

COMPANY: Lamont Doherty

WELL: ODP Leg 189, Site 1170 (WSTR-2A)

FIELD: Tasmanian Seaway, West Tasmania Site

COUNTRY: Offshore STATE: Indian Ocean

Phasor Induction



COUNTY: Offshore  
Field: Tasmanian Seaway, West Tasm  
Location:  
Well: ODP Leg 189, Site 1170 (WSTR-  
Company: Lamont Doherty

LOCATION		Elev.:	K.B. 11.2 M
Permanent Datum:	MSL	G.L.	-2716 M
Log Measured From:	RKB	D.F.	10.9 M
Drilling Measured From:	RKB	Elev.:	0 ft
			11.2 M above Perm. Datum
API Serial No.	LATITUDE: 47° 9.06' S	LONGITUDE: 146° 2.98' E	RIG: JOIDES Resolution

Logging Date	Run 1	Run 2	Run
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
PH			
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	Kerry M. Swain		
Witnessed By	Patrick Fothergill, Ulysses S. Nimmemann		

Logging Date	9-APR-2000		
Run Number	One		
Depth Driller	3496 M		
Schlumberger Depth	3497 M		
Bottom Log Interval	3490 M		
Top Log Interval	3245 M		
Casing Driller Size @ Depth	0.000 in	@	3249 M
Casing Schlumberger	3245 M		
Bit Size	9.875 in		
Type Fluid In Hole	Salt Water Base		
Density	8.51234 lbm/gal		
Fluid Loss	PH		
Source Of Sample	Salt water		
RM @ Measured Temperature	0.230 ohm.m	@	60 degF
RMF @ Measured Temperature		@	
RMC @ Measured Temperature		@	
Source RMF	RMC		
RM @ MRT	0.472 @ 26		@ 26
Maximum Recorded Temperatures	25.8 Deg C.		
Circulation Stopped	Time	9-APR-2000	16:00
Logger On Bottom	Time	9-APR-2000	22:15
Unit Number	99	Houston OS	
Recorded By	Kerry M. Swain		
Witnessed By	Patrick Fothergill, Ulysses S. Nimmemann		

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

OTHER SERVICES1  
 OS1: DITE/HNGS  
 OS2: GHMT/NGTC/DSST  
 OS3: MESTB  
 OS4:  
 OS5:

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

REMARKS: RUN NUMBER 1  
 Hole cored with APC/XCB.  
 Sea Floor at 2715.8 MBRF (Driller), Logger depth of sea floor not found.  
 Log presented in meters below rig floor.  
 Lamont Temperature Tool (TAP) run on DITE/HLDS/APS/HNGS only.  
 Toolstring -DITE/HLDS/APS/HNGS.  
 Wireline Heave Compensator (WHC) used on all descents.  
 Sepiolite mud was used to displace the borehole.  
 Drillers TD-3496 mbrf.  
 Loggers TD-3497.5 mbrf.  
 Drill pipe Logger-3245 mbrf.  
 Drill pipe Driller -3249 mbrf.  
 WHC hit maximum limit between 3475-3448 3405-3374 mbrf on main pass and between 3384-3343 mbrf on the repeat pass.  
 GR spike at 3355 mbrf on repeat section due to detector voltage loop instability.  
 SFL anomaly just below Drill pipe depth.  
 HNGS background countrate is below the specifications but does not affect log.

REMARKS: RUN NUMBER 2




RUN 1		
LOGGED INTERVAL	START	STOP

RUN 2		
LOGGED INTERVAL	START	STOP

**EQUIPMENT DESCRIPTION**

**RUN 1 SURFACE EQUIPMENT**  
 SFT-281 24  
 SFT-178 4722  
 GSR-U 135  
 WITM (DTS)-A

**RUN 1 DOWNHOLE EQUIPMENT**

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

**RUN 2**

HNSH-BA 27

ILE-D 27.73  
ILE-D 25

APS-BA 25.29  
APS-BA 22  
APH-AC 22  
MNTR-F 4185  
Status  
Minitron  
Near TD  
Near Arr  
Near  
Far Arr  
Far  
Far TD  
22.85  
22.77  
22.64  
22.54

NPLC-B 21.35  
NPLC-B 82  
NPH-B 82  
Status  
20.12

HLDS 18.90  
GSR-Z 1846  
HLDV-D 35  
HLDS-D 35  
HEH-H 35  
HLDP-C 12  
Caliper  
SS LS Status  
14.85

DTA-A 14.08  
ECH-KE 8261

DIT-E RED 12.87  
DIC-EB 171  
MIH-ZA 174  
DIS-HB 200

SP 6.49  
Deep Ind 6.24  
Aux Meas SFL 5.32  
Med Ind 5.17  
Status 3.34

AH-TAP 3.34  
AH-TAP

DF  
Tension HV 0.00  
TOOL ZERO

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

## Output DLIS Files

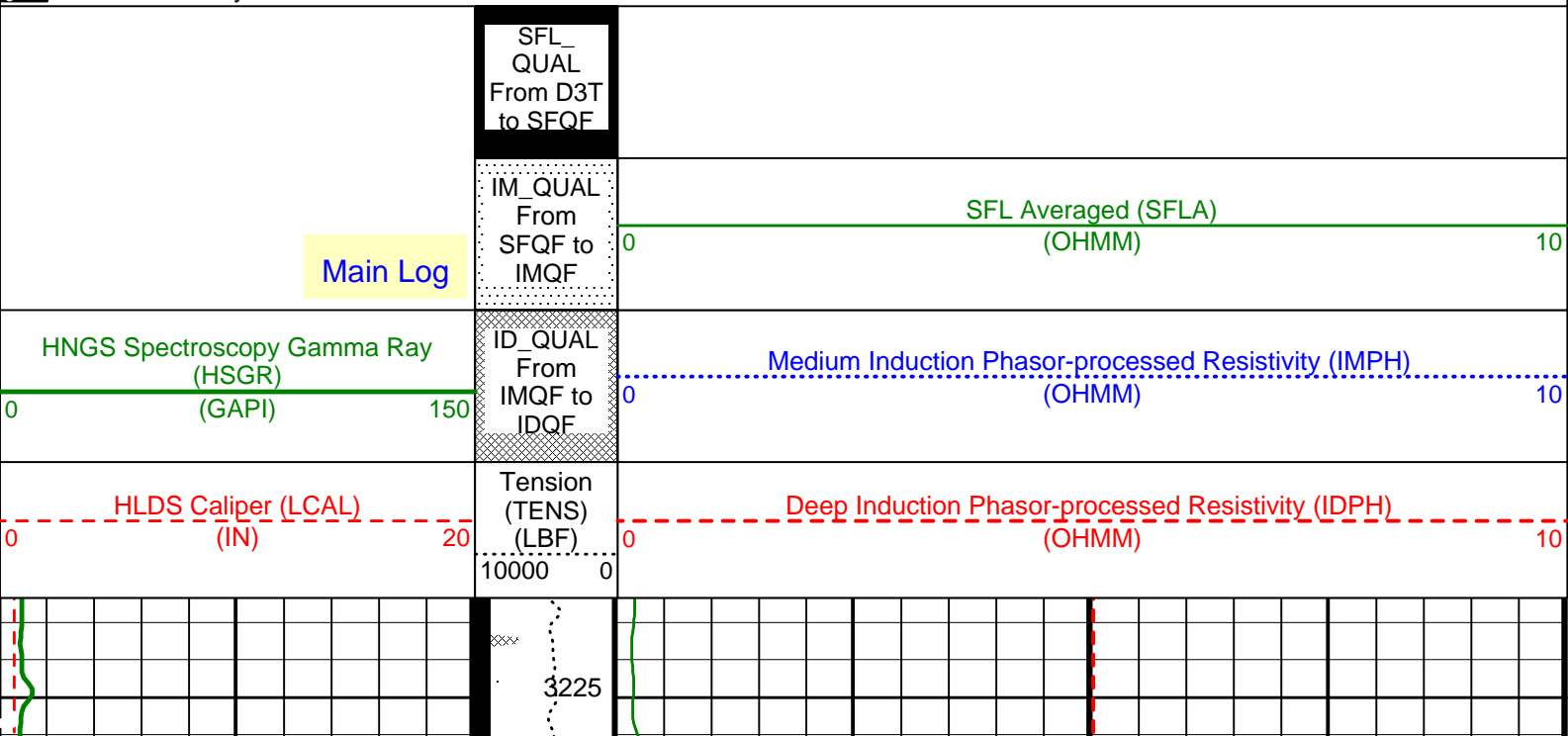
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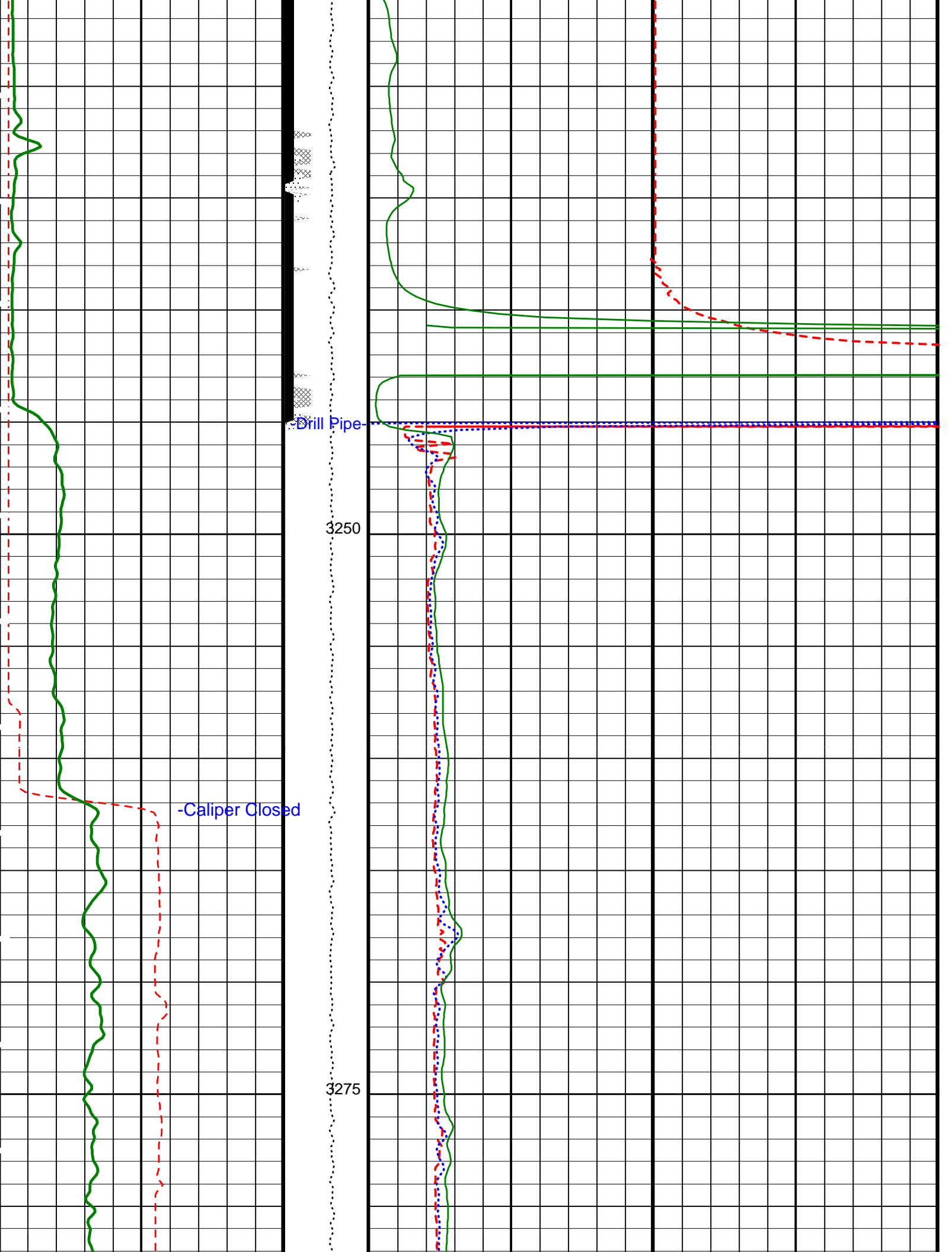
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DIT-E	9C1-303	DTA-A	9C1-303
HLDS	9C1-303	NPLC-B	9C1-303
APS-BA	9C1-303	HNGS-BA	9C1-303
DTC-H	9C1-303		

### PIP SUMMARY

▶ Time Mark Every 60 S



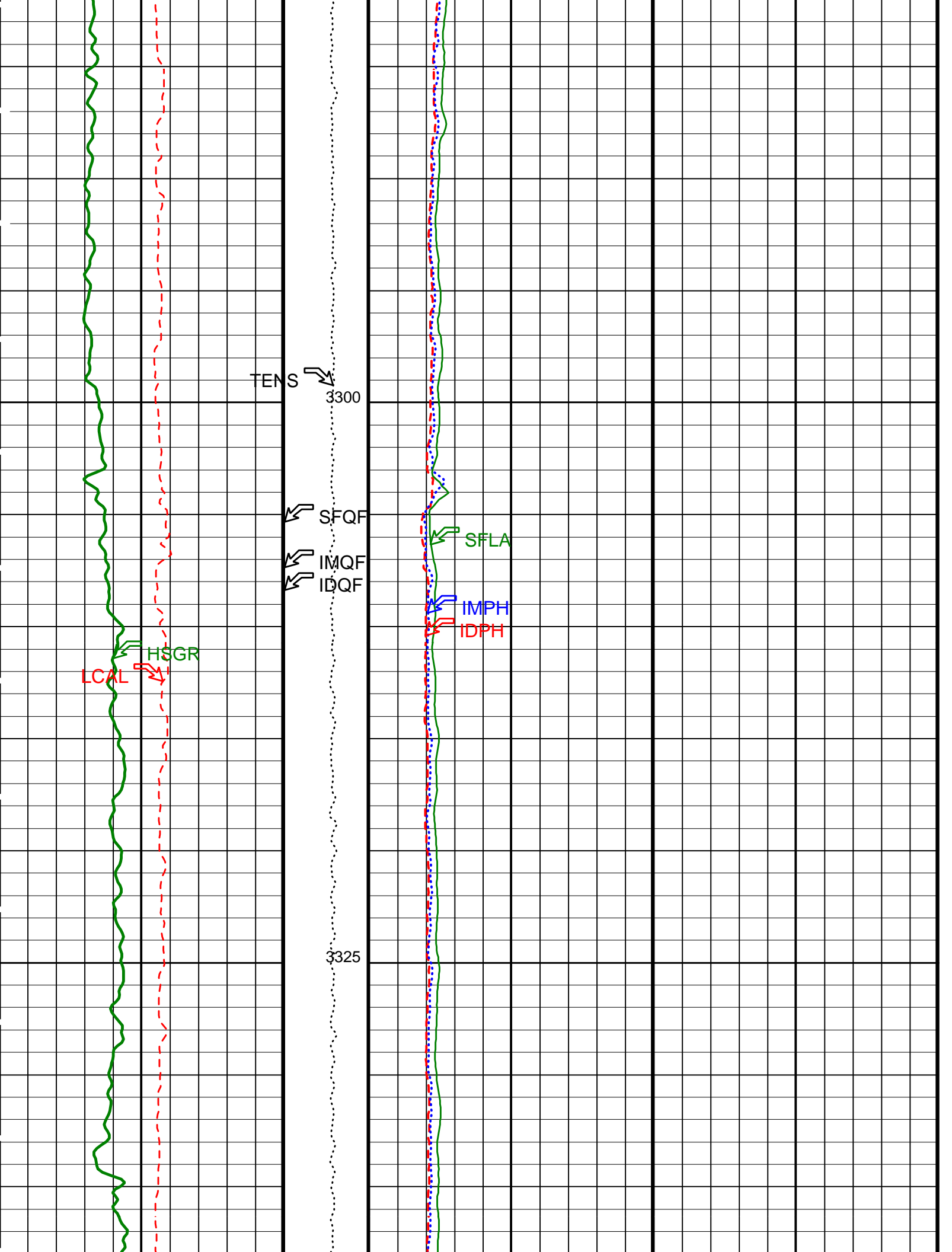


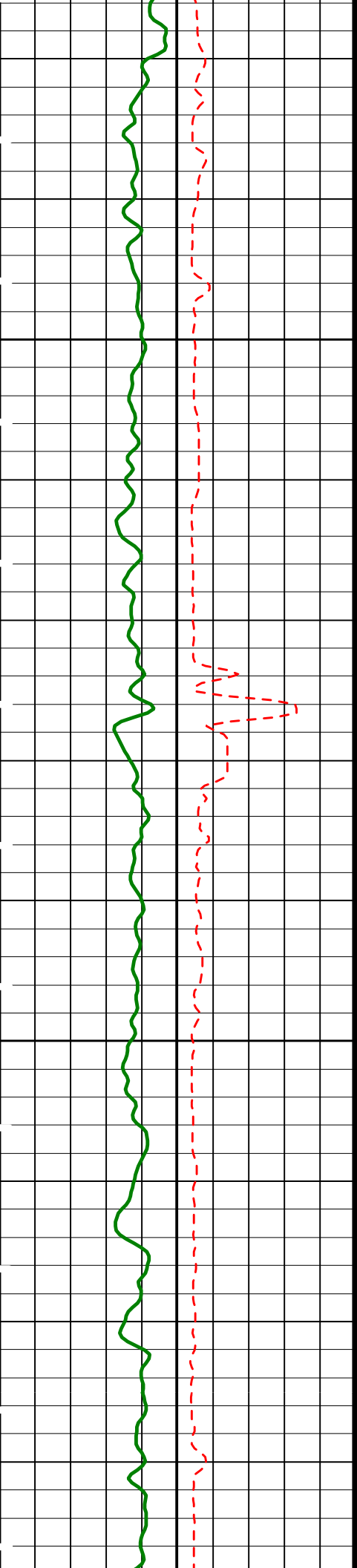
Drill Pipe

3250

-Caliper Closed

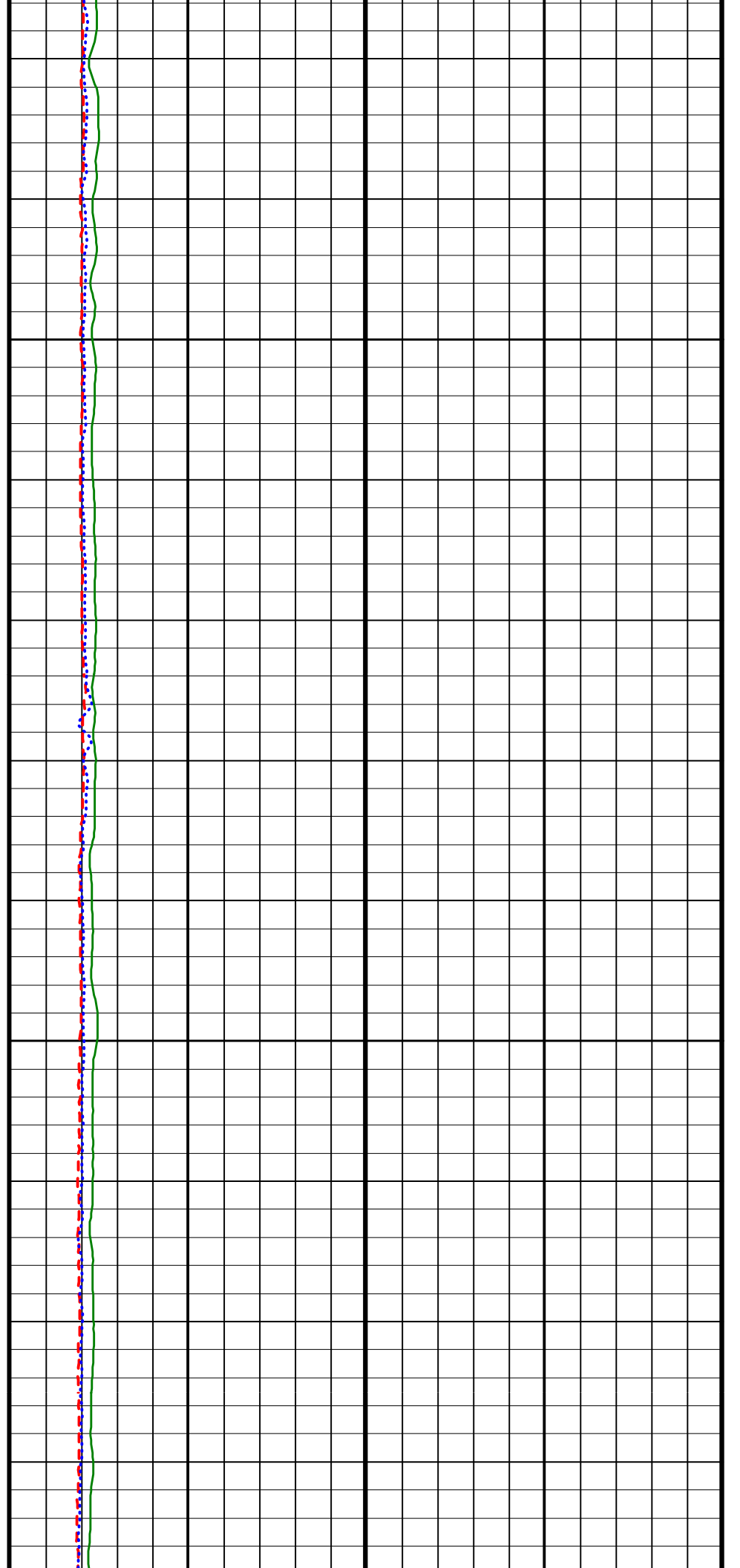
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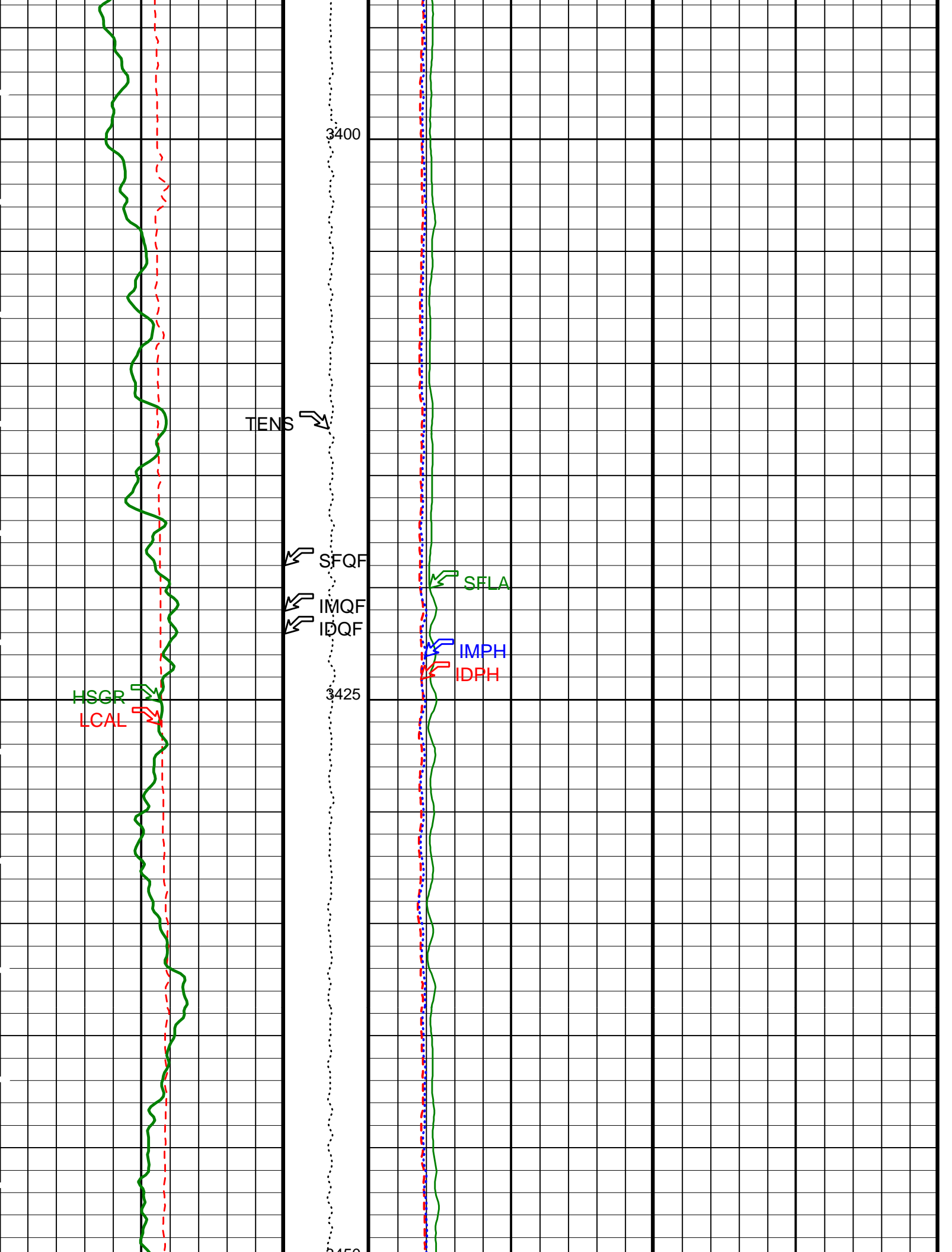




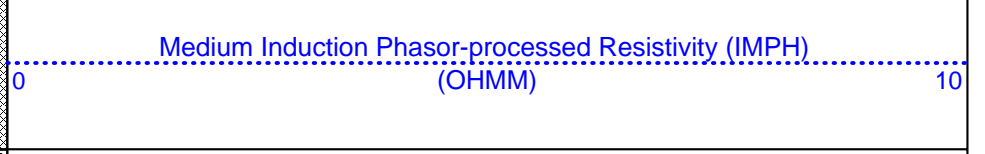
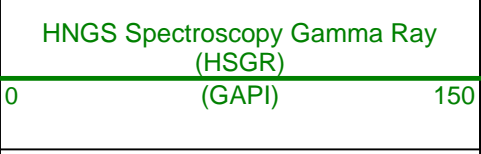
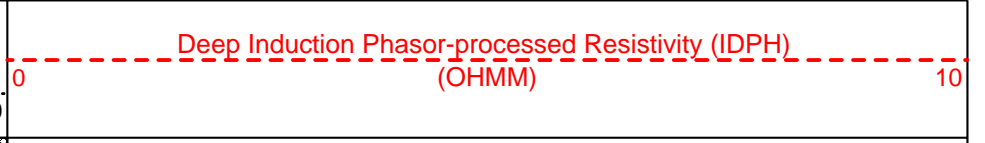
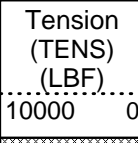
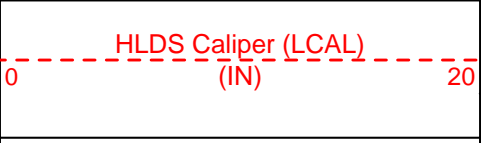
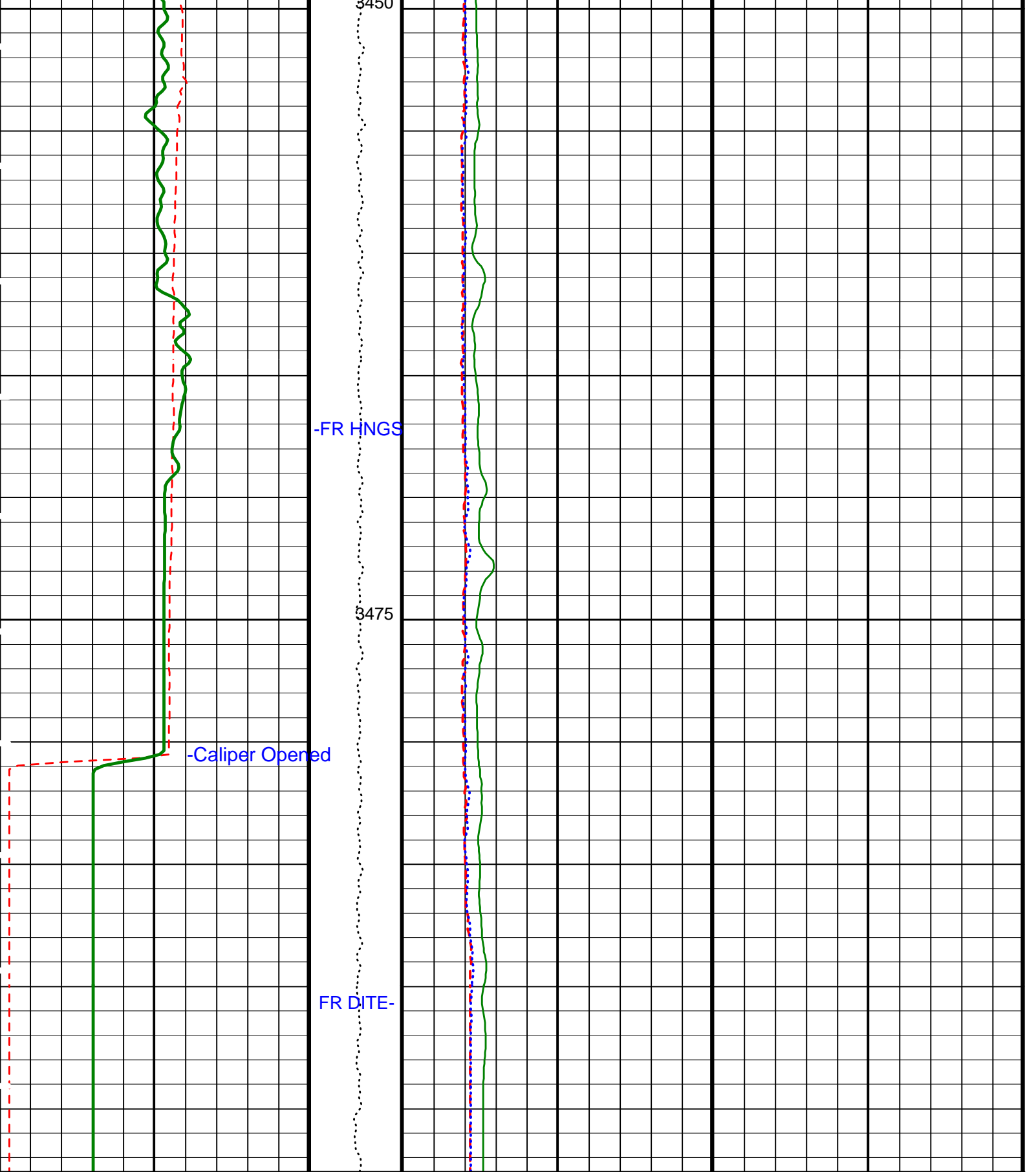
3350

3375









## PIP SUMMARY

Time Mark Every 60 S

## Parameters

DLIS Name	Description	Value
	HLDS Data Control	AcquiredData
	HLDS SS NCB Mode	Density
	HLDS LS Digital Integrator State	Normal
	HLDS LS Tri-Ported Memory State	Enable
	APS Cement Thickness Source	COMPUTED
	HLDS SS Tri-Ported Memory State	Enable
	HLDS LS NCB Mode	Density
	HLDS Spec Message Rate	1
	Apparent Thickness of Cement	0 IN
	APS Software Version	5
	HLDS SS Digital Integrator State	Normal
	HLDS Diag Message Rate	20
	APS Thermal and Array Detectors High Voltage Setting	1987.2 V
	APS Neutron Burst-Off Background Subtraction Switch	ON
	APS Array Detectors Data Source Switch	Both
	APS Far Detector High Voltage Setting	2068.96 V
	APS Holesize Correction Source	GCSE
	APS Holesize Correction Switch	ON
	Name of alternate depth channel	SpeedCorrectedDepth
	APS Environmental Corrections Mud Type	WaterBaseBarite
	APS Near Detector High Voltage Setting	1761.66 V
	APS Old Temperature Sensor Switch	NO
	APS Standoff Correction Switch	ON
	APS Temperature-Pressure-Salinity Correction Switch	OFF
	HNGS Detector 1 Barite Constant	1
	HNGS Detector 2 Barite Constant	1
	HNGS Borehole Potassium Correction Concentration	0
	Borehole Status	OPEN
	Bottom Hole Temperature (used in calculations)	80 DEG F
	HNGS Borehole Fluid Excluder Sleeve Algorithm Factor	1
	HNGS Borehole Fluid Excluder Sleeve Algorithm High Channel	245
	HNGS Borehole Fluid Excluder Sleeve Algorithm Low Channel	17
	Bit Size	9.875 IN
	Borehole Salinity	-50000.00 PPM
	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT
	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT
	HLDS Mode Loop Long Spacing	AUTO
	HLDS Mode Loop Short Spacing	AUTO
	Conveyance Type	Wireline
	Inner Casing Outer Diameter	0 IN
	Outer Casing Outer Diameter	0 IN
	Current Casing Size	0.000 IN
	Inner Casing Weight	0 LB/F
	Outer Casing Weight	0 LB/F
	Casing Weight	0.00 LB/F
	HNGS Detector 1 Calibration Thorium Peak Resolution	7.46561 %
	HNGS Detector 1 Calibration Temperature	46.8749 DEG F
	HNGS Detector 1 Calibration Thorium Peak Location	211.312
	HNGS Detector 2 Calibration Thorium Peak Resolution	6.19449 %
	HNGS Detector 2 Calibration Temperature	44.9572 DEG F
	HNGS Detector 2 Calibration Thorium Peak Location	209.601
	HNGS Barite Constant Correction Flag	NONE
	Depth Remark 1	
	Depth Remark 2	
	Depth Remark 3	
	Depth Remark 4	
	Depth Remark 5	
	Depth Remark 6	
	Drilling Fluid Density	8.51 LB/G
	Deep 10 kHz Gain Factor	0.984873
	Deep 20 kHz Gain Factor	0.995065
	Deep 40 kHz Gain Factor	1.01331
	Density Hole Correction	BS
	Deep 10 kHz Phase Shift	0.21348 DEG

DPH2	Deep 20 kHz Phase Shift	0.0162086	DEG
DPH4	Deep 40 kHz Phase Shift	-1.03392	DEG
DPPM	Density Porosity Processing Mode	HIRS	
DRE1	Deep Real 10 kHz Sonde Error Correction	53.1201	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	16.8047	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	4.76511	MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt	
DSR1	Deep Sigma Reference (10 kHz)	7637	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DSR4	Deep Sigma Reference (40 kHz)	405	MM/M
DSTA	DIT-E Transversal Standoff	0	IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	127.409	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	75.7555	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	53.4402	MM/M
FD	Fluid Density	1.02	G/C3
FSAL	Formation Salinity	32000	PPM
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GRDR	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0	
HALF	HNGS Alpha Filter Length	60	IN
HATIM	HNGS Marquardt Accumulation Time	600	S
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
HSLV	HNGS Borehole Fluid Excluder Sleeve Status	NO	
HSVN	HNGS Spectral Standards Version Number	5.50788e-032	
IDWCD	IDW Calibration Date (dd-MMM-yyyy)	dd-MMM-yyyy	
IDWCSN	IDW Calibrator Serial Number	-999	
IDWLCN	IDW Calibration Cable Type	7-46P	
IDWSN	IDW Serial Number	-999	
IDWTYP	IDW Type	IDW-B	
IDWWC1	IDW Wheel Correction 1	-999	
IDWWC2	IDW Wheel Correction 2	-999	
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	
LATC	HLDS Activation Correction	ON	
LCSN	Logging Cable Serial Number	-999	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
LOGSEQ	Log Sequence	First_Log_In_Well	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MDEN	Matrix Density	2.71	G/C3
MGF1	Medium 10 kHz Gain Factor	0.99208	
MGF2	Medium 20 kHz Gain Factor	0.997244	
MGF4	Medium 40 kHz Gain Factor	1.02195	
MPH1	Medium 10 kHz Phase Shift	-0.285807	DEG
MPH2	Medium 20 kHz Phase Shift	-0.99866	DEG
MPH4	Medium 40 kHz Phase Shift	-2.32124	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	67.7885	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	18.6856	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	3.18485	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MST	Mud Sample Temperature	60.00	DEGF
MXE1	Medium Quad 10 kHz Sonde Error Correction	191.985	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	113.021	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	84.3196	MM/M
NARC	APS Near/Array Calibration Ratio	1.06801	
NFRC	APS Near/Far Calibration Ratio	0.903124	
NOTS	NPLC Old Temperature Sensor	NO	
NRBM	NPLC Reduced Telemetry Bandwidth Mode	OFF	
PBV\$ADP	Use alternate depth channel for playback	NO	
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	16000	
PSDS	HLDS SS Pulse Shape Compensation DAC	16000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	
RDF1_START	HNGS Detector 1 RDF Constant	0	
RDF2_START	HNGS Detector 2 RDF Constant	0	
RIGTYP	Rig Type	Offshore_Floater_with_WMC	
PLDT	Reference Log Date (dd-MMM-yyyy)	dd-MMM-yyyy	

RLD1	Reference Log Date (dd-MMMM-yyyy)	dd-MMMM-yyyy	
RLNM	Reference Log Name		
RLRN	Reference Log Run Number		
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RULB	Rig Up Length at Bottom	0	FT
RULS	Rig Up Length at Surface	0	FT
RW	Resistivity of Connate Water	1.0000	OHMM
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S1NA	HNGS Detector 1 Calibration Sodium Count Rate	28.899	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.992258	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	29.4941	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.981545	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0	
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SCORR	Stretch Correction	-50000	FT
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
STDLC	Subsequent Trip Down Log Correction	-50000	FT
TD	Total Depth	11469.8	FT
TDD	Total Depth - Driller	11469.80	FT
TDL	Total Depth - Logger	11469.00	FT
TNDCD	Tension Device Calibration Date (dd-MMM-yyyy)	dd-MMM-yyyy	
TNDCSN	Tension Device Calibrator Serial Number	-999	
TNDGN	Tension Device GAIN	1	
TNDOFF	Tension Device Offset	0	
TNDSN	Tension Device Serial Number	-999	
TNDTYP	Tension Device	CMTD-B/A	
TPOS	Tool Position	ECCE	
TWS	Temperature of Connate Water Sample	100.00	DEGF
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0	
ZRCS	Tool Zero Reference Check at Surface	-50000	FT

Format: DITE\_LinPhasor    Vertical Scale: 1:200    Graphics File Created: 09-Apr-2000 22:08

**OP System Version: 9C1-303**  
MCM

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

**Output DLIS Files**

DEFAULT	DITE .013	FN:13 PRODUCER	09-Apr-2000 22:07
DITE_CUST	DITE .013	FN:14 PRODUCER	09-Apr-2000 22:07

**Output DLIS Files**

DEFAULT	DITE .014	FN:15 PRODUCER	09-Apr-2000 23:17	3493.0 M	3216.3 M
DITE_CUST	DITE .014	FN:16 PRODUCER	09-Apr-2000 23:17	3493.0 M	3216.3 M

**OP System Version: 9C1-303**  
MCM

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

PIP SUMMARY

Time Mark Every 60 S

SFL\_  
QUAL  
From D3T  
to SEQF

IM\_QUAL  
From  
SEQF to

SFL Averaged (SFLA)

(OHMM)

Repeat Section

SPQF to IMQF

HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)

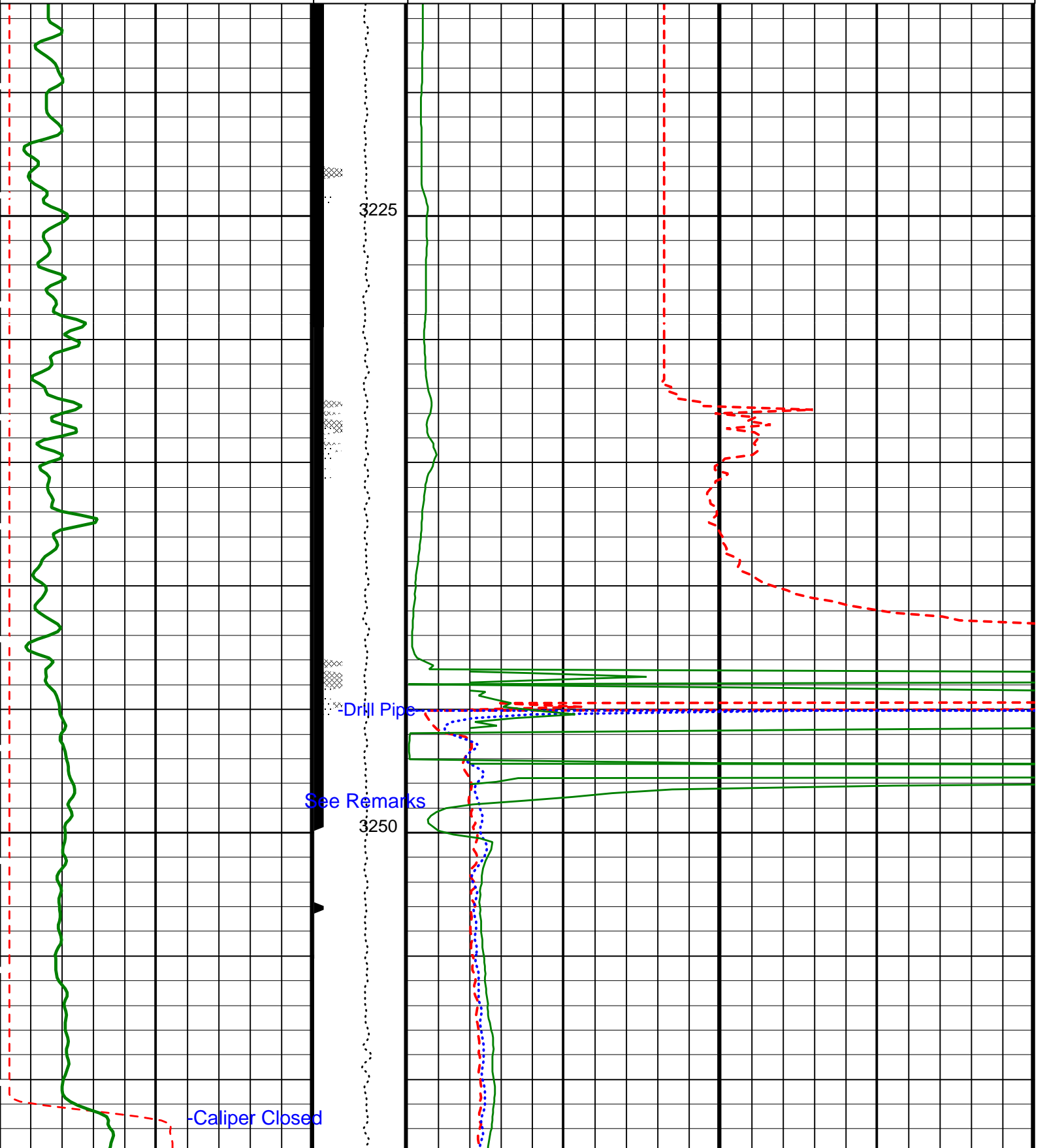
ID\_QUAL From IMQF to IDQF

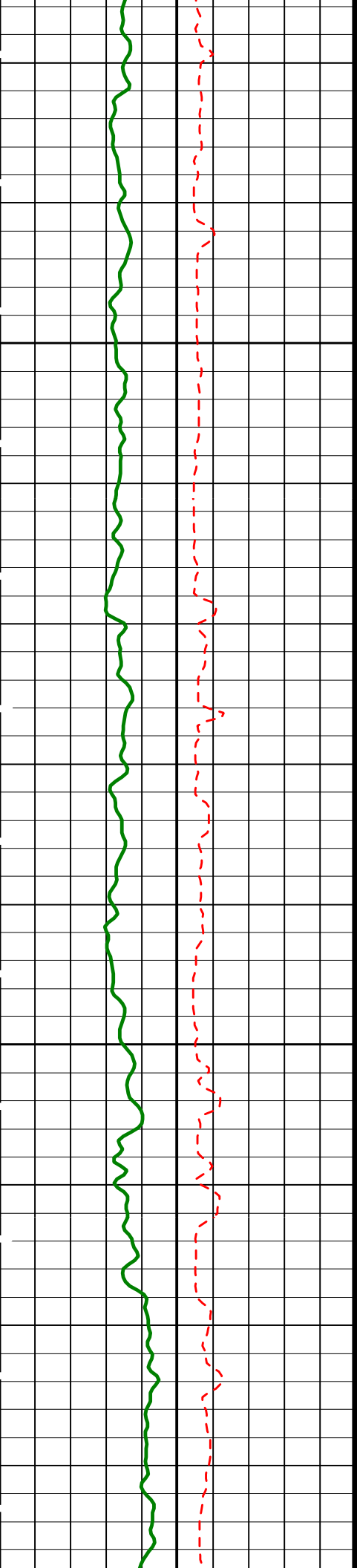
Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)

HLDS Caliper (LCAL) (IN)

Tension (TENS) (LBF)

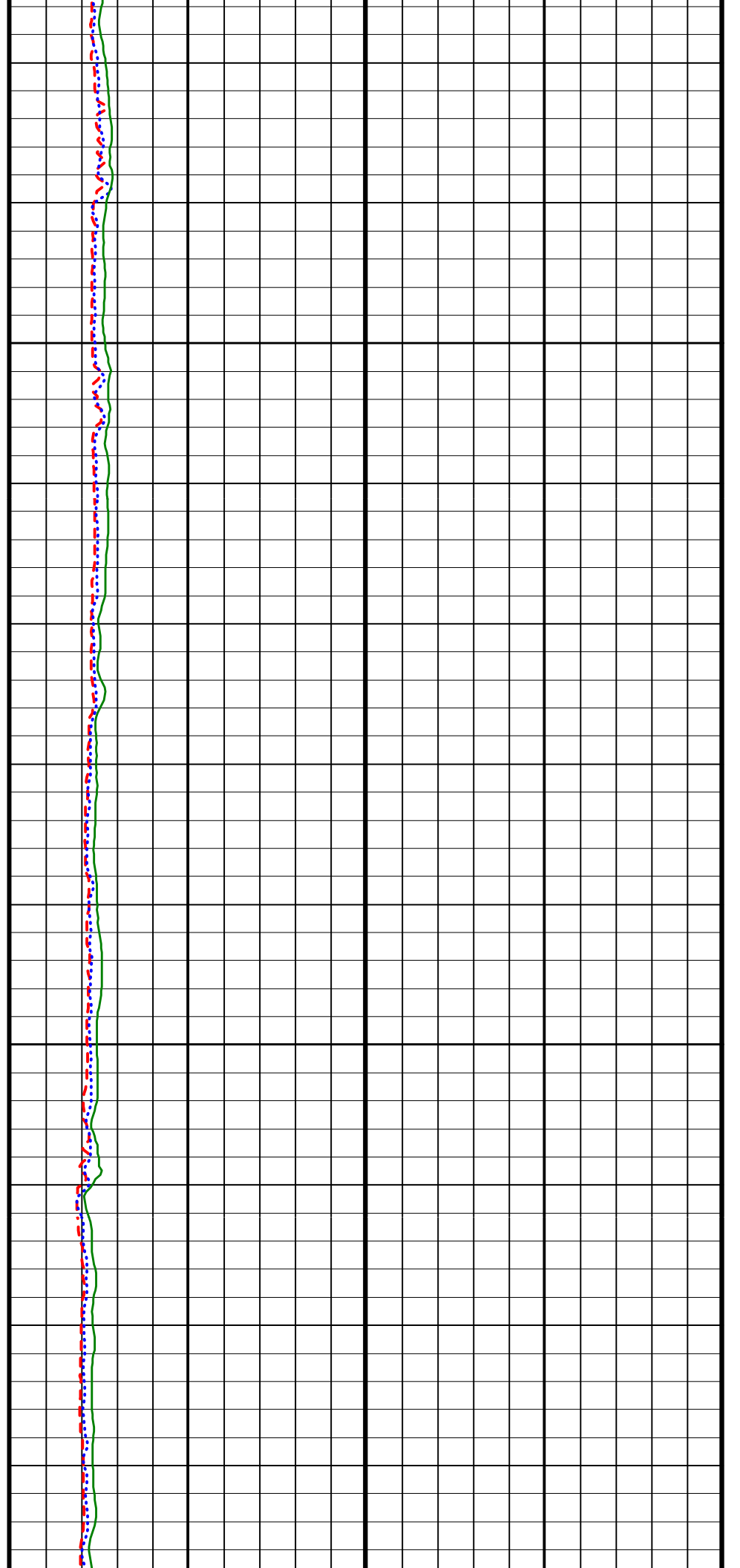
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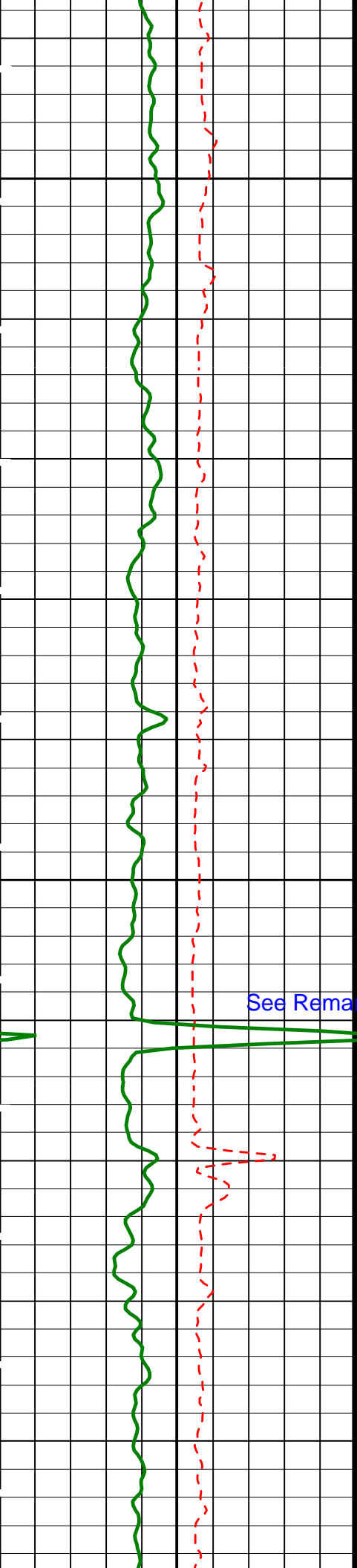




3275

3300

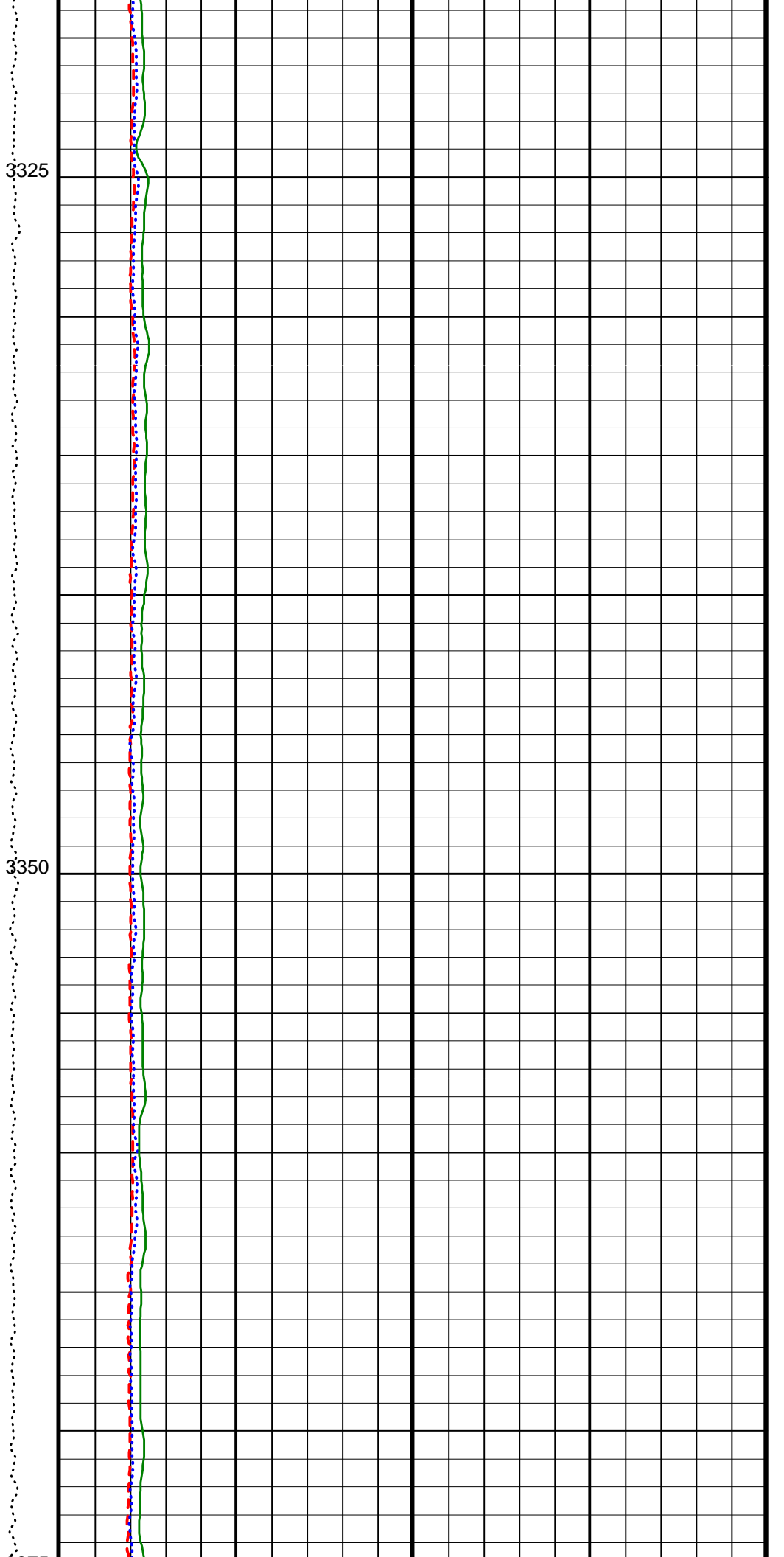


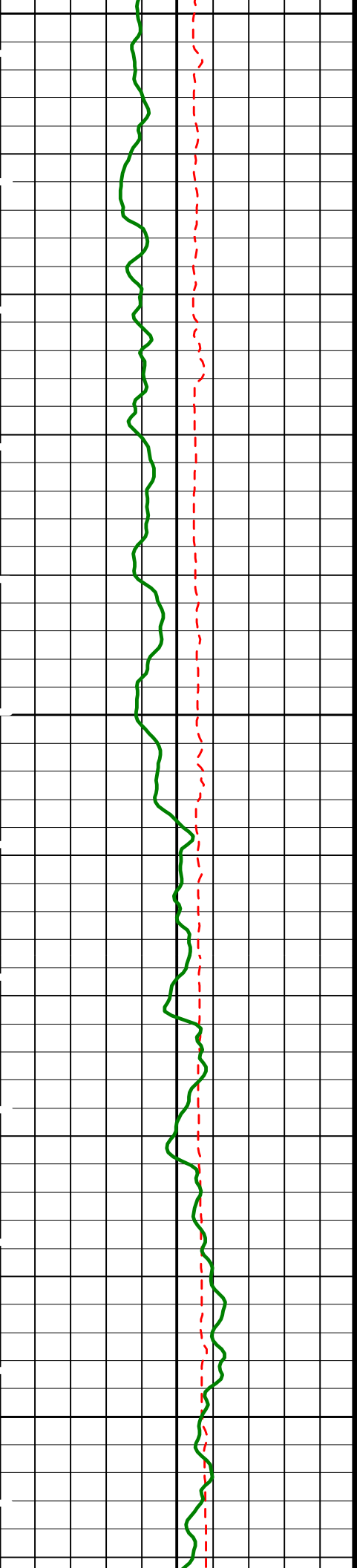


3325

3350

See Remarks

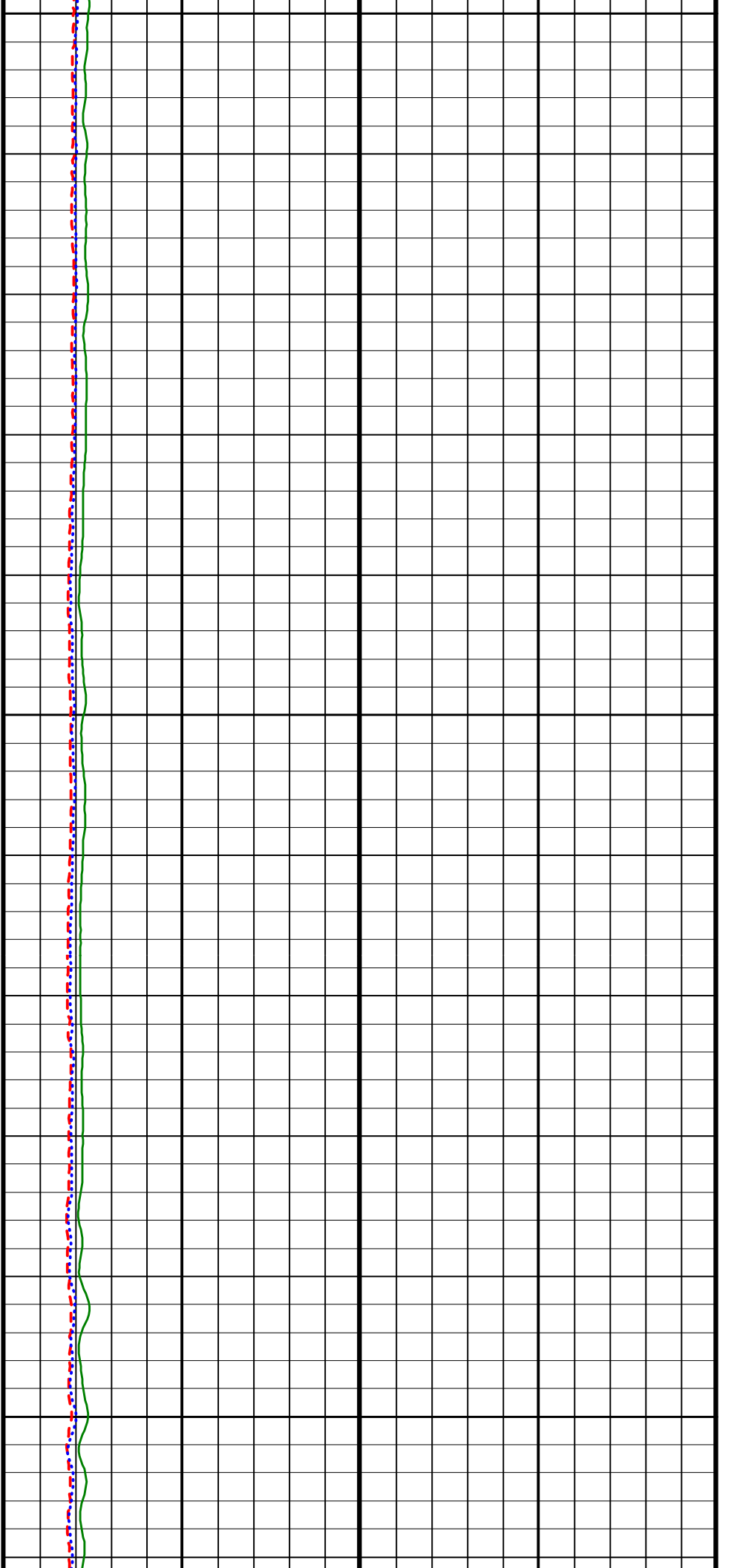




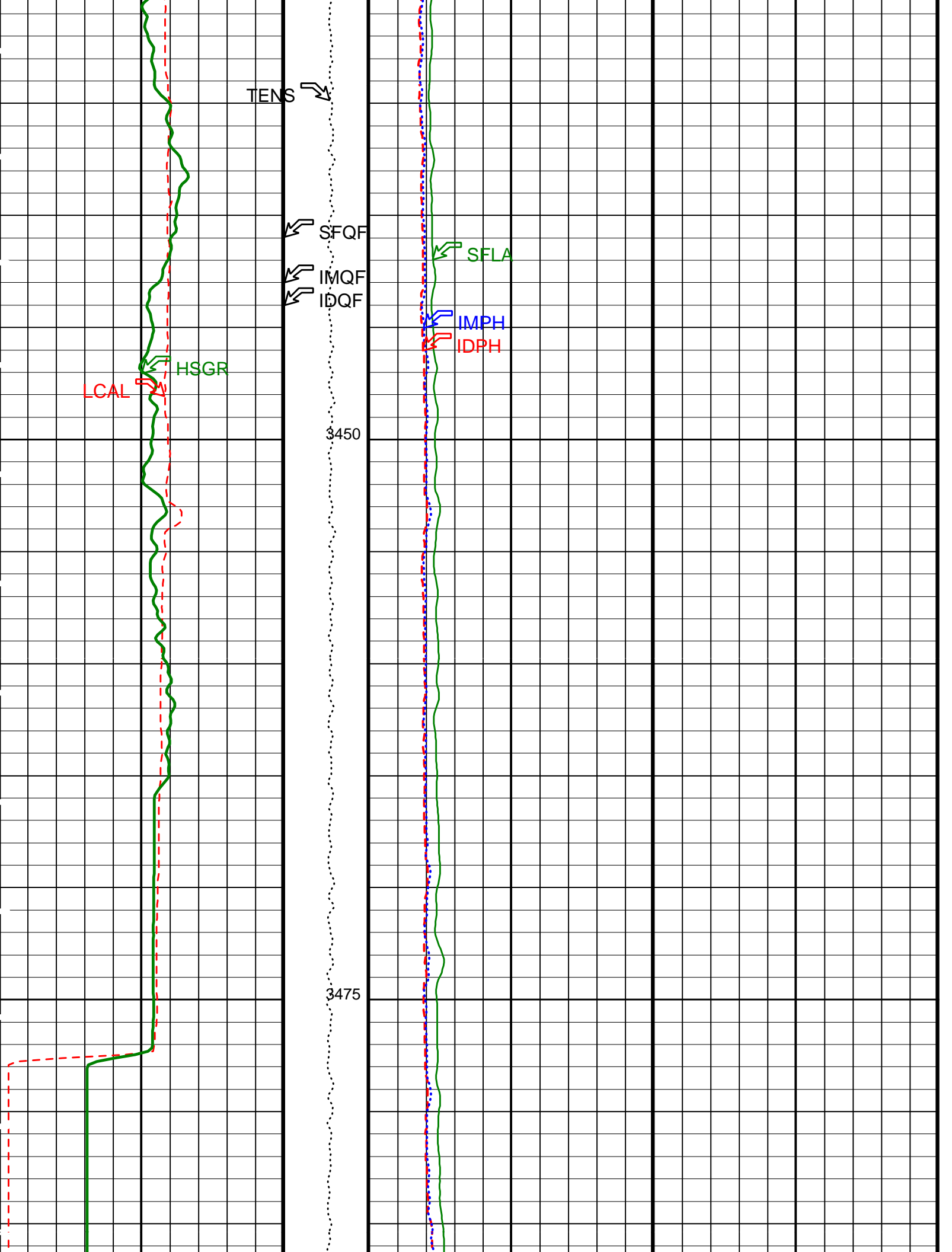
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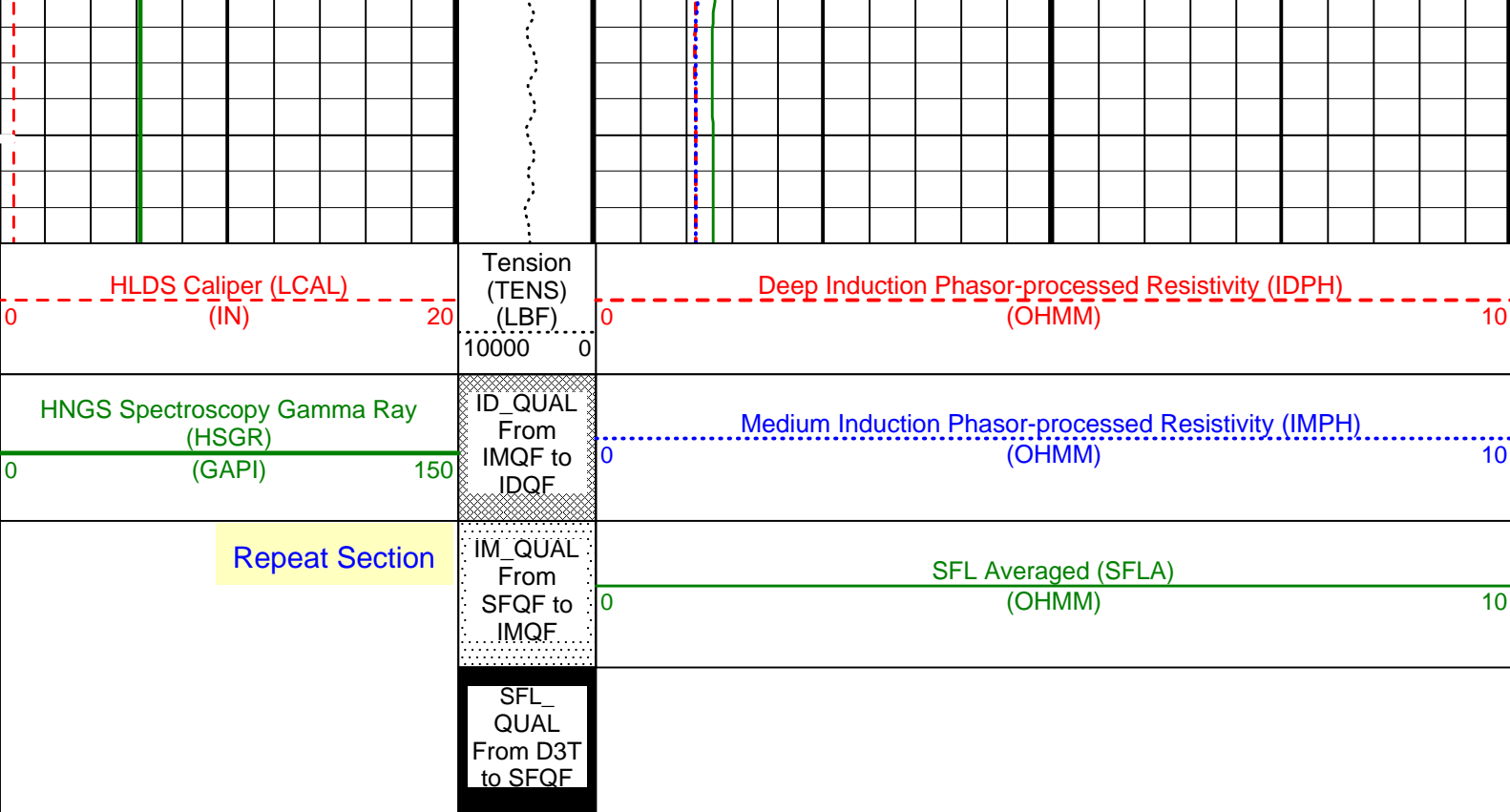
3400

3425









PIP SUMMARY

▶ Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
	HLDS Data Control	AcquiredData
	HLDS SS NCB Mode	Density
	HLDS LS Digital Integrator State	Normal
	HLDS LS Tri-Ported Memory State	Enable
	APS Cement Thickness Source	COMPUTED
	HLDS SS Tri-Ported Memory State	Enable
	HLDS LS NCB Mode	Density
	HLDS Spec Message Rate	1
	Apparent Thickness of Cement	0
	APS Software Version	5
	HLDS SS Digital Integrator State	Normal
	HLDS Diag Message Rate	20
AASD	APS Thermal and Array Detectors High Voltage Setting	1987.2
ABOS	APS Neutron Burst-Off Background Subtraction Switch	ON
ADSO	APS Array Detectors Data Source Switch	Both
AFSD	APS Far Detector High Voltage Setting	2068.96
AHCS	APS Holesize Correction Source	GCSE
AHSS	APS Holesize Correction Switch	ON
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite
ANSD	APS Near Detector High Voltage Setting	1761.66
AOTS	APS Old Temperature Sensor Switch	NO
ASOS	APS Standoff Correction Switch	ON
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF
BAR1	HNGS Detector 1 Barite Constant	1
BAR2	HNGS Detector 2 Barite Constant	1
BHK	HNGS Borehole Potassium Correction Concentration	0
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	80
BKSF	HNGS Borehole Fluid Excluder Sleeve Algorithm Factor	1
BKSH	HNGS Borehole Fluid Excluder Sleeve Algorithm High Channel	245
BKSL	HNGS Borehole Fluid Excluder Sleeve Algorithm Low Channel	17
BS	Bit Size	9.875
BSAL	Borehole Salinity	-50000.00
CLCL	HLDS LS Control Loop Controller Mode	AUTO_DEFAULT
CLCS	HLDS SS Control Loop Controller Mode	AUTO_DEFAULT
CLLS	HLDS Mode Loop Long Spacing	AUTO
CLSS	HLDS Mode Loop Short Spacing	AUTO
CONTYT	Conveyance Type	Wireline
CSD1	Inner Casing Outer Diameter	0
CSD2	Outer Casing Outer Diameter	0
CSIZ	Current Casing Size	0.000

CSW1	Inner Casing Weight	0.000	LB/F
CSW2	Outer Casing Weight	0	LB/F
CWEI	Casing Weight	0.00	LB/F
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	7.46561	%
D1TC	HNGS Detector 1 Calibration Temperature	46.8749	DEGF
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	211.312	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	6.19449	%
D2TC	HNGS Detector 2 Calibration Temperature	44.9572	DEGF
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	209.601	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DEPREM1	Depth Remark 1		
DEPREM2	Depth Remark 2		
DEPREM3	Depth Remark 3		
DEPREM4	Depth Remark 4		
DEPREM5	Depth Remark 5		
DEPREM6	Depth Remark 6		
DFD	Drilling Fluid Density	8.51	LB/G
DGF1	Deep 10 kHz Gain Factor	0.984873	
DGF2	Deep 20 kHz Gain Factor	0.995065	
DGF4	Deep 40 kHz Gain Factor	1.01331	
DHC	Density Hole Correction	BS	
DPH1	Deep 10 kHz Phase Shift	0.21348	DEG
DPH2	Deep 20 kHz Phase Shift	0.0162086	DEG
DPH4	Deep 40 kHz Phase Shift	-1.03392	DEG
DPPM	Density Porosity Processing Mode	HIRS	
DRE1	Deep Real 10 kHz Sonde Error Correction	53.1201	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	16.8047	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	4.76511	MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt	
DSR1	Deep Sigma Reference (10 kHz)	7637	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DSR4	Deep Sigma Reference (40 kHz)	405	MM/M
DSTA	DIT-E Transversal Standoff	0	IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	127.409	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	75.7555	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	53.4402	MM/M
FD	Fluid Density	1.02	G/C3
FSAL	Formation Salinity	32000	PPM
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
GCSE	Generalized Caliper Selection	LCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
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	-0.000965788	
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	4.02002e-036	
IDWCD	IDW Calibration Date (dd-MMM-yyyy)	dd-MMM-yyyy	
IDWCNS	IDW Calibrator Serial Number	-999	
IDWLCN	IDW Calibration Cable Type	7-46P	
IDWSN	IDW Serial Number	-999	
IDWTYP	IDW Type	IDW-B	
IDWWC1	IDW Wheel Correction 1	-999	
IDWWC2	IDW Wheel Correction 2	-999	
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	
LATC	HLDS Activation Correction	ON	
LCSN	Logging Cable Serial Number	-999	
LLDL	HLDS LS Low Level Discriminator DAC	14000	
LLDS	HLDS SS Low Level Discriminator DAC	14000	
LLML	HLDS LS Low Level Discriminator Mode	AUTO	
LLMS	HLDS SS Low Level Discriminator Mode	AUTO	
LOGSEQ	Log Sequence	First_Log_In_Well	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MDEN	Matrix Density	2.71	G/C3
MGF1	Medium 10 kHz Gain Factor	0.99208	
MGF2	Medium 20 kHz Gain Factor	0.997244	
MGF4	Medium 40 kHz Gain Factor	1.02195	
MPH1	Medium 10 kHz Phase Shift	-0.285807	DEG
MPH2	Medium 20 kHz Phase Shift	-0.99866	DEG
MPH4	Medium 40 kHz Phase Shift	-2.32124	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	67.7885	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	18.6856	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	6.18125	MM/M

MRE4	Medium Real 40 kHz Sonde Error Correction	3.18485	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MST	Mud Sample Temperature	60.00	DEGF
MXE1	Medium Quad 10 kHz Sonde Error Correction	191.985	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	113.021	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	84.3196	MM/M
NARC	APS Near/Array Calibration Ratio	1.06801	
NFRC	APS Near/Far Calibration Ratio	0.903124	
NOTS	NPLC Old Temperature Sensor		
NRBM	NPLC Reduced Telemetry Bandwidth Mode	OFF	
PBVSADP	Use alternate depth channel for playback	NO	
PHVL	HLDS Long Spacing High Voltage Setting	1000	V
PHVS	HLDS Short Spacing High Voltage Setting	1000	V
PSDL	HLDS LS Pulse Shape Compensation DAC	16000	
PSDS	HLDS SS Pulse Shape Compensation DAC	16000	
PSML	HLDS LS Pulse Shape Compensation Mode	AUTO	
PSMS	HLDS SS Pulse Shape Compensation Mode	AUTO	
RDF1_START	HNGS Detector 1 RDF Constant	0	
RDF2_START	HNGS Detector 2 RDF Constant	0	
RIGTYP	Rig Type	Offshore_Floater_with_WMC	
RLDT	Reference Log Date (dd-MMM-yyyy)	dd-MMM-yyyy	
RLNM	Reference Log Name		
RLRN	Reference Log Run Number		
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RULB	Rig Up Length at Bottom	0	FT
RULS	Rig Up Length at Surface	0	FT
RW	Resistivity of Connate Water	1.0000	OHMM
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S1NA	HNGS Detector 1 Calibration Sodium Count Rate	28.899	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.992258	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	29.4941	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.981545	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.000681538	
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SCORR	Stretch Correction	-50000	FT
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
STDLC	Subsequent Trip Down Log Correction	-50000	FT
TD	Total Depth	11469.8	FT
TDD	Total Depth - Driller	11469.80	FT
TDL	Total Depth - Logger	11469.00	FT
TNDCD	Tension Device Calibration Date (dd-MMM-yyyy)	dd-MMM-yyyy	
TNDCSN	Tension Device Calibrator Serial Number	-999	
TNDGN	Tension Device GAIN	1	
TNDOFF	Tension Device Offset	0	
TNDSN	Tension Device Serial Number	-999	
TNDTYP	Tension Device	CMTD-B/A	
TPOS	Tool Position	ECCE	
TWS	Temperature of Connate Water Sample	100.00	DEGF
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.0028	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.979432	
ZRCS	Tool Zero Reference Check at Surface	-50000	FT

Format: DITE\_LinPhasor    Vertical Scale: 1:200    Graphics File Created: 09-Apr-2000 23:17

**OP System Version: 9C1-303**  
MCM

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

**Output DLIS Files**

DEFAULT	DITE .014	FN:15 PRODUCER	09-Apr-2000 23:17
DITE_CUST	DITE .014	FN:16 PRODUCER	09-Apr-2000 23:17

Measurement	Nominal	Master	Before	After	Change	Limit	Units
<b>Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement</b>							
Master: 10-MAR-2000 10:06 Before: 17-MAR-2000 18:41 After: 10-APR-2000 3:27							
SS Total Countrate Bkg	1645	1446	1441	1445	3.925	80.00	CPS
SS HV Measured Bkg	1100	1077	1070	1071	1.198	80.00	V
SS Cs Centroid Bkg	661.0	661.3	661.0	661.1	0.1165	1.500	KEV
SS Cs Resolution Bkg	9.000	8.490	8.564	8.541	-0.02354	1.800	%
LS Total Countrate Bkg	1645	1468	1467	1470	3.281	80.00	CPS
LS HV Measured Bkg	1100	1195	1190	1189	-1.689	80.00	V
LS Cs Centroid Bkg	661.0	661.3	661.2	661.3	0.09393	1.500	KEV
LS Cs Resolution Bkg	9.000	8.744	8.772	8.775	0.003606	1.800	%
<b>Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration</b>							
Before: 17-MAR-2000 19:48							
HLDS Caliper Small Ring	8.000	N/A	9.714	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	12.00	N/A	13.89	N/A	N/A	N/A	IN
<b>Accelerator-Porosity Tool Wellsite Calibration - Detector Background</b>							
Master: 2-FEB-2000 21:50 Before: 9-APR-2000 22:25 After: 10-APR-2000 1:44							
Near Det Bkg Cntrate	30.00	32.07	32.52	32.72	0.1994	N/A	CPS
Far Det Bkg Cntrate	30.00	32.19	34.17	33.20	-0.9641	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.58	29.26	28.48	-0.7808	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	30.06	29.16	30.29	1.130	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	33.94	30.88	34.29	3.405	N/A	CPS
<b>Accelerator-Porosity Tool Wellsite Calibration - Detector Plateau Settings</b>							
Master: 2-FEB-2000 20:07							
Near Detector Plateau Setting	1650	1762	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2069	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1987	N/A	N/A	N/A	N/A	V
<b>Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios</b>							
Master: 2-FEB-2000 21:50							
Near/Far Calibration Ratio	0.9250	0.9031	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.068	N/A	N/A	N/A	N/A	
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check</b>							
Master: 2-FEB-2000 11:55 Before: 17-MAR-2000 18:42 After: 10-APR-2000 3:28							
Na 511 Peak Loc	40.00	40.51	40.70	40.60	-0.1080	1.000	
Na 511 Peak Res	15.50	15.86	15.41	16.04	0.6325	2.000	%
High Voltage	1150	1114	1112	1112	0.5459	30.00	V
Na 1785 Peak Loc	142.6	145.5	145.3	146.8	1.473	7.000	
Na 1785 Peak Res	8.500	9.054	8.948	7.937	-1.011	2.000	%
Temperature	15.50	8.268	21.55	17.81	-3.734	N/A	DEGC
Na Count Rate	45.00	28.90	27.69	27.71	0.01389	8.000	CPS
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check</b>							
Master: 2-FEB-2000 11:55 Before: 17-MAR-2000 18:42 After: 10-APR-2000 3:28							
Na 511 Peak Loc	40.00	40.64	40.50	40.53	0.03549	1.000	
Na 511 Peak Res	15.50	14.00	15.27	15.72	0.4516	2.000	%
High Voltage	1150	1201	1200	1198	-2.570	30.00	V
Na 1785 Peak Loc	142.6	144.2	145.0	144.6	-0.3656	7.000	
Na 1785 Peak Res	8.500	8.101	8.587	8.197	-0.3896	2.000	%
Temperature	15.50	7.197	20.53	17.81	-2.712	N/A	DEGC
Na Count Rate	45.00	29.49	28.21	28.18	-0.02695	8.000	CPS
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2</b>							
Master: 2-FEB-2000 11:55 Before: 17-MAR-2000 18:42 After: 10-APR-2000 3:28							
Coincidence Count Rate Ratio	1.000	0.9809	0.9840	0.9829	-0.001040	0.05000	
<b>Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration</b>							
Master: 2-FEB-2000 11:43							
Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	211.3	--	--	--	--	
Th Peak Res	7.000	7.466	--	--	--	--	%
Background Count Rate	142.5	18.16	--	--	--	--	CPS
Gain Ratio	1.000	0.9923	--	--	--	--	
<b>Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration</b>							
Master: 2-FEB-2000 11:43							
Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.6	--	--	--	--	
Th Peak Res	7.000	6.194	--	--	--	--	%
Background Count Rate	142.5	20.51	--	--	--	--	CPS
Gain Ratio	1.000	0.9815	--	--	--	--	

**Dual Induction - E / Equipment Identification**

**Primary Equipment:**

Dual Induction Sonde

DIS - HB

200

Dual Induction Cartridge

DIC - EB

171

**Auxiliary Equipment:**

Mass Isolated Housing

MIH - ZA

174

Dual Induction - E Wellsite Calibration												
Induction Electronics (10 kHz)												
Phase	ID Elect Real Offset 10 kHz	MM/M	Value	Phase	ID Elect Real Gain 10 kHz	Value	Phase	ID Elect Phase 10 kHz	DEG	Value		
Before			53.37	Before		1.041	Before			7.538		
	-250.0 (Minimum)	49.96 (Nominal)	350.0 (Maximum)		0.8251 (Minimum)	0.9751 (Nominal)	1.165 (Maximum)		-2.687 (Minimum)	7.313 (Nominal)	17.31 (Maximum)	
Phase	ID Elect Quad Offset 10 kHz	MM/M	Value	Phase	ID Elect Quad Gain 10 kHz	Value	Phase	IM Elect Phase 10 kHz	DEG	Value		
Before			22.71	Before		1.030	Before			6.431		
	-278.4 (Minimum)	21.63 (Nominal)	321.6 (Maximum)		0.8159 (Minimum)	0.9659 (Nominal)	1.152 (Maximum)		-3.526 (Minimum)	6.474 (Nominal)	16.47 (Maximum)	
Phase	IM Elect Real Offset 10 kHz	MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value						
Before			59.40	Before		0.9571						
	-491.7 (Minimum)	58.28 (Nominal)	608.3 (Maximum)		0.8099 (Minimum)	0.9599 (Nominal)	1.143 (Maximum)					
Phase	IM Elect Quad Offset 10 kHz	MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value						
Before			40.98	Before		0.9566						
	-510.3 (Minimum)	39.69 (Nominal)	589.7 (Maximum)		0.8092 (Minimum)	0.9592 (Nominal)	1.142 (Maximum)					

Before: 4-APR-2000 14:15

Dual Induction - E Wellsite Calibration												
Induction Electronics (20 kHz)												
Phase	ID Elect Real Offset 20 kHz	MM/M	Value	Phase	ID Elect Real Gain 20 kHz	Value	Phase	ID Elect Phase 20 kHz	DEG	Value		
Before			19.91	Before		1.006	Before			5.392		
	-105.1 (Minimum)	19.85 (Nominal)	144.9 (Maximum)		0.8430 (Minimum)	0.9930 (Nominal)	1.190 (Maximum)		-8.631 (Minimum)	6.369 (Nominal)	21.37 (Maximum)	
Phase	ID Elect Quad Offset 20 kHz	MM/M	Value	Phase	ID Elect Quad Gain 20 kHz	Value	Phase	IM Elect Phase 20 kHz	DEG	Value		
Before			8.413	Before		0.9946	Before			6.330		
	-116.4 (Minimum)	8.628 (Nominal)	133.6 (Maximum)		0.8334 (Minimum)	0.9834 (Nominal)	1.177 (Maximum)		-8.271 (Minimum)	6.729 (Nominal)	21.73 (Maximum)	
Phase	IM Elect Real Offset 20 kHz	MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value						
Before			24.07	Before		0.9906						
	-201.4 (Minimum)	23.64 (Nominal)	248.6 (Maximum)		0.8399 (Minimum)	0.9899 (Nominal)	1.186 (Maximum)					
Phase	IM Elect Quad Offset 20 kHz	MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value						
Before			16.76	Before		0.9899						
	-208.8 (Minimum)	16.20 (Nominal)	241.2 (Maximum)		0.8391 (Minimum)	0.9891 (Nominal)	1.185 (Maximum)					

Before: 4-APR-2000 14:10

Dual Induction - E Wellsite Calibration												
Induction Electronics (40 kHz)												
Phase	ID Elect Real Offset 40 kHz	MM/M	Value	Phase	ID Elect Real Gain 40 kHz	Value	Phase	ID Elect Phase 40 kHz	DEG	Value		
Before			13.15	Before		0.9828	Before			19.11		
	-71.83 (Minimum)	13.17 (Nominal)	98.17 (Maximum)		0.8322 (Minimum)	0.9822 (Nominal)	1.175 (Maximum)		0.6405 (Minimum)	20.64 (Nominal)	40.64 (Maximum)	
Phase	ID Elect Quad Offset 40 kHz	MM/M	Value	Phase	ID Elect Quad Gain 40 kHz	Value	Phase	IM Elect Phase 40 kHz	DEG	Value		
Before			5.641	Before		0.9714	Before			20.49		
	-79.23 (Minimum)	5.768 (Nominal)	90.77 (Maximum)		0.8221 (Minimum)	0.9721 (Nominal)	1.161 (Maximum)		1.859 (Minimum)	21.86 (Nominal)	41.86 (Maximum)	
Phase	IM Elect Real Offset 40 kHz	MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value						
Before			15.53	Before		0.9930						
	-114.7 (Minimum)	15.26 (Nominal)	145.3 (Maximum)		0.8417 (Minimum)	0.9917 (Nominal)	1.188 (Maximum)					
Phase	IM Elect Quad Offset 40 kHz	MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value						
Before			10.83	Before		0.9920						

-119.5 (Minimum)	10.52 (Nominal)	140.5 (Maximum)	0.8405 (Minimum)	0.9905 (Nominal)	1.187 (Maximum)
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Before: 4-APR-2000 14:16

Dual Induction - E Wellsite Calibration						
SFL Electronics						
Phase	SFL Voltage Offset MV	Value	Phase	SFL Voltage Gain	Value	
Before		1.133	Before		0.9982	
	-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		0.05089	Before		1.010	
	-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)	0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: 4-APR-2000 14:11

Dual Induction - E Wellsite Calibration									
Electronics Calibration Changes Files/Depth Intervals:									
Phase	ID (R > 27 OHM-M) MM/M	Value	Phase	ID (R < 27 OHM-M) %	Value	Phase	SFL (R < 1 OHM-M) OHMM	Value	
After		0	After		0	After		0	
	0 (Minimum)	0 (Nominal)	0.7500 (Maximum)	0 (Minimum)	0 (Nominal)	2.000 (Maximum)	0 (Minimum)	0 (Nominal)	0.02000 (Maximum)
Phase	IM (R > 27 OHM-M) MM/M	Value	Phase	IM (R < 27 OHM-M) %	Value				
After		0	After		0				
	0 (Minimum)	0 (Nominal)	0.7500 (Maximum)	0 (Minimum)	0 (Nominal)	2.000 (Maximum)			
Phase	SFL (R > 27 OHM-M) MM/M	Value	Phase	SFL (R < 27 OHM-M) %	Value				
After		0	After		0				
	0 (Minimum)	0 (Nominal)	0.7500 (Maximum)	0 (Minimum)	0 (Nominal)	2.000 (Maximum)			

After: 15-APR-2000 15:44

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		0.9849	Master		0.9951	Master		1.013	
	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		0.9921	Master		0.9972	Master		1.022	
	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		0.2135	Master		0.01621	Master		-1.034	
	-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		-0.2858	Master		-0.9987	Master		-2.321	
	-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: Calibration out of date 27-JUL-1996 20:15

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		53.12	Master		16.80	Master		4.765	
	-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		127.4	Master		75.76	Master		53.44	
	-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		67.79	Master		18.69	Master		3.185	
	-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		192.0	Master		113.0	Master		84.32
	-1300 (Minimum)      0 (Nominal)      1300 (Maximum)			-650.0 (Minimum)      0 (Nominal)      650.0 (Maximum)			-350.0 (Minimum)      0 (Nominal)      350.0 (Maximum)	

Master: Calibration out of date 27-JUL-1996 20:40

### Hostile Litho-Density Sonde / Equipment Identification

**Primary Equipment:**

Hostile Litho Density Sonde	HLDS - D	35
Hostile Litho Density High Voltage	HLDV - D	35
Gamma Source Radioactive	GSR - Z	1846

**Auxiliary Equipment:**

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

### Nuclear Porosity Lithology Cartridge - B / Equipment Identification

**Primary Equipment:**

NPLC Cartridge	NPLC - B	82
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**Auxiliary Equipment:**

NPLC Housing	NPH - B	82
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### 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
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**Auxiliary Equipment:**

HNGS Sonde Housing	HNSH - BA	27
Gamma Source Radioactive	GSR - U	135

### Hostile Natural Gamma Ray Sonde Wellsite Calibration

#### Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.51	Master		15.86	Master		1114
Before		40.70	Before		15.41	Before		1112
After		40.60	After		16.04	After		1112
	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		145.5	Master		9.054	Master		8.268
Before		145.3	Before		8.948	Before		21.55
After		146.8	After		7.937	After		17.81
	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		146.8						



Master		28.90
Before		27.69
After		27.71
	15.00 (Minimum)      45.00 (Nominal)      100.0 (Maximum)	

Master: 2-FEB-2000 11:55      Before: 17-MAR-2000 18:42      After: 10-APR-2000 3:28

**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		40.64	Master		14.00	Master		1201
Before		40.50	Before		15.27	Before		1200
After		40.53	After		15.72	After		1198
	37.50 (Minimum)      40.00 (Nominal)      42.50 (Maximum)			12.00 (Minimum)      15.50 (Nominal)      19.00 (Maximum)			900.0 (Minimum)      1150 (Nominal)      1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		144.2	Master		8.101	Master		7.197
Before		145.0	Before		8.587	Before		20.53
After		144.6	After		8.197	After		17.81
	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		29.49
Before		28.21
After		28.18
	15.00 (Minimum)      45.00 (Nominal)      100.0 (Maximum)	

Master: 2-FEB-2000 11:55      Before: 17-MAR-2000 18:42      After: 10-APR-2000 3:28

**Hostile Natural Gamma Ray Sonde Wellsite Calibration**

Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9809
Before		0.9840
After		0.9829
	0.9500 (Minimum)      1.000 (Nominal)      1.050 (Maximum)	

Master: 2-FEB-2000 11:55

Before: 17-MAR-2000 18:42

After: 10-APR-2000 3:28

**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		211.3	Master		7.466
	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	<b>See Remarks</b>		
Master		18.16	Master		0.9923			
	20.00 (Minimum)      142.5 (Nominal)      265.0 (Maximum)			0.9400 (Minimum)      1.000 (Nominal)      1.060 (Maximum)				

Master: 2-FEB-2000 11:43

**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		209.6	Master		6.194
	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	<b>See Remarks</b>		
Master		20.51	Master		0.9915			
	20.00 (Minimum)      142.5 (Nominal)      265.0 (Maximum)			0.9400 (Minimum)      1.000 (Nominal)      1.060 (Maximum)				

master	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	20.51	master	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)	0.9815
Master: 2-FEB-2000 11:43									

<b>COMPANY:</b> Lamont Doherty  <b>WELL:</b> ODP Leg 189, Site 1170 (WSTR-2A) <b>FIELD:</b> Tasmanian Seaway, West Tasmania Site <b>COUNTY:</b> Offshore <b>STATE:</b> Indian Ocean	<b>BOTTOM LOG INTERVAL</b>	3490 M
	<b>SCHLUMBERGER DEPTH</b>	3497.5 M
	<b>DEPTH DRILLER</b>	3496 M
	<b>KELLY BUSHING</b>	11.2 M
	<b>DRILL FLOOR</b>	10.9 M
	<b>GROUND LEVEL</b>	-2716 M

Phasor Induction