

DISCLAIMER

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OTHER SERVICES1 OS1: DITE OS2: HLDS/APS OS3: FMS OS4: DSI OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
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REMARKS: RUN NUMBER 1 Hole cored with RCB, BS=9 7/8" All depths in Meters Below Rig Floor (MBRF). Sepiolite mud was used. WHC was run. Tool bridged at 1668 mbrf...TD at 1774 mbrf. Logged up from Bridge. HLDS caliper had diffiulty opening...could not close once opened. Only 1 pass made due to caliper staying open and could not close. Calibrations show low countrate for background measurement. Only due to weak background source.	REMARKS: RUN NUMBER 2
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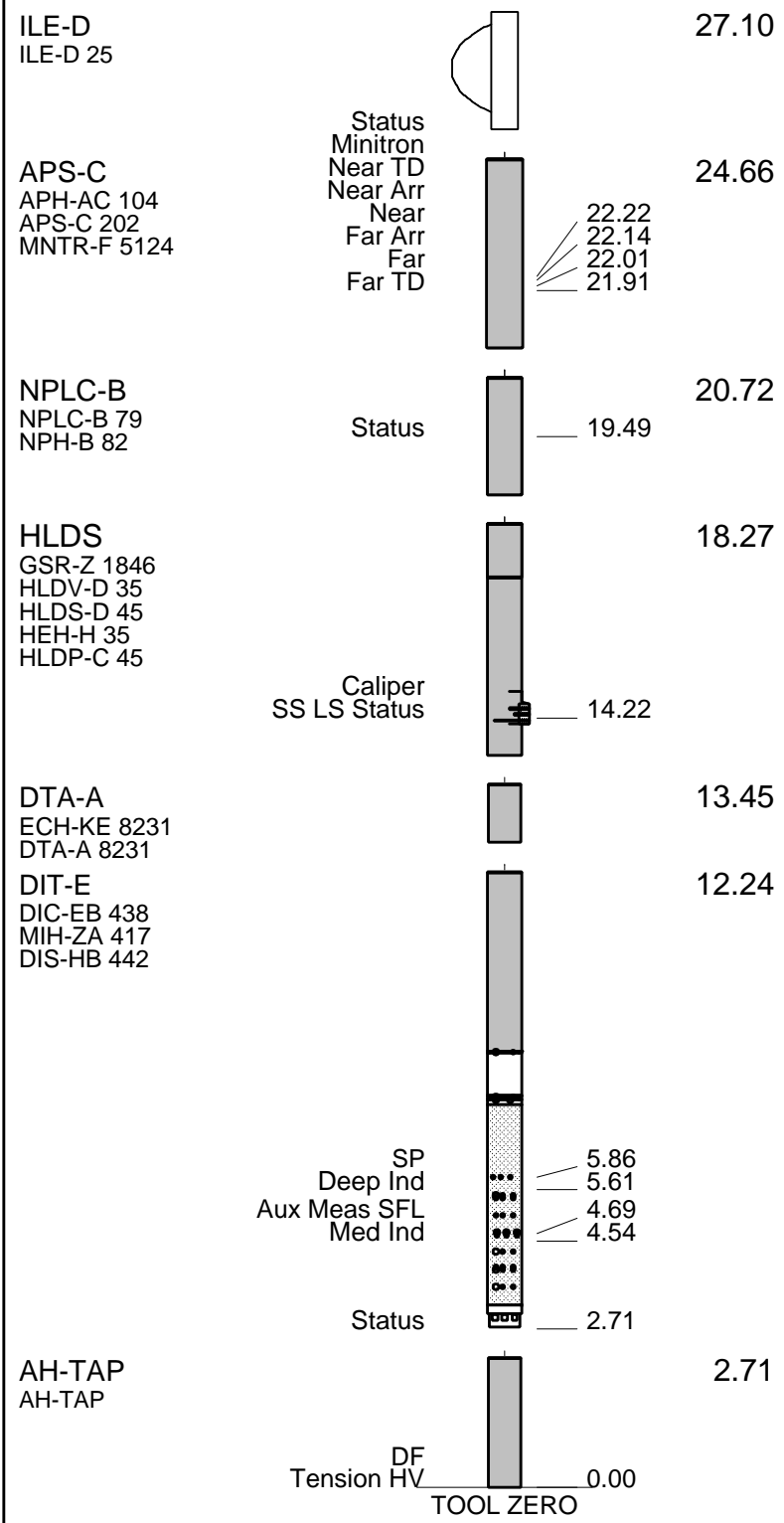
RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		10C0-306	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1		RUN 2	
SURFACE EQUIPMENT			
SFT-281 1			
SFT-178 13			
GSR-U 135			
WITM (DTS)-A			

DOWNHOLE EQUIPMENT			
LEH-QT		31.40	
LEH-QT 1494			
DTC-H	CTEM	30.23	
ECH-KC 9343	TelStatus	30.51	
	ToolStatu	29.60	
HNGS-BA	Upper_1	28.90	29.60
HNGS-BA 77	Lower_2	28.69	

HNSH-BA 79



TOOL ZERO

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

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_007LUP	FN:9	PRODUCER	30-Jun-2003 15:42	1668.8 M	1548.4 M
REDUCED	PI_LDL_APS_NGS_007LUP	FN:10	PRODUCER	30-Jun-2003 15:42		

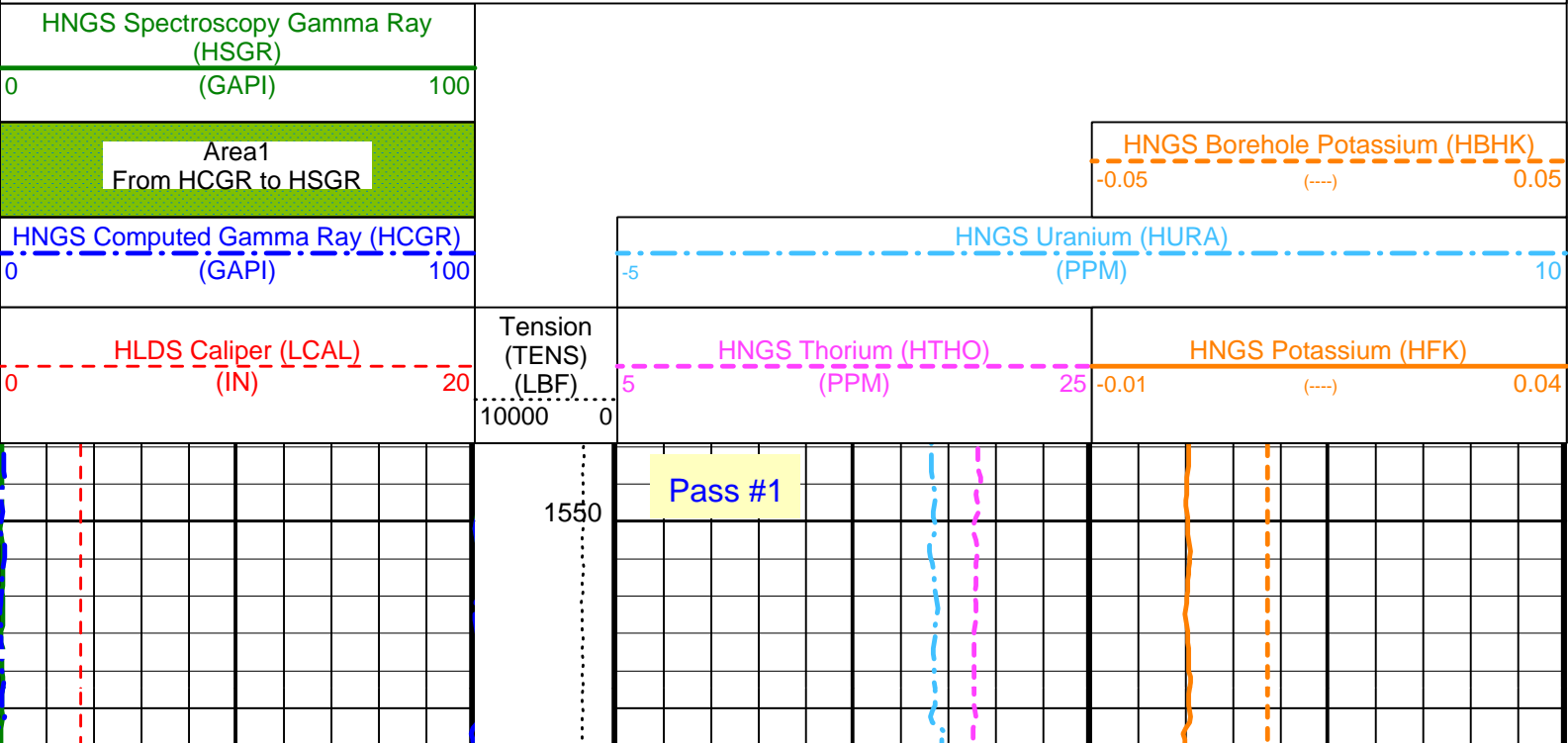
OP System Version: 10C0-306

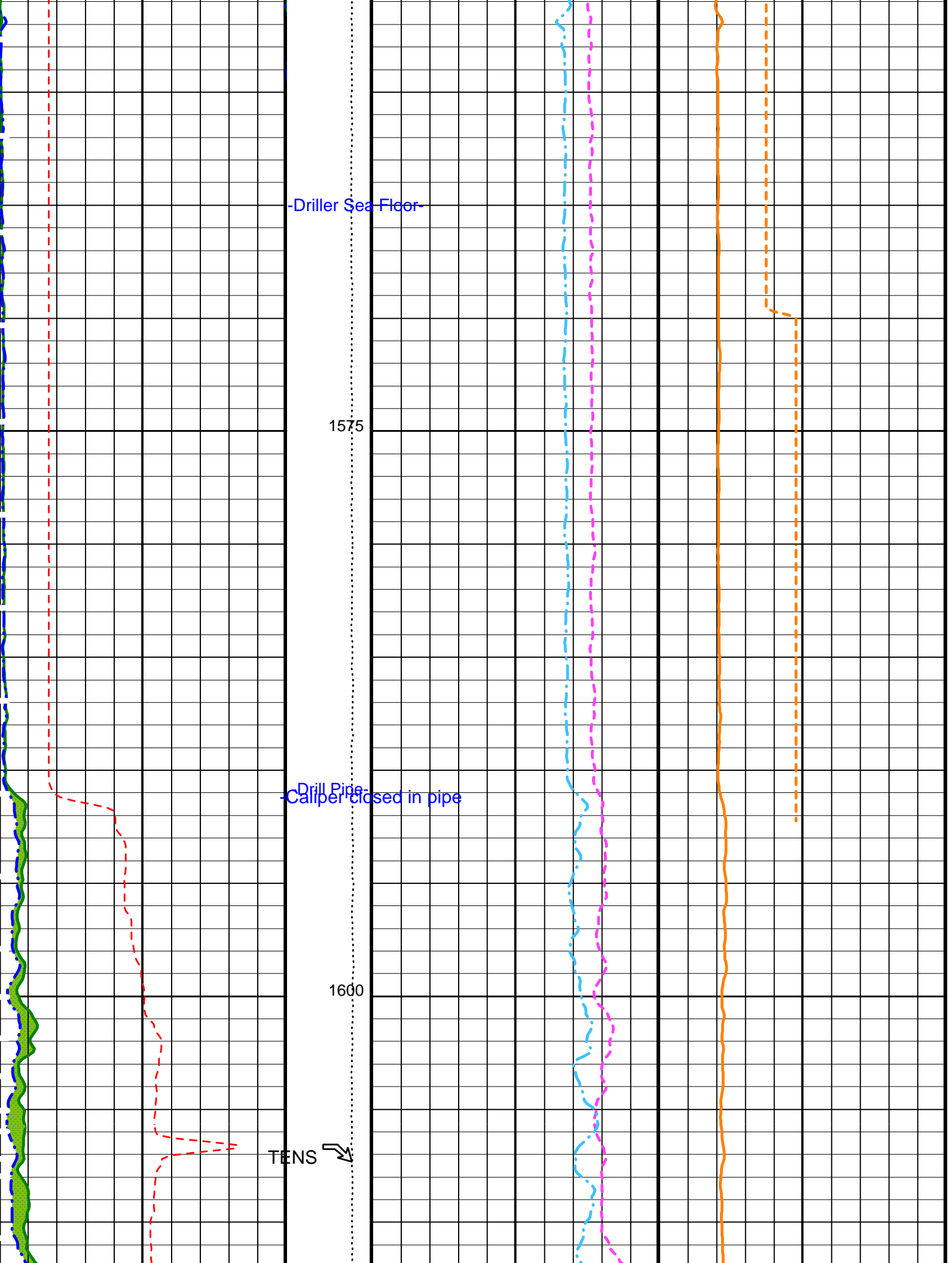
MCM

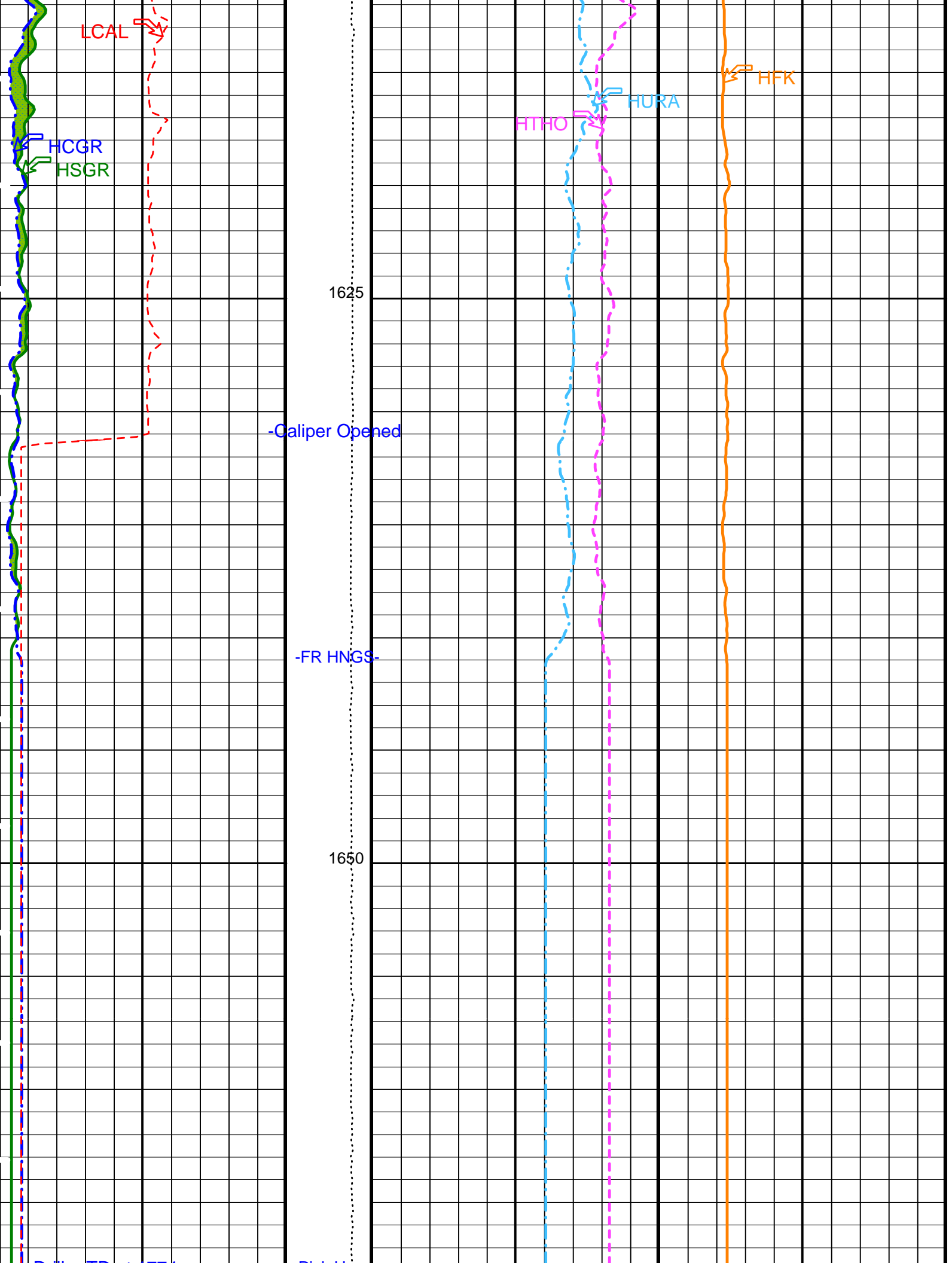
DIT-E	10C0-306	DTA-A	10C0-306
HLDS	SPC-2277-NUCL_b	NPLC-B	OP10-KP1
APS-C	SPC-2277-NUCL_b	HNGS-BA	SPC-2277-NUCL_b
DTC-H	10C0-306		

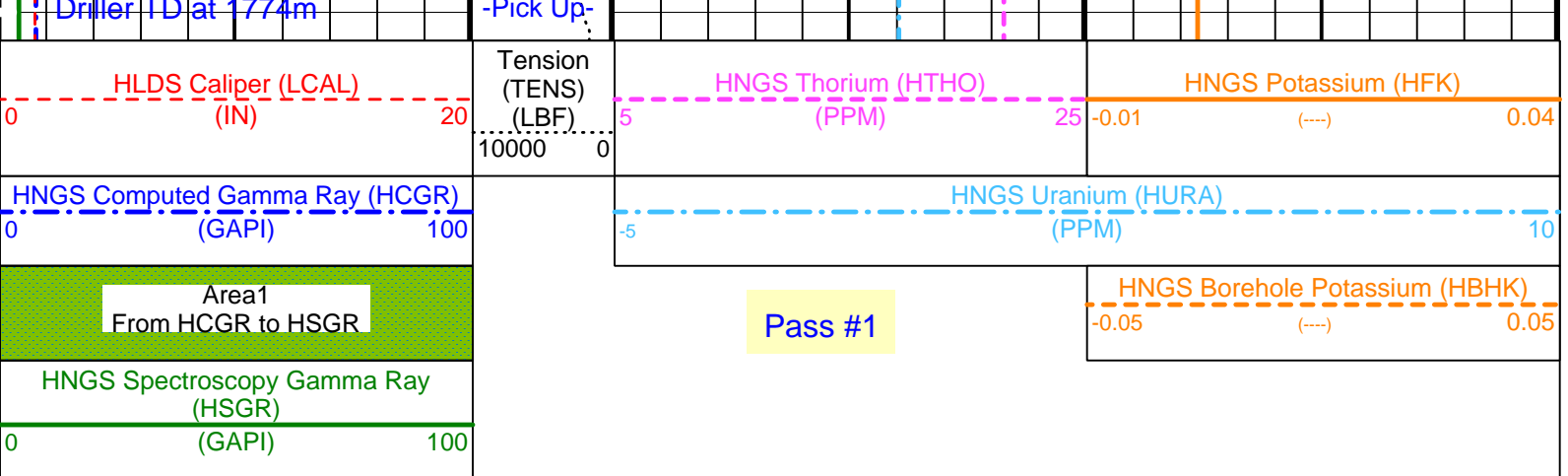
PIP SUMMARY

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
APS-C: Accelerator-Porosity Tool		
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	-0.023782
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	0.874359
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	-6.54212
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: 30-Jun-2003 15:42

OP System Version: 10C0-306

MCM

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

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_007LUP	FN:9	PRODUCER	30-Jun-2003 15:42
REDUCED	PI_LDL_APS_NGS_007LUP	FN:10	PRODUCER	30-Jun-2003 15:42

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 23-Apr-2003 18:32 Before: 18-May-2003 21:52 After: 30-Jun-2003 18:20							
SS Cs Resolution Bkg	9.000	8.094	8.097	8.112	0.01500	1.800	%
LS Cs Resolution Bkg	9.000	8.143	8.212	8.152	-0.05971	1.800	%
LSW1 Background	100.0	86.47	86.14	86.58	0.4417	0.03000	CPS
LSW2 Background	100.0	80.63	80.44	79.95	-0.4846	0.03000	CPS
LSW3 Background	200.0	177.7	178.3	179.2	0.8939	0.03000	CPS
LSW4 Background	250.0	218.9	217.1	217.6	0.5543	0.03000	CPS
LSW5 Background	600.0	499.0	499.9	502.2	2.245	0.03000	CPS
SSW1 Background	100.0	97.29	95.44	96.25	0.8063	0.03000	CPS
SSW2 Background	200.0	175.4	174.0	174.5	0.5470	0.03000	CPS
SSW3 Background	500.0	475.0	475.2	472.1	-3.036	0.03000	CPS
SSW4 Background	270.0	242.4	242.8	241.7	-1.018	0.03000	CPS
SSW5 Background	200.0	176.0	175.7	176.3	0.6386	0.03000	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement							
Master: 23-Apr-2003 19:33							
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	8000	7129	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	9926	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4181	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	547.6	N/A	N/A	N/A	N/A	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement							
Master: 23-Apr-2003 19:29							
LSW1 Iron	400.0	418.2	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	721.5	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	941.8	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	481.5	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	449.9	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1956	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	6092	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9264	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3922	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	501.5	N/A	N/A	N/A	N/A	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration							
Before: 18-May-2003 21:24							
HLDS Caliper Small Ring	12.00	N/A	14.48	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	15.00	N/A	17.56	N/A	N/A	N/A	IN
Accelerator-Porosity Tool Wellsite Calibration - Detector Background							
Master: 16-Jun-2003 5:03 Before: 30-Jun-2003 14:50 After: Calibration not done							
Near Det Bkg Cntrate	30.00	25.98	25.04	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	25.85	26.68	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	26.41	27.48	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	26.14	25.66	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	24.69	24.22	N/A	N/A	N/A	CPS
Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios							
Master: 16-Jun-2003 5:03							
Near/Far Calibration Ratio	0.9250	0.9613	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	0.9877	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.006	N/A	N/A	N/A	N/A	
Accelerator-Porosity Tool Wellsite Calibration - Tank Check							
Master: 16-Jun-2003 5:03							
Array-1 Standoff Porosity	11.75	12.26	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.73	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.784	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9947	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9903	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.67	N/A	N/A	N/A	N/A	CU
Accelerator-Porosity Tool Wellsite Calibration - CCR7 signal boxes							
Master: 16-Jun-2003 5:03							
Near Detector Plateau Setting	1650	1736	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2078	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1966	N/A	N/A	N/A	N/A	V
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check							
Master: 10-Jun-2003 10:13 Before: 8-Apr-2003 3:33 After: 30-Jun-2003 18:17							

Na 511 Peak Loc	40.00	40.65	40.63	40.83	0.2025	1.000	%
Na 511 Peak Res	15.50	16.98	16.69	15.90	-0.7865	2.000	V
High Voltage	1150	1208	1207	1213	6.075	30.00	V
Na 1785 Peak Loc	142.6	145.2	145.2	146.1	0.8881	7.000	
Na 1785 Peak Res	8.500	8.982	9.496	9.445	-0.05032	2.000	%
Temperature	15.50	33.02	27.12	31.05	3.935	N/A	DEGC
Na Count Rate	45.00	40.11	41.75	39.41	-2.338	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 10-Jun-2003 10:13 Before: 8-Apr-2003 3:33 After: 30-Jun-2003 18:17

Na 511 Peak Loc	40.00	40.56	40.51	40.64	0.1280	1.000	
Na 511 Peak Res	15.50	17.13	16.55	16.71	0.1606	2.000	%
High Voltage	1150	1234	1235	1239	4.644	30.00	V
Na 1785 Peak Loc	142.6	144.4	144.2	144.9	0.7337	7.000	
Na 1785 Peak Res	8.500	9.188	9.586	9.197	-0.3887	2.000	%
Temperature	15.50	32.54	26.30	31.53	5.231	N/A	DEGC
Na Count Rate	45.00	40.04	41.81	39.20	-2.615	8.000	CPS

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

Master: 10-Jun-2003 10:13 Before: 8-Apr-2003 3:33 After: 30-Jun-2003 18:17

Coincidence Count Rate Ratio	1.000	1.001	0.9991	1.004	0.005333	0.05000	
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Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 10-Jun-2003 9:55

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 9:55

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	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting	1736 V
Far Detector Plateau Setting	2078 V
Array Detector Plateau Setting	1966 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 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	NPLH - B	89

Accelerator-Porosity Tool / Equipment Identification

Primary Equipment:

Accelerator-Porosity Sonde
APS Minitron

APS - C 202
MNTR - F 5124

Auxiliary Equipment:

Accelerator-Porosity Housing
APS Calibration Water Tank
APS Aluminum Calibrator Sleeve

APH - AC 104
SFT - 178 13
SFT - 281 1

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:

HNGS Sonde

HNGS - BA 77

Auxiliary Equipment:

HNGS Sonde Housing
Gamma Source Radioactive

HNSH - BA 79
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		40.83	After		15.90	After		1213
	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		146.1	After		9.445	After		31.05
	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		39.41						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 10-Jun-2003 10:13			Before: 8-Apr-2003 3:33			After: 30-Jun-2003 18:17		

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		16.71	After		1239
	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		144.9	After		9.197	After		31.53
	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		39.20
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 10-Jun-2003 10:13

Before: 8-Apr-2003 3:33

After: 30-Jun-2003 18:17

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		1.004
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	
Master: 10-Jun-2003 10:13		
Before: 8-Apr-2003 3:33		
After: 30-Jun-2003 18:17		

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 9:55									

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 9:55									

Company: Lamont Doherty

Schlumberger

Well: ODP Leg 209, Site 1275D

Field: Mid Atlantic Ridge

Country:

Ocean: Atlantic

HNGS Natural Gamma Ray

Spectroscopy