

Company: Lamont Doherty

Well: ODP Leg 204, Site 1244E

Field: Hydrate Ridge

Ocean: Pacific

State: Oregon

Ocean: Pacific
Field: Hydrate Ridge
Location: W 125° 7.1703'
Well: ODP Leg 204, Site 1244E
Company: Lamont Doherty

Phasor Induction		Natural Gamma Ray	
W 125° 7.1703'	Elev.: K.B. 11.3 m		
N 44° 35.1694'	G.L. 0 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 _____

Logging Date	20-Aug-2002	Run 1	Run 2	Run
Run Number	1			
Depth Driller	1155 m			
Schlumberger Depth	1155 m			
Bottom Log Interval	1149 m			
Top Log Interval	905 m			
Casing Driller Size @ Depth	0.000 in @ 977 m			
Casing Schlumberger	976 m			
Bit Size	11.438 in			
Type Fluid In Hole	Sepiolite Salt Water Base			
Density	1.1 g/cm3			
Fluid Loss	PH _____			
Source Of Sample	Mud Pit			
RM @ Measured Temperature	0.322 ohm.m @ 27 degC			
RMF @ Measured Temperature	@ @			
RMC @ Measured Temperature	@ @			
Source RMF	RMC _____			
RM @ MRT	0.407 @ 17 @ 17			
Maximum Recorded Temperatures	17 degC			
Circulation Stopped	20-Aug-2002 13:00			
Logger On Bottom	20-Aug-2002 17:30			
Unit Number	99 Houston-ODP			
Recorded By	K. Swain			
Witnessed By	G. Guerin, S. Barr, T. Collett			

Logging Date	20-Aug-2002	Run 1	Run 2	Run
Run Number	1			
Depth Driller	1155 m			
Schlumberger Depth	1155 m			
Bottom Log Interval	1149 m			
Top Log Interval	905 m			
Casing Driller Size @ Depth	0.000 in @ 977 m			
Casing Schlumberger	976 m			
Bit Size	11.438 in			
Type Fluid In Hole	Sepiolite Salt Water Base			
Density	1.1 g/cm3			
Fluid Loss	PH _____			
Source Of Sample	Mud Pit			
RM @ Measured Temperature	0.322 ohm.m @ 27 degC			
RMF @ Measured Temperature	@ @			
RMC @ Measured Temperature	@ @			
Source RMF	RMC _____			
RM @ MRT	0.407 @ 17 @ 17			
Maximum Recorded Temperatures	17 degC			
Circulation Stopped	20-Aug-2002 13:00			
Logger On Bottom	20-Aug-2002 17:30			
Unit Number	99 Houston-ODP			
Recorded By	K. Swain			
Witnessed By	G. Guerin, S. Barr, T. Collett			

Logging Date	20-Aug-2002	Run 1	Run 2	Run
Run Number	1			
Depth Driller	1155 m			
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Casing Schlumberger	976 m			
Bit Size	11.438 in			
Type Fluid In Hole	Sepiolite Salt Water Base			
Density	1.1 g/cm3			
Fluid Loss	PH _____			
Source Of Sample	Mud Pit			
RM @ Measured Temperature	0.322 ohm.m @ 27 degC			
RMF @ Measured Temperature	@ @			
RMC @ Measured Temperature	@ @			
Source RMF	RMC _____			
RM @ MRT	0.407 @ 17 @ 17			
Maximum Recorded Temperatures	17 degC			
Circulation Stopped	20-Aug-2002 13:00			
Logger On Bottom	20-Aug-2002 17:30			
Unit Number	99 Houston-ODP			
Recorded By	K. Swain			
Witnessed By	G. Guerin, S. Barr, T. Collett			

Logging Date	20-Aug-2002	Run 1	Run 2	Run
Run Number	1			
Depth Driller	1155 m			
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Casing Schlumberger	976 m			
Bit Size	11.438 in			
Type Fluid In Hole	Sepiolite Salt Water Base			
Density	1.1 g/cm3			
Fluid Loss	PH _____			
Source Of Sample	Mud Pit			
RM @ Measured Temperature	0.322 ohm.m @ 27 degC			
RMF @ Measured Temperature	@ @			
RMC @ Measured Temperature	@ @			
Source RMF	RMC _____			
RM @ MRT	0.407 @ 17 @ 17			
Maximum Recorded Temperatures	17 degC			
Circulation Stopped	20-Aug-2002 13:00			
Logger On Bottom	20-Aug-2002 17:30			
Unit Number	99 Houston-ODP			
Recorded By	K. Swain			
Witnessed By	G. Guerin, S. Barr, T. Collett			

Logging Date	20-Aug-2002	Run 1	Run 2	Run
Run Number	1			
Depth Driller	1155 m			
Schlumberger Depth	1155 m			
Bottom Log Interval	1149 m			
Top Log Interval	905 m			
Casing Driller Size @ Depth	0.000 in @ 977 m			
Casing Schlumberger	976 m			
Bit Size	11.438 in			
Type Fluid In Hole	Sepiolite Salt Water Base			
Density	1.1 g/cm3			
Fluid Loss	PH _____			
Source Of Sample	Mud Pit			
RM @ Measured Temperature	0.322 ohm.m @ 27 degC			
RMF @ Measured Temperature	@ @			
RMC @ Measured Temperature	@ @			
Source RMF	RMC _____			
RM @ MRT	0.407 @ 17 @ 17			
Maximum Recorded Temperatures	17 degC			
Circulation Stopped	20-Aug-2002 13:00			
Logger On Bottom	20-Aug-2002 17:30			
Unit Number	99 Houston-ODP			
Recorded By	K. Swain			
Witnessed By	G. Guerin, S. Barr, T. Collett			

DISCLAIMER

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OTHER SERVICES1
 OS1: WST3
 OS2: FMS/DSST
 OS3: IPL
 OS4:
 OS5:

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

REMARKS: RUN NUMBER 1
 Depths in meters below rig floor.
 Drill pipe SLB at 976 mbrf.
 Sea Floor SLB at 905 mbrf.

REMARKS: RUN NUMBER 2

RUN 1
 SERVICE ORDER #:
 PROGRAM VERSION: 10C0-306
 FLUID LEVEL:

RUN 2
 SERVICE ORDER #:
 PROGRAM VERSION:
 FLUID LEVEL:

LOGGED INTERVAL	START	STOP




LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

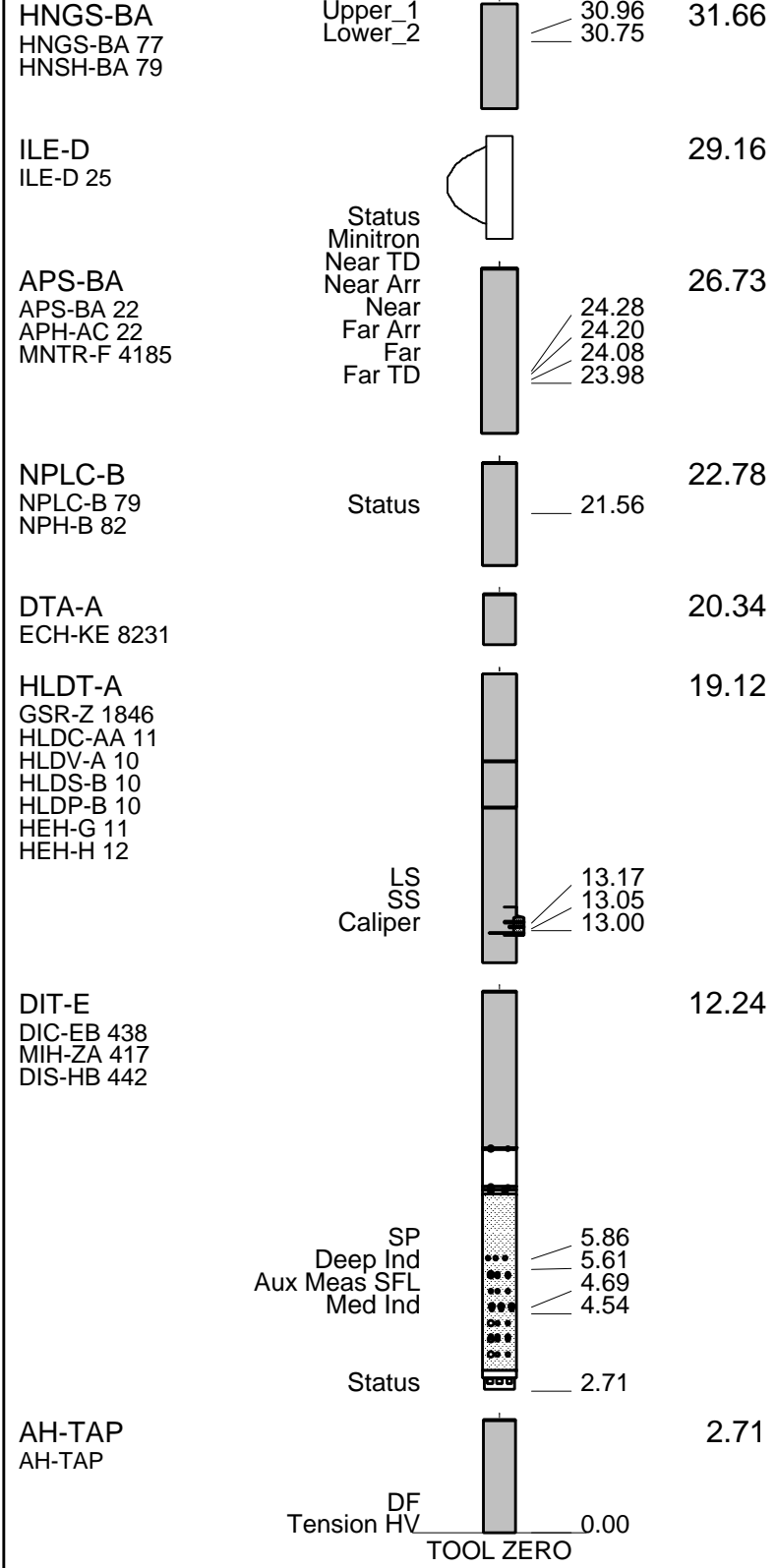
RUN 1
SURFACE EQUIPMENT
 SFT-281 24
 SFT-178 4722
 GSR-U 135
 WITM (DTS)-A

RUN 2

DOWNHOLE EQUIPMENT

LEH-QT  34.84
 LEH-QT 1497
 AH-QSST  33.95
 AH-QSST 12
 DTC-H  32.58
 ECH-KC 9841

CTEM 32.30
 TelStatus
 ToolStatu 31.66



TOOL ZERO

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

Output DLIS Files

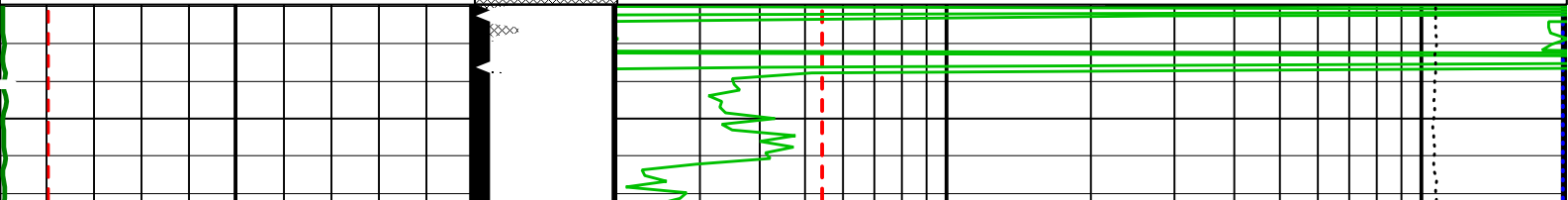
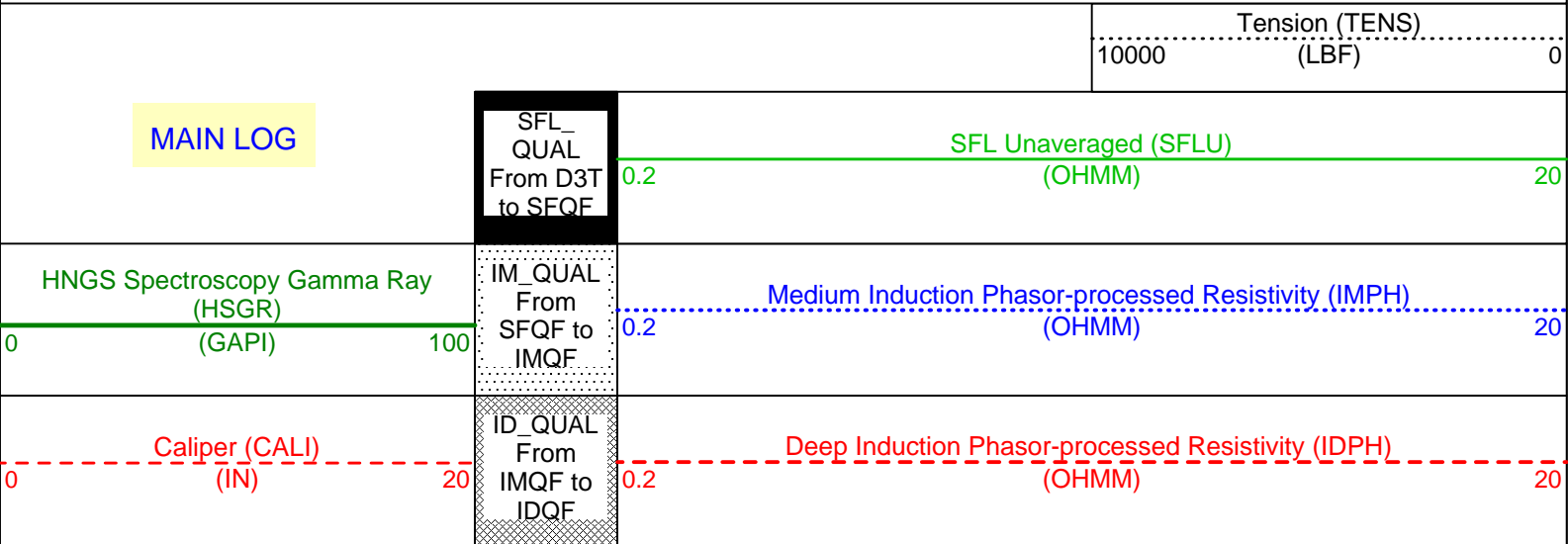
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REDUCE	PI_LDL_APS_NGS_006LUP	FN:8	PRODUCER	20-Aug-2002 17:27	1154.4 M	887.0 M

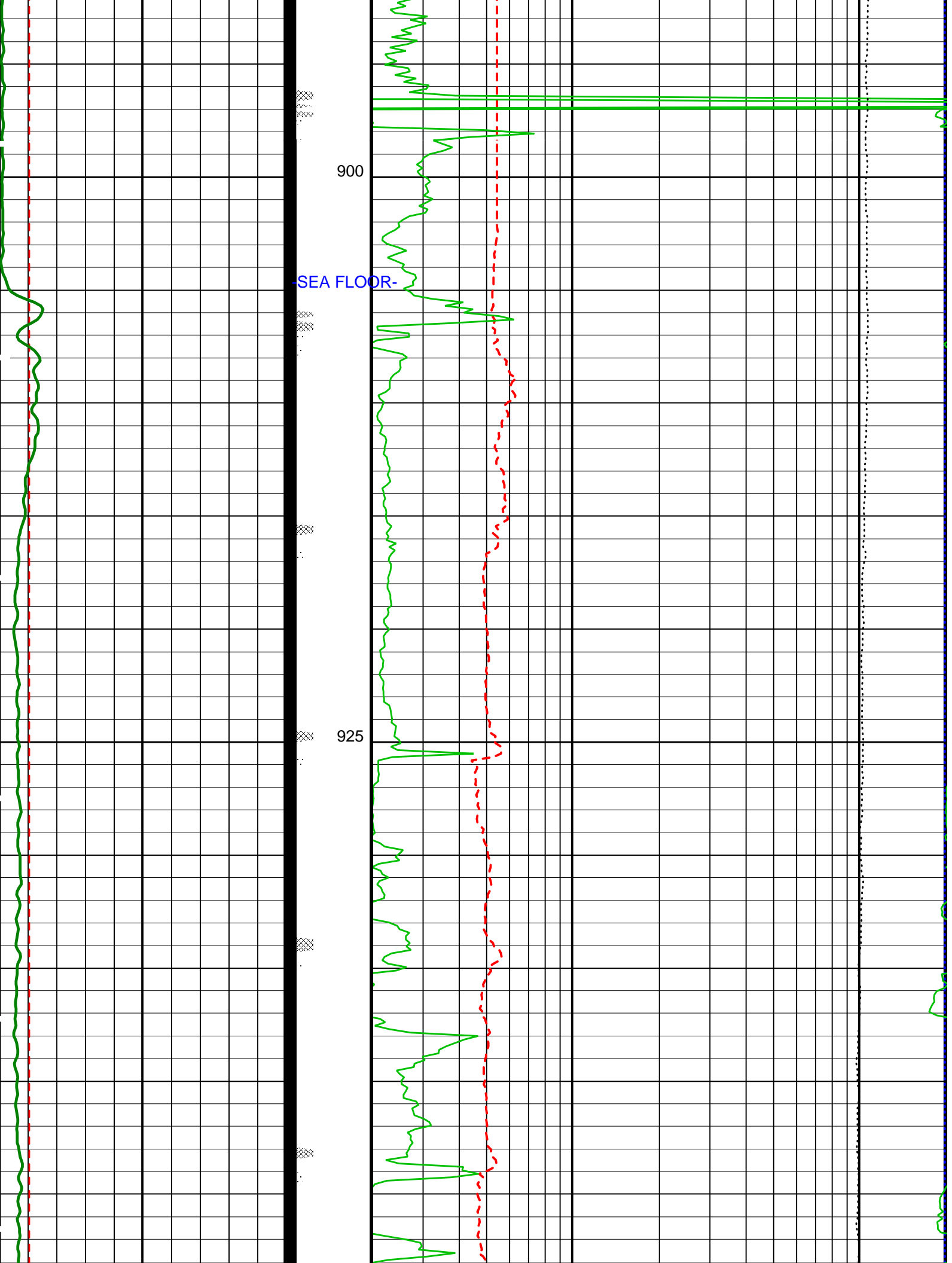
OP System Version: 10C0-306 MCM

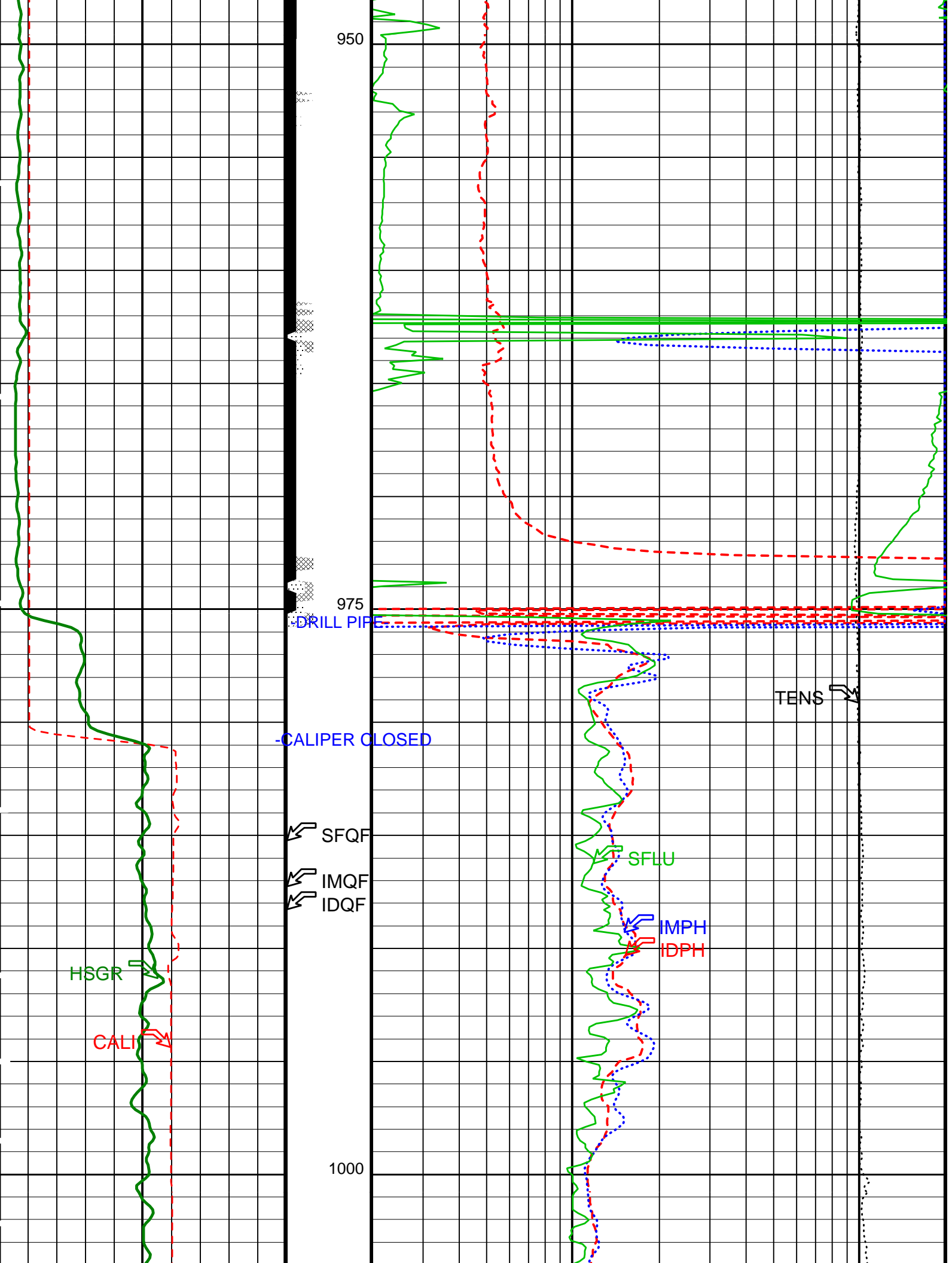
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DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

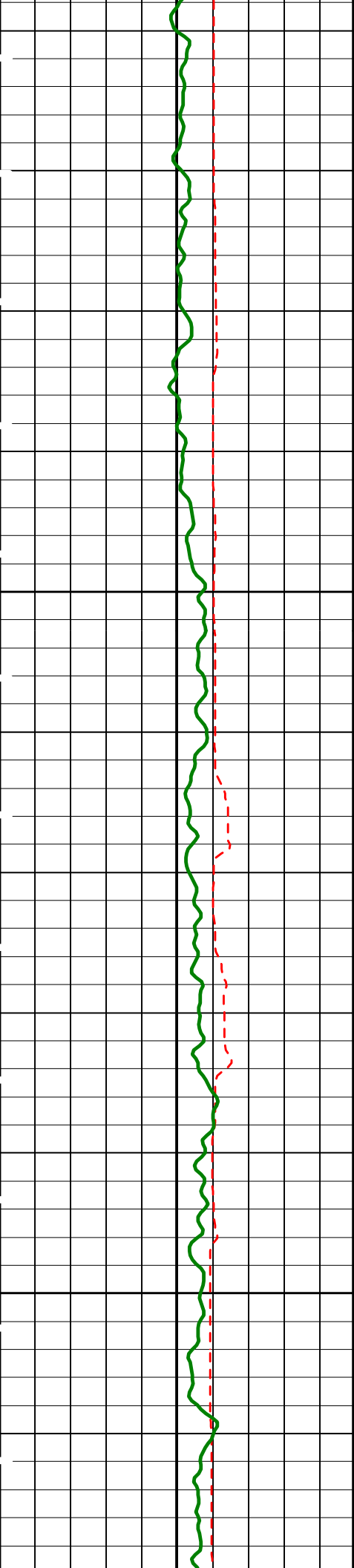
PIP SUMMARY

Time Mark Every 60 S



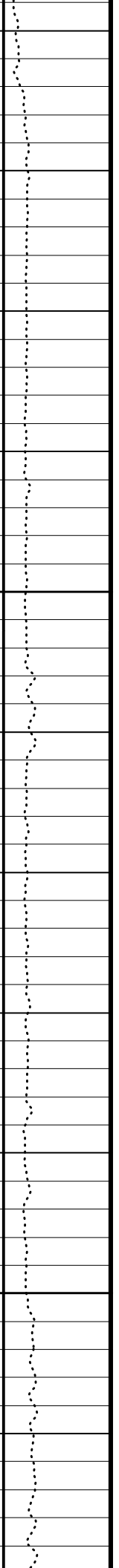
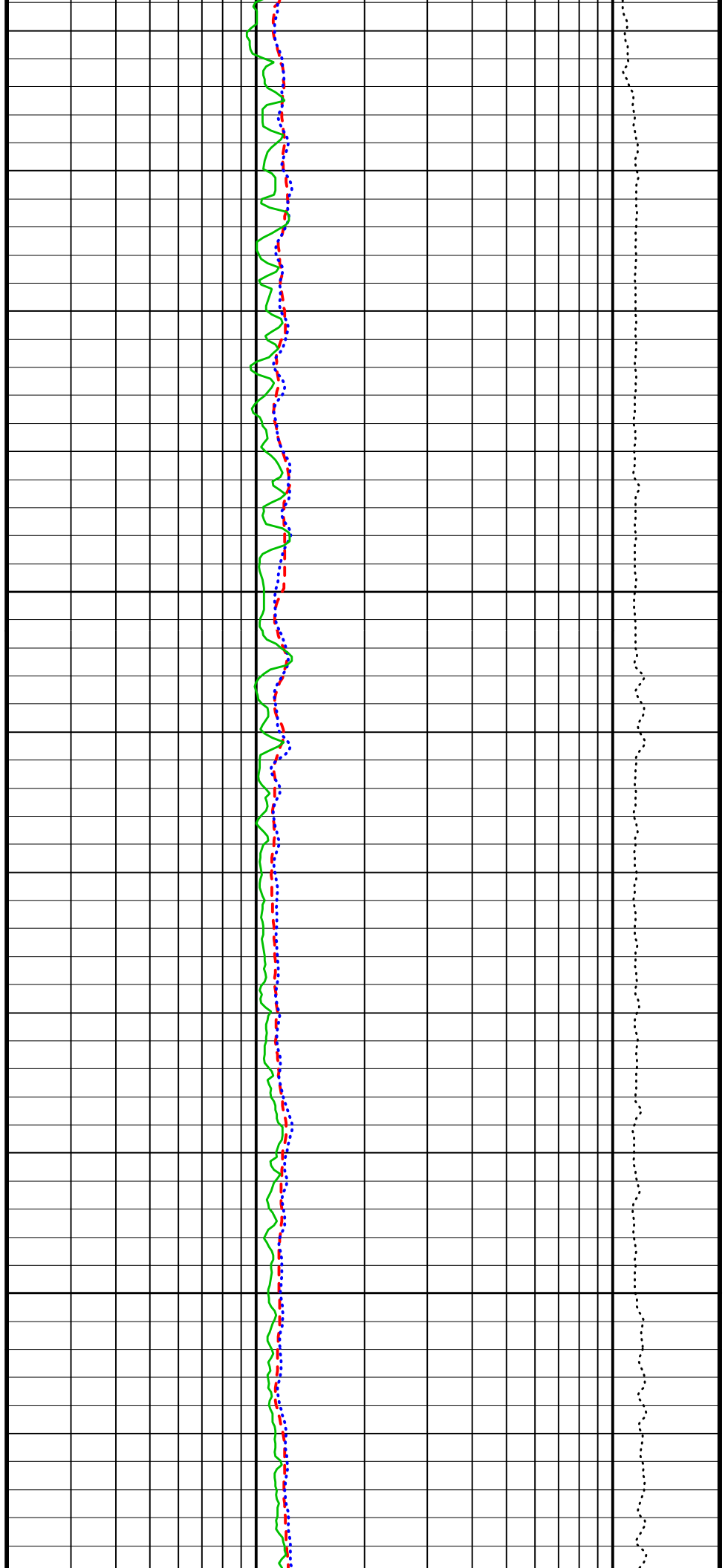


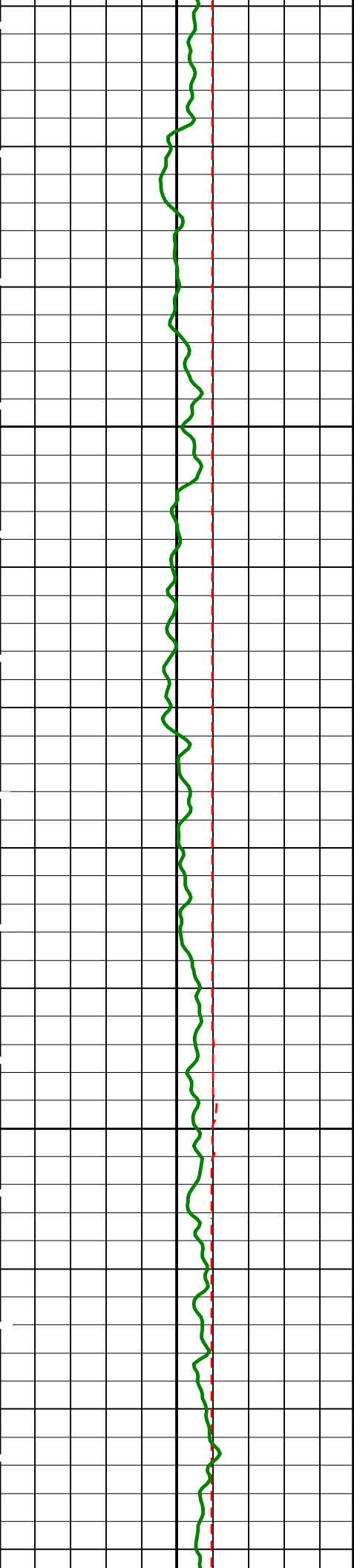




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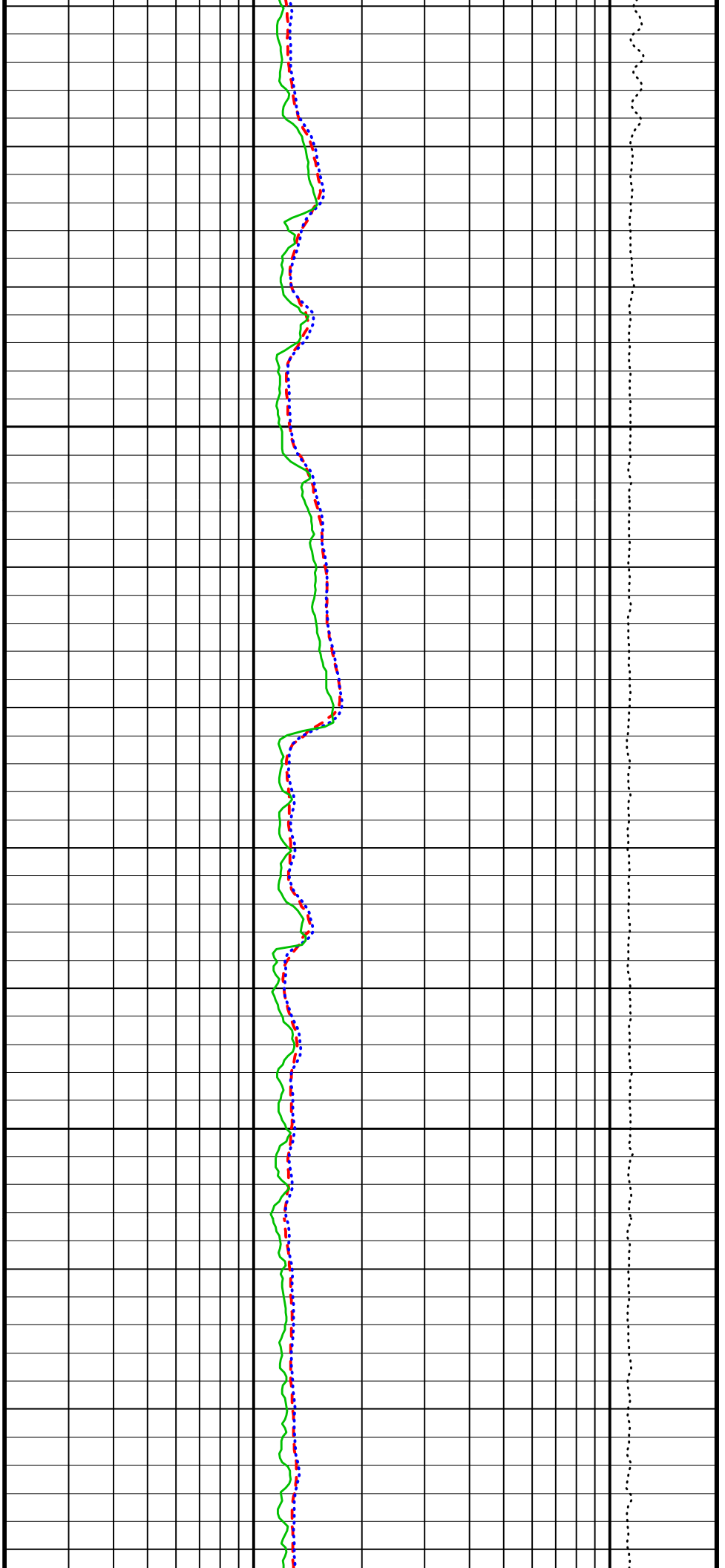
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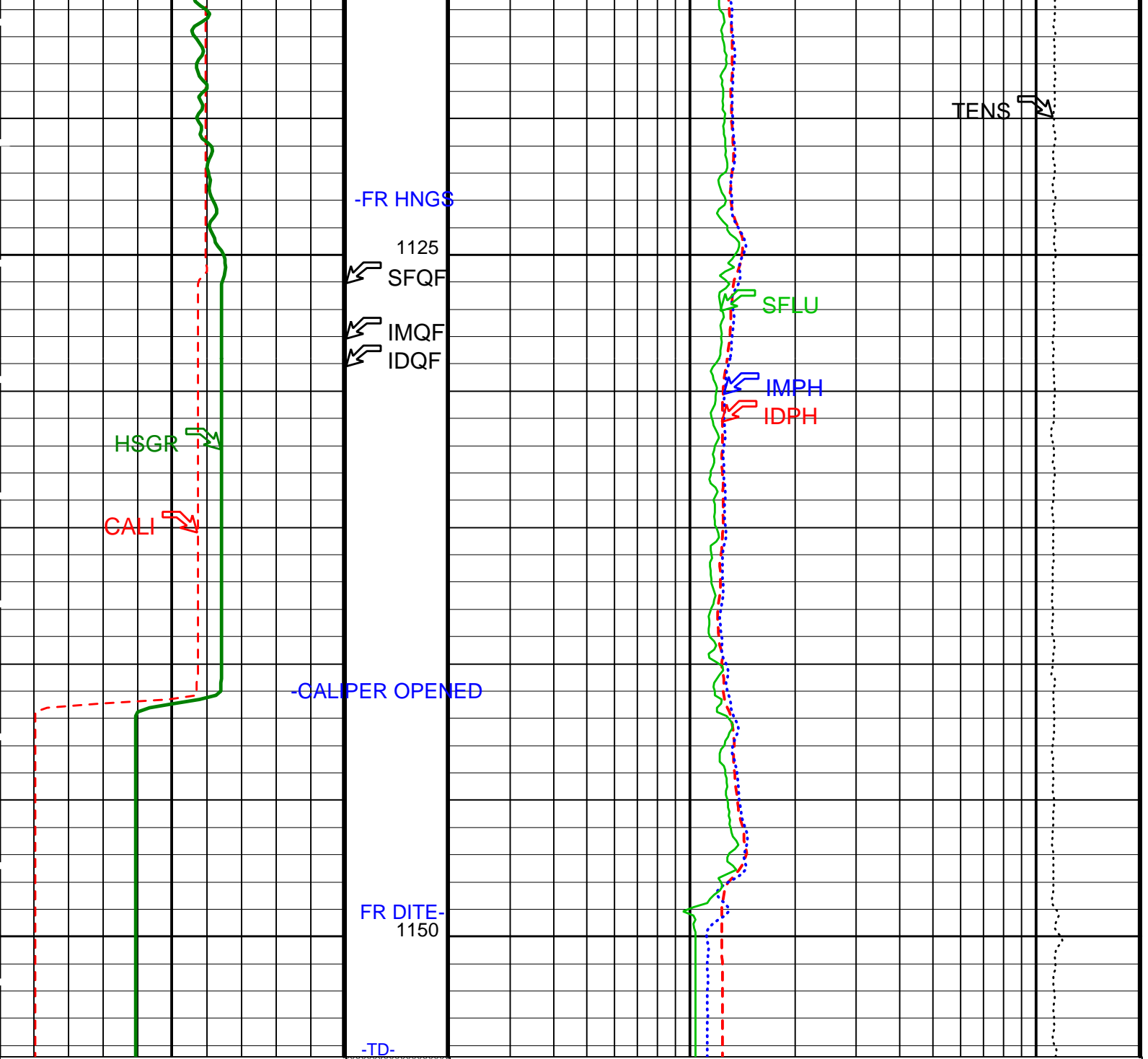




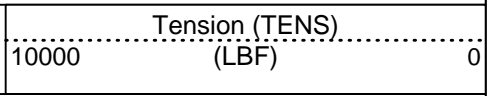
1075

1100





Caliper (CALI) (IN)	ID_QUAL From IMQF to IDQF	Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)
HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)	IM_QUAL From SFQF to IMQF	Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)
MAIN LOG	SFL_QUAL From D3T to SFQF	SFL Unaveraged (SFLU) (OHMM)



PIP SUMMARY

Parameters

DLIS Name	Description	Value	
DIT-E: Dual Induction - E			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
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	0.018227	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	1.02964	
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
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	20	DEGC
APS-BA: Accelerator-Porosity Tool			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
GCSE	Generalized Caliper Selection	CALI	
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)	100	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	CALI	
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	-0.000467756	
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	0.964262	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.983536	
System and Miscellaneous			
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.10	G/C3
TD	Total Depth	-50000	M

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 20-Aug-2002 17:28

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

Output DLIS Files

DEFAULT PI_LDL_APS_NGS_006LUP FN:7 PRODUCER 20-Aug-2002 17:27

Output DLIS Files

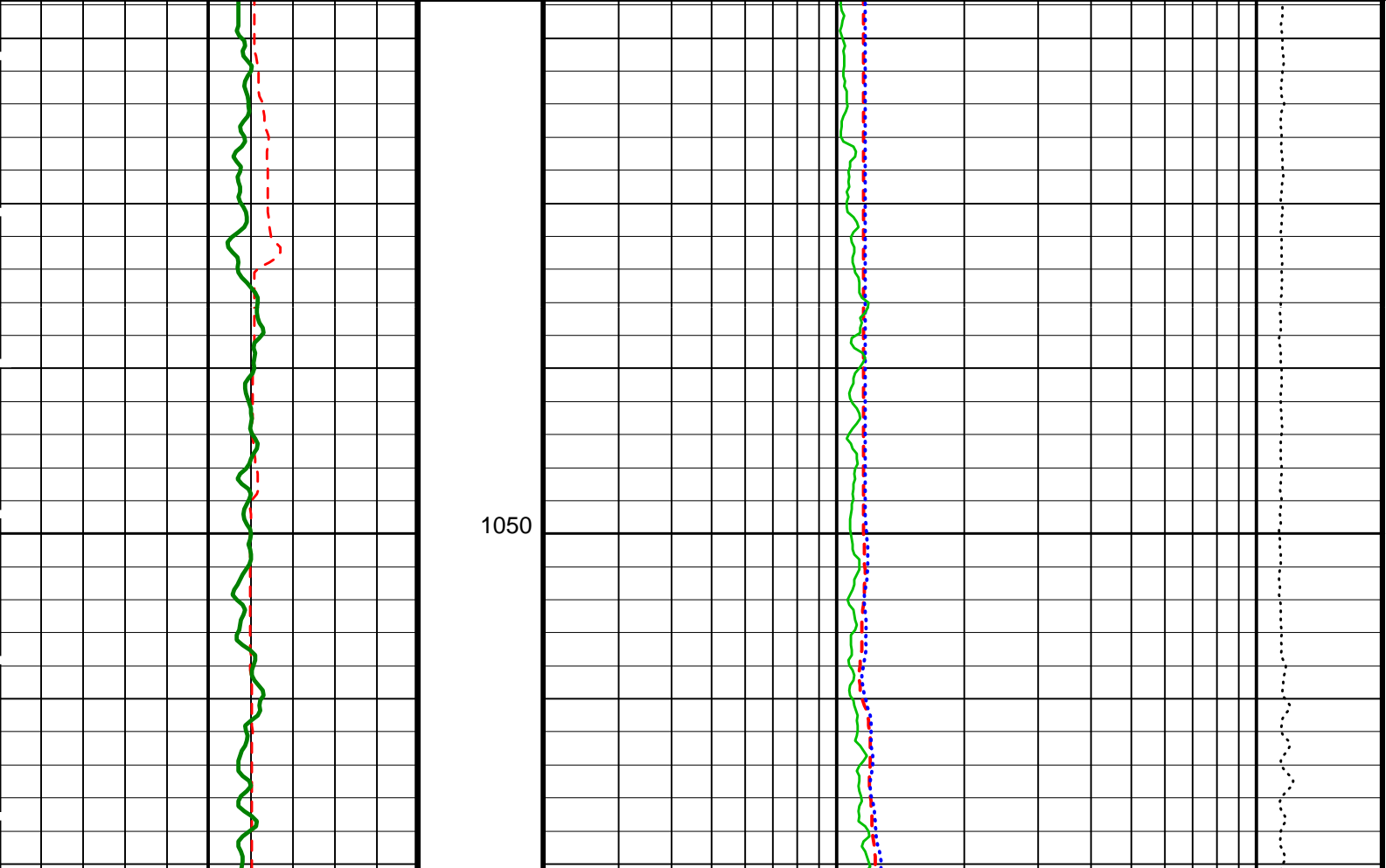
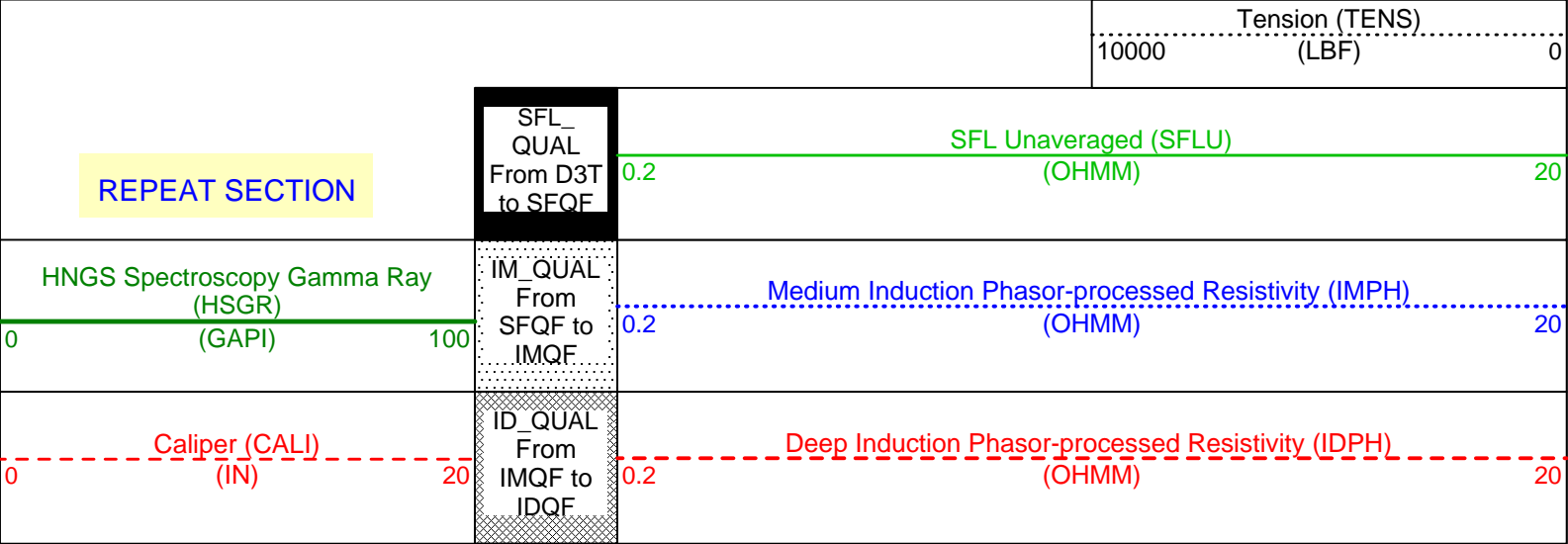
DEFAULT	PI_LDL_APS_NGS_008LUP	FN:10	PRODUCER	20-Aug-2002 18:27	1154.4 M	1033.9 M
REDUCE	PI_LDL_APS_NGS_008LUP	FN:11	PRODUCER	20-Aug-2002 18:27	1154.4 M	1033.9 M

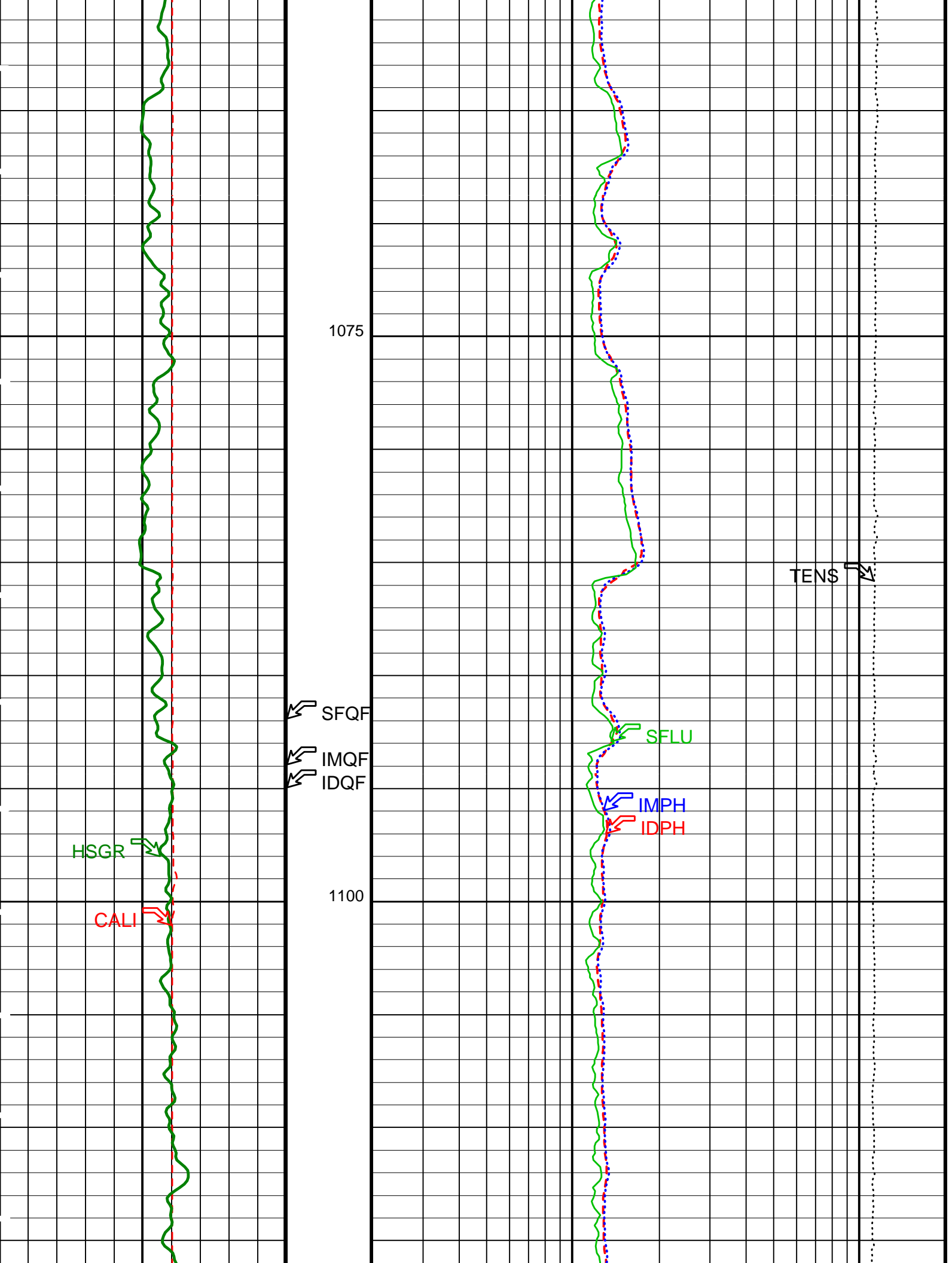
OP System Version: 10C0-306 MCM

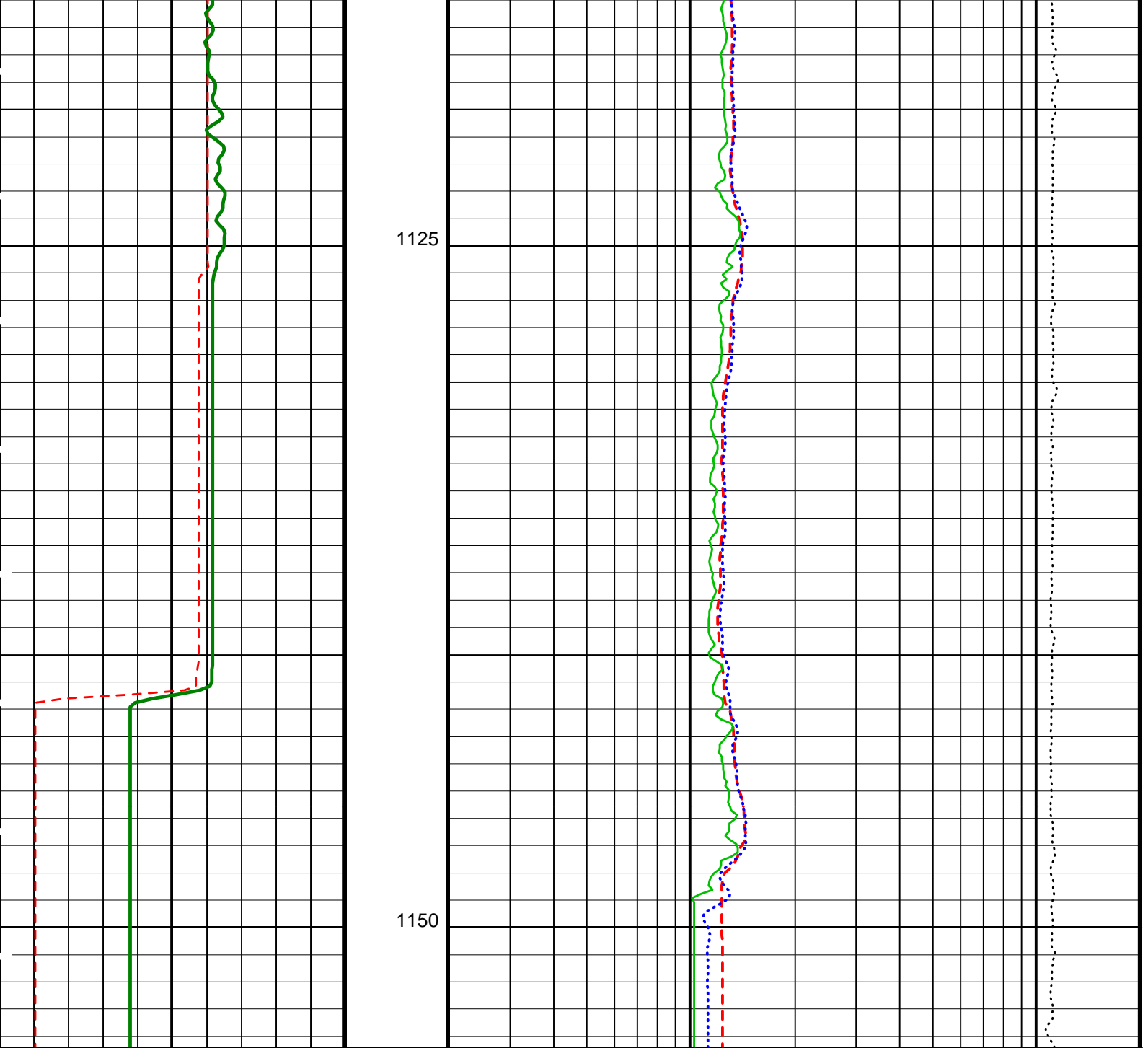
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DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

PIP SUMMARY

Time Mark Every 60 S







<p>Caliper (CALI) (IN)</p> <p>0 20</p>	<p>ID_QUAL From IMQF to IDQF</p>	<p>Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)</p> <p>0.2 20</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 100</p>	<p>IM_QUAL From SFQF to IMQF</p>	<p>Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)</p> <p>0.2 20</p>
<p>REPEAT SECTION</p>	<p>SFL_QUAL From D3T to SFQF</p>	<p>SFL Unaveraged (SFLU) (OHMM)</p> <p>0.2 20</p>
		<p>Tension (TENS) (LBF)</p> <p>10000 0</p>

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)	100	DEGC
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	0.018227	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	1.02964	
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
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	20	DEGC
APS-BA: Accelerator-Porosity Tool			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
GCSE	Generalized Caliper Selection	CALI	
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
HNCS-BA: Hostile Natural Gamma Ray Sonde			
BAR1	HNCS Detector 1 Barite Constant	1	
BAR2	HNCS Detector 2 Barite Constant	1	
BHK	HNCS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	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	HNCS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNCS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNCS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNCS Borehole Potassium Running Average	-0.00756454	
HALF	HNCS Alpha Filter Length	60	IN
HCRB	HNCS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNCS Processing Enable	YES	
S1BI	HNCS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNCS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNCS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNCS Detector 1 Variable Barite Factor Running Average	0.961934	
VBA2	HNCS Detector 2 Variable Barite Factor Running Average	0.981195	
System and Miscellaneous			
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.10	G/C3
TD	Total Depth	-50000	M

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 20-Aug-2002 18:27

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNCS-BA	OP10-KP1
DTC-H	10C0-306		

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_008LUP	FN:10	PRODUCER	20-Aug-2002 18:27
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Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement							
Master: 11-Jun-2002 22:31 Before: 24-Jul-2002 15:39 After: 18-Aug-2002 1:47							
LSW1 Background	100.0	88.67	86.74	87.00	0.2697	0.03000	CPS
LSW2 Background	105.0	93.18	91.70	92.27	0.5778	0.03000	CPS
LSW3 Background	210.0	177.4	176.2	178.4	2.285	0.03000	CPS
LSW4 Background	290.0	236.8	236.6	234.4	-2.134	0.03000	CPS
LSW5 Background	610.0	518.0	517.3	519.6	2.307	0.03000	CPS
SSW1 Background	100.0	83.02	84.95	83.23	-1.720	0.03000	CPS
SSW2 Background	200.0	165.1	166.3	165.4	-0.9567	0.03000	CPS
SSW3 Background	530.0	440.7	439.6	439.0	-0.6002	0.03000	CPS
SSW4 Background	280.0	232.4	232.4	232.4	-0.07803	0.03000	CPS
SSW5 Background	205.0	174.0	173.3	174.2	0.8656	0.03000	CPS
Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage							
Master: 11-Jun-2002 22:31 Before: 24-Jul-2002 15:39 After: 18-Aug-2002 1:47							
LS Bkg. High Voltage	1133	1133	1130	1132	2.423	N/A	V
SS Bkg. High Voltage	1177	1177	1171	1173	2.729	N/A	V
Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurements							
Master: 11-Jun-2002 22:31 Before: 24-Jul-2002 15:39 After: 18-Aug-2002 1:47							
LS Background Resolution	1.000	1.032	1.032	1.045	0.01232	N/A	
SS Background Resolution	1.000	0.9430	0.9416	0.9470	0.005421	N/A	
Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration							
Before: 24-Jul-2002 15:38							
Caliper Small Ring	12.00	N/A	17.14	N/A	N/A	N/A	IN
Caliper Large Ring	15.25	N/A	21.07	N/A	N/A	N/A	IN
Accelerator-Porosity Tool Wellsite Calibration - Detector Background							
Master: 24-Jul-2002 7:08 Before: 20-Aug-2002 19:27 After: 20-Aug-2002 20:30							
Near Det Bkg Cntrate	30.00	32.30	33.15	33.34	0.1836	N/A	CPS
Far Det Bkg Cntrate	30.00	33.62	31.94	34.76	2.821	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.88	28.76	29.28	0.5171	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.64	29.81	30.01	0.2002	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.75	31.22	32.59	1.368	N/A	CPS
Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios							
Master: 24-Jul-2002 7:08							
Near/Far Calibration Ratio	0.9250	0.9076	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.066	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.006	N/A	N/A	N/A	N/A	
Accelerator-Porosity Tool Wellsite Calibration - Tank Check							
Master: 24-Jul-2002 7:09							
Array-1 Standoff Porosity	11.75	11.51	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.19	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.884	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9901	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9732	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.88	N/A	N/A	N/A	N/A	CU
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check							
Master: 13-Jul-2002 1:08 Before: 24-Jul-2002 10:59 After: 18-Aug-2002 1:42							
Na 511 Peak Loc	40.00	40.59	40.60	40.60	0.001640	1.000	
Na 511 Peak Res	15.50	16.79	16.89	16.43	-0.4574	2.000	%
High Voltage	1150	1224	1220	1220	0.04187	30.00	V
Na 1785 Peak Loc	142.6	145.1	146.3	145.2	-1.068	7.000	
Na 1785 Peak Res	8.500	10.40	8.694	9.013	0.3196	2.000	%
Temperature	15.50	24.98	22.43	20.67	-1.759	N/A	DEGC
Na Count Rate	45.00	50.31	49.89	49.45	-0.4335	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check							
Master: 13-Jul-2002 1:08 Before: 24-Jul-2002 10:59 After: 18-Aug-2002 1:42							
Na 511 Peak Loc	40.00	40.58	40.59	40.64	0.05220	1.000	
Na 511 Peak Res	15.50	16.72	16.53	16.53	0.0008736	2.000	%
High Voltage	1150	1253	1250	1247	-2.899	30.00	V
Na 1785 Peak Loc	142.6	144.7	144.3	144.9	0.6215	7.000	
Na 1785 Peak Res	8.500	9.766	9.897	9.235	-0.6618	2.000	%
Temperature	15.50	24.15	21.87	20.92	-0.9464	N/A	DEGC
Na Count Rate	45.00	50.19	49.39	49.20	-0.1973	8.000	CPS

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

Master: 13-Jul-2002 1:08 Before: 24-Jul-2002 10:59 After: 18-Aug-2002 1:42

Coincidence Count Rate Ratio 1.000 1.004 1.010 1.005 -0.004628 0.05000

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 13-Jul-2002 1:01

Na 511 Peak Set Point	40.00	41.00	--	--	--	--
Th Peak Loc	209.6	208.9	--	--	--	--
Th Peak Res	7.000	8.227	--	--	--	%
Background Count Rate	142.5	24.67	--	--	--	CPS
Gain Ratio	1.000	0.9793	--	--	--	--

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration

Master: 13-Jul-2002 1:01

Na 511 Peak Set Point	40.00	41.00	--	--	--	--
Th Peak Loc	209.6	208.8	--	--	--	--
Th Peak Res	7.000	8.191	--	--	--	%
Background Count Rate	142.5	22.68	--	--	--	CPS
Gain Ratio	1.000	0.9792	--	--	--	--

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
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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			37.53	Before		0.9770	Before		10.63	
	-262.8 (Minimum)	37.15 (Nominal)	337.2 (Maximum)		0.8294 (Minimum)	0.9794 (Nominal)	1.171 (Maximum)	0.6325 (Minimum)	10.63 (Nominal)	20.63 (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			22.25	Before		0.9660	Before		13.27	
	-277.5 (Minimum)	22.53 (Nominal)	322.5 (Maximum)		0.8193 (Minimum)	0.9693 (Nominal)	1.157 (Maximum)	3.310 (Minimum)	13.31 (Nominal)	23.31 (Maximum)
Phase	IM Elect Real Offset 10 kHz	MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value				
Before			96.05	Before		0.9527				
	-453.5 (Minimum)	96.54 (Nominal)	646.5 (Maximum)		0.8074 (Minimum)	0.9574 (Nominal)	1.140 (Maximum)			
Phase	IM Elect Quad Offset 10 kHz	MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value				
Before			94.74	Before		0.9503				
	-454.8 (Minimum)	95.18 (Nominal)	645.2 (Maximum)		0.8055 (Minimum)	0.9555 (Nominal)	1.137 (Maximum)			

Before: 24-Jul-2002 11:24

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			14.85	Before		1.004	Before		9.036	
	-110.3 (Minimum)	14.68 (Nominal)	139.7 (Maximum)		0.8551 (Minimum)	1.005 (Nominal)	1.207 (Maximum)	-5.718 (Minimum)	9.282 (Nominal)	24.28 (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			8.842	Before		0.9923	Before		12.07	
	-115.9 (Minimum)	9.089 (Nominal)	134.1 (Maximum)		0.8445 (Minimum)	0.9945 (Nominal)	1.192 (Maximum)	-2.653 (Minimum)	12.35 (Nominal)	27.35 (Maximum)
Phase	IM Elect Real Offset 20 kHz	MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value				

Before		39.82	Before		1.010
-184.7 (Minimum)	40.31 (Nominal)	265.3 (Maximum)	0.8587 (Minimum)	1.009 (Nominal)	1.212 (Maximum)
Phase	IM Elect Quad Offset 20 kHz MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value
Before		39.36	Before		1.007
-185.2 (Minimum)	39.80 (Nominal)	264.8 (Maximum)	0.8566 (Minimum)	1.007 (Nominal)	1.209 (Maximum)

Before: 24-Jul-2002 10:54

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		9.741	Before		0.9887	Before		27.54		
-75.43 (Minimum)	9.570 (Nominal)	94.57 (Maximum)	0.8395 (Minimum)	0.9895 (Nominal)	1.185 (Maximum)	9.068 (Minimum)	29.07 (Nominal)	49.07 (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		5.856	Before		0.9765	Before		31.11		
-79.10 (Minimum)	5.897 (Nominal)	90.90 (Maximum)	0.8281 (Minimum)	0.9781 (Nominal)	1.169 (Maximum)	12.68 (Minimum)	32.68 (Nominal)	52.68 (Maximum)		
Phase	IM Elect Real Offset 40 kHz MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value					
Before		26.08	Before		1.025					
-103.8 (Minimum)	26.19 (Nominal)	156.2 (Maximum)	0.8673 (Minimum)	1.017 (Nominal)	1.224 (Maximum)					
Phase	IM Elect Quad Offset 40 kHz MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value					
Before		25.86	Before		1.022					
-104.1 (Minimum)	25.92 (Nominal)	155.9 (Maximum)	0.8649 (Minimum)	1.015 (Nominal)	1.221 (Maximum)					

Before: 24-Jul-2002 11:26

Dual Induction - E Wellsite Calibration					
SFL Electronics					
Phase	SFL Voltage Offset MV	Value	Phase	SFL Voltage Gain	Value
Before		1.196	Before		1.016
-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		0.005420	Before		0.9940
-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)	0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: 24-Jul-2002 10:55

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		0.3956	After		0.0005664	After		0.0005712		
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		0.5607	After		0.0002925					
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		0.5679	After		0.0004679					
0 (Minimum)	0 (Nominal)	0.7500 (Maximum)	0 (Minimum)	0 (Nominal)	2.000 (Maximum)					

After: 20-Aug-2002 20:16

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		0.9956	Master		1.008	Master		1.026		
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)		

Master	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	1.022	Master	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	1.030	Master	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	1.061
Phase	Deep 10 kHz Phase Shift			Value	Phase	Deep 20 kHz Phase Shift			Value	Phase	Deep 40 kHz Phase Shift			Value
Master				0.1143	Master				-0.1524	Master				-1.426
	-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				-0.2558	Master				-0.9331	Master				-2.461
	-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 6-Oct-2001 0:50														

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				44.95	Master				16.36	Master				4.690
	-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				108.9	Master				64.63	Master				46.10
	-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				20.73	Master				-1.786	Master				-10.46
	-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				-105.8	Master				-34.20	Master				11.45
	-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 6-Oct-2001 1:22														

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

Nuclear Porosity Lithology Cartridge - B / Equipment Identification

Primary Equipment:

NPLC Cartridge	NPLC - B	79
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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 77

Auxiliary Equipment:
HNGS Sonde Housing
Gamma Source Radioactive

HNSH - BA 79
GSR - U 135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.59	Master		16.79	Master		1224
Before		40.60	Before		16.89	Before		1220
After		40.60	After		16.43	After		1220
	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		145.1	Master		10.40	Master		24.98
Before		146.3	Before		8.694	Before		22.43
After		145.2	After		9.013	After		20.67
	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		50.31						
Before		49.89						
After		49.45						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 13-Jul-2002 1:08			Before: 24-Jul-2002 10:59			After: 18-Aug-2002 1:42		

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		40.58	Master		16.72	Master		1253
Before		40.59	Before		16.53	Before		1250
After		40.64	After		16.53	After		1247
	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		144.7	Master		9.766	Master		24.15
Before		144.3	Before		9.897	Before		21.87
After		144.9	After		9.235	After		20.92
	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		50.19						
Before		49.39						
After		49.20						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 13-Jul-2002 1:08			Before: 24-Jul-2002 10:59			After: 18-Aug-2002 1:42		

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		1.004
Before		1.016
After		1.016

Before		1.010
After		1.005
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: 13-Jul-2002 1:08		
Before: 24-Jul-2002 10:59		
After: 18-Aug-2002 1:42		

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			208.9	Master			8.227
	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			24.67	Master			0.9793				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				
Master: 13-Jul-2002 1:01											

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			208.8	Master			8.191
	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			22.68	Master			0.9792				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				
Master: 13-Jul-2002 1:01											

Company: Lamont Doherty



Well: ODP Leg 204, Site 1244E
 Field: Hydrate Ridge
 Ocean: Pacific
 State: Oregon

Phasor Induction

Natural Gamma Ray