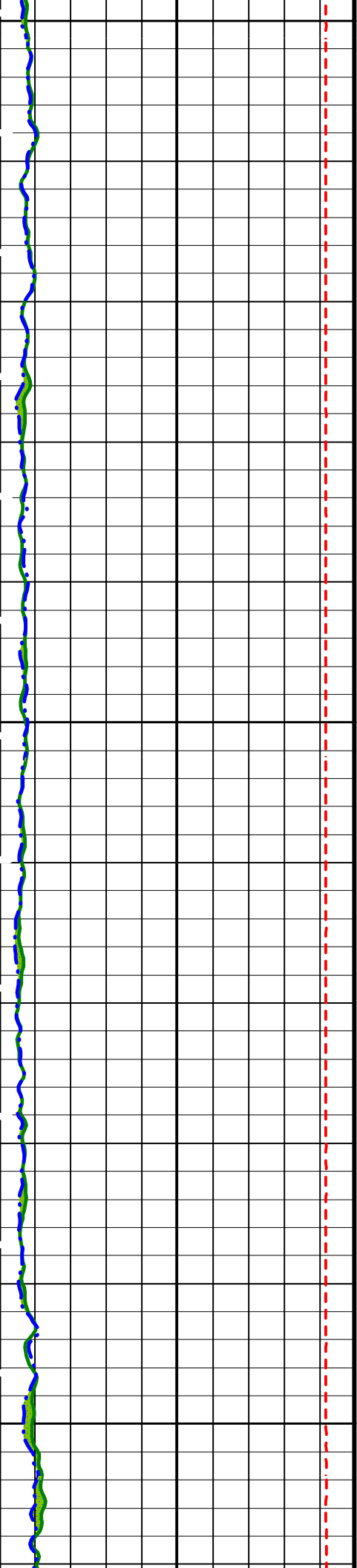








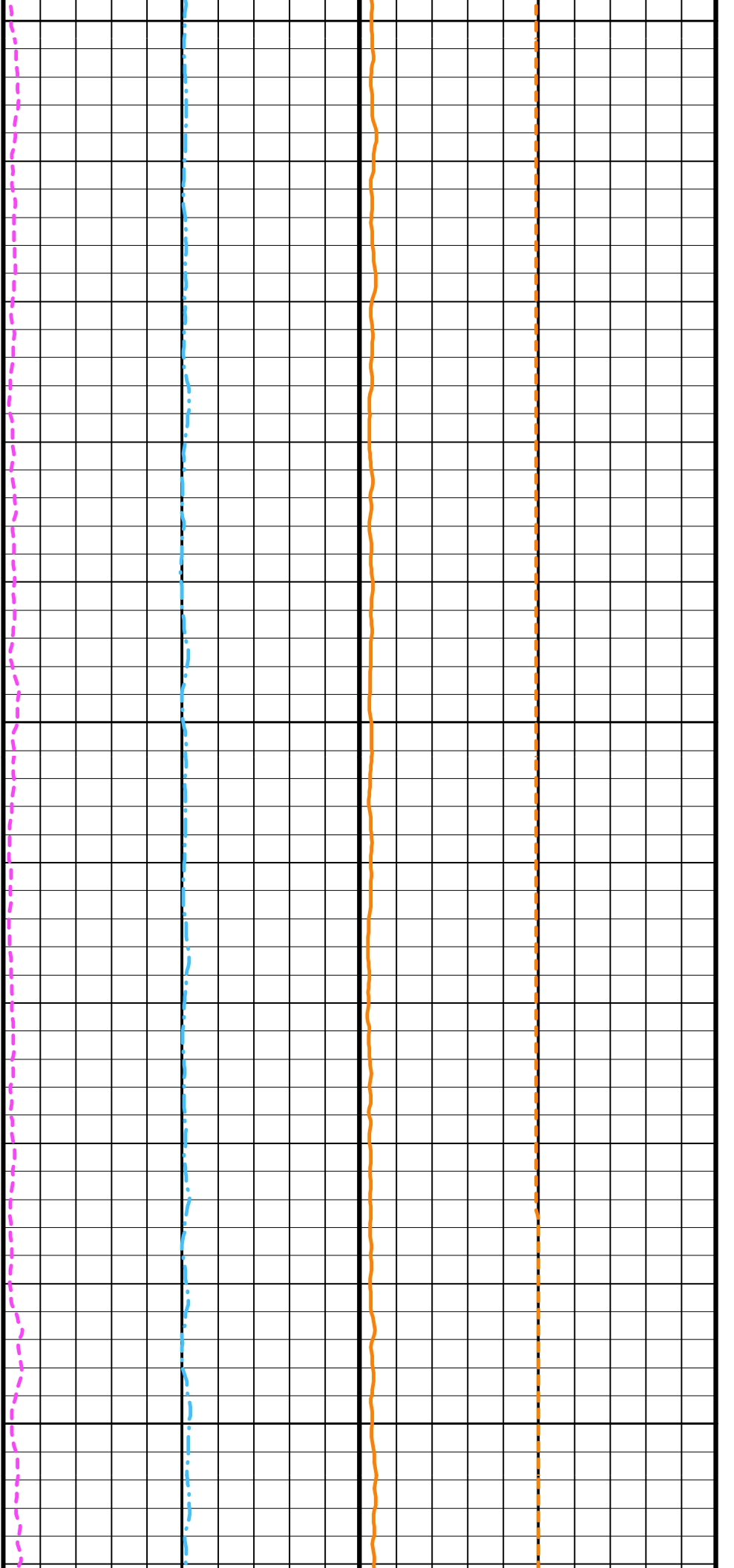


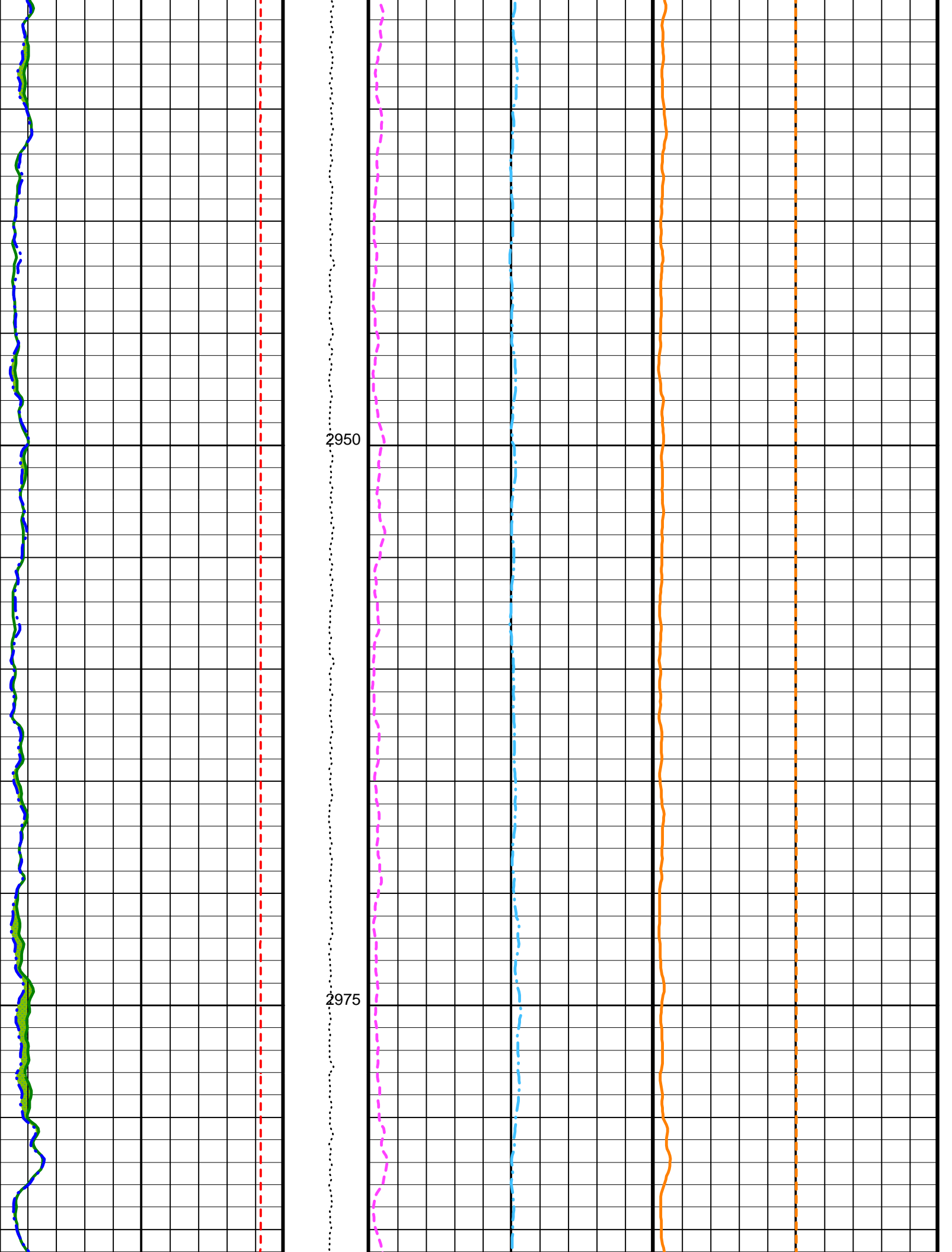


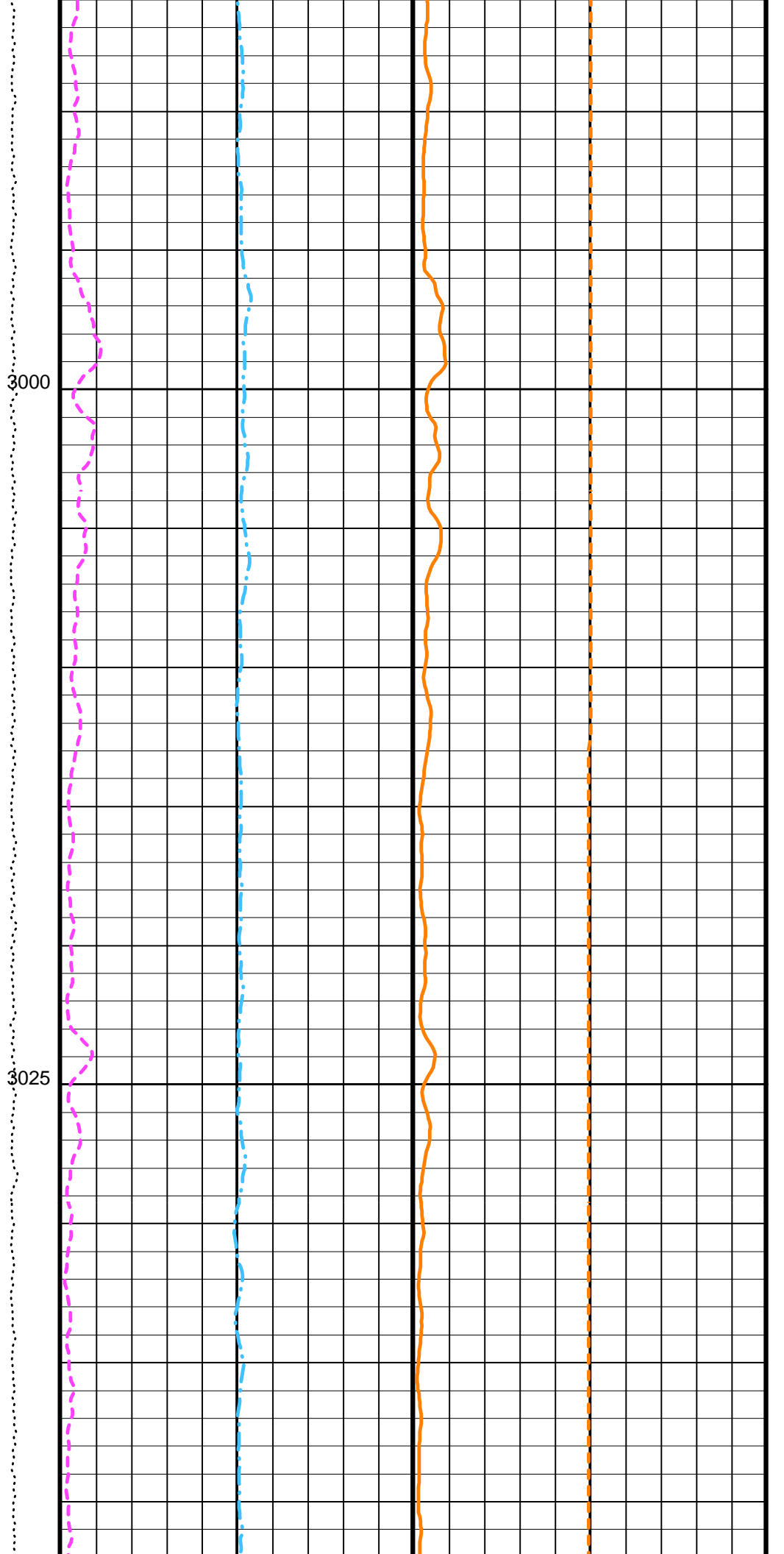
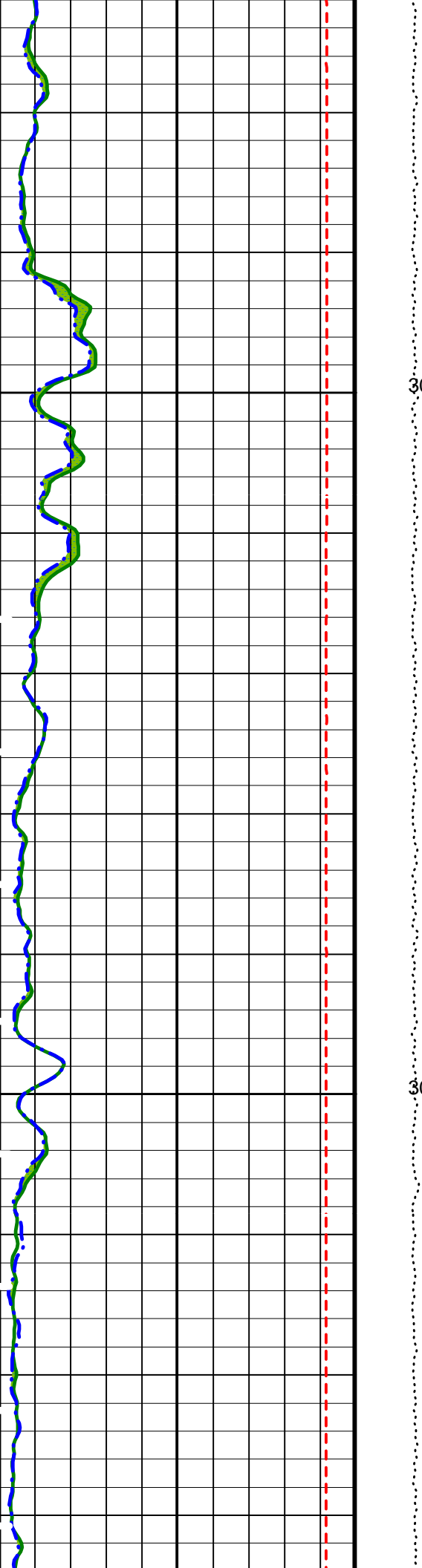
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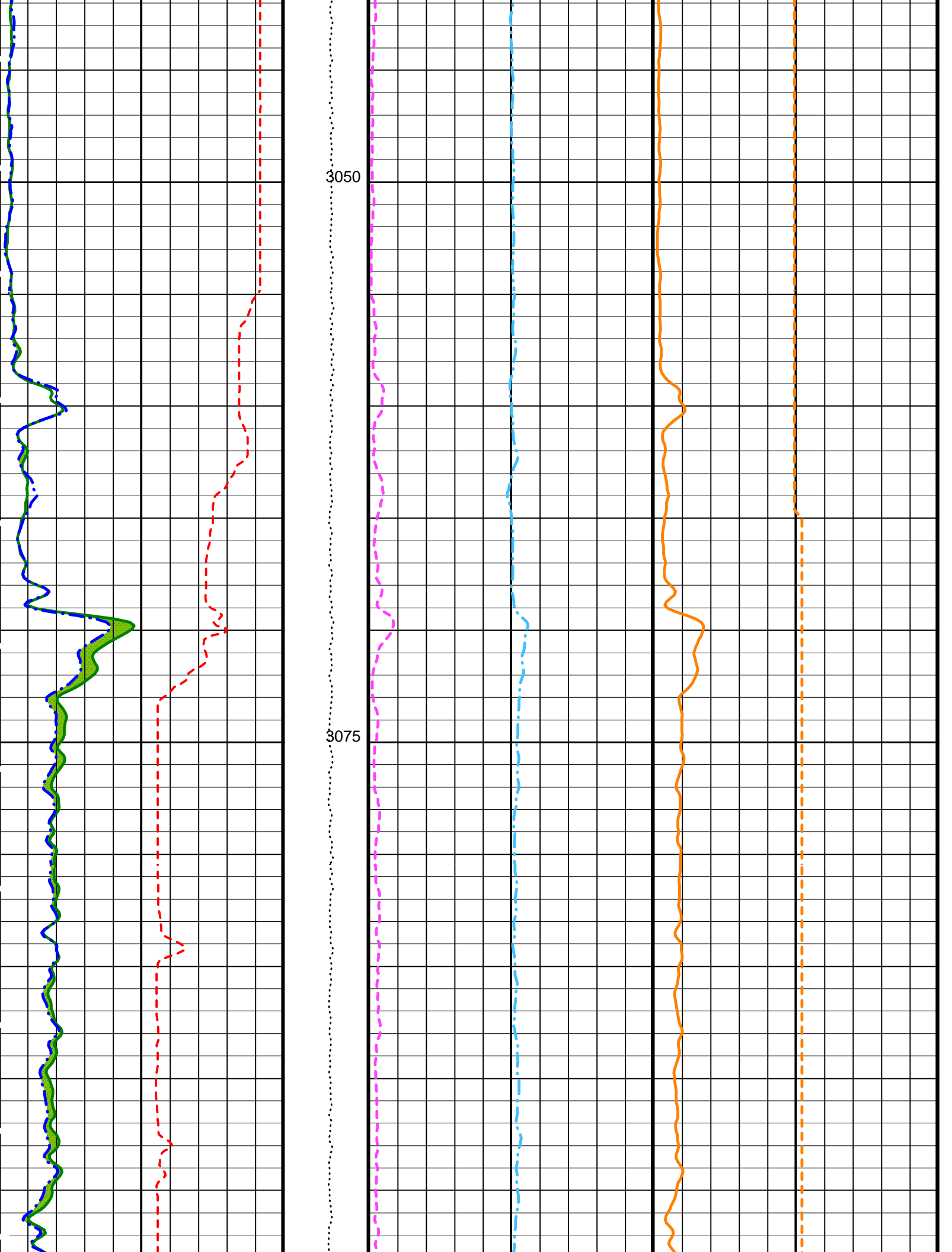
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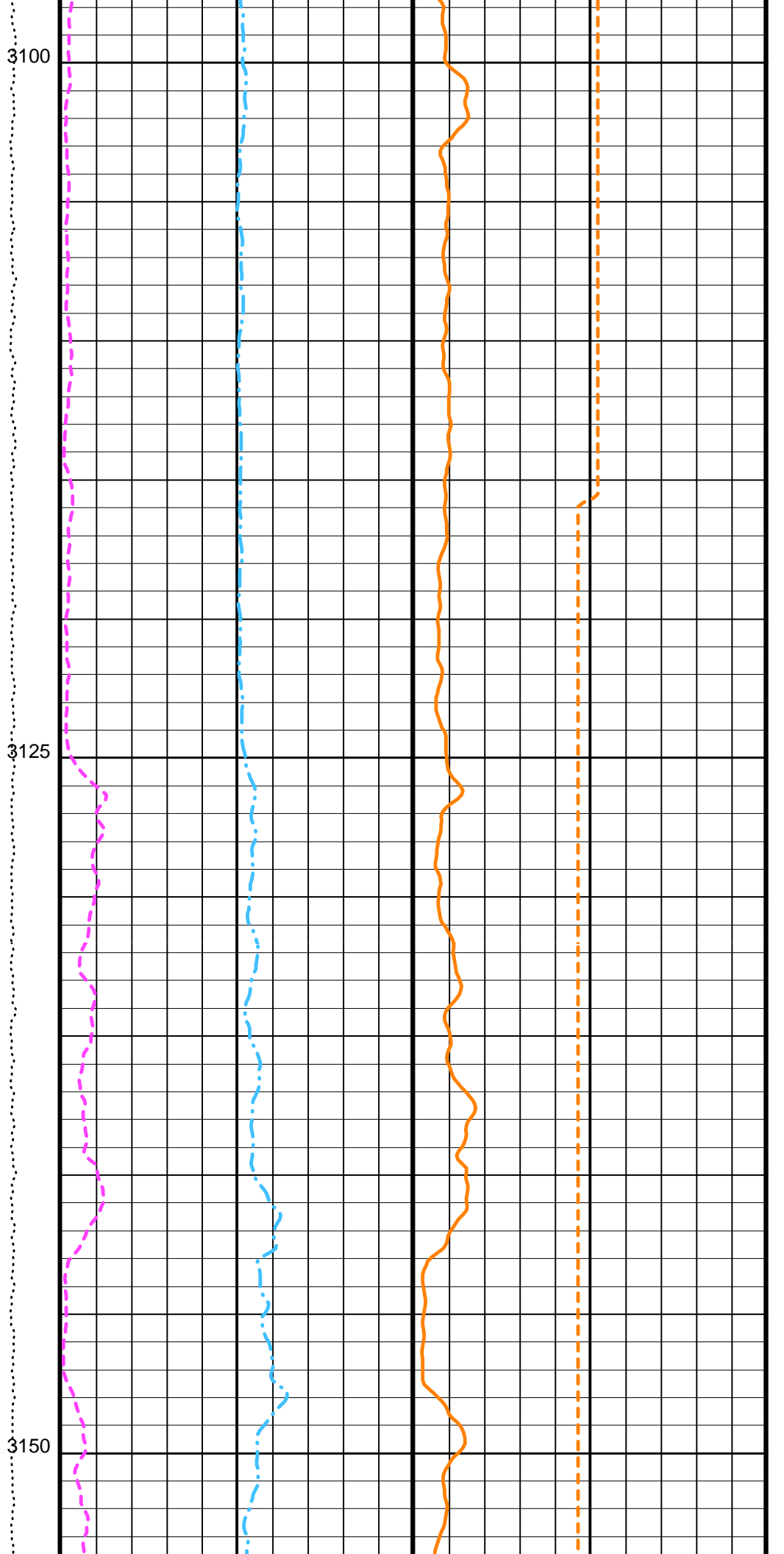
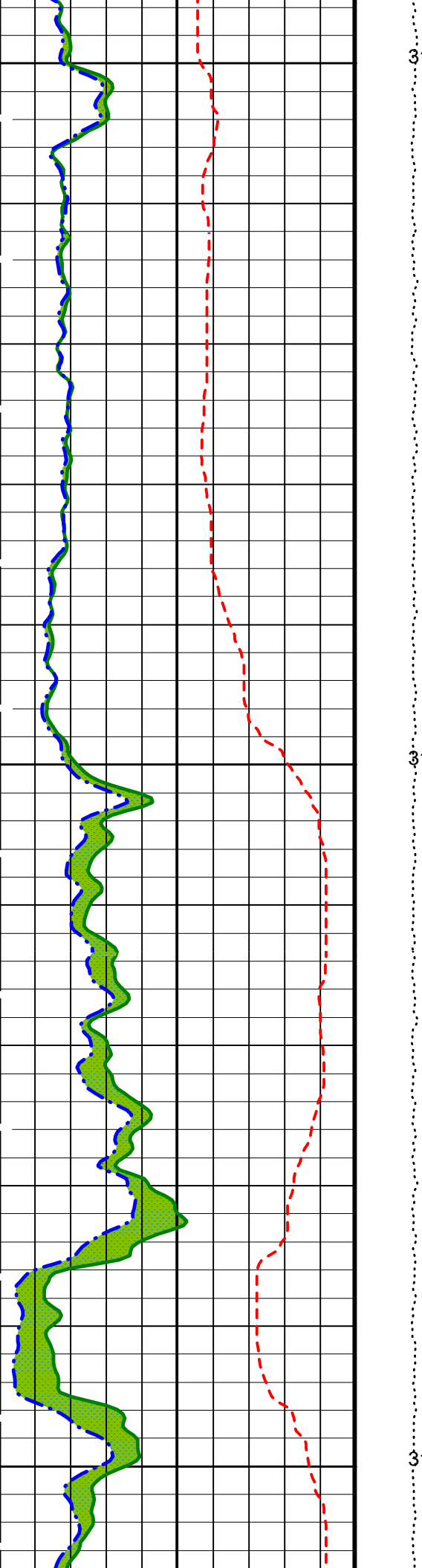
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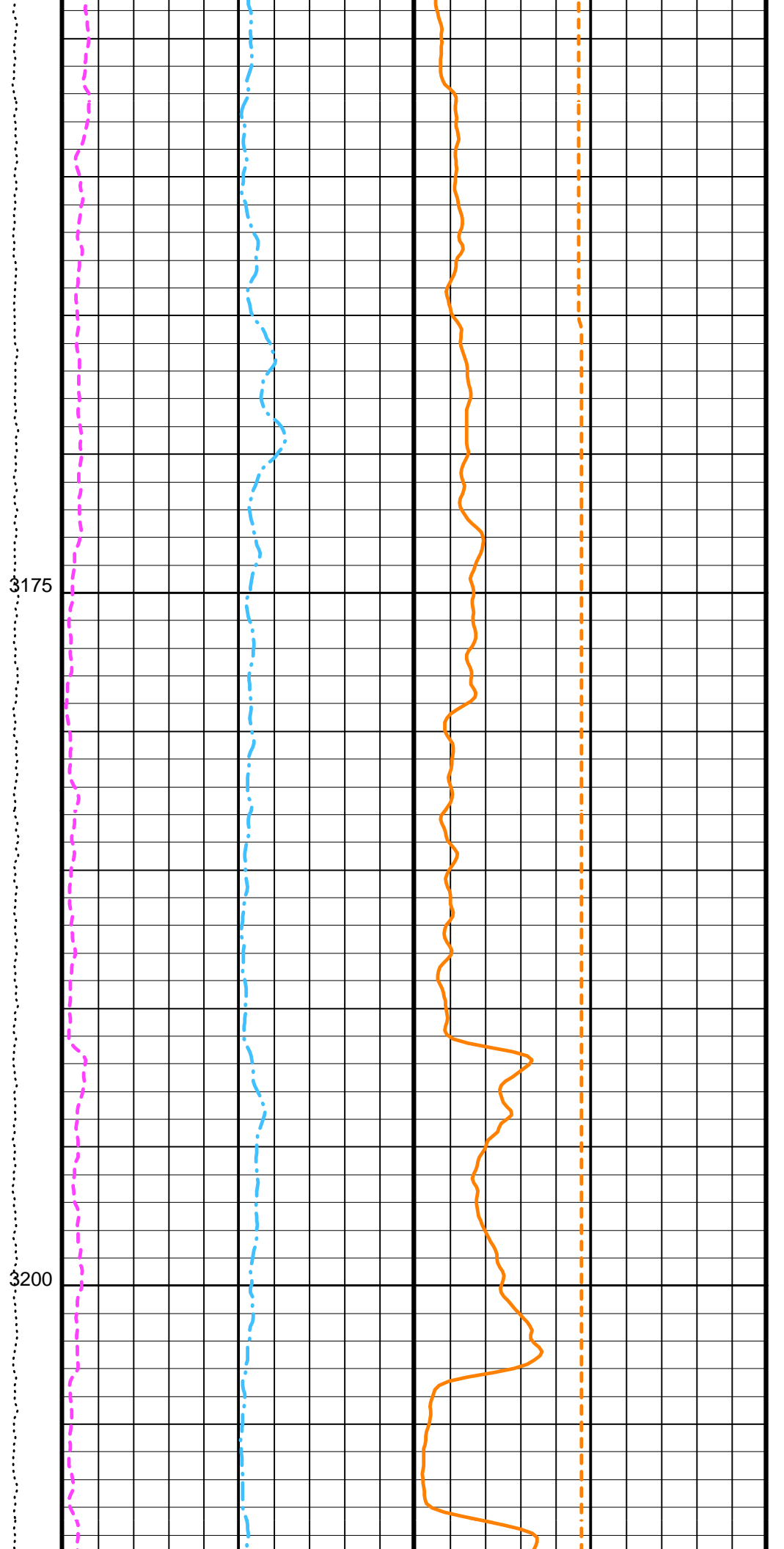
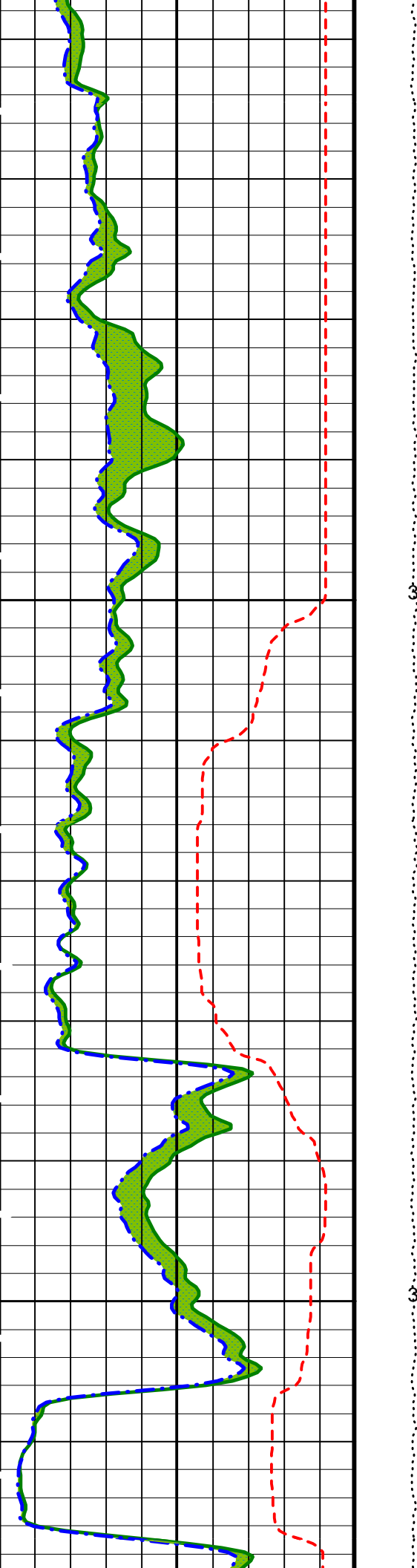


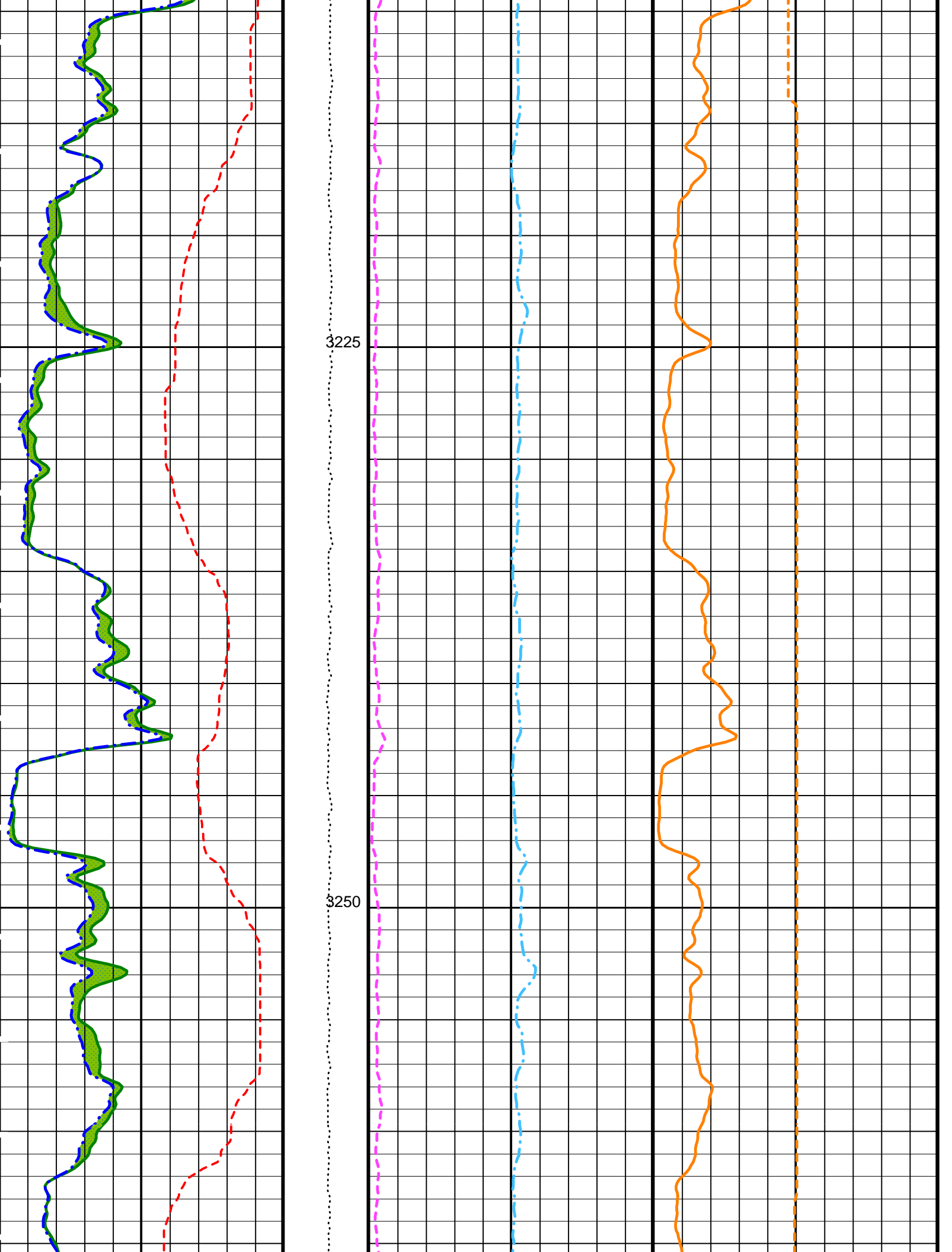




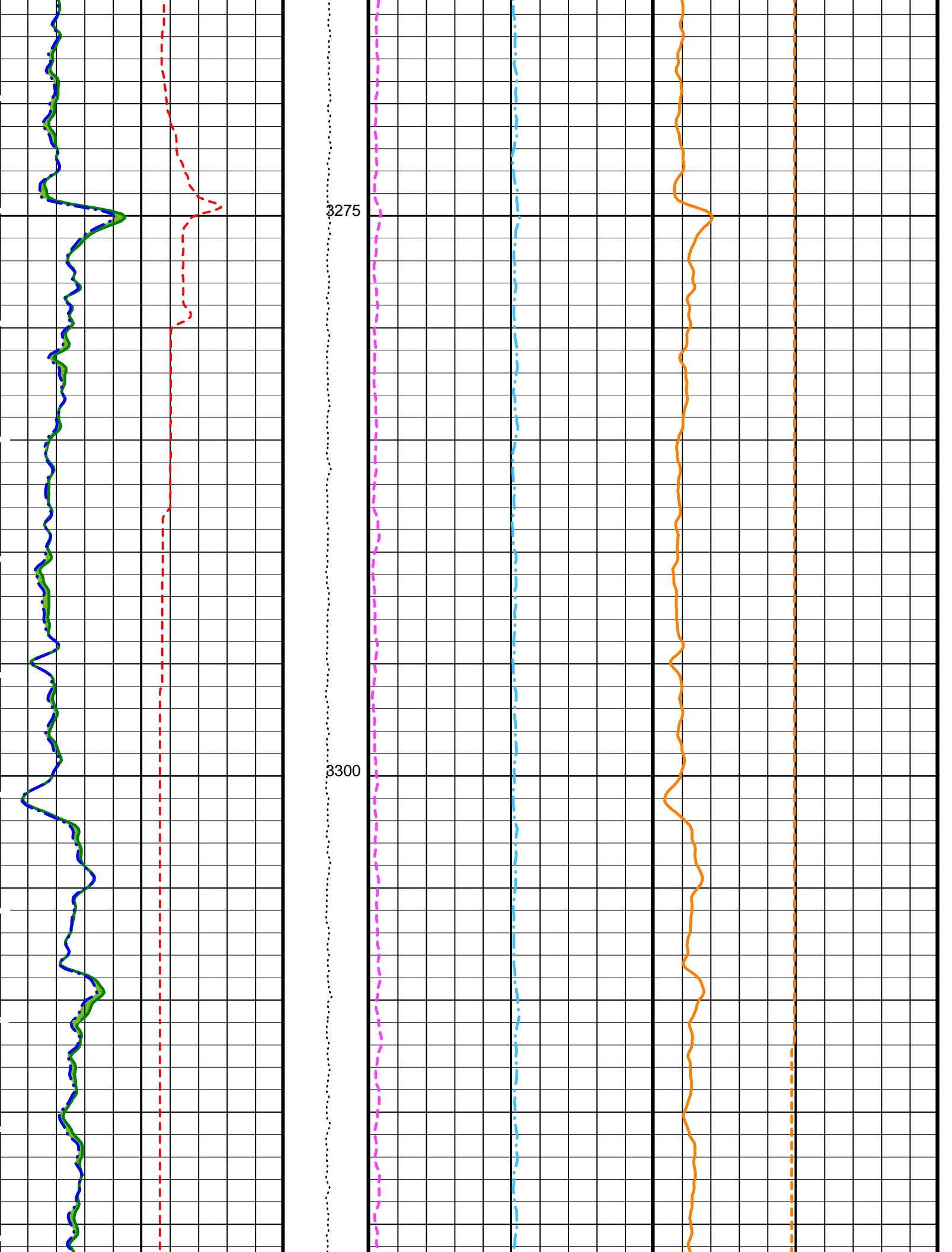


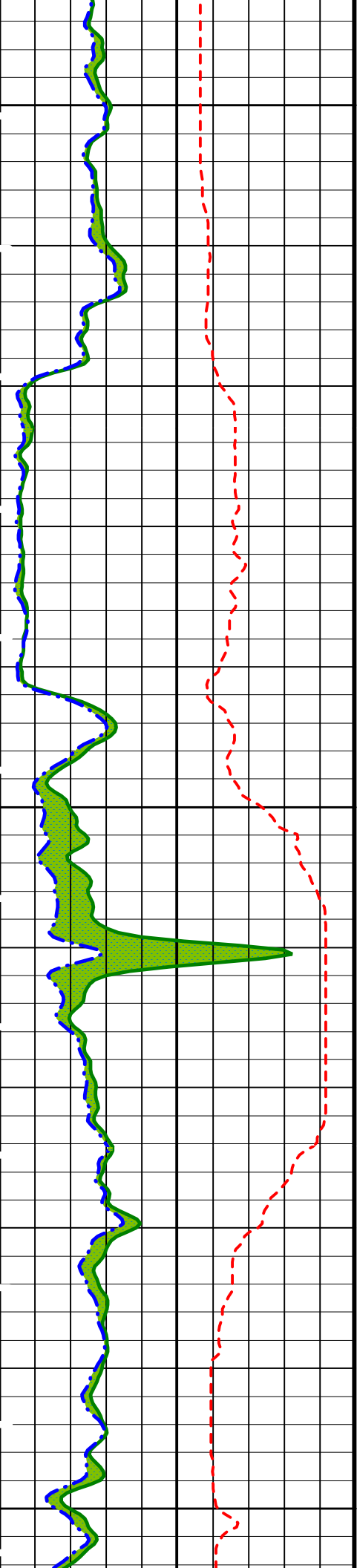








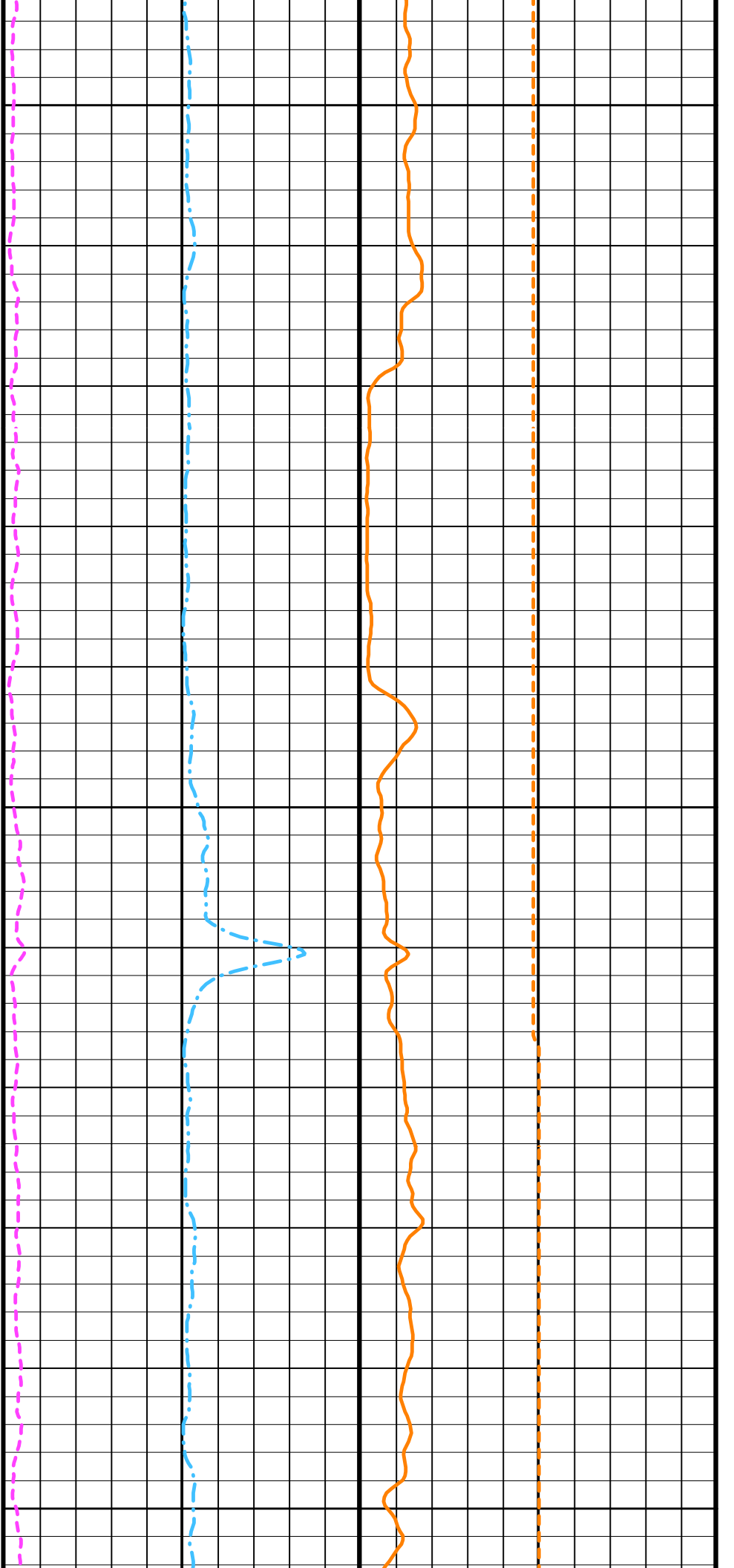


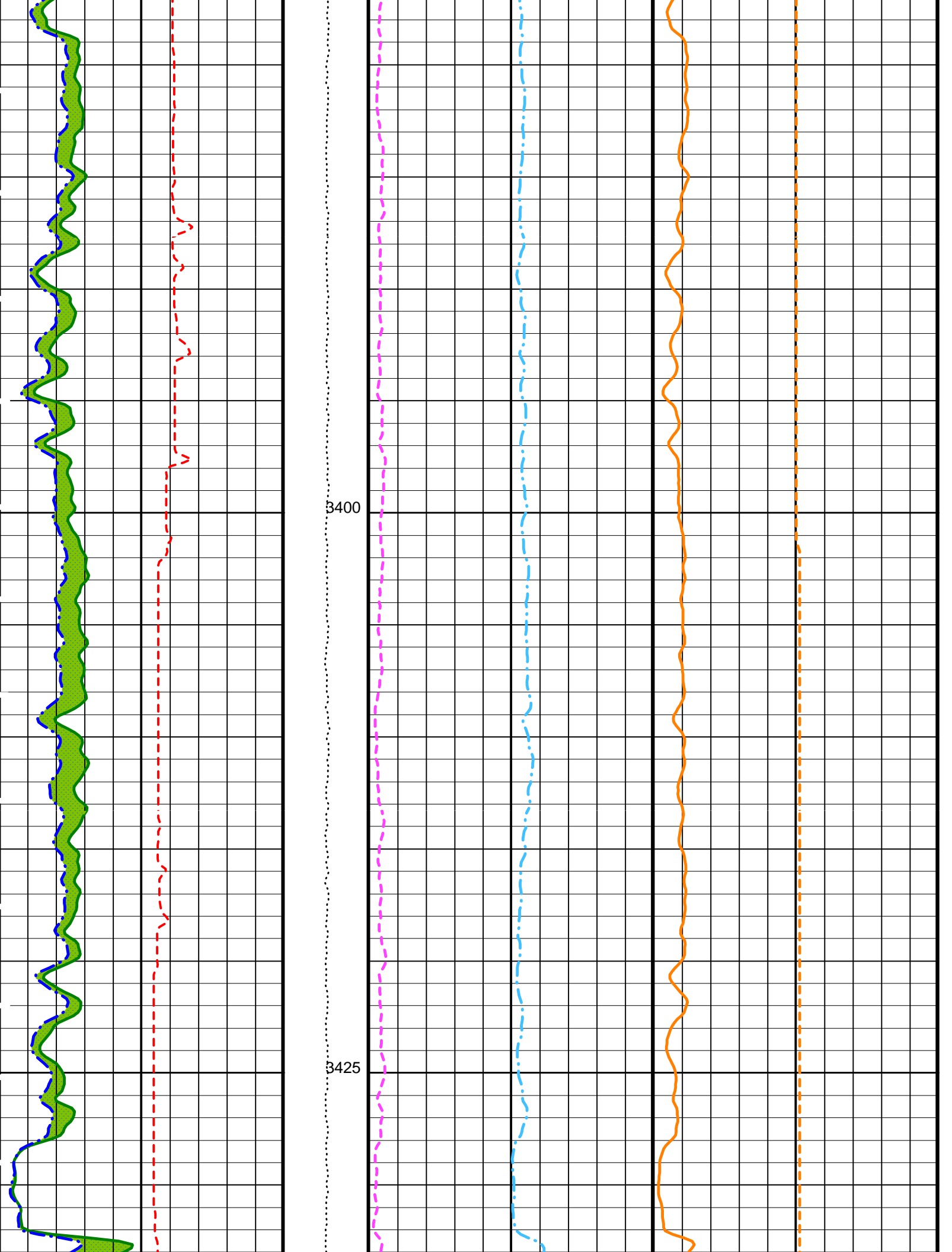


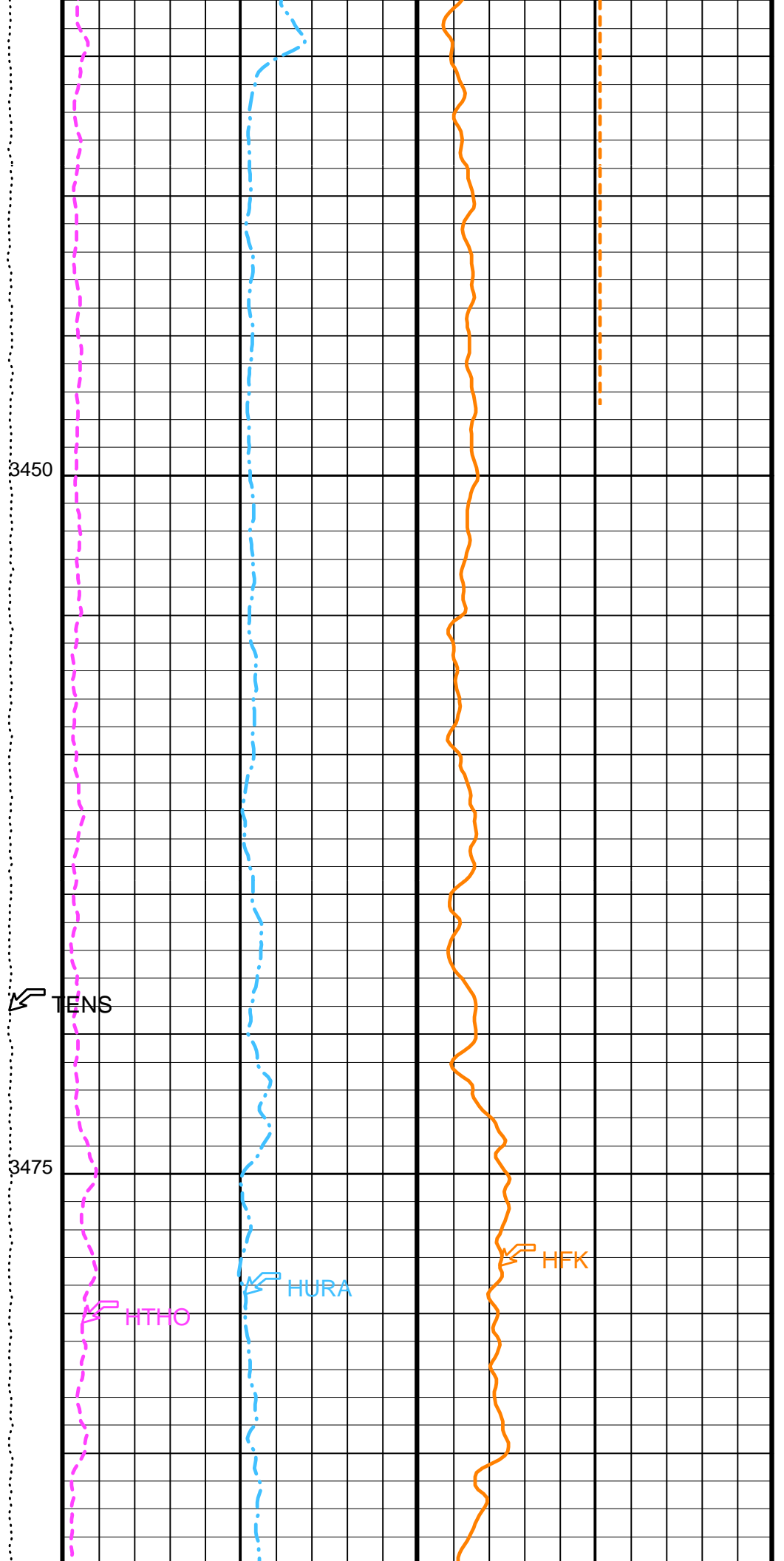
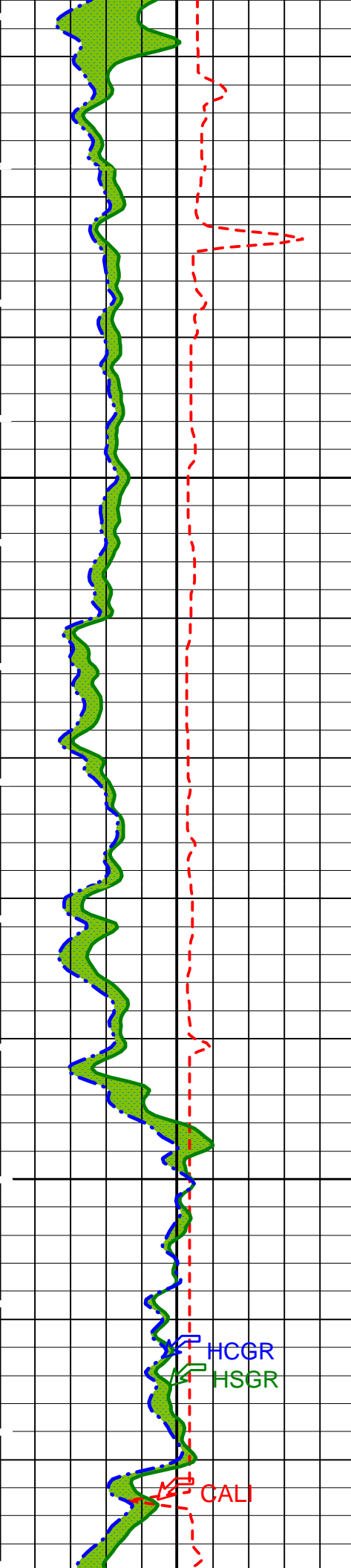
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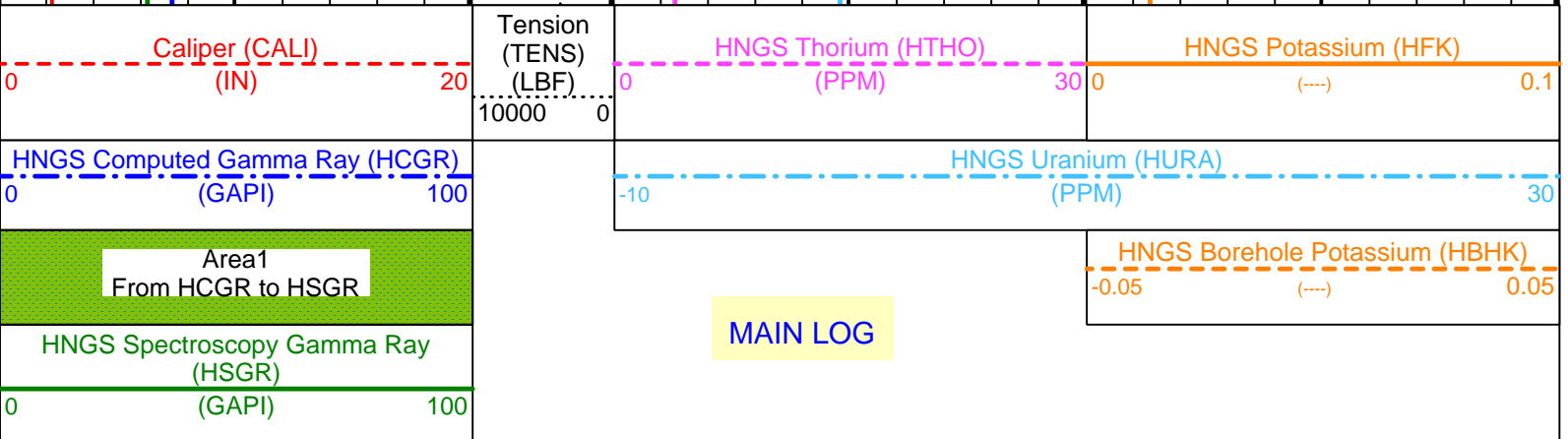
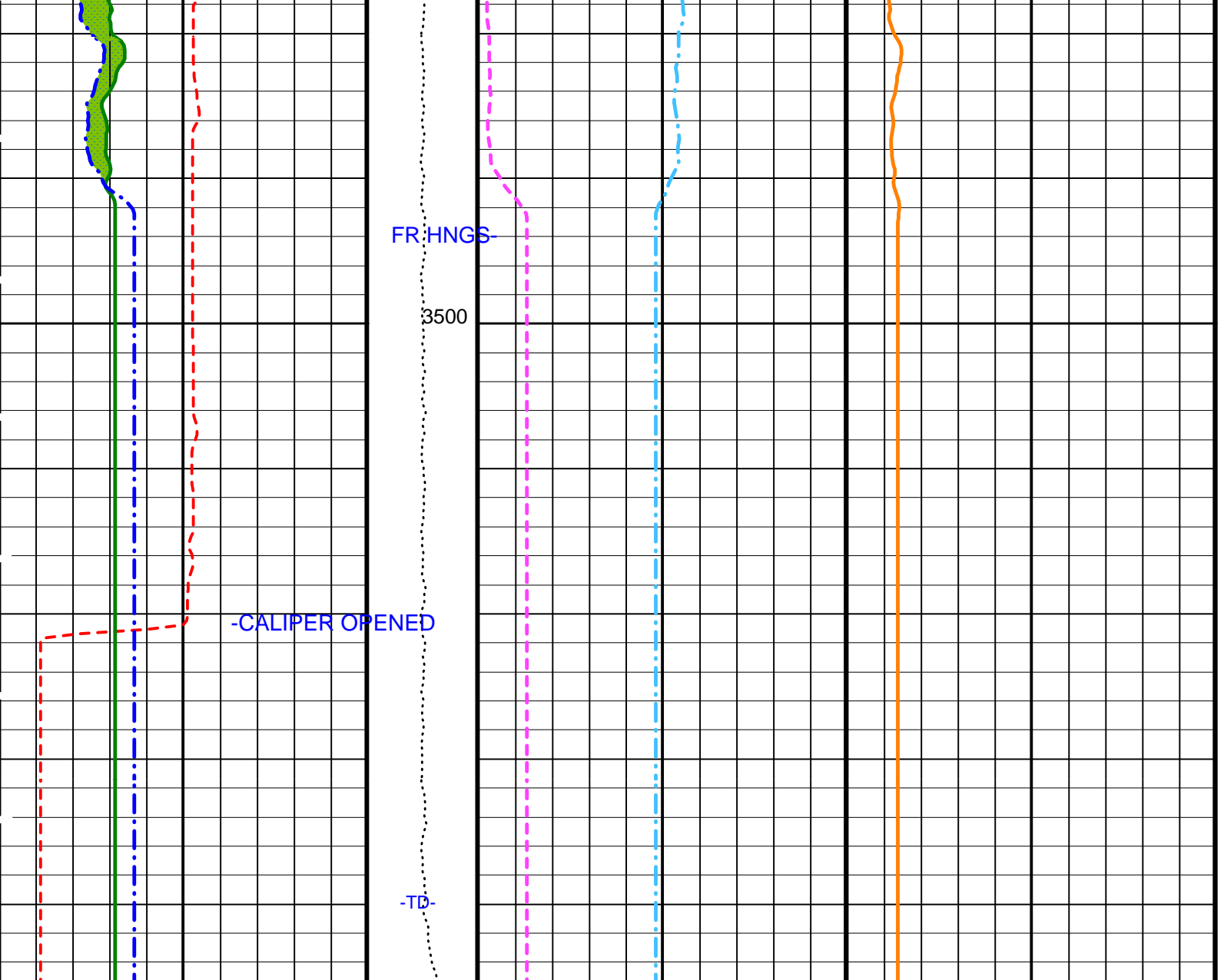
3350

3375









PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
BKSF	HNGS Borehole Fluid Excluder Sleeve Algorithm Factor	1
BKSH	HNGS Borehole Fluid Excluder Sleeve Algorithm High Channel	245
BKSL	HNGS Borehole Fluid Excluder Sleeve Algorithm Low Channel	17

BS	Bit Size	9.875	IN
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
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	7.47657	%
D1TC	HNGS Detector 1 Calibration Temperature	15.7627	DEGC
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	211.807	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	6.59237	%
D2TC	HNGS Detector 2 Calibration Temperature	14.9664	DEGC
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.368	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DFD	Drilling Fluid Density	1.07	G/C3
DO	Depth Offset for Playback	0.0	M
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
GCSE	Generalized Caliper Selection	CALI	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.000954095	
HALF	HNGS Alpha Filter Length	60	IN
HATIM	HNGS Marquardt Accumulation Time	600	S
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
HSLV	HNGS Borehole Fluid Excluder Sleeve Status	NO	
HSVN	HNGS Spectral Standards Version Number	2.30388e-036	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
PP	Playback Processing	NORMAL	
RDF1_START	HNGS Detector 1 RDF Constant	0	
RDF2_START	HNGS Detector 2 RDF Constant	0	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S1NA	HNGS Detector 1 Calibration Sodium Count Rate	19.4971	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.99201	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	19.8566	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.984299	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.00011377	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.06295	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.97096	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 25-Jul-2001 05:36

### OP System Version: 9C2-303

MCM

DLT-E	9C2-303	HLDT-A	9C2-303
DTA-A	9C2-303	NPLC-B	9C2-303
APS-BA	9C2-303	HNGS-BA	9C2-303
DTC-H	9C2-303		

### Input DLIS Files

DEFAULT	SPLICE_DLL_LDL_APS_025	FN:1	PRODUCER	25-Jul-2001 05:32	3522.7 M	2581.1 M
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### Output DLIS Files

DEFAULT	DLL_LDL_APS_HNGS_026PUP	FN:42	PRODUCER	25-Jul-2001 05:35		
REDUCE	DLL_LDL_APS_HNGS_026PUP	FN:43	PRODUCER	25-Jul-2001 05:35		

### Input DLIS Files

DEFAULT	DLL_LDL_APS_HNGS_006LUP	FN:8	PRODUCER	23-Jul-2001 17:29	3031.2 M	2903.5 M
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### Output DLIS Files

DEFAULT	DLL_LDL_APS_HNGS_021PUP	FN:36	PRODUCER	25-Jul-2001 05:01	3033.2 M	2912.5 M
REDUCE	DLL_LDL_APS_HNGS_021PUP	FN:37	PRODUCER	25-Jul-2001 05:01	3033.2 M	2912.5 M

### OP System Version: 9C2-303

MCM

DLT-E	9C2-303	HLDT-A	9C2-303
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DTA-A 9C2-303  
APS-BA 9C2-303  
DTC-H 9C2-303

NPLC-B  
HNGS-BA

9C2-303  
9C2-303

### PIP SUMMARY

Time Mark Every 60 S

HNGS Spectroscopy Gamma Ray (HSGR)  
(GAPI) 0 100

Area1  
From HCGR to HSGR

HNGS Computed Gamma Ray (HCGR)  
(GAPI) 0 100

Caliper (CALI)  
(IN) 0 20

Tension (TENS)  
(LBF) 10000 0

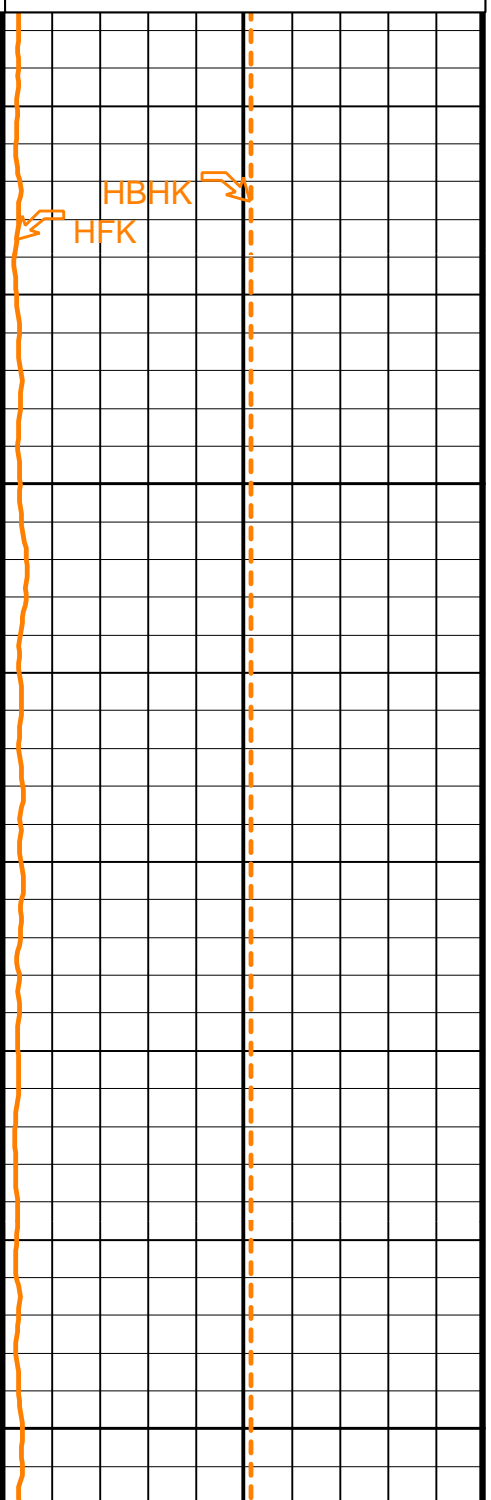
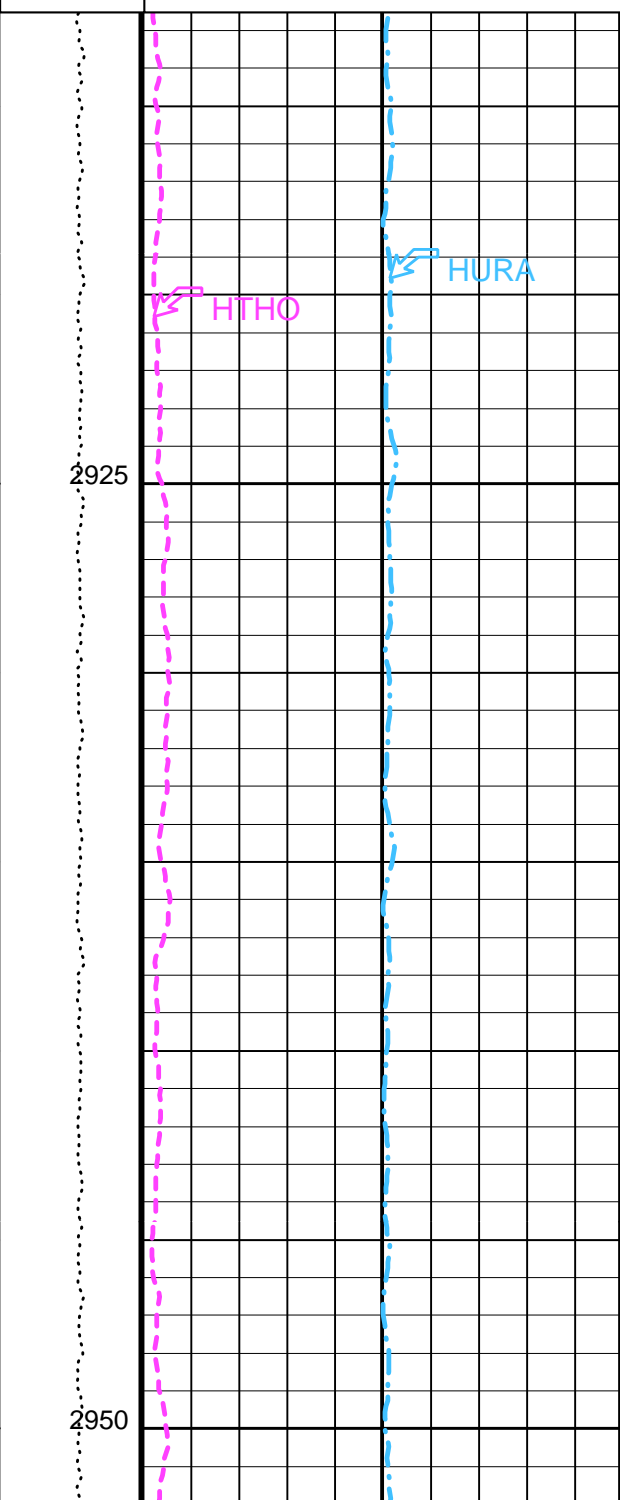
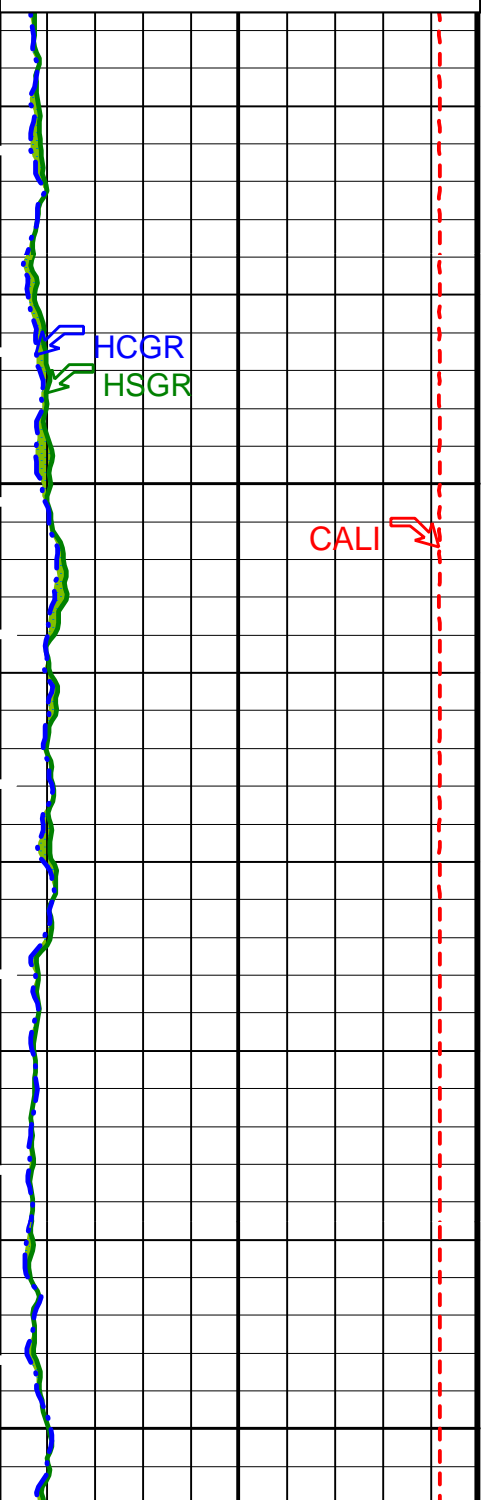
REPEAT SECTION

HNGS Borehole Potassium (HBHK)  
(-0.05) (---) 0.05

HNGS Uranium (HURA)  
(PPM) -10 30

HNGS Thorium (HTHO)  
(PPM) 0 30

HNGS Potassium (HFK)  
(---) 0 0.1



2925

2950

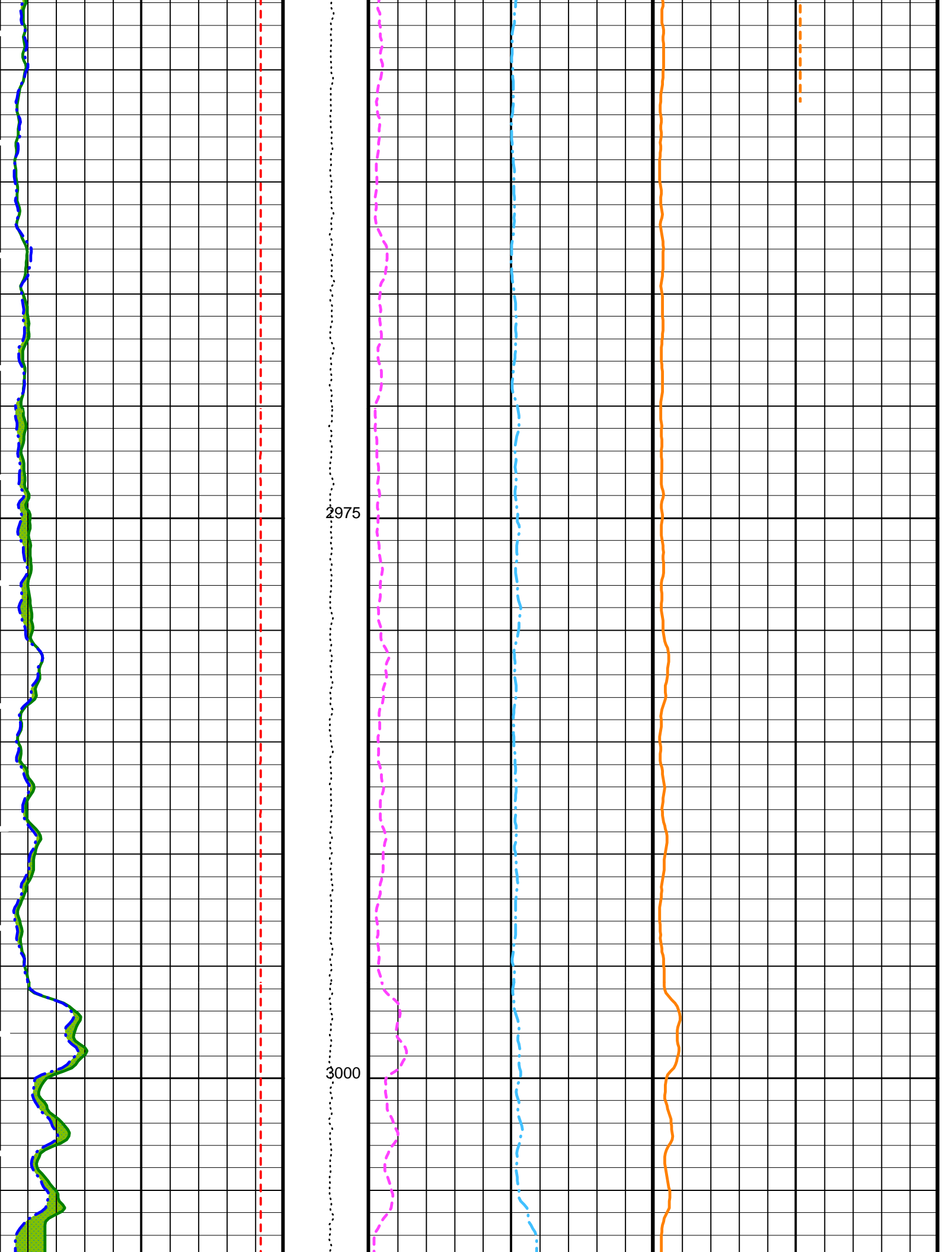
HCGR  
HSGR

CALI

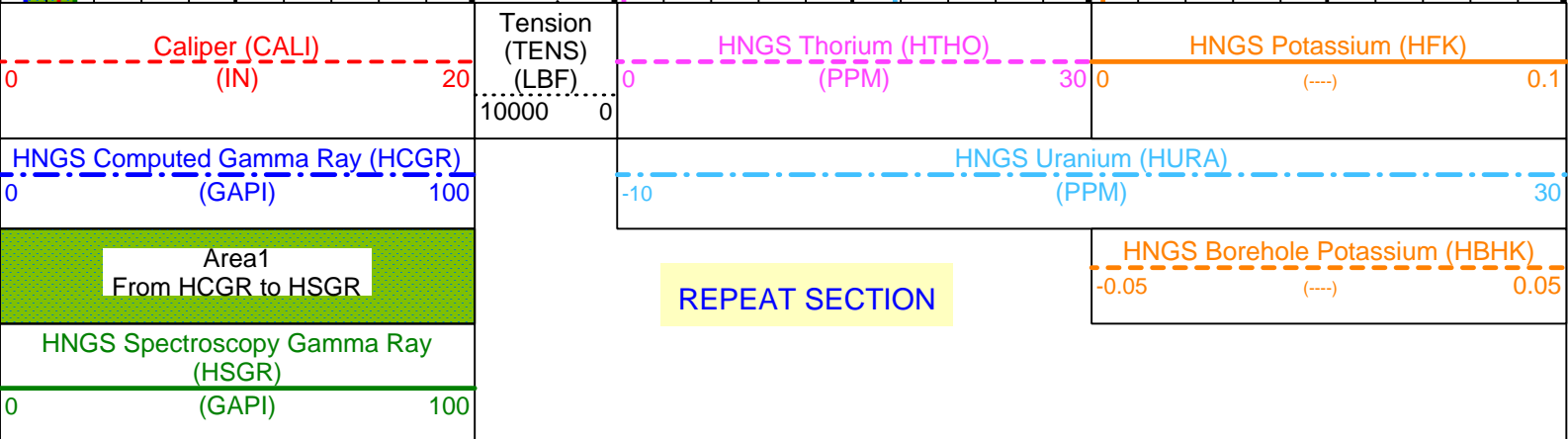
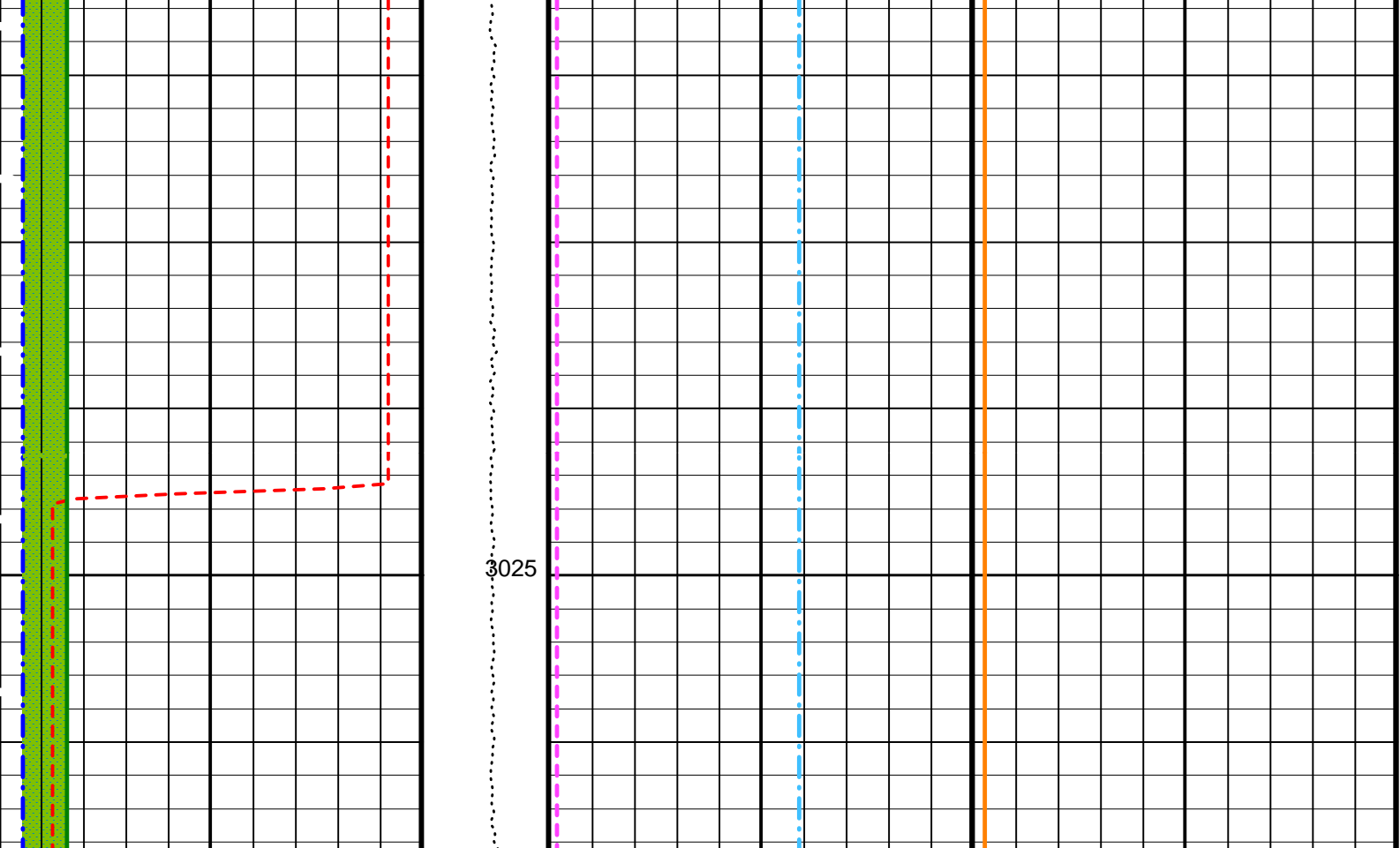
HTHO

HURA

HFK  
HBHK







PIP SUMMARY

▶ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
BKSF	HNGS Borehole Fluid Excluder Sleeve Algorithm Factor	1
BKSH	HNGS Borehole Fluid Excluder Sleeve Algorithm High Channel	245
BKSL	HNGS Borehole Fluid Excluder Sleeve Algorithm Low Channel	17
BS	Bit Size	9.875 IN
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
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	7.47657 %
D1TC	HNGS Detector 1 Calibration Temperature	15.7627 DEGC
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	211.807
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	6.59237 %
D2TC	HNGS Detector 2 Calibration Temperature	14.9664 DEGC
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.368
DBCC	HNGS Barite Constant Correction Flag	NONE
DFD	Drilling Fluid Density	1.07 C/G3

DFD	Drilling Fluid Density	1.07	G/GS
DO	Depth Offset for Playback	2.0	M
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
GCSE	Generalized Caliper Selection		CALI
H1P	HNGS Detector 1 Allow/Disallow In Processing		ALLOW
H2P	HNGS Detector 2 Allow/Disallow In Processing		ALLOW
HABK	HNGS Borehole Potassium Running Average	-0.000954095	
HALF	HNGS Alpha Filter Length	60	IN
HATIM	HNGS Marquardt Accumulation Time	600	S
HCRB	HNGS Apply Borehole Potassium Correction		NONE
HMWM	Mud Weighting Material		NATU
HNPE	HNGS Processing Enable		YES
HSLV	HNGS Borehole Fluid Excluder Sleeve Status		NO
HSVN	HNGS Spectral Standards Version Number	7.99225e-033	
MARQ_START	HNGS Marquardt Start-up Mode		INTERNAL
PP	Playback Processing		NORMAL
RDF1_START	HNGS Detector 1 RDF Constant	0	
RDF2_START	HNGS Detector 2 RDF Constant	0	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S1NA	HNGS Detector 1 Calibration Sodium Count Rate	19.4971	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.99201	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	19.8566	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.984299	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.00011377	
SGRC	HNGS Standard Gamma-Ray Correction Flag		YES
TPOS	Tool Position		ECCE
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.06295	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.97096	

Format: HNGSYields    Vertical Scale: 1:200    Graphics File Created: 25-Jul-2001 05:01

### OP System Version: 9C2-303 MCM

DLT-E	9C2-303	HLDT-A	9C2-303
DTA-A	9C2-303	NPLC-B	9C2-303
APS-BA	9C2-303	HNGS-BA	9C2-303
DTC-H	9C2-303		

### Input DLIS Files

DEFAULT	DLL_LDL_APS_HNGS_006LUP	FN:8	PRODUCER	23-Jul-2001 17:29	3031.2 M	2903.5 M
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### Output DLIS Files

DEFAULT	DLL_LDL_APS_HNGS_021PUP	FN:36	PRODUCER	25-Jul-2001 05:01		
REDUCE	DLL_LDL_APS_HNGS_021PUP	FN:37	PRODUCER	25-Jul-2001 05:01		

### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
<b>DUAL LATEROLOG - E Wellsite Calibration - DLT ELECTRONICS CALIBRATION Laterolog Measurement</b>							
Before: 15-Jul-2001 2:11    After: Calibration not done							
MEASURED LLD	31.62	N/A	31.96	0	-31.96	0.9000	OHMM
MEASURED LLS	31.62	N/A	31.20	0	-31.20	0.9000	OHMM
<b>Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement</b>							
Master: 15-Jun-2001 22:40    Before: 14-Jul-2001 20:01    After: Calibration not done							
LSW1 Background	100.0	88.23	89.44	N/A	N/A	0.03000	CPS
LSW2 Background	105.0	92.91	93.54	N/A	N/A	0.03000	CPS
LSW3 Background	210.0	180.2	179.9	N/A	N/A	0.03000	CPS
LSW4 Background	290.0	241.8	238.2	N/A	N/A	0.03000	CPS
LSW5 Background	610.0	534.7	531.6	N/A	N/A	0.03000	CPS
SSW1 Background	100.0	87.60	86.10	N/A	N/A	0.03000	CPS
SSW2 Background	200.0	171.6	170.6	N/A	N/A	0.03000	CPS
SSW3 Background	530.0	453.1	451.3	N/A	N/A	0.03000	CPS
SSW4 Background	280.0	239.2	239.8	N/A	N/A	0.03000	CPS
SSW5 Background	205.0	178.2	177.8	N/A	N/A	0.03000	CPS

<b>Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage</b>							
Master: 15-Jun-2001 22:40    Before: 14-Jul-2001 20:01    After: Calibration not done							
LS Bkg High Voltage	1128	1128	1126	N/A	N/A	N/A	V

LS Bkg. High Voltage	1178	1178	1166	N/A	N/A	N/A	V
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Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurements

Master: 15-Jun-2001 22:40 Before: 14-Jul-2001 20:01 After: Calibration not done

LS Background Resolution	1.000	1.042	1.027	N/A	N/A	N/A	
SS Background Resolution	1.000	0.9424	0.9251	N/A	N/A	N/A	

Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration

Before: 14-Jul-2001 20:15

Caliper Small Ring	12.00	N/A	16.05	N/A	N/A	N/A	IN
Caliper Large Ring	18.25	N/A	23.85	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration - Detector Background

Master: 27-Jun-2001 1:26 Before: 23-Jul-2001 15:09 After: Calibration not done

Near Det Bkg Cntrate	30.00	32.20	33.05	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	31.23	33.07	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	29.14	29.47	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	30.17	28.15	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.58	31.31	N/A	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios

Master: 27-Jun-2001 1:27

Near/Far Calibration Ratio	0.9250	0.8953	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.061	N/A	N/A	N/A	N/A	

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: 15-Jul-2001 3:02 Before: 15-Jul-2001 2:48

Na 511 Peak Loc	40.00	40.62	40.70	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.66	15.17	N/A	N/A	2.000	%
High Voltage	1150	1112	1113	N/A	N/A	30.00	V
Na 1785 Peak Loc	142.6	145.1	146.0	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.929	9.084	N/A	N/A	2.000	%
Temperature	15.50	15.77	15.77	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	19.50	19.48	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 15-Jul-2001 3:02 Before: 15-Jul-2001 2:48

Na 511 Peak Loc	40.00	40.48	40.59	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.26	14.04	N/A	N/A	2.000	%
High Voltage	1150	1198	1200	N/A	N/A	30.00	V
Na 1785 Peak Loc	142.6	143.7	144.7	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.190	8.364	N/A	N/A	2.000	%
Temperature	15.50	15.00	14.95	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	19.86	19.71	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2

Master: 15-Jul-2001 3:02 Before: 15-Jul-2001 2:48

Coincidence Count Rate Ratio	1.000	0.9812	0.9885	N/A	N/A	0.05000	
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Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 15-Jul-2001 2:55

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	211.8	--	--	--	--	
Th Peak Res	7.000	7.477	--	--	--	--	%
Background Count Rate	142.5	17.17	--	--	--	--	CPS
Gain Ratio	1.000	0.9920	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration

Master: 15-Jul-2001 2:55

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.4	--	--	--	--	
Th Peak Res	7.000	6.592	--	--	--	--	%
Background Count Rate	142.5	18.69	--	--	--	--	CPS
Gain Ratio	1.000	0.9843	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting 1748 V  
 Far Detector Plateau Setting 2052 V  
 Array Detector Plateau Setting 1969 V

DUAL LATEROLOG - E / Equipment Identification

Primary Equipment:

Auxiliary Equipment:

Primary Equipment:	DLE - E	929
Dual Laterolog Electrode	DLS - F	2893
Dual Laterolog Housing	DLH - CB	930
Dual Laterolog Cartridge	DLC - D	
Laterolog Control Module	LCM - AA	

Hostile Environment Litho Density - A / Equipment Identification

Primary Equipment:		
HOSTILE ENVIRONMENT LITHO DENSITY HIGH V	HLDV - A	10
HOSTILE ENVIRONMENT LITHO DENSITY CARTRI	HLDC - AA	11
Gamma Source Radioactive	GSR - Z	1846
Auxiliary Equipment:		
HOSTILE ENVIRONMENT LITHO DENSITY SONDE	HLDS - B	10
HOSTILE ENVIRONMENT ELECTRONICS CARTRIDG	HEH - H	12
HOSTILE ENVIRONMENT ELECTRONICS CARTRIDG	HEH - G	11
HOSTILE ENVIRONMENT LITHO DENSITY PAD	HLDP - B	10

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 - BA	22
APS Minitron	MNTR - F	4185
Auxiliary Equipment:		
Accelerator-Porosity Housing	APH - AC	22
APS Calibration Water Tank	SFT - 178	4722
APS Aluminium Calibrator Sleeve	SFT - 281	24

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS - BA	27
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH - BA	27
Gamma Source Radioactive	GSR - U	135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.62	Master		15.66	Master		1112
Before		40.70	Before		15.17	Before		1113
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		145.1	Master		9.929	Master		15.77
Before		146.0	Before		9.084	Before		15.77
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		19.50						
Before		19.48						

15.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)	15.40
Master: 15-Jul-2001 3:02		Before: 15-Jul-2001 2:48	

Hostile Natural Gamma Ray Sonde Wellsite Calibration											
Detector 2 Check											
Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value
Master			40.48	Master			15.26	Master			1198
Before			40.59	Before			14.04	Before			1200
	37.50 (Minimum)	40.00 (Nominal)	42.50 (Maximum)		12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)		900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)
Phase	Na 1785 Peak Loc		Value	Phase	Na 1785 Peak Res %		Value	Phase	Temperature DEGC		Value
Master			143.7	Master			8.190	Master			15.00
Before			144.7	Before			8.364	Before			14.95
	135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)		7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)		-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)
Phase	Na Count Rate CPS		Value								
Master			19.86								
Before			19.71								
	15.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)								
Master: 15-Jul-2001 3:02		Before: 15-Jul-2001 2:48									

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9812
Before		0.9885
	0.9500 (Minimum)	1.000 (Nominal)
Master: 15-Jul-2001 3:02		1.050 (Maximum)
Before: 15-Jul-2001 2:48		

Hostile Natural Gamma Ray Sonde Master Calibration											
Detector 1 Calibration											
Phase	Na 511 Peak Set Point		Value	Phase	Th Peak Loc		Value	Phase	Th Peak Res %		Value
Master			41.00	Master			211.8	Master			7.477
	38.00 (Minimum)	40.00 (Nominal)	42.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value	See Remarks			
Master	<b>EXCEEDS LIMIT</b>		17.17	Master			0.9920				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				
Master: 15-Jul-2001 2:55											

Hostile Natural Gamma Ray Sonde Master Calibration											
Detector 2 Calibration											
Phase	Na 511 Peak Set Point		Value	Phase	Th Peak Loc		Value	Phase	Th Peak Res %		Value
Master			41.00	Master			209.4	Master			6.592
	38.00 (Minimum)	40.00 (Nominal)	42.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value	See Remarks			
Master	<b>EXCEEDS LIMIT</b>		18.69	Master			0.9843				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				
Master: 15-Jul-2001 2:55											

<b>COMPANY:</b> Lamont Doherty  <b>WELL:</b> ODP Leg 197, Site He-3A, Hole 1203A <b>FIELD:</b> Detroit Seamount, Emperor Seamount Chain <b>OCEAN:</b> Pacific	BOTTOM LOG INTERVAL	3492 m
	SCHLUMBERGER DEPTH	3520 m
	DEPTH DRILLER	3519 m
	KELLY BUSHING	11.3 m
	DRILL FLOOR	11 m
	GROUND LEVEL	-2604 m

**Schlumberger**

Natural Gamma Ray  
HNGS