Schlumberger

Company: Lamont Doherty Earth Observatory

Well: 1305 C

Field:

Rig: Joides Resolution Expedition: 303

Dual Induction Tool

Gamma Ray

Rig: Joides Resolution
Field:
Location: N 57 28.5068
Well: 1305 C
Company: Lamont Doherty Earth Observat

LOCATION

N 57 28.5068
W 48 31.783

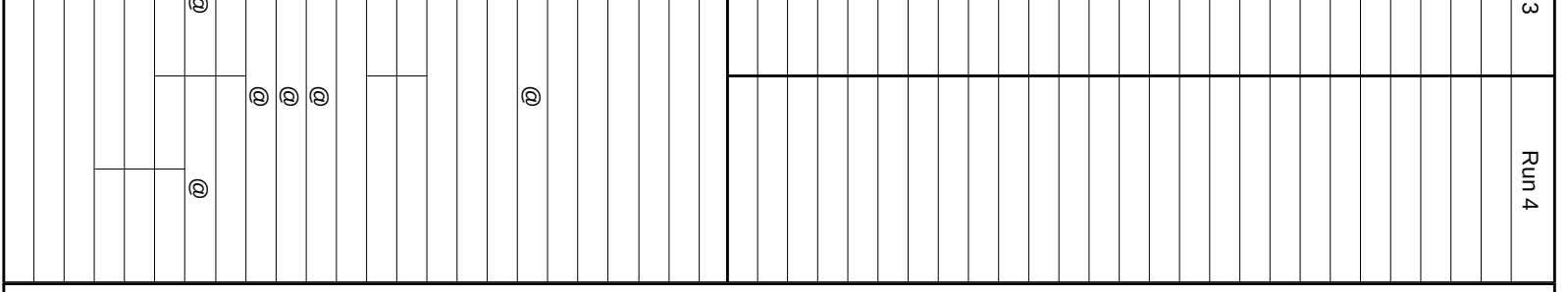
Elev.: K.B. 11 m
G.L. -3469.7 m
D.F. 10 m

Permanent Datum: Measn Sea Level
Elev.: 0 m
Log Measured From: Drill Floor
11.0 m above Perm. Datum
Drilling Measured From: Drill Floor

API Serial No.	Max. Hole Devi.	Longitude	Latitude

	Run 1	Run 2	Run
Logging Date	21-Oct-2004		
Run Number	One		
Depth Driller	3756.8 m		
Schlumberger Depth	3729 m		
Bottom Log Interval	3723 m		
Top Log Interval	3471 m		
Casing Driller Size @ Depth	0.000 in @ 3565.5 m	@	
Casing Schlumberger	3565.5 m		
Bit Size	11.438 in		
Type Fluid In Hole	Sepiolite		
MUD Density / Viscosity	1.1 g/cm3		
MUD Fluid Loss / PH	0 cm3		
MUD Source Of Sample			
RM @ Measured Temperature	0.322 ohm.m @ 5 degC	@	
RMF @ Measured Temperature	@	@	
RMC @ Measured Temperature	@	@	
Source RMF / RMC			
RM @ MRT / RMF @ MRT	@ @	@ @	
Maximum Recorded Temperatures			
Circulation Stopped / Time			
Logger On Bottom / Time	21-Oct-2004 19:55		
Unit Number / Location	2022 Joides Resolution		
Recorded By	Javier Espinosa		
Witnessed By	Stuart Robinson		

	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			



DISCLAIMER

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OTHER SERVICES1	OTHER SERVICES2
OS1: HLDS	OS1:
OS2: APS	OS2:
OS3: HNGS	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Parameters and presentations as per IODP standards	
Tool ran as per tool scketch below.	
TD not reached due to hole conditions.	
Repeat pass incomplete due to cable stuck in drill pipe.	

RUN 1

SERVICE ORDER #:
PROGRAM VERSION: 12C0-301
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

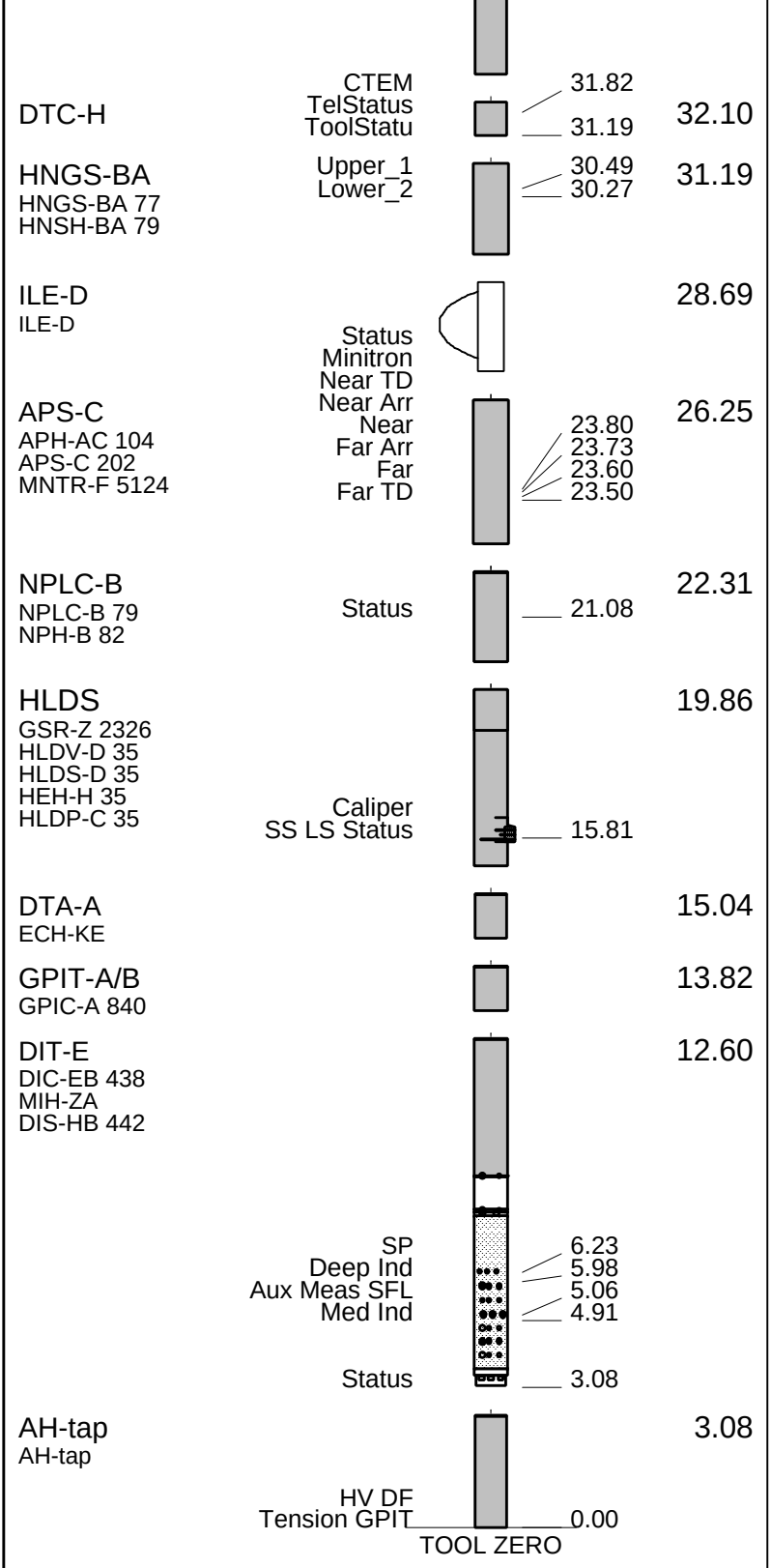
SFT-281 6250
SFT-178 6250
GSR-U 135
WITM (DTS)-A

DOWNHOLE EQUIPMENT

LEH-QT 38.60

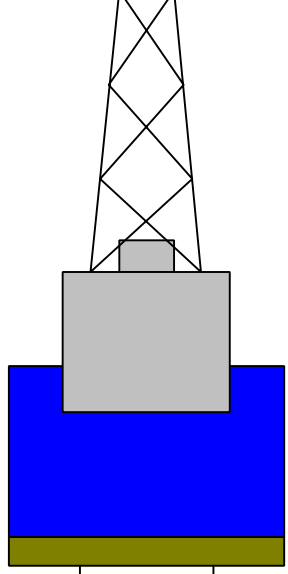
AH-mgt 37.72
AH-mgt

RUN 2



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

Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String

Kelly Bushing Elevation		11.0				
Derrick Floor Elevation		11.0				
Mean Sea Level		0.0				
				0.0	5.500	Casing String
				3565.5	5.500	Casing Shoe
				3565.5	11.438	Borehole Segment

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MAIN PASS

MAXIS Field Log

Company: Lamont Doherty Earth Observatory | Well: 1305 C

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_039PUP	FN:60	PRODUCER	23-Oct-2004 12:26	3735.6 M	3424.6 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_042PUP	FN:67	PRODUCER	23-Oct-2004 12:30	3735.6 M	3429.3 M
ACCELERATION	PI_LDL_APS_NGS_042PUP	FN:68	PRODUCER	23-Oct-2004 12:30	3735.6 M	3429.3 M
REDUCED	PI_LDL_APS_NGS_042PUP	FN:69	PRODUCER	23-Oct-2004 12:30	3735.6 M	3429.3 M

OP System Version: 12C0-301

MCM

DIT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301

NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

PIP SUMMARY

Time Mark Every 60 S

Tension (TENS)
11000 (LBF) 1000

SFL Unaveraged (SFLU)
0.2 (OHMM) 2000

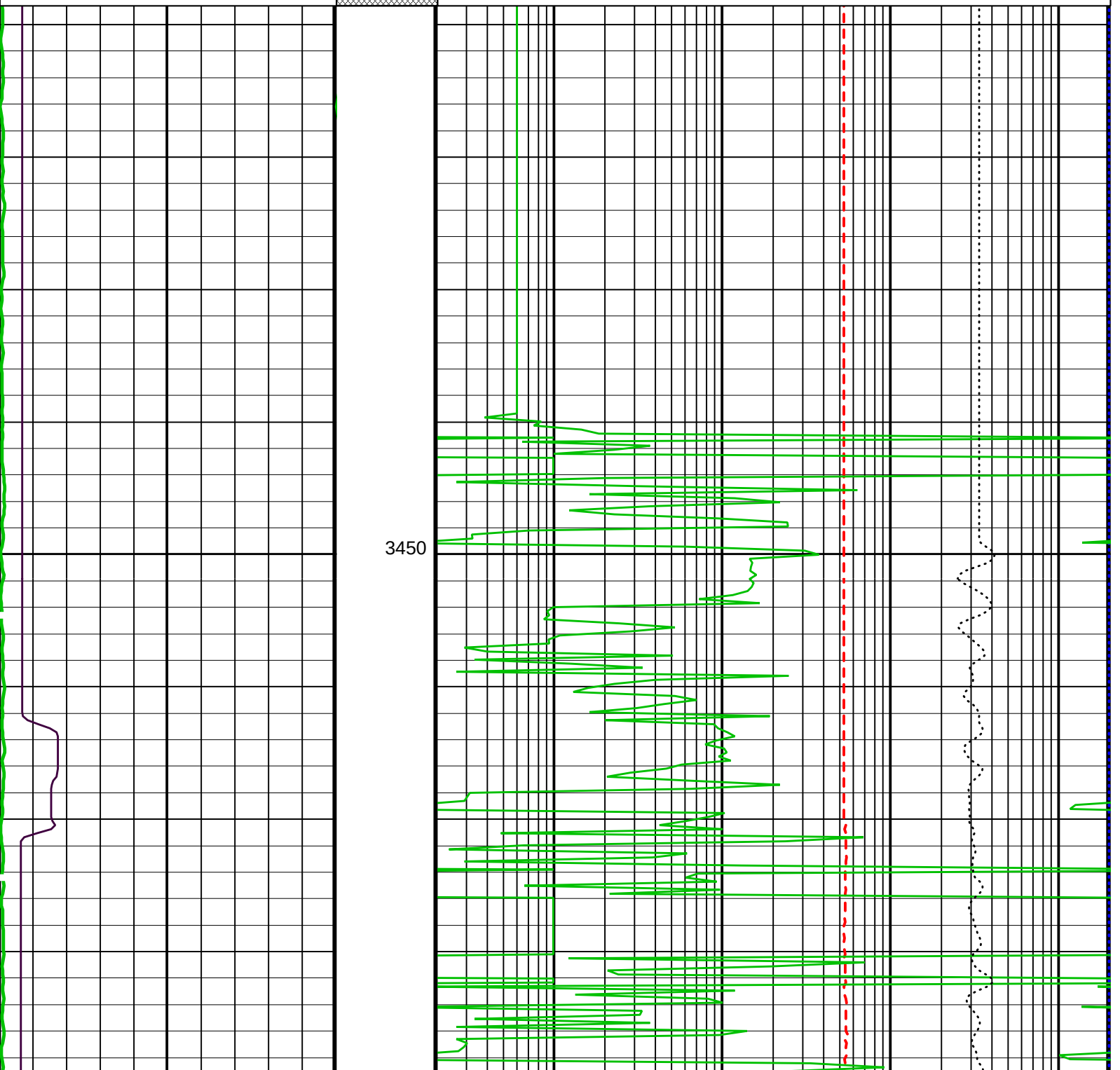
HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 100

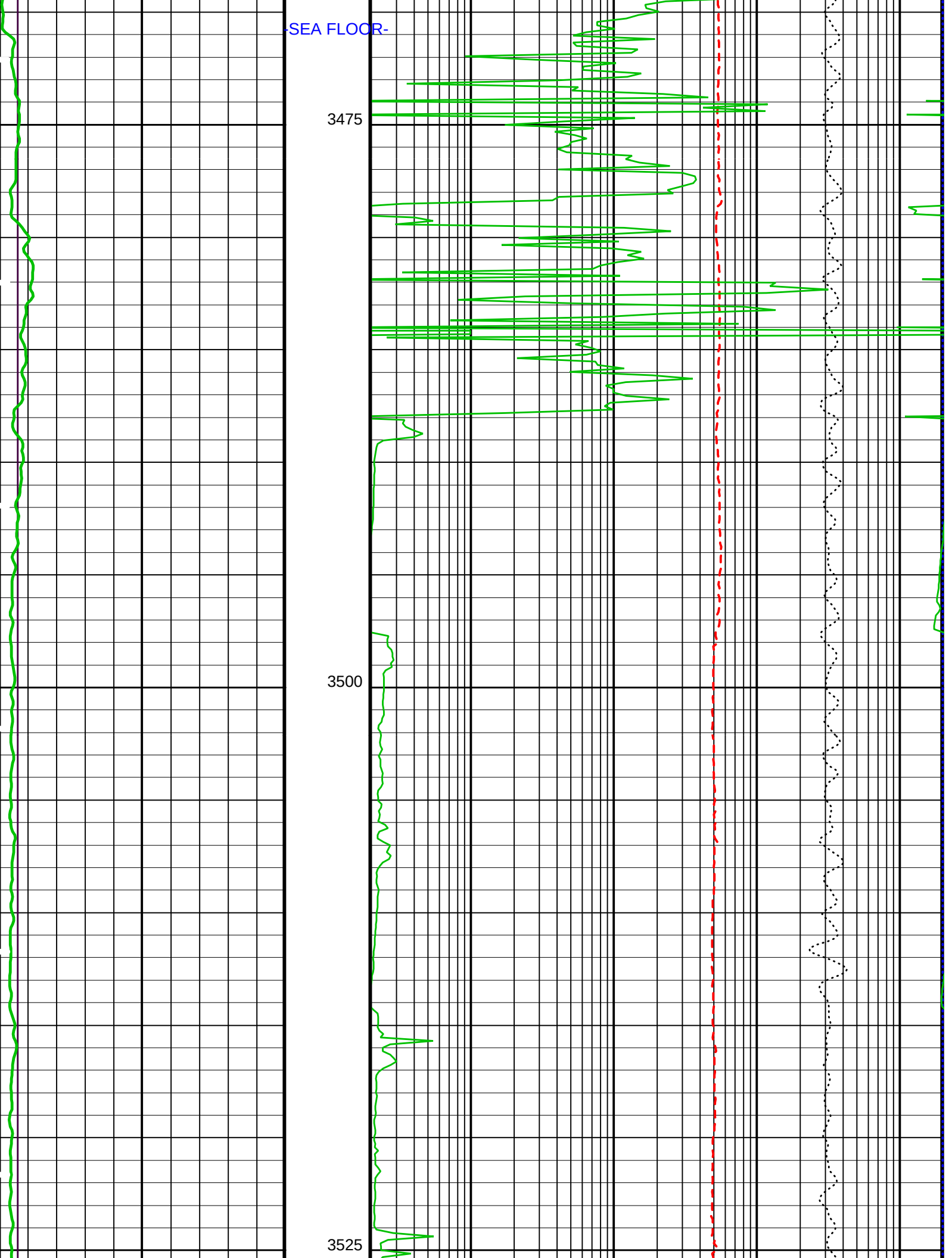
Medium Induction Phasor-processed Resistivity (IMPH)
0.2 (OHMM) 2000

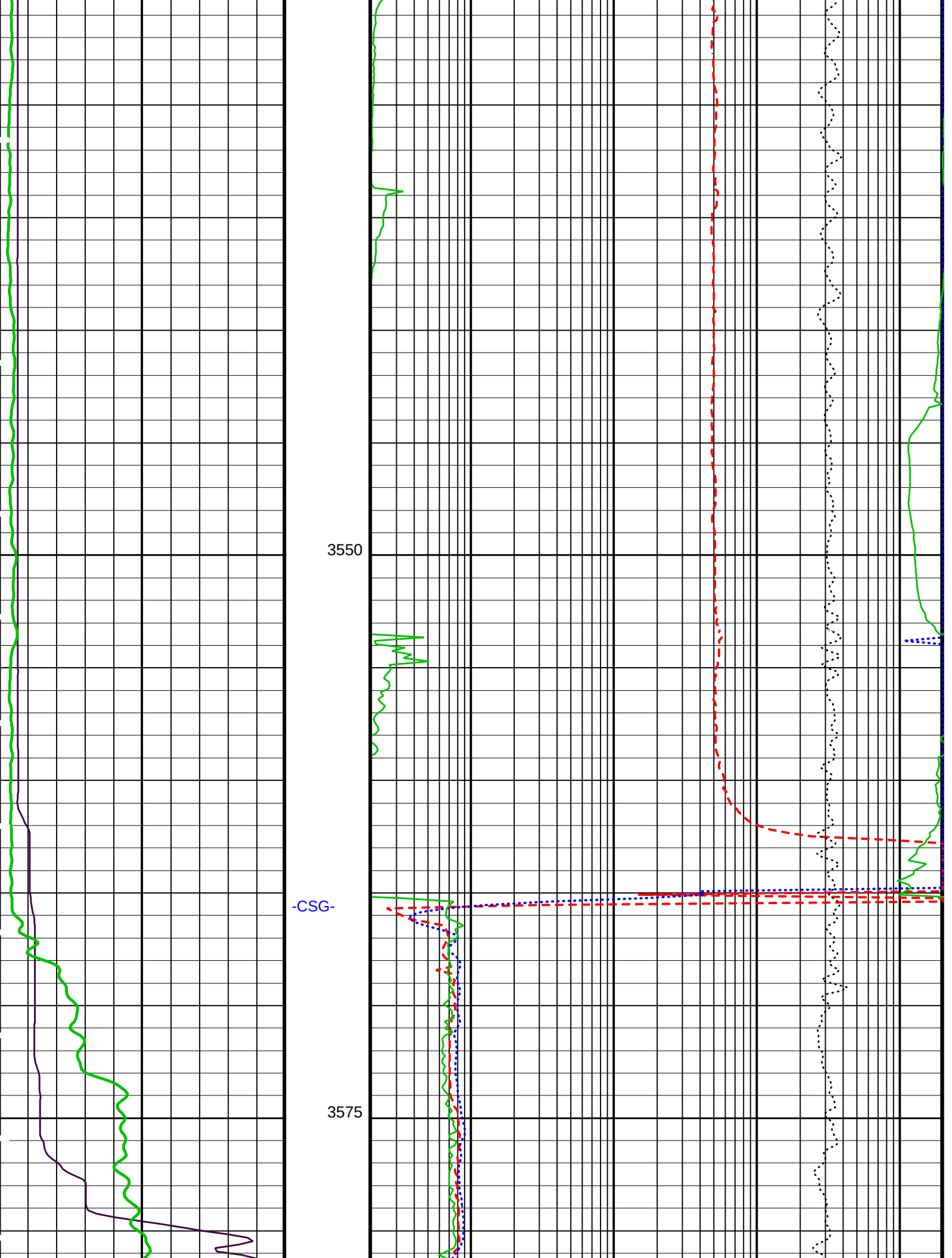
HLDS Caliper (LCAL)
0 (IN) 20

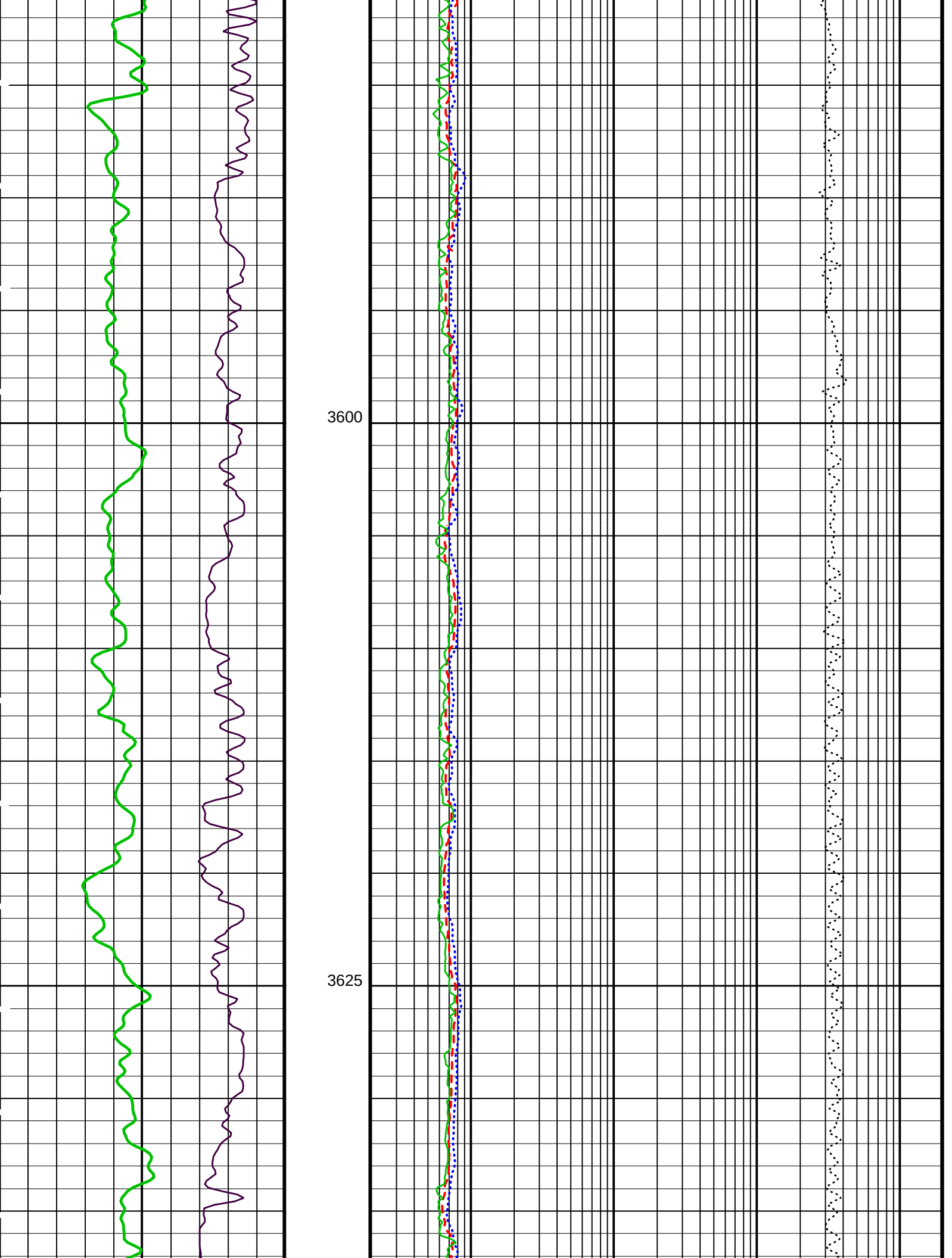
ID_QUAL From IMQF to IDQF

Deep Induction Phasor-processed Resistivity (IDPH)
0.2 (OHMM) 2000




-SEA FLOOR-
3475
3500
3525


3550
-CSG-
3575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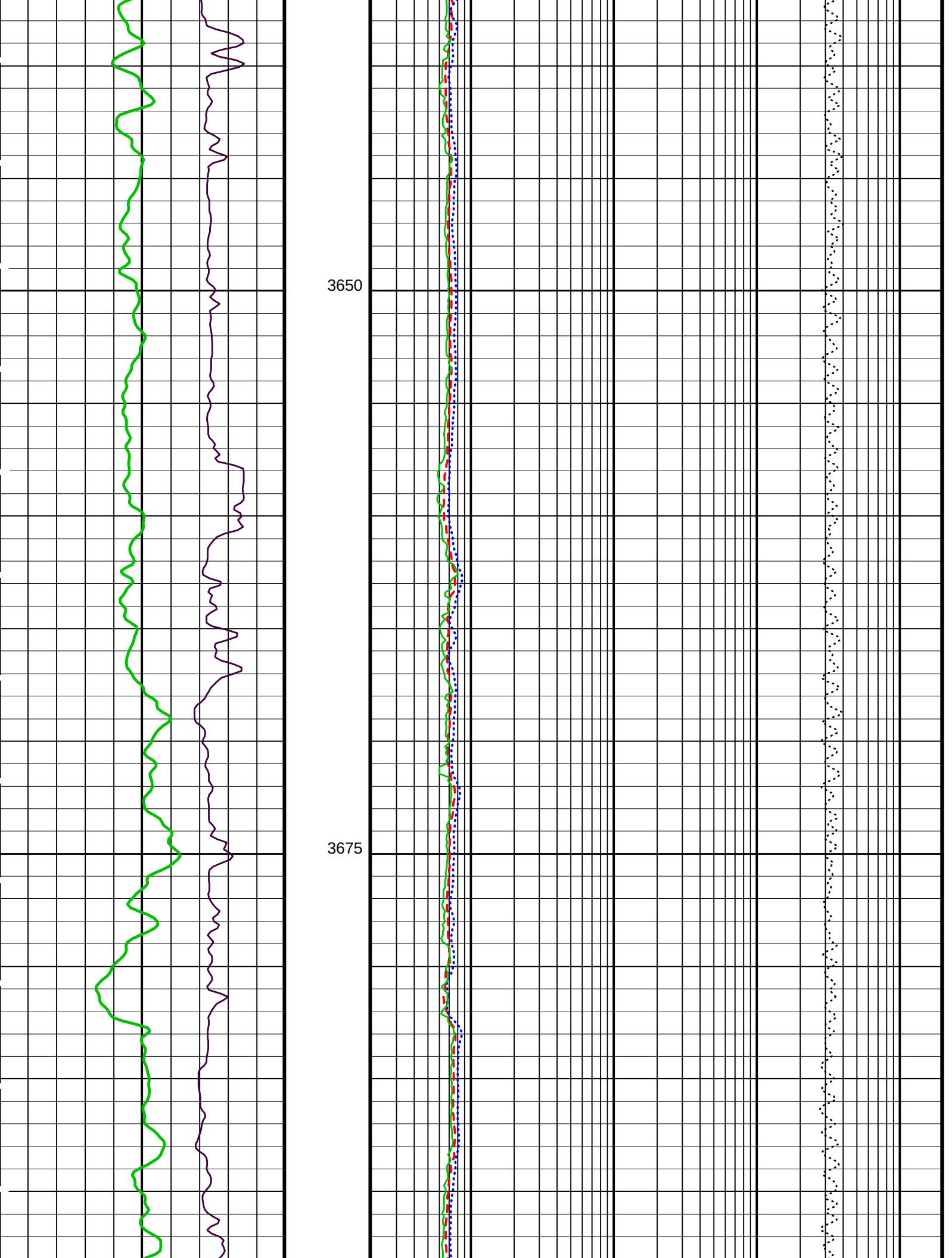
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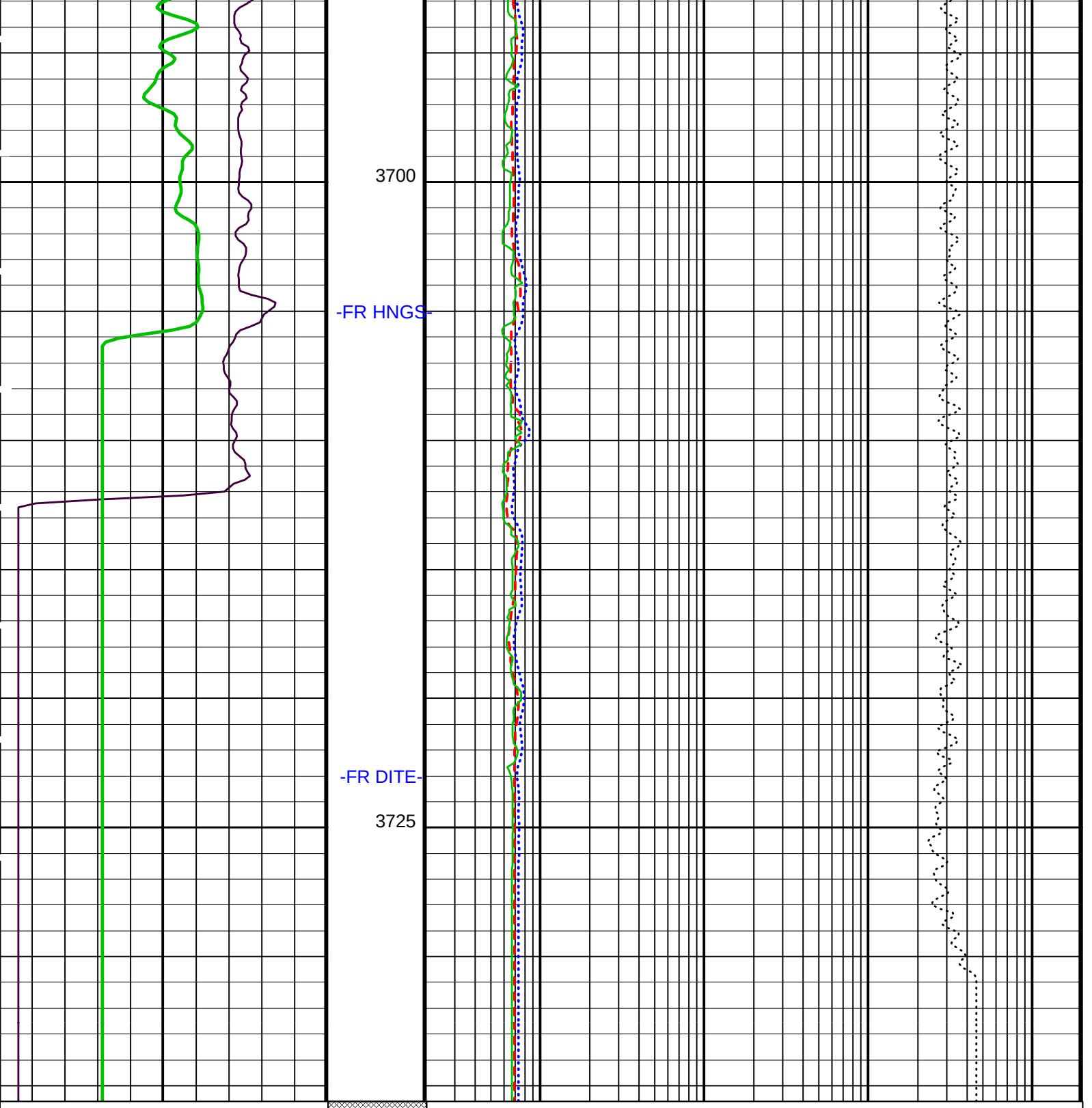

HLDS Caliper (LCAL)
0 (IN) 20

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

ID_QUAL From IMQF to IDQF

Deep Induction Phasor-processed Resistivity (IDPH)
0.2 (OHMM) 2000

Medium Induction Phasor-processed Resistivity (IMPH)
0.2 (OHMM) 2000

SFL Unaveraged (SFLU)
0.2 (OHMM) 2000

Tension (TENS)
11000 (LBF) 1000

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	3	DEGC
DGF2	Deep 20 kHz Gain Factor	1.02064	
DPH2	Deep 20 kHz Phase Shift	-0.243728	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	16.6208	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	64.8082	MM/M
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ITEN	DIT-E Temperature Enable	ENABLE	
MGF2	Medium 20 kHz Gain Factor	1	
MPH2	Medium 20 kHz Phase Shift	0	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	-2.31932	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-31.8992	MM/M
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	20	DEGC
	APS-C: Accelerator-Porosity Tool		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	3	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	20	DEGC
	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	
BHT	Bottom Hole Temperature (used in calculations)	3	DEGC
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	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
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	-0.00206142	
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	
SHT	Surface Hole Temperature	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	2.19159	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.935656	
	System and Miscellaneous		
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	3756.8	M

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 23-Oct-2004 12:30

OP System Version: 12C0-301

MCM

DIT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_039PUP	FN:60	PRODUCER	23-Oct-2004 12:26	3735.6 M	3424.6 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_042PUP	FN:67	PRODUCER	23-Oct-2004 12:30		
ACCELERATION	PI_LDL_APS_NGS_042PUP	FN:68	PRODUCER	23-Oct-2004 12:30		
REDUCED	PI_LDL_APS_NGS_042PUP	FN:69	PRODUCER	23-Oct-2004 12:30		

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REPEAT PASS

MAXIS Field Log

Company: Lamont Doherty Earth Observatory Well: 1305 C

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_040PUP	FN:62	PRODUCER	23-Oct-2004 12:27	3673.9 M	3575.5 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_043PUP	FN:70	PRODUCER	23-Oct-2004 12:31	3673.9 M	3580.2 M
ACCELERATION	PI_LDL_APS_NGS_043PUP	FN:71	PRODUCER	23-Oct-2004 12:31	3673.9 M	3580.2 M
REDUCED	PI_LDL_APS_NGS_043PUP	FN:72	PRODUCER	23-Oct-2004 12:31	3673.9 M	3580.2 M

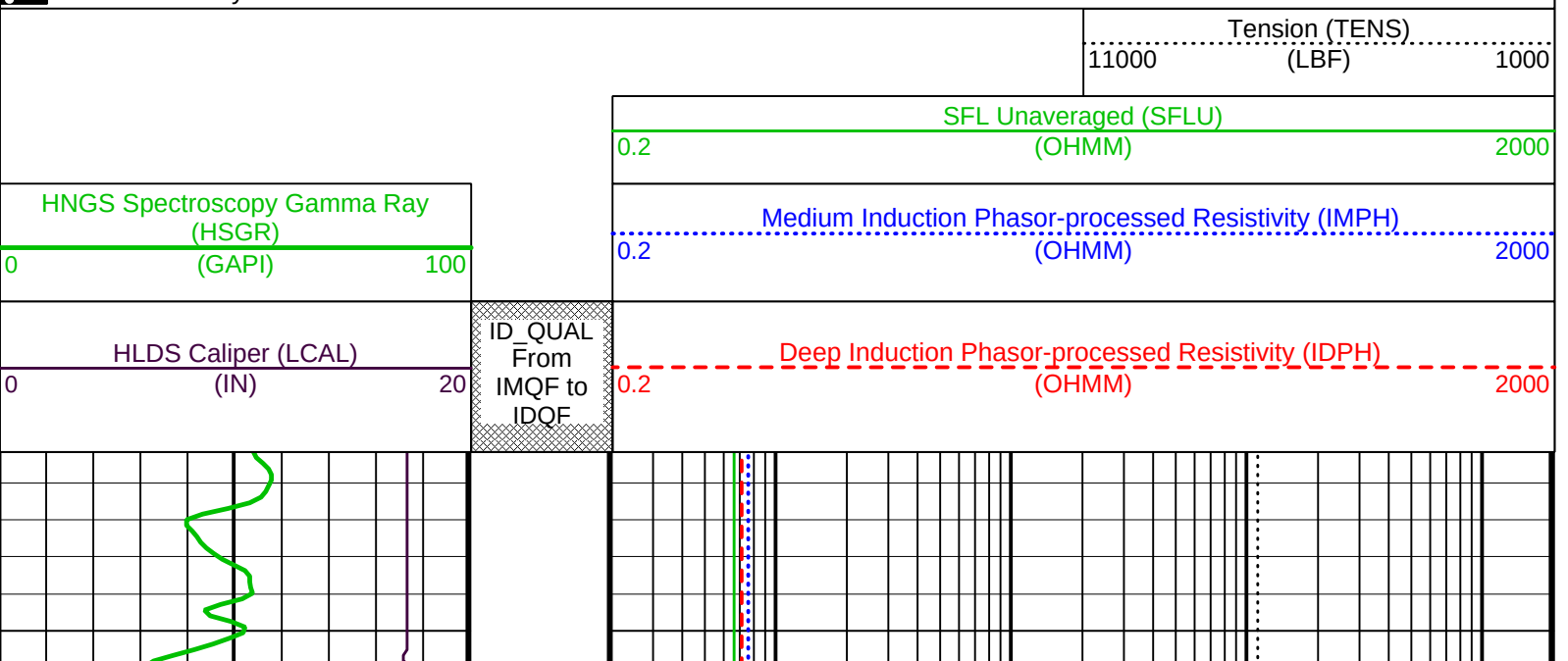
OP System Version: 12C0-301

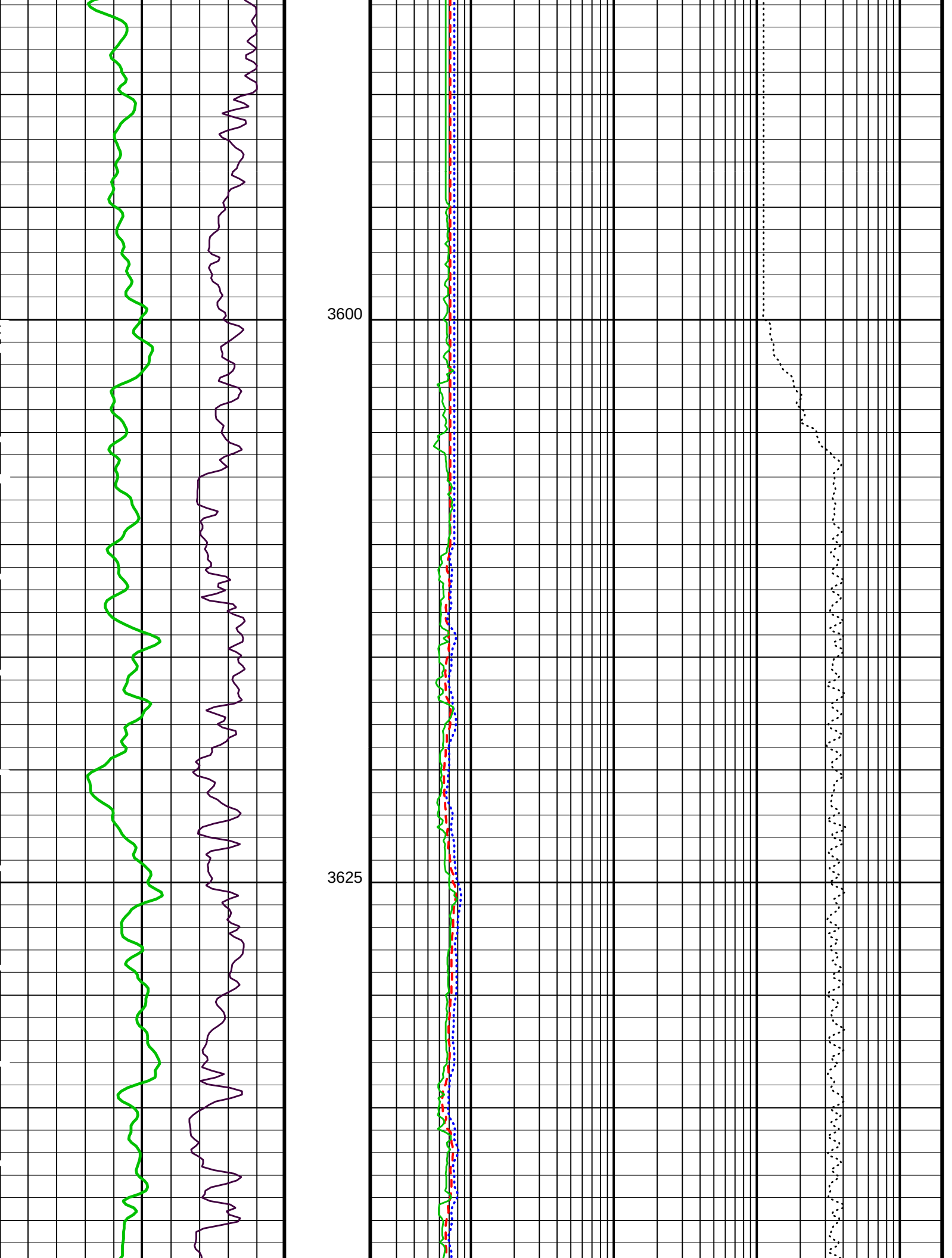
MCM

DIT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

PIP SUMMARY

Time Mark Every 60 S

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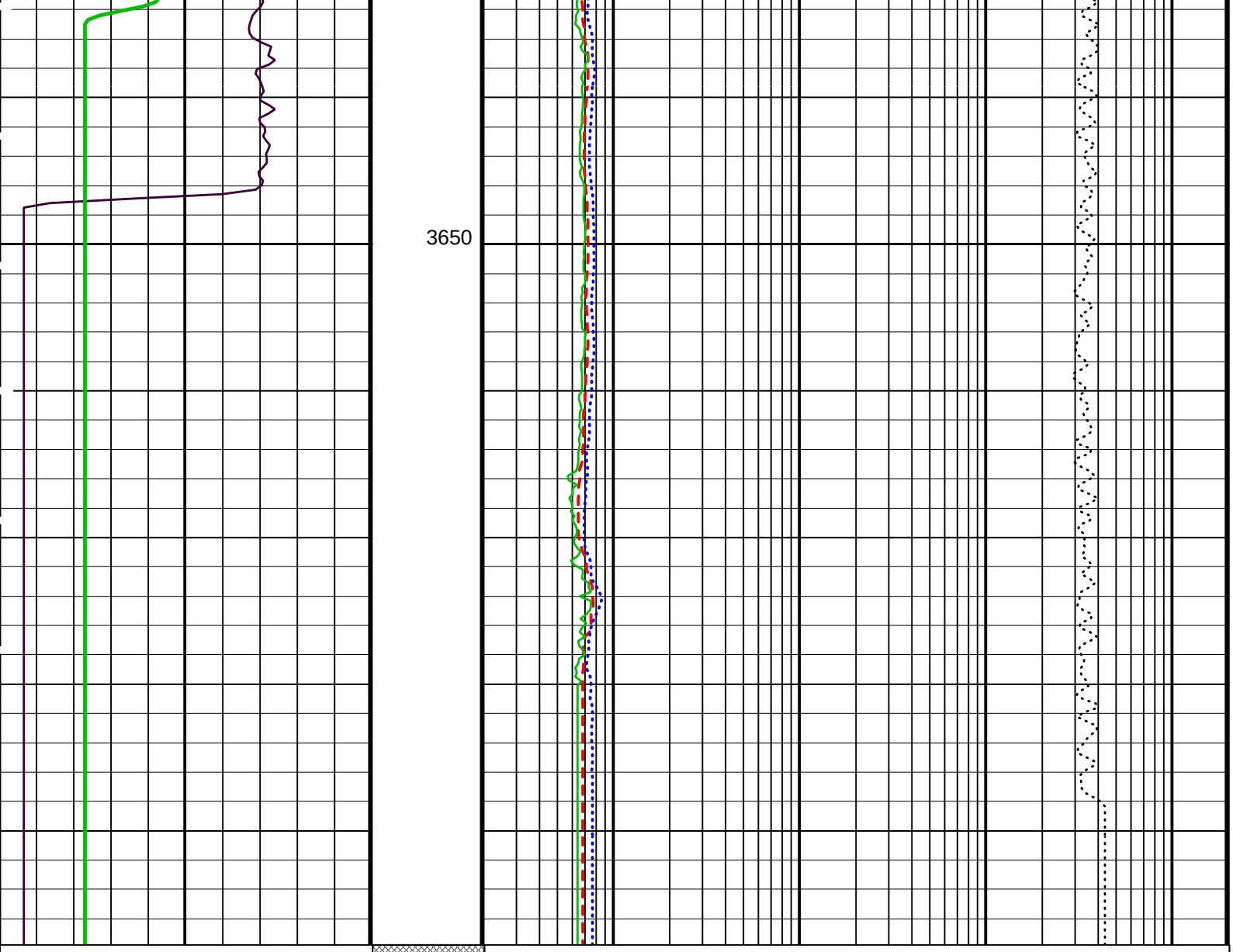

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	3	DEGC
DGF2	Deep 20 kHz Gain Factor	1.02064	
DPH2	Deep 20 kHz Phase Shift	-0.243728	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	16.6208	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	64.8082	MM/M
GCSE	Generalized Caliper Selection	LCAL	

GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ITEN	DIT-E Temperature Enable	ENABLE	
MGF2	Medium 20 kHz Gain Factor	1	
MPH2	Medium 20 kHz Phase Shift	0	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	-2.31932	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-31.8992	MM/M
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	20	DEGC
APS-C: Accelerator-Porosity Tool			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	3	DEGC
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	20	DEGC
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	
BHT	Bottom Hole Temperature (used in calculations)	3	DEGC
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	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
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	-0.00206142	
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	
SHT	Surface Hole Temperature	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	2.19159	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.935656	
System and Miscellaneous			
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	3756.8	M

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 23-Oct-2004 12:31

OP System Version: 12C0-301

MCM

DIT-E	12C0-301	GPIT-A/B	12C0-301
DTA-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_040PUP	FN:62	PRODUCER	23-Oct-2004 12:27	3673.9 M	3575.5 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_043PUP	FN:70	PRODUCER	23-Oct-2004 12:31
ACCELERATION	PI_LDL_APS_NGS_043PUP	FN:71	PRODUCER	23-Oct-2004 12:31
REDUCED	PI_LDL_APS_NGS_043PUP	FN:72	PRODUCER	23-Oct-2004 12:31

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CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
General Purpose Inclinometer Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 15-Nov-2003 19:19							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	743	N/A	N/A	N/A	
General Purpose Inclinometer Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 15-Nov-2003 19:19							
TEMPERATURE REFERENCE :	N/A	N/A	25	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	91	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	5	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	98	N/A	N/A	N/A	
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 30-Sep-2004 14:56 Before: 15-Nov-2003 19:36							
SS Cs Resolution Bkg	9.000	8.329	8.364	N/A	N/A	1.800	%
LS Cs Resolution Bkg	9.000	8.007	8.028	N/A	N/A	1.800	%
LSW1 Background	100.0	81.66	81.21	N/A	N/A	3.000	CPS
LSW2 Background	100.0	75.32	74.72	N/A	N/A	3.000	CPS
LSW3 Background	200.0	169.8	167.3	N/A	N/A	6.000	CPS
LSW4 Background	250.0	211.0	207.6	N/A	N/A	7.500	CPS
LSW5 Background	600.0	472.0	469.4	N/A	N/A	18.00	CPS
SSW1 Background	100.0	80.12	80.77	N/A	N/A	3.000	CPS
SSW2 Background	200.0	142.7	141.9	N/A	N/A	6.000	CPS
SSW3 Background	500.0	380.2	379.4	N/A	N/A	15.00	CPS
SSW4 Background	270.0	204.2	203.7	N/A	N/A	8.100	CPS
SSW5 Background	200.0	148.3	148.6	N/A	N/A	6.000	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement							
Master: 30-Sep-2004 16:50							
LSW1 Aluminum	600.0	545.3	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	836.3	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	1030	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	523.0	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	489.9	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2448	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7149	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10380	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4420	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	606.6	N/A	N/A	N/A	N/A	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement							
Master: 30-Sep-2004 16:27							
LSW1 Iron	400.0	378.7	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	680.1	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	913.1	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	474.1	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	445.7	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1808	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5916	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9378	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3977	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	530.0	N/A	N/A	N/A	N/A	CPS
Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration							
Before: 16-Nov-2003 10:51							
HLDS Caliper Small Ring	8.000	N/A	11.04	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	12.00	N/A	15.08	N/A	N/A	N/A	IN

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check
Master: 15-Nov-2003 19:18 Before: 15-Nov-2003 19:24

Na 511 Peak Loc	40.00	40.62	40.62	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.92	17.14	N/A	N/A	2.000	%
High Voltage	1150	1259	1259	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	145.4	144.7	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.563	9.929	N/A	N/A	2.000	%
Temperature	15.50	13.44	13.45	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	48.59	48.59	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check
Master: 15-Nov-2003 19:18 Before: 15-Nov-2003 19:24

Na 511 Peak Loc	40.00	41.44	41.58	N/A	N/A	1.000	
Na 511 Peak Res	15.50	17.59	16.57	N/A	N/A	2.000	%
High Voltage	1150	1283	1282	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	147.7	147.5	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.677	9.340	N/A	N/A	2.000	%
Temperature	15.50	13.05	13.06	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	48.78	48.60	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2
Master: 15-Nov-2003 19:18 Before: 15-Nov-2003 19:24

Coincidence Count Rate Ratio	1.000	0.9928	0.9977	N/A	N/A	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration
Master: 15-Nov-2003 19:13

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.1	--	--	--	--	
Th Peak Res	7.000	8.049	--	--	--	--	%
Background Count Rate	142.5	20.74	--	--	--	--	CPS
Gain Ratio	1.000	0.9794	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration
Master: 15-Nov-2003 19:13

Na 511 Peak Set Point	40.00	42.00	--	--	--	--	
Th Peak Loc	209.6	211.7	--	--	--	--	
Th Peak Res	7.000	8.076	--	--	--	--	%
Background Count Rate	142.5	21.34	--	--	--	--	CPS
Gain Ratio	1.000	0.9720	--	--	--	--	

Accelerator-Porosity Tool Wellsite Calibration - Detector Background
Master: 3-Oct-2004 19:49 Before: 15-Nov-2003 19:23

Near Det Bkg Cntrate	30.00	25.75	25.97	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	26.19	26.01	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.51	26.90	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	25.90	26.88	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	26.41	23.69	N/A	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios
Master: 3-Oct-2004 19:49

Near/Far Calibration Ratio	0.9250	0.9637	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	0.9915	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.001	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration - Tank Check
Master: 3-Oct-2004 19:49

Array-1 Standoff Porosity	11.75	12.56	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	12.06	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.739	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	1.010	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9869	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.15	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration - CCR7 signal boxes
Master: 3-Oct-2004 18:46

Near Detector Plateau Setting	1650	1740	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	1972	N/A	N/A	N/A	N/A	V

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting 1740 V
Far Detector Plateau Setting 2078 V
Array Detector Plateau Setting 1972 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	

Dual Induction - E Wellsite Calibration

Induction Electronics (10 kHz)

Phase	ID Elect Real Offset 10 kHz MM/M	Value
Before		39.57
-260.8 (Minimum)	39.24 (Nominal)	339.2 (Maximum)

Phase	ID Elect Real Gain 10 kHz	Value
Before		1.021
0.8596 (Minimum)	1.010 (Nominal)	1.214 (Maximum)

Phase	ID Elect Phase 10 kHz DEG	Value
Before		8.808
-0.7861 (Minimum)	9.214 (Nominal)	19.21 (Maximum)

Phase	ID Elect Quad Offset 10 kHz MM/M	Value
Before		23.63
-276.2 (Minimum)	23.78 (Nominal)	323.8 (Maximum)

Phase	ID Elect Quad Gain 10 kHz	Value
Before		1.009
0.8494 (Minimum)	0.9994 (Nominal)	1.199 (Maximum)

Phase	IM Elect Phase 10 kHz DEG	Value
Before		13.41
3.832 (Minimum)	13.83 (Nominal)	23.83 (Maximum)

Phase	IM Elect Real Offset 10 kHz MM/M	Value
Before		97.29
-453.1 (Minimum)	96.90 (Nominal)	646.9 (Maximum)

Phase	IM Elect Real Gain 10 kHz	Value
Before		0.9591
0.8089 (Minimum)	0.9589 (Nominal)	1.142 (Maximum)

Phase	IM Elect Quad Offset 10 kHz MM/M	Value
Before		95.15
-454.8 (Minimum)	95.22 (Nominal)	645.2 (Maximum)

Phase	IM Elect Quad Gain 10 kHz	Value
Before		0.9559
0.8065 (Minimum)	0.9565 (Nominal)	1.139 (Maximum)

Before: 15-Nov-2003 19:20

Dual Induction - E Wellsite Calibration

Induction Electronics (20 kHz)

Phase	ID Elect Real Offset 20 kHz MM/M	Value
Before		15.33
-109.9 (Minimum)	15.07 (Nominal)	140.1 (Maximum)

Phase	ID Elect Real Gain 20 kHz	Value
Before		1.027
0.8601 (Minimum)	1.010 (Nominal)	1.214 (Maximum)

Phase	ID Elect Phase 20 kHz DEG	Value
Before		6.900
-7.449 (Minimum)	7.551 (Nominal)	22.55 (Maximum)

Phase	ID Elect Quad Offset 20 kHz MM/M	Value
Before		9.310
-115.6 (Minimum)	9.373 (Nominal)	134.4 (Maximum)

Phase	ID Elect Quad Gain 20 kHz	Value
Before		1.015
0.8497 (Minimum)	0.9997 (Nominal)	1.200 (Maximum)

Phase	IM Elect Phase 20 kHz DEG	Value
Before		11.68
-2.658 (Minimum)	12.34 (Nominal)	27.34 (Maximum)

Phase	IM Elect Real Offset 20 kHz MM/M	Value
Before		40.55
-184.8 (Minimum)	40.18 (Nominal)	265.2 (Maximum)

Phase	IM Elect Real Gain 20 kHz	Value
Before		1.018
0.8536 (Minimum)	1.004 (Nominal)	1.205 (Maximum)

Phase	IM Elect Quad Offset 20 kHz MM/M	Value
Before		39.76
-185.4 (Minimum)	39.62 (Nominal)	264.6 (Maximum)

Phase	IM Elect Quad Gain 20 kHz	Value
Before		1.014
0.8510 (Minimum)	1.001 (Nominal)	1.201 (Maximum)

Before: 15-Nov-2003 19:21

Dual Induction - E Wellsite Calibration

Induction Electronics (40 kHz)

Phase	ID Elect Real Offset 40 kHz MM/M	Value
Before		9.943
-75.27 (Minimum)	9.729 (Nominal)	94.73 (Maximum)

Phase	ID Elect Real Gain 40 kHz	Value
Before		0.9995
0.8369 (Minimum)	0.9869 (Nominal)	1.182 (Maximum)

Phase	ID Elect Phase 40 kHz DEG	Value
Before		25.47
7.238 (Minimum)	27.24 (Nominal)	47.24 (Maximum)

Phase	ID Elect Quad Offset 40 kHz MM/M	Value
Before		6.023
-78.94 (Minimum)	6.062 (Nominal)	91.06 (Maximum)

Phase	ID Elect Quad Gain 40 kHz	Value
Before		0.9865
0.8259 (Minimum)	0.9759 (Nominal)	1.166 (Maximum)

Phase	IM Elect Phase 40 kHz DEG	Value
Before		30.08
11.87 (Minimum)	31.87 (Nominal)	51.87 (Maximum)

Phase	IM Elect Real Offset 40 kHz MM/M	Value
Before		26.45
-103.8 (Minimum)	26.23 (Nominal)	156.2 (Maximum)

Phase	IM Elect Real Gain 40 kHz	Value
Before		1.033
0.8659 (Minimum)	1.016 (Nominal)	1.222 (Maximum)

Phase	IM Elect Quad Offset 40 kHz MM/M	Value
Before		26.02

Phase	IM Elect Quad Gain 40 kHz	Value
Before		1.029

-104.1 (Minimum)	25.93 (Nominal)	155.9 (Maximum)		0.8629 (Minimum)	1.013 (Nominal)	1.218 (Maximum)		

Before: 15-Nov-2003 19:22

Dual Induction - E Wellsite Calibration

SFL Electronics

Phase	SFL Voltage Offset MV	Value	Phase	SFL Voltage Gain	Value
Before		1.184	Before		1.014
	-15.00 (Minimum) 0 (Nominal) 15.00 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)	
Phase	SFL Current Offset MA	Value	Phase	SFL Current Gain	Value
Before		0.008592	Before		0.9928
	-0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)	

Before: 15-Nov-2003 19:22

Dual Induction - E Master Calibration

Test Loop Calibration: Calibration of Internal Reference to Test Loop Standard

Phase	Deep 10 kHz Gain Factor	Value	Phase	Deep 20 kHz Gain Factor	Value	Phase	Deep 40 kHz Gain Factor	Value
Master		1.009	Master		1.021	Master		1.038
	0.9000 (Minimum) 1.000 (Nominal) 1.100 (Maximum)			0.9000 (Minimum) 1.000 (Nominal) 1.100 (Maximum)			0.9000 (Minimum) 1.000 (Nominal) 1.100 (Maximum)	
Phase	Medium 10 kHz Gain Factor	Value	Phase	Medium 20 kHz Gain Factor	Value	Phase	Medium 40 kHz Gain Factor	Value
Master		1.000	Master		1.000	Master		1.000
	0.9000 (Minimum) 1.000 (Nominal) 1.100 (Maximum)			0.9000 (Minimum) 1.000 (Nominal) 1.100 (Maximum)			0.9000 (Minimum) 1.000 (Nominal) 1.100 (Maximum)	
Phase	Deep 10 kHz Phase Shift	Value	Phase	Deep 20 kHz Phase Shift	Value	Phase	Deep 40 kHz Phase Shift	Value
Master		0.01267	Master		-0.2437	Master		-1.527
	-1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)			-2.000 (Minimum) 0 (Nominal) 2.000 (Maximum)			-4.000 (Minimum) -1.000 (Nominal) 2.000 (Maximum)	
Phase	Medium 10 kHz Phase Shift	Value	Phase	Medium 20 kHz Phase Shift	Value	Phase	Medium 40 kHz Phase Shift	Value
Master		0	Master		0	Master		0
	-1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)			-3.000 (Minimum) -1.000 (Nominal) 1.000 (Maximum)			-5.000 (Minimum) -2.000 (Nominal) 1.000 (Maximum)	

Master: 8-Apr-2004 11:16

Dual Induction - E Master Calibration

Sonde Error Corrections: Correction for sonde response in zero conductivity environment. (Normalized to 25C).

Phase	Real Deep 10 kHz S.E. Corr.	Value	Phase	Real Deep 20 kHz S.E. Corr.	Value	Phase	Real Deep 40 kHz S.E. Corr.	Value
Master		48.25	Master		16.62	Master		4.700
	-50.00 (Minimum) 0 (Nominal) 125.0 (Maximum)			-30.00 (Minimum) 0 (Nominal) 30.00 (Maximum)			-15.00 (Minimum) 0 (Nominal) 15.00 (Maximum)	
Phase	Quad Deep 10 kHz S.E. Corr.	Value	Phase	Quad Deep 20 kHz S.E. Corr.	Value	Phase	Quad Deep 40 kHz S.E. Corr.	Value
Master		105.0	Master		64.81	Master		46.33
	-250.0 (Minimum) 0 (Nominal) 350.0 (Maximum)			-125.0 (Minimum) 0 (Nominal) 200.0 (Maximum)			-75.00 (Minimum) 0 (Nominal) 125.0 (Maximum)	
Phase	Real Medium 10 kHz S.E. Corr.	Value	Phase	Real Medium 20 kHz S.E. Corr.	Value	Phase	Real Medium 40 kHz S.E. Corr.	Value
Master		17.07	Master		-2.319	Master		-9.445
	-50.00 (Minimum) 0 (Nominal) 140.0 (Maximum)			-50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)			-30.00 (Minimum) 0 (Nominal) 30.00 (Maximum)	
Phase	Quad Medium 10 kHz S.E. Corr.	Value	Phase	Quad Medium 20 kHz S.E. Corr.	Value	Phase	Quad Medium 40 kHz S.E. Corr.	Value
Master		-95.46	Master		-31.90	Master		11.62
	-1300 (Minimum) 0 (Nominal) 1300 (Maximum)			-650.0 (Minimum) 0 (Nominal) 650.0 (Maximum)			-350.0 (Minimum) 0 (Nominal) 350.0 (Maximum)	

Master: 8-Apr-2004 11:25

General Purpose Inclinometer / Equipment Identification

Primary Equipment:
GPIT Cartridge - A — GPIC - A — 840

Auxiliary Equipment:
GPIT Housing — GPIH - A

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	2326
Auxiliary Equipment:		
Hostile Litho Density Pad	HLDP - C	35
Hostile Litho Density High Voltage Housi	HEH - H	35

Hostile Litho-Density Sonde Wellsite Calibration

Background Measurement

Phase	SS Cs Resolution Bkg %	Value
Master		8.329
Before		8.364
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		8.007
Before		8.028
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	LSW1 Background CPS	Value
Master		81.66
Before		81.21
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		75.32
Before		74.72
	50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		169.8
Before		167.3
	110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		211.0
Before		207.6
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		472.0
Before		469.4
	330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		80.12
Before		80.77
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	SSW2 Background CPS	Value
Master		142.7
Before		141.9
	100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)	

Phase	SSW3 Background CPS	Value
Master		380.2
Before		379.4
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		204.2
Before		203.7
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		148.3
Before		148.6
	110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Master: 30-Sep-2004 14:56 Before: 15-Nov-2003 19:36

Hostile Litho-Density Sonde Master Calibration

Detector Background Measurement

Phase	LSW1 Background CPS	Value
Master		81.66
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	LSW2 Background CPS	Value
Master		75.32
	50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)	

Phase	LSW3 Background CPS	Value
Master		169.8
	110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)	

Phase	LSW4 Background CPS	Value
Master		211.0
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)	

Phase	LSW5 Background CPS	Value
Master		472.0
	330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)	

Phase	LS Cs Resolution Bkg %	Value
Master		8.007
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Phase	SSW1 Background CPS	Value
Master		80.12
	55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)	

Phase	SSW2 Background CPS	Value
Master		142.7
	100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)	

Phase	SSW3 Background CPS	Value
Master		380.2
	280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)	

Phase	SSW4 Background CPS	Value
Master		204.2
	150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)	

Phase	SSW5 Background CPS	Value
Master		148.3
	110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)	

Phase	SS Cs Resolution Bkg %	Value
Master		8.329
	7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	

Master: 30-Sep-2004 14:56

Hostile Litho-Density Sonde Master Calibration

Detector Aluminum Measurement (bkgd-subtracted)

Phase	LSW1 Aluminum CPS	Value
Master		545.3
	420.0 (Minimum) 600.0 (Nominal) 700.0 (Maximum)	

Phase	LSW2 Aluminum CPS	Value
Master		836.3
	650.0 (Minimum) 900.0 (Nominal) 1050 (Maximum)	

Phase	LSW3 Aluminum CPS	Value
Master		1030
	800.0 (Minimum) 1100 (Nominal) 1300 (Maximum)	

Phase	LSW4 Aluminum CPS	Value
Master		523.0

Phase	LSW5 Aluminum CPS	Value
Master		489.9

Phase	SSW1 Aluminum CPS	Value
Master		2448

410.0 (Minimum)	580.0 (Nominal)	670.0 (Maximum)	410.0 (Minimum)	570.0 (Nominal)	660.0 (Maximum)	2000 (Minimum)	2800 (Nominal)	3200 (Maximum)

Phase	SSW2 Aluminum CPS	Value
Master		7149

5800 (Minimum)	8000 (Nominal)	9300 (Maximum)

Phase	SSW3 Aluminum CPS	Value
Master		10380

8300 (Minimum)	11600 (Nominal)	13500 (Maximum)

Phase	SSW4 Aluminum CPS	Value
Master		4420

3500 (Minimum)	5000 (Nominal)	5800 (Maximum)

Phase	SSW5 Aluminum CPS	Value
Master		606.6

470.0 (Minimum)	660.0 (Nominal)	770.0 (Maximum)

Master: 30-Sep-2004 16:50

Hostile Litho-Density Sonde Master Calibration

Detector Litholog Measurement (bkgd-subtracted)

Phase	LSW1 Iron CPS	Value
Master		378.7

290.0 (Minimum)	400.0 (Nominal)	470.0 (Maximum)

Phase	LSW2 Iron CPS	Value
Master		680.1

520.0 (Minimum)	730.0 (Nominal)	850.0 (Maximum)

Phase	LSW3 Iron CPS	Value
Master		913.1

720.0 (Minimum)	1000 (Nominal)	1160 (Maximum)

Phase	LSW4 Iron CPS	Value
Master		474.1

370.0 (Minimum)	520.0 (Nominal)	600.0 (Maximum)

Phase	LSW5 Iron CPS	Value
Master		445.7

340.0 (Minimum)	470.0 (Nominal)	550.0 (Maximum)

Phase	SSW1 Iron CPS	Value
Master		1808

1500 (Minimum)	2100 (Nominal)	2400 (Maximum)

Phase	SSW2 Iron CPS	Value
Master		5916

4900 (Minimum)	6800 (Nominal)	7900 (Maximum)

Phase	SSW3 Iron CPS	Value
Master		9378

7800 (Minimum)	10800 (Nominal)	12600 (Maximum)

Phase	SSW4 Iron CPS	Value
Master		3977

3300 (Minimum)	4600 (Nominal)	5400 (Maximum)

Phase	SSW5 Iron CPS	Value
Master		530.0

420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)

Master: 30-Sep-2004 16:27

Hostile Litho-Density Sonde Master Calibration

Quality Ratios

Phase	AL CALIBRATION RATIO 1	Value
Master		1.017

0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)

Phase	AL CALIBRATION RATIO 2	Value
Master		2.064

1.900 (Minimum)	2.100 (Nominal)	2.300 (Maximum)

Phase	AL CALIBRATION RATIO 3	Value
Master		0.5384

0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)

Phase	AL CALIBRATION RATIO 4	Value
Master		0.4870

0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)

Phase	Pad-Wear SS Ratio	Value
Master		0.9862

0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)

Phase	Pad-Wear LS Ratio	Value
Master		0.9849

0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)

Phase	Pad-Position SS Ratio	Value
Master		0.9965

0.9900 (Minimum)	0.9940 (Nominal)	1.015 (Maximum)

Phase	Pad-Position LS Ratio	Value
Master		0.9925

0.9850 (Minimum)	0.9940 (Nominal)	1.010 (Maximum)

Master: 30-Sep-2004 16:20

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
Master		40.62
Before		40.62
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		16.92
Before		17.14
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1259
Before		1259
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		145.4
Before		144.7
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		9.563
Before		9.929
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		13.44
Before		13.45
	-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		48.59
Before		48.59
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 15-Nov-2003 19:18 Before: 15-Nov-2003 19:24

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		41.44
Before		41.58
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		17.59
Before		16.57
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1283
Before		1282
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		147.7
Before		147.5
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		9.677
Before		9.340
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		13.05
Before		13.06
	-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		48.78
Before		48.60
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 15-Nov-2003 19:18 Before: 15-Nov-2003 19:24

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		0.9928
Before		0.9977
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 15-Nov-2003 19:18
Before: 15-Nov-2003 19:24

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		209.1
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		8.049
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		20.74
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		0.9794
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 15-Nov-2003 19:13

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		42.00	Master		211.7	Master		8.076
	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		21.34	Master		0.9720
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 15-Nov-2003 19:13

Accelerator-Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator-Porosity Sonde	APS - C	202
APS Minitron	MNTR - F	5124
Auxiliary Equipment:		
Accelerator-Porosity Housing	APH - AC	104
APS Calibration Water Tank	SFT - 178	6250
APS Aluminum Calibrator Sleeve	SFT - 281	6250

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		25.75	Master		26.19	Master		28.51
Before		25.97	Before		26.01	Before		26.90
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Phase	Array-2 Det Bkg Cntrate CPS	Value	Phase	Array Therm Det Bkg Cntrate CPS	Value
Master		25.90	Master		26.41
Before		26.88	Before		23.69
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Master: 3-Oct-2004 19:49 Before: 15-Nov-2003 19:23

Accelerator-Porosity Tool Wellsite Calibration

Calibration Ratios

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value
Master		0.9637	Master		0.9915	Master		1.001
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)			0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum)	

Master: 3-Oct-2004 19:49

Accelerator-Porosity Tool Wellsite Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value	Phase	Array-2 Standoff Porosity PU	Value	Phase	Average Slowing Down Time US	Value
Master		12.56	Master		12.06	Master		5.739
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)			9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)			5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)	

Phase	Array-1 SDT Ratio Up/Down	Value	Phase	Array-2 SDT Ratio Up/Down	Value	Phase	Sigma Formation CU	Value
Master		1.010	Master		0.9869	Master		27.15
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)			0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)			20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)	

Master: 3-Oct-2004 19:49

Accelerator-Porosity Tool Master Calibration

Detector Calibration

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value
Master		0.9637	Master		0.9915	Master		1.001
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)			0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum)	

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Accelerator-Porosity Tool Master Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value
Master		12.56
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)	

Phase	Array-2 Standoff Porosity PU	Value
Master		12.06
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)	

Phase	Average Slowing Down Time US	Value
Master		5.739
	5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)	

Phase	Array-1 SDT Ratio Up/Down	Value
Master		1.010
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Phase	Array-2 SDT Ratio Up/Down	Value
Master		0.9869
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Phase	Sigma Formation CU	Value
Master		27.15
	20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)	

Master: 3-Oct-2004 19:49

Company: Lamont Doherty Earth Observatory

Schlumberger

Well: 1305 C

Field:

Rig: Joides Resolution

Expedition: 303

Dual Induction Tool

Gamma Ray