

DISCLAIMER

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OTHER SERVICES1 OS1: Hngs/HLDT/APS OS2: SGTN OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
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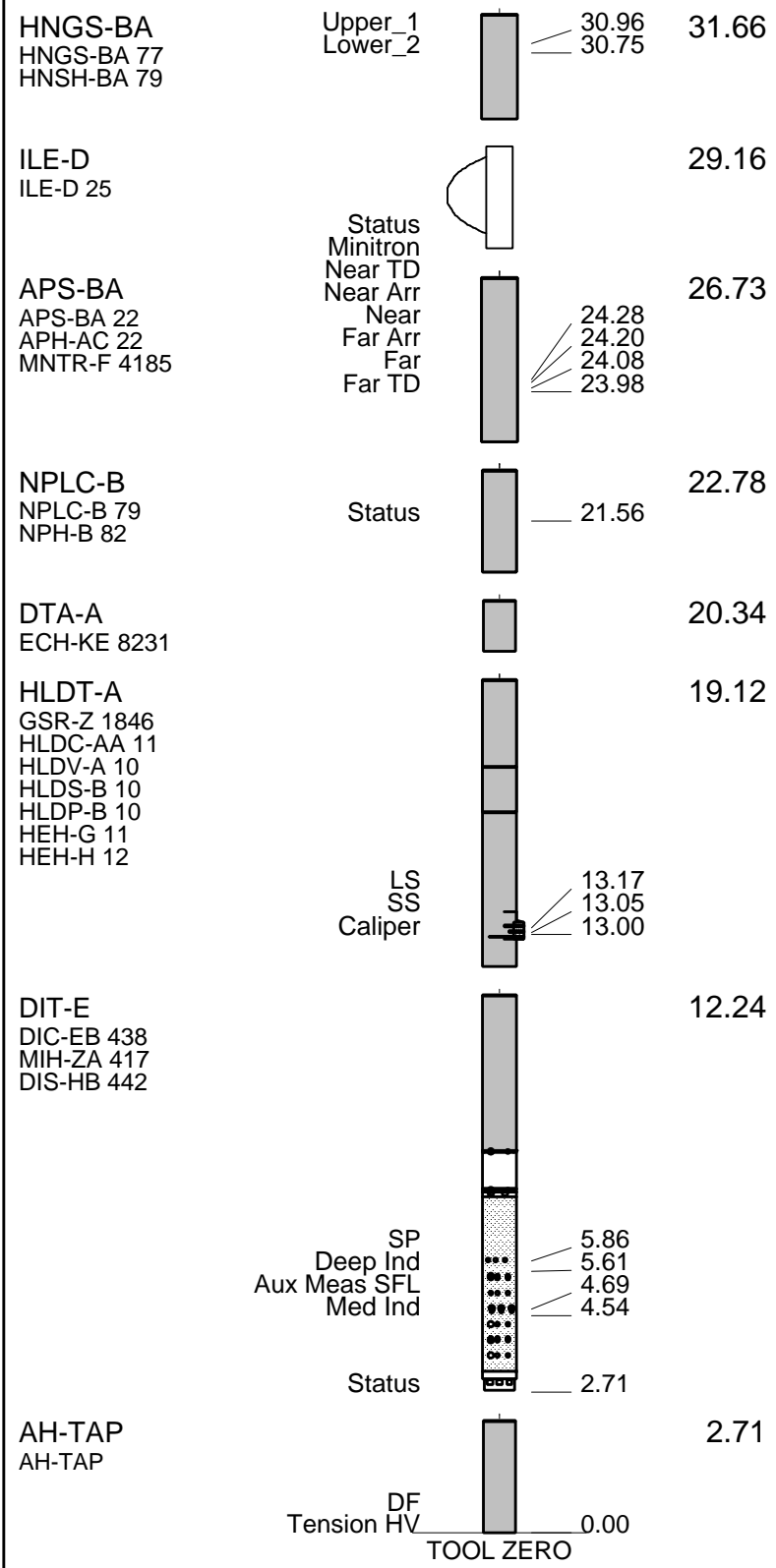
REMARKS: RUN NUMBER 1 Hole cored with APC, PCS. Log presented in meters below rig floor. Lamont Temperature tool (TAP) was run on Triple Combo. Wireline Heave Compensator (WHC) was used on all descents. Sepiolite mud was used to displace the hole during the wiper trip after drillin Drillers TD 350 mbrf, Driller pipe depth: 231 mbrf, Sea Floor: 164 mbrf. Drill Pipe Schlumberger 233 mbrf. Sea Floor Schlumberger 164 mbrf. Software bug shows APS calibration not done for part of calibration. Low background countrate on HNGS master calibration signifies a weak internal source used for check of detector and not used in calibration.	REMARKS: RUN NUMBER 2
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RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:	10C0-306		PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1		RUN 2	
SURFACE EQUIPMENT			
SFT-281 24	DTM-B		
SFT-178 4722			
GSR-U 135			
GSR-U/Y			

DOWNHOLE EQUIPMENT			
LEH-QT			35.14
LEH-QT 1726			
DTC-H	CTEM		33.98
ECH-KC 9343	TelStatus		34.25
	ToolStatu		33.34
SGT-N	Gamma Ray		33.06
SGH-K 2448			
SCC TR 0582			



TOOL ZERO

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

Input DLIS Files

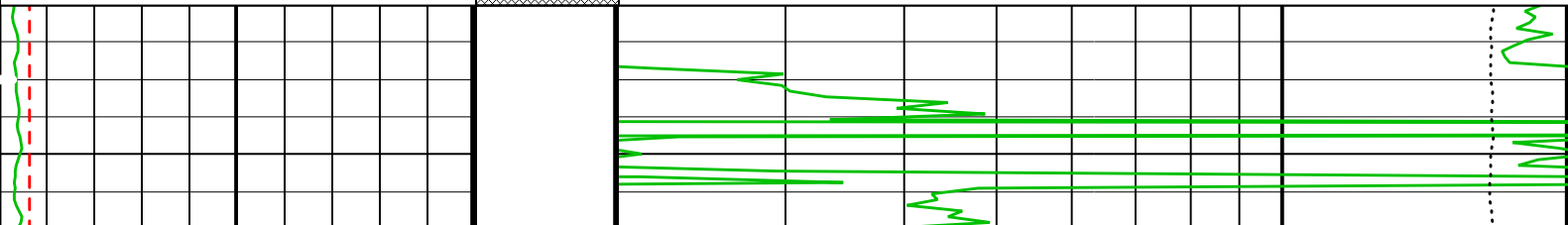
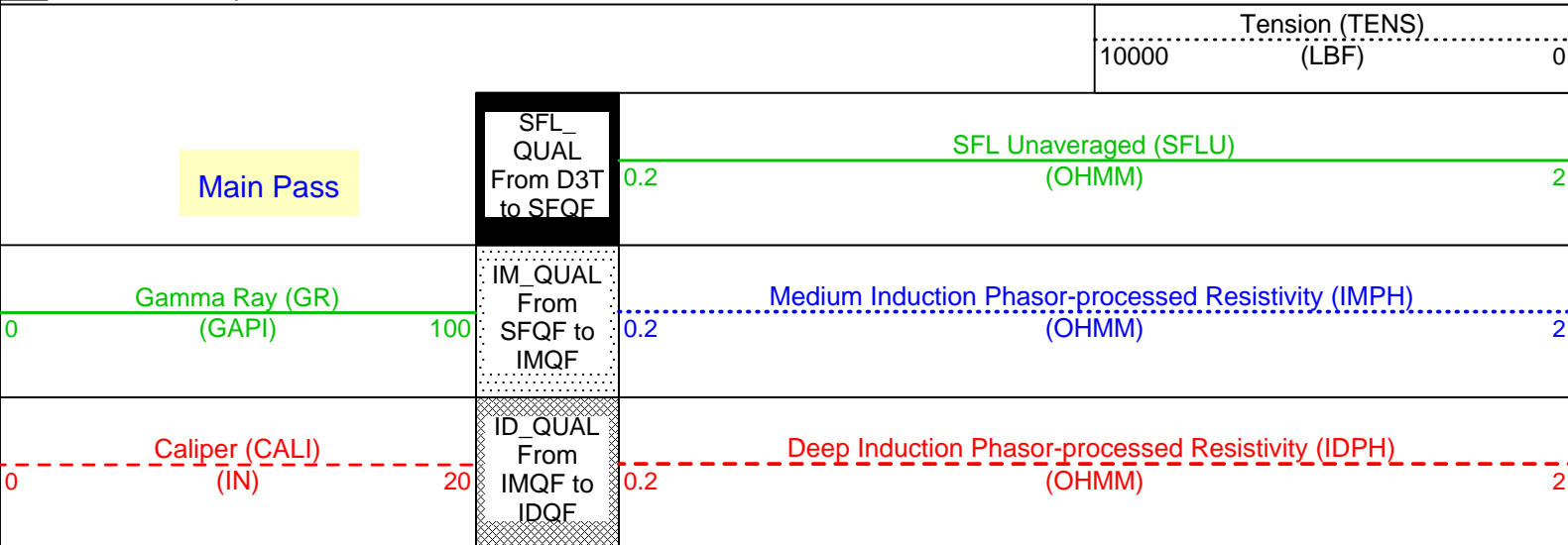
DEFAULT PI_LDL_APS_NGS_006LUP FN:7 PRODUCER 08-Mar-2002 11:20 349.8 M 144.0 M

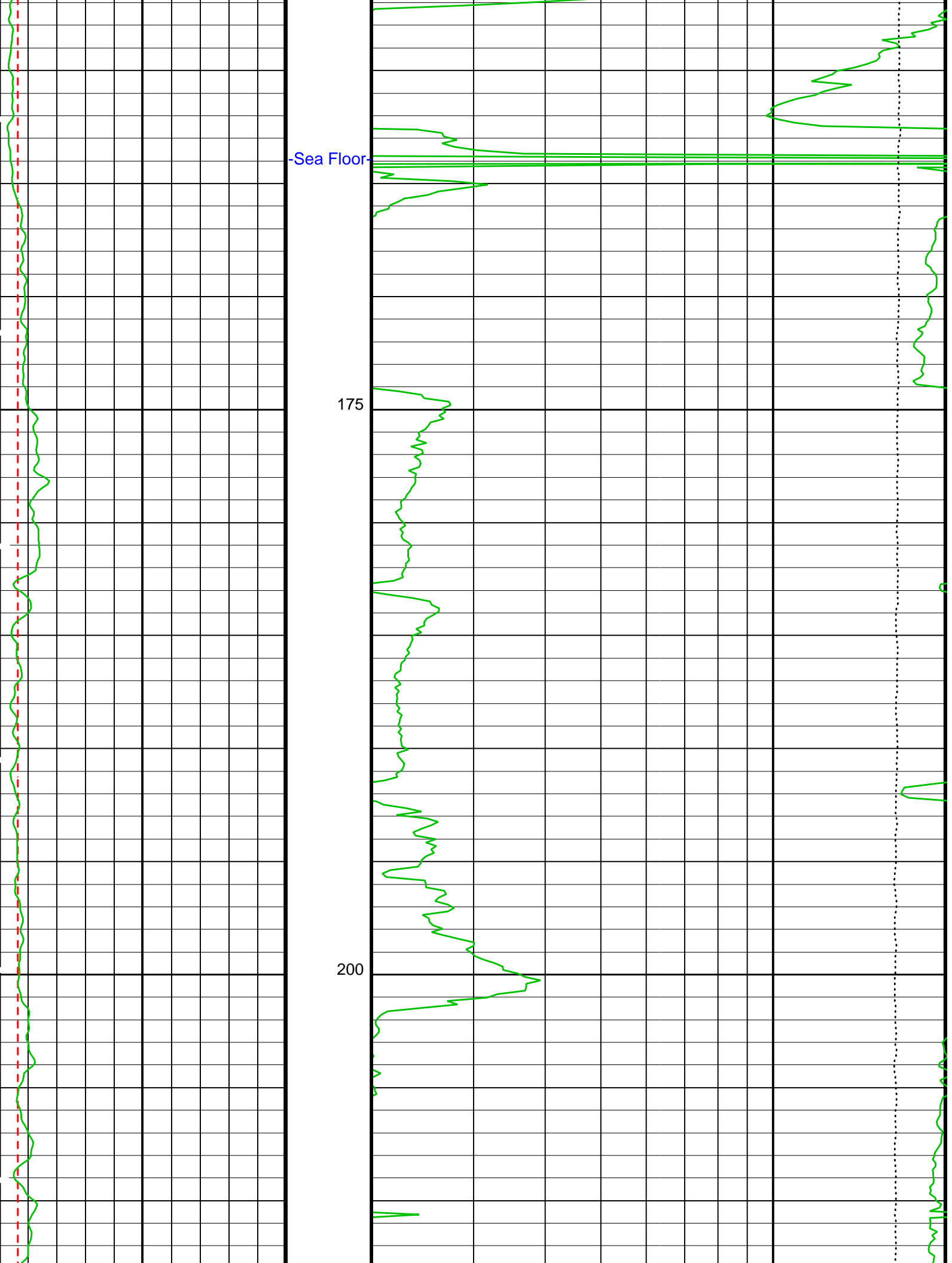
OP System Version: 10C0-306 MCM

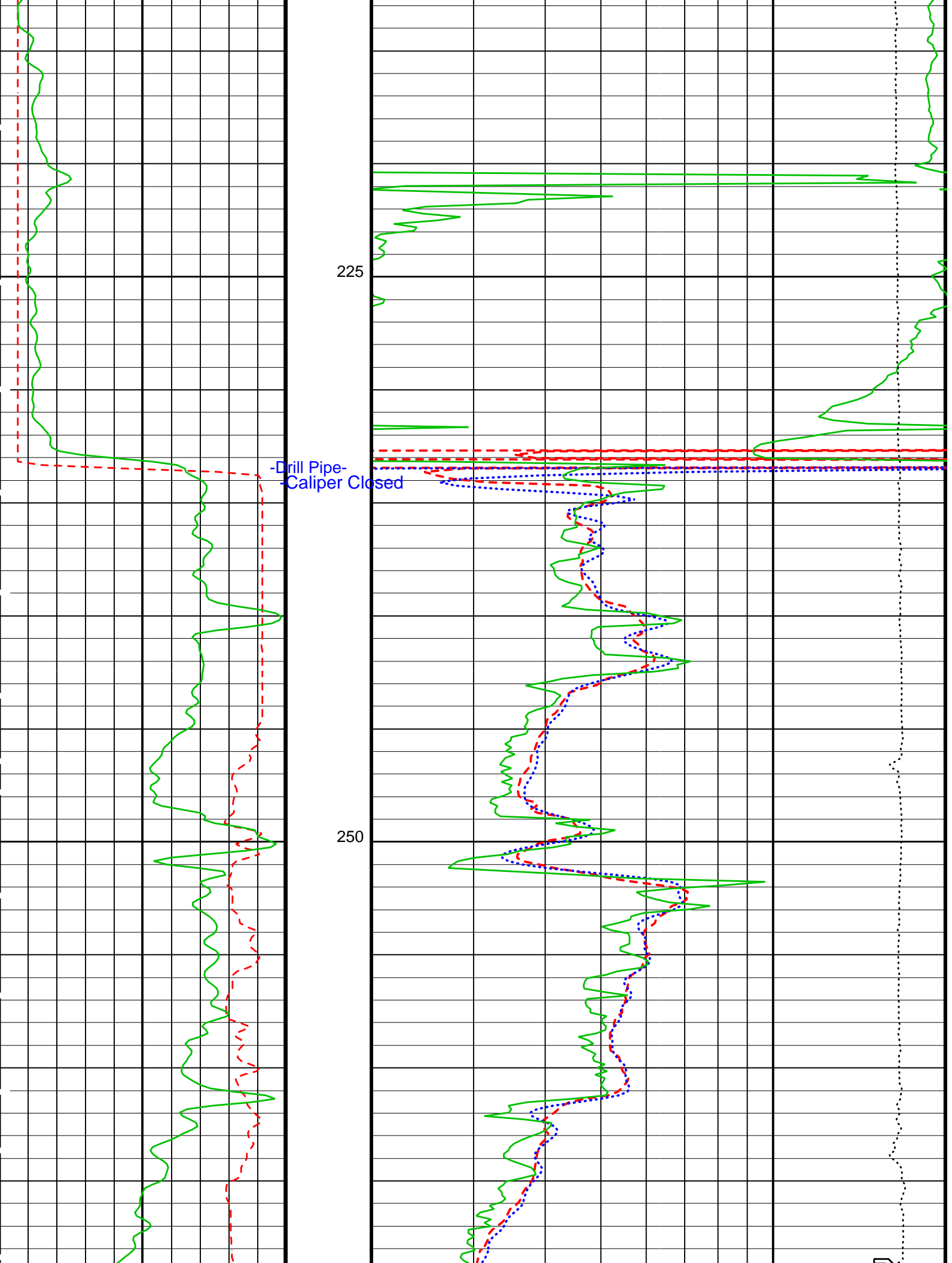
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	10C0-306
APS-BA	10C0-306	HNGS-BA	10C0-306
SGT-N	10C0-306	DTC-H	10C0-306

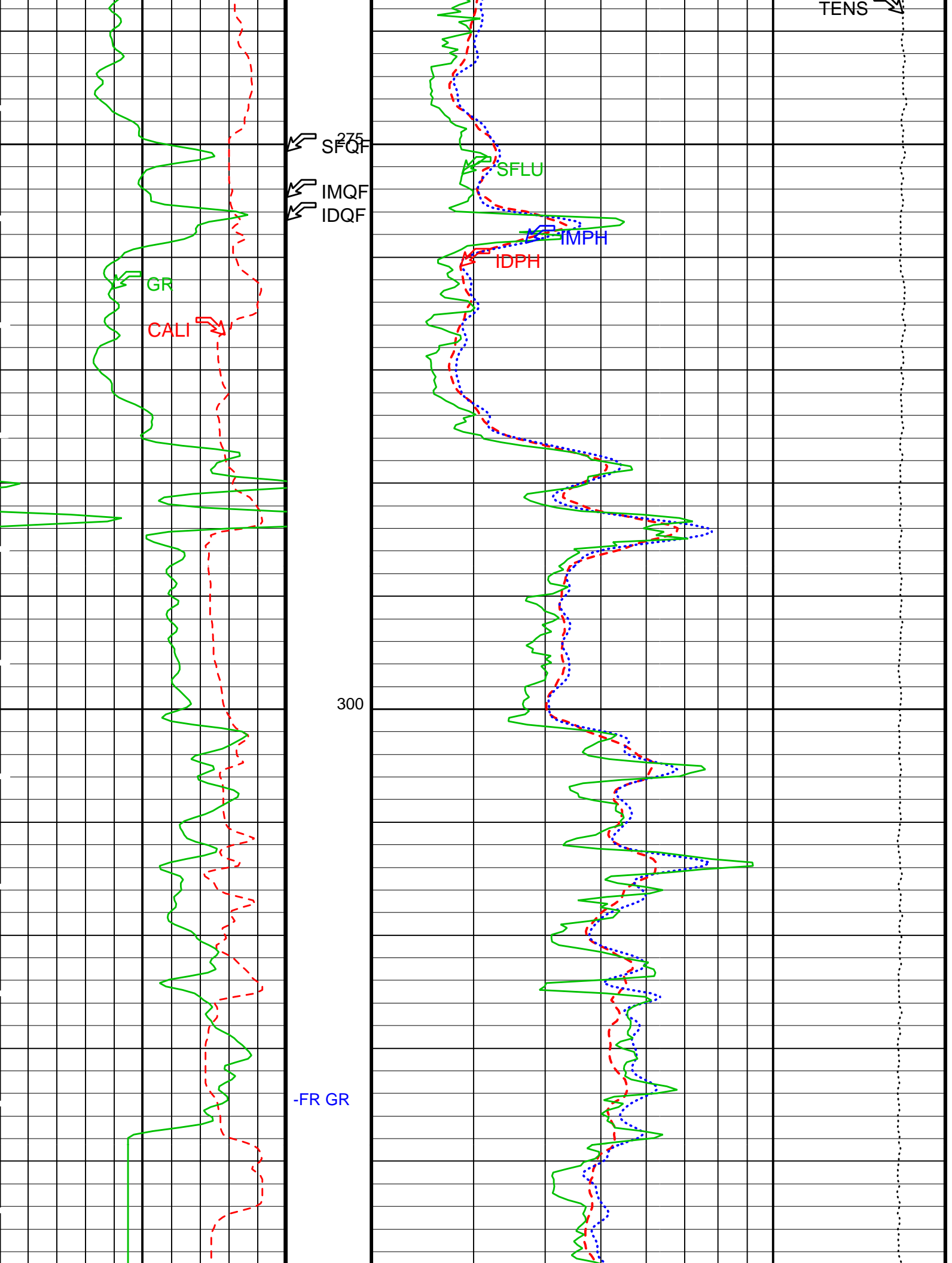
PIP SUMMARY

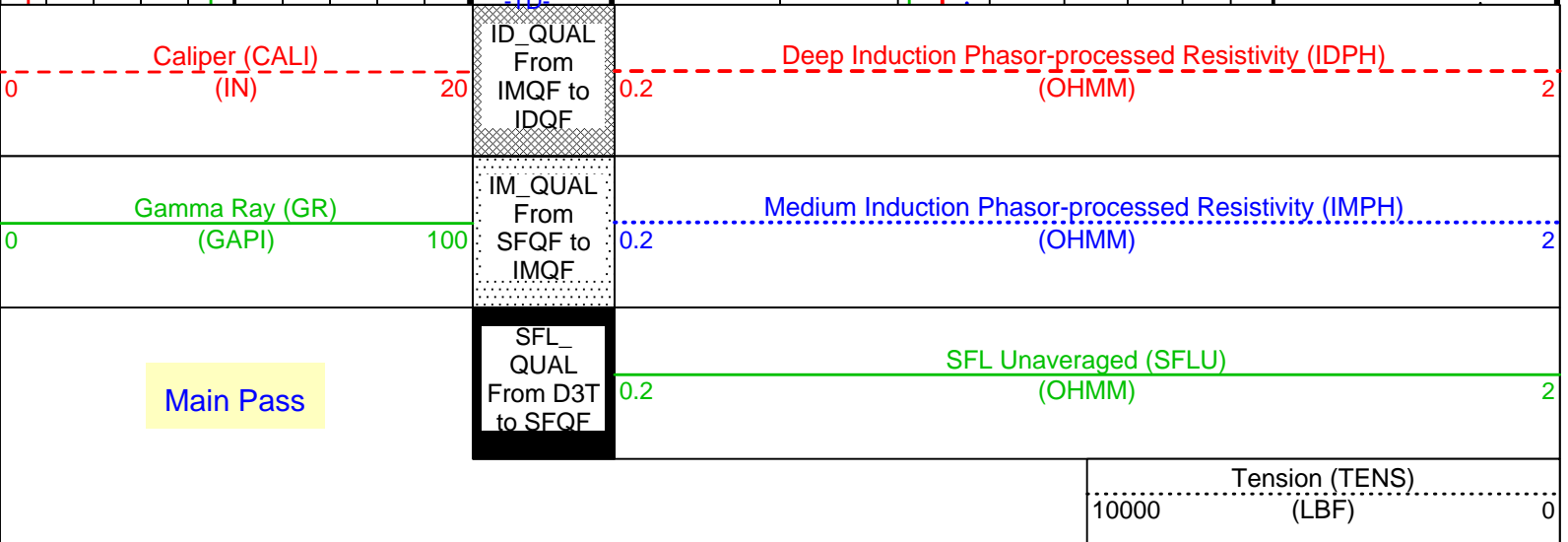
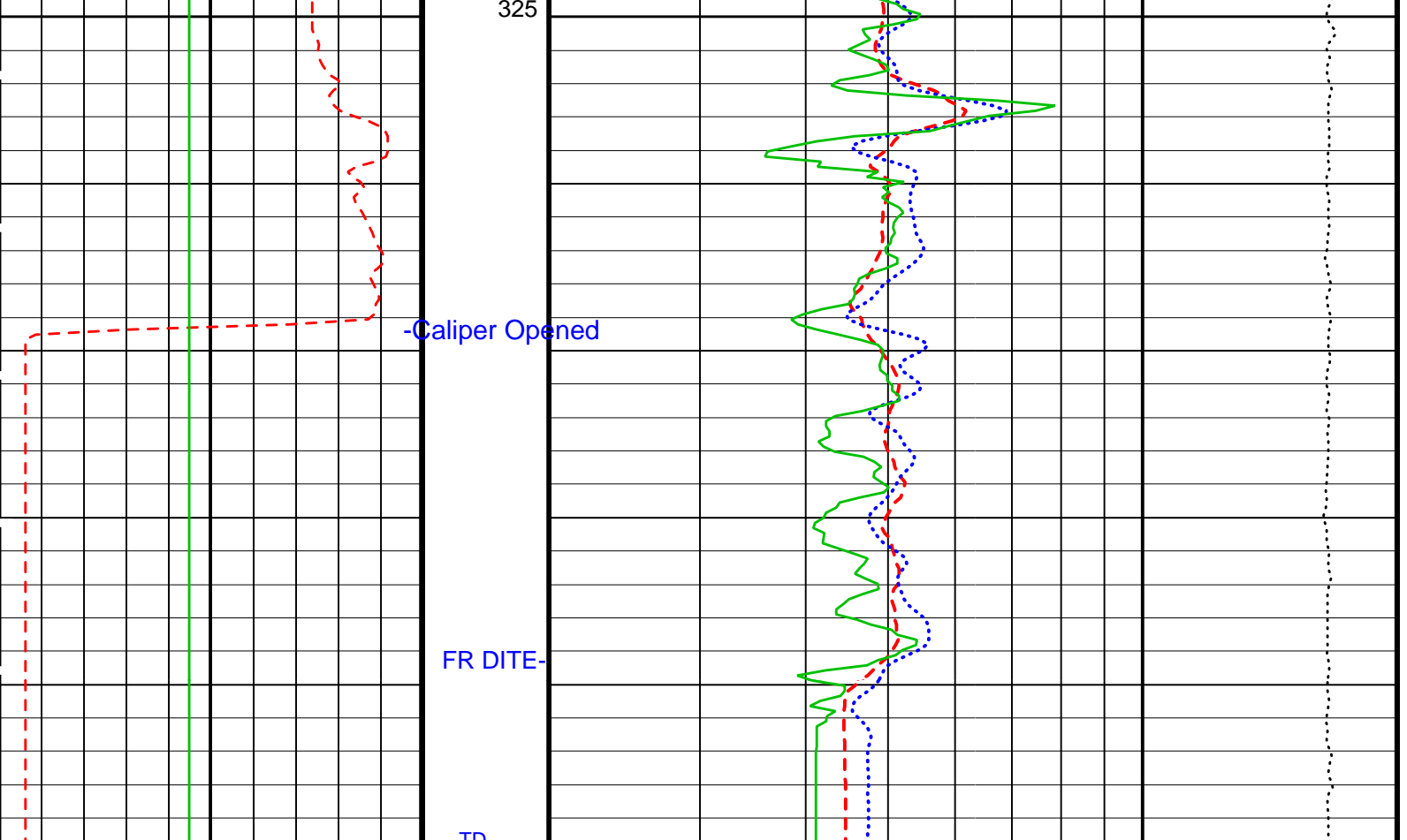
Time Mark Every 60 S











PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT-E: Dual Induction - E		
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
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
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

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	68	DEGF
APS-BA: Accelerator-Porosity Tool			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
HNGS-BA: Hostile Natural Gamma Ray Sonde			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
SGT-N: Scintillation Gamma-Ray - N			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
DFD	Drilling Fluid Density	1.07	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	1158	FT

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 10-Mar-2002 12:01

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

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_006LUP	FN:7	PRODUCER	08-Mar-2002 11:20	349.8 M	144.0 M
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Output DLIS Files

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REDUCE	PI_LDL_APS_NGS_007LUP	FN:10	PRODUCER	08-Mar-2002 12:07	349.8 M	214.0 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

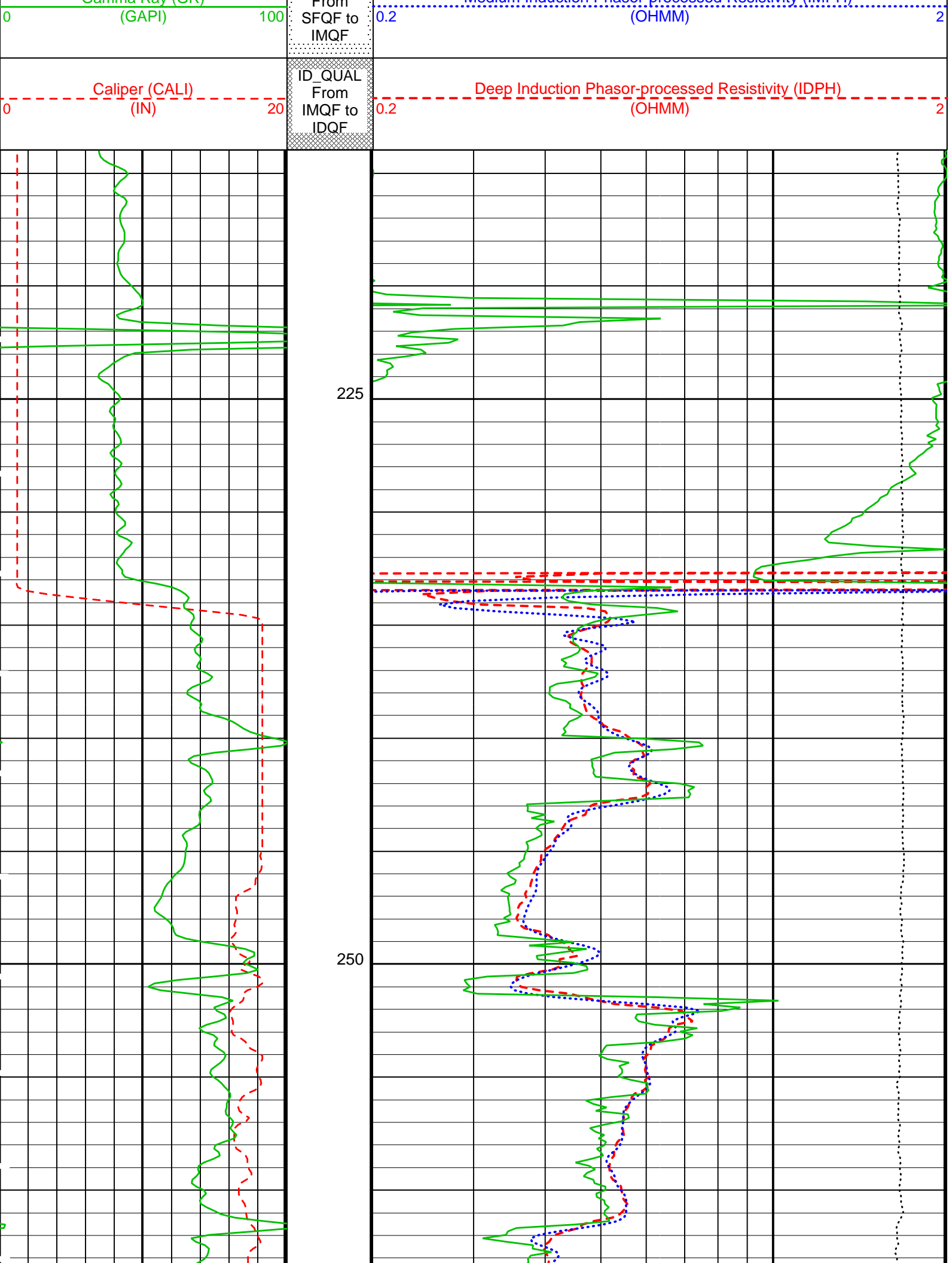
PIP SUMMARY

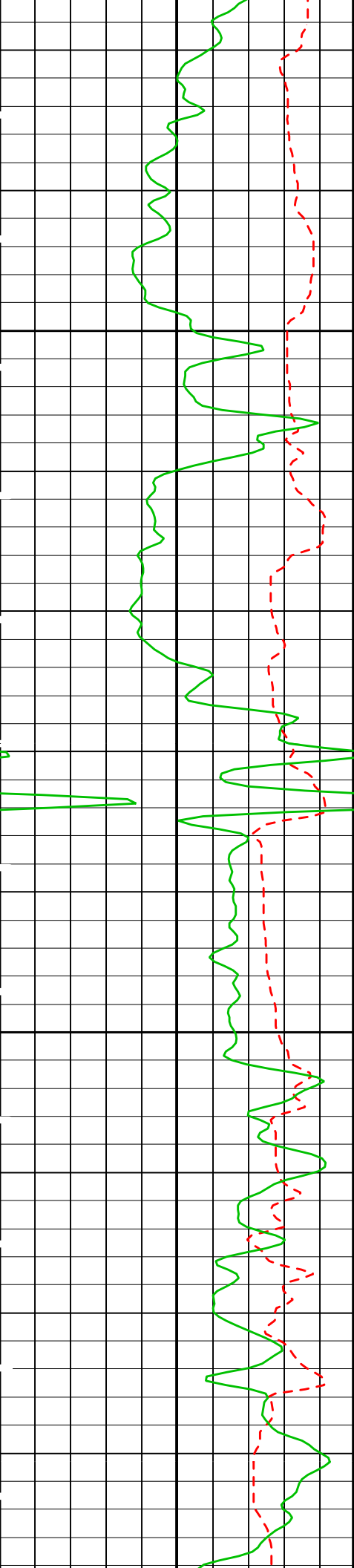
Time Mark Every 60 S

	Tension (TENS)
	10000 (LBF) 0

REPEAT SECTION	SFL_QUAL From D3T to SEQF	0.2	SFL Unaveraged (SFLU) (OHMM)	2
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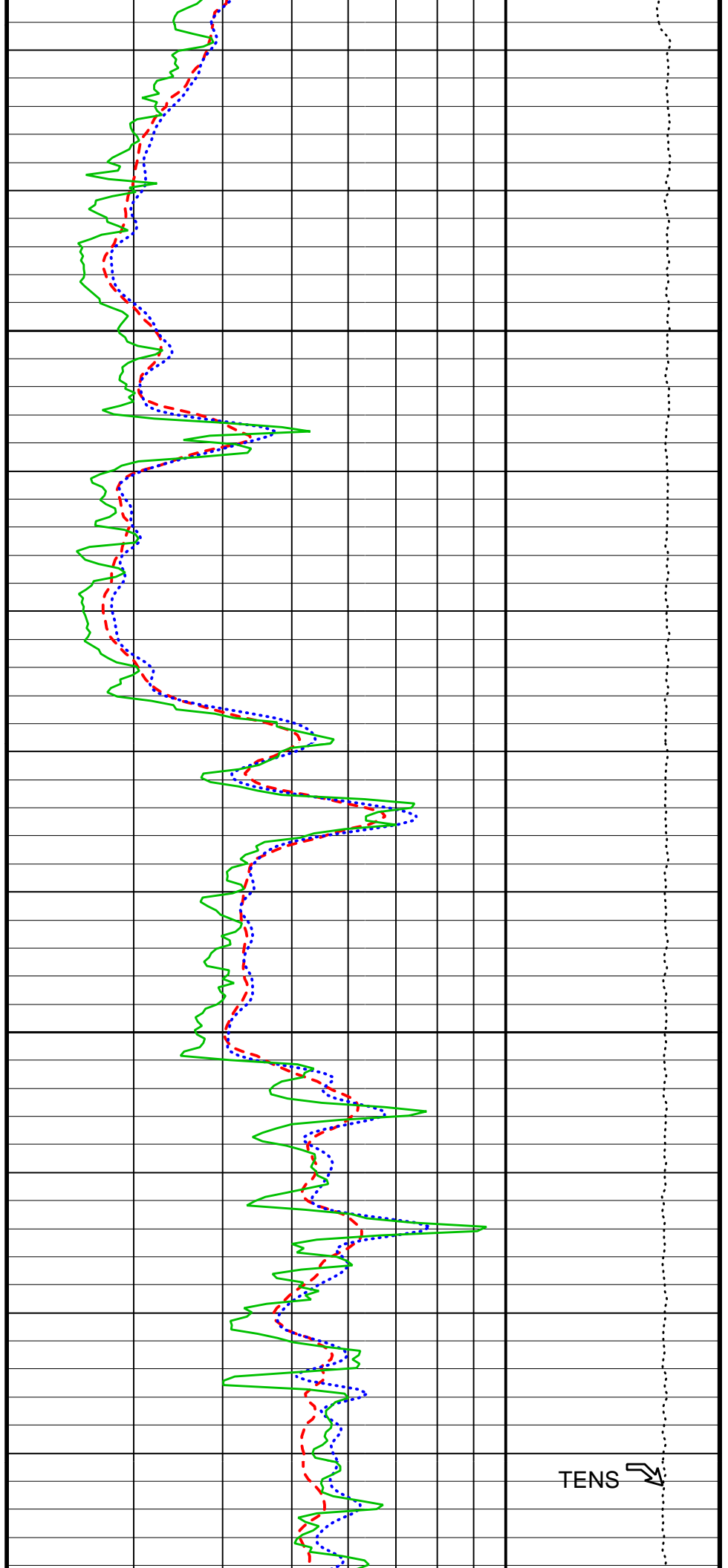
Gamma Ray (GR)	IM_QUAL From	Medium Induction Phasor-processed Resistivity (IMPH)
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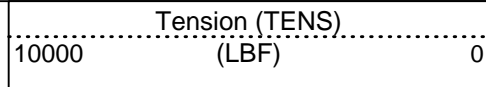
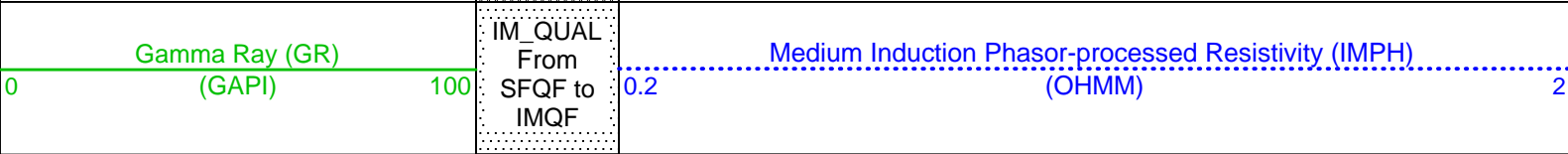
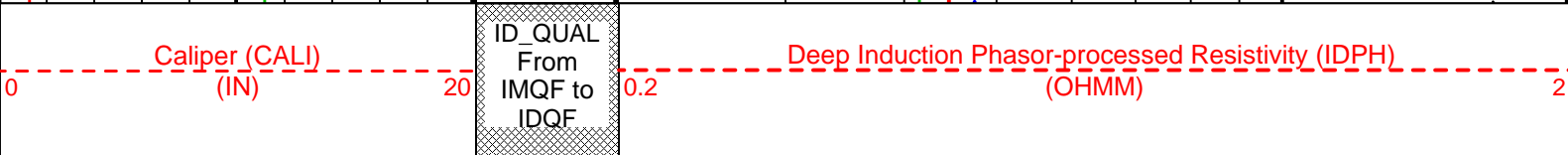
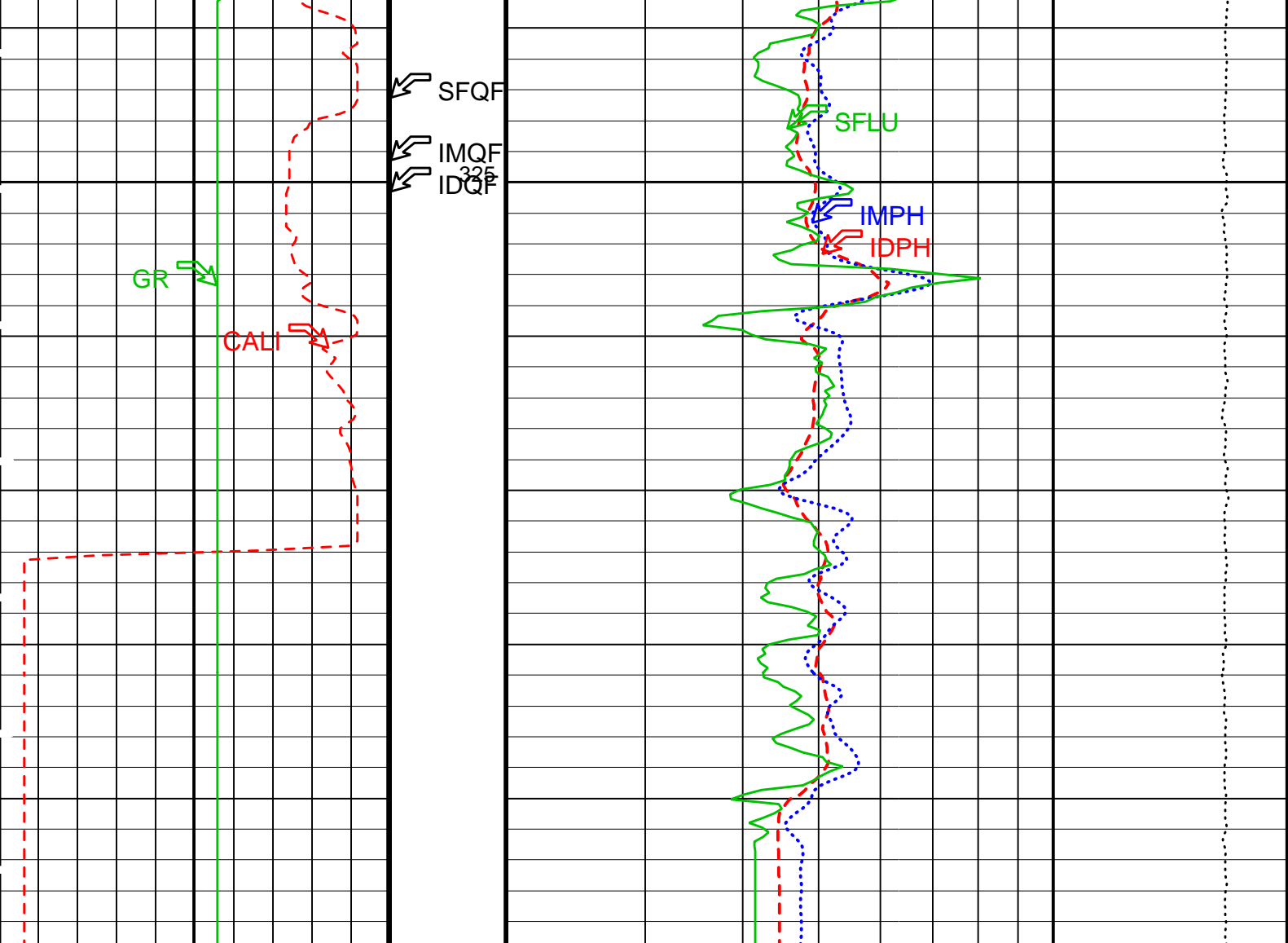


275

300



TENS ↗



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
DIT-E: Dual Induction - E			
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
DFEV	Average Angular Deviation of Borehole from Normal	0	DEG

GDEV	Average Angular Deviation of Borehole from Normal	0.01	DEG
GGRD	Geothermal Gradient		DF/F
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	68	DEGF
APS-BA: Accelerator-Porosity Tool			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
HNCS-BA: Hostile Natural Gamma Ray Sonde			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
SGT-N: Scintillation Gamma-Ray - N			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	40	DEGF
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
SHT	Surface Hole Temperature	68	DEGF
System and Miscellaneous			
DFD	Drilling Fluid Density	1.07	G/C3
TD	Total Depth	1158	FT

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 08-Mar-2002 12:07

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	HNCS-BA	10C0-306
SGT-N	10C0-306	DTC-H	10C0-306

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_007LUP	FN:9	PRODUCER	08-Mar-2002 12:07
REDUCE	PI_LDL_APS_NGS_007LUP	FN:10	PRODUCER	08-Mar-2002 12:07

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: 21-Feb-2002 4:36 After: 5-Mar-2002 22:52							
LSW1 Background	100.0	89.06	86.19	87.32	1.128	0.03000	CPS
LSW2 Background	105.0	93.23	91.94	90.71	-1.232	0.03000	CPS
LSW3 Background	210.0	180.0	177.0	178.4	1.437	0.03000	CPS
LSW4 Background	290.0	237.9	235.4	238.9	3.481	0.03000	CPS
LSW5 Background	610.0	529.6	525.7	522.6	-3.155	0.03000	CPS
SSW1 Background	100.0	85.18	85.99	84.17	-1.819	0.03000	CPS
SSW2 Background	200.0	166.8	165.6	166.6	1.022	0.03000	CPS
SSW3 Background	530.0	446.5	445.9	443.9	-1.961	0.03000	CPS
SSW4 Background	280.0	235.8	234.2	234.2	-0.04904	0.03000	CPS
SSW5 Background	205.0	176.3	175.5	177.2	1.732	0.03000	CPS

Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage
Master: 25-Jan-2002 14:22 Before: 21-Feb-2002 4:36 After: 5-Mar-2002 22:52

LS Bkg. High Voltage	1129	1129	1134	1134	0.3507	N/A	V
SS Bkg. High Voltage	1173	1173	1180	1176	-4.078	N/A	V

Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurements

Master: 25-Jan-2002 14:22 Before: 21-Feb-2002 4:36 After: 5-Mar-2002 22:52

LS Background Resolution	1.000	1.042	1.032	1.021	-0.01052	N/A	
SS Background Resolution	1.000	0.9530	0.9479	0.9514	0.003475	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

Accelerator-Porosity Tool Wellsite Calibration - Detector Background

Master: 25-Jan-2002 18:34 Before: 8-Mar-2002 10:51 After: 8-Mar-2002 13:05

Near Det Bkg Cntrate	30.00	32.90	31.34	32.29	0.9483	N/A	CPS
Far Det Bkg Cntrate	30.00	34.46	53.89	35.56	-18.33	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.56	29.57	30.20	0.6238	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	30.78	30.44	32.00	1.562	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.89	32.54	34.04	1.503	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: 5-Mar-2002 22:53

Na 511 Peak Loc	40.00	40.51	40.71	40.51	-0.2026	1.000	
Na 511 Peak Res	15.50	15.75	17.24	16.07	-1.169	2.000	%
High Voltage	1150	1203	1207	1210	3.297	30.00	V
Na 1785 Peak Loc	142.6	144.6	146.2	145.4	-0.7214	7.000	
Na 1785 Peak Res	8.500	9.254	9.073	8.952	-0.1212	2.000	%
Temperature	15.50	21.86	29.34	28.14	-1.196	N/A	DEGC
Na Count Rate	45.00	39.29	40.56	39.01	-1.546	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: 5-Mar-2002 22:53

Na 511 Peak Loc	40.00	40.54	40.54	40.62	0.07781	1.000	
Na 511 Peak Res	15.50	16.19	16.67	16.15	-0.5155	2.000	%
High Voltage	1150	1233	1236	1241	4.828	30.00	V
Na 1785 Peak Loc	142.6	143.9	144.1	145.5	1.374	7.000	
Na 1785 Peak Res	8.500	9.453	8.968	8.528	-0.4398	2.000	%
Temperature	15.50	21.24	29.04	28.42	-0.6178	N/A	DEGC
Na Count Rate	45.00	39.11	40.36	38.66	-1.698	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: 5-Mar-2002 22:53

Coincidence Count Rate Ratio	1.000	1.004	1.005	1.006	0.001129	0.05000	
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Scintillation Gamma-Ray - N Wellsite Calibration - Detector Calibration

Before: Calibration out of date 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

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			37.20	Before		0.9756	Before		EXCEEDS LIMIT	10.64	
	-300.0 (Minimum)	0 (Nominal)	300.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-10.00 (Minimum)	0 (Nominal)	10.00 (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			22.47	Before		0.9637	Before		EXCEEDS LIMIT	13.32	
	-300.0 (Minimum)	0 (Nominal)	300.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-10.00 (Minimum)	0 (Nominal)	10.00 (Maximum)
Phase	IM Elect Real Offset 10 kHz	MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value	10khz not used				
Before			96.46	Before		0.9498					
	-550.0 (Minimum)	0 (Nominal)	550.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)					1.200 (Maximum)
Phase	IM Elect Quad Offset 10 kHz	MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value					
Before			95.06	Before		0.9476					
	-550.0 (Minimum)	0 (Nominal)	550.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)				

Before: Calibration out of date 5-Oct-2001 20:57

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			14.67	Before		1.001	Before			9.784	
	-125.0 (Minimum)	0 (Nominal)	125.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-15.00 (Minimum)	0 (Nominal)	15.00 (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			9.083	Before		0.9891	Before			12.07	
	-125.0 (Minimum)	0 (Nominal)	125.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-15.00 (Minimum)	0 (Nominal)	15.00 (Maximum)
Phase	IM Elect Real Offset 20 kHz	MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value	40khz not used				
Before			40.06	Before		1.011					
	-225.0 (Minimum)	0 (Nominal)	225.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)					1.200 (Maximum)
Phase	IM Elect Quad Offset 20 kHz	MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value					
Before			39.84	Before		1.009					
	-225.0 (Minimum)	0 (Nominal)	225.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)				

Before: 7-Feb-2002 1:10

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			9.567	Before		0.9871	Before		EXCEEDS LIMIT	29.04	
	-85.00 (Minimum)	0 (Nominal)	85.00 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-20.00 (Minimum)	0 (Nominal)	20.00 (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			5.882	Before		0.9737	Before		EXCEEDS LIMIT	32.65	
	-85.00 (Minimum)	0 (Nominal)	85.00 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-20.00 (Minimum)	0 (Nominal)	20.00 (Maximum)
Phase	IM Elect Real Offset 40 kHz	MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value	40khz not used				
Before			26.16	Before		1.020					
	-130.0 (Minimum)	0 (Nominal)	130.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)					1.200 (Maximum)
Phase	IM Elect Quad Offset 40 kHz	MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value					
Before			25.90	Before		1.017					
	-130.0 (Minimum)	0 (Nominal)	130.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)				

Before: Calibration out of date 5-Oct-2001 21:00

Dual Induction - E Wellsite Calibration

SFL Electronics

Phase	SFL Voltage Offset MV	Value	Phase	SFL Voltage Gain	Value
Before		1.280	Before		1.019
	-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		0.002773	Before		0.9960
	-0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)	

Before: 7-Feb-2002 1:14

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		0.0001356	After		0.0005254
	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		0.0001003			
	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: 8-Mar-2002 12:49

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		1.022	Master		1.030	Master		1.061
	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		0.1143	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)	

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
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Auxiliary Equipment:

HNGS Sonde Housing	HNSH - BA	79
Gamma Source Radioactive	GSR - U	135

Scintillation Gamma-Ray - N / Equipment Identification

Primary Equipment:

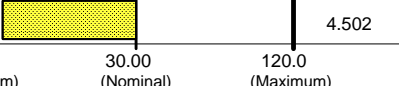
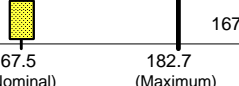
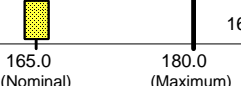
Scintillation Gamma Cartridge	SGC - TB	9582
Scintillation Gamma Detector	SGD - TAA	

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)				152.3 (Minimum)				150.0 (Minimum)		
	30.00 (Nominal)				167.5 (Nominal)				165.0 (Nominal)		
	120.0 (Maximum)				182.7 (Maximum)				180.0 (Maximum)		

Company: Lamont Doherty

Schlumberger

Well: ODP Leg 201, Site 1229A PRU-1A

Field: Peru Margin

Rig: JOIDES Resolution

Ocean: Pacific

Phasor Induction

Gamma Ray