

**Company:** Lamont Doherty

**Well:** ODP Leg 204, Site 1247B

**Field:** Hydrate Ridge

**Ocean:** Pacific **State:** Oregon

## HLDT/APS Porosity Natural Gamma Ray

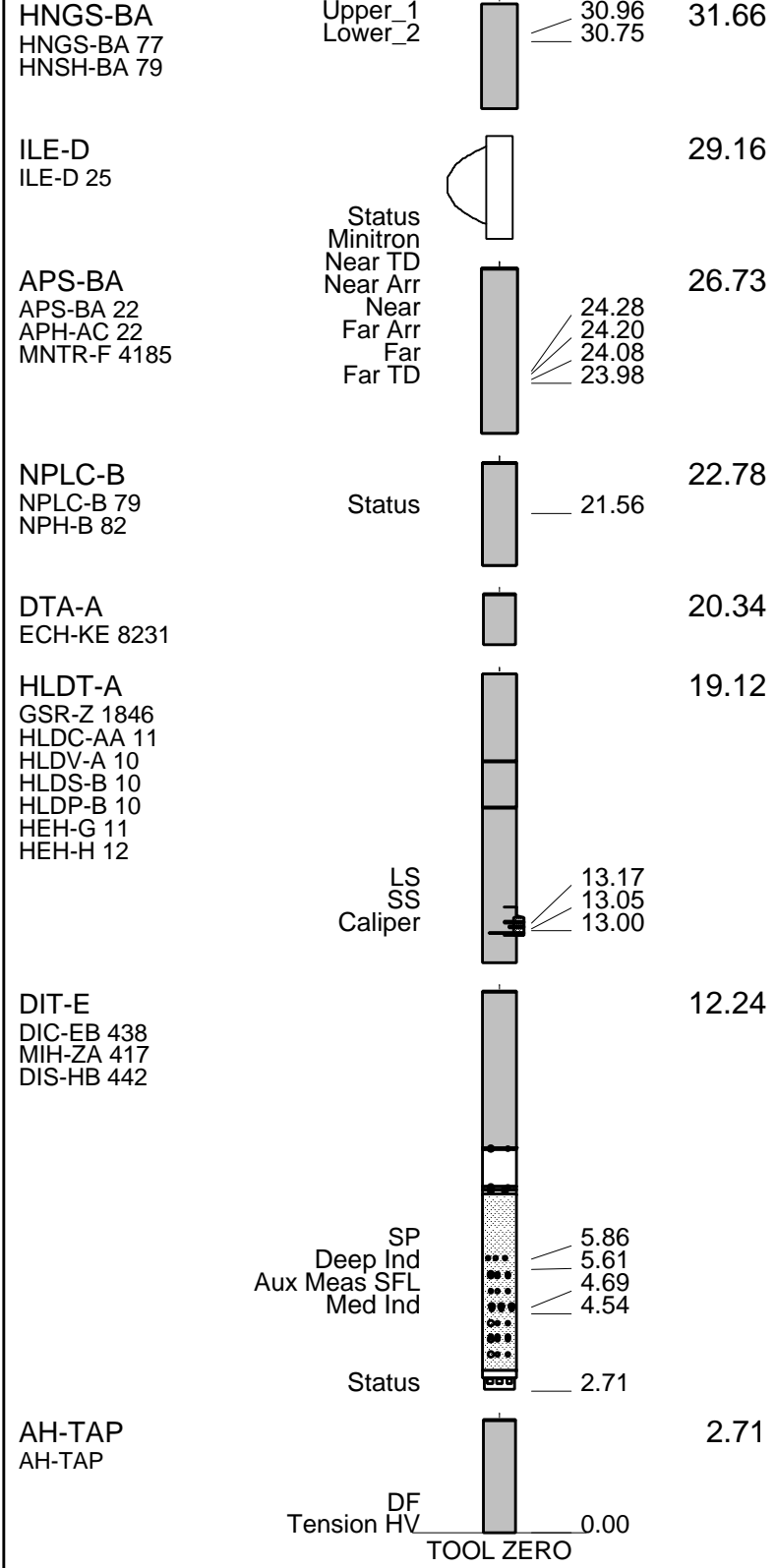
Ocean: Pacific  
 Field: Hydrate Ridge  
 Location: W 125.2 \*  
 Well: ODP Leg 204, Site 1247B  
 Company: Lamont Doherty

<b>LOCATION</b>					
W 125.2 *		Elev.:	K.B.	11.3 m	
N 44.6 *			G.L.	-846 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	23-Aug-2002				
Run Number	1				
Depth Driller	1066 m				
Schlumberger Depth	1066 m				
Bottom Log Interval	1053 m				
Top Log Interval	920 m				
Casing Driller Size @ Depth	0.000 in @ 920 m				
Casing Schlumberger	920 m				
Bit Size	11.438 in				
Type Fluid In Hole	Septolite Salt Water Base				
Density	Viscosity	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	RMF @ MRT	0.392 @ 18	@ 18	@	@
Maximum Recorded Temperatures	18 degC				
Circulation Stopped	23-Aug-2002	Time	16:00		
Logger On Bottom	23-Aug-2002	Time	19:00		
Unit Number	99	Location	Houston-ODP		
Recorded By	K. Swain				
Witnessed By	G. Guerin, S. Barr, T. Collett				

Logging Date						Run 1	Run 2	Run
Run Number								
Depth Driller								
Schlumberger Depth								
Bottom Log Interval								
Top Log Interval								
Casing Driller Size @ Depth								
Casing Schlumberger								
Bit Size								
Type Fluid In Hole								
Density	Viscosity							
Fluid Loss	PH							
Source Of Sample								
RM @ Measured Temperature		@		@				
RMF @ Measured Temperature		@		@				
RMC @ Measured Temperature		@		@				
Source RMF	RMC							
RM @ MRT	RMF @ MRT		@	@				
Maximum Recorded Temperatures								
Circulation Stopped	Time							
Logger On Bottom	Time							
Unit Number	Location							
Recorded By								
Witnessed By								





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

## Output DLIS Files

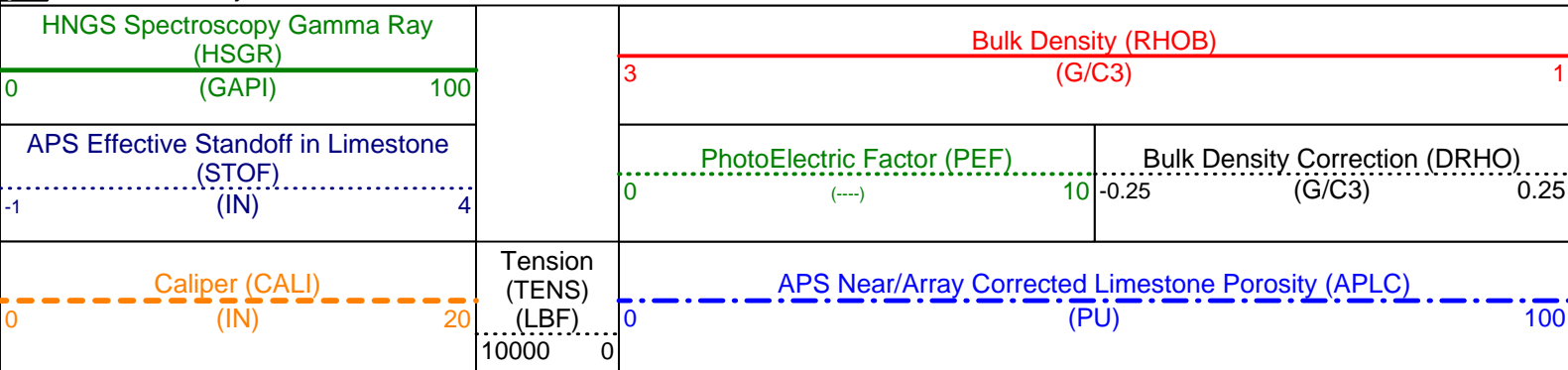
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REDUCE	PI_LDL_APS_NGS_004LUP	FN:5	PRODUCER	23-Aug-2002 18:58	1067.6 M	833.2 M

## OP System Version: 10C0-306 MCM

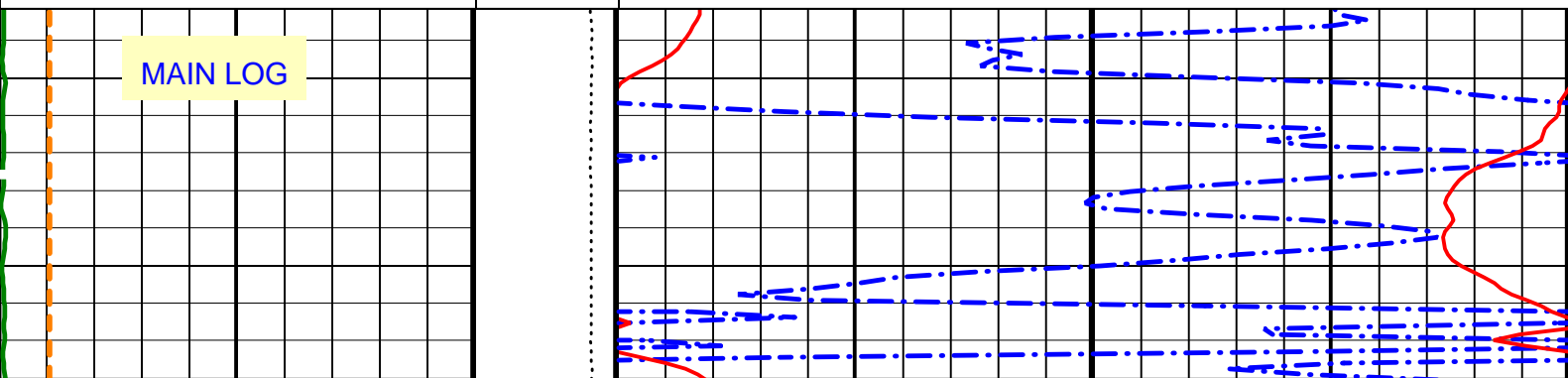
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

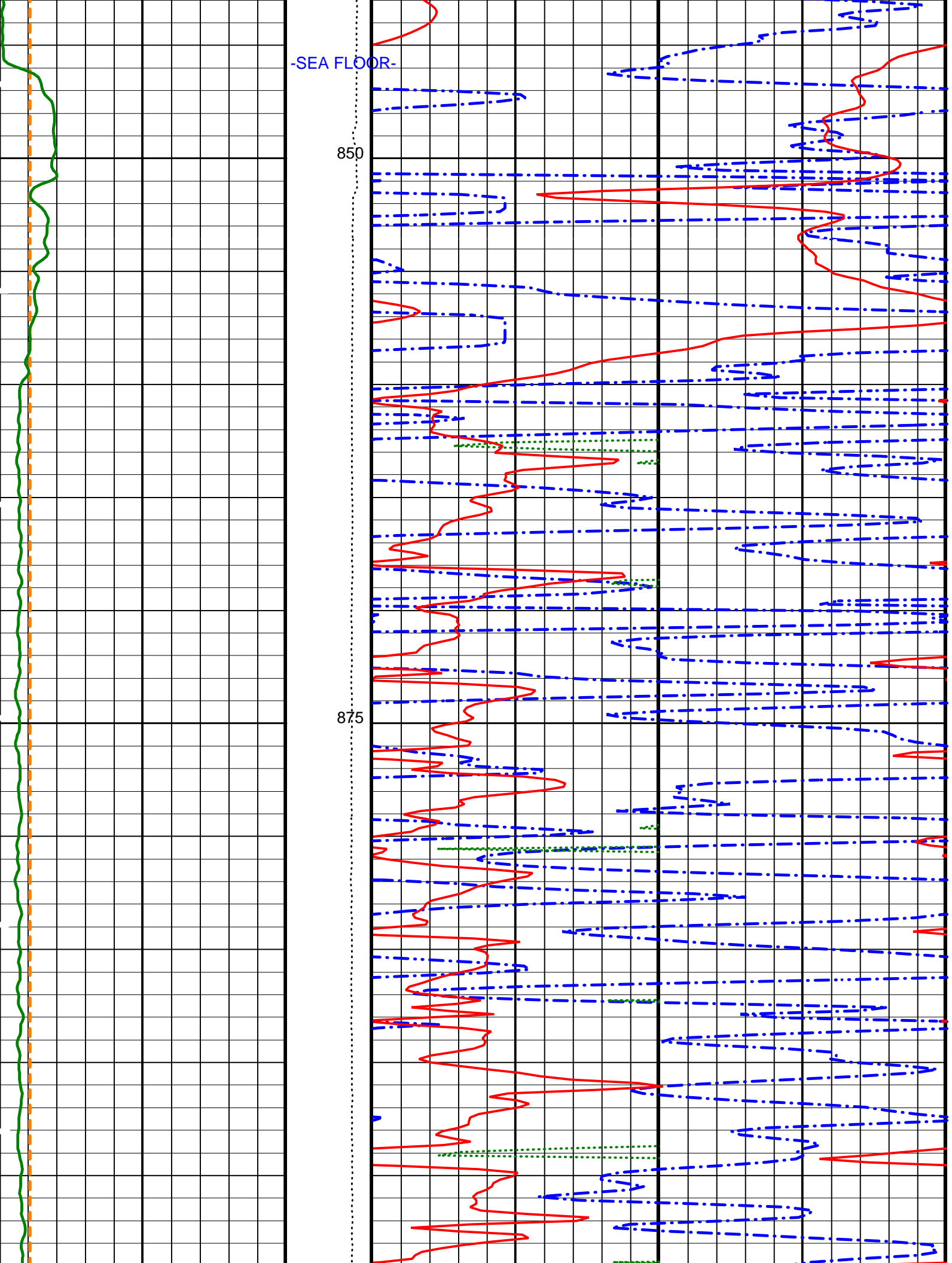
### PIP SUMMARY

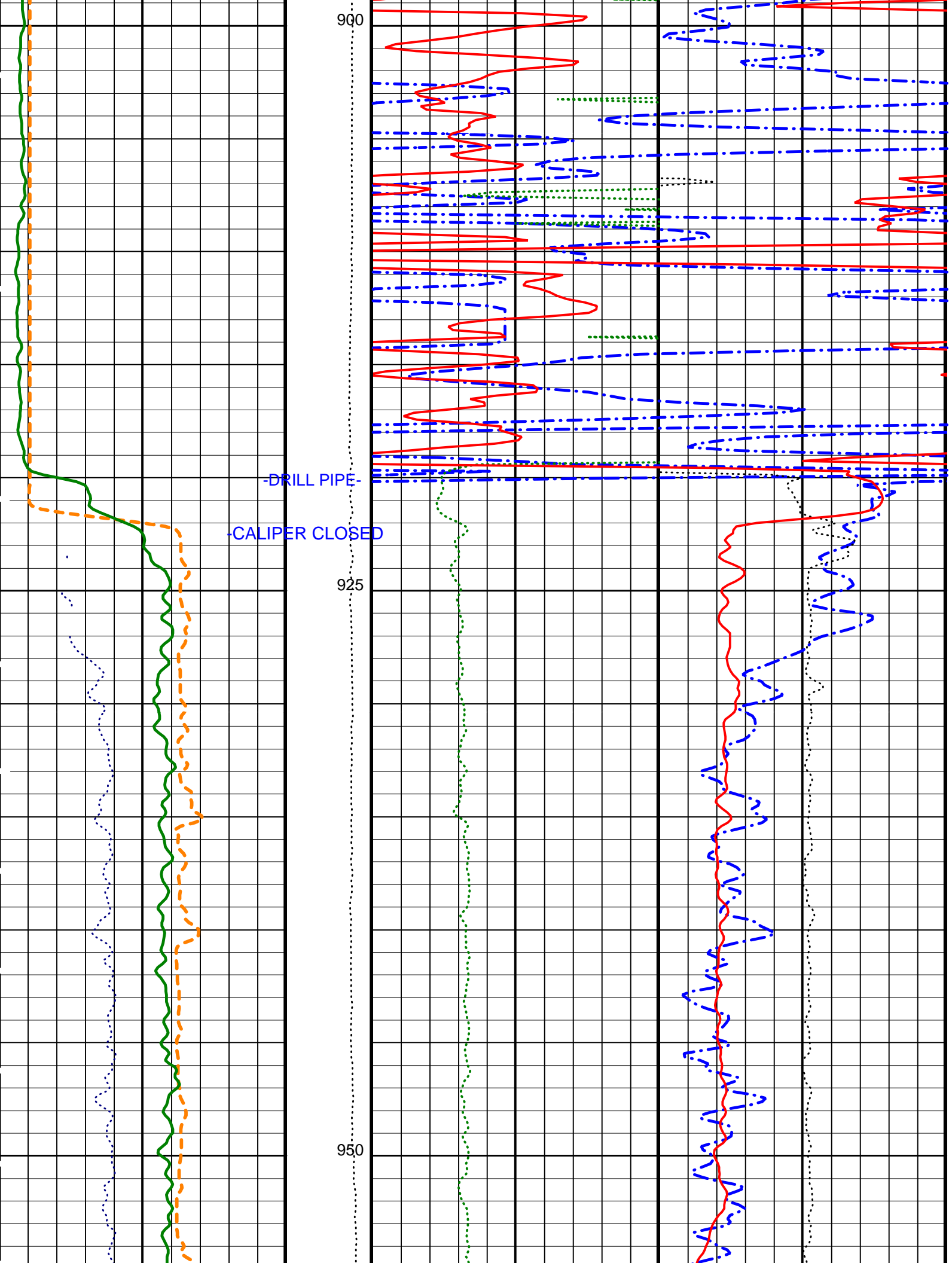
Time Mark Every 60 S

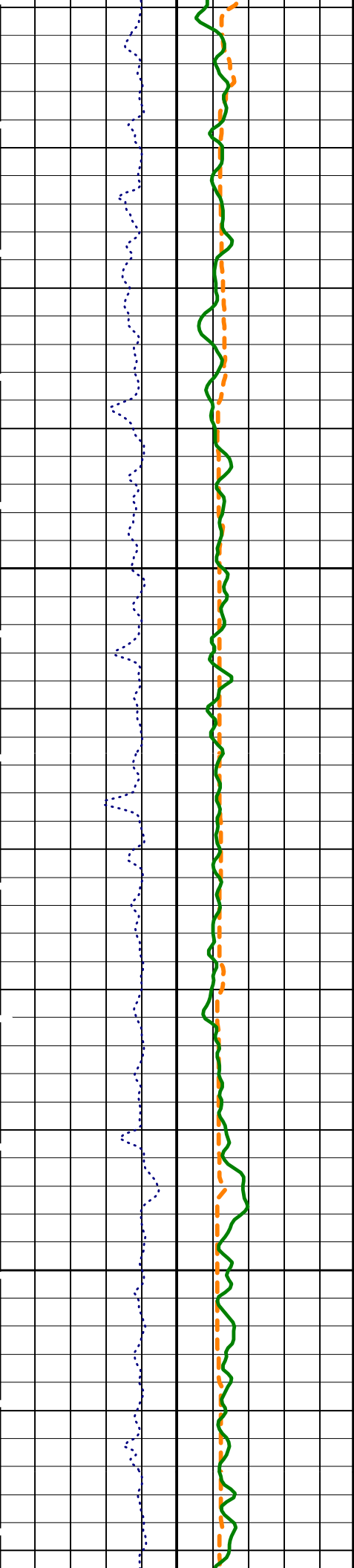


MAIN LOG



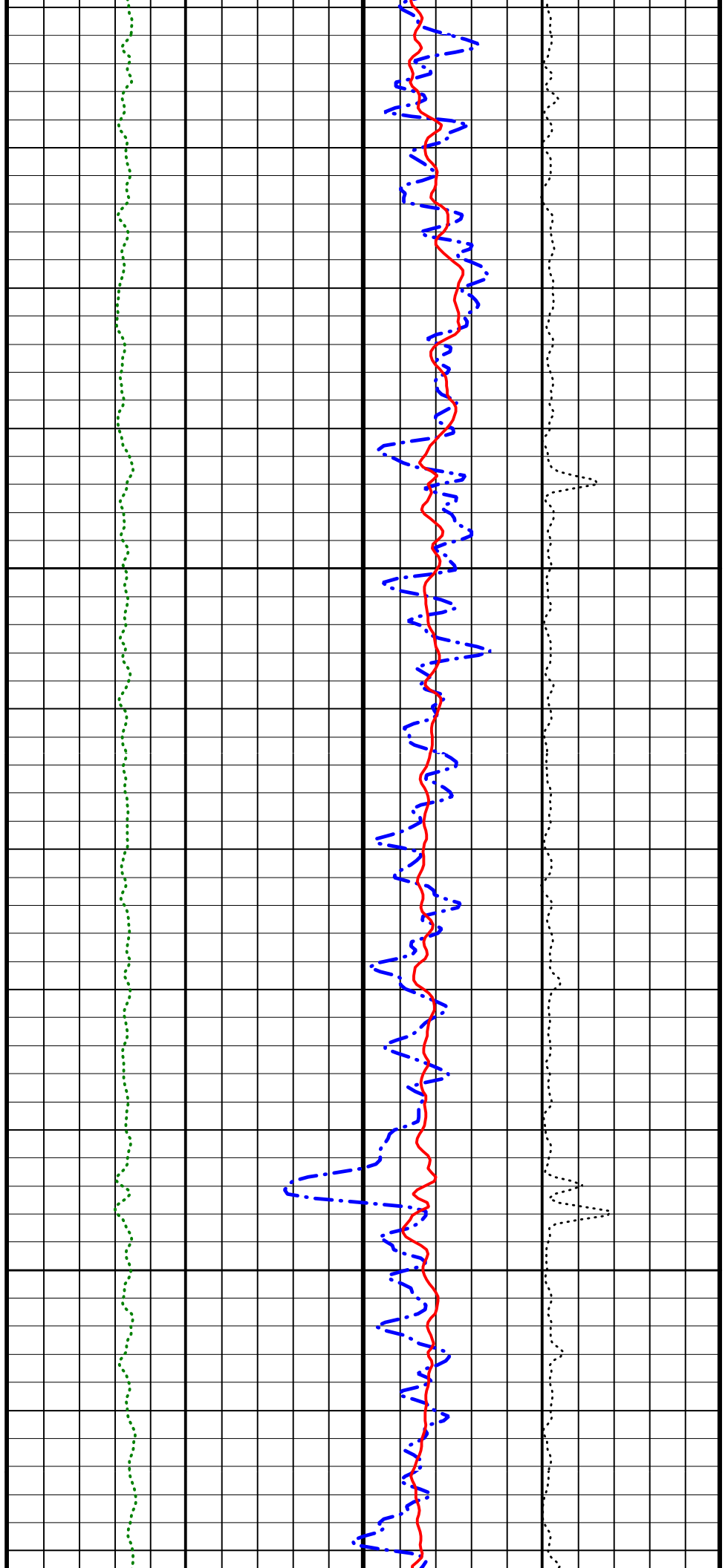


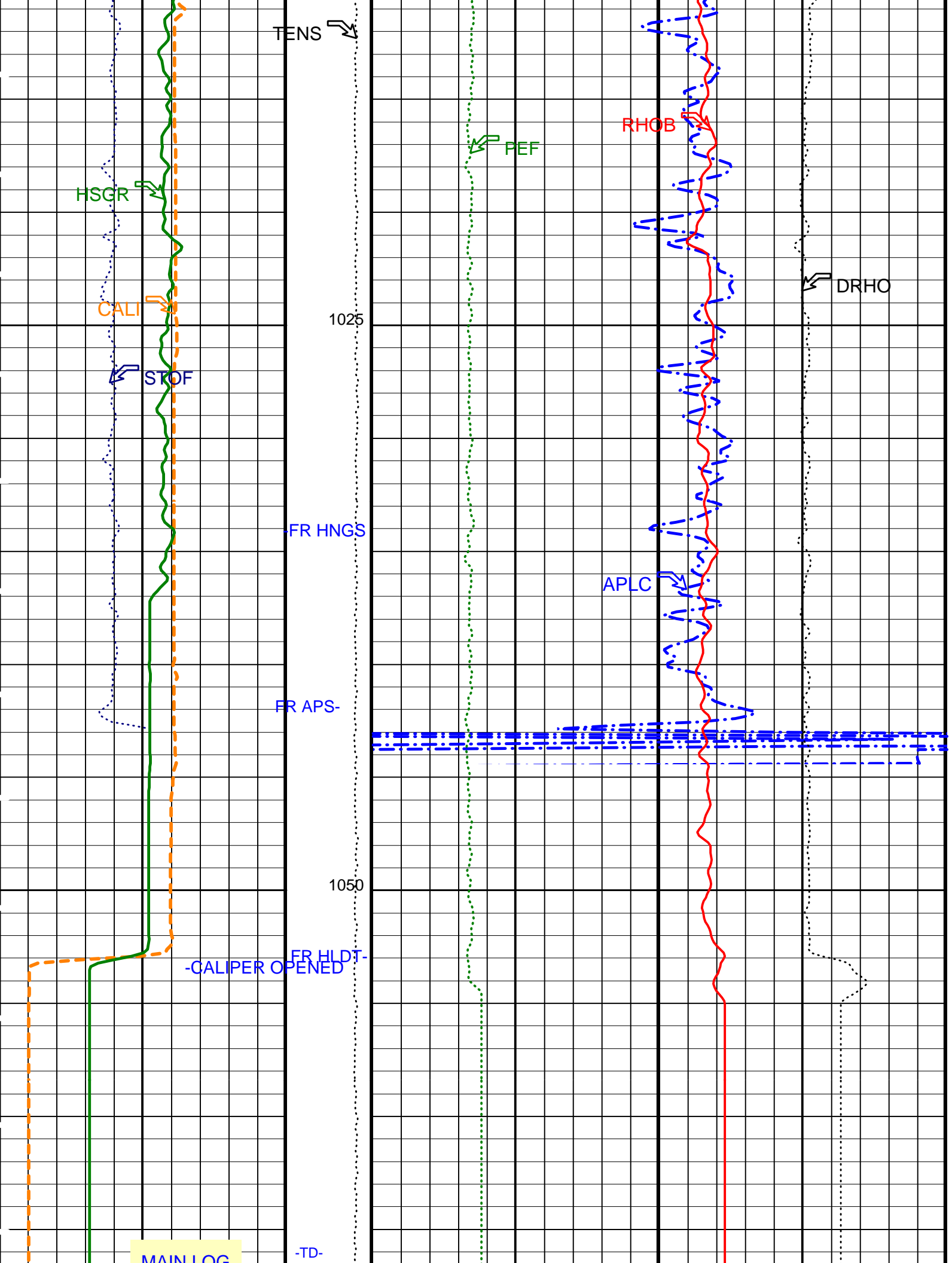




975

1000







<p>Caliper (CALI) (IN)</p> <p>0 20</p>	<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>APS Near/Array Corrected Limestone Porosity (APLC) (PU)</p> <p>0 100</p>
<p>APS Effective Standoff in Limestone (STOF) (IN)</p> <p>-1 4</p>	<p>PhotoElectric Factor (PEF) (---)</p> <p>0 10</p>	<p>Bulk Density Correction (DRHO) (G/C3)</p> <p>-0.25 0.25</p>
<p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 100</p>	<p>Bulk Density (RHOB) (G/C3)</p> <p>3 1</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
DGF1	Deep 10 kHz Gain Factor	0.995593	
DGF2	Deep 20 kHz Gain Factor	1.00789	
DGF4	Deep 40 kHz Gain Factor	1.02614	
DPH1	Deep 10 kHz Phase Shift	0.114289	DEG
DPH2	Deep 20 kHz Phase Shift	-0.152394	DEG
DPH4	Deep 40 kHz Phase Shift	-1.42629	DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	44.9501	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	16.357	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	4.69026	MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt	
DSR1	Deep Sigma Reference (10 kHz)	7637	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DSR4	Deep Sigma Reference (40 kHz)	405	MM/M
DSTA	DIT-E Transversal Standoff	0	IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	108.903	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	64.6326	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	46.096	MM/M
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
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	
MGF1	Medium 10 kHz Gain Factor	1.02182	
MGF2	Medium 20 kHz Gain Factor	1.02964	
MGF4	Medium 40 kHz Gain Factor	1.06122	
MPH1	Medium 10 kHz Phase Shift	-0.255819	DEG
MPH2	Medium 20 kHz Phase Shift	-0.933067	DEG
MPH4	Medium 40 kHz Phase Shift	-2.46117	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	20.7292	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	-1.78642	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	-10.4594	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MXE1	Medium Quad 10 kHz Sonde Error Correction	-105.752	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-34.2041	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	11.4521	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	20	DEGC
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	0.994556	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)	100	DEGC
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	0.018227	DC/M
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	1.06555	
NFRC	APS Near/Far Calibration Ratio	0.907568	
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
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	-0.00756454	
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	20	DEGC
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.961934	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.981195	
	System and Miscellaneous		
ALTDCHAN	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	1.10	G/C3
MST	Mud Sample Temperature	27.00	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	-50000	M
TDD	Total Depth - Driller	-50000.00	M
TDL	Total Depth - Logger	-50000.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: APSLiquidPorosity\_1 Vertical Scale: 1:200 Graphics File Created: 23-Aug-2002 18:58

## OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APC-BA	OP10-KP1	APC-BA	OP10-KP1

### Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_004LUP	FN:4	PRODUCER	23-Aug-2002 18:58
REDUCE	PI_LDL_APS_NGS_004LUP	FN:5	PRODUCER	23-Aug-2002 18:58

### Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_005LUP	FN:6	PRODUCER	23-Aug-2002 19:51	1049.3 M	916.5 M
REDUCE	PI_LDL_APS_NGS_005LUP	FN:7	PRODUCER	23-Aug-2002 19:51	1049.3 M	916.4 M

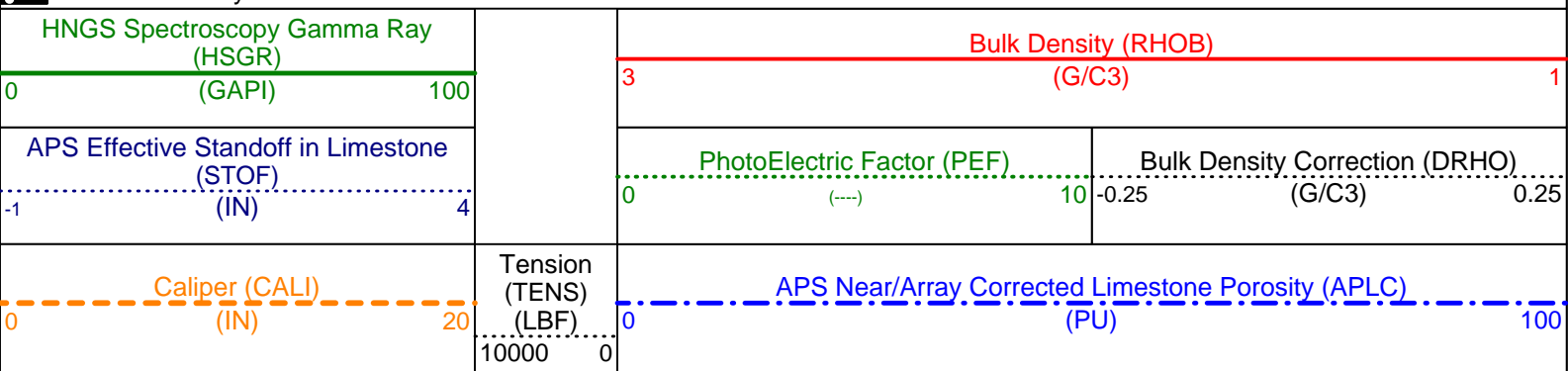
### OP System Version: 10C0-306

MCM

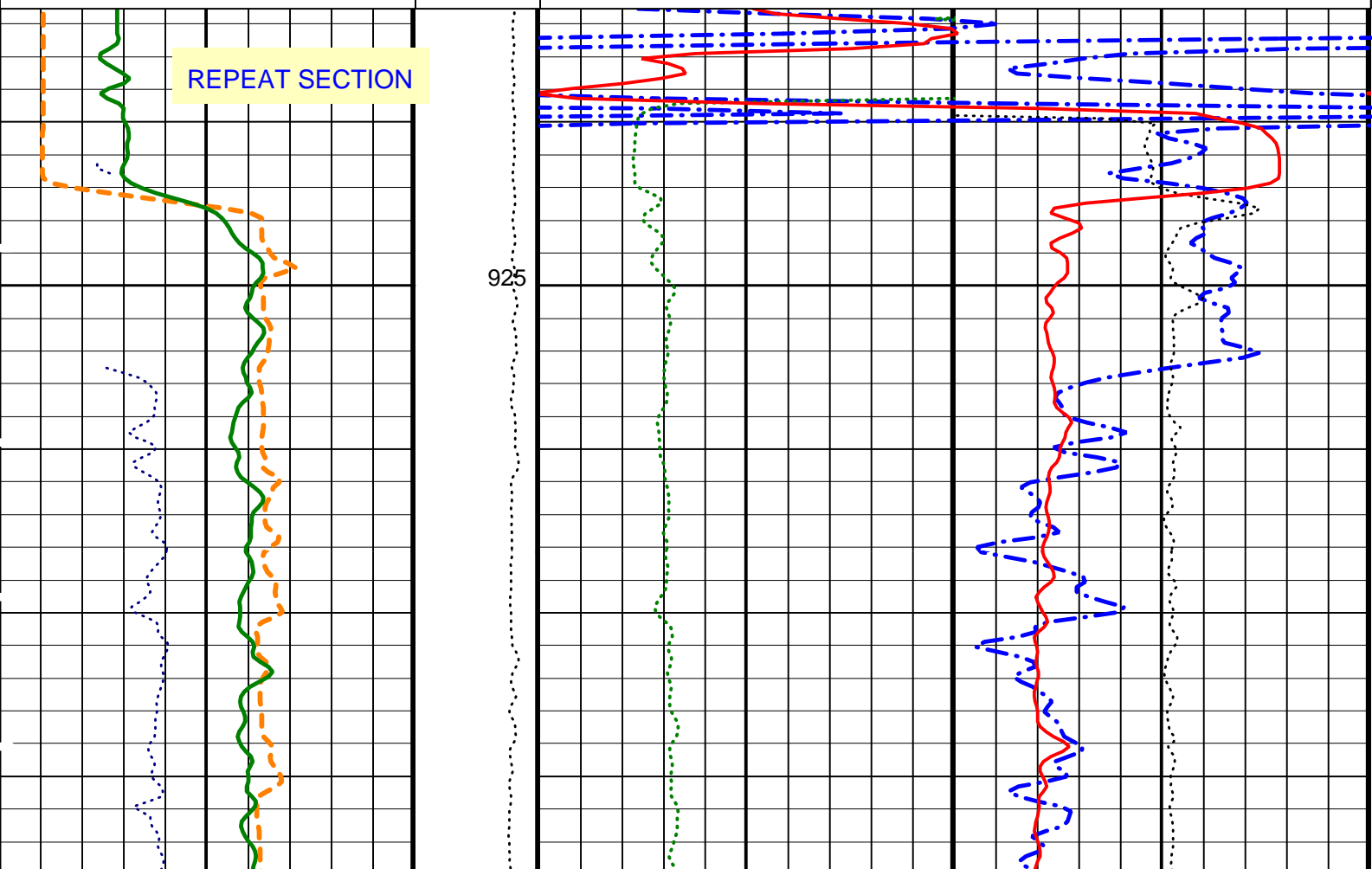
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

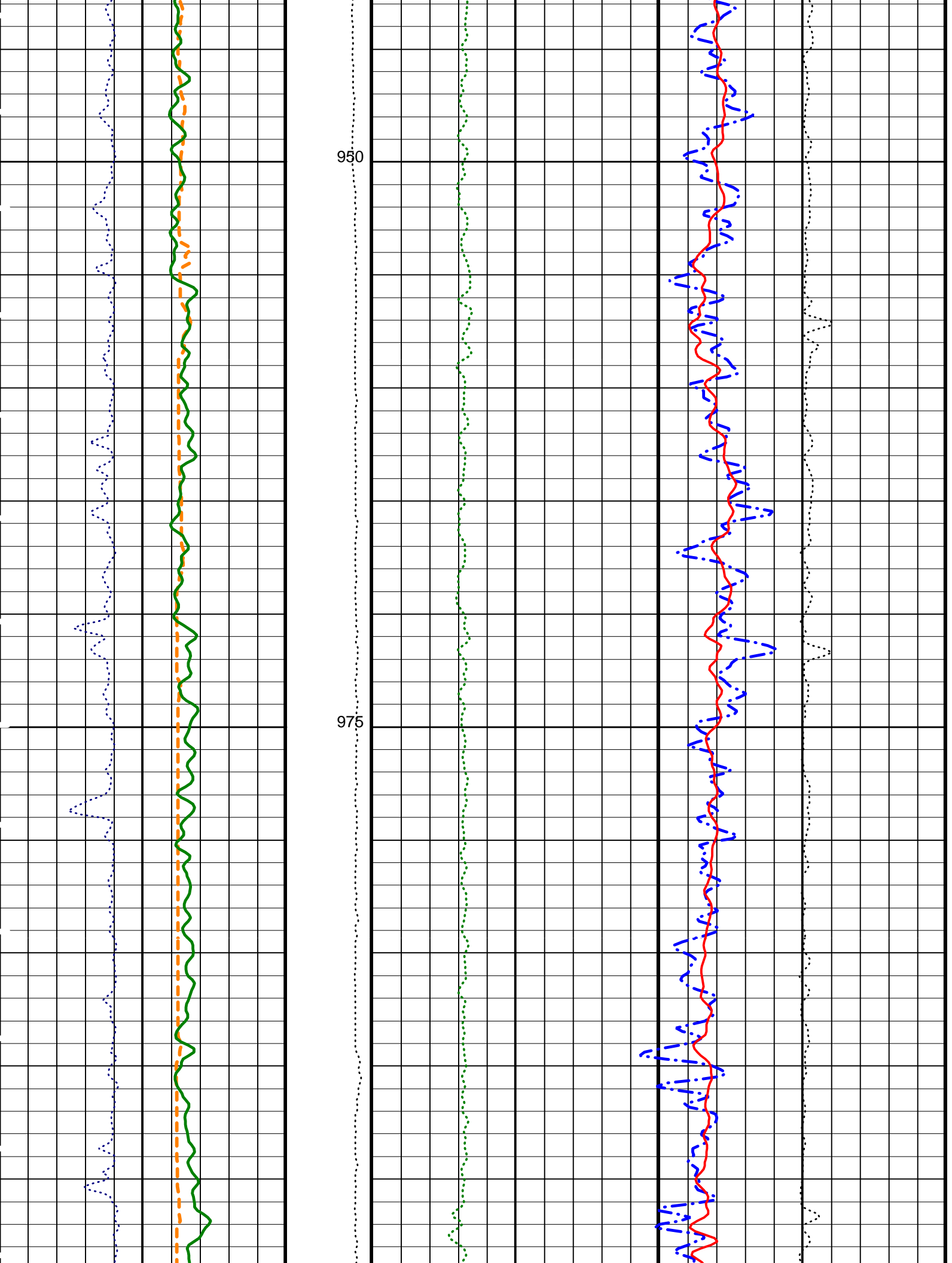
### PIP SUMMARY

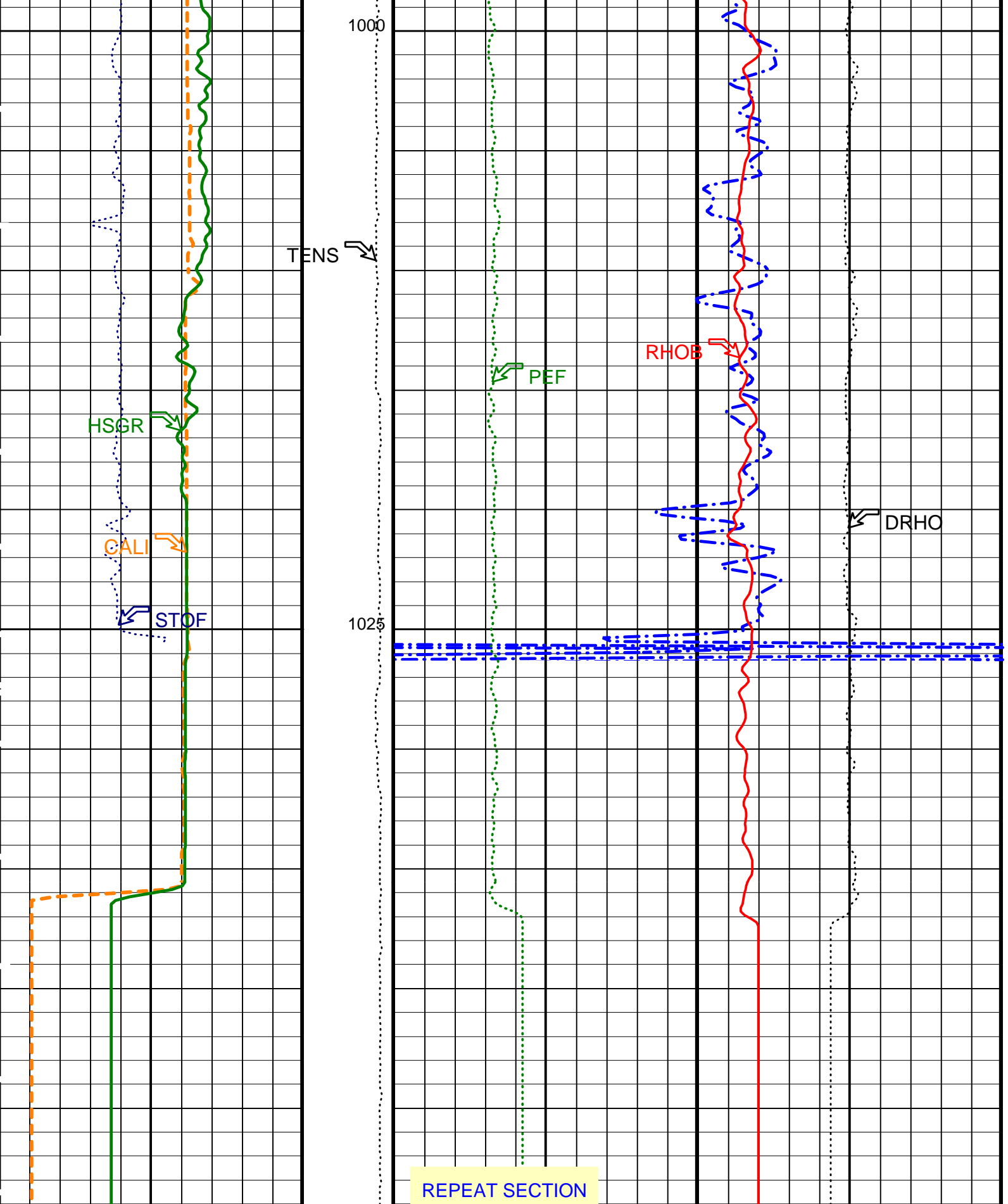
Time Mark Every 60 S



REPEAT SECTION







<p>Caliper (CALI) (IN)</p> <p>0 20</p>	<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>APS Near/Array Corrected Limestone Porosity (APLC)</p> <p>(PU)</p> <p>0 100</p>	<p>Bulk Density Correction (DRHO)</p> <p>(G/G<sub>25</sub>)</p> <p>0 0.25</p>
<p>APS Effective Standoff in Limestone (STOF)</p>	<p>PhotoElectric Factor (PEF)</p>	<p>REPEAT SECTION</p>	

-1	(IN)	4	0	(---	10	-0.25	(G/C3)	0.25
HNGS Spectroscopy Gamma Ray (HSGR)			Bulk Density (RHOB)					
0	(GAPI)	100	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)	100	DEGC
DGF1	Deep 10 kHz Gain Factor	0.995593	
DGF2	Deep 20 kHz Gain Factor	1.00789	
DGF4	Deep 40 kHz Gain Factor	1.02614	
DPH1	Deep 10 kHz Phase Shift	0.114289	DEG
DPH2	Deep 20 kHz Phase Shift	-0.152394	DEG
DPH4	Deep 40 kHz Phase Shift	-1.42629	MM/M
DRE1	Deep Real 10 kHz Sonde Error Correction	44.9501	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	16.357	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	4.69026	MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt	
DSR1	Deep Sigma Reference (10 kHz)	7637	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DSR4	Deep Sigma Reference (40 kHz)	405	MM/M
DSTA	DIT-E Transversal Standoff	0	IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	108.903	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	64.6326	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	46.096	MM/M
GCSE	Generalized Caliper Selection	CALI	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
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	
MGF1	Medium 10 kHz Gain Factor	1.02182	
MGF2	Medium 20 kHz Gain Factor	1.02964	
MGF4	Medium 40 kHz Gain Factor	1.06122	
MPH1	Medium 10 kHz Phase Shift	-0.255819	DEG
MPH2	Medium 20 kHz Phase Shift	-0.933067	DEG
MPH4	Medium 40 kHz Phase Shift	-2.46117	MM/M
MRE1	Medium Real 10 kHz Sonde Error Correction	20.7292	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	-1.78642	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	-10.4594	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MXE1	Medium Quad 10 kHz Sonde Error Correction	-105.752	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	-34.2041	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	11.4521	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	20	DEGC
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	0.994556	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	ON	
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)	100		DEGC
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	0.018227		DC/M
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	1.06555		
NFRC	APS Near/Far Calibration Ratio	0.907568		
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
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	-0.00221159		
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	20		DEGC
TPOS	Tool Position		ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.96978		
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.972291		
System and Miscellaneous				
ALTDPCCHAN	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	1.10		G/C3
MST	Mud Sample Temperature	27.00		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	-50000		M
TDD	Total Depth - Driller	-50000.00		M
TDL	Total Depth - Logger	-50000.00		M
TWS	Temperature of Connate Water Sample	37.78		DEGC

Format: APSLiquidPorosity\_1 Vertical Scale: 1:200 Graphics File Created: 23-Aug-2002 19:51

## 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_005LUP	FN:6	PRODUCER	23-Aug-2002 19:51
REDUCE	PI_LDL_APS_NGS_005LUP	FN:7	PRODUCER	23-Aug-2002 19:51

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement							
Master: 12-Jun-2002 0:31 Before: 24-Jul-2002 17:39 After: 23-Aug-2002 23:03							
LSW1 Background	100.0	88.67	86.74	85.83	-0.9071	3.000	CPS
LSW2 Background	105.0	93.18	91.70	90.78	-0.9218	3.150	CPS
LSW3 Background	210.0	177.4	176.2	176.7	0.5443	6.300	CPS
LSW4 Background	290.0	236.8	236.6	234.4	-2.197	8.700	CPS
LSW5 Background	610.0	518.0	517.3	519.9	2.595	18.30	CPS
SSW1 Background	100.0	83.02	84.95	84.35	-0.5992	3.000	CPS
SSW2 Background	200.0	165.1	166.3	165.2	-1.114	6.000	CPS
SSW3 Background	530.0	440.7	439.6	438.1	-1.522	15.90	CPS
SSW4 Background	280.0	232.4	232.4	233.4	0.9281	8.400	CPS
SSW5 Background	205.0	174.0	173.3	174.7	1.441	6.150	CPS
Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage							
Master: 12-Jun-2002 0:31 Before: 24-Jul-2002 17:39 After: 23-Aug-2002 23:03							
LS Bkg. High Voltage	1133	1133	1130	1130	0.2719	N/A	V
SS Bkg. High Voltage	1177	1177	1171	1170	-1.102	N/A	V
Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurements							
Master: 12-Jun-2002 0:31 Before: 24-Jul-2002 17:39 After: 23-Aug-2002 23:03							
LS Background Resolution	1.000	1.032	1.032	1.025	-0.007081	N/A	
SS Background Resolution	1.000	0.9430	0.9416	0.9411	-0.0004674	N/A	
Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration							
Before: 24-Jul-2002 17:38							
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
Hostile Environment Litho Density - A Master Calibration - Aluminum Measurement							
Master: 12-Jun-2002 3:36							
LSW1 Aluminum	648.4	576.7	--	--	--	--	CPS
LSW2 Aluminum	1018	928.8	--	--	--	--	CPS
LSW3 Aluminum	1105	996.5	--	--	--	--	CPS
LSW4 Aluminum	609.5	555.2	--	--	--	--	CPS
LSW5 Aluminum	533.8	495.5	--	--	--	--	CPS
SSW1 Aluminum	2664	2503	--	--	--	--	CPS
SSW2 Aluminum	7731	7298	--	--	--	--	CPS
SSW3 Aluminum	10380	9792	--	--	--	--	CPS
SSW4 Aluminum	4574	4340	--	--	--	--	CPS
SSW5 Aluminum	745.2	732.3	--	--	--	--	CPS
Hostile Environment Litho Density - A Master Calibration - Tool Quality Control Information: High Voltage							
Master: 12-Jun-2002 3:36							
LS Alum. High Voltage	1133	1137	--	--	--	--	V
SS Alum. High Voltage	1177	1170	--	--	--	--	V
Hostile Environment Litho Density - A Master Calibration - Detectors Resolution From Aluminum Measurement							
Master: 12-Jun-2002 3:36							
LS Aluminum Resolution	1.000	1.047	--	--	--	--	
SS Aluminum Resolution	1.000	1.055	--	--	--	--	
Hostile Environment Litho Density - A Master Calibration - Aluminum Measurement (Window Ratios)							
Master: 12-Jun-2002 3:36							
LSW1/(LSW4 + LSW5) Calc.	0.5400	0.5489	--	--	--	--	
LSW3/(LSW4 + LSW5) Calc.	0.9600	0.9485	--	--	--	--	
SSW1/(SSW4 + SSW5) Calc.	0.4600	0.4935	--	--	--	--	
SSW3/(SSW4 + SSW5) Calc.	1.900	1.931	--	--	--	--	
Hostile Environment Litho Density - A Master Calibration - Litholog Measurement							
Master: 12-Jun-2002 3:44							
LSW1 Iron	410.0	405.2	--	--	--	--	CPS
LSW2 Iron	870.0	771.0	--	--	--	--	CPS
LSW3 Iron	1030	901.5	--	--	--	--	CPS
LSW4 Iron	590.0	512.2	--	--	--	--	CPS
LSW5 Iron	530.0	459.1	--	--	--	--	CPS
SSW1 Iron	1850	1831	--	--	--	--	CPS
SSW2 Iron	6500	6181	--	--	--	--	CPS
SSW3 Iron	10000	9037	--	--	--	--	CPS
SSW4 Iron	4500	3979	--	--	--	--	CPS
SSW5 Iron	750.0	640.2	--	--	--	--	CPS
Hostile Environment Litho Density - A Master Calibration - Tool Quality Control Information: High Voltage							
Master: 12-Jun-2002 3:44							



Master: 12-Jun-2002 3:44	LS Lith High Voltage	1133	1136	--	--	--	--	V
	SS Lith High Voltage	1177	1170	--	--	--	--	V

Hostile Environment Litho Density - A Master Calibration - Detectors Resolution From Litholog Measurement

Master: 12-Jun-2002 3:44								
	LS Lith Resolution	1.000	1.048	--	--	--	--	
	SS Lith Resolution	1.000	1.019	--	--	--	--	

Accelerator-Porosity Tool Wellsite Calibration - Detector Background

Master: 24-Jul-2002 9:08 Before: 23-Aug-2002 19:57 After: 23-Aug-2002 22:14								
	Near Det Bkg Cntrate	30.00	32.30	32.20	31.59	-0.6166	N/A	CPS
	Far Det Bkg Cntrate	30.00	33.62	32.72	35.16	2.440	N/A	CPS
	Array-1 Det Bkg Cntrate	30.00	28.88	29.71	28.05	-1.661	N/A	CPS
	Array-2 Det Bkg Cntrate	30.00	29.64	29.69	30.36	0.6743	N/A	CPS
	Array Therm Det Bkg Cntrate	30.00	32.75	32.67	32.93	0.2644	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios

Master: 24-Jul-2002 9:08								
	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 9:09								
	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 3:08 Before: 24-Jul-2002 12:59 After: 23-Aug-2002 23:04								
	Na 511 Peak Loc	40.00	40.59	40.60	40.55	-0.05260	1.000	
	Na 511 Peak Res	15.50	16.79	16.89	15.90	-0.9905	2.000	%
	High Voltage	1150	1224	1220	1219	-1.110	30.00	V
	Na 1785 Peak Loc	142.6	145.1	146.3	145.5	-0.7973	7.000	
	Na 1785 Peak Res	8.500	10.40	8.694	9.747	1.053	2.000	%
	Temperature	15.50	24.98	22.43	20.41	-2.013	N/A	DEGC
	Na Count Rate	45.00	50.31	49.89	48.96	-0.9234	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 13-Jul-2002 3:08 Before: 24-Jul-2002 12:59 After: 23-Aug-2002 23:04								
	Na 511 Peak Loc	40.00	40.58	40.59	40.59	0.001343	1.000	
	Na 511 Peak Res	15.50	16.72	16.53	16.53	-0.003351	2.000	%
	High Voltage	1150	1253	1250	1246	-3.410	30.00	V
	Na 1785 Peak Loc	142.6	144.7	144.3	144.8	0.4459	7.000	
	Na 1785 Peak Res	8.500	9.766	9.897	9.612	-0.2849	2.000	%
	Temperature	15.50	24.15	21.87	20.67	-1.203	N/A	DEGC
	Na Count Rate	45.00	50.19	49.39	48.77	-0.6201	8.000	CPS

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

Master: 13-Jul-2002 3:08 Before: 24-Jul-2002 12:59 After: 23-Aug-2002 23:04								
	Coincidence Count Rate Ratio	1.000	1.004	1.010	1.003	-0.006575	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 13-Jul-2002 3:01								
	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 3:01								
	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

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		88.67	Master		93.18	Master		177.4
Before		86.74	Before		91.70	Before		176.2
After		85.83	After		90.78	After		176.7
	65.00 (Minimum) 100.0 (Nominal) 125.0 (Maximum)			70.00 (Minimum) 105.0 (Nominal) 130.0 (Maximum)			150.0 (Minimum) 210.0 (Nominal) 250.0 (Maximum)	
Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value	Phase	SSW1 Background CPS	Value
Master		236.8	Master		518.0	Master		83.02
Before		236.6	Before		517.3	Before		84.95
After		234.4	After		519.9	After		84.35
	220.0 (Minimum) 290.0 (Nominal) 330.0 (Maximum)			430.0 (Minimum) 610.0 (Nominal) 730.0 (Maximum)			70.00 (Minimum) 100.0 (Nominal) 120.0 (Maximum)	
Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value	Phase	SSW4 Background CPS	Value
Master		165.1	Master		440.7	Master		232.4
Before		166.3	Before		439.6	Before		232.4
After		165.2	After		438.1	After		233.4
	140.0 (Minimum) 200.0 (Nominal) 240.0 (Maximum)			380.0 (Minimum) 530.0 (Nominal) 630.0 (Maximum)			190.0 (Minimum) 280.0 (Nominal) 340.0 (Maximum)	
Phase	SSW5 Background CPS	Value						
Master		174.0						
Before		173.3						
After		174.7						
	140.0 (Minimum) 205.0 (Nominal) 250.0 (Maximum)							
Master: 12-Jun-2002 0:31			Before: 24-Jul-2002 17:39			After: 23-Aug-2002 23:03		

Hostile Environment Litho Density - A Wellsite Calibration

Detectors Resolution From BKG Measurements

Phase	LS Background Resolution	Value	Phase	SS Background Resolution	Value
Master		1.032	Master		0.9430
Before		1.032	Before		0.9416
After		1.025	After		0.9411
	0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)			0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)	
Master: 12-Jun-2002 0:31			Before: 24-Jul-2002 17:39		
After: 23-Aug-2002 23:03					

**Hostile Environment Litho Density - A Master Calibration**

**Aluminum Measurement**

Phase	LSW1 Aluminum CPS	Value	Phase	LSW2 Aluminum CPS	Value	Phase	LSW3 Aluminum CPS	Value
Master		576.7	Master		928.8	Master		996.5
	440.0 (Minimum)      648.4 (Nominal)      840.0 (Maximum)			840.0 (Minimum)      1018 (Nominal)      1200 (Maximum)			920.0 (Minimum)      1105 (Nominal)      1280 (Maximum)	
Phase	LSW4 Aluminum CPS	Value	Phase	LSW5 Aluminum CPS	Value	Phase	SSW1 Aluminum CPS	Value
Master		555.2	Master		495.5	Master		2503
	520.0 (Minimum)      609.5 (Nominal)      720.0 (Maximum)			450.0 (Minimum)      533.8 (Nominal)      670.0 (Maximum)			1850 (Minimum)      2664 (Nominal)      2900 (Maximum)	
Phase	SSW2 Aluminum CPS	Value	Phase	SSW3 Aluminum CPS	Value	Phase	SSW4 Aluminum CPS	Value
Master		7298	Master		9792	Master		4340
	6200 (Minimum)      7731 (Nominal)      8500 (Maximum)			8750 (Minimum)      10380 (Nominal)      11750 (Maximum)			4000 (Minimum)      4574 (Nominal)      5400 (Maximum)	
Phase	SSW5 Aluminum CPS	Value						
Master		732.3						
	570.0 (Minimum)      745.2 (Nominal)      1110 (Maximum)							

Master: 12-Jun-2002 3:36

**Hostile Environment Litho Density - A Master Calibration**

**Detectors Resolution From Aluminum Measurement**

Phase	LS Aluminum Resolution	Value	Phase	SS Aluminum Resolution	Value
Master		1.047	Master		1.055
	0.7000 (Minimum)      1.000 (Nominal)      1.111 (Maximum)			0.7000 (Minimum)      1.000 (Nominal)      1.111 (Maximum)	

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**Hostile Environment Litho Density - A Master Calibration**

**Aluminum Measurement (Window Ratios)**

Phase	LSW1/(LSW4 + LSW5) Calc.	Value	Phase	LSW3/(LSW4 + LSW5) Calc.	Value
Master		0.5489	Master		0.9485
	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		0.4935	Master		1.931
	0.3600 (Minimum)      0.4600 (Nominal)      0.5600 (Maximum)			1.700 (Minimum)      1.900 (Nominal)      2.100 (Maximum)	

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**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		405.2	Master		771.0	Master		901.5
	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		512.2	Master		459.1	Master		1831
	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		6181	Master		9037	Master		3979
	5170 (Minimum)      6500 (Nominal)      7270 (Maximum)			8100 (Minimum)      10000 (Nominal)      11000 (Maximum)			3620 (Minimum)      4500 (Nominal)      5020 (Maximum)	
Phase	SSW5 Iron CPS	Value						
Master		640.2						
	470.0 (Minimum)      750.0 (Nominal)      10100 (Maximum)							

Master: 12-Jun-2002 3:44

**Hostile Environment Litho Density - A Master Calibration**

**Detectors Resolution From Litholog Measurement**

Phase	LS Lith Resolution	Value	Phase	SS Lith Resolution	Value
Master		1.048	Master		1.048

Master	0.7000 (Minimum)	1.000 (Nominal)	1.111 (Maximum)	1.048	Master	0.7000 (Minimum)	1.000 (Nominal)	1.111 (Maximum)	1.019
Master: 12-Jun-2002 3:44									

**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 Bkg Cntrate CPS	Value	Phase	Far Det Bkg Cntrate CPS	Value	Phase	Array-1 Det Bkg Cntrate CPS	Value
Master		32.30	Master		33.62	Master		28.88
Before		32.20	Before		32.72	Before		29.71
After		31.59	After		35.16	After		28.05
	0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	
Phase	Array-2 Det Bkg Cntrate CPS	Value	Phase	Array Therm Det Bkg Cntrate CPS	Value			
Master		29.64	Master		32.75			
Before		29.69	Before		32.67			
After		30.36	After		32.93			
	0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)				

Master: 24-Jul-2002 9:08

Before: 23-Aug-2002 19:57

After: 23-Aug-2002 22:14

**Accelerator-Porosity Tool Wellsite Calibration**

**Calibration Ratios**

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value
Master		0.9076	Master		1.066	Master		1.006
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)			0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum)	

Master: 24-Jul-2002 9:08

**Accelerator-Porosity Tool Wellsite Calibration**

**Tank Check**

Phase	Array-1 Standoff Porosity PU	Value	Phase	Array-2 Standoff Porosity PU	Value	Phase	Average Slowing Down Time US	Value
Master		11.51	Master		11.19	Master		5.884
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)			9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)			5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)	
Phase	Array-1 SDT Ratio Up/Down	Value	Phase	Array-2 SDT Ratio Up/Down	Value	Phase	Sigma Formation CU	Value
Master		0.9901	Master		0.9732	Master		27.88
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)			0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)			20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)	

Master: 24-Jul-2002 9:09

**Accelerator-Porosity Tool Master Calibration**

**Detector Calibration**

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value	Phase	Near/Array Cal Ratio Up/Down	Value
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Master		0.9076	Master		1.066	Master		1.006	
	0.8000 (Minimum)	0.9250 (Nominal)	1.050 (Maximum)	0.9000 (Minimum)	1.030 (Nominal)	1.170 (Maximum)	0.9700 (Minimum)	1.000 (Nominal)	1.030 (Maximum)

Master: 24-Jul-2002 9:08

Accelerator-Porosity Tool Master Calibration									
Tank Check									
Phase	Array-1 Standoff Porosity PU	Value	Phase	Array-2 Standoff Porosity PU	Value	Phase	Average Slowing Down Time US	Value	
Master		11.51	Master		11.19	Master		5.884	
	9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)	9.900 (Minimum)	11.75 (Nominal)	13.60 (Maximum)	5.500 (Minimum)	6.000 (Nominal)	6.250 (Maximum)
Phase	Array-1 SDT Ratio Up/Down	Value	Phase	Array-2 SDT Ratio Up/Down	Value	Phase	Sigma Formation CU	Value	
Master		0.9901	Master		0.9732	Master		27.88	
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	20.00 (Minimum)	27.50 (Nominal)	35.00 (Maximum)

Master: 24-Jul-2002 9:09

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	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		40.55	After		15.90	After		1219		
	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		145.5	After		9.747	After		20.41		
	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		48.96								
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)							

Master: 13-Jul-2002 3:08      Before: 24-Jul-2002 12:59      After: 23-Aug-2002 23:04

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		40.59	After		16.53	After		1246	
	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	135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)	144.8	After	7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)	9.612	After	-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)	20.67
Phase	Na Count Rate CPS			Value										
Master				50.19										
Before				49.39										
After				48.77										
	10.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)											
Master: 13-Jul-2002 3:08					Before: 24-Jul-2002 12:59					After: 23-Aug-2002 23:04				

Hostile Natural Gamma Ray Sonde Wellsite Calibration			
Ratio Of Detector 1 To Detector 2			
Phase	Coincidence Count Rate Ratio	Value	
Master		1.004	
Before		1.010	
After		1.003	
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: 13-Jul-2002 3:08			
Before: 24-Jul-2002 12:59			
After: 23-Aug-2002 23:04			

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 3:01									

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 3:01									

Company: Lamont Doherty  
Well: ODP Leg 204, Site 1247B  
Field: Hydrate Ridge  
Ocean: Pacific  
State: Oregon



HLDT/APS Porosity

Natural Gamma Ray