COMPANY: Lamont Doherty

WELL: ODP Leg 199, Site 1218 A (PAT-8C)

FIELD:

Ocean: Pacific

Field:
Location: LAT: 8 DEG 53.089' N
Well: ODP Leg 199, Site 1218 A (PAT-
Company: Lamont Doherty

Schlumberger

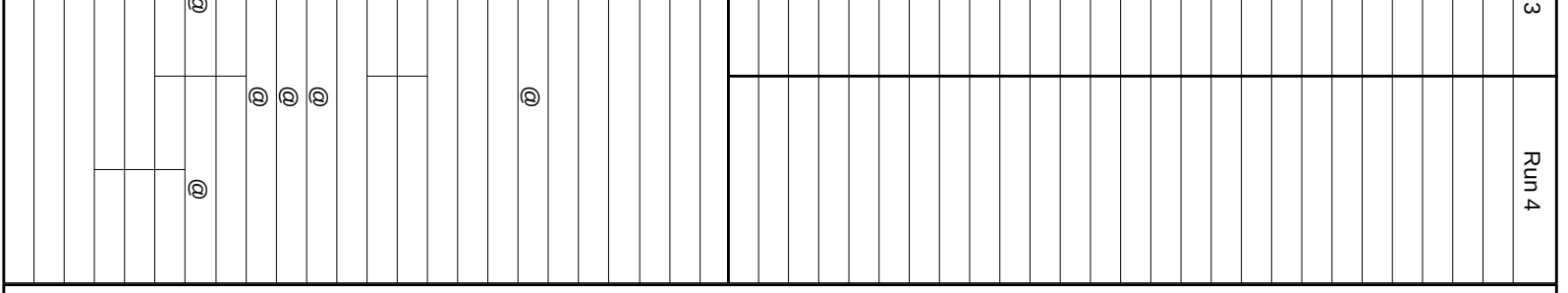
HNGS
Natural Gamma Ray

LOCATION			
LAT: 8 DEG 53.089' N		Elev.: K.B.	11.3 m
LONG: 135 DEG 21.992' W		G.L.	-4837 m
		D.F.	11 m
Permanent Datum:	MSL	Elev.:	0 m
Log Measured From:	RKB	11.3 m above Perm. Datum	
Drilling Measured From:	RKB		

API Serial No.	Max. Hole Devi.	Longitude	Latitude
	1 deg		

Logging Date	16-Nov-2001			
Run Number	1			
Depth Driller	5114 m			
Schlumberger Depth	5112 m			
Bottom Log Interval	5080 m			
Top Log Interval	4837 m			
Casing Driller Size @ Depth	0.000 in @ 4917 m		@	
Casing Schlumberger	4915.5 m			
Bit Size	11.438 in			
Type Fluid In Hole	Sepiolite/Saltwater			
MUD Density / Viscosity	1.066 g/cm3			
MUD Fluid Loss / PH				
MUD Source Of Sample	Mudpit			
RM @ Measured Temperature	0.253 ohm.m @ 32 degC		@	
RMF @ Measured Temperature	@		@	
RMC @ Measured Temperature	@		@	
Source RMF / RMC	none	none		
RM @ MRT / RMF @ MRT	0.444 @ 9	@ 9	@	@
Maximum Recorded Temperatures	9 degC			
Circulation Stopped / Time	16-Nov-2001	11:00		
Logger On Bottom / Time	16-Nov-2001	22:10		
Unit Number / Location	99	Houston, TX		
Recorded By	Kerry M. Swain			
Witnessed By	Philippe Gaillot, Brice Rea			

	Run 1	Run 2	Run
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			
MUD Density / Viscosity			
MUD Fluid Loss / PH			
MUD Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF / RMC			
RM @ MRT / RMF @ MRT	@	@	@
Maximum Recorded Temperatures			
Circulation Stopped / Time			
Logger On Bottom / Time			
Unit Number / Location			
Recorded By			
Witnessed By			



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OTHER SERVICES1	OTHER SERVICES2
OS1: HLDT/APS/DITE	OS1:
OS2: FMS/DSST	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Hole cored with APC/XCB.	
Log presented in Meters Below Rig Floor (MBRF).	
Lamont Temperature tool (TAP) was run on Triple Combo, Run 1.	
Toolstring-TAP/DITE/HLDT/APS/HNGS/MGT	
Lamont Multi-Sensor Gamma Ray tool (MGT) was run on Triple Combo, Run 1.	
Wireline Heave Compensator (WHC) was used on all runs.	
Sepiolite mud was used to displace the hole during the wiper trip after drilling	
Drillers TD 5114 MBRF, Driller Pipe depth: 4917 MBRF.	
Schlumberger TD 5112 MBRF.	
Drill Pipe Schlumberger 4915.5 MBRF.	

RUN 1

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

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

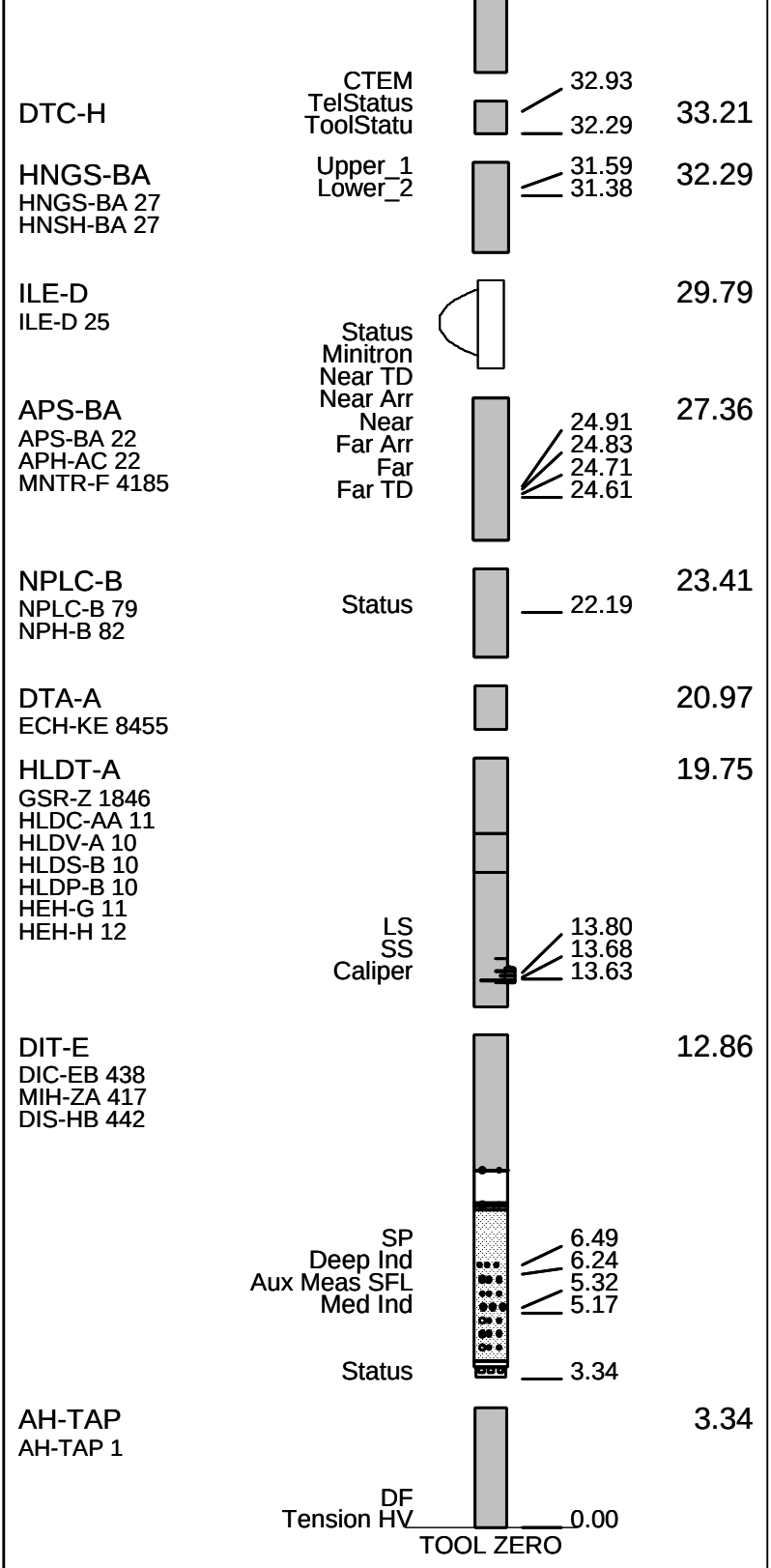
SFT-281 24
SFT-178 4722
GSR-U 135
DTM-B

DOWNHOLE EQUIPMENT

LEH-QT 39.75

AH-MGT 38.86
AH-MGT

RUN 2



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

Output DLIS Files

DEFAULT	PI_LDL_APS_HNGS_008LUP	FN:11	PRODUCER	16-Nov-2001 22:09	5116.1 M	4814.2 M
REDUCED	PI_LDL_APS_HNGS_008LUP	FN:12	PRODUCER	16-Nov-2001 22:09	5116.1 M	4814.3 M

OP System Version: 9C2-303

MCM

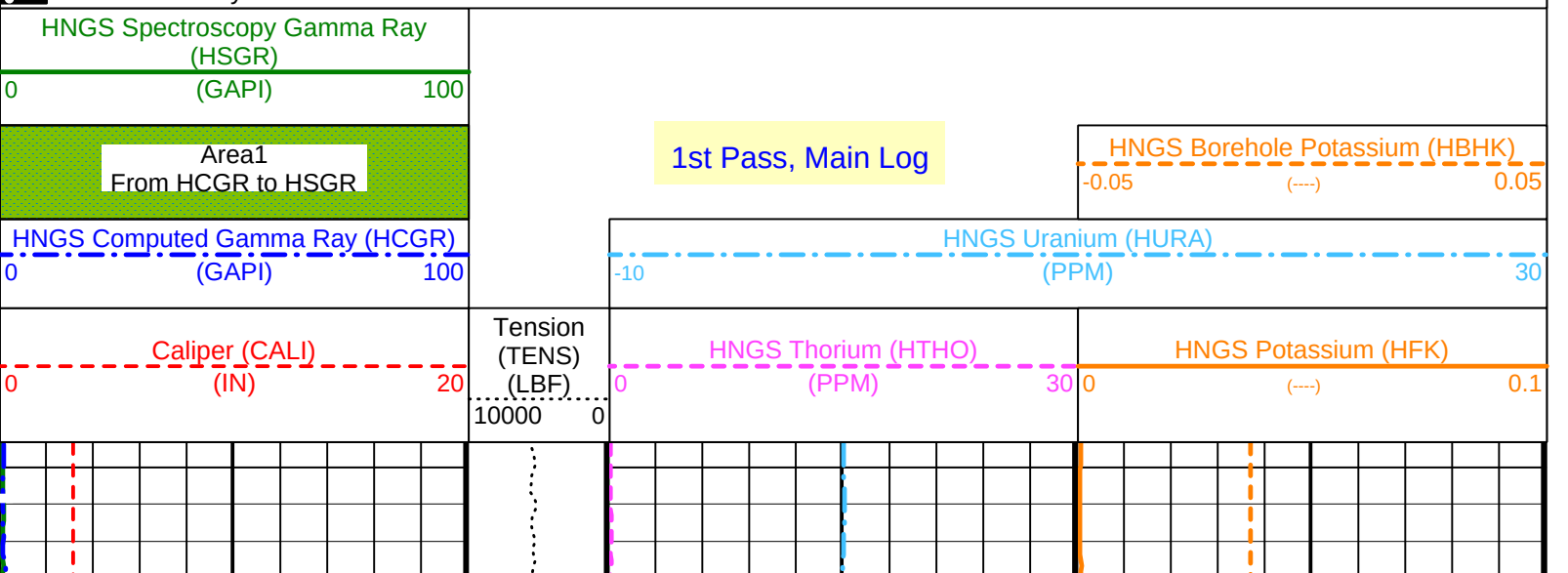
DIT-E	9C2-303	HLDT-A	9C2-303
DTA-A	9C2-303	NPLC-B	9C2-303
APS-BA	9C2-303	HNGS-BA	9C2-303
DTC-H	9C2-303		

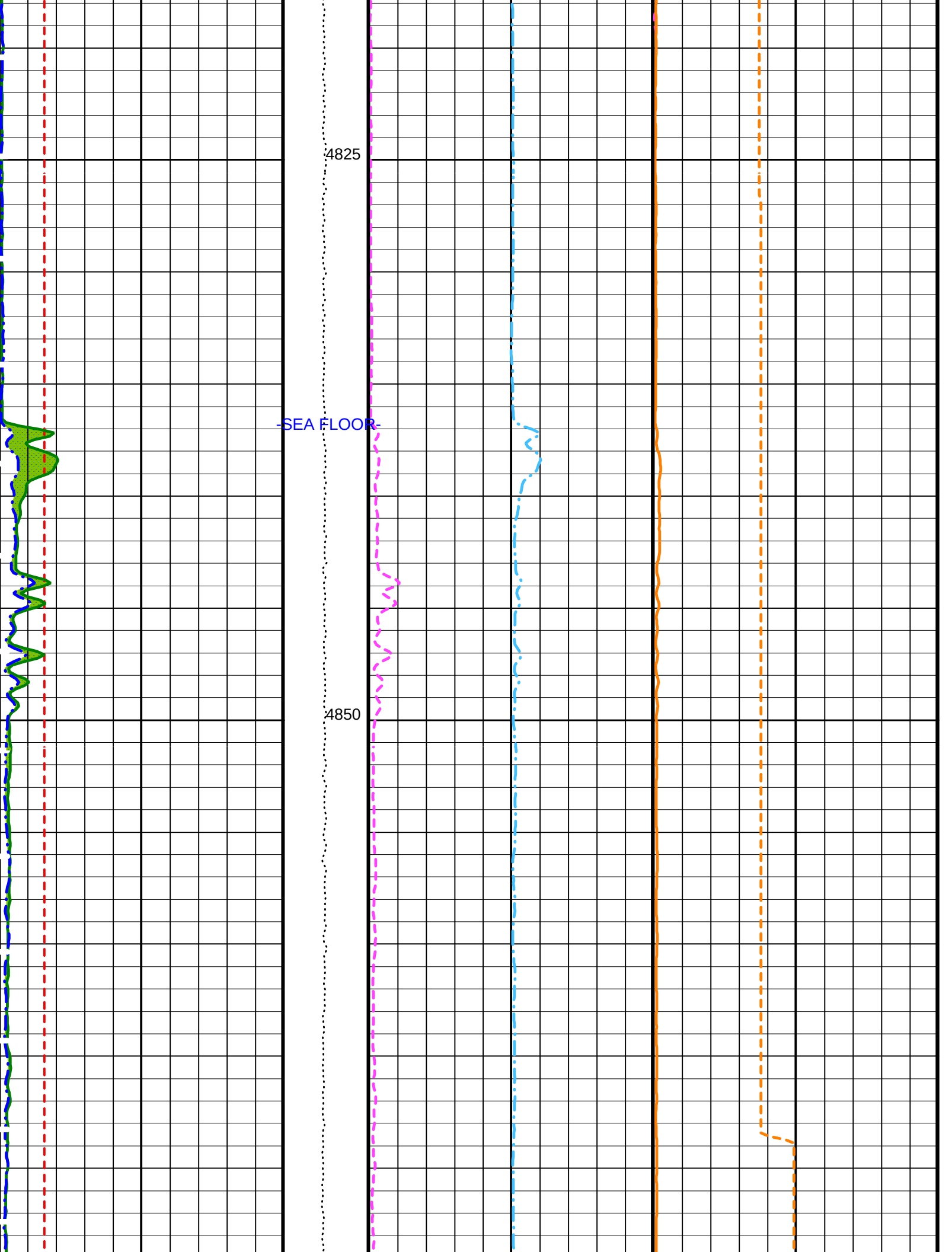
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
GCSE	CALI	BS	5112.0 22:11:19

PIP SUMMARY

Time Mark Every 60 S

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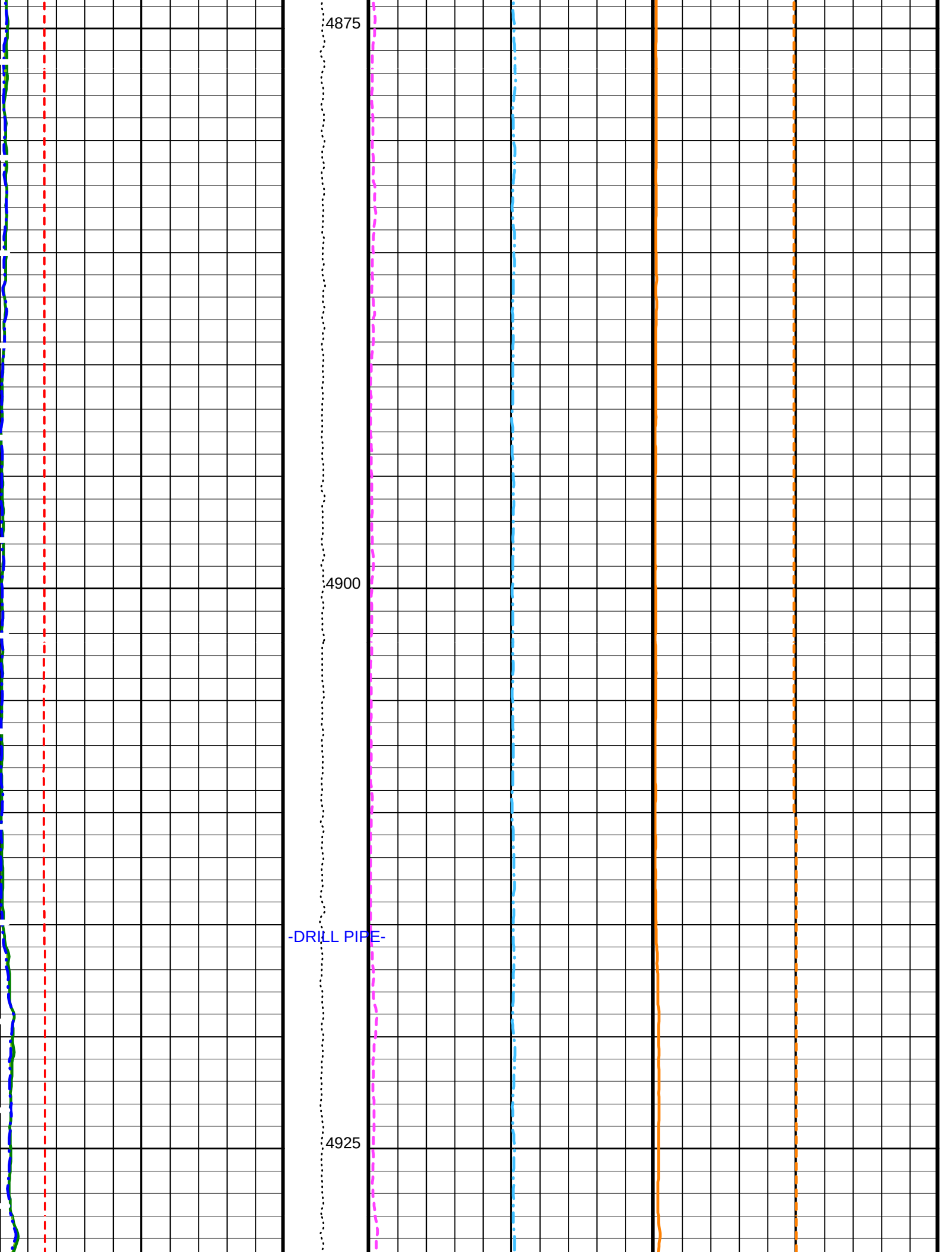
-SEA FLOOR-
4850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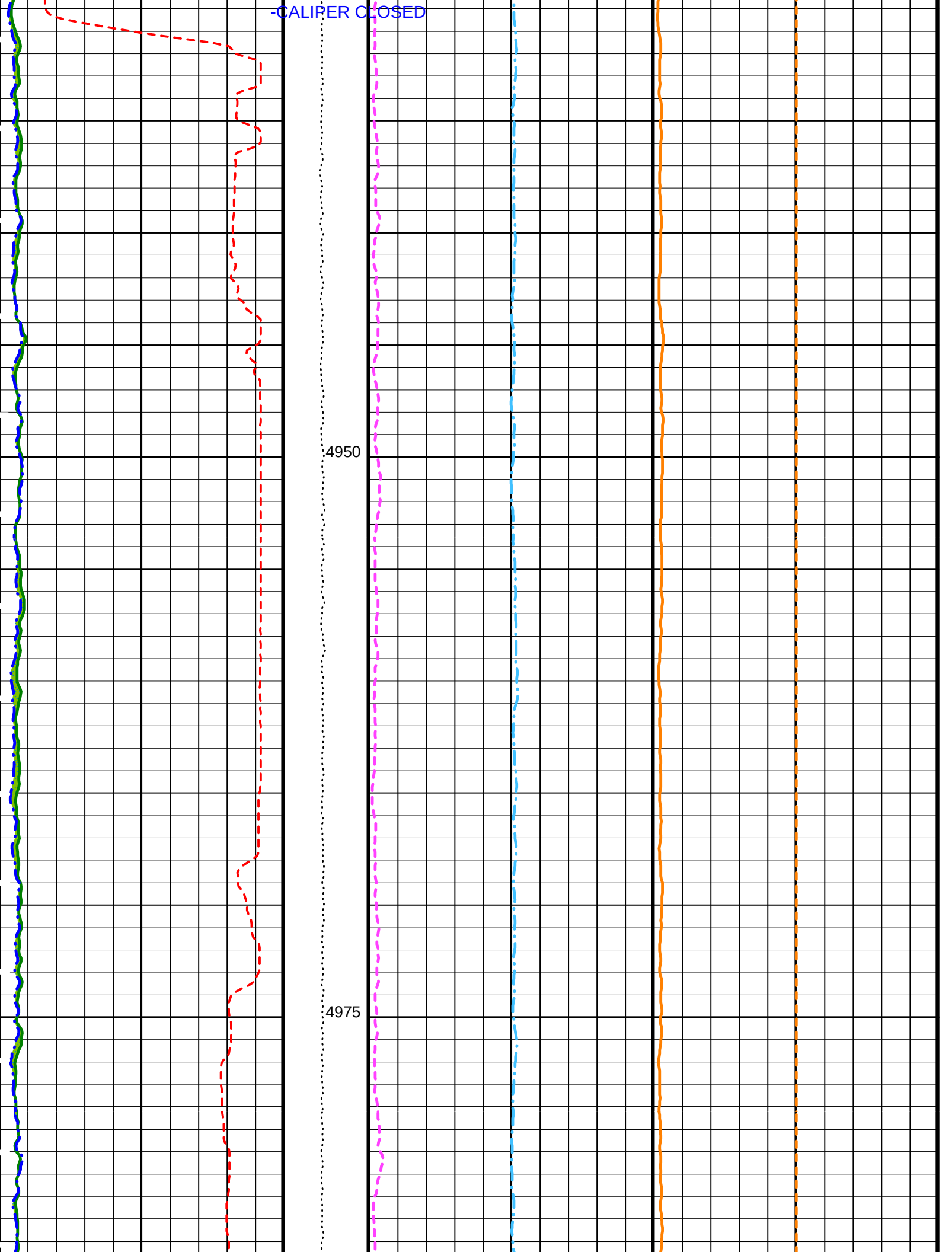
4900
-DRILL PIPE-
4925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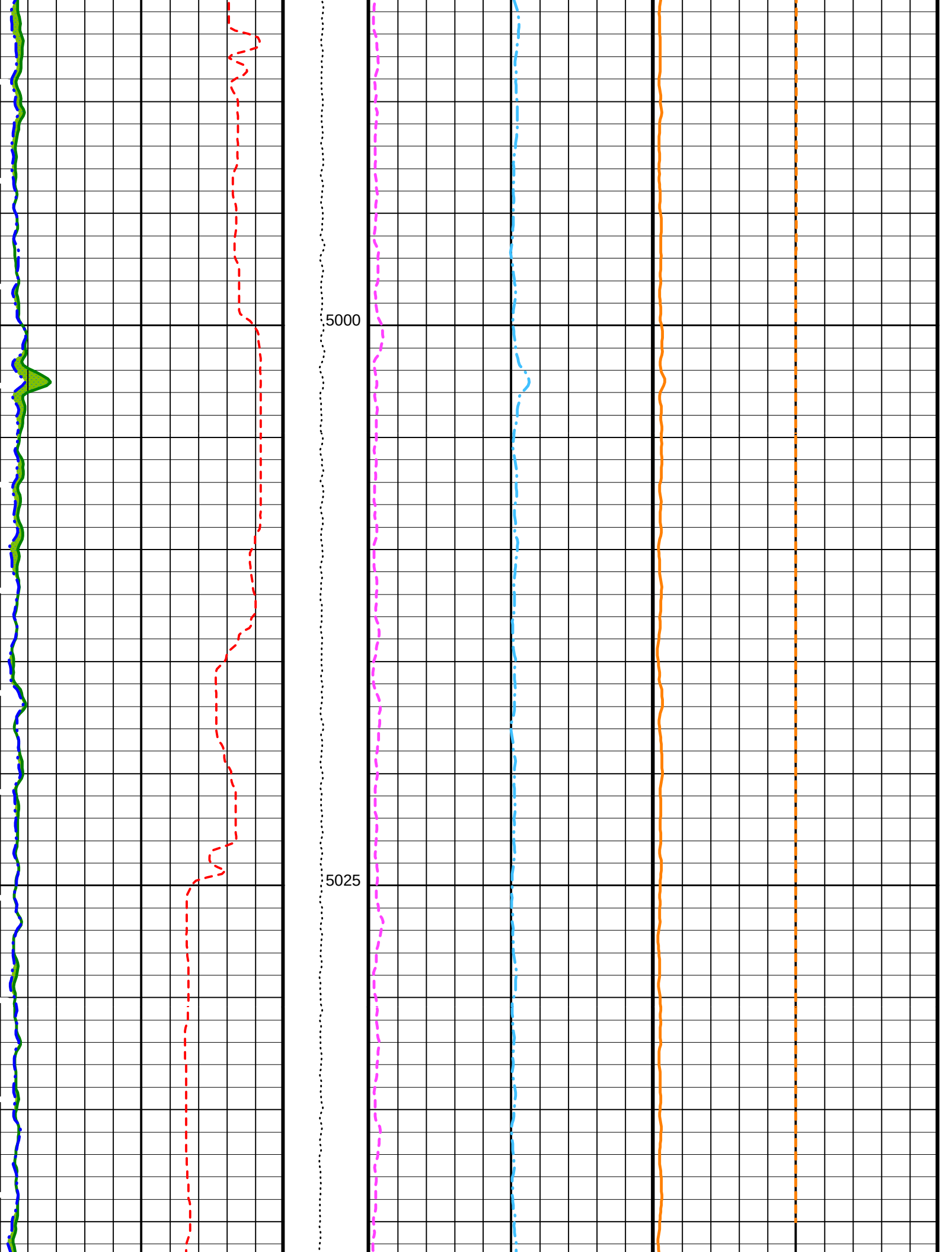
4975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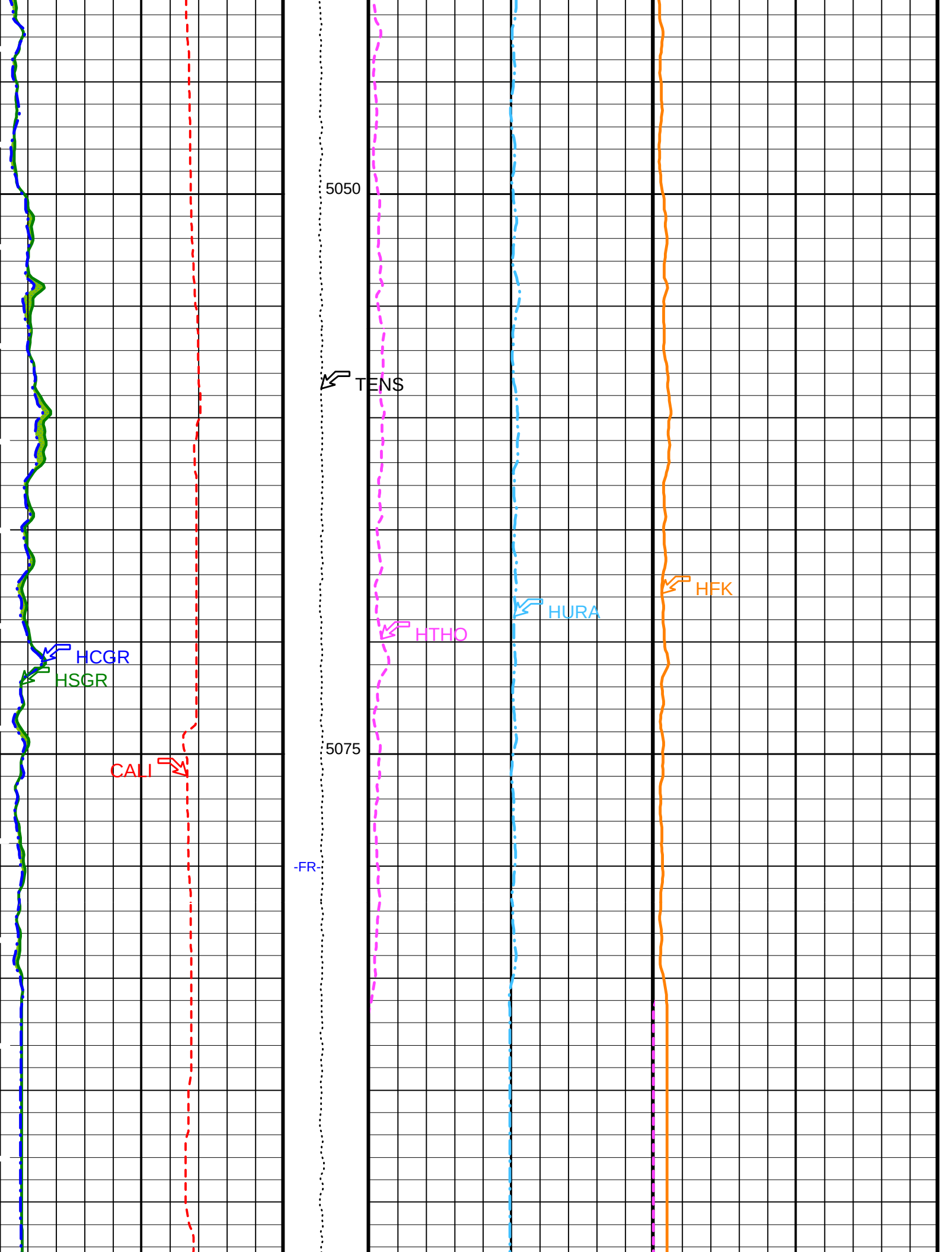
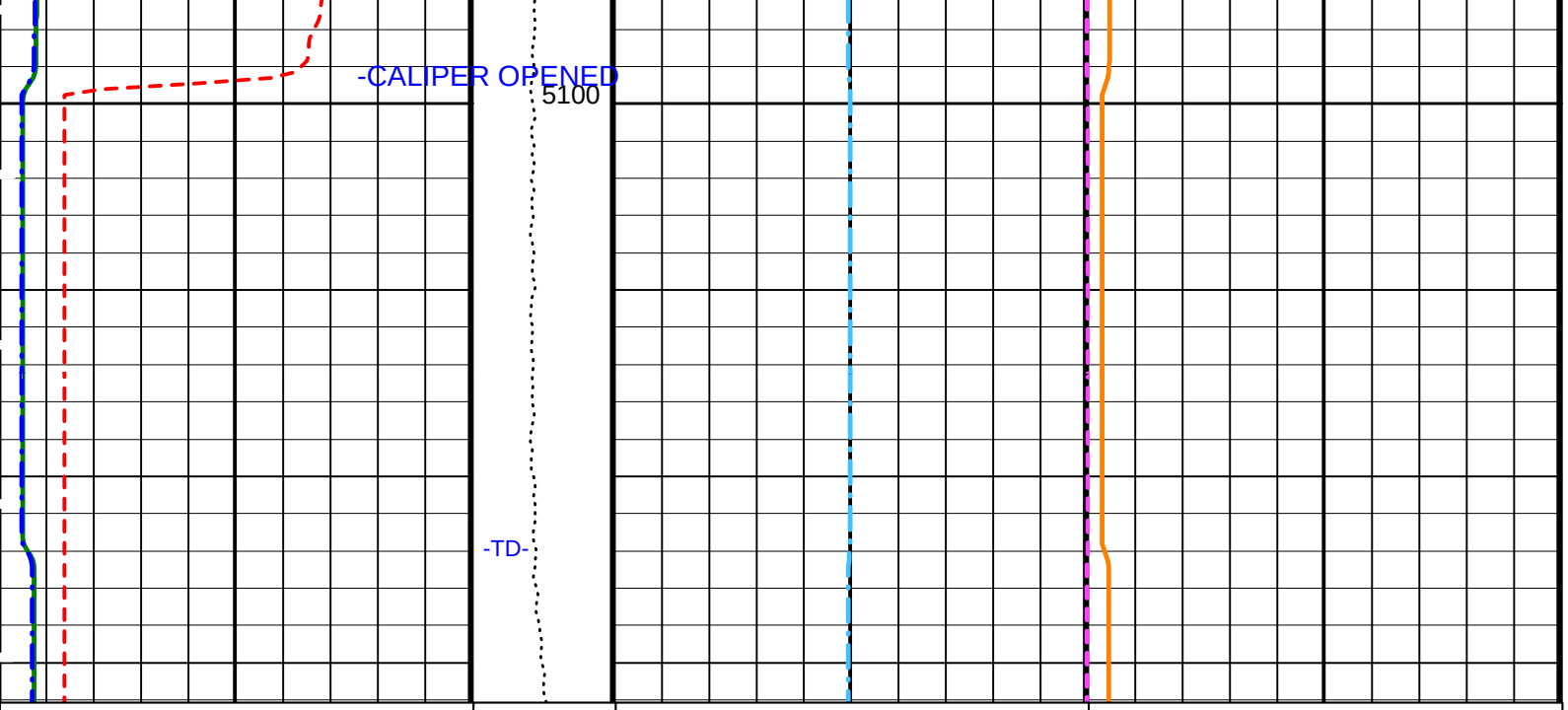

5050
TENS
HTHO
HURA
HFK
HCGR
HSGR
CALI
5075
-FR-



Caliper (CALI)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

HNGS Thorium (HTHO)
0 (PPM) 30

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

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

HNGS Uranium (HURA)
-10 (PPM) 30

Area1
From HCGR to HSGR

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

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

1st Pass, Main Log

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	11.438	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	7.94455	%
D1TC	HNGS Detector 1 Calibration Temperature	31.7278	DEGC
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	210.396	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	7.23028	%
D2TC	HNGS Detector 2 Calibration Temperature	30.9207	DEGC
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.461	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DFD	Drilling Fluid Density	1.07	G/C3
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
GCSE	Generalized Caliper Selection	BS	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.0006672	
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	NATL	

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	
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	17.94	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.986623	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	18.0888	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.979243	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.000254351	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.23148	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.01839	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 16-Nov-2001 22:09

OP System Version: 9C2-303

MCM

DIT-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		

Output DLIS Files

DEFAULT	PI_LDL_APS_HNGS_008LUP	FN:11	PRODUCER	16-Nov-2001 22:09	
REDUCED	PI_LDL_APS_HNGS_008LUP	FN:12	PRODUCER	16-Nov-2001 22:09	

Output DLIS Files

DEFAULT	PI_LDL_APS_HNGS_009LUP	FN:13	PRODUCER	16-Nov-2001 23:29	5113.8 M	4898.0 M
REDUCED	PI_LDL_APS_HNGS_009LUP	FN:14	PRODUCER	16-Nov-2001 23:29	5113.8 M	4898.0 M

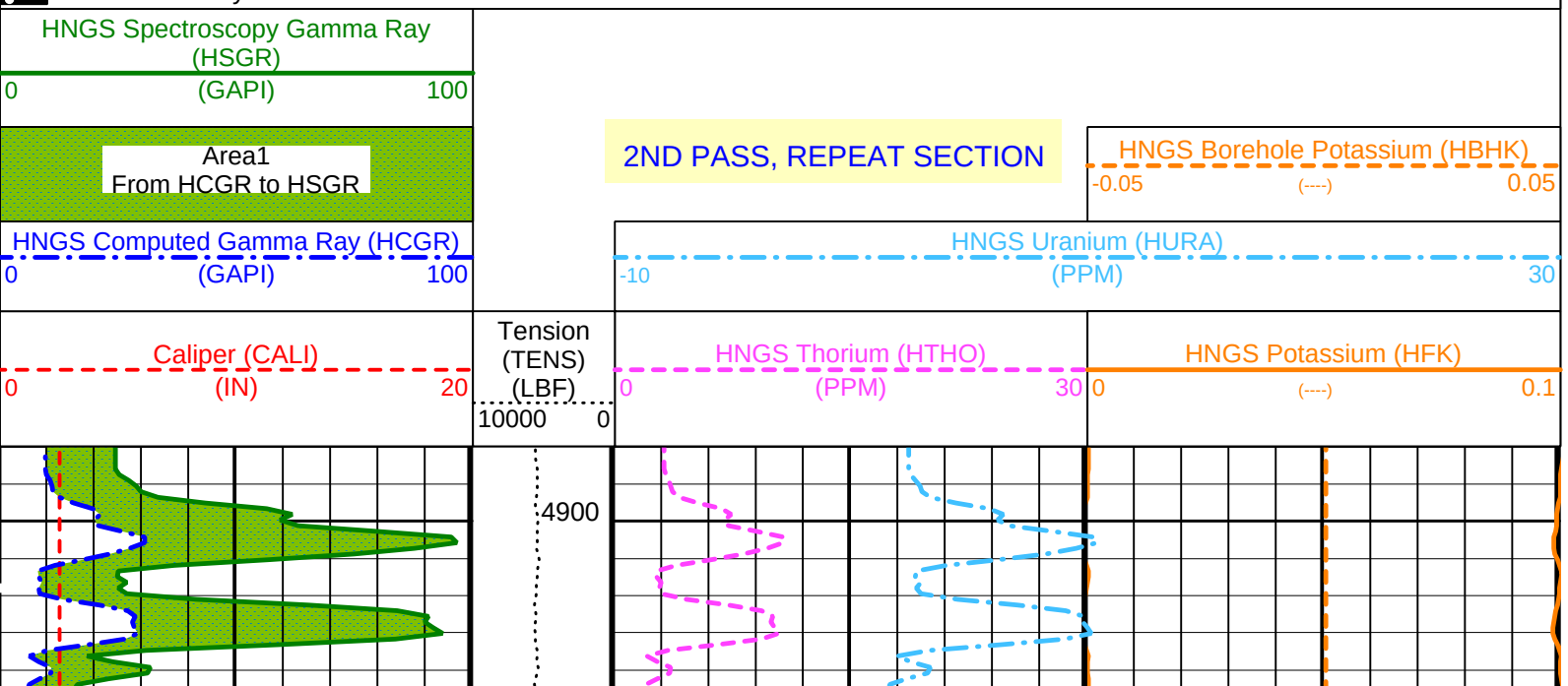
OP System Version: 9C2-303

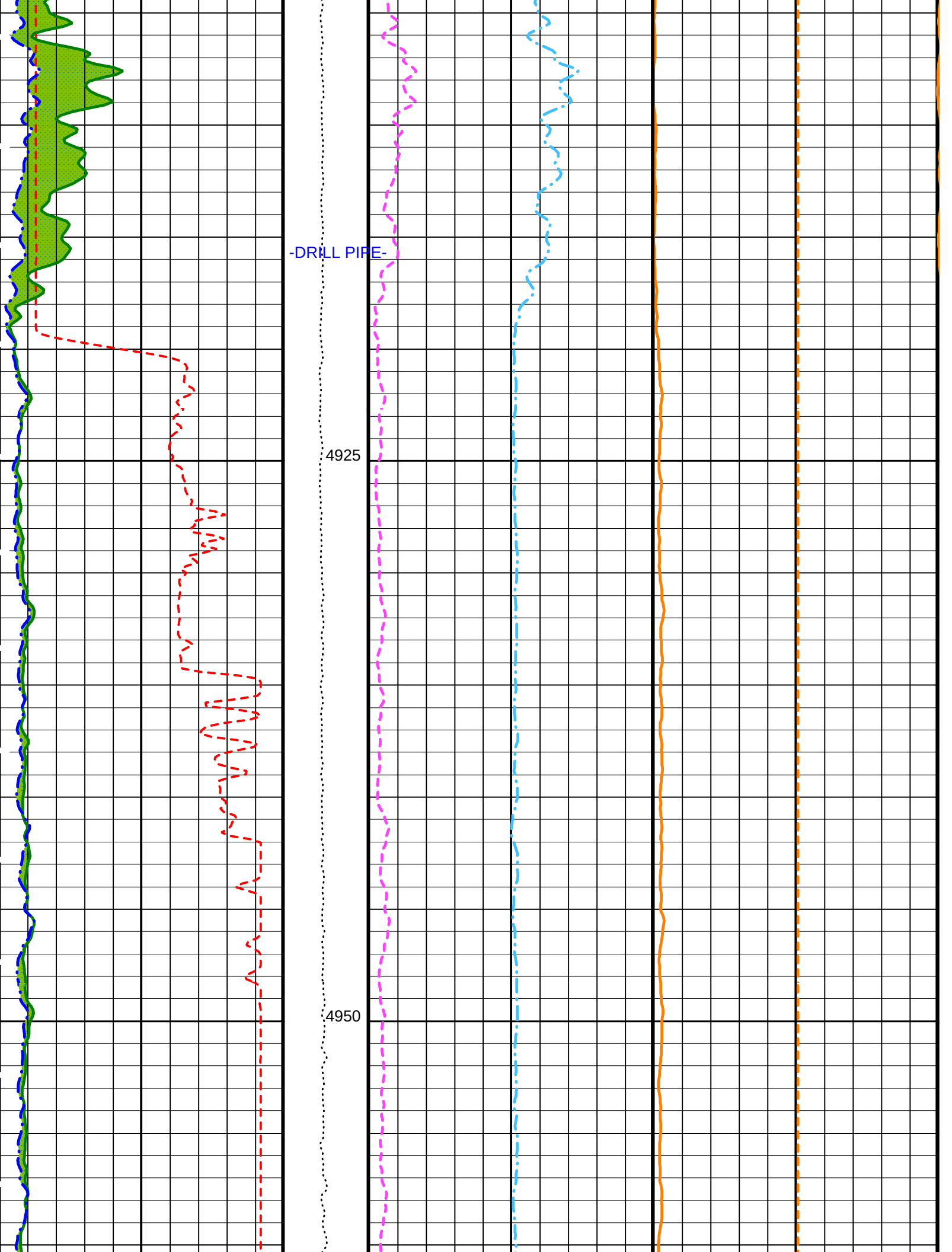
MCM

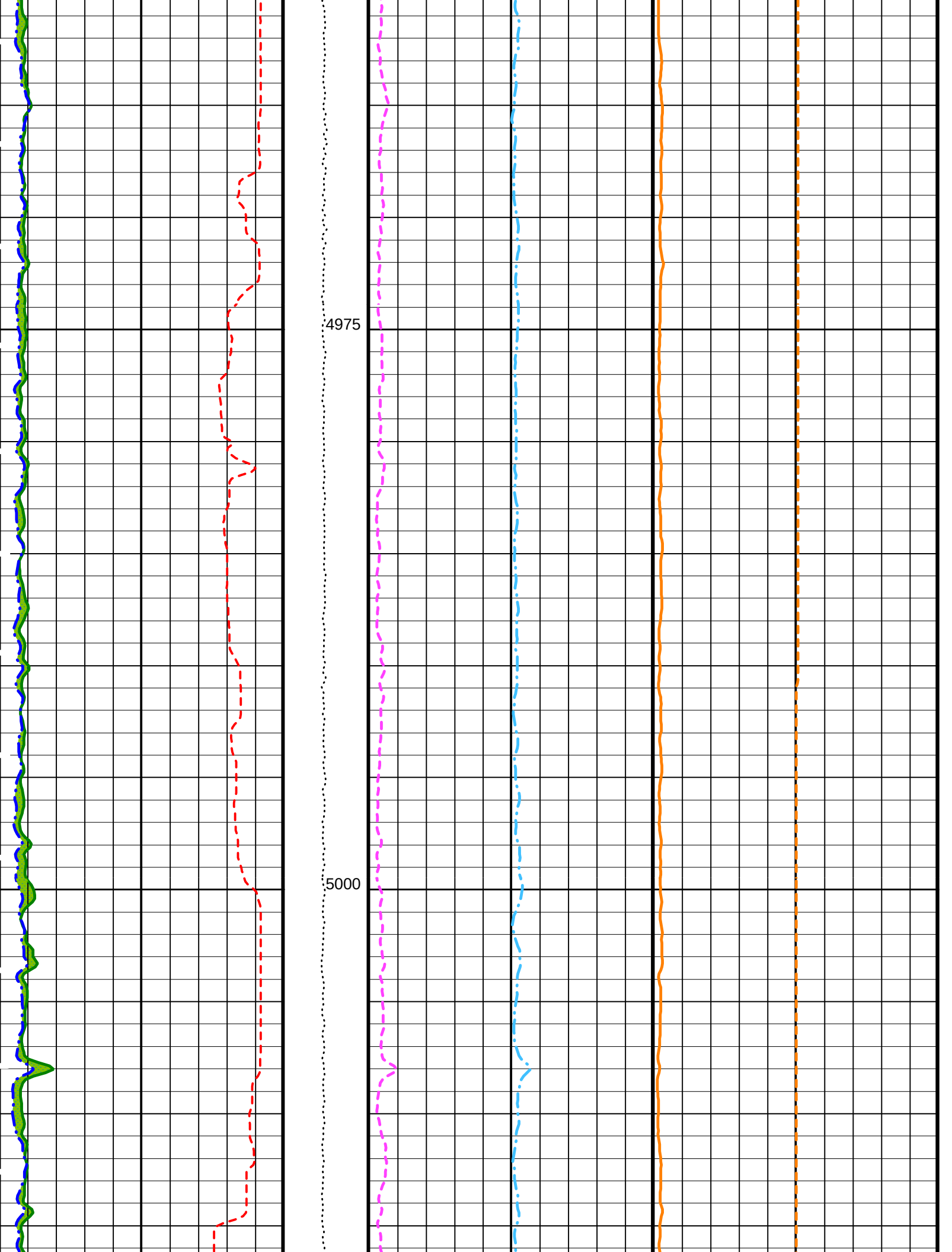
DIT-E	9C2-303	HLDT-A	9C2-303
DTA-A	9C2-303	NPLC-B	9C2-303
APS-BA	9C2-303	HNGS-BA	9C2-303
DTC-H	9C2-303		

PIP SUMMARY

Time Mark Every 60 S




-DRILL PIPE-
4925
4950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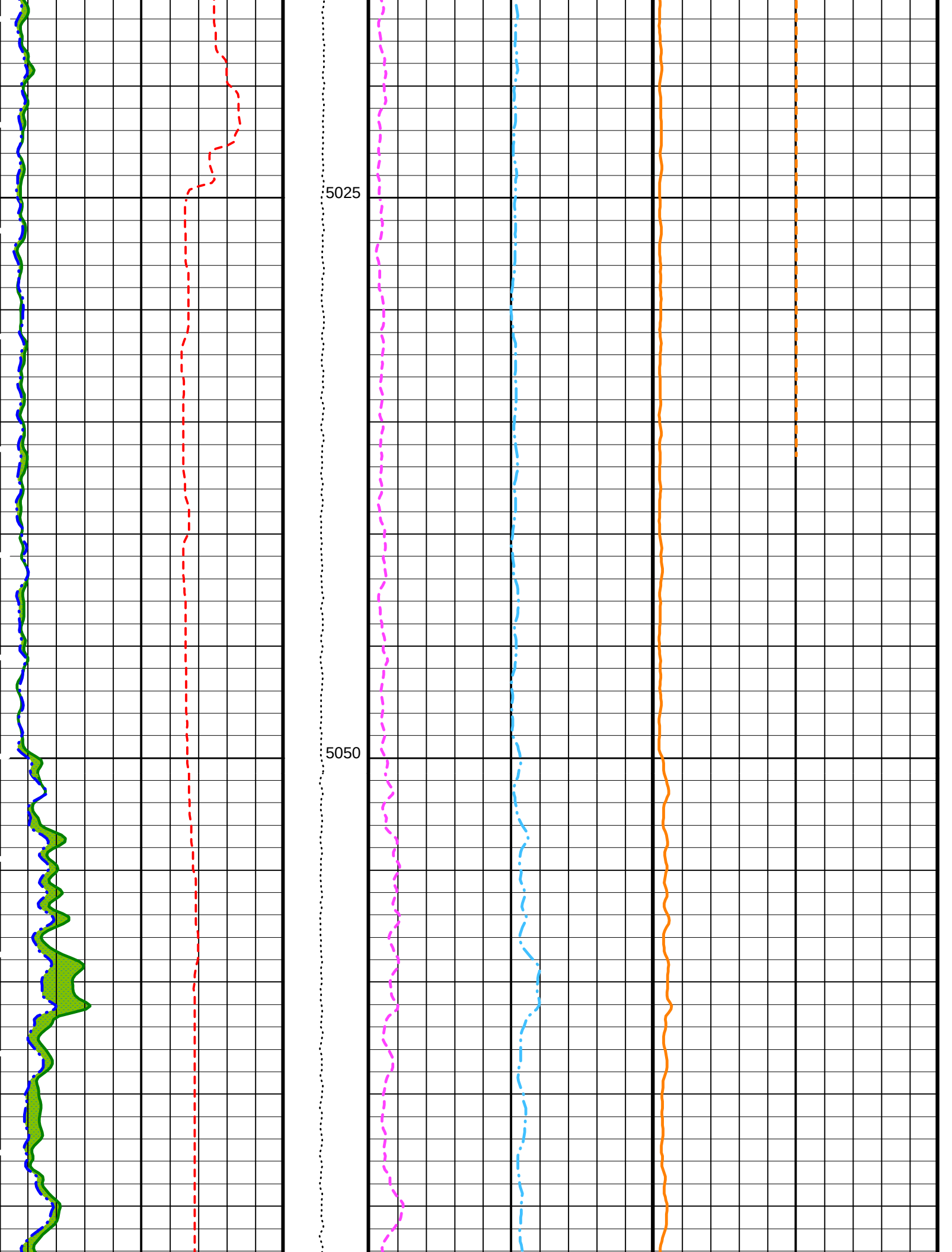
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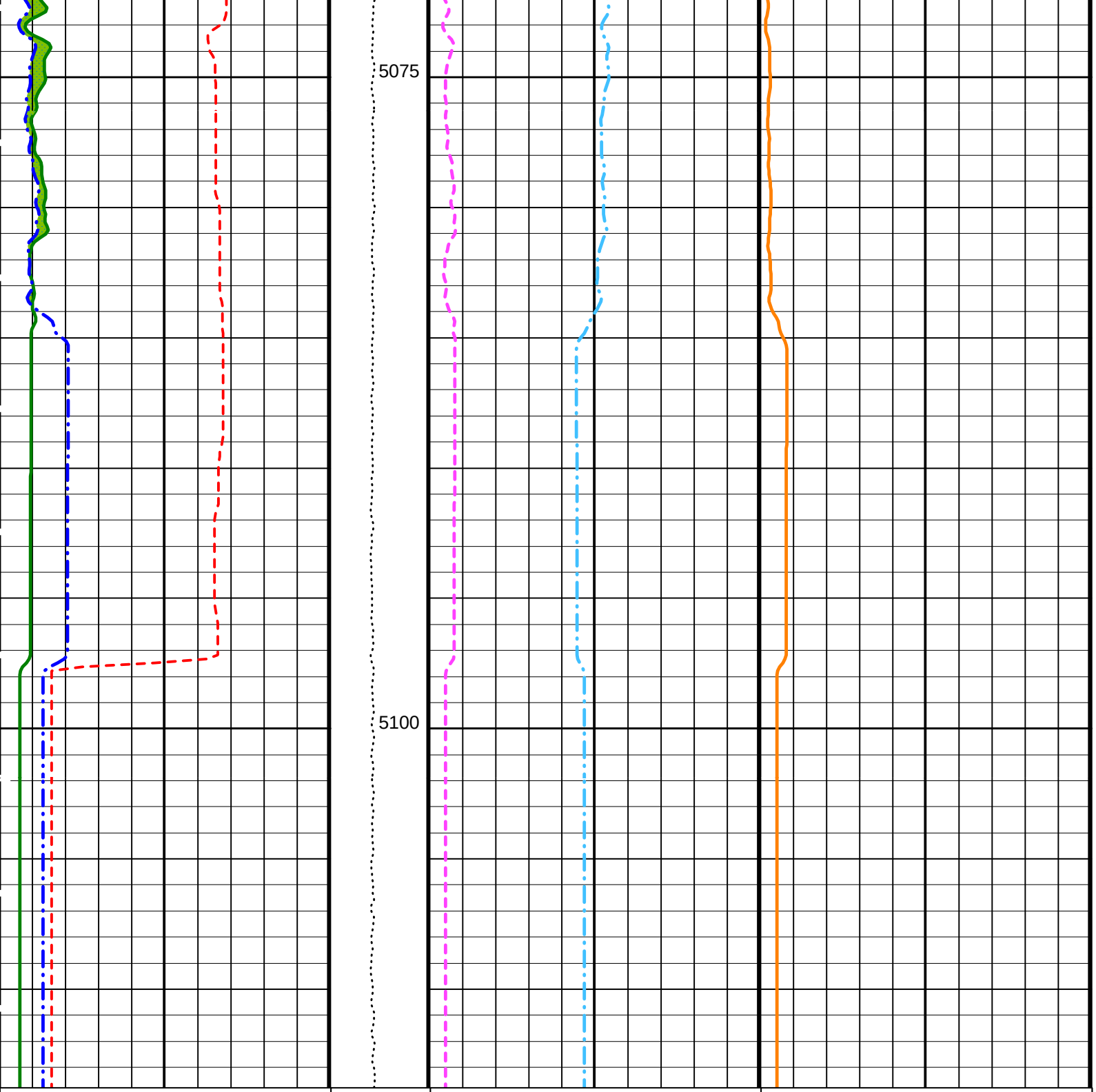

Caliper (CALI)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

HNGS Thorium (HTHO)
0 (PPM) 30

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

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

HNGS Uranium (HURA)
-10 (PPM) 30

Area1
From HCGR to HSGR

2ND PASS, REPEAT SECTION

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

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

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	11.438	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	7.94455	%
D1TC	HNGS Detector 1 Calibration Temperature	31.7278	DEGC
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	210.396	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	7.23028	%
D2TC	HNGS Detector 2 Calibration Temperature	30.9207	DEGC
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.461	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DFD	Drilling Fluid Density	1.07	G/C3
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	-0.00482433	
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	6.44008e-031	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
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	17.94	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.986623	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	18.0888	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.979243	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.000416327	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.11827	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.973469	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 16-Nov-2001 23:29

OP System Version: 9C2-303

MCM

DIT-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		

Output DLIS Files

DEFAULT	PI_LDL_APS_HNGS_009LUP	FN:13	PRODUCER	16-Nov-2001 23:29
REDUCED	PI_LDL_APS_HNGS_009LUP	FN:14	PRODUCER	16-Nov-2001 23:29

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement							
Master: Calibration out of date 15-Aug-2001 7:07 Before: 9-Nov-2001 3:27 After: Calibration not done							
LSW1 Background	100.0	89.07	89.07	N/A	N/A	0.03000	CPS
LSW2 Background	105.0	94.00	91.57	N/A	N/A	0.03000	CPS

LSW2 Background	105.0	94.00	91.97	N/A	N/A	0.03000	CPS
LSW3 Background	210.0	182.5	178.1	N/A	N/A	0.03000	CPS
LSW4 Background	290.0	241.3	239.4	N/A	N/A	0.03000	CPS
LSW5 Background	610.0	530.0	528.2	N/A	N/A	0.03000	CPS
SSW1 Background	100.0	86.93	86.14	N/A	N/A	0.03000	CPS
SSW2 Background	200.0	169.9	168.4	N/A	N/A	0.03000	CPS
SSW3 Background	530.0	449.6	448.8	N/A	N/A	0.03000	CPS
SSW4 Background	280.0	236.6	238.4	N/A	N/A	0.03000	CPS
SSW5 Background	205.0	177.0	177.1	N/A	N/A	0.03000	CPS

Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage
Master: Calibration out of date 15-Aug-2001 7:07 Before: 9-Nov-2001 3:27 After: Calibration not done

LS Bkg. High Voltage	1134	1134	1131	N/A	N/A	N/A	V
SS Bkg. High Voltage	1180	1180	1178	N/A	N/A	N/A	V

Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurments
Master: Calibration out of date 15-Aug-2001 7:07 Before: 9-Nov-2001 3:27 After: Calibration not done

LS Background Resolution	1.000	1.029	1.047	N/A	N/A	N/A	
SS Background Resolution	1.000	0.9496	0.9487	N/A	N/A	N/A	

Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration
Before: 9-Nov-2001 3:19

Caliper Small Ring	12.00	N/A	15.92	N/A	N/A	N/A	IN
Caliper Large Ring	18.25	N/A	23.86	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration - Detector Background
Master: Calibration out of date 5-Aug-2001 7:26 Before: 16-Nov-2001 19:13

Near Det Bkg Cntrate	30.00	31.20	33.51	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	34.55	33.45	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	30.79	28.66	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.57	30.31	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	31.99	33.69	N/A	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios
Master: Calibration out of date 5-Aug-2001 7:26

Near/Far Calibration Ratio	0.9250	0.9005	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.063	N/A	N/A	N/A	N/A	

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check
Master: 9-Nov-2001 19:27 Before: 9-Nov-2001 19:46

Na 511 Peak Loc	40.00	40.57	40.58	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.90	17.01	N/A	N/A	2.000	%
High Voltage	1150	1100	1100	N/A	N/A	30.00	V
Na 1785 Peak Loc	142.6	145.1	145.5	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	10.15	10.15	N/A	N/A	2.000	%
Temperature	15.50	31.73	31.73	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	17.94	17.88	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check
Master: 9-Nov-2001 19:27 Before: 9-Nov-2001 19:46

Na 511 Peak Loc	40.00	40.70	40.97	N/A	N/A	1.000	
Na 511 Peak Res	15.50	15.14	15.10	N/A	N/A	2.000	%
High Voltage	1150	1188	1189	N/A	N/A	30.00	V
Na 1785 Peak Loc	142.6	144.5	145.9	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	7.999	7.706	N/A	N/A	2.000	%
Temperature	15.50	30.93	31.02	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	18.09	18.05	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2
Master: 9-Nov-2001 19:27 Before: 9-Nov-2001 19:46

Coincidence Count Rate Ratio	1.000	0.9912	0.9922	N/A	N/A	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration
Master: 9-Nov-2001 19:20

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	210.4	--	--	--	--	
Th Peak Res	7.000	7.945	--	--	--	--	%
Background Count Rate	142.5	15.50	--	--	--	--	CPS
Gain Ratio	1.000	0.9866	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration
Master: 9-Nov-2001 19:20

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.5	--	--	--	--	
Th Peak Res	7.000	7.230	--	--	--	--	%
Background Count Rate	142.5	17.01	--	--	--	--	CPS
Gain Ratio	1.000	0.9792	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting 1748 V

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

Dual Induction - E / Equipment Identification

Primary Equipment:		
Dual Induction Sonde	DIS - HB	442
Dual Induction Cartridge	DIC - EB	438
Auxiliary Equipment:		
Mass Isolated Housing	MIH - ZA	417

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
Master		40.57
Before		40.58
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		16.90
Before		17.01
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1100
Before		1100
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value

Phase	Na 1785 Peak Res %	Value

Phase	Temperature DEGC	Value

Phase		Value
Master		145.1
Before		145.5

135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)

Phase		Value
Master		10.15
Before		10.15

7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)

Phase		Value
Master		31.73
Before		31.73

-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		17.94
Before		17.88

15.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)

Master: 9-Nov-2001 19:27 Before: 9-Nov-2001 19:46

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		40.70
Before		40.97

37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.14
Before		15.10

12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)

Phase	High Voltage V	Value
Master		1188
Before		1189

900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		144.5
Before		145.9

135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		7.999
Before		7.706

7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		30.93
Before		31.02

-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		18.09
Before		18.05

15.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)

Master: 9-Nov-2001 19:27 Before: 9-Nov-2001 19:46

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9912
Before		0.9922

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

Master: 9-Nov-2001 19:27

Before: 9-Nov-2001 19:46

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		210.4

201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)

Phase	Th Peak Res %	Value
Master		7.945

5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)

Phase	Background Count Rate CPS	Value
Master	EXCEEDS LIMIT	15.50

20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)

Phase	Gain Ratio	Value
Master		0.9866

0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)

*

Master: 9-Nov-2001 19:20

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		209.5

201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)

Phase	Th Peak Res %	Value
Master		7.230

5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)

Phase	Background Count Rate CPS	Value
Master	EXCEEDS LIMIT	17.01

20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)

Phase	Gain Ratio	Value
Master		0.9792

0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)

*

Master: 9-Nov-2001 19:20

* Low Background CPS does not affect calibration.

COMPANY:	Lamont Doherty
WELL:	ODP Leg 199, Site 1218 A (PAT-8C)
FIELD:	
Ocean:	Pacific

BOTTOM LOG INTERVAL	5080 m
SCHLUMBERGER DEPTH	5112 m
DEPTH DRILLER	5114 m
KELLY BUSHING	11.3 m
DRILL FLOOR	11 m
GROUND LEVEL	-4837 m

Schlumberger

HNGS
Natural Gamma Ray