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OTHER SERVICES1 OS1: HLDS OS2: DSST OS3: FMS OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
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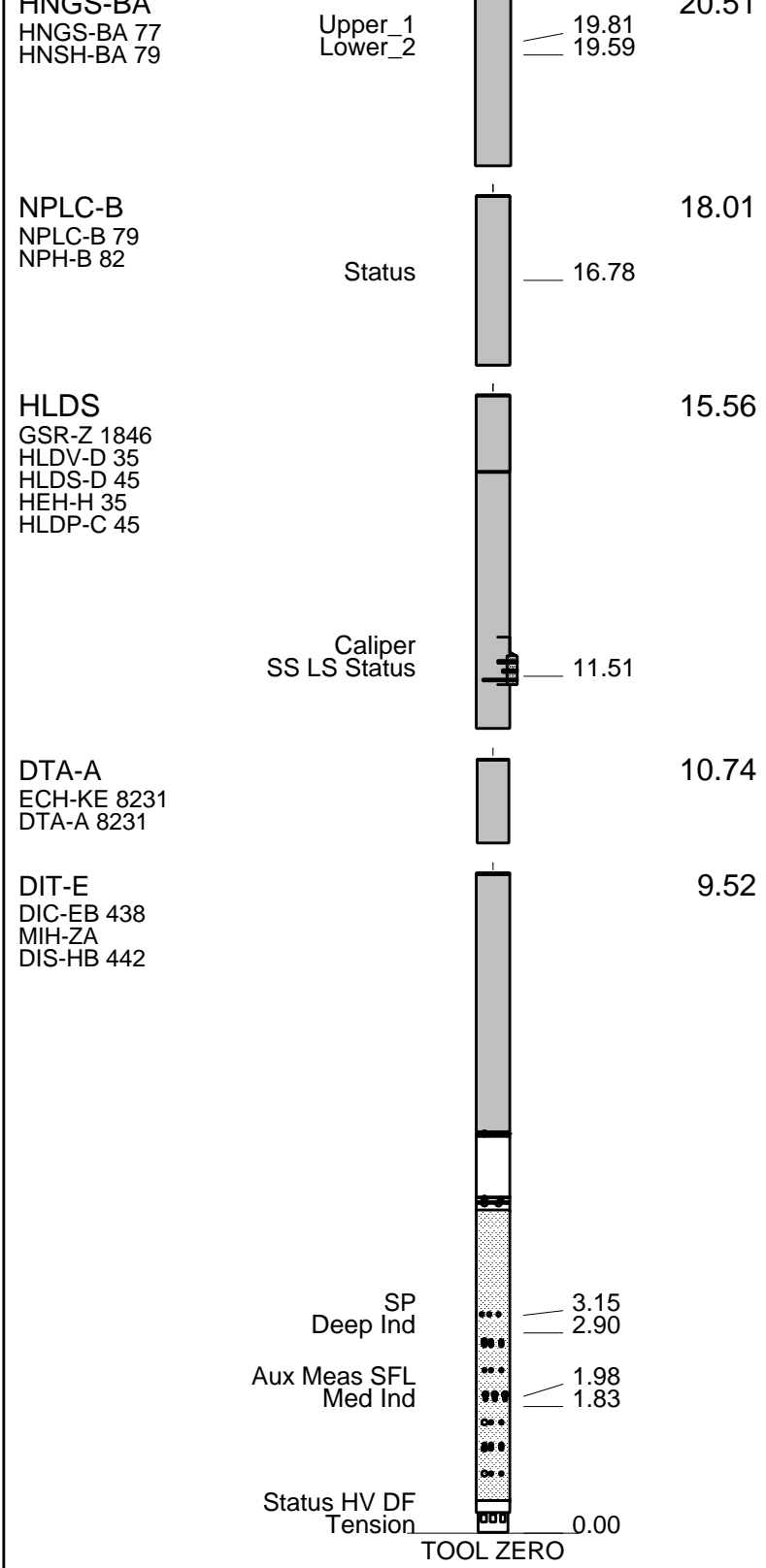
REMARKS: RUN NUMBER 1 Hole cored with RCB 9 7/8" bit. All depths in Meters Below Rig Floor (MBRF). Sepiolite mud was used. WHC was run. See logging report for more information. 10khz and 40khz not used with DITE Low background countrate for HNGS does not affect measurement...indication of weak background sources only.	REMARKS: RUN NUMBER 2
--	-----------------------

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		10C0-306	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1		RUN 2	
SURFACE EQUIPMENT			
GSR-U 135 WITM (DTS)-A			

DOWNHOLE EQUIPMENT			
LEH-QT LEH-QT		22.31	
DTC-H ECH-KC 9343 DTCH0-A	CTEM TelStatus ToolStatu 	21.14 20.51	21.42
HNGS BA		20.51	



MAXIMUM STRING DIAMETER 3.75 IN
 MEASUREMENTS RELATIVE TO TOOL ZERO
 ALL LENGTHS IN METERS

Output DLIS Files

DEFAULT	PI_LDL_NGS_006LUP	FN:6	PRODUCER	11-Jun-2003 18:23	2695.2 M	2550.1 M
REDUCED	PI_LDL_NGS_006LUP	FN:7	PRODUCER	11-Jun-2003 18:23	2695.2 M	2550.1 M

OP System Version: 10C0-306

MCM

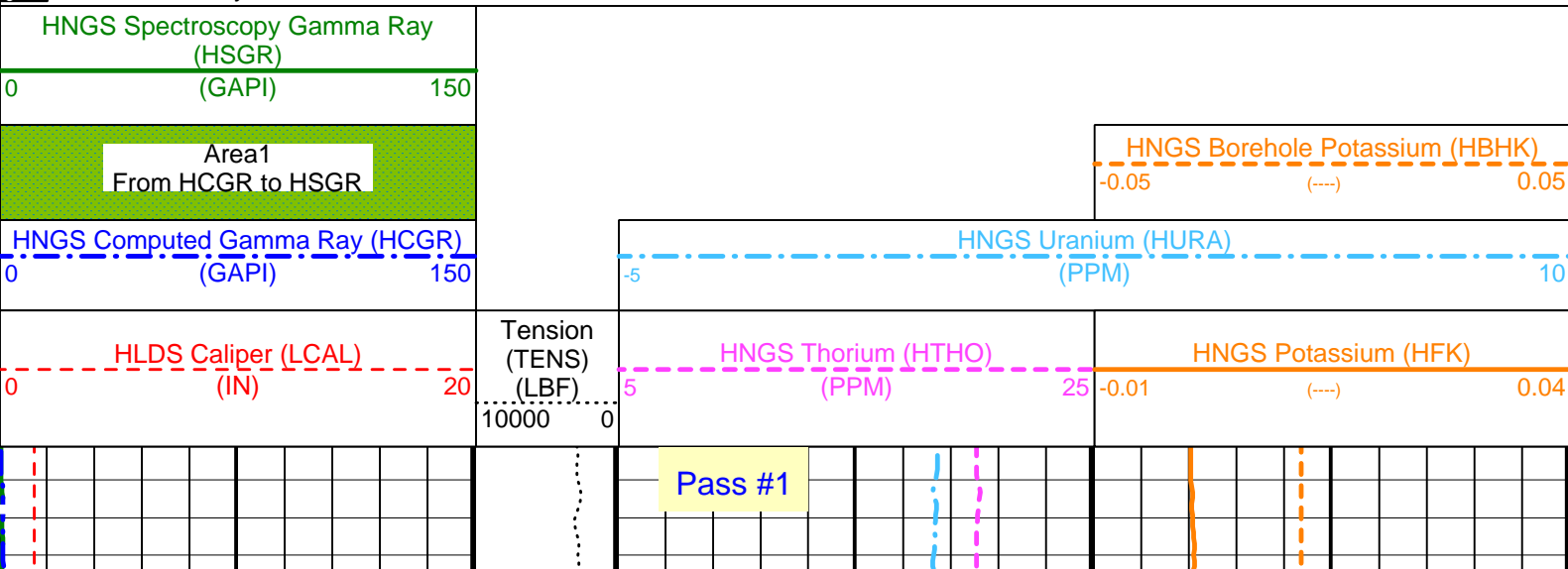
DIT-E	10C0-306	DTA-A	10C0-306
HLDS	SPC-2277-NUCL_b	NPLC-B	OP10-KP1
HNGS-BA	SPC-2277-NUCL_b	DTC-H	10C0-306

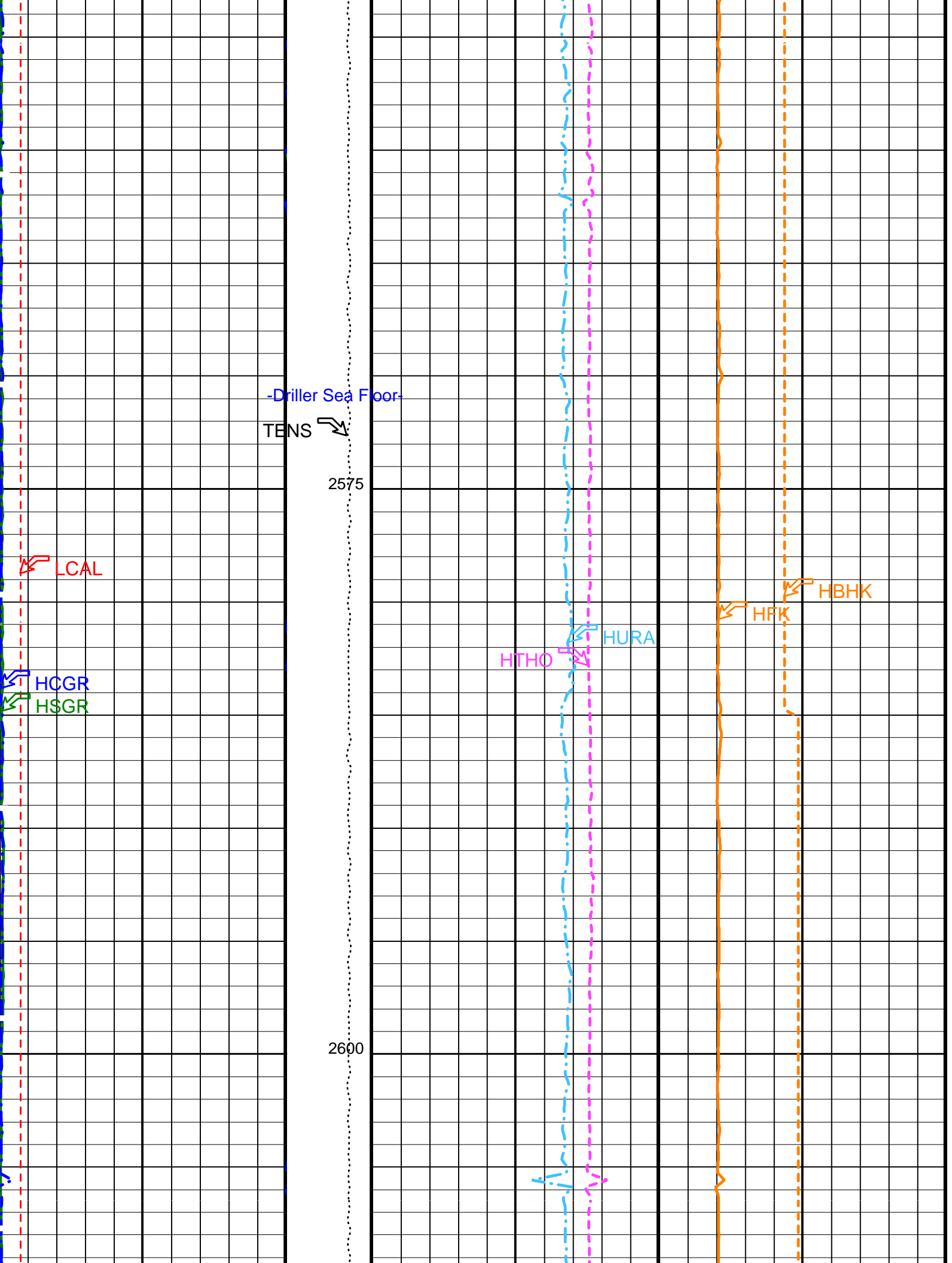
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS LCAL	BS BS	2692.0 18:25:08 2691.1 18:25:18

PIP SUMMARY

Time Mark Every 60 S





-Driller Sea Floor-

TENS

2575

LCAL

HCGR

HSGR

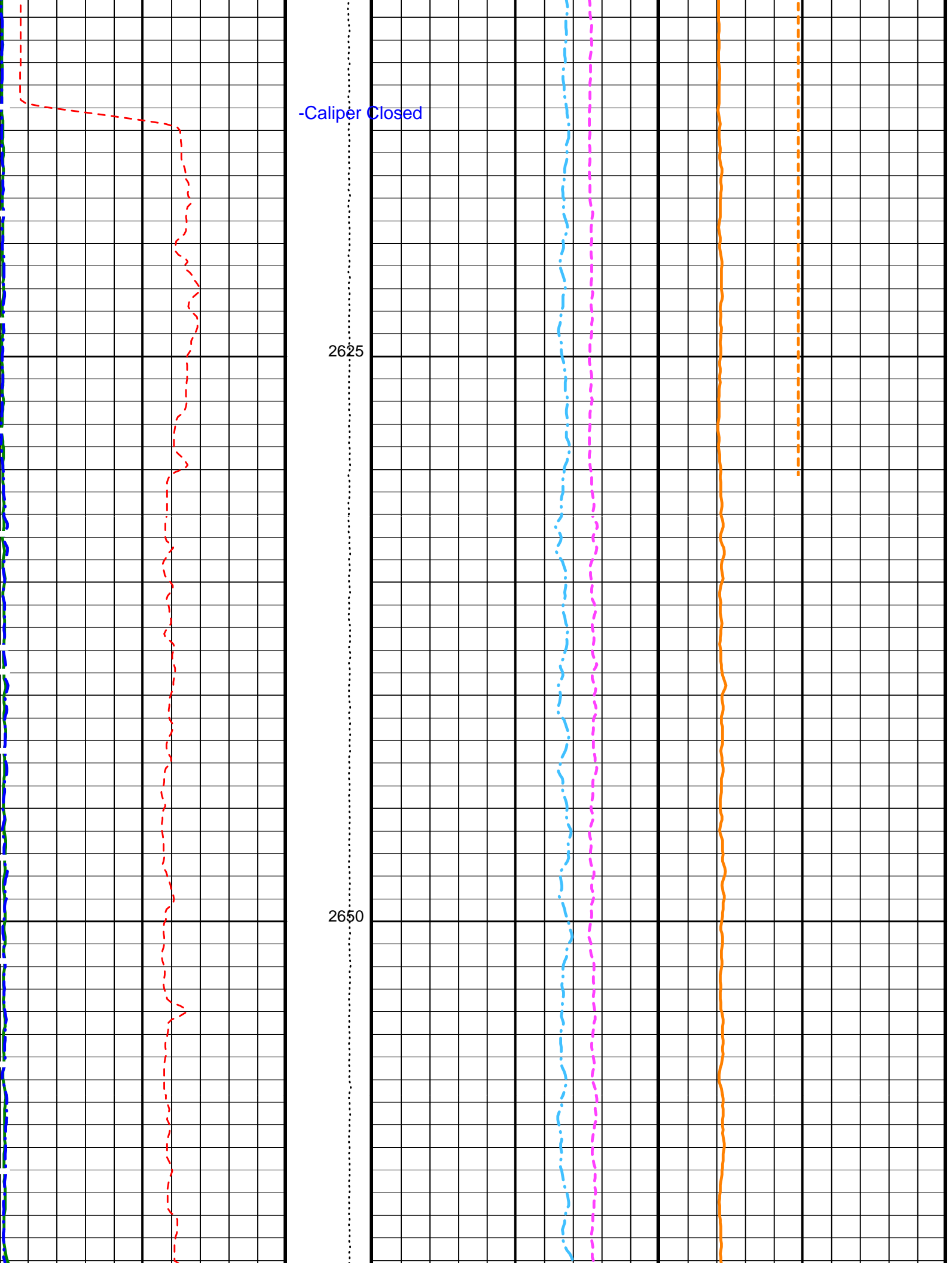
HTHO

HURA

HFK

HBHK

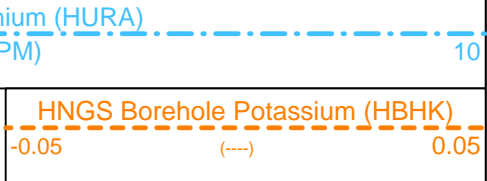
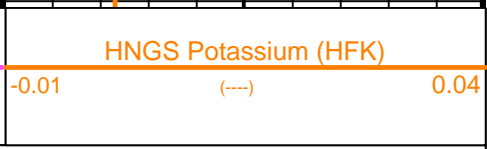
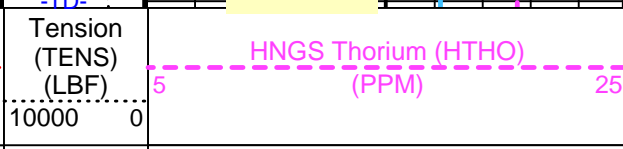
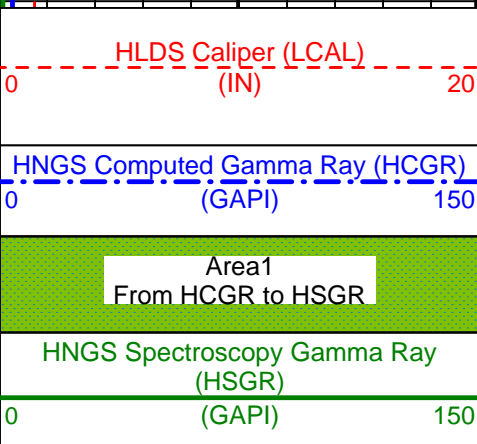
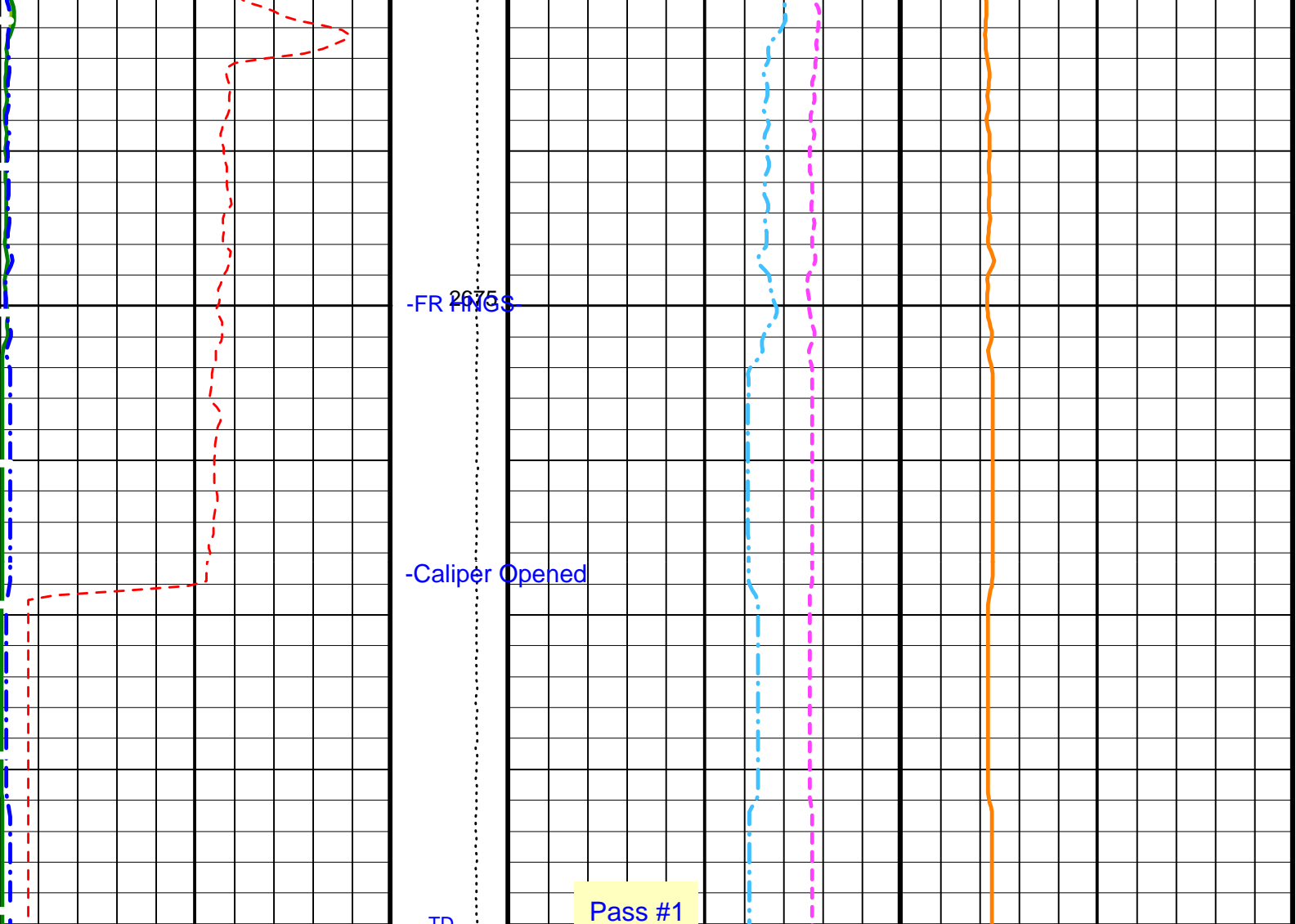
2600



-Caliper Closed

2625

2650



Pass #1

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	BS
HNGS-BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1
BAR2	HNGS Detector 2 Barite Constant	1
BHK	HNGS Borehole Potassium Correction Concentration	0
BHS	Borehole Status	OPEN
CSD1	Inner Casing Outer Diameter	0
CSD2	Outer Casing Outer Diameter	0
CSW1	Inner Casing Weight	0
CSW2	Outer Casing Weight	0
DBCC	HNGS Barite Constant Correction Flag	NONE

DBCC	HNGS Barite Constant Correction Flag	NONE	
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	-0.00262528	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.4421	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	3.72744	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.07	G/C3

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 11-Jun-2003 18:23

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	DTA-A	10C0-306
HLDS	SPC-2277-NUCL_b	NPLC-B	OP10-KP1
HNGS-BA	SPC-2277-NUCL_b	DTC-H	10C0-306

Output DLIS Files

DEFAULT	PI_LDL_NGS_006LUP	FN:6	PRODUCER	11-Jun-2003 18:23
REDUCED	PI_LDL_NGS_006LUP	FN:7	PRODUCER	11-Jun-2003 18:23

Output DLIS Files

DEFAULT	PI_LDL_NGS_007LUP	FN:8	PRODUCER	11-Jun-2003 18:51	2695.2 M	2592.3 M
REDUCED	PI_LDL_NGS_007LUP	FN:9	PRODUCER	11-Jun-2003 18:51	2695.2 M	2591.0 M

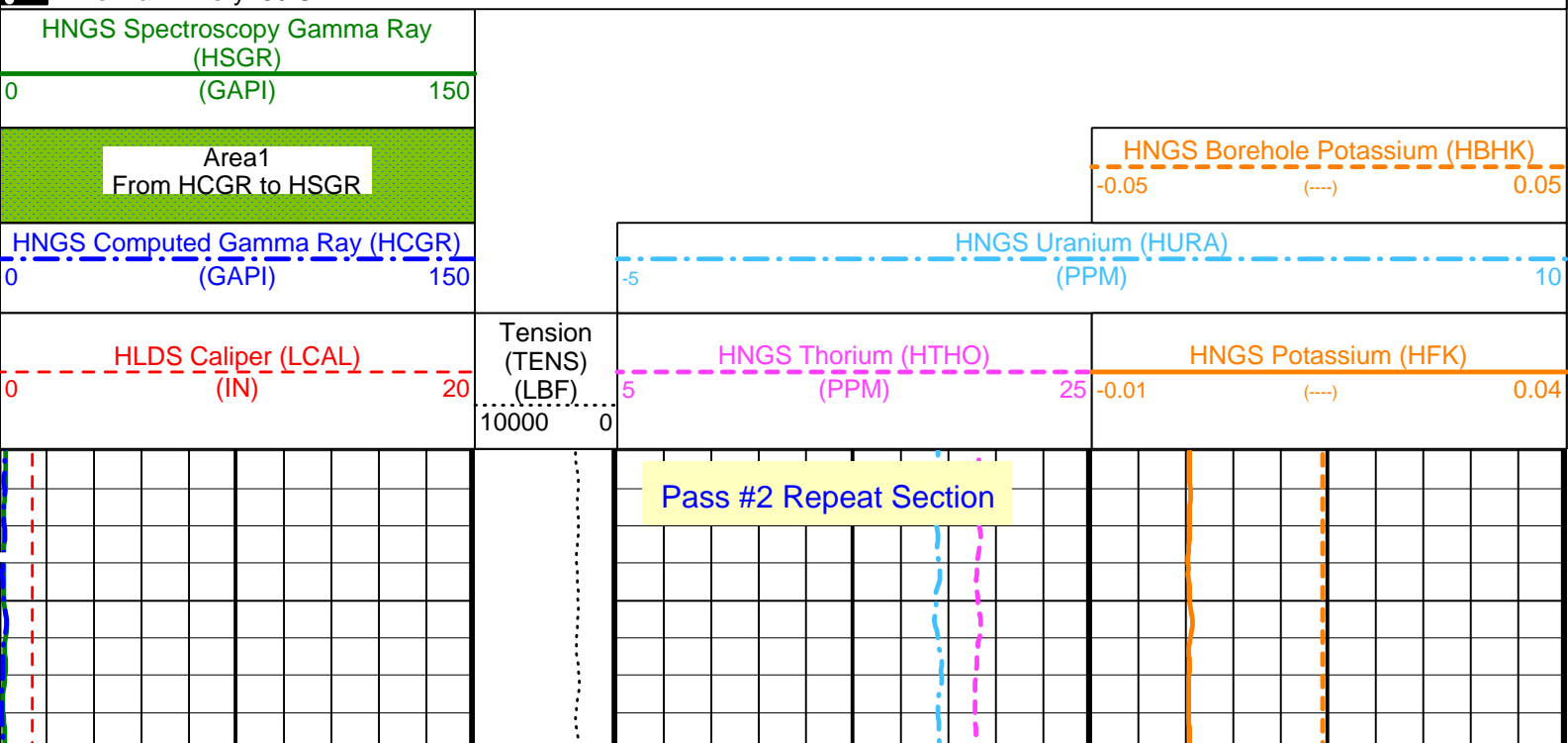
OP System Version: 10C0-306

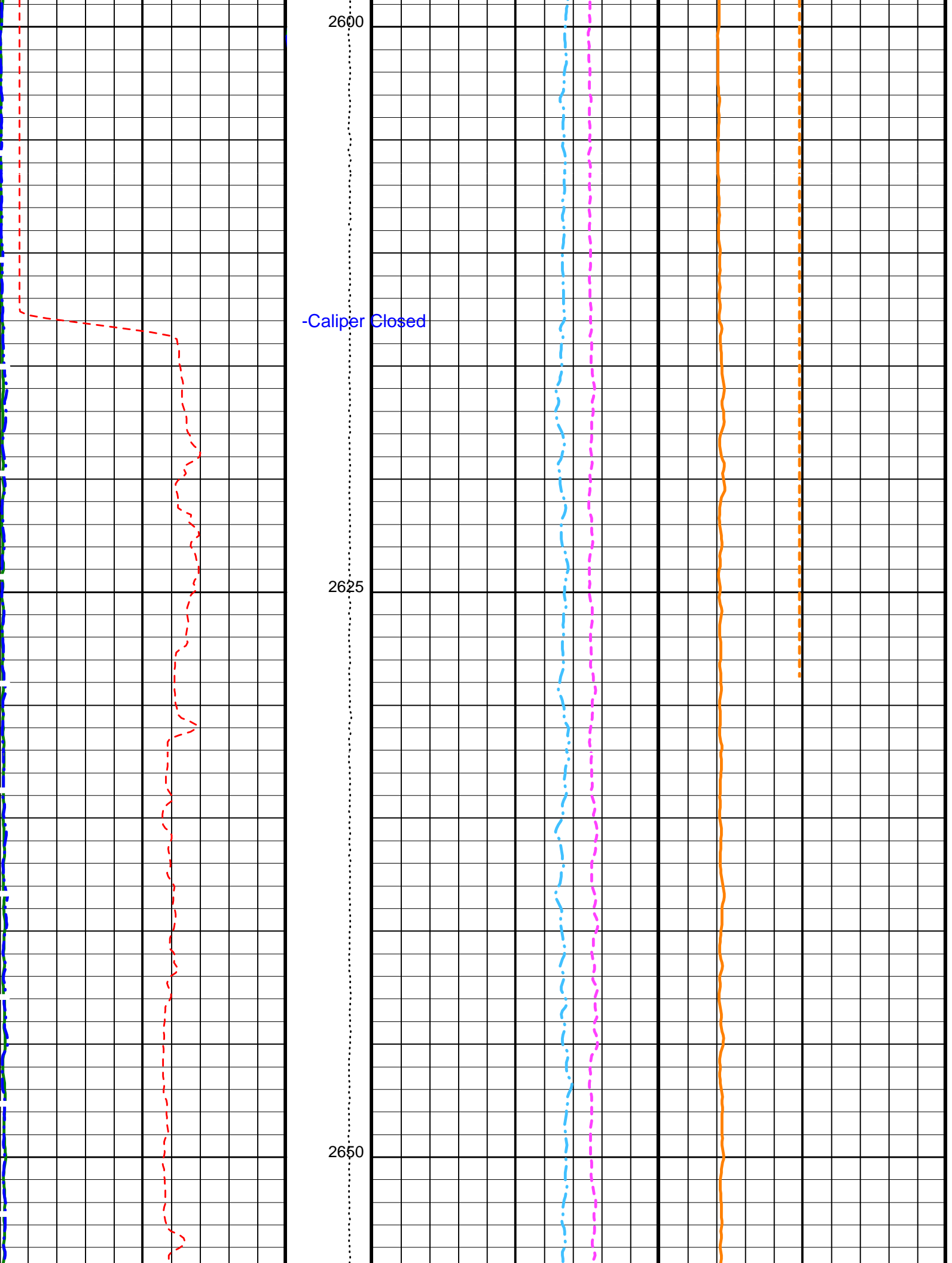
MCM

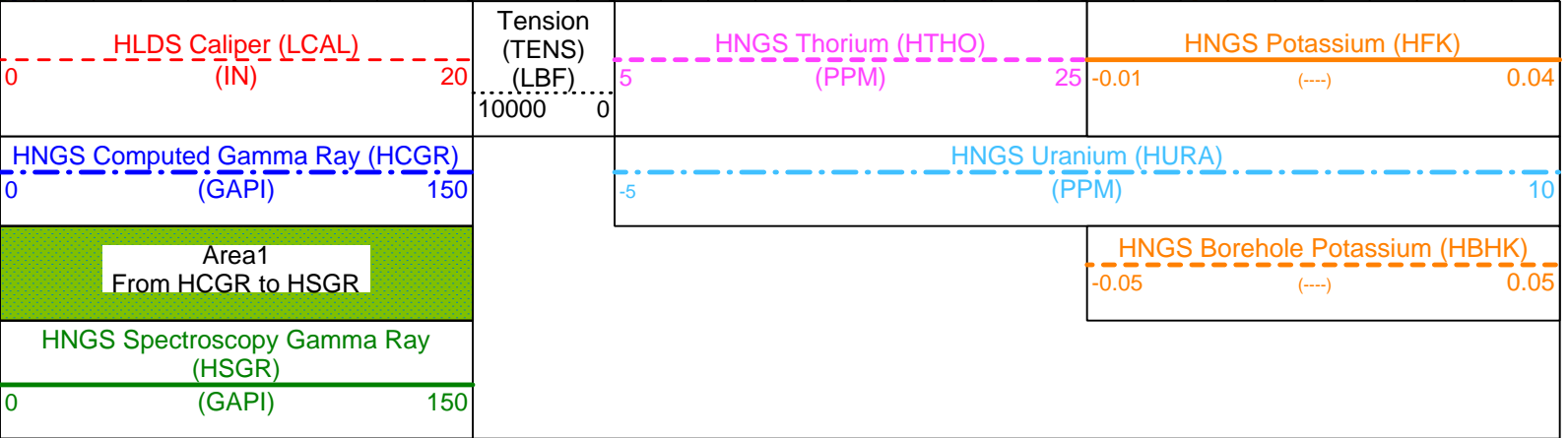
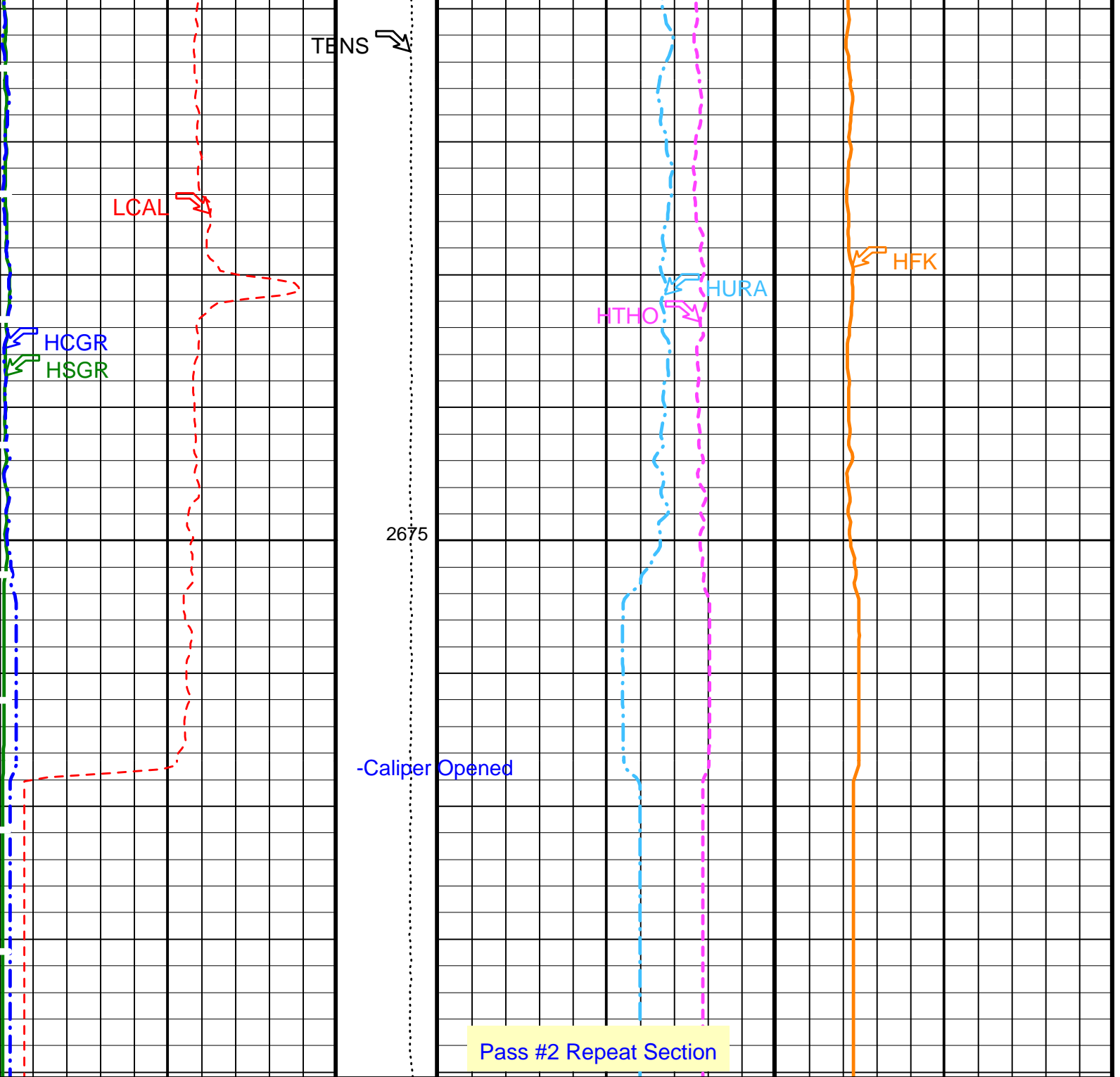
DIT-E	10C0-306	DTA-A	10C0-306
HLDS	SPC-2277-NUCL_b	NPLC-B	OP10-KP1
HNGS-BA	SPC-2277-NUCL_b	DTC-H	10C0-306

PIP SUMMARY

Time Mark Every 60 S







PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	LCAL	
	HNGS-BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	LCAL	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00443434	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.09098	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.38912	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.07	G/C3

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 11-Jun-2003 18:51

OP System Version: 10C0-306 MCM

DIT-E	10C0-306	DTA-A	10C0-306
HLDS	SPC-2277-NUCL_b	NPLC-B	OP10-KP1
HNGS-BA	SPC-2277-NUCL_b	DTC-H	10C0-306

Output DLIS Files

DEFAULT	PI_LDL_NGS_007LUP	FN:8	PRODUCER	11-Jun-2003 18:51
REDUCED	PI_LDL_NGS_007LUP	FN:9	PRODUCER	11-Jun-2003 18:51

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 23-Apr-2003 17:32 Before: 18-May-2003 20:52 After: 11-Jun-2003 21:44							
SS Cs Resolution Bkg	9.000	8.094	8.097	8.005	-0.09238	1.800	%
LS Cs Resolution Bkg	9.000	8.143	8.212	8.247	0.03477	1.800	%
LSW1 Background	100.0	86.47	86.14	86.02	-0.1230	0.03000	CPS
LSW2 Background	100.0	80.63	80.44	80.53	0.09354	0.03000	CPS
LSW3 Background	200.0	177.7	178.3	177.1	-1.207	0.03000	CPS
LSW4 Background	250.0	218.9	217.1	218.1	0.9930	0.03000	CPS
LSW5 Background	600.0	499.0	499.9	499.6	-0.3034	0.03000	CPS
SSW1 Background	100.0	97.29	95.44	95.90	0.4648	0.03000	CPS
SSW2 Background	200.0	175.4	174.0	174.0	-0.01474	0.03000	CPS
SSW3 Background	500.0	475.0	475.2	472.2	-3.004	0.03000	CPS
SSW4 Background	270.0	242.4	242.8	241.6	-1.130	0.03000	CPS
SSW5 Background	200.0	176.0	175.7	174.9	-0.7180	0.03000	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement

Master: 23-Apr-2003 18:33							
LSW1 Aluminum	600.0	604.1	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	860.3	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	1017	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	498.2	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	473.1	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2618	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	2800	2618	N/A	N/A	N/A	N/A	CPS

SSW2 Aluminum	8000	7129	N/A	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9926	N/A	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4181	N/A	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	547.6	N/A	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement

Master: 23-Apr-2003 18:29

LSW1 Iron	400.0	418.2	N/A	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	721.5	N/A	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	941.8	N/A	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	481.5	N/A	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	449.9	N/A	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1956	N/A	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	6092	N/A	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9264	N/A	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3922	N/A	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	501.5	N/A	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration

Before: 18-May-2003 20:24

HLDS Caliper Small Ring	12.00	N/A	14.48	N/A	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.00	N/A	17.56	N/A	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: 10-Jun-2003 9:13 Before: 8-Apr-2003 2:33 After: 11-Jun-2003 21:45

Na 511 Peak Loc	40.00	40.65	40.63	40.56	-0.07085	1.000	
Na 511 Peak Res	15.50	16.98	16.69	16.31	-0.3779	2.000	%
High Voltage	1150	1208	1207	1208	0.6575	30.00	V
Na 1785 Peak Loc	142.6	145.2	145.2	144.9	-0.2784	7.000	
Na 1785 Peak Res	8.500	8.982	9.496	9.778	0.2824	2.000	%
Temperature	15.50	33.02	27.12	31.28	4.158	N/A	DEGC
Na Count Rate	45.00	40.11	41.75	39.73	-2.015	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 10-Jun-2003 9:13 Before: 8-Apr-2003 2:33 After: 11-Jun-2003 21:45

Na 511 Peak Loc	40.00	40.56	40.51	40.64	0.1261	1.000	
Na 511 Peak Res	15.50	17.13	16.55	16.78	0.2294	2.000	%
High Voltage	1150	1234	1235	1234	-0.9994	30.00	V
Na 1785 Peak Loc	142.6	144.4	144.2	144.7	0.5310	7.000	
Na 1785 Peak Res	8.500	9.188	9.586	9.068	-0.5173	2.000	%
Temperature	15.50	32.54	26.30	31.70	5.397	N/A	DEGC
Na Count Rate	45.00	40.04	41.81	39.37	-2.441	8.000	CPS

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

Master: 10-Jun-2003 9:13 Before: 8-Apr-2003 2:33 After: 11-Jun-2003 21:45

Coincidence Count Rate Ratio	1.000	1.001	0.9991	1.008	0.009050	0.05000	
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Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 10-Jun-2003 8:55

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.0	--	--	--	--	
Th Peak Res	7.000	8.425	--	--	--	--	%
Background Count Rate	142.5	19.30	--	--	--	--	CPS
Gain Ratio	1.000	0.9783	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration

Master: 10-Jun-2003 8:55

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.4	--	--	--	--	
Th Peak Res	7.000	8.230	--	--	--	--	%
Background Count Rate	142.5	18.75	--	--	--	--	CPS
Gain Ratio	1.000	0.9823	--	--	--	--	

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	
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Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:

Hostile Litho Density Sonde	HLDS - D	45
Hostile Litho Density High Voltage	HLDV - D	35
Gamma Source Radioactive	GSR - Z	1846
Auxiliary Equipment:		
Hostile Litho Density Pad	HLDP - C	45
Hostile Litho Density High Voltage Housi	HEH - H	35

Nuclear Porosity Lithology Cartridge - B / Equipment Identification

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

Hostile Natural Gamma Ray Sonde / Equipment Identification

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

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value	
Master		40.65	Master		16.98	Master		1208	
Before		40.63	Before		16.69	Before		1207	
After		40.56	After		16.31	After		1208	
	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		145.2	Master		8.982	Master		33.02	
Before		145.2	Before		9.496	Before		27.12	
After		144.9	After		9.778	After		31.28	
	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		40.11							
Before		41.75							
After		39.73							
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)						

Master: 10-Jun-2003 9:13

Before: 8-Apr-2003 2:33

After: 11-Jun-2003 21:45

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		40.56	Master		17.13	Master		1234	
Before		40.51	Before		16.55	Before		1235	
After		40.64	After		16.78	After		1234	
	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		9.188	Master		32.54	
Before		144.2	Before		9.586	Before		26.30	
After		144.7	After		9.068	After		31.70	

	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				40.04					
Before				41.81					
After				39.37					
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)						
Master: 10-Jun-2003 9:13			Before: 8-Apr-2003 2:33			After: 11-Jun-2003 21:45			

Hostile Natural Gamma Ray Sonde Wellsite Calibration			
Ratio Of Detector 1 To Detector 2			
Phase	Coincidence Count Rate Ratio	Value	
Master		1.001	
Before		0.9991	
After		1.008	
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: 10-Jun-2003 9:13			
Before: 8-Apr-2003 2:33			
After: 11-Jun-2003 21:45			

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		209.0	Master		8.425	
	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				
Master	EXCEEDS LIMIT	19.30	Master		0.9783				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)			
Master: 10-Jun-2003 8:55									

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		8.230	
	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				
Master	EXCEEDS LIMIT	18.75	Master		0.9823				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)			
Master: 10-Jun-2003 8:55									

Company: Lamont Doherty
Well: ODP Leg 209, Site 1272A
Field: Mid Atlantic Ridge
Country:
Ocean: Atlantic



Natural Gamma Ray
Spectroscopy