

COMPANY: Lamont Doherty

WELL: ODP Leg 189, Site 1172D (ETP-2A)

FIELD: East Tasmania

COUNTRY: Offshore STATE: Pacific Ocean



**Density/APS Porosity
Natural Gamma Ray**

COUNTY: Offshore
Field: East Tasmania
Location: ODP Leg 189, Site 1172D (ETP-2A)
Company: Lamont Doherty

LOCATION		
Permanent Datum:	MSL	Elev.: K.B. 11.2 m
Log Measured From:	RKB	G.L. 2621.7 m
Drilling Measured From:	RKB	D.F. 10.9 m
		Elev.: 0 ft
		11.2 m above Perm. Datum

API Serial No.	LATITUDE: 43° 57.5545' S	LONGITUDE: 149° 55.7169' E	RIG: JOIDES Resolution
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Logging Date	2-MAY-2000		
Run Number	One		
Depth Driller	3399.85 m		
Schlumberger Depth	3395 m		
Bottom Log Interval	3380 m		
Top Log Interval	2631 m		
Casing Driller Size @ Depth	0.000 in	@	2783 m
Casing Schlumberger	2782 m		
Bit Size	9.875 in		
Type Fluid In Hole	Salt Water Base		
Density	8.51234 lbm/gal		
Fluid Loss	PH		
Source Of Sample	Salt water		
RM @ Measured Temperature	0.220 ohm.m	@	58 degF
RMF @ Measured Temperature	@	@	@
RMC @ Measured Temperature	@	@	@
Source RMF	RMC		
RM @ MRT	0.147	@ 90	@ 90
Maximum Recorded Temperatures	90 degF		
Circulation Stopped	2-MAY-2000	Time	10:00
Logger On Bottom	2-MAY-2000	Time	16:15
Unit Number	99	Location	Houston OS
Recorded By	Kerry M. Swain		
Witnessed By	Patrick Fothergill, Ulysses S. Nimmemann		

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			
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			

Run 1

Run 2

Run

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

OTHER SERVICES1
 OS1: DITE/HNGS
 OS2: GHMT/DSI
 OS3:
 OS4:
 OS5:

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

REMARKS: RUN NUMBER 1
 Hole cored with RCB.
 Sea Floor at 2631 mbrf.
 Log presented in meters below rig floor.
 Lamont Temperature Tool (TAP) run on DITE/HLDS/APS/HNGS only.
 Wireline Heave Compensator used on all descents. Wireline heave compensator went out of range due to heavy heave conditions at 3339-3295, 3278-3257, 3066-2988, 2983-2965, 2918-2895, 2847-end of log.
 Sepiolite mud placed in the hole before logging.
 Drillers TD-3399.85 mbrf, Loggers TD-3395 mbrf, Drill Pipe Logger-2782 mbrf.
 APS near detector background before measurement out of tolerance due to extreme low temperature near sea floor.
 HLDS skid wear measurement out of tolerance but is not used in master calibration. HNGS background low but does not affect calibration.
 The caliper wear plate broke while logging due to heavy heave conditions.

REMARKS: RUN NUMBER 2




RUN 1		
LOGGED INTERVAL	START	STOP

RUN 2		
LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

SURFACE EQUIPMENT
 SFT-281 24
 SFT-178 4722
 GSR-U 135
 WITM (DTS)-A

DOWNHOLE EQUIPMENT

LEH-QT			32.03
LEH-QT			
DTC-H	CTEM		30.86
ECH-KC 8253	TelStatus		31.14
	ToolStatu		30.23
HNGS-BA	Upper_1		29.53
HNGS-BA 27	Lower_2		30.23
			29.32

RUN 2

HNSH-BA 27

ILE-D
ILE-D 25

27.73

APS-BA
APS-BA 22
APH-AC 22
MNTR-F 4185

Status
Minitron
Near TD
Near Arr
Far Arr
Far TD

25.29

22.85
22.77
22.64
22.54

NPLC-B
NPLC-B 79
NPH-B 82

Status

20.12

21.35

HLDS
GSR-Z 1846
HLDV-D 35
HLDS-D 35
HEH-H 35
HLDP-C 12

Caliper
SS LS Status

14.85

18.90

DTA-A
ECH-KE 8261

14.08

DIT-E RED
DIC-EB 352
MIH-ZA 342
DIS-HB 355

12.87

SP
Deep Ind
Aux Meas SFL
Med Ind

6.49
6.24
5.32
5.17

Status

3.34

AH-TAP
AH-TAP

3.34

DF
Tension HV

0.00

TOOL ZERO

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

Output DLIS Files

DEFAULT	DITE .012	FN:18 PRODUCER	02-May-2000 15:53	3397.0 M	2612.9 M
DITE_CUST	DITE .012	FN:19 PRODUCER	02-May-2000 15:53	3397.0 M	2612.9 M

OP System Version: 9C1-303

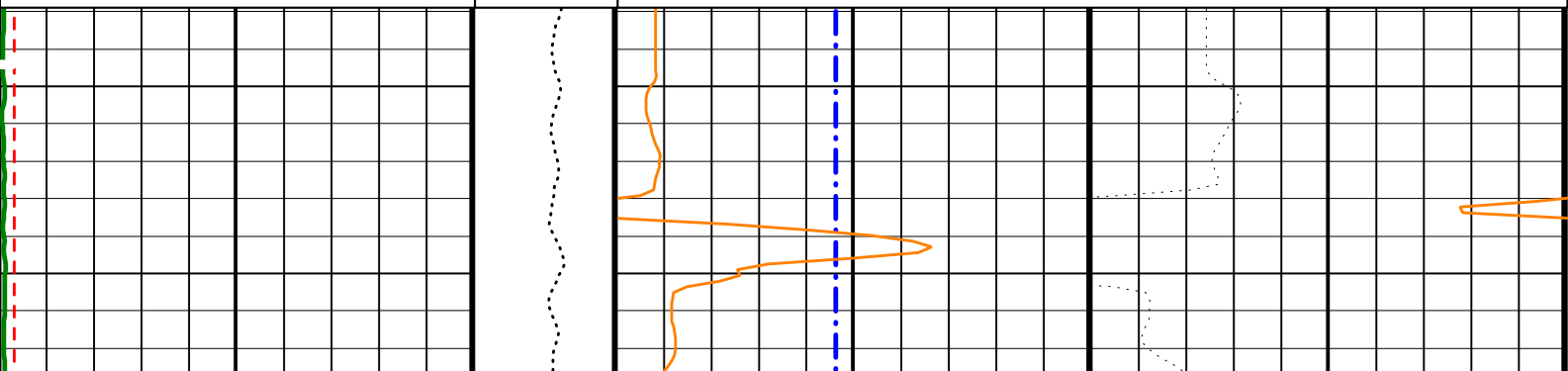
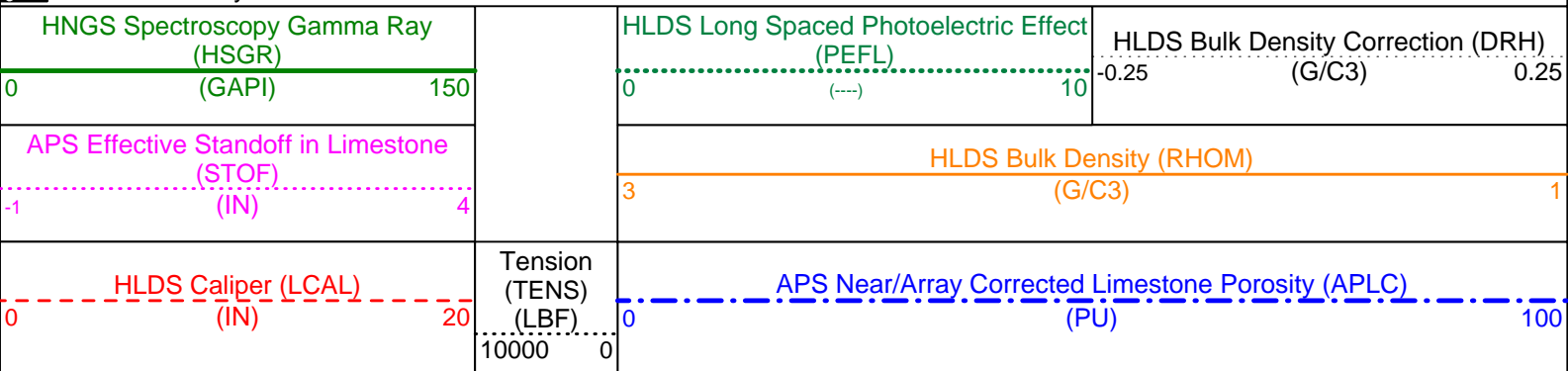
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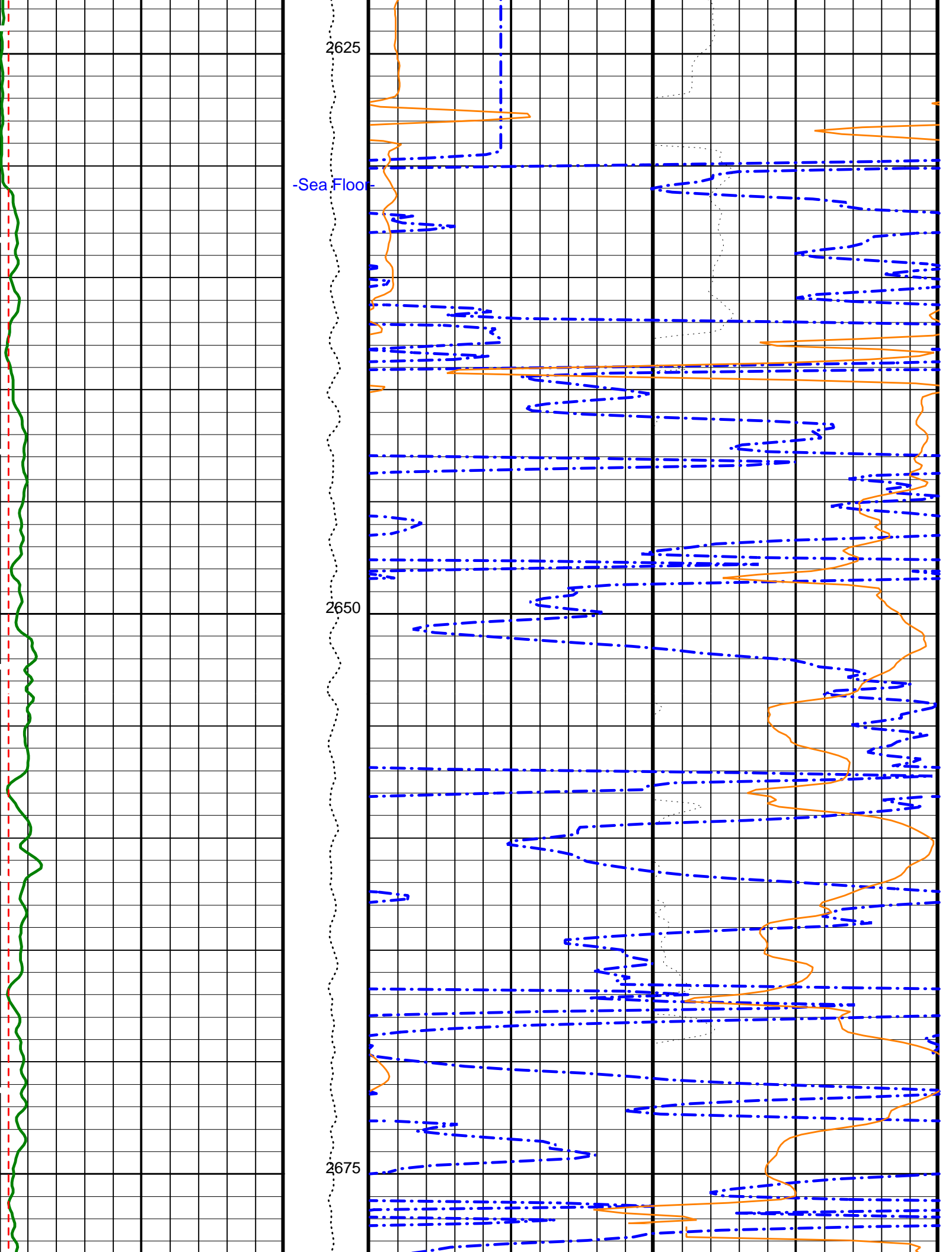
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HLDS	9C1-303	NPLC-B	9C1-303
APS-BA	9C1-303	HNGS-BA	9C1-303
DTC-H	9C1-303		

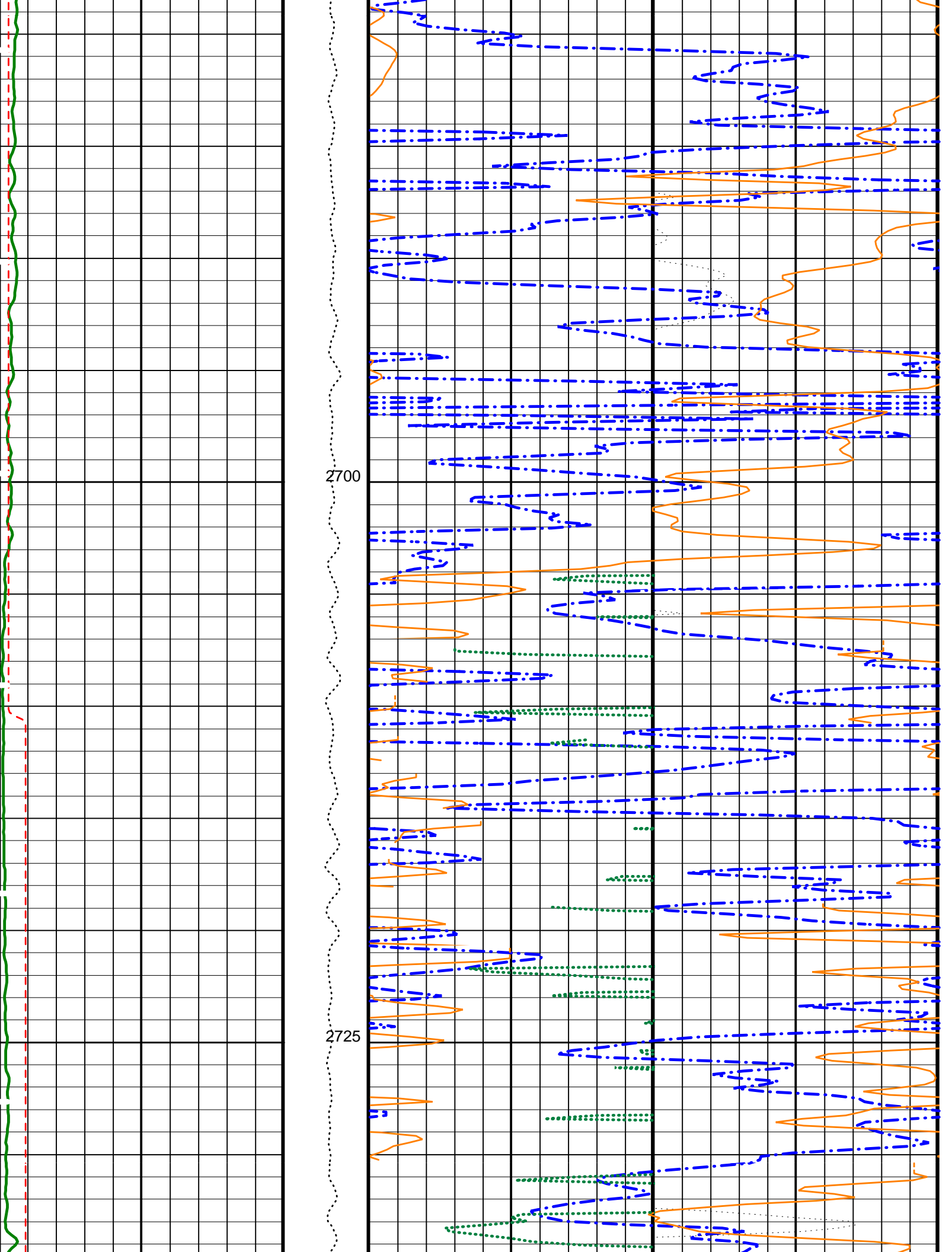
MAIN LOG

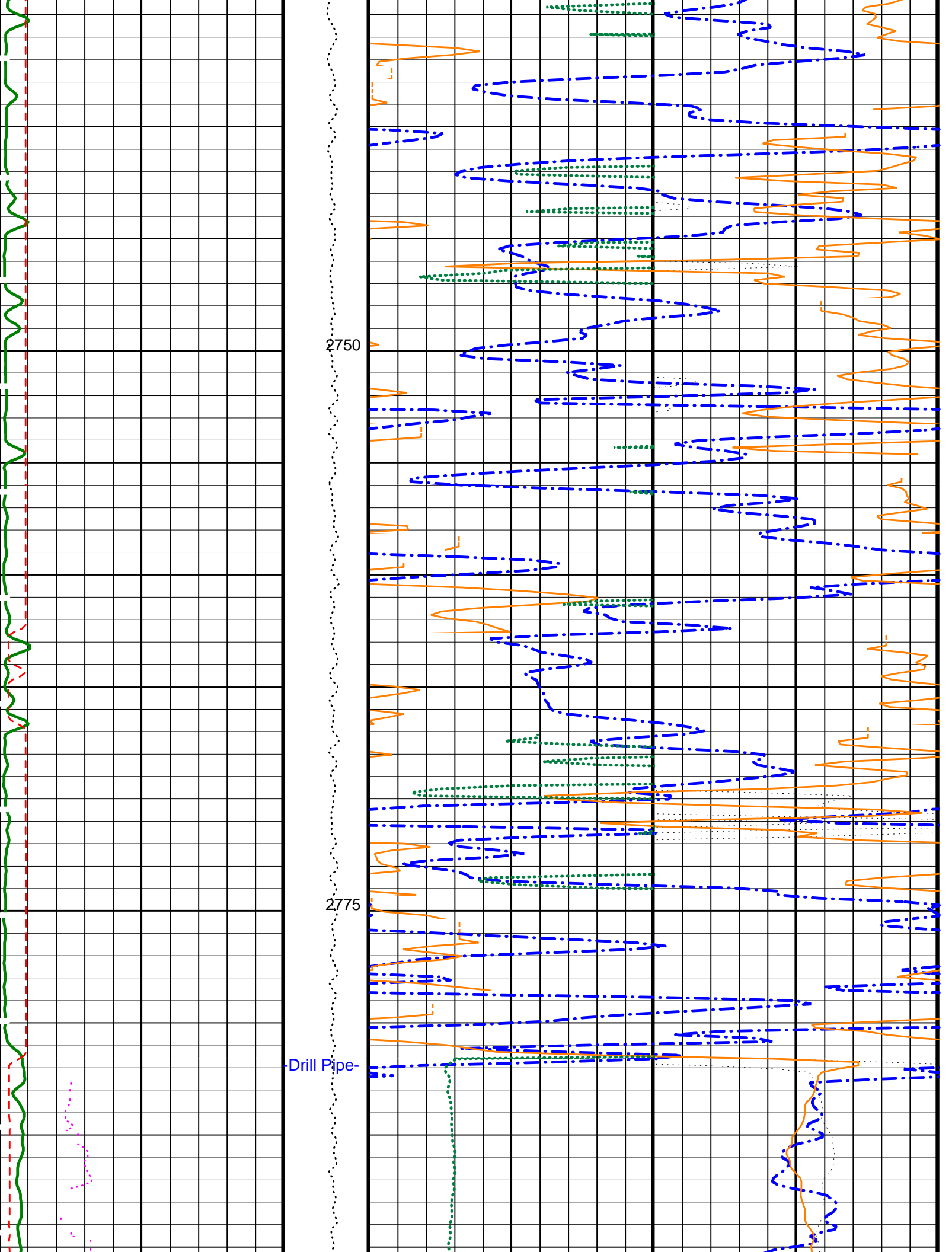
PIP SUMMARY

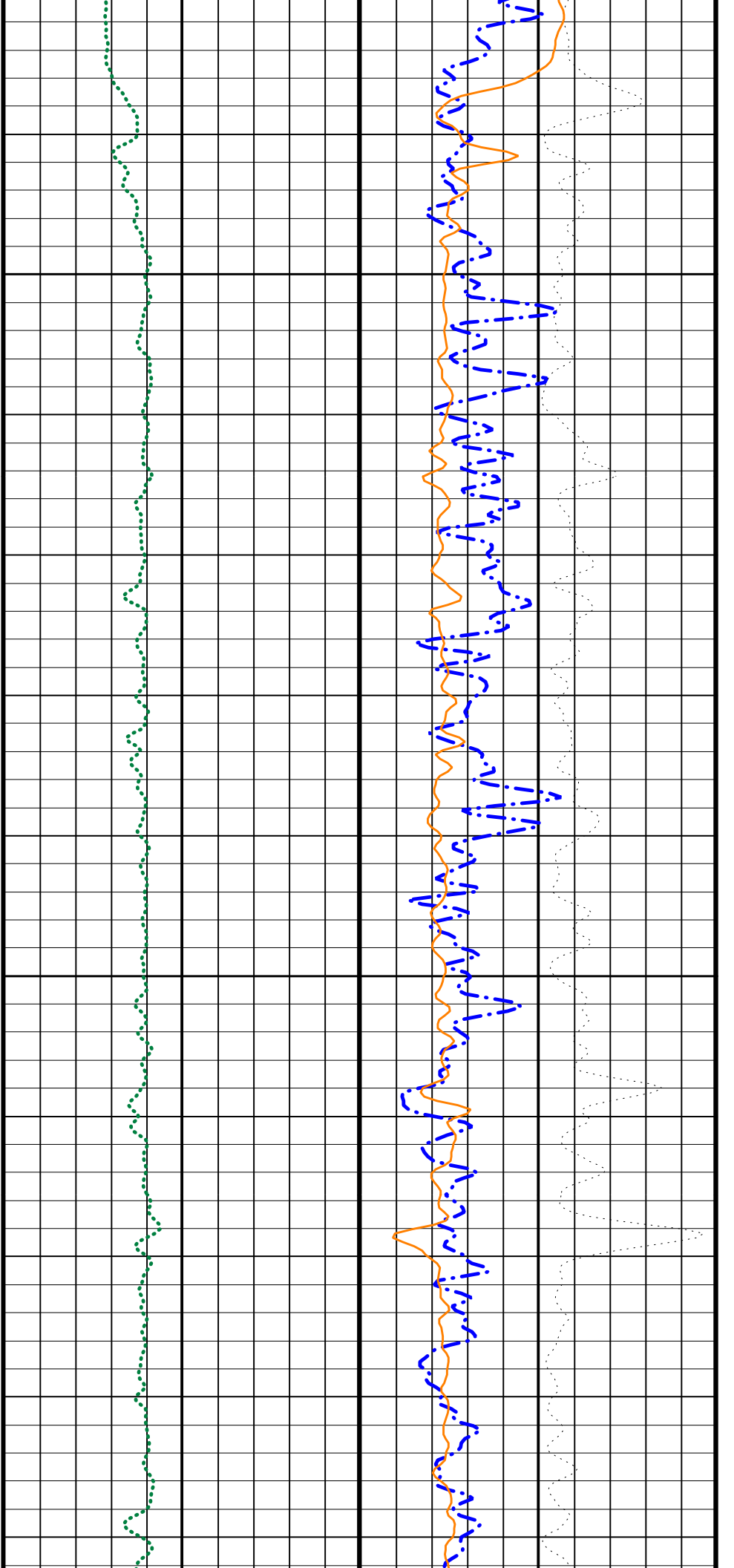
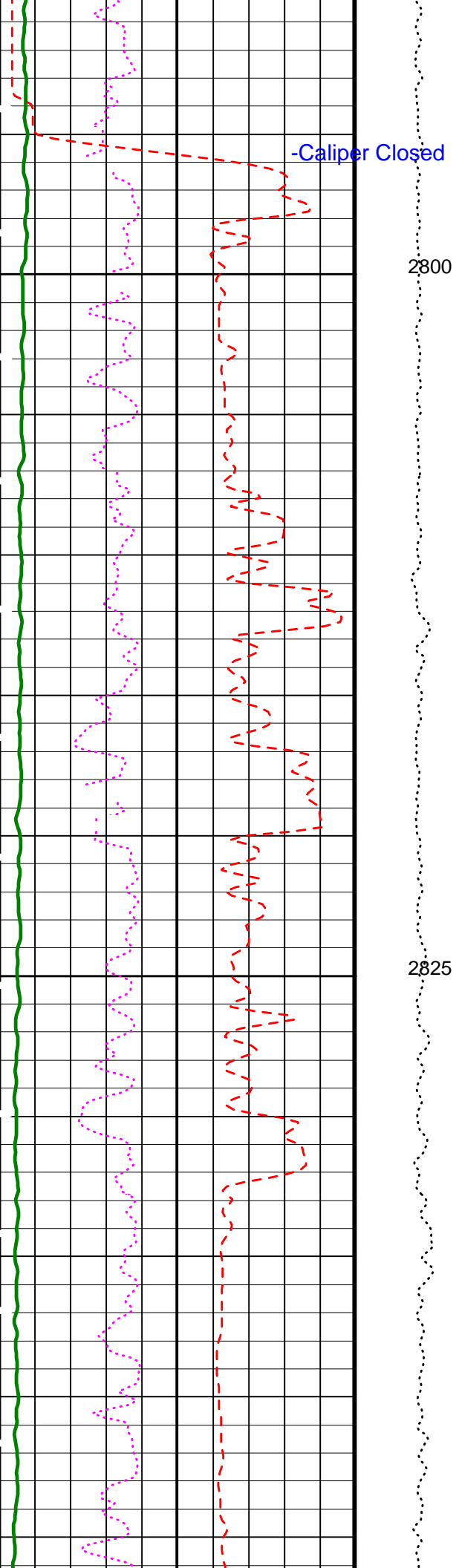
▶ Time Mark Every 60 S

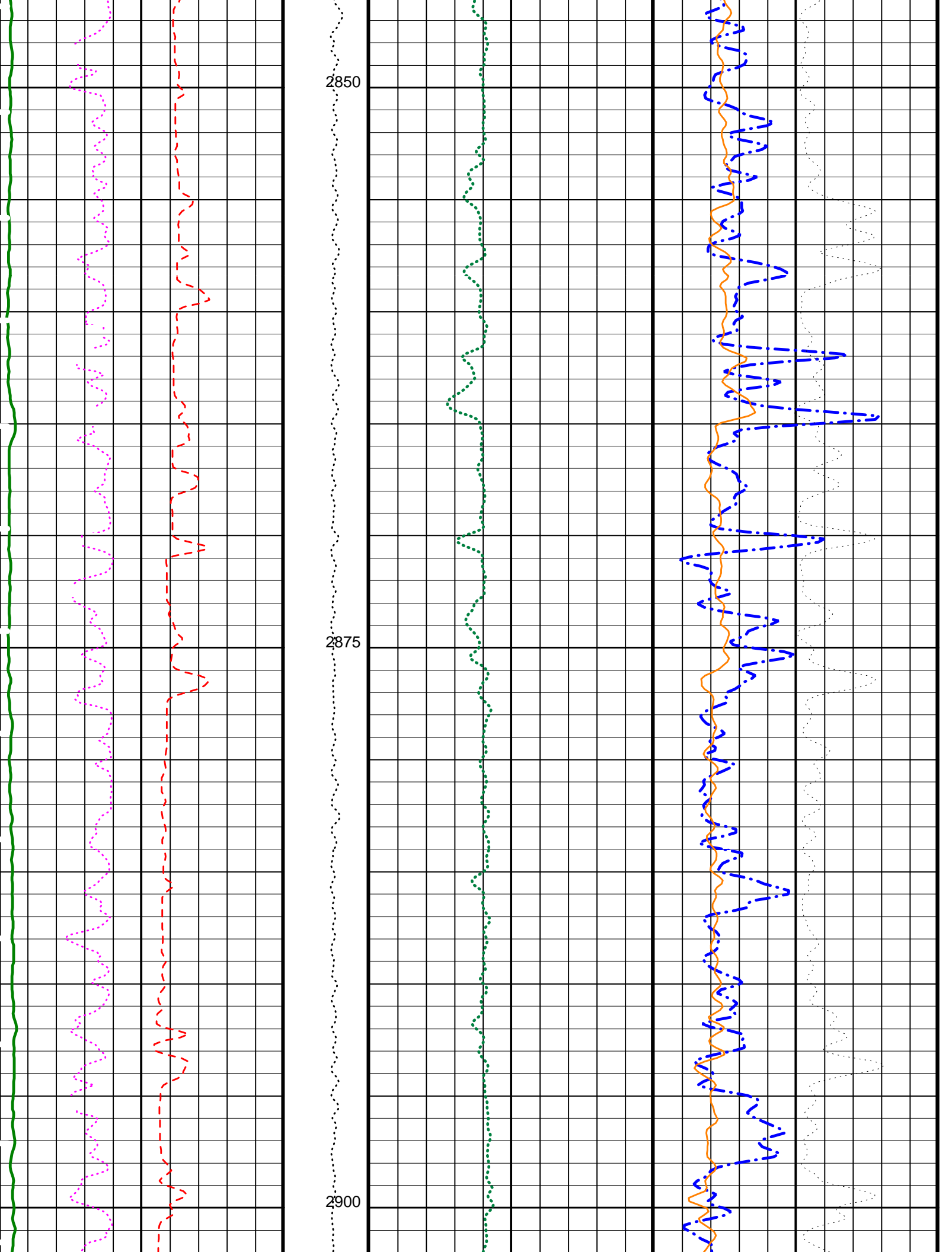


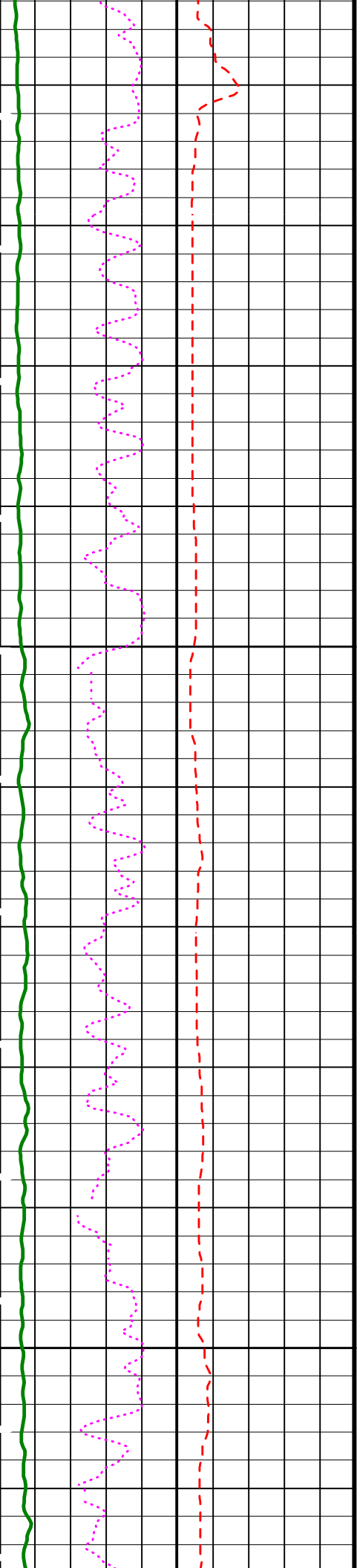






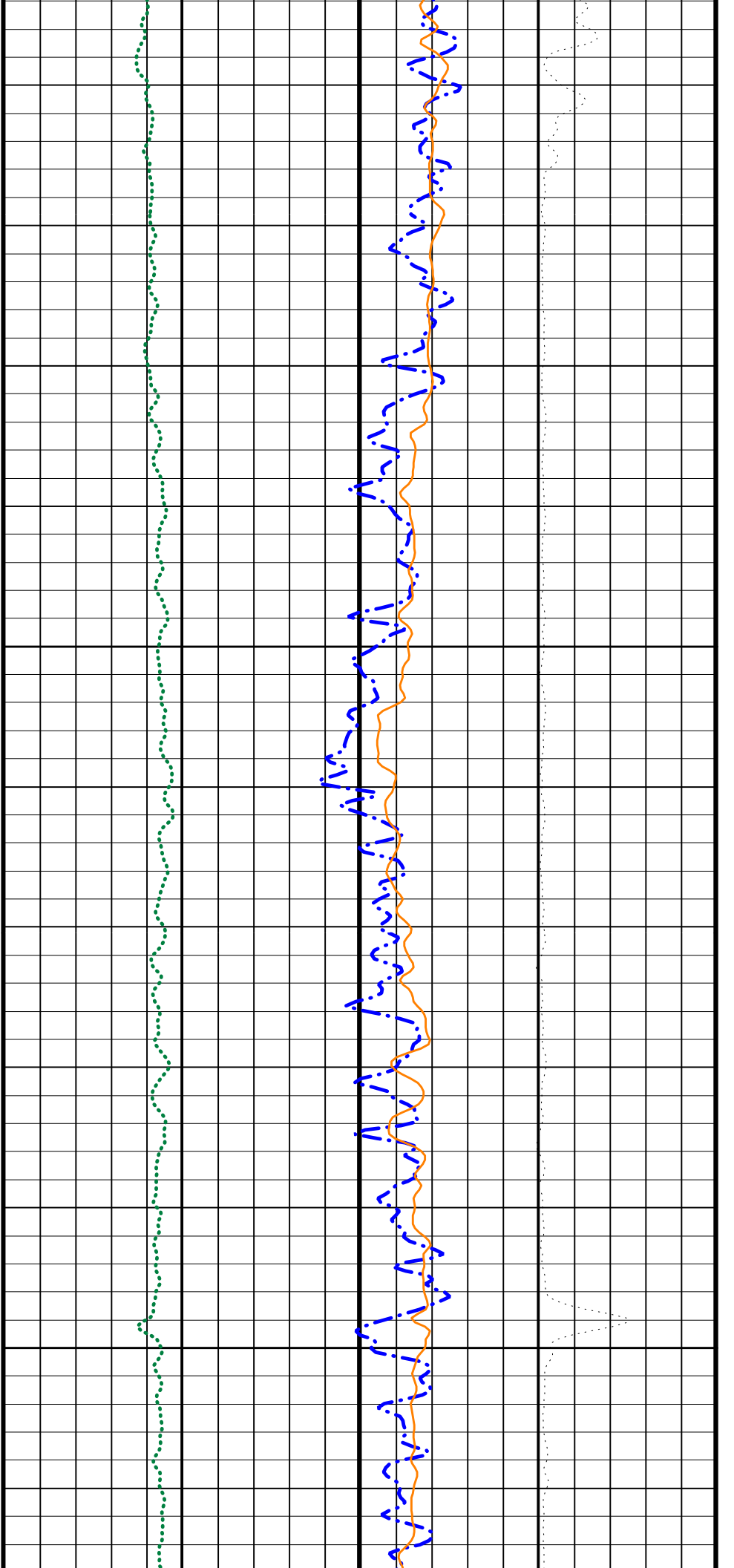


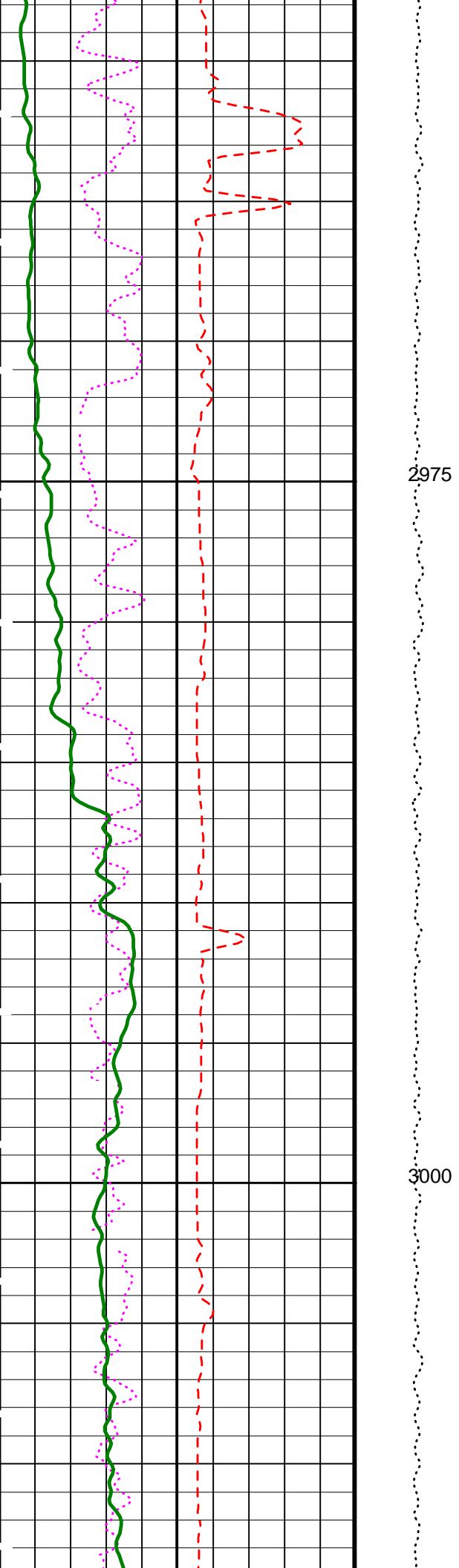




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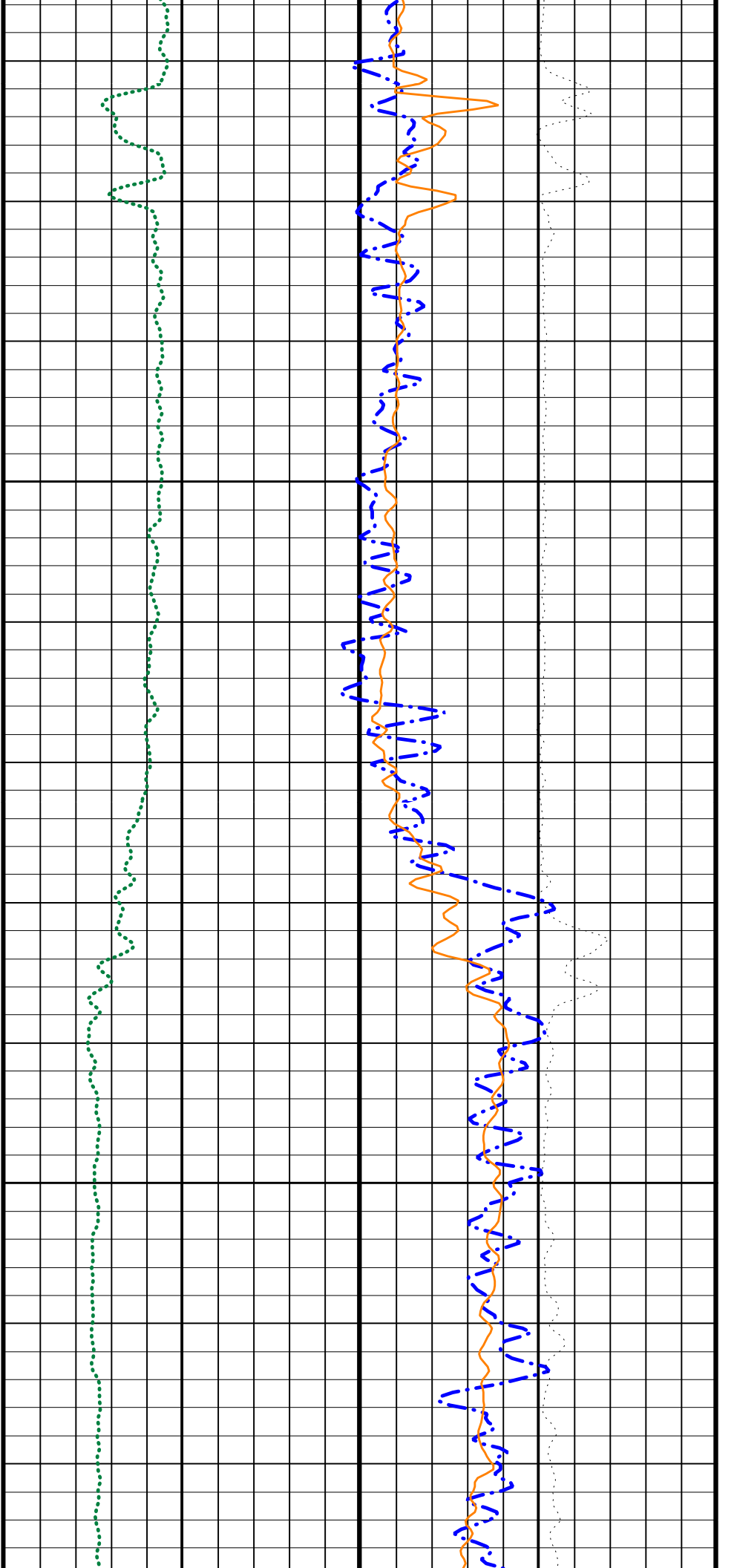
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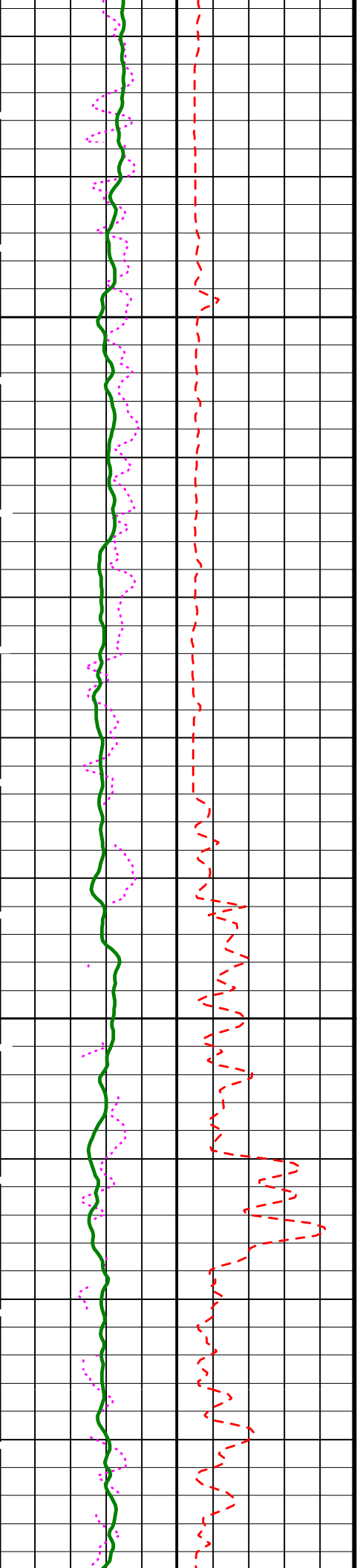




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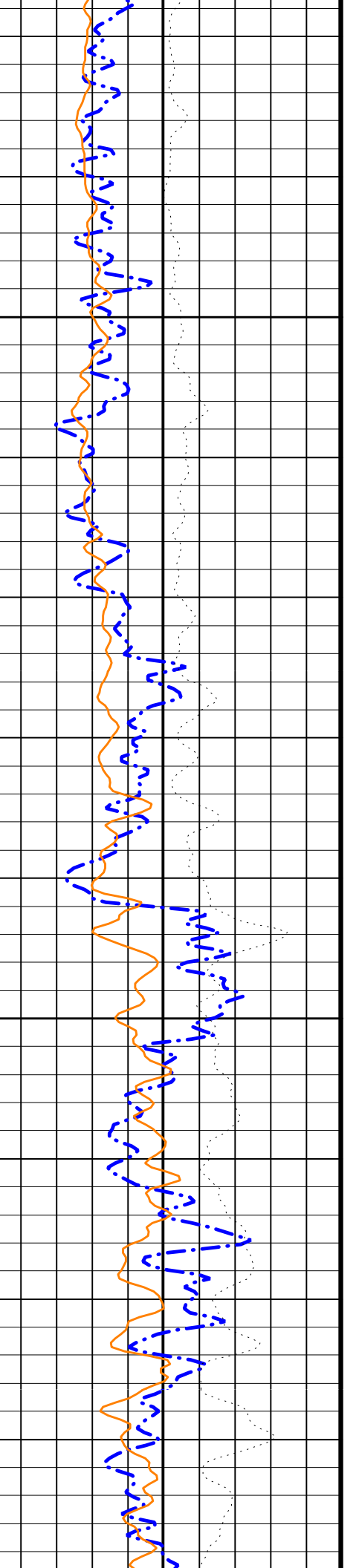
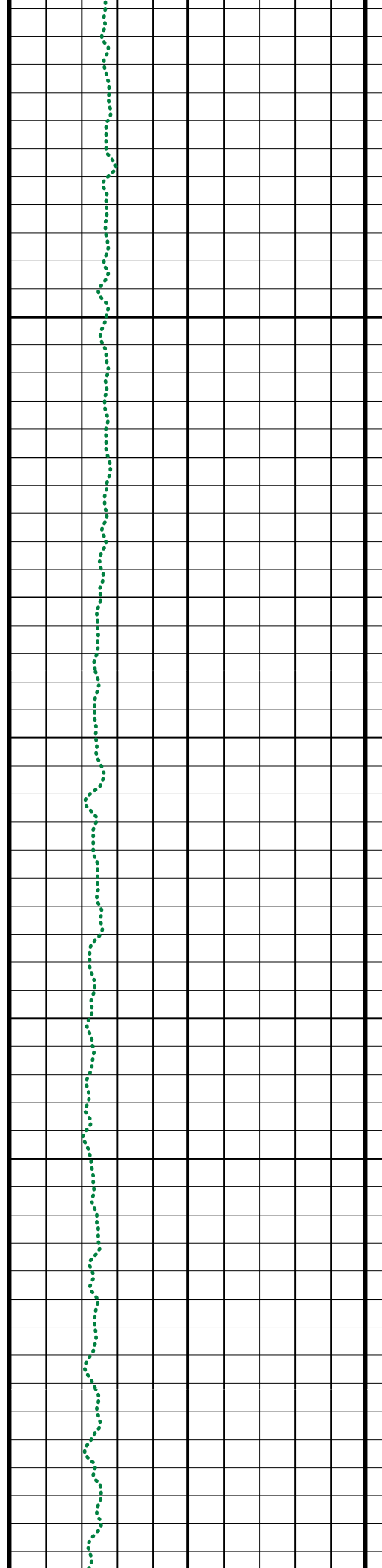
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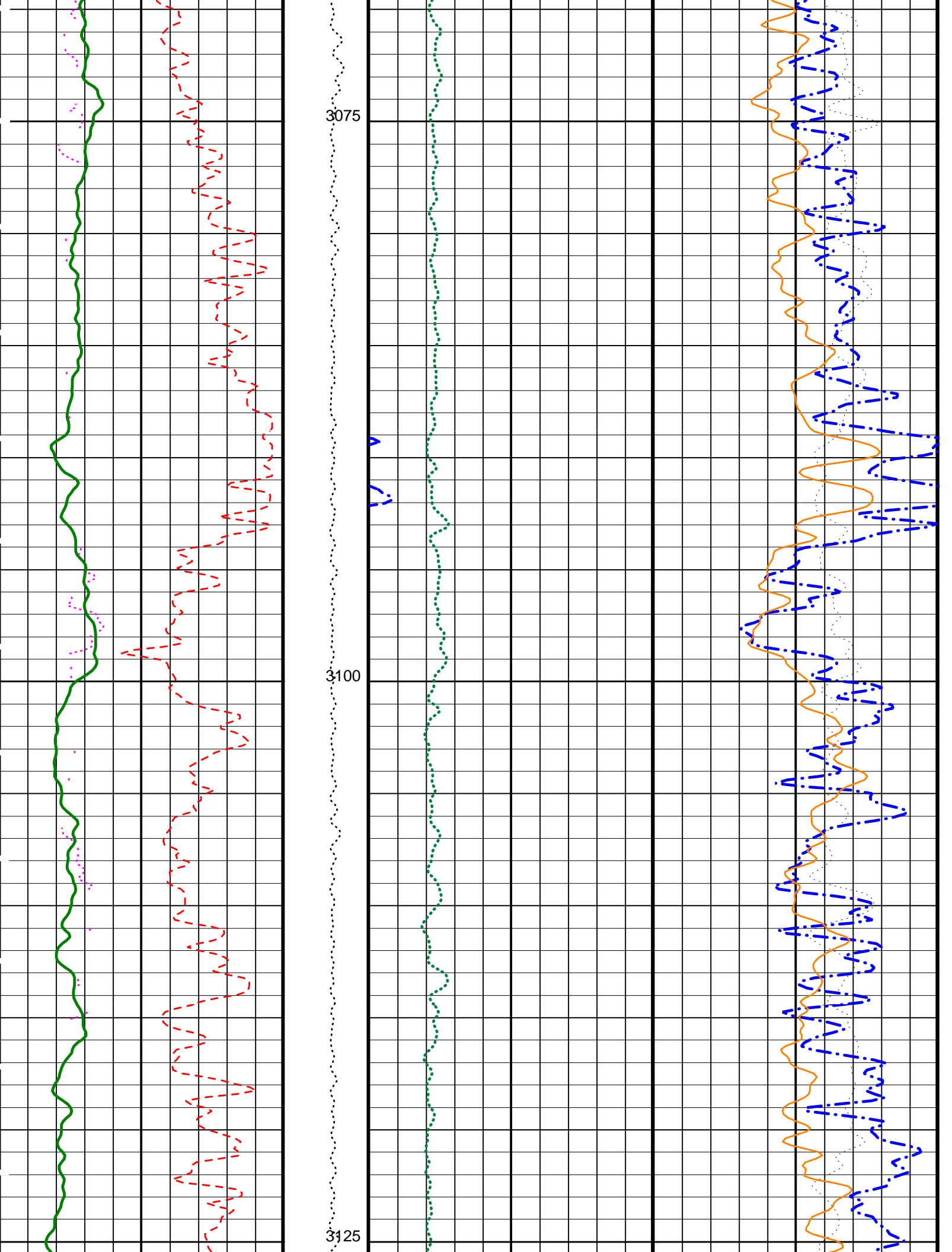


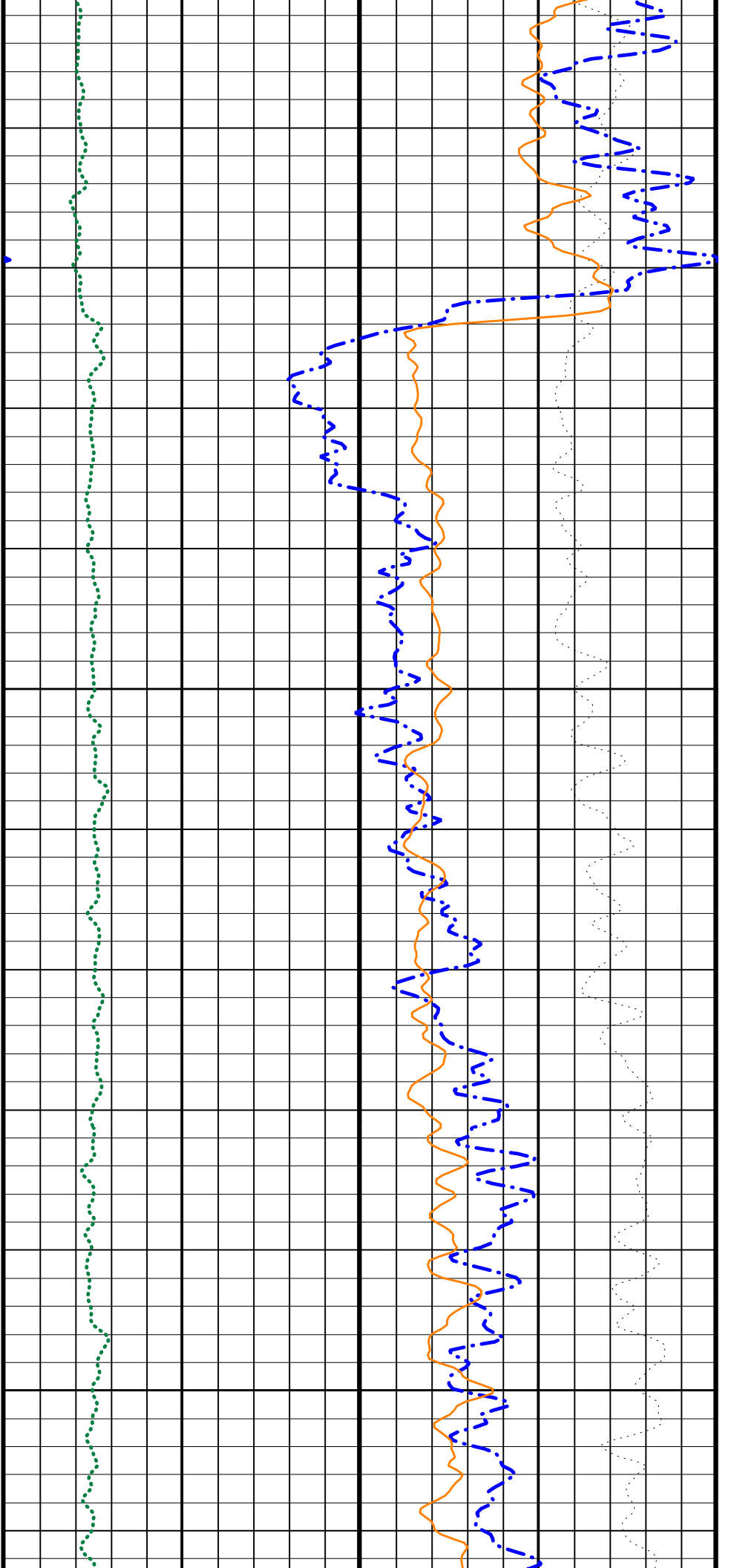
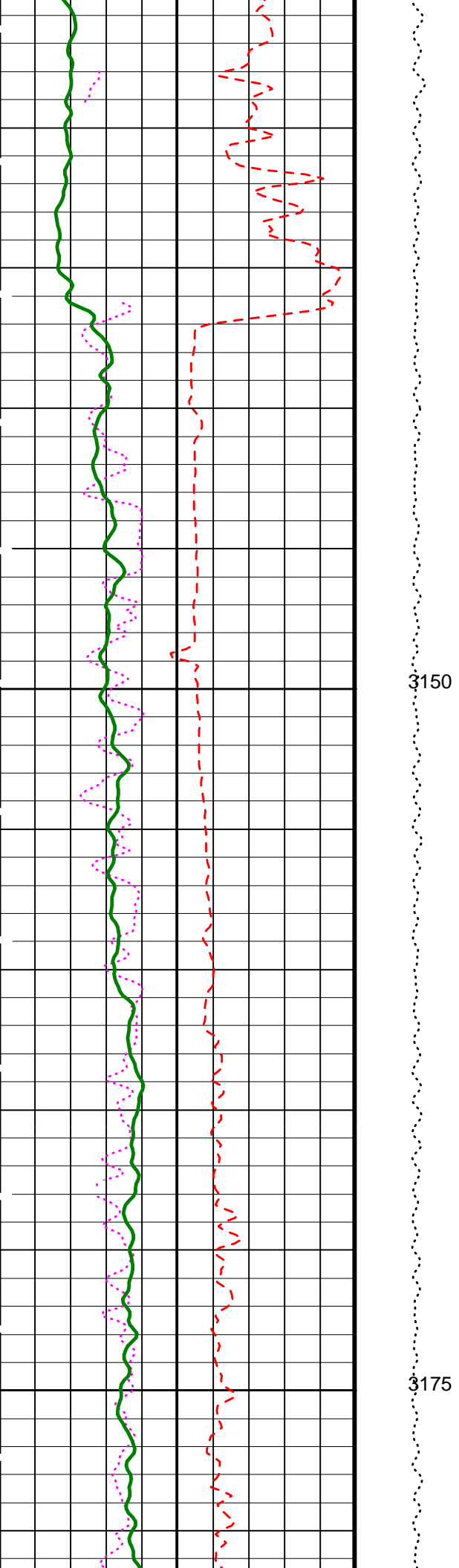


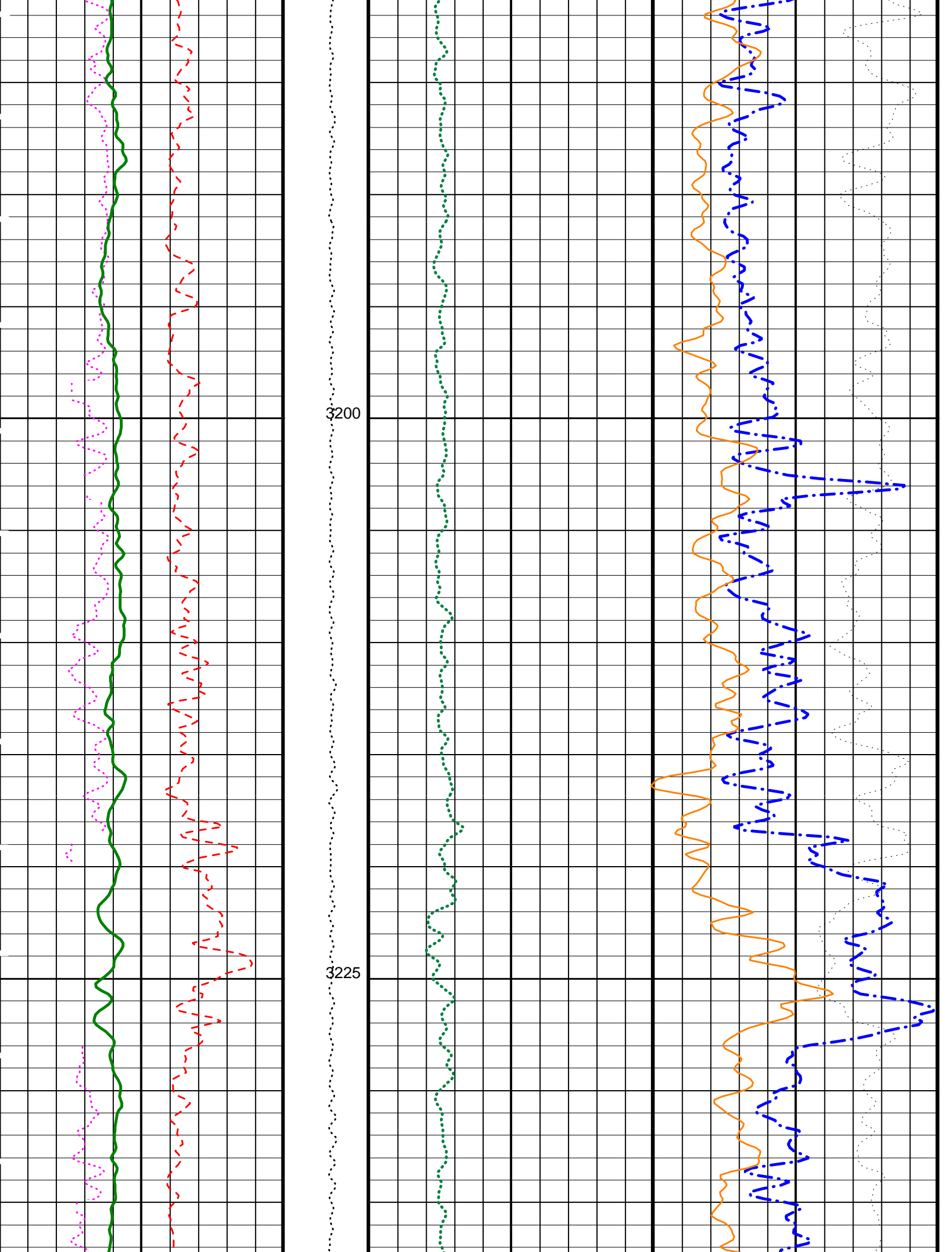
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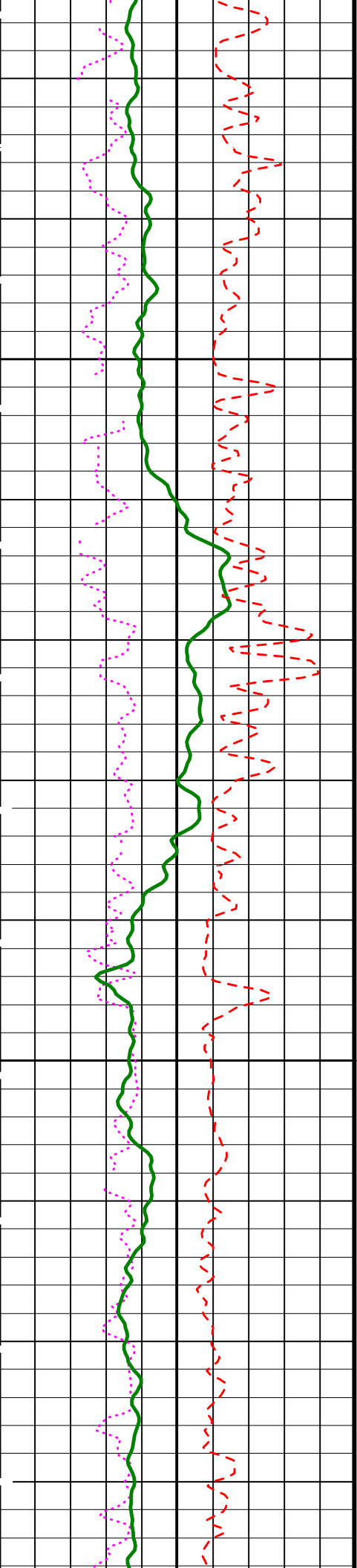
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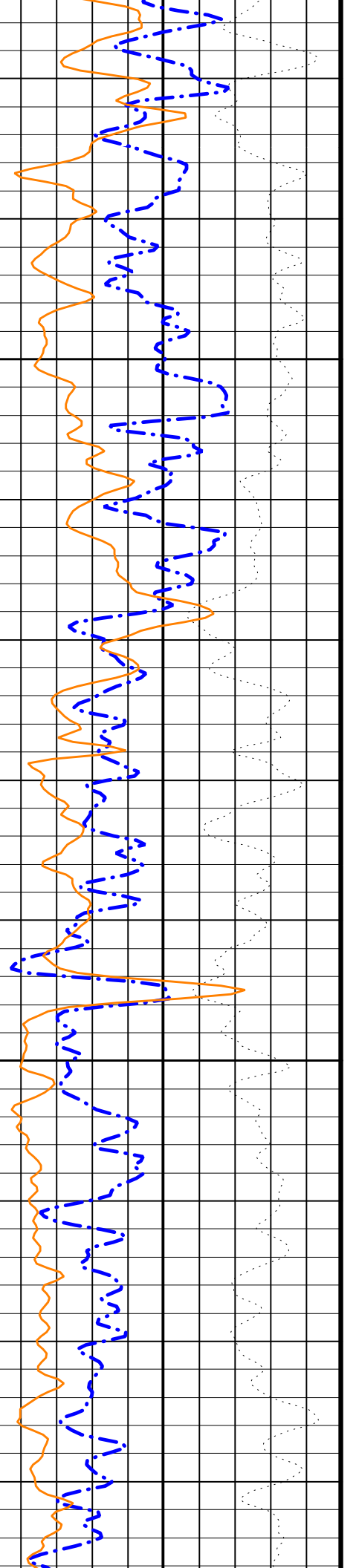
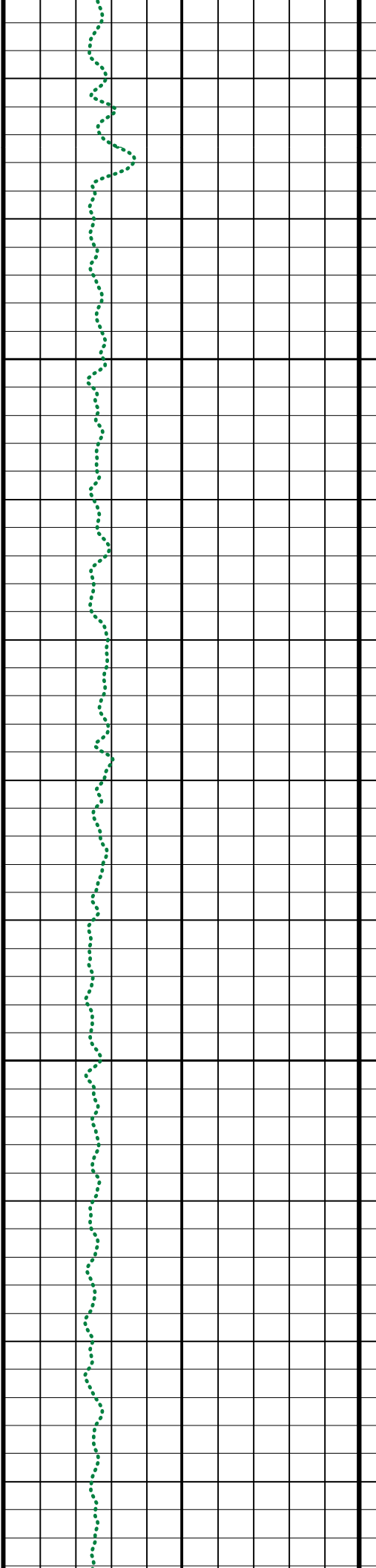


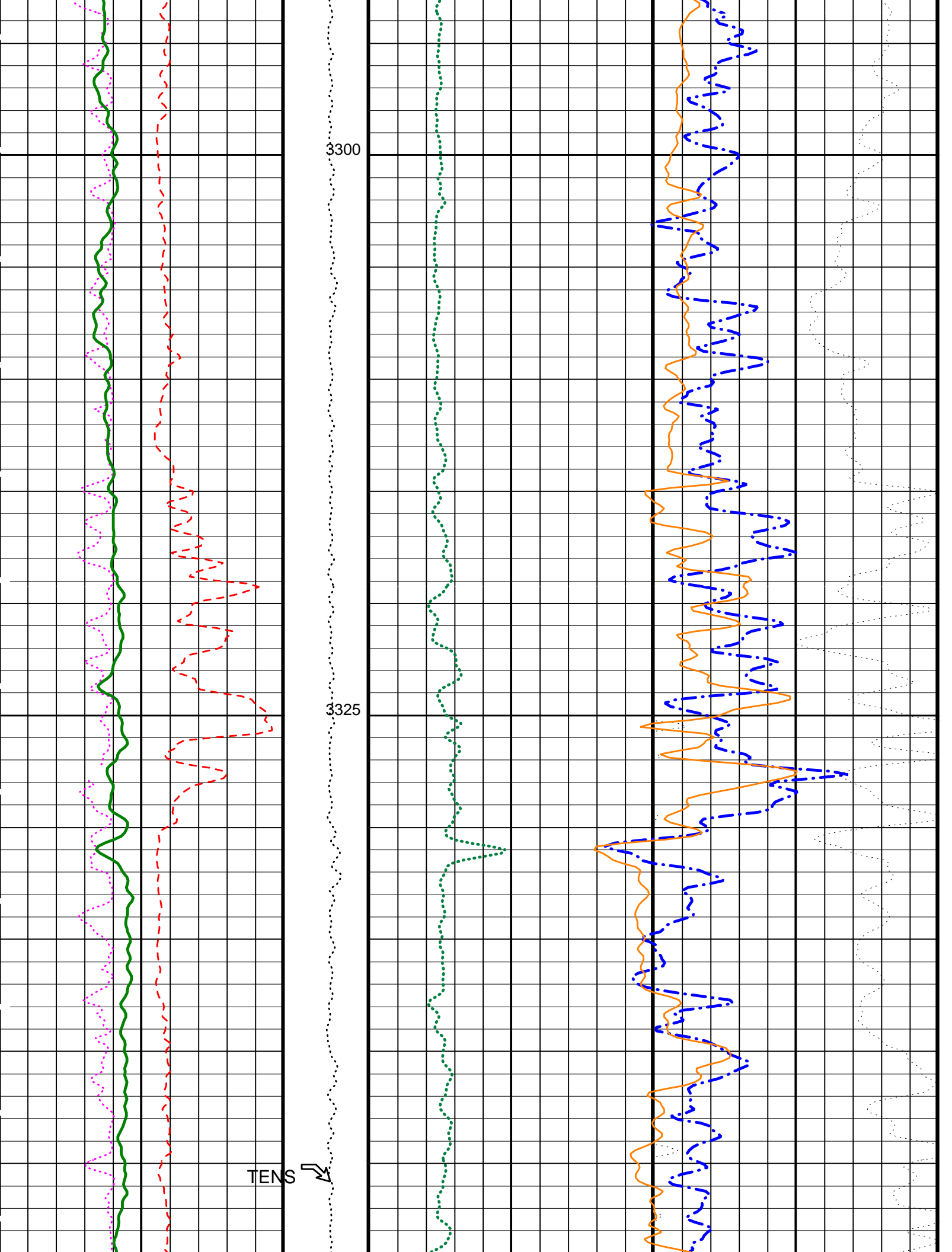


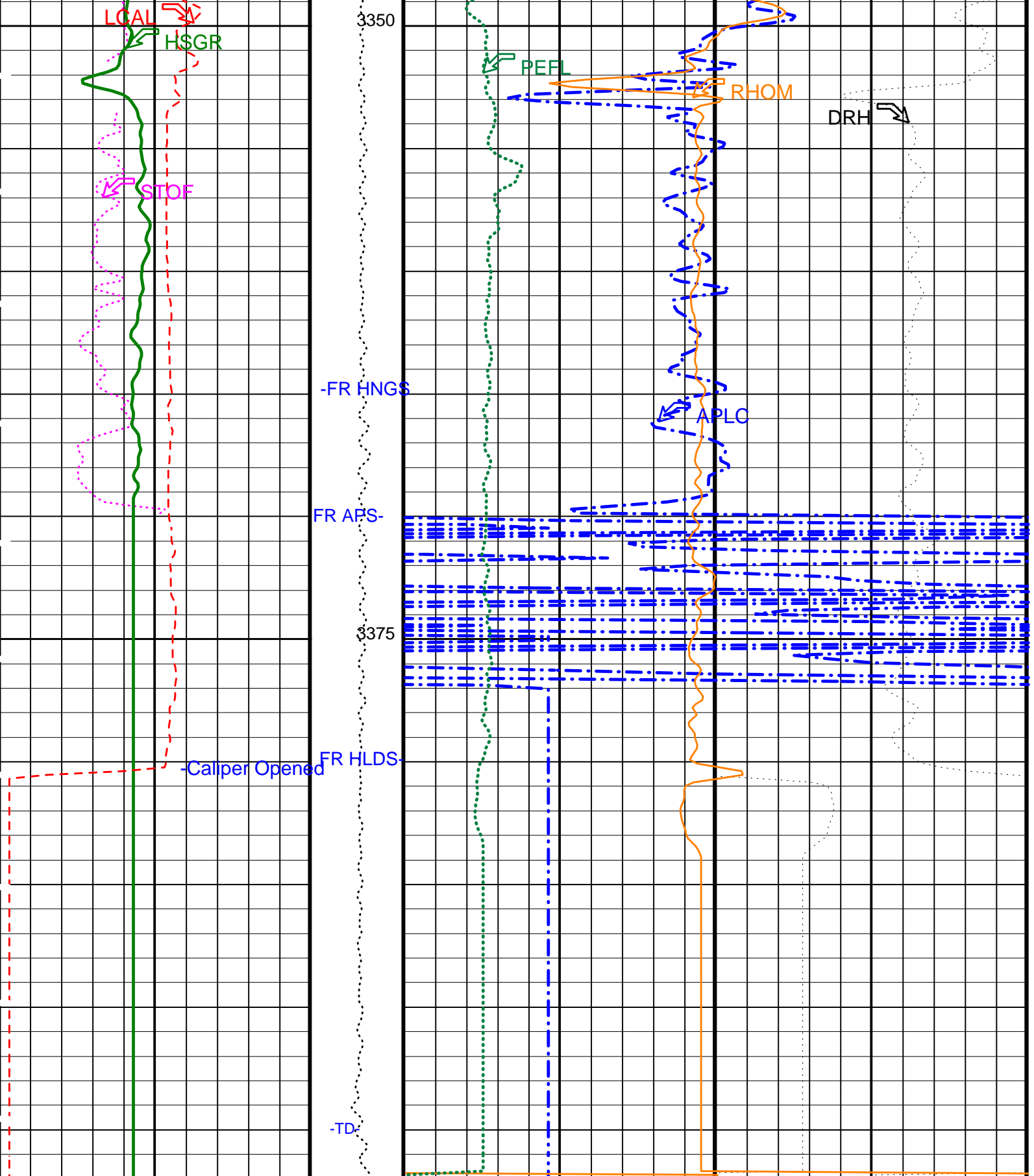


3250

3275







HLDS Caliper (LCAL)
 (IN) 0 20

APS Effective Standoff in Limestone
 (STOF)
 (IN) -1 4

HNGS Spectroscopy Gamma Ray

Tension
 (TENS)
 (LBF) 10000 0

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

HLDS Long Spaced Photoelectric Effect

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

HLDS Bulk Density Correction (DRH)

Parameters

DLIS Name	Description	Value
	APS Software Version	5
	HLDS Spec Message Rate	1
	HLDS Diag Message Rate	20
	HLDS Data Control	AcquiredData
	HLDS SS NCB Mode	Density
	HLDS LS NCB Mode	Density
	HLDS SS Tri-Ported Memory State	Enable
	HLDS LS Tri-Ported Memory State	Enable
	APS Cement Thickness Source	COMPUTED
	Apparent Thickness of Cement	0 IN
	HLDS SS Digital Integrator State	Normal
	HLDS LS Digital Integrator State	Normal
AASD	APS Thermal and Array Detectors High Voltage Setting	1987.2 V
ABOS	APS Neutron Burst-Off Background Subtraction Switch	ON
ADSO	APS Array Detectors Data Source Switch	Both
AFSD	APS Far Detector High Voltage Setting	2068.96 V
AHCS	APS Holesize Correction Source	GCSE
AHSS	APS Holesize Correction Switch	ON
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite
ANSD	APS Near Detector High Voltage Setting	1761.66 V
ASOS	APS Standoff Correction Switch	ON
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF
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)	212 DEGF
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
BSAL	Borehole Salinity	-50000.00 PPM
CSD1	Inner Casing Outer Diameter	0 IN
CSD2	Outer Casing Outer Diameter	0 IN
CSIZ	Current Casing Size	0.000 IN
CSW1	Inner Casing Weight	0 LB/F
CSW2	Outer Casing Weight	0 LB/F
CWEI	Casing Weight	0.00 LB/F
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	7.03834 %
D1TC	HNGS Detector 1 Calibration Temperature	59.2921 DEGF
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	210.324
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	7.10236 %
D2TC	HNGS Detector 2 Calibration Temperature	57.3948 DEGF
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.925
DBCC	HNGS Barite Constant Correction Flag	NONE
DFD	Drilling Fluid Density	8.51 LB/G
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1.02 G/C3
FSAL	Formation Salinity	32000 PPM
GCF1_START	HNGS Detector 1 GCF Constant	1
GCF2_START	HNGS Detector 2 GCF Constant	1
GCSE	Generalized Caliper Selection	BS
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.01 DF/F
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	0.00122299
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	7.06002e-029
LATC	HLDS Activation Correction	ON
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL
MDEN	Matrix Density	2.71 G/C3
NARC	APS Near/Array Calibration Ratio	1.06801
NFRC	APS Near/Far Calibration Ratio	0.903124
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	26.8307	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.986846	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	27.2589	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.984706	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.000400444	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TD	Total Depth	32768	FT
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.0224	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.915815	

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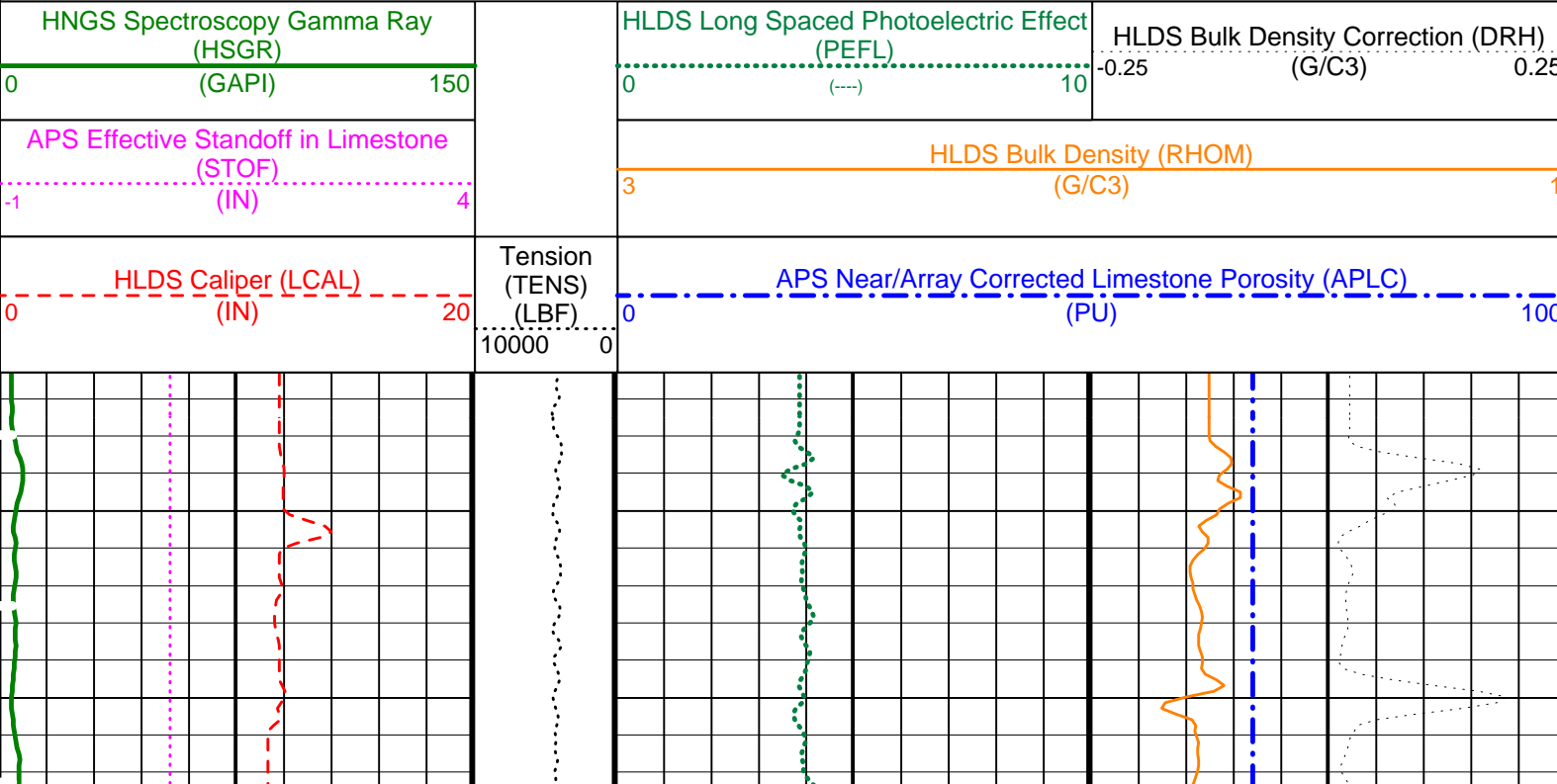
OP System Version: 9C1-303			
MCM			
DIT-E	9C1-303	DTA-A	9C1-303
HLDS	9C1-303	NPLC-B	9C1-303
APS-BA	9C1-303	HNGS-BA	9C1-303
DTC-H	9C1-303		

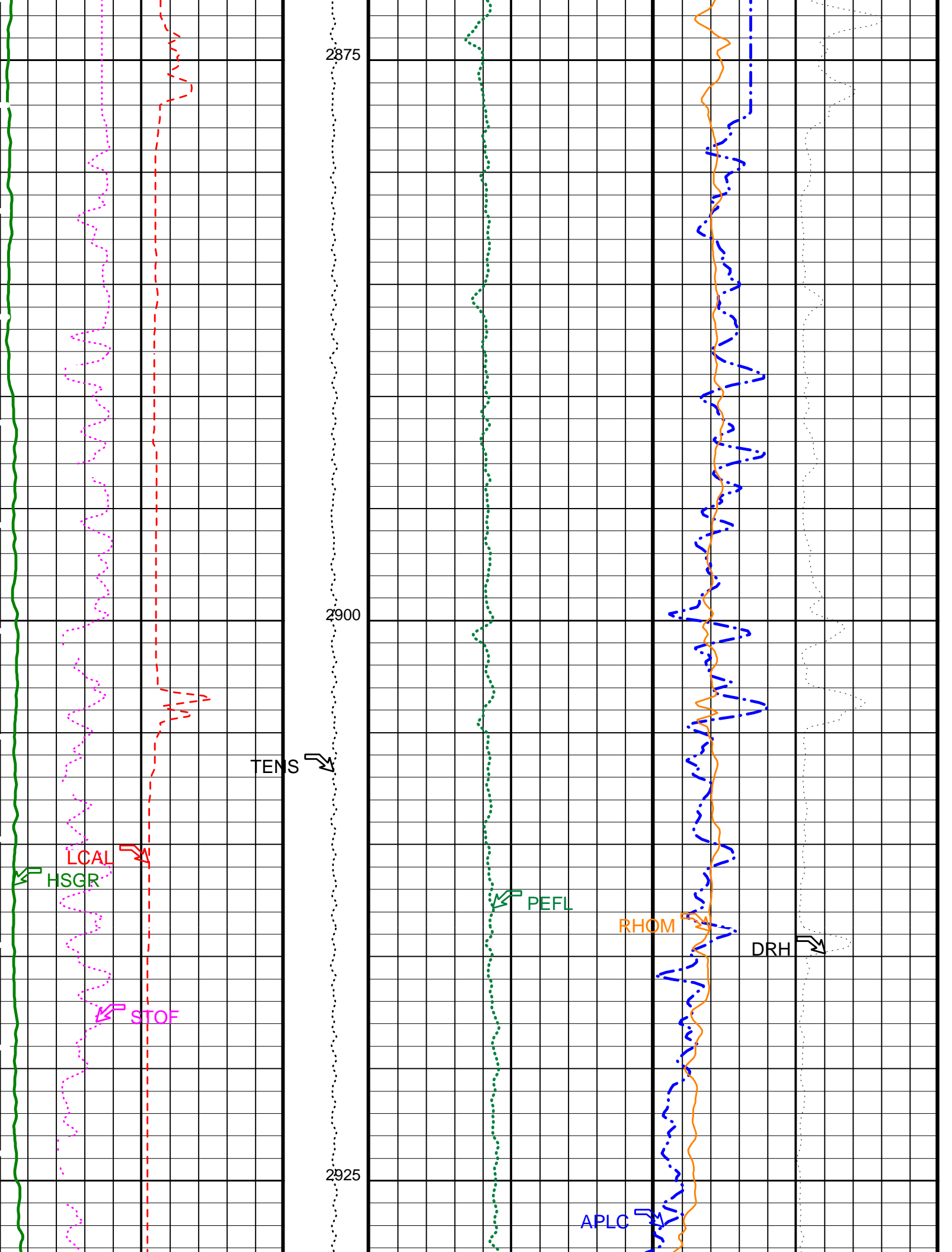
Output DLIS Files			
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DITE_CUST	DITE .012	FN:19 PRODUCER	02-May-2000 15:53

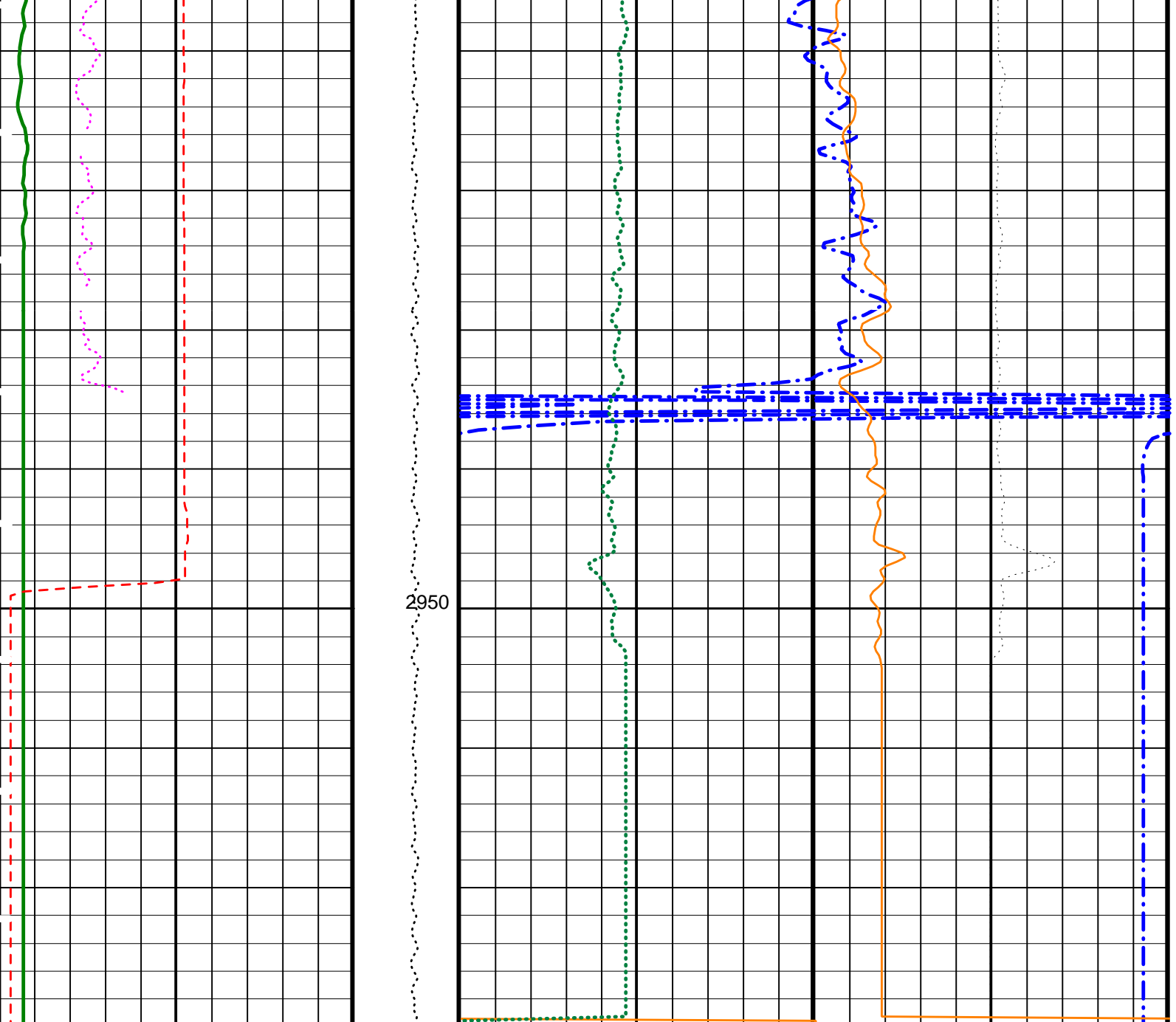
Output DLIS Files					
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DITE_CUST	DITE .011	FN:17 PRODUCER	02-May-2000 15:20	2964.9 M	2861.2 M

OP System Version: 9C1-303			
MCM			
DIT-E	9C1-303	DTA-A	9C1-303
HLDS	9C1-303	NPLC-B	9C1-303
APS-BA	9C1-303	HNGS-BA	9C1-303
DTC-H	9C1-303		

Time Mark Every 60 S REPEAT SECTION PIP SUMMARY







<p>HLDS Caliper (LCAL) (IN)</p> <p>0 20</p>	<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>APS Near/Array Corrected Limestone Porosity (APLC) (PU)</p> <p>0 100</p>
<p>APS Effective Standoff in Limestone (STOF) (IN)</p> <p>-1 4</p>		<p>HLDS Bulk Density (RHOM) (G/C3)</p> <p>3 1</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 150</p>		<p>HLDS Long Spaced Photoelectric Effect (PEFL) (---)</p> <p>0 10</p>
		<p>HLDS Bulk Density Correction (DRH) (G/C3)</p> <p>-0.25 0.25</p>

Time Mark Every 60 S REPEAT SECTION PIP SUMMARY

Parameters		
DLIS Name	Description	Value
	APS Software Version	5
	HLDS Spec Message Rate	1
	HLDS Diag Message Rate	20
	HLDS Data Control	AcquiredData
	HLDS SS NCB Mode	Density

	HLDS LS NCB Mode	Density	
	HLDS SS Tri-Ported Memory State	Enable	
	HLDS LS Tri-Ported Memory State	Enable	
	APS Cement Thickness Source	COMPUTED	
	Apparent Thickness of Cement	0	IN
	HLDS SS Digital Integrator State	Normal	
	HLDS LS Digital Integrator State	Normal	
AASD	APS Thermal and Array Detectors High Voltage Setting	1987.2	V
ABOS	APS Neutron Burst-Off Background Subtraction Switch	ON	
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2068.96	V
AHCS	APS Holesize Correction Source	GCSE	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1761.66	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF	
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)	212	DEGF
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
BSAL	Borehole Salinity	-50000.00	PPM
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSIZ	Current Casing Size	0.000	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
CWEI	Casing Weight	0.00	LB/F
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	7.03834	%
D1TC	HNGS Detector 1 Calibration Temperature	59.2921	DEGF
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	210.324	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	7.10236	%
D2TC	HNGS Detector 2 Calibration Temperature	57.3948	DEGF
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.925	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DFD	Drilling Fluid Density	8.51	LB/G
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1.02	G/C3
FSAL	Formation Salinity	32000	PPM
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
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
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	7.36453e-031	
LATC	HLDS Activation Correction	ON	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
MDEN	Matrix Density	2.71	G/C3
NARC	APS Near/Array Calibration Ratio	1.06801	
NFRC	APS Near/Far Calibration Ratio	0.903124	
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	26.8307	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.986846	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	27.2589	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.984706	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
TD	Total Depth	32768	FT
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0	

DIT-E	9C1-303	DTA-A	9C1-303
HLDS	9C1-303	NPLC-B	9C1-303
APS-BA	9C1-303	HNGS-BA	9C1-303
DTC-H	9C1-303		

Output DLIS Files

DEFAULT	DITE .011	FN:16 PRODUCER	02-May-2000 15:20
DITE_CUST	DITE .011	FN:17 PRODUCER	02-May-2000 15:20

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 10-MAR-2000 10:06 Before: 17-MAR-2000 18:41 After: 2-MAY-2000 21:22							
SS Total Countrate Bkg	1645	1446	1441	1449	7.680	80.00	CPS
SS HV Measured Bkg	1100	1077	1070	1071	1.491	80.00	V
SS Cs Centroid Bkg	661.0	661.3	661.0	661.5	0.4500	1.500	KEV
SS Cs Resolution Bkg	9.000	8.490	8.564	8.477	-0.08757	1.800	%
LS Total Countrate Bkg	1645	1468	1467	1464	-3.521	80.00	CPS
LS HV Measured Bkg	1100	1195	1190	1189	-1.123	80.00	V
LS Cs Centroid Bkg	661.0	661.3	661.2	661.2	0.05493	1.500	KEV
LS Cs Resolution Bkg	9.000	8.744	8.772	8.785	0.01332	1.800	%
Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration							
Before: 17-MAR-2000 19:48							
HLDS Caliper Small Ring	8.000	N/A	9.714	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	12.00	N/A	13.89	N/A	N/A	N/A	IN
Accelerator-Porosity Tool Wellsite Calibration - Detector Background							
Master: Calibration out of date 2-FEB-2000 21:50 Before: 2-MAY-2000 15:25 After: 2-MAY-2000 19:56							
Near Det Bkg Cntrate	30.00	32.07	55.87	32.30	-23.57	N/A	CPS
Far Det Bkg Cntrate	30.00	32.19	35.23	33.46	-1.769	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.58	37.52	29.53	-7.992	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	30.06	39.47	29.76	-9.711	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	33.94	38.87	32.33	-6.539	N/A	CPS
Accelerator-Porosity Tool Wellsite Calibration - Detector Plateau Settings							
Master: Calibration out of date 2-FEB-2000 20:07							
Near Detector Plateau Setting	1650	1762	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2069	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1987	N/A	N/A	N/A	N/A	V
Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios							
Master: Calibration out of date 2-FEB-2000 21:50							
Near/Far Calibration Ratio	0.9250	0.9031	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.068	N/A	N/A	N/A	N/A	
Accelerator-Porosity Tool Master Calibration - Tank Check							
Master: Calibration out of date 2-FEB-2000 21:50							
Array-1 Standoff Porosity	10.25	11.71	--	--	--	--	PU
Array-2 Standoff Porosity	10.25	11.59	--	--	--	--	PU
Sigma Formation	27.50	27.75	--	--	--	--	CU
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check							
Master: 17-APR-2000 13:39 Before: 27-APR-2000 19:51 After: 2-MAY-2000 21:22							
Na 511 Peak Loc	40.00	40.54	40.61	40.50	-0.1129	1.000	
Na 511 Peak Res	15.50	16.04	14.56	15.67	1.115	2.000	%
High Voltage	1150	1110	1109	1111	2.819	30.00	V
Na 1785 Peak Loc	142.6	146.3	145.4	144.9	-0.4233	7.000	
Na 1785 Peak Res	8.500	8.987	9.047	8.984	-0.06378	2.000	%
Temperature	15.50	15.16	18.69	17.76	-0.9264	N/A	DEGC
Na Count Rate	45.00	26.83	26.57	26.24	-0.3233	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check							
Master: 17-APR-2000 13:39 Before: 27-APR-2000 19:51 After: 2-MAY-2000 21:22							
Na 511 Peak Loc	40.00	40.57	40.68	40.66	-0.02054	1.000	
Na 511 Peak Res	15.50	13.85	14.11	14.49	0.3854	2.000	%
High Voltage	1150	1196	1195	1198	2.932	30.00	V
Na 1785 Peak Loc	142.6	144.4	145.4	144.7	-0.7429	7.000	
Na 1785 Peak Res	8.500	8.601	7.729	8.203	0.4745	2.000	%
Temperature	15.50	14.11	17.50	17.86	0.3786	N/A	DEGC

Temperature	15.50	14.11	17.59	17.86	0.2786	N/A	DEGC
Na Count Rate	45.00	27.26	27.00	26.51	-0.4854	8.000	CPS

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

Master: 17-APR-2000 13:39 Before: 27-APR-2000 19:51 After: 2-MAY-2000 21:22

Coincidence Count Rate Ratio	1.000	0.9852	0.9847	0.9914	0.006714	0.05000
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Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 17-APR-2000 13:34

Na 511 Peak Set Point	40.00	41.00	--	--	--	--
Th Peak Loc	209.6	210.3	--	--	--	--
Th Peak Res	7.000	7.038	--	--	--	--
Background Count Rate	142.5	17.08	--	--	--	--
Gain Ratio	1.000	0.9868	--	--	--	--

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration

Master: 17-APR-2000 13:34

Na 511 Peak Set Point	40.00	41.00	--	--	--	--
Th Peak Loc	209.6	209.9	--	--	--	--
Th Peak Res	7.000	7.102	--	--	--	--
Background Count Rate	142.5	17.73	--	--	--	--
Gain Ratio	1.000	0.9847	--	--	--	--

Dual Induction - E / Equipment Identification

Primary Equipment:

Dual Induction Sonde	DIS - HB	355
Dual Induction Cartridge	DIC - EB	352

Auxiliary Equipment:

Mass Isolated Housing	MIH - ZA	342
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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	1846

Auxiliary Equipment:

Hostile Litho Density Pad	HLDP - C	12
Hostile Litho Density High Voltage Housi	HEH - H	35

Hostile Litho-Density Sonde Wellsite Calibration

Background Measurement

Phase	SS Total Countrate Bkg CPS	Value	Phase	SS HV Measured Bkg V	Value	Phase	SS PSC DAC Value Bkg	Value
Master		1446	Master		1077	Master		15060
Before		1441	Before		1070	Before		15540
After		1449	After		1071	After		15820
	1000 (Minimum) 1645 (Nominal) 2290 (Maximum)			800.0 (Minimum) 1100 (Nominal) 1400 (Maximum)			14100 (Minimum) 16000 (Nominal) 20000 (Maximum)	
Phase	SS Cs Centroid Bkg KEV	Value	Phase	SS Cs Resolution Bkg %	Value	Phase	LS Total Countrate Bkg CPS	Value
Master		661.3	Master		8.490	Master		1468
Before		661.0	Before		8.564	Before		1467
After		661.5	After		8.477	After		1464
	656.0 (Minimum) 661.0 (Nominal) 666.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)			1000 (Minimum) 1645 (Nominal) 2290 (Maximum)	
Phase	LS HV Measured Bkg V	Value	Phase	LS PSC DAC Value Bkg	Value	Phase	LS Cs Centroid Bkg KEV	Value
Master		1195	Master		16550	Master		661.3
Before		1190	Before		16970	Before		661.2
After		1189	After		17350	After		661.2
	800.0 (Minimum) 1100 (Nominal) 1400 (Maximum)			14100 (Minimum) 16000 (Nominal) 20000 (Maximum)			656.0 (Minimum) 661.0 (Nominal) 666.0 (Maximum)	
Phase	LS Cs Resolution Bkg %	Value	Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value
Master		8.711	Master		87.58	Master		83.28

Master		8.744	Master		87.58	Master		82.28
Before		8.772	Before		87.85	Before		80.44
After		8.785	After		87.80	After		80.22
7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)			55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)		
Phase	LSW3 Background CPS	Value	Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value
Master		180.2	Master		219.3	Master		502.6
Before		180.7	Before		219.2	Before		504.5
After		180.6	After		219.8	After		501.0
110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)			140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)			330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)		
Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value
Master		88.30	Master		157.6	Master		422.5
Before		88.74	Before		157.4	Before		421.0
After		89.18	After		159.1	After		423.6
55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)			280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)		
Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value			
Master		223.9	Master		163.1			
Before		222.0	Before		162.9			
After		223.4	After		162.0			
150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)					
Master: 10-MAR-2000 10:06			Before: 17-MAR-2000 18:41			After: 2-MAY-2000 21:22		

Hostile Litho-Density Sonde Master Calibration								
Detector Background Measurement								
Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value
Master		87.58	Master		82.28	Master		180.2
55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)		
Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value	Phase	LS Cs Resolution Bkg %	Value
Master		219.3	Master		502.6	Master		8.744
140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)			330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)		
Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value
Master		88.30	Master		157.6	Master		422.5
55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)			280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)		
Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value	Phase	SS Cs Resolution Bkg %	Value
Master		223.9	Master		163.1	Master		8.490
150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)		
Master: 10-MAR-2000 10:06								

Hostile Litho-Density Sonde Master Calibration								
Detector Aluminum Measurement (bkqd-subtracted)								
Phase	LSW1 Aluminum CPS	Value	Phase	LSW2 Aluminum CPS	Value	Phase	LSW3 Aluminum CPS	Value
Master		582.8	Master		846.4	Master		1038
420.0 (Minimum) 600.0 (Nominal) 700.0 (Maximum)			650.0 (Minimum) 900.0 (Nominal) 1050 (Maximum)			800.0 (Minimum) 1100 (Nominal) 1300 (Maximum)		
Phase	LSW4 Aluminum CPS	Value	Phase	LSW5 Aluminum CPS	Value	Phase	LS Cs Resolution Al %	Value
Master		521.8	Master		503.1	Master		8.769
410.0 (Minimum) 580.0 (Nominal) 670.0 (Maximum)			410.0 (Minimum) 570.0 (Nominal) 660.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)		
Phase	SSW1 Aluminum CPS	Value	Phase	SSW2 Aluminum CPS	Value	Phase	SSW3 Aluminum CPS	Value
Master		2302	Master		6741	Master		9846
2000 (Minimum) 2800 (Nominal) 3200 (Maximum)			5800 (Minimum) 8000 (Nominal) 9300 (Maximum)			8300 (Minimum) 11600 (Nominal) 13500 (Maximum)		
Phase	SSW4 Aluminum CPS	Value	Phase	SSW5 Aluminum CPS	Value	Phase	SS Cs Resolution Al %	Value
Master		4263	Master		614.4	Master		8.321

3500 (Minimum)	5000 (Nominal)	5800 (Maximum)	470.0 (Minimum)	660.0 (Nominal)	770.0 (Maximum)	7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)
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Master: 10-MAR-2000 10:32

Hostile Litho-Density Sonde Master Calibration											
Detector Litholog Measurement (bkgd-subtracted)											
Phase	LSW1 Iron CPS		Value	Phase	LSW2 Iron CPS		Value	Phase	LSW3 Iron CPS		Value
Master			390.1	Master			675.7	Master			916.0
	290.0 (Minimum)	400.0 (Nominal)	470.0 (Maximum)		520.0 (Minimum)	730.0 (Nominal)	850.0 (Maximum)		720.0 (Minimum)	1000 (Nominal)	1160 (Maximum)
Phase	LSW4 Iron CPS		Value	Phase	LSW5 Iron CPS		Value	Phase	LS Cs Resolution Al + Fe %		Value
Master			480.4	Master			458.6	Master			8.711
	370.0 (Minimum)	520.0 (Nominal)	600.0 (Maximum)		340.0 (Minimum)	470.0 (Nominal)	550.0 (Maximum)		7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)
Phase	SSW1 Iron CPS		Value	Phase	SSW2 Iron CPS		Value	Phase	SSW3 Iron CPS		Value
Master			1724	Master			5643	Master			9018
	1500 (Minimum)	2100 (Nominal)	2400 (Maximum)		4900 (Minimum)	6800 (Nominal)	7900 (Maximum)		7800 (Minimum)	10800 (Nominal)	12600 (Maximum)
Phase	SSW4 Iron CPS		Value	Phase	SSW5 Iron CPS		Value	Phase	SS Cs Resolution Al + Fe %		Value
Master			3917	Master			546.4	Master			8.344
	3300 (Minimum)	4600 (Nominal)	5400 (Maximum)		420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)		7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)

Master: 10-MAR-2000 10:27

Hostile Litho-Density Sonde Master Calibration											
Quality Ratios											
Phase	AL CALIBRATION RATIO 1		Value	Phase	AL CALIBRATION RATIO 2		Value	Phase	AL CALIBRATION RATIO 3		Value
Master			1.012	Master			2.019	Master			0.5686
	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)		1.800 (Minimum)	2.000 (Nominal)	2.200 (Maximum)		0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)
Phase	AL CALIBRATION RATIO 4		Value	Phase	Pad-Wear SS Ratio		Value	Phase	Pad-Wear LS Ratio		Value
Master			0.4720	Master			0.9962	Master			0.9729
	0.4000 (Minimum)	0.5000 (Nominal)	0.6000 (Maximum)		0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)		0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)
Phase	Pad-Position SS Ratio		Value	Phase	Pad-Position LS Ratio		Value	See Remarks			
Master			1.003	Master			0.9942				
	0.9900 (Minimum)	0.9940 (Nominal)	1.015 (Maximum)		0.9850 (Minimum)	0.9940 (Nominal)	1.010 (Maximum)				

Master: 10-MAR-2000 10:22

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

Accelerator-Porosity Tool Wellsite Calibration											
Detector Background											
Phase	Near Det Bkg Cntrate CPS		Value	Phase	Far Det Bkg Cntrate CPS		Value	Phase	Array-1 Det Bkg Cntrate CPS		Value
Master			32.07	Master			32.19	Master			28.58
	29.00 (Minimum)	32.00 (Nominal)	35.00 (Maximum)		29.00 (Minimum)	32.00 (Nominal)	35.00 (Maximum)		25.00 (Minimum)	28.00 (Nominal)	32.00 (Maximum)
Before			55.87	Before			35.23	Before			37.52

Before		33.07	Before		33.23	Before		37.92
After		32.30	After		33.46	After		29.53
	0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	
Phase	Array-2 Det Bkg Cntrate CPS	Value	Phase	Array Therm Det Bkg Cntrate CPS	Value	See Remarks		
Master		30.06	Master		33.94			
Before		39.47	Before		38.87			
After		29.76	After		32.33			
	0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)				
Master: Calibration out of date 2-FEB-2000 21:50			Before: 2-MAY-2000 15:25			After: 2-MAY-2000 19:56		

Accelerator-Porosity Tool Wellsite Calibration								
Detector Plateau Settings								
Phase	Near Detector Plateau Setting V	Value	Phase	Far Detector Plateau Setting V	Value	Phase	Array Detector Plateau Setting V	Value
Master		1762	Master		2069	Master		1987
	1400 (Minimum) 1650 (Nominal) 1900 (Maximum)			1750 (Minimum) 2000 (Nominal) 2250 (Maximum)			1750 (Minimum) 2000 (Nominal) 2250 (Maximum)	
Master: Calibration out of date 2-FEB-2000 20:07								

Accelerator-Porosity Tool Wellsite Calibration					
Calibration Ratios					
Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value
Master		0.9031	Master		1.068
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.150 (Maximum)	
Master: Calibration out of date 2-FEB-2000 21:50					

Accelerator-Porosity Tool Master Calibration								
Detector Calibration								
Phase	Near Detector Plateau Setting V	Value	Phase	Far Detector Plateau Setting V	Value	Phase	Array Detector Plateau Setting V	Value
Master		1762	Master		2069	Master		1987
	1400 (Minimum) 1650 (Nominal) 1900 (Maximum)			1750 (Minimum) 2000 (Nominal) 2250 (Maximum)			1750 (Minimum) 2000 (Nominal) 2250 (Maximum)	
Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value			
Master		0.9031	Master		1.068			
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.150 (Maximum)				
Master: Calibration out of date 2-FEB-2000 20:07								

Accelerator-Porosity Tool Master Calibration								
Tank Check								
Phase	Array-1 Standoff Porosity PU	Value	Phase	Array-2 Standoff Porosity PU	Value	Phase	Sigma Formation CU	Value
Master		11.71	Master		11.59	Master		27.75
	5.500 (Minimum) 10.25 (Nominal) 15.00 (Maximum)			5.500 (Minimum) 10.25 (Nominal) 15.00 (Maximum)			20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)	
Master: Calibration out of date 2-FEB-2000 21:50								

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		40.54	Master		16.04	Master		1110
Before		40.61	Before		14.56	Before		1109
After		40.50	After		15.67	After		1111

Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		146.3	Master		8.987	Master		15.16
Before		145.4	Before		9.047	Before		18.69
After		144.9	After		8.984	After		17.76
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 Count Rate CPS	Value						
Master		26.83						
Before		26.57						
After		26.24						
15.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)								
Master: 17-APR-2000 13:39			Before: 27-APR-2000 19:51			After: 2-MAY-2000 21:22		

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		40.57	Master		13.85	Master		1196
Before		40.68	Before		14.11	Before		1195
After		40.66	After		14.49	After		1198
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		144.4	Master		8.601	Master		14.11
Before		145.4	Before		7.729	Before		17.59
After		144.7	After		8.203	After		17.86
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		27.26						
Before		27.00						
After		26.51						
15.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)								
Master: 17-APR-2000 13:39			Before: 27-APR-2000 19:51			After: 2-MAY-2000 21:22		

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9852
Before		0.9847
After		0.9914
0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)		
Master: 17-APR-2000 13:39		
Before: 27-APR-2000 19:51		
After: 2-MAY-2000 21:22		

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		210.3	Master		7.038
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	EXCEEDS LIMIT	17.08	Master		0.9868			
20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)					

Master: 17-APR-2000 13:34

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			209.9	Master			7.102
	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				17.73	Master				0.9847		
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				

Master: 17-APR-2000 13:34

COMPANY:	Lamont Doherty	BOTTOM LOG INTERVAL	3380 m
WELL:	ODP Leg 189, Site 1172D (ETP-2A)	SCHLUMBERGER DEPTH	3395 m
FIELD:	East Tasmania	DEPTH DRILLER	3399.85 m
COUNTY:	Offshore	KELLY BUSHING	11.2 m
STATE:	Pacific Ocean	DRILL FLOOR	10.9 m
		GROUND LEVEL	2621.7 m



Density/APS Porosity
Natural Gamma Ray