Schlumberger

Company: Lamont Doherty

Well: ODP Leg 201, Site 1225A EQP-2A
Field: Equatorial Pacific
Rig: JOIDES Resolution Ocean: Pacific

Rig: JOIDES Resolution
Field: Equatorial Pacific
Location: 2 Deg 46.22' N Latitude
Well: ODP Leg 201, Site 1225A EQP-2
Company: Lamont Doherty

APS/HLDT Porosity
Natural Gamma Ray

LOCATION

2 Deg 46.22' N Latitude
110 Deg 34.29' W Longitude

Elev.: K.B. 11.3 m; G.L. -3772 m; D.F. 11 m

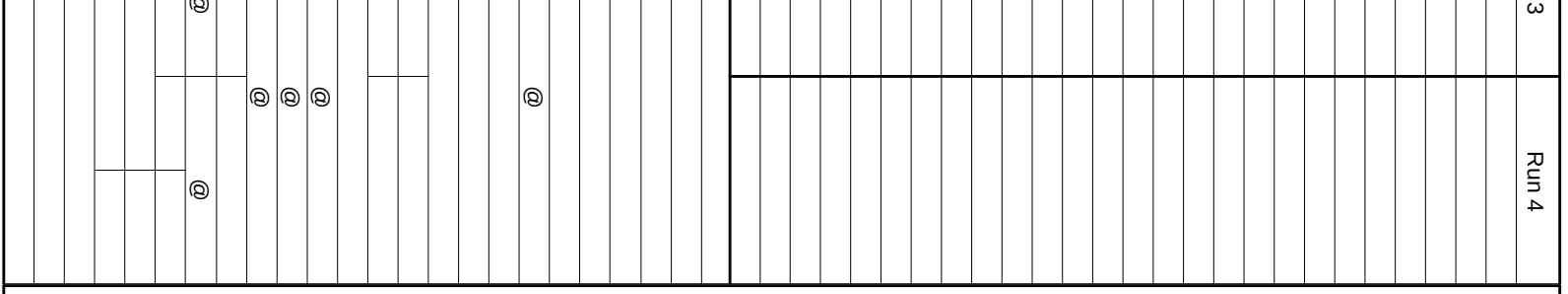
Permanent Datum: MSL Elev.: 0 m
Log Measured From: RKB 11.3 m above Perm. Datum
Drilling Measured From: RKB

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

Logging Date	11-Feb-2002		
Run Number	1		
Depth Driller	4091 m		
Schlumberger Depth	4092 m		
Bottom Log Interval	4079 m		
Top Log Interval	3772 m		
Casing Driller Size @ Depth	0.000 in @ 3852 m	@	
Casing Schlumberger	3852 m		
Bit Size	11.438 in		
Type Fluid In Hole	Sepiolite/Saltwater		
MUD Density / Viscosity	1.07 g/cm3		
MUD Fluid Loss / PH			
MUD Source Of Sample	mudpit		
RM @ Measured Temperature	0.235 ohm.m @ 33 degC	@	
RMF @ Measured Temperature	@	@	
RMC @ Measured Temperature	@	@	
Source RMF / RMC	none / none		
RM @ MRT / RMF @ MRT	0.434 @ 8 / @ 8	@	@
Maximum Recorded Temperatures	8 degC		
Circulation Stopped / Time	10-Feb-2002 / 20:00		
Logger On Bottom / Time	11-Feb-2002 / 5:15		
Unit Number / Location	99 / Houston ODP		
Recorded By	K. Swain		
Witnessed By	Gilles Guerin		

	Run 1	Run 2	Run

Logging Date		
Run Number		
Depth Driller		
Schlumberger Depth		
Bottom Log Interval		
Top Log Interval		
Casing Driller Size @ Depth	@	
Casing Schlumberger		
Bit Size		
Type Fluid In Hole		
MUD Density / Viscosity		
MUD Fluid Loss / PH		
MUD Source Of Sample		
RM @ Measured Temperature	@	
RMF @ Measured Temperature	@	
RMC @ Measured Temperature	@	
Source RMF / RMC		
RM @ MRT / RMF @ MRT	@ / @	@
Maximum Recorded Temperatures		
Circulation Stopped / Time		
Logger On Bottom / Time		
Unit Number / Location		
Recorded By		
Witnessed By		



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OTHER SERVICES1	OTHER SERVICES2
OS1: Hngs	OS1:
OS2: DITE	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Hole cored with APC, XCB, BCS.	
Log presented in meters below rig floor.	
Lamont Temperature tool (TAP) was run on Triple Combo.	
Wireline Heave Compensator (WHC) was used on all descents.	
Sepliolite mud was used to displace the hole during the wiper trip after drillin	
Drillers TD 4091 mbrf, Driller pipe depth: 3852 mbrf, Sea Floor: 3772 mbrf.	
Schlumberger TD 4092 mbrf.	
Drill Pipe Schlumberger 3852 mbrf.	
Sea Floor Schlumberger 3772 mbrf.	
Software bug shows APS calibration not done for part of calibration.	
Low background countrate on HNGS master calibration significes a weak internal	
source used for check of detector and not used in calibration.	

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 24
SFT-178 4722
GSR-U 135
GSR-U/Y

WITM (DTS)-A

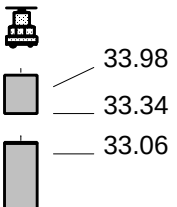
DOWNHOLE EQUIPMENT

LEH-QT
LEH-QT 1726

DTC-H
ECH-KC 9343

SGT-N
SGH-K 2448
SGC-TR 9582

CTEM
TelStatus
ToolStatu
Gamma Ray



35.14
34.25
33.34

SGC-TB 9582

HNGS-BA 31.66
HNGS-BA 77
HNSH-BA 79
Upper_1 30.96
Lower_2 30.75

ILE-D 29.16
ILE-D 25
Status
Minitron
Near TD

APS-BA 26.73
APS-BA 22
APH-AC 22
MNTR-F 4185
Near Arr
Near 24.28
Far Arr 24.20
Far 24.08
Far TD 23.98

NPLC-B 22.78
NPLC-B 79
NPH-B 82
Status 21.56

DTA-A 20.34
ECH-KE 8231

HLDT-A 19.12
GSR-Z 1846
HLDC-AA 11
HLDV-A 10
HLDS-B 10
HLDP-B 10
HEH-G 11
HEH-H 12
LS 13.17
SS 13.05
Caliper 13.00

DIT-E 12.24
DIC-EB 438
MIH-ZA 417
DIS-HB 442
SP 5.86
Deep Ind 5.61
Aux Meas SFL 4.69
Med Ind 4.54
Status 2.71

AH-TAP 2.71
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

DEFAULT	PI_LDL_APS_NGS_016LUP	FN:15	PRODUCER	11-Feb-2002 05:19	4091.9 M	3751.3 M
REDUCE	PI_LDL_APS_NGS_016LUP	FN:16	PRODUCER	11-Feb-2002 05:19	4091.9 M	3749.3 M

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	10C0-306
APS-BA	10C0-306	HNGS-BA	10C0-306
SGT-N	10C0-306	DTC-H	10C0-306

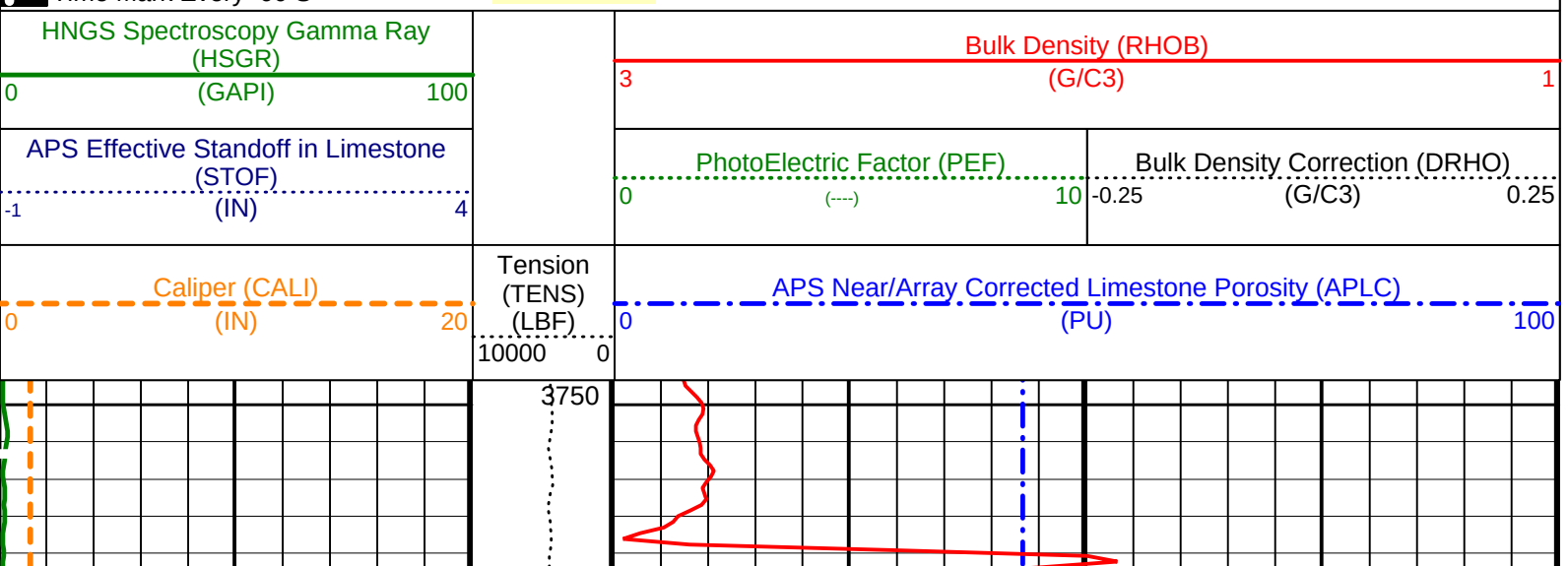
Changed Parameter Summary

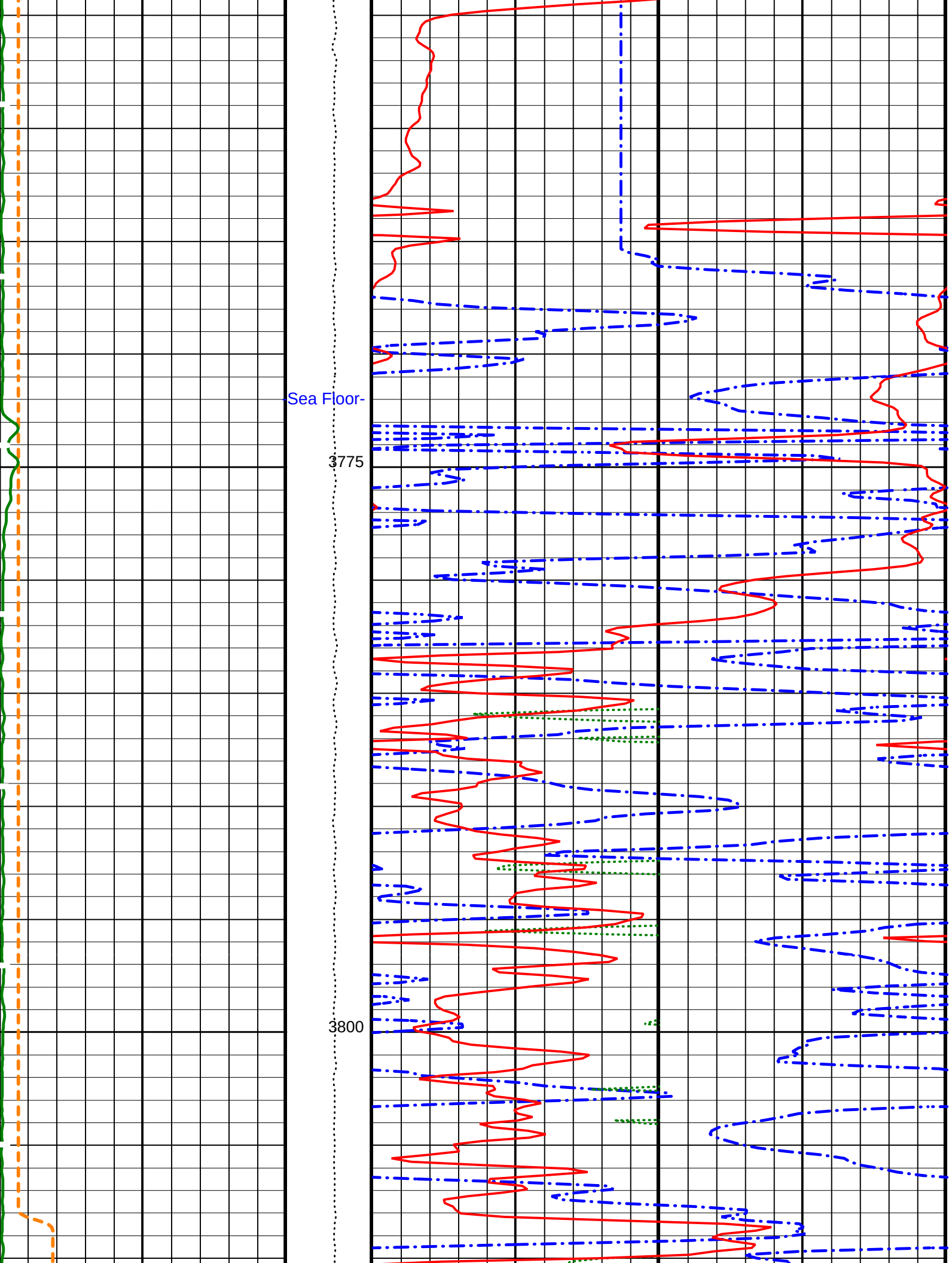
DLIS Name	New Value	Previous Value	Depth & Time
GCSE	CALI	BS	4089.1 05:22:33

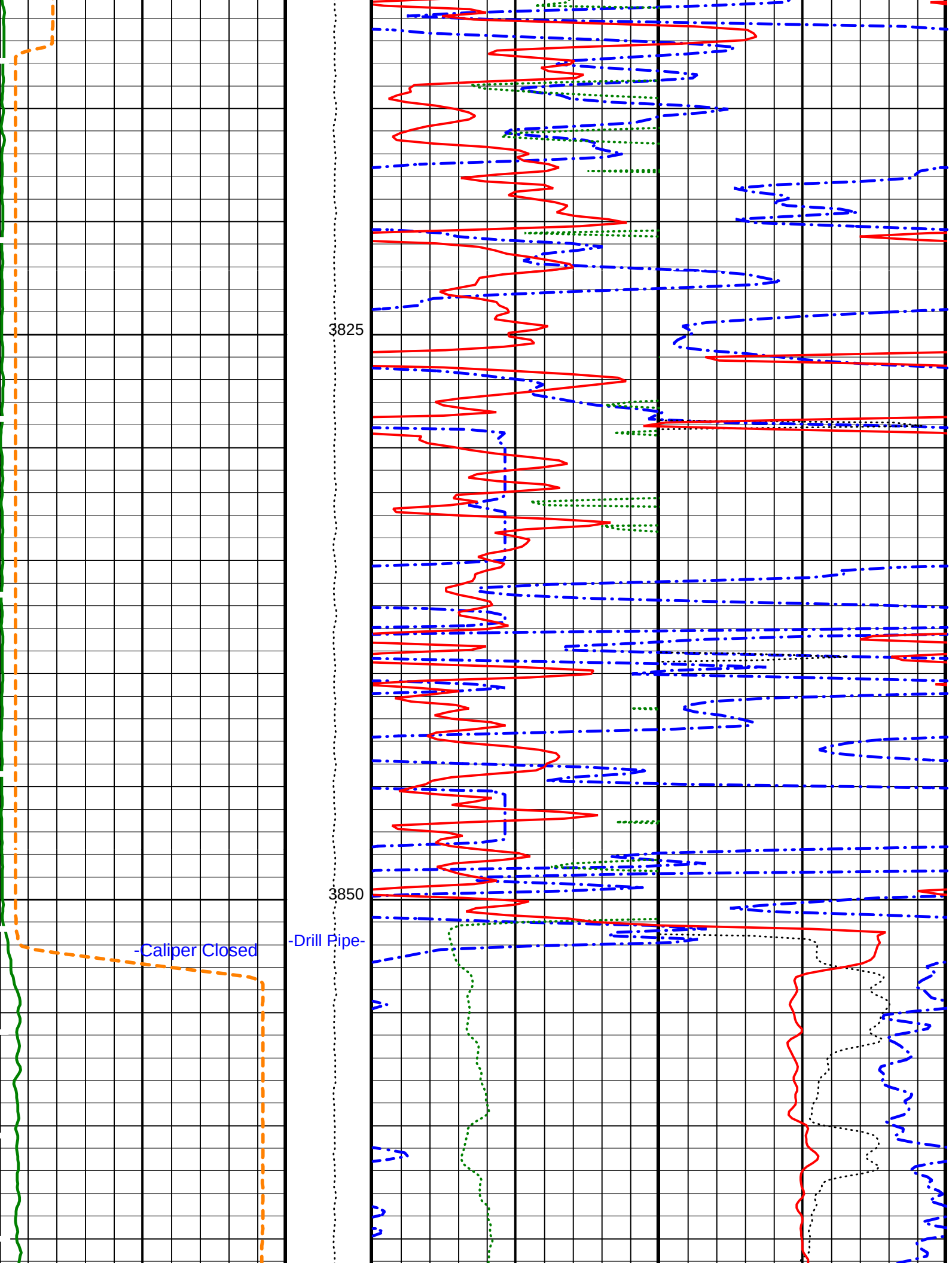
Main Log

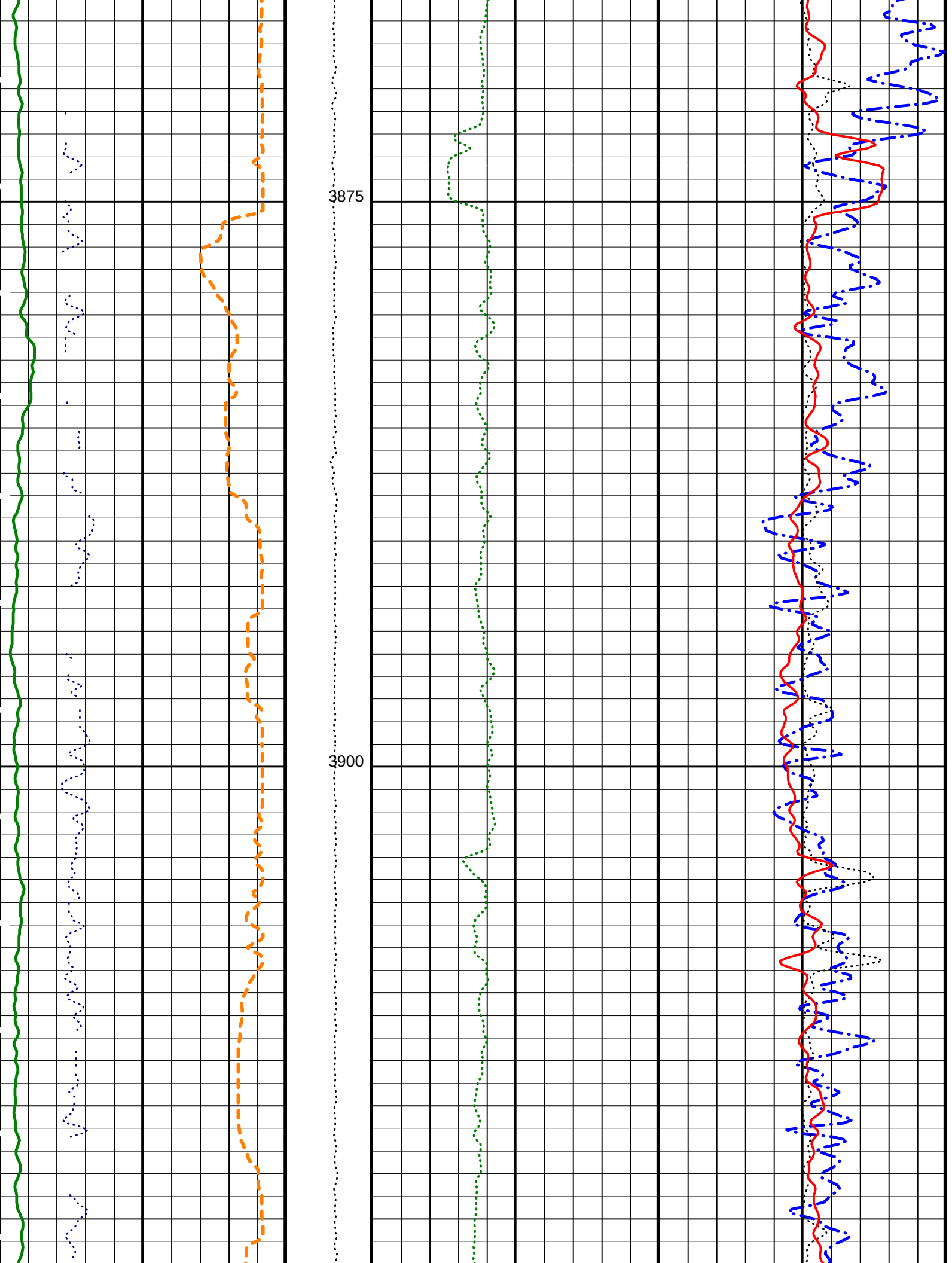
PIP SUMMARY

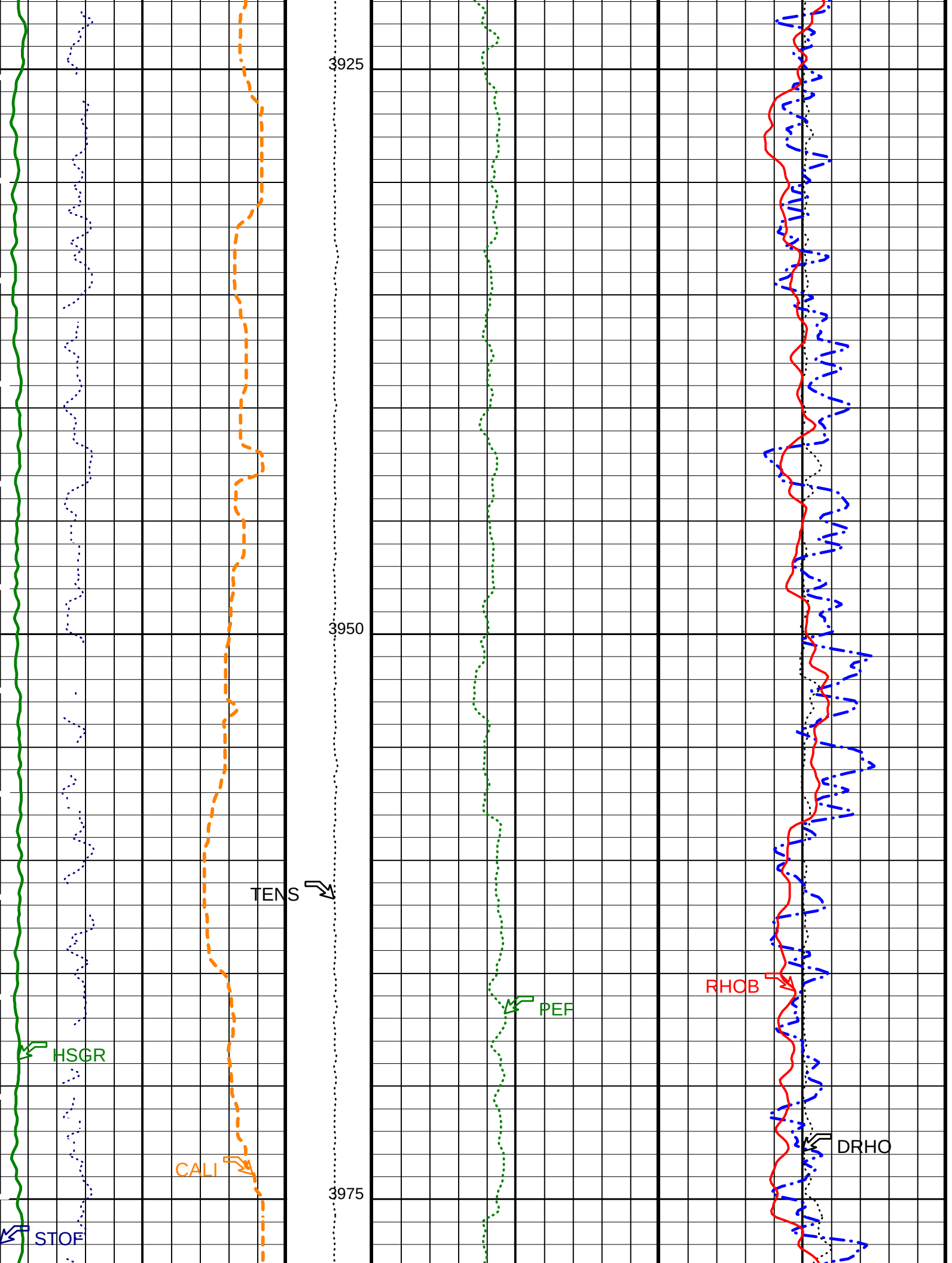
Time Mark Every 60 S

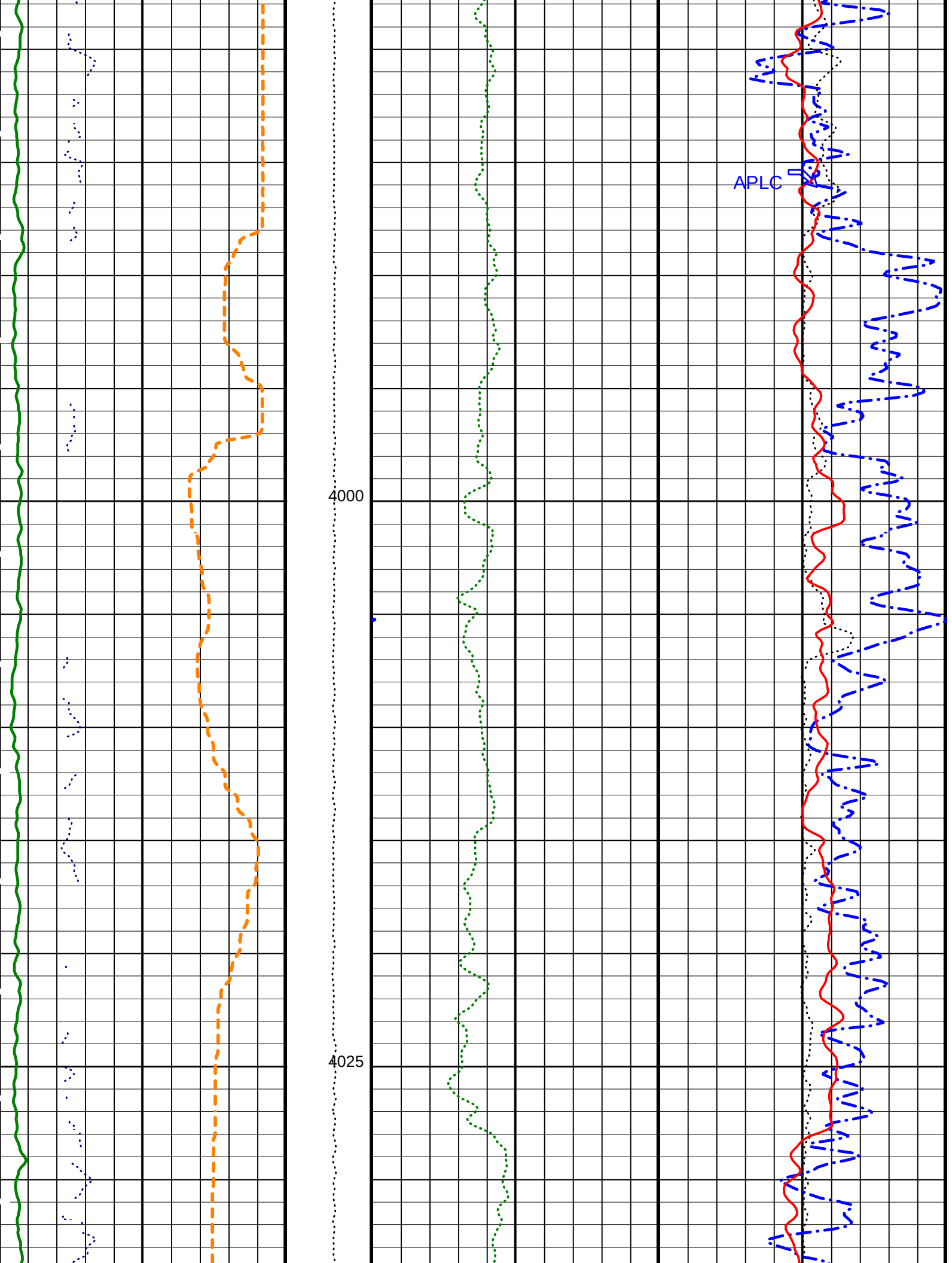


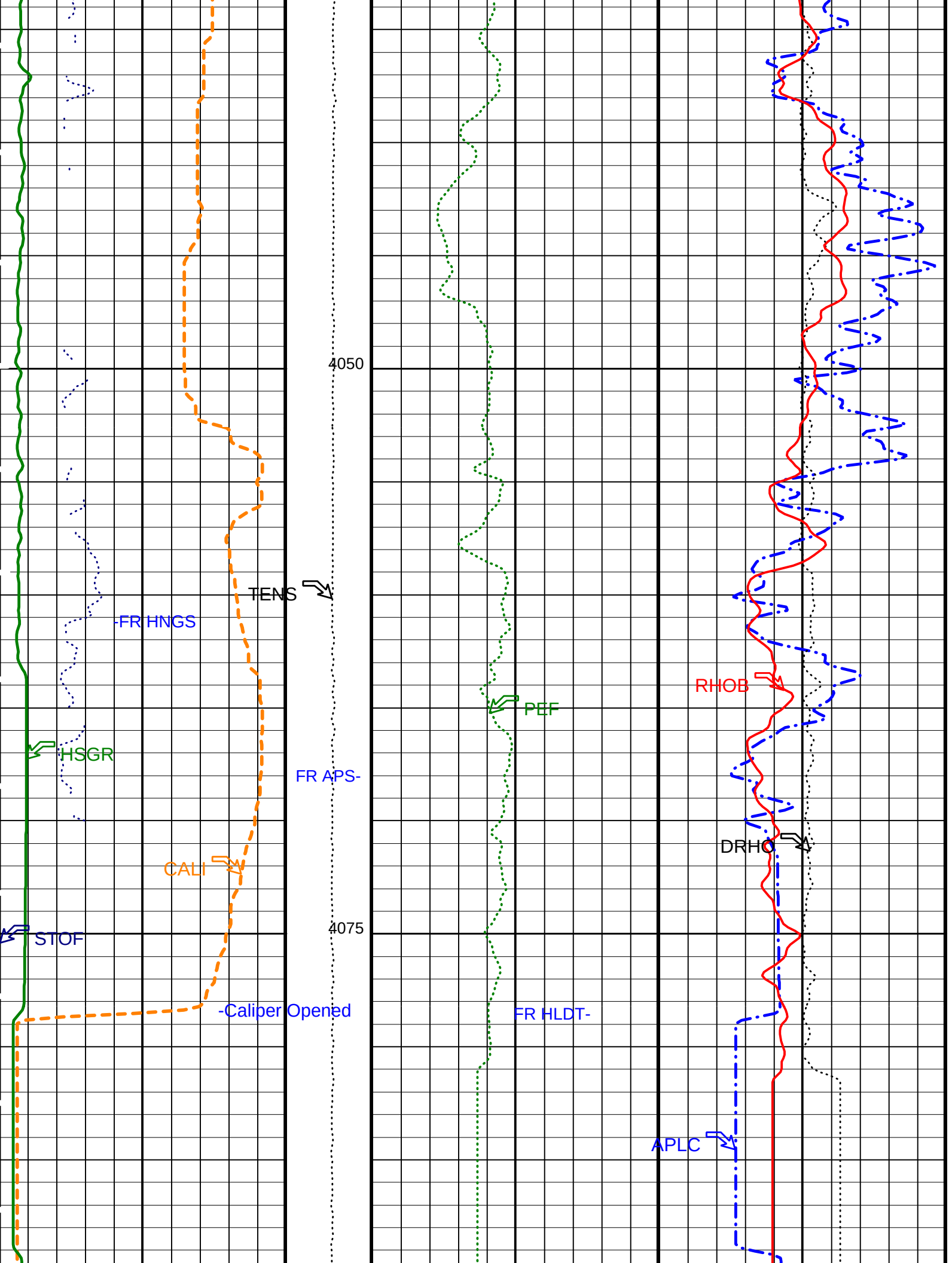

Sea Floor-
3775
3800

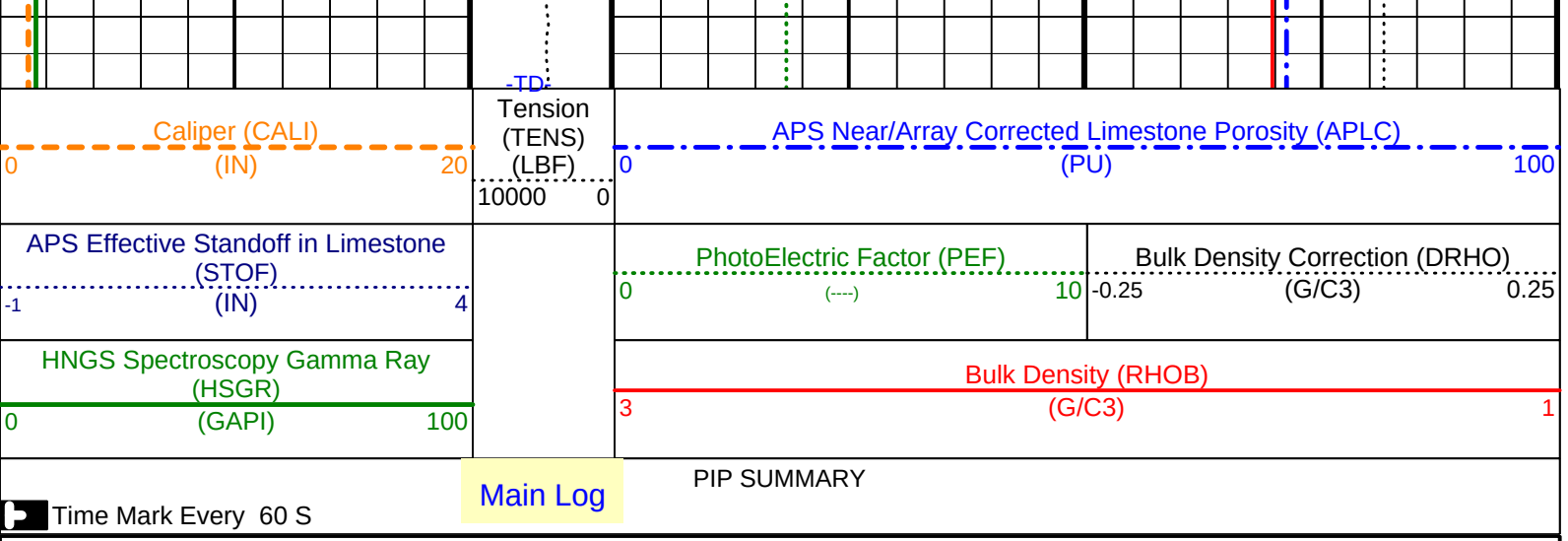

3825
3850
-Caliper Closed
-Drill Pipe-


3875
3900


3925
3950
3975
TENS
HSGR
CALI
PEF
RHOB
DRHO
STOF


APLC
4000
4025


4050
TENS
-FR HNGS
HSGR
FR APS-
CALI
STOF
-Caliper Opened
PEF
FR HLDT-
RHOB
DRHO
APLC



Parameters

DLIS Name	Description	Value	
	DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
DGF2	Deep 20 kHz Gain Factor	1.00789	
DPH2	Deep 20 kHz Phase Shift	-0.152394	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	16.357	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	64.6326	MM/M
GCSE	Generalized Caliper Selection	BS	
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	
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	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MGF2	Medium 20 kHz Gain Factor	1.02964	
MPH2	Medium 20 kHz Phase Shift	-0.933067	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	-1.78642	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-34.2041	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
	HLDT-A: Hostile Environment Litho Density - A		
BFM	Borehole Fluid Medium	LIQUID	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LSHC	LS Hardware Loop Control	DISALLOW	
MDEN	Matrix Density	2.71	G/C3
QPPS	Quicklook Processing Pe Select	PEFL	
SSHC	SS Hardware Loop Control	DISALLOW	
WMUD	Mud Weight	1.07	G/C3
	NPLC-B: Nuclear Porosity Lithology Cartridge - B		
NOTS	NPLC Old Temperature Sensor	NO	
	APS-BA: Accelerator-Porosity Tool		
	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1968.98	V
ABOS	APS Neutron Burst-Off Background Subtraction Switch	ON	
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2052.03	V
AHCS	APS Holesize Correction Source	GCSE	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1748.3	V
AOTS	APS Old Temperature Sensor Switch	NO	
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
DPPM	Density Porosity Processing Mode	HIRS	

FSAL	Formation Salinity	-50000	PPM
GCSE	Generalized Caliper Selection	BS	
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	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NARC	APS Near/Array Calibration Ratio	1.0631	
NFRC	APS Near/Far Calibration Ratio	0.902243	
SHT	Surface Hole Temperature	68	DEGF
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)	40	DEGF
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	BS	
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	-0.001858	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.01514	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.08847	
SGT-N: Scintillation Gamma-Ray - N			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
DPPM	Density Porosity Processing Mode	HIRS	
GCSE	Generalized Caliper Selection	BS	
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	
ISSBAR	SGT Nuclear Mud Type	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
SOGR	SGT Standoff Distance	0	IN
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	11.438	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	0.000	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.07	G/C3
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	13421.9	FT
TDD	Total Depth - Driller	4091.00	M
TDL	Total Depth - Logger	4091.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: APSLiquidPorosity_1 Vertical Scale: 1:200 Graphics File Created: 11-Feb-2002 05:19

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	10C0-306
APS-BA	10C0-306	HNGS-BA	10C0-306
SGT-N	10C0-306	DTC-H	10C0-306

Output DLIS Files

DEFAULT	PL_LDL_APS_NGS_016LUP	FN:15	PRODUCER 11-Feb-2002 05:19

REDUCE	PI_LDL_APS_NGS_016LUP	FN:16	PRODUCER	11-Feb-2002 05:19		

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_017LUP	FN:17	PRODUCER	11-Feb-2002 06:40	4094.2 M	3927.7 M
REDUCE	PI_LDL_APS_NGS_017LUP	FN:18	PRODUCER	11-Feb-2002 06:40	4094.2 M	3927.7 M

OP System Version: 10C0-306

MCM

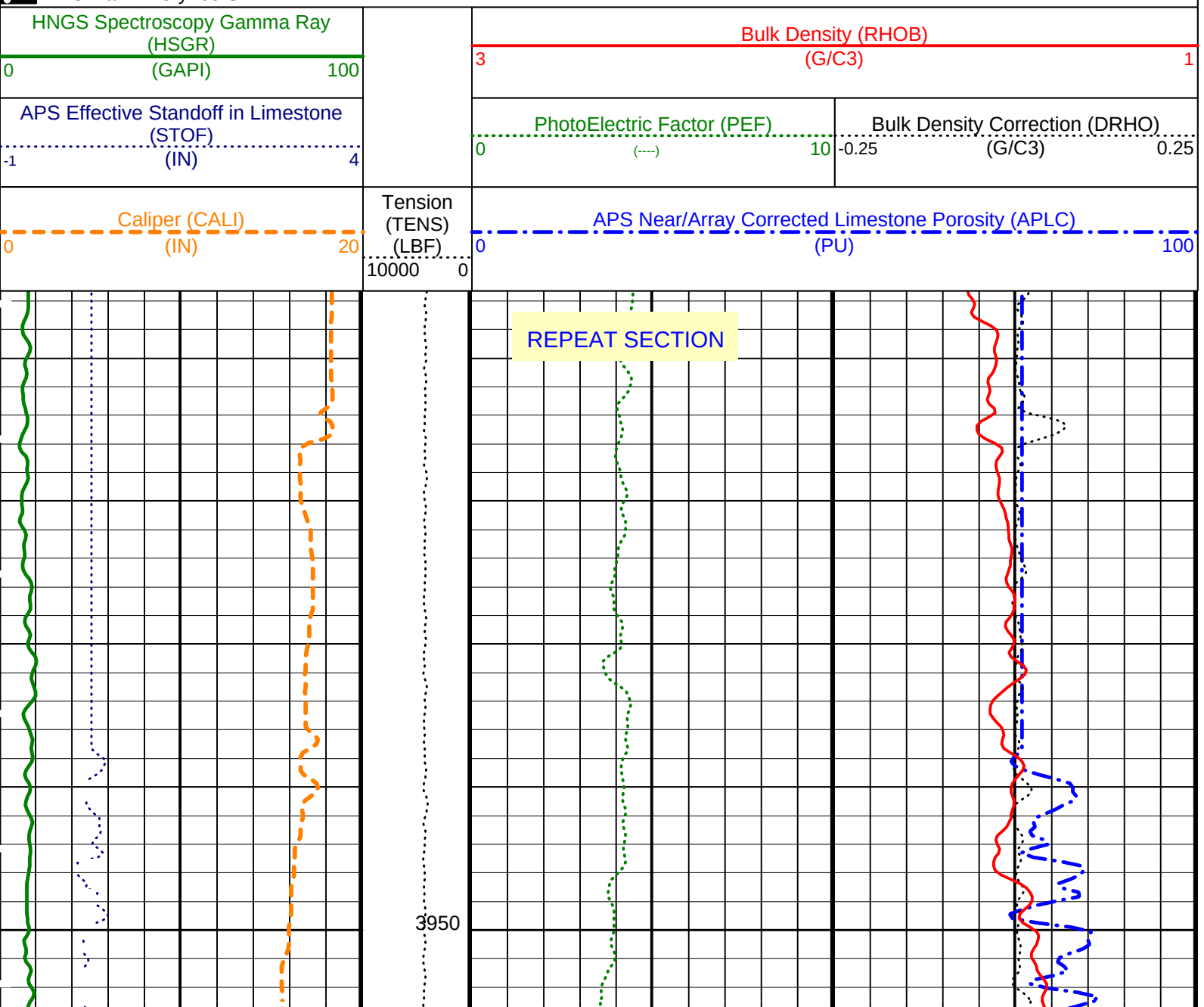
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	10C0-306
APS-BA	10C0-306	HNGS-BA	10C0-306
SGT-N	10C0-306	DTC-H	10C0-306

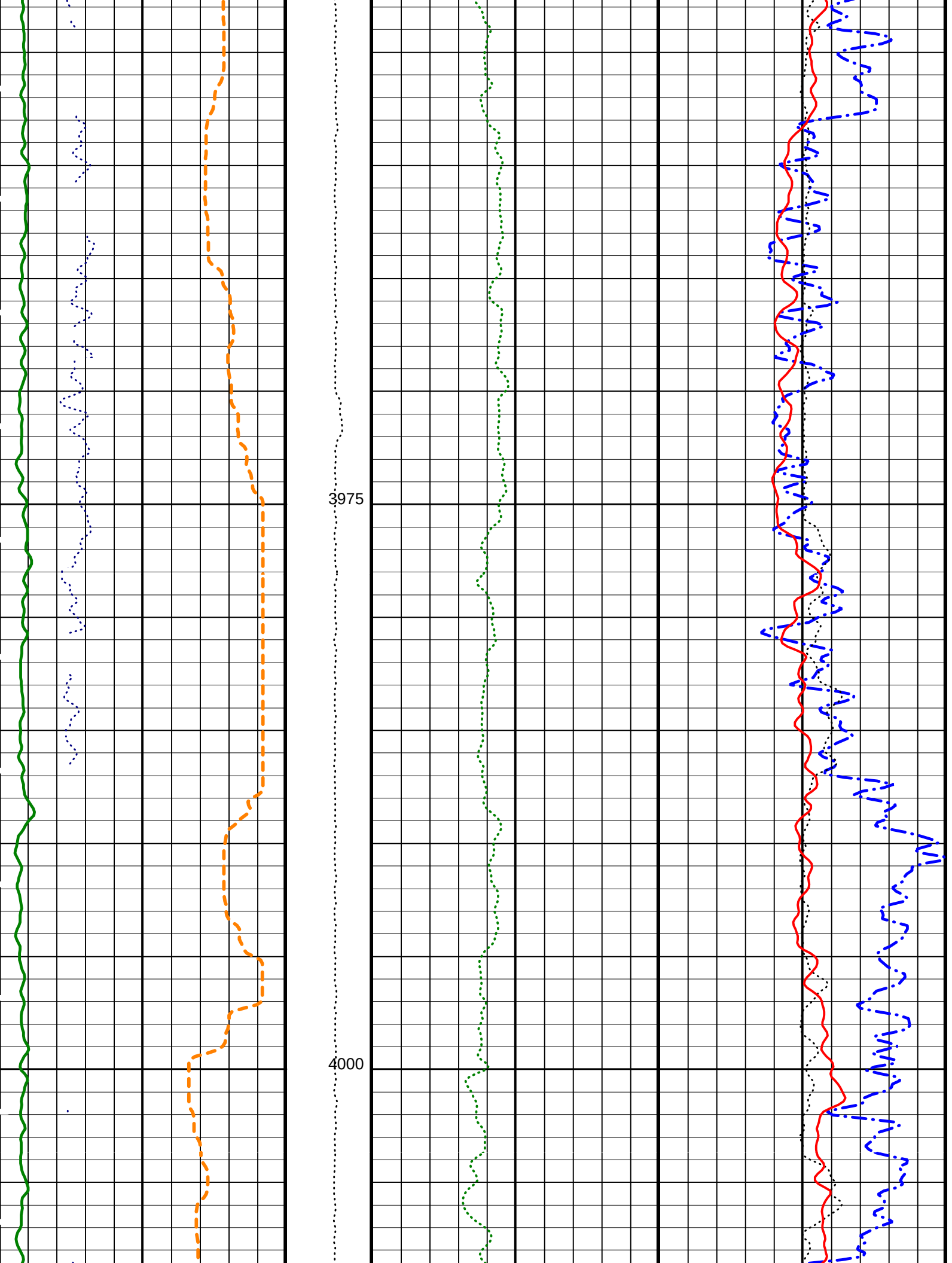
Changed Parameter Summary

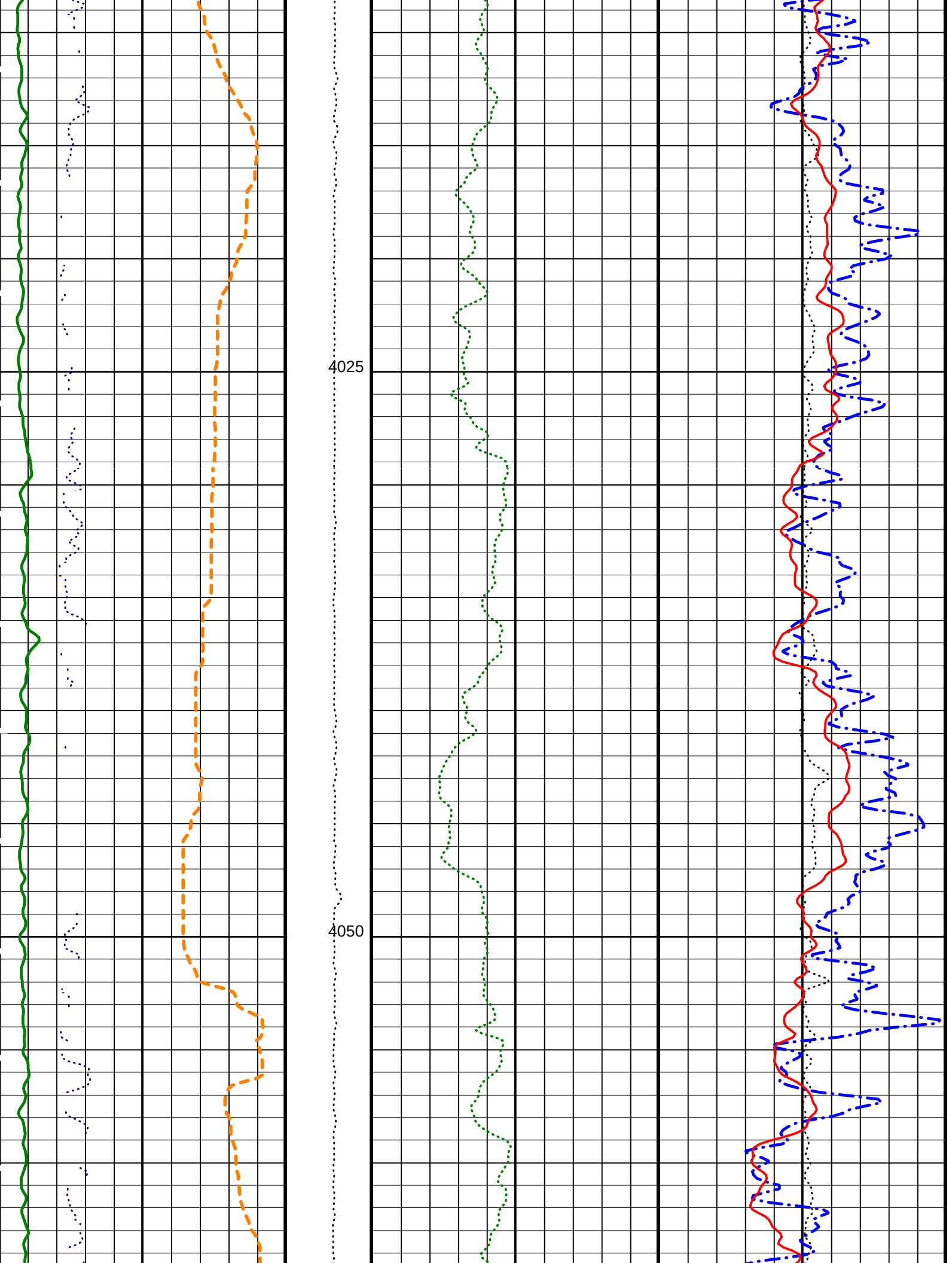
DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS	CALI	3916.3 06:41:24
	CALI	BS	4089.5 06:51:49

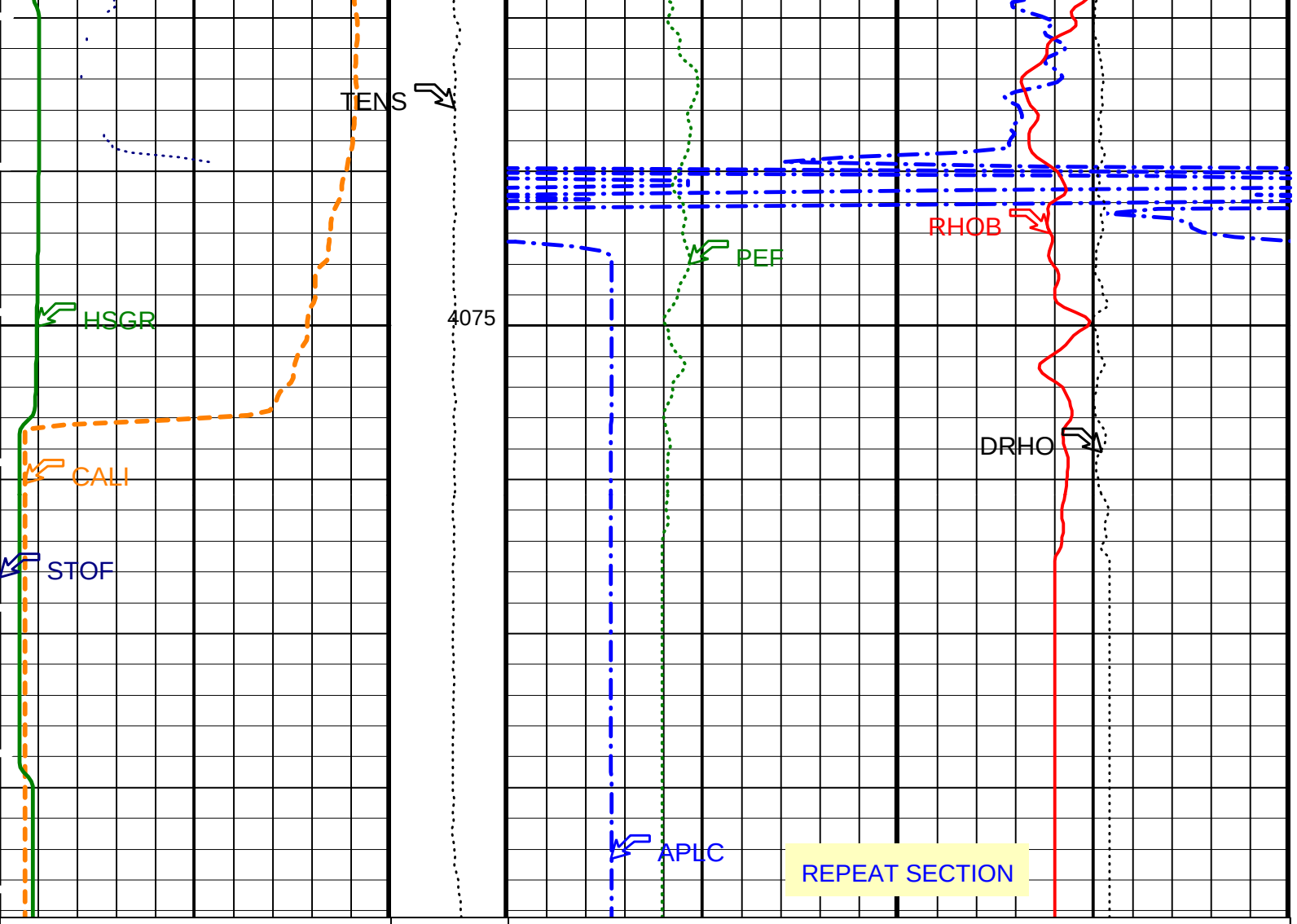
PIP SUMMARY

Time Mark Every 60 S




3975
4000


4025
4050



Caliper (CALI)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

APS Near/Array Corrected Limestone Porosity (APLC)
0 (PU) 100

APS Effective Standoff in Limestone (STOF)
-1 (IN) 4

PhotoElectric Factor (PEF)
0 (----) 10

Bulk Density Correction (DRHO)
-0.25 (G/C3) 0.25

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

Bulk Density (RHOB)
3 (G/C3) 1

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)	40	DEGF
DGF2	Deep 20 kHz Gain Factor	1.00789	
DPH2	Deep 20 kHz Phase Shift	-0.152394	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	16.357	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	64.6326	MM/M
GCSE	Generalized Caliper Selection	CALI	
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	
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	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MGF2	Medium 20 kHz Gain Factor	1.02964	
MPH2	Medium 20 kHz Phase Shift	-0.933067	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	-1.78642	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-34.2041	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
HLDT-A: Hostile Environment Litho Density - A			
BFM	Borehole Fluid Medium	LIQUID	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1	G/C3
LSHC	LS Hardware Loop Control	DISALLOW	
MDEN	Matrix Density	2.71	G/C3
QPPS	Quicklook Processing Pe Select	PEFL	
SSHC	SS Hardware Loop Control	DISALLOW	
WMUD	Mud Weight	1.07	G/C3
NPLC-B: Nuclear Porosity Lithology Cartridge - B			
NOTS	NPLC Old Temperature Sensor	NO	
APS-BA: Accelerator-Porosity Tool			
	APS Software Version	5	
AASD	APS Thermal and Array Detectors High Voltage Setting	1968.98	V
ABOS	APS Neutron Burst-Off Background Subtraction Switch	ON	
ADSO	APS Array Detectors Data Source Switch	Both	
AFSD	APS Far Detector High Voltage Setting	2052.03	V
AHCS	APS Holesize Correction Source	GCSE	
AHSS	APS Holesize Correction Switch	ON	
AMTY	APS Environmental Corrections Mud Type	WaterBaseBarite	
ANSD	APS Near Detector High Voltage Setting	1748.3	V
AOTS	APS Old Temperature Sensor Switch	NO	
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	-50000	PPM
GCSE	Generalized Caliper Selection	CALI	
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	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NARC	APS Near/Array Calibration Ratio	1.0631	
NFRC	APS Near/Far Calibration Ratio	0.902243	
SHT	Surface Hole Temperature	68	DEGF
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)	40	DEGF
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	CALI	
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	-0.00675083	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.998744	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.16884	
SGT-N: Scintillation Gamma-Ray - N			
BHS	Borehole Status	OPEN	

BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
DPPM	Density Porosity Processing Mode	HIRS	
GCSE	Generalized Caliper Selection	CALI	
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	
ISSBAR	SGT Nuclear Mud Type	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
SOGR	SGT Standoff Distance	0	IN
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	11.438	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	0.000	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.07	G/C3
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	13435	FT
TDD	Total Depth - Driller	4091.00	M
TDL	Total Depth - Logger	4091.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: APSLiquidPorosity_1 Vertical Scale: 1:200 Graphics File Created: 11-Feb-2002 06:40

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	10C0-306
APS-BA	10C0-306	HNGS-BA	10C0-306
SGT-N	10C0-306	DTC-H	10C0-306

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_017LUP	FN:17	PRODUCER	11-Feb-2002 06:40
REDUCE	PI_LDL_APS_NGS_017LUP	FN:18	PRODUCER	11-Feb-2002 06:40

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement							
Master: 25-Jan-2002 14:22 Before: 7-Feb-2002 0:58 After: 11-Feb-2002 9:52							
LSW1 Background	100.0	89.06	87.47	89.64	2.167	3.000	CPS
LSW2 Background	105.0	93.23	91.17	92.99	1.817	3.150	CPS
LSW3 Background	210.0	180.0	176.6	182.0	5.359	6.300	CPS
LSW4 Background	290.0	237.9	239.0	237.2	-1.791	8.700	CPS
LSW5 Background	610.0	529.6	526.4	521.4	-4.967	18.30	CPS
SSW1 Background	100.0	85.18	85.40	85.92	0.5192	3.000	CPS
SSW2 Background	200.0	166.8	166.6	167.4	0.8174	6.000	CPS
SSW3 Background	530.0	446.5	442.1	446.0	3.897	15.90	CPS
SSW4 Background	280.0	235.8	234.6	234.8	0.2077	8.400	CPS
SSW5 Background	205.0	176.3	175.3	174.5	-0.8091	6.150	CPS
Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage							
Master: 25-Jan-2002 14:22 Before: 7-Feb-2002 0:58 After: 11-Feb-2002 9:52							
LS Bkg. High Voltage	1129	1129	1134	1132	-2.350	N/A	V
SS Bkg. High Voltage	1173	1173	1179	1177	-1.431	N/A	V
Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurments							
Master: 25-Jan-2002 14:22 Before: 7-Feb-2002 0:58 After: 11-Feb-2002 9:52							
LS Background Resolution	1.000	1.042	1.040	0.9556	-0.08410	N/A	
SS Background Resolution	1.000	0.9530	0.9559	0.9384	-0.01746	N/A	
Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration							
Before: 7-Feb-2002 1:47							
Caliper Small Ring	12.00	N/A	16.99	N/A	N/A	N/A	IN
Caliper Large Ring	18.25	N/A	23.87	N/A	N/A	N/A	IN
Hostile Environment Litho Density - A Master Calibration - Aluminum Measurement							
Master: 25-Jan-2002 15:58							

Master: 25-Jan-2002 15:58

LSW1 Aluminum	648.4	632.3	--	--	--	--	CPS
LSW2 Aluminum	1018	998.4	--	--	--	--	CPS
LSW3 Aluminum	1105	1037	--	--	--	--	CPS
LSW4 Aluminum	609.5	564.9	--	--	--	--	CPS
LSW5 Aluminum	533.8	497.5	--	--	--	--	CPS
SSW1 Aluminum	2664	2526	--	--	--	--	CPS
SSW2 Aluminum	7731	7417	--	--	--	--	CPS
SSW3 Aluminum	10380	9945	--	--	--	--	CPS
SSW4 Aluminum	4574	4376	--	--	--	--	CPS
SSW5 Aluminum	745.2	731.3	--	--	--	--	CPS

Hostile Environment Litho Density - A Master Calibration - Tool Quality Control Information: High Voltage
Master: 25-Jan-2002 15:58

LS Alum. High Voltage	1129	1130	--	--	--	--	V
SS Alum. High Voltage	1173	1161	--	--	--	--	V

Hostile Environment Litho Density - A Master Calibration - Detectors Resolution From Aluminum Measurment
Master: 25-Jan-2002 15:58

LS Aluminum Resolution	1.000	1.032	--	--	--	--	
SS Aluminum Resolution	1.000	1.050	--	--	--	--	

Hostile Environment Litho Density - A Master Calibration - Aluminum Measurement (Window Ratios)
Master: 25-Jan-2002 15:58

LSW1/(LSW4 + LSW5) Calc.	0.5400	0.5952	--	--	--	--	
LSW3/(LSW4 + LSW5) Calc.	0.9600	0.9762	--	--	--	--	
SSW1/(SSW4 + SSW5) Calc.	0.4600	0.4946	--	--	--	--	
SSW3/(SSW4 + SSW5) Calc.	1.900	1.947	--	--	--	--	

Hostile Environment Litho Density - A Master Calibration - Litholog Measurement
Master: 25-Jan-2002 15:52

LSW1 Iron	410.0	450.3	--	--	--	--	CPS
LSW2 Iron	870.0	861.2	--	--	--	--	CPS
LSW3 Iron	1030	996.5	--	--	--	--	CPS
LSW4 Iron	590.0	556.0	--	--	--	--	CPS
LSW5 Iron	530.0	490.9	--	--	--	--	CPS
SSW1 Iron	1850	1931	--	--	--	--	CPS
SSW2 Iron	6500	6497	--	--	--	--	CPS
SSW3 Iron	10000	9541	--	--	--	--	CPS
SSW4 Iron	4500	4223	--	--	--	--	CPS
SSW5 Iron	750.0	684.9	--	--	--	--	CPS

Hostile Environment Litho Density - A Master Calibration - Tool Quality Control Information: High Voltage
Master: 25-Jan-2002 15:52

LS Lith High Voltage	1129	1130	--	--	--	--	V
SS Lith High Voltage	1173	1163	--	--	--	--	V

Hostile Environment Litho Density - A Master Calibration - Detectors Resolution From Litholog Measurment
Master: 25-Jan-2002 15:52

LS Lith Resolution	1.000	1.033	--	--	--	--	
SS Lith Resolution	1.000	1.016	--	--	--	--	

Accelerator-Porosity Tool Wellsite Calibration - Detector Background
Master: 25-Jan-2002 18:34 Before: 11-Feb-2002 3:57 After: 11-Feb-2002 7:56

Near Det Bkg Cntrate	30.00	32.90	31.70	33.22	1.518	N/A	CPS
Far Det Bkg Cntrate	30.00	34.46	33.01	33.68	0.6677	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.56	29.66	30.21	0.5505	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	30.78	29.65	29.56	-0.08341	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.89	28.53	30.92	2.393	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios
Master: 25-Jan-2002 18:35

Near/Far Calibration Ratio	0.9250	0.9022	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.063	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.007	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration - Tank Check
Master: Calibration not done

Array-1 Standoff Porosity	11.10	11.94	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.10	11.71	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	N/A	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	N/A	N/A	N/A	N/A	N/A	
Array-1 SDT Ratio Up/Down	1.000	N/A	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.64	N/A	N/A	N/A	N/A	CU

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check
Master: 23-Jan-2002 11:37 Before: 7-Feb-2002 1:13 After: 11-Feb-2002 9:48

Na 511 Peak Loc	40.00	40.51	40.71	40.59	-0.1251	1.000	
Na 511 Peak Res	15.50	15.75	17.24	16.93	-0.3119	2.000	%
High Voltage	1150	1203	1207	1209	2.906	30.00	V
Na 1785 Peak Loc	142.6	144.6	146.2	145.6	-0.6078	7.000	
Na 1785 Peak Res	8.500	9.254	9.073	8.861	-0.2121	2.000	%

Temperature	15.50	21.86	29.34	28.89	-0.4552	N/A	DEGC
Na Count Rate	45.00	39.29	40.56	40.16	-0.3936	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check
Master: 23-Jan-2002 11:37 Before: 7-Feb-2002 1:13 After: 11-Feb-2002 9:48

Na 511 Peak Loc	40.00	40.54	40.54	40.61	0.07089	1.000	
Na 511 Peak Res	15.50	16.19	16.67	16.58	-0.08610	2.000	%
High Voltage	1150	1233	1236	1240	4.142	30.00	V
Na 1785 Peak Loc	142.6	143.9	144.1	144.6	0.4818	7.000	
Na 1785 Peak Res	8.500	9.453	8.968	9.434	0.4660	2.000	%
Temperature	15.50	21.24	29.04	29.55	0.5074	N/A	DEGC
Na Count Rate	45.00	39.11	40.36	39.62	-0.7354	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2
Master: 23-Jan-2002 11:37 Before: 7-Feb-2002 1:13 After: 11-Feb-2002 9:48

Coincidence Count Rate Ratio	1.000	1.004	1.005	1.013	0.007621	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration
Master: 23-Jan-2002 11:31

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	209.7	--	--	--	--	
Th Peak Res	7.000	7.364	--	--	--	--	%
Background Count Rate	142.5	19.66	--	--	--	--	CPS
Gain Ratio	1.000	0.9848	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration
Master: 23-Jan-2002 11:31

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.7	--	--	--	--	
Th Peak Res	7.000	7.834	--	--	--	--	%
Background Count Rate	142.5	17.61	--	--	--	--	CPS
Gain Ratio	1.000	0.9795	--	--	--	--	

Scintillation Gamma-Ray - N Wellsite Calibration - Detector Calibration
Before: 7-Feb-2002 1:09

Gamma Ray (Jig - Bkg)	167.5	N/A	167.5	N/A	N/A	15.23	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

Accelerator-Porosity Tool - Detector Plateau Settings :

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

Dual Induction - E / Equipment Identification

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

Hostile Environment Litho Density - A / Equipment Identification

Primary Equipment:		
HOSTILE ENVIRONMENT LITHO DENSITY HIGH V	HLDV - A	10
HOSTILE ENVIRONMENT LITHO DENSITY CARTRI	HLDC - AA	11
Gamma Source Radioactive	GSR - Z	1846
Auxiliary Equipment:		
HOSTILE ENVIRONMENT LITHO DENSITY SONDE	HLDS - B	10
HOSTILE ENVIRONMENT ELECTRONICS CARTRIDG	HEH - H	12
HOSTILE ENVIRONMENT ELECTRONICS CARTRIDG	HEH - G	11
HOSTILE ENVIRONMENT LITHO DENSITY PAD	HLDP - B	10

Hostile Environment Litho Density - A Wellsite Calibration

Background Measurement

Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value
Master		89.06	Master		93.23	Master		180.0

Phase	Value
Before	87.47
After	89.64

65.00 (Minimum) 100.0 (Nominal) 125.0 (Maximum)

Phase	Value
Before	91.17
After	92.99

70.00 (Minimum) 105.0 (Nominal) 130.0 (Maximum)

Phase	Value
Before	176.6
After	182.0

150.0 (Minimum) 210.0 (Nominal) 250.0 (Maximum)

Phase	LSW4 Background CPS	Value
Master		237.9
Before		239.0
After		237.2

220.0 (Minimum) 290.0 (Nominal) 330.0 (Maximum)

Phase	LSW5 Background CPS	Value
Master		529.6
Before		526.4
After		521.4

430.0 (Minimum) 610.0 (Nominal) 730.0 (Maximum)

Phase	SSW1 Background CPS	Value
Master		85.18
Before		85.40
After		85.92

70.00 (Minimum) 100.0 (Nominal) 120.0 (Maximum)

Phase	SSW2 Background CPS	Value
Master		166.8
Before		166.6
After		167.4

140.0 (Minimum) 200.0 (Nominal) 240.0 (Maximum)

Phase	SSW3 Background CPS	Value
Master		446.5
Before		442.1
After		446.0

380.0 (Minimum) 530.0 (Nominal) 630.0 (Maximum)

Phase	SSW4 Background CPS	Value
Master		235.8
Before		234.6
After		234.8

190.0 (Minimum) 280.0 (Nominal) 340.0 (Maximum)

Phase	SSW5 Background CPS	Value
Master		176.3
Before		175.3
After		174.5

140.0 (Minimum) 205.0 (Nominal) 250.0 (Maximum)

Master: 25-Jan-2002 14:22 Before: 7-Feb-2002 0:58 After: 11-Feb-2002 9:52

Hostile Environment Litho Density - A Wellsite Calibration

Detectors Resolution From BKG Measurments

Phase	LS Background Resolution	Value
Master		1.042
Before		1.040
After		0.9556

0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)

Phase	SS Background Resolution	Value
Master		0.9530
Before		0.9559
After		0.9384

0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)

Master: 25-Jan-2002 14:22 Before: 7-Feb-2002 0:58

After: 11-Feb-2002 9:52

Hostile Environment Litho Density - A Master Calibration

Aluminum Measurement

Phase	LSW1 Aluminum CPS	Value
Master		632.3

440.0 (Minimum) 648.4 (Nominal) 840.0 (Maximum)

Phase	LSW2 Aluminum CPS	Value
Master		998.4

840.0 (Minimum) 1018 (Nominal) 1200 (Maximum)

Phase	LSW3 Aluminum CPS	Value
Master		1037

920.0 (Minimum) 1105 (Nominal) 1280 (Maximum)

Phase	LSW4 Aluminum CPS	Value
Master		564.9

520.0 (Minimum) 609.5 (Nominal) 720.0 (Maximum)

Phase	LSW5 Aluminum CPS	Value
Master		497.5

450.0 (Minimum) 533.8 (Nominal) 670.0 (Maximum)

Phase	SSW1 Aluminum CPS	Value
Master		2526

1850 (Minimum) 2664 (Nominal) 2900 (Maximum)

Phase	SSW2 Aluminum CPS	Value
Master		7417

6200 (Minimum) 7731 (Nominal) 8500 (Maximum)

Phase	SSW3 Aluminum CPS	Value
Master		9945

8750 (Minimum) 10380 (Nominal) 11750 (Maximum)

Phase	SSW4 Aluminum CPS	Value
Master		4376

4000 (Minimum) 4574 (Nominal) 5400 (Maximum)

Phase	SSW5 Aluminum CPS	Value
Master		731.3

570.0 (Minimum) 745.2 (Nominal) 1110 (Maximum)

Master: 25-Jan-2002 15:58

Hostile Environment Litho Density - A Master Calibration

Detectors Resolution From Aluminum Measurment

Phase	LS Aluminum Resolution	Value
Master		1.032

0.7000 1.000 1.111

Phase	SS Aluminum Resolution	Value
Master		1.050

0.7000 1.000 1.111

(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)

Master: 25-Jan-2002 15:58

Hostile Environment Litho Density - A Master Calibration

Aluminum Measurement (Window Ratios)

Phase	LSW1/(LSW4 + LSW5) Calc.	Value	Phase	LSW3/(LSW4 + LSW5) Calc.	Value
Master		0.5952	Master		0.9762
	0.3400 (Minimum) 0.5400 (Nominal) 0.7400 (Maximum)			0.7600 (Minimum) 0.9600 (Nominal) 1.160 (Maximum)	

Phase	SSW1/(SSW4 + SSW5) Calc.	Value	Phase	SSW3/(SSW4 + SSW5) Calc.	Value
Master		0.4946	Master		1.947
	0.3600 (Minimum) 0.4600 (Nominal) 0.5600 (Maximum)			1.700 (Minimum) 1.900 (Nominal) 2.100 (Maximum)	

Master: 25-Jan-2002 15:58

Hostile Environment Litho Density - A Master Calibration

Litholog Measurement

Phase	LSW1 Iron CPS	Value	Phase	LSW2 Iron CPS	Value	Phase	LSW3 Iron CPS	Value
Master		450.3	Master		861.2	Master		996.5
	310.0 (Minimum) 410.0 (Nominal) 510.0 (Maximum)			660.0 (Minimum) 870.0 (Nominal) 980.0 (Maximum)			810.0 (Minimum) 1030 (Nominal) 1170 (Maximum)	

Phase	LSW4 Iron CPS	Value	Phase	LSW5 Iron CPS	Value	Phase	SSW1 Iron CPS	Value
Master		556.0	Master		490.9	Master		1931
	470.0 (Minimum) 590.0 (Nominal) 670.0 (Maximum)			400.0 (Minimum) 530.0 (Nominal) 620.0 (Maximum)			1400 (Minimum) 1850 (Nominal) 2120 (Maximum)	

Phase	SSW2 Iron CPS	Value	Phase	SSW3 Iron CPS	Value	Phase	SSW4 Iron CPS	Value
Master		6497	Master		9541	Master		4223
	5170 (Minimum) 6500 (Nominal) 7270 (Maximum)			8100 (Minimum) 10000 (Nominal) 11000 (Maximum)			3620 (Minimum) 4500 (Nominal) 5020 (Maximum)	

Phase	SSW5 Iron CPS	Value
Master		684.9
	470.0 (Minimum) 750.0 (Nominal) 10100 (Maximum)	

Master: 25-Jan-2002 15:52

Hostile Environment Litho Density - A Master Calibration

Detectors Resolution From Litholog Measurment

Phase	LS Lith Resolution	Value	Phase	SS Lith Resolution	Value
Master		1.033	Master		1.016
	0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)			0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)	

Master: 25-Jan-2002 15:52

Nuclear Porosity Lithology Cartridge - B / Equipment Identification

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

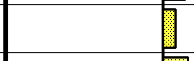
Accelerator-Porosity Tool / Equipment Identification

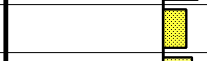
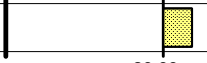
Primary Equipment:		
Accelerator-Porosity Sonde	APS - BA	22
APS Minitron	MNTR - F	4185
Auxiliary Equipment:		
Accelerator-Porosity Housing	APH - AC	22
APS Calibration Water Tank	SFT - 178	4722
APS Aluminium Calibrator Sleeve	SFT - 281	24

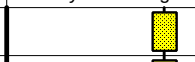
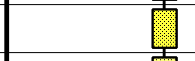
Accelerator-Porosity Tool Wellsite Calibration

Detector Background

Phase	Near Det Pkg Cntrate CPS	Value	Phase	Far Det Pkg Cntrate CPS	Value	Phase	Array 1 Det Pkg Cntrate CPS	Value

Phase	Near Det Bkg Cntrate CPS	Value
Master		32.90
Before		31.70
After		33.22
0 (Minimum)	30.00 (Nominal)	50.00 (Maximum)

Phase	Far Det Bkg Cntrate CPS	Value
Master		34.46
Before		33.01
After		33.68
0 (Minimum)	30.00 (Nominal)	50.00 (Maximum)

Phase	Array-1 Det Bkg Cntrate CPS	Value
Master		28.56
Before		29.66
After		30.21
0 (Minimum)	30.00 (Nominal)	50.00 (Maximum)

Phase	Array-2 Det Bkg Cntrate CPS	Value
Master		30.78
Before		29.65
After		29.56
0 (Minimum)	30.00 (Nominal)	50.00 (Maximum)

Phase	Array Therm Det Bkg Cntrate CPS	Value
Master		32.89
Before		28.53
After		30.92
0 (Minimum)	30.00 (Nominal)	50.00 (Maximum)

Master: 25-Jan-2002 18:34 Before: 11-Feb-2002 3:57 After: 11-Feb-2002 7:56

Accelerator-Porosity Tool Wellsite Calibration

Calibration Ratios

Phase	Near/Far Calibration Ratio	Value
Master		0.9022
0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)

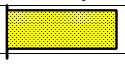
Phase	Near/Array Calibration Ratio	Value
Master		1.063
0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)

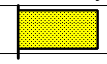
Phase	Near/Array Cal Ratio Up/Down	Value
Master		1.007
0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)

Master: 25-Jan-2002 18:35

Accelerator-Porosity Tool Wellsite Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value
Master		11.94
9.900 (Minimum)	11.10 (Nominal)	12.30 (Maximum)

Phase	Array-2 Standoff Porosity PU	Value
Master		11.71
9.900 (Minimum)	11.10 (Nominal)	12.30 (Maximum)

Phase	Average Slowing Down Time US	Value
Master	NOT DONE	N/A
5.750 (Minimum)	6.000 (Nominal)	6.250 (Maximum)

Phase	Array-1 SDT Ratio Up/Down	Value
Master	NOT DONE	N/A
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Phase	Array-1 SDT Ratio Up/Down	Value
Master	NOT DONE	N/A
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Phase	Sigma Formation CU	Value
Master		27.64
20.00 (Minimum)	27.50 (Nominal)	35.00 (Maximum)

Master: Calibration not done

See Remarks

Accelerator-Porosity Tool Master Calibration

Detector Calibration

Phase	Near/Far Calibration Ratio	Value
Master		0.9022
0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)

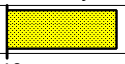
Phase	Near/Array Calibration Ratio	Value
Master		1.063
0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)

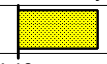
Phase	Near/Array Cal Ratio Up/Down	Value
Master		1.007
0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)

Master: 25-Jan-2002 18:35

Accelerator-Porosity Tool Master Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value
Master		11.94
9.900 (Minimum)	11.10 (Nominal)	12.30 (Maximum)

Phase	Array-2 Standoff Porosity PU	Value
Master		11.71
9.900 (Minimum)	11.10 (Nominal)	12.30 (Maximum)

Phase	Average Slowing Down Time US	Value
Master	NOT DONE	N/A
5.750 (Minimum)	6.000 (Nominal)	6.250 (Maximum)

Phase	Array-1 SDT Ratio Up/Down	Value
Master	NOT DONE	N/A
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Phase	Array-1 SDT Ratio Up/Down	Value
Master	NOT DONE	N/A
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Phase	Sigma Formation CU	Value
Master		27.64
20.00 (Minimum)	27.50 (Nominal)	35.00 (Maximum)

Master: Calibration not done

See Remarks

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		40.51
Before		40.71
After		40.59
37.50 (Minimum)	40.00 (Nominal)	42.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		15.75
Before		17.24
After		16.93
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1203
Before		1207
After		1209
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		144.6
Before		146.2
After		145.6
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		9.254
Before		9.073
After		8.861
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		21.86
Before		29.34
After		28.89
-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		39.29
Before		40.56
After		40.16
15.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 23-Jan-2002 11:37 Before: 7-Feb-2002 1:13 After: 11-Feb-2002 9:48

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		40.54
Before		40.54
After		40.61
37.50 (Minimum)	40.00 (Nominal)	42.50 (Maximum)

Phase	Na 511 Peak Res %	Value
Master		16.19
Before		16.67
After		16.58
12.00 (Minimum)	15.50 (Nominal)	19.00 (Maximum)

Phase	High Voltage V	Value
Master		1233
Before		1236
After		1240
900.0 (Minimum)	1150 (Nominal)	1600 (Maximum)

Phase	Na 1785 Peak Loc	Value
Master		143.9
Before		144.1
After		144.6
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)

Phase	Na 1785 Peak Res %	Value
Master		9.453
Before		8.968
After		9.434
7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)

Phase	Temperature DEGC	Value
Master		21.24
Before		29.04
After		29.55
-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

Phase	Na Count Rate CPS	Value
Master		39.11
Before		40.36
After		39.62
15.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 23-Jan-2002 11:37 Before: 7-Feb-2002 1:13 After: 11-Feb-2002 9:48

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		1.004
Before		1.005
After		1.013
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

Master: 23-Jan-2002 11:37
Before: 7-Feb-2002 1:13
After: 11-Feb-2002 9:48

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		209.7	Master		7.364
	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	19.66	Master		0.9848			
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)				

Master: 23-Jan-2002 11:31

See Remarks

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		208.7	Master		7.834
	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	17.61	Master		0.9795			
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)				

Master: 23-Jan-2002 11:31

See Remarks

Scintillation Gamma-Ray - N / Equipment Identification

Primary Equipment:		
Scintillation Gamma Cartridge	SGC - TB	9582
Scintillation Gamma Detector	SGD - TAA	
Auxiliary Equipment:		
Scintillation Gamma Housing	SGH - K	2448
Gamma Source Radioactive	GSR - U/Y	

Scintillation Gamma-Ray - N Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		4.502	Before		167.5	Before		165.0
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			152.3 (Minimum) 167.5 (Nominal) 182.7 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)	

Before: 7-Feb-2002 1:09

Company: Lamont Doherty

Schlumberger

Well: ODP Leg 201, Site 1225A EQP-2A
Field: Equatorial Pacific
Rig: JOIDES Resolution
Ocean: Pacific

APS/HLDT Porosity
Natural Gamma Ray