COMPANY: Lamont Doherty

WELL: ODP Leg 191, Site 1179D (WP-2A)

FIELD: West Pacific ION

COUNTY: Offshore STATE: Pacific Ocean

COUNTY: Offshore
Field: West Pacific ION
Location:
Well: ODP Leg 191, Site 1179D (WP-2A
Company: Lamont Doherty

Schlumberger

APS/HLDT Porosity Log
Natural Gamma Ray

LOCATION

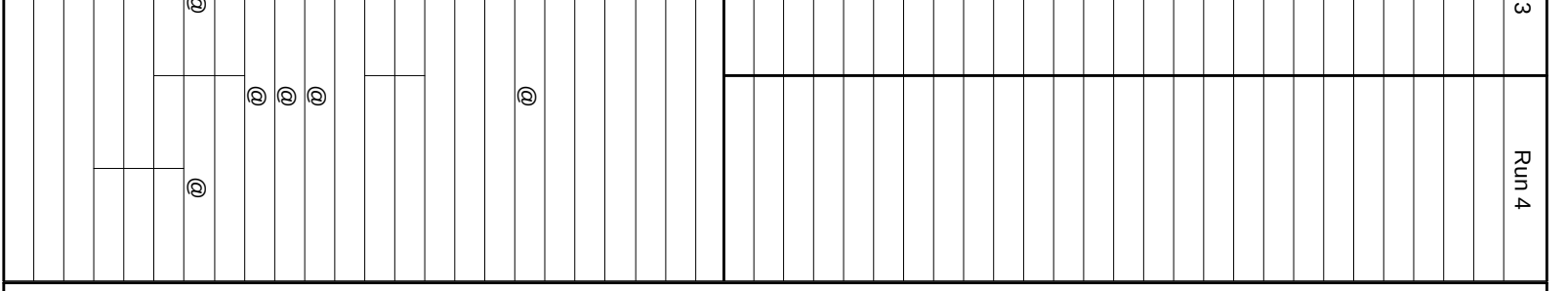
		Elev.:	K.B. 11.3 m G.L. -5566 m D.F. 11 m
Permanent Datum:	MSL	Elev.:	0 m
Log Measured From:	RKB	11.3 m	above Perm. Datum
Drilling Measured From:	RKB		

API Serial No.	LATITUDE:	LONGITUDE:	RIG:
	41* 4.8122' N	159* 57.7862' E	JOIDES Resolution

Logging Date		5-AUG-2000		
Run Number		1		
Depth Driller		6052 m		
Schlumberger Depth		5873 m		
Bottom Log Interval		5861 m		
Top Log Interval		5550 m		
Casing Driller Size @ Depth		0.000 in @		@
Casing Schlumberger				
Bit Size		9.875 in		
Type Fluid In Hole		Salt Water Base		
MUD Density	Viscosity	8.3 g/cm3		
Fluid Loss	PH			
Source Of Sample		Salt Water		
RM @ Measured Temperature		0.213 ohm.m @ 20 degC		@
RMF @ Measured Temperature		@		@
RMC @ Measured Temperature		@		@
Source RMF	RMC			
RM @ MRT	RMF @ MRT	@	@	@ @
Maximum Recorded Temperatures				
Circulation Stopped	Time	5-AUG-2000	5:00	
Logger On Bottom	Time	5-AUG-2000	17:00	
Unit Number	Location	99	Houston	
Recorded By		Kerry M. Swain		
Witnessed By		Florence Einaldi, Sarah Haggas		

	Run 1	Run 2	Run

Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth		@	
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
MUD Density	Viscosity		
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			



DISCLAIMER

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OTHER SERVICES1	OTHER SERVICES2
OS1: HLDT/APS/HNGS/TAP	OS1:
OS2: LAMONT GR	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Lamont Temperature Tool (TAP) run on DITE/HLDT/APS/HNGS only.	
Sea floor at 5577mbrf.	
Log presented in meters below rig floor.	
Wireline heave compensator used on all descents.	
Sepiolite mud placed in the hole before logging.	
Drillers TD-6052m, Loggers TD-5873m deepest point reached.	
Maximum recorded temperature recorded by Lamont TAP tool.	
Drill pipe set at 5732.5mbrf.	
Background count rates low for HNGS master cal due to low strength stab. source.	
Density measurement not available due to unstable Long Spacing Detector while	
logging. The Short Spacing PEF and Short Spacing Density is available but	
not as robust as the RHOB and PEF curves. The short spacing measurements are	
affected by hole rugosity and washout much more than the standard curves that	
use both Long Spacing and Short Spacing detectors.	

RUN 1

SERVICE ORDER #:
PROGRAM VERSION: 9C1-303
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

RUN 2

SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

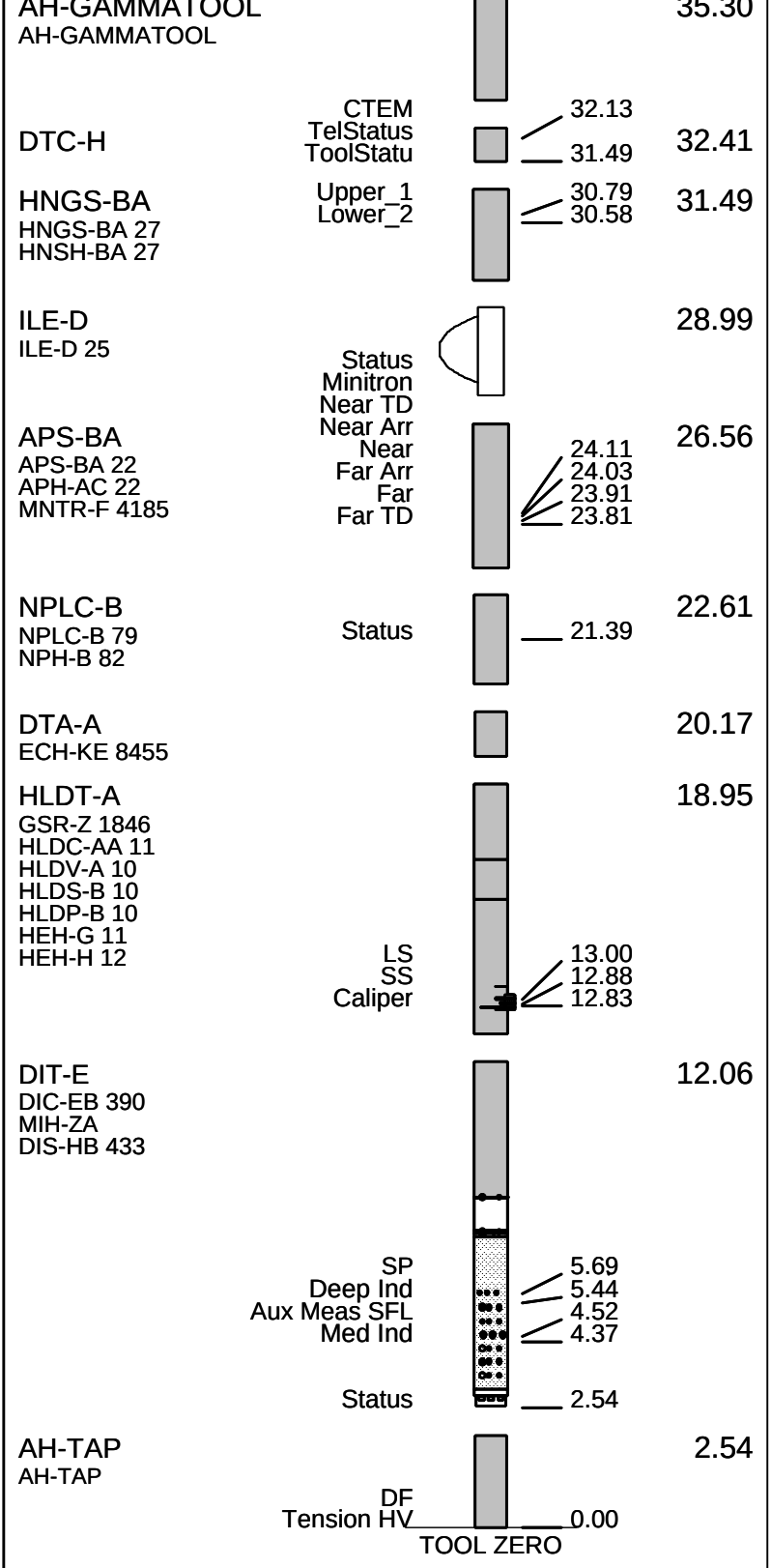
SFT-281 24
SFT-178 4722
GSR-U 135
WITM (DTS)-A

DOWNHOLE EQUIPMENT

LEH-QT 38.94

AH-TELEM 38.05
AH-TELEM

RUN 2



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

Input DLIS Files

DEFAULT	DITE .024	FN:13	PRODUCER	05-Aug-2000 17:03	5833.9 M	5550.0 M

Output DLIS Files

DEFAULT	DITE .067	FN:69	PRODUCER	18-Aug-2000 21:43	5833.9 M	5550.0 M

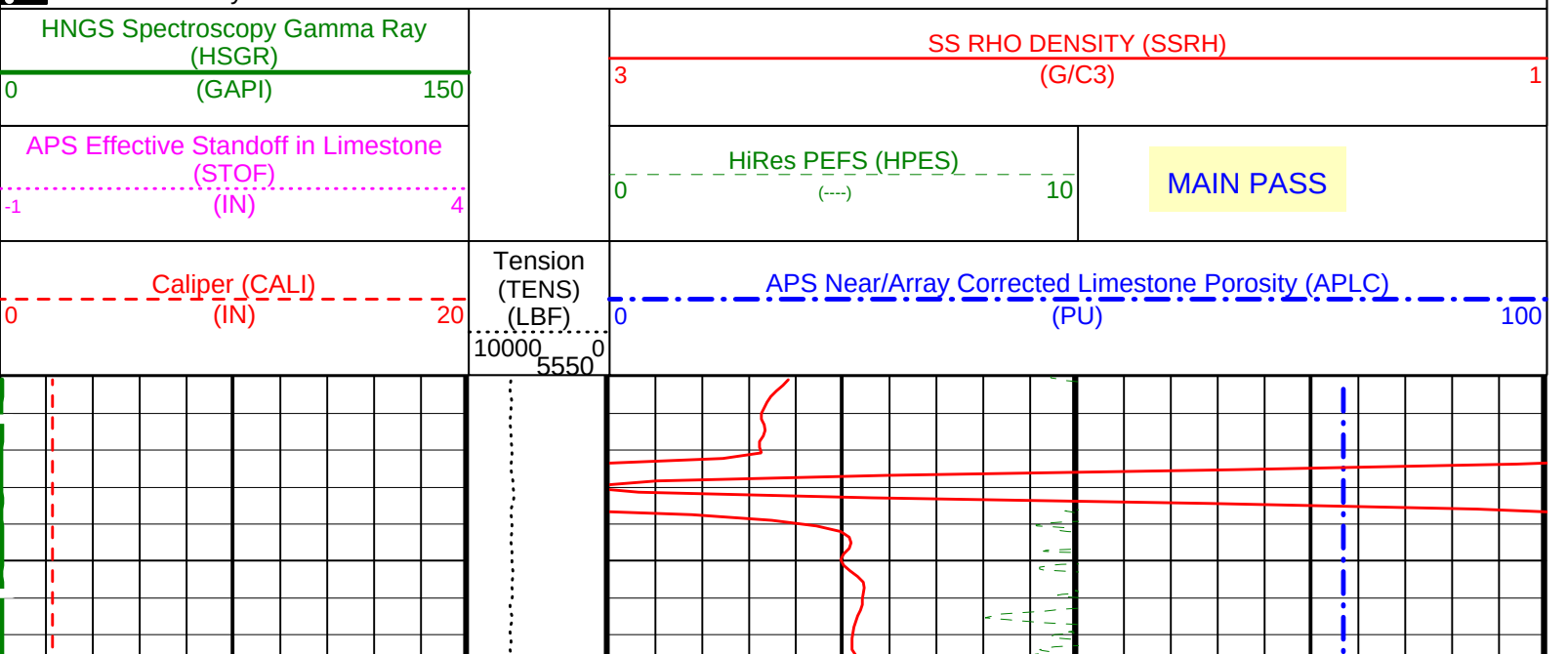
OP System Version: 9C1-303

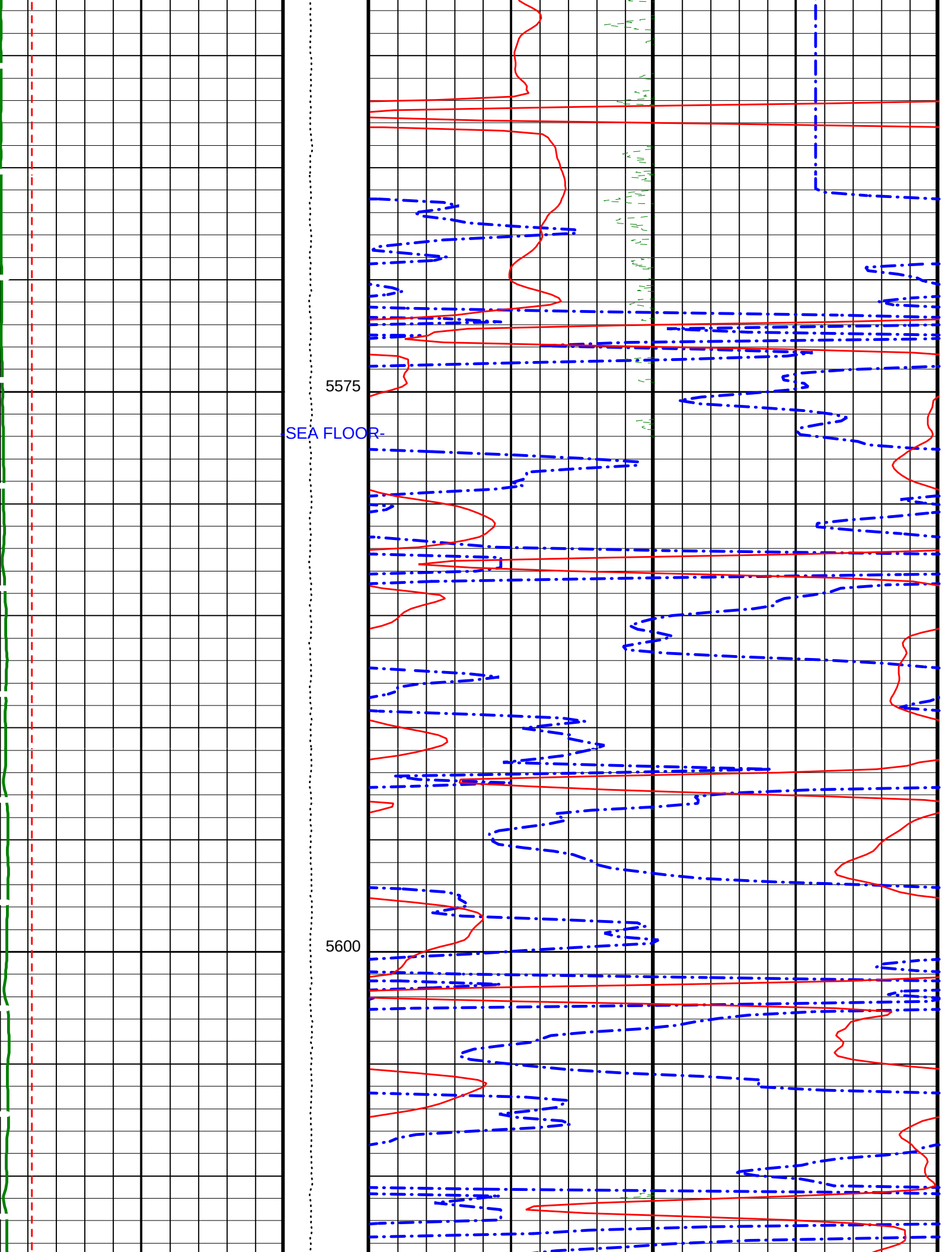
MCM

DIT-E	OP91-kp2	HLDT-A	OP91-kp2
DTA-A	OP91-kp2	NPLC-B	OP91-kp2
APS-BA	OP91-kp2	HNGS-BA	OP91-kp2
DTC-H	OP91-kp2		

PIP SUMMARY

Time Mark Every 60 S

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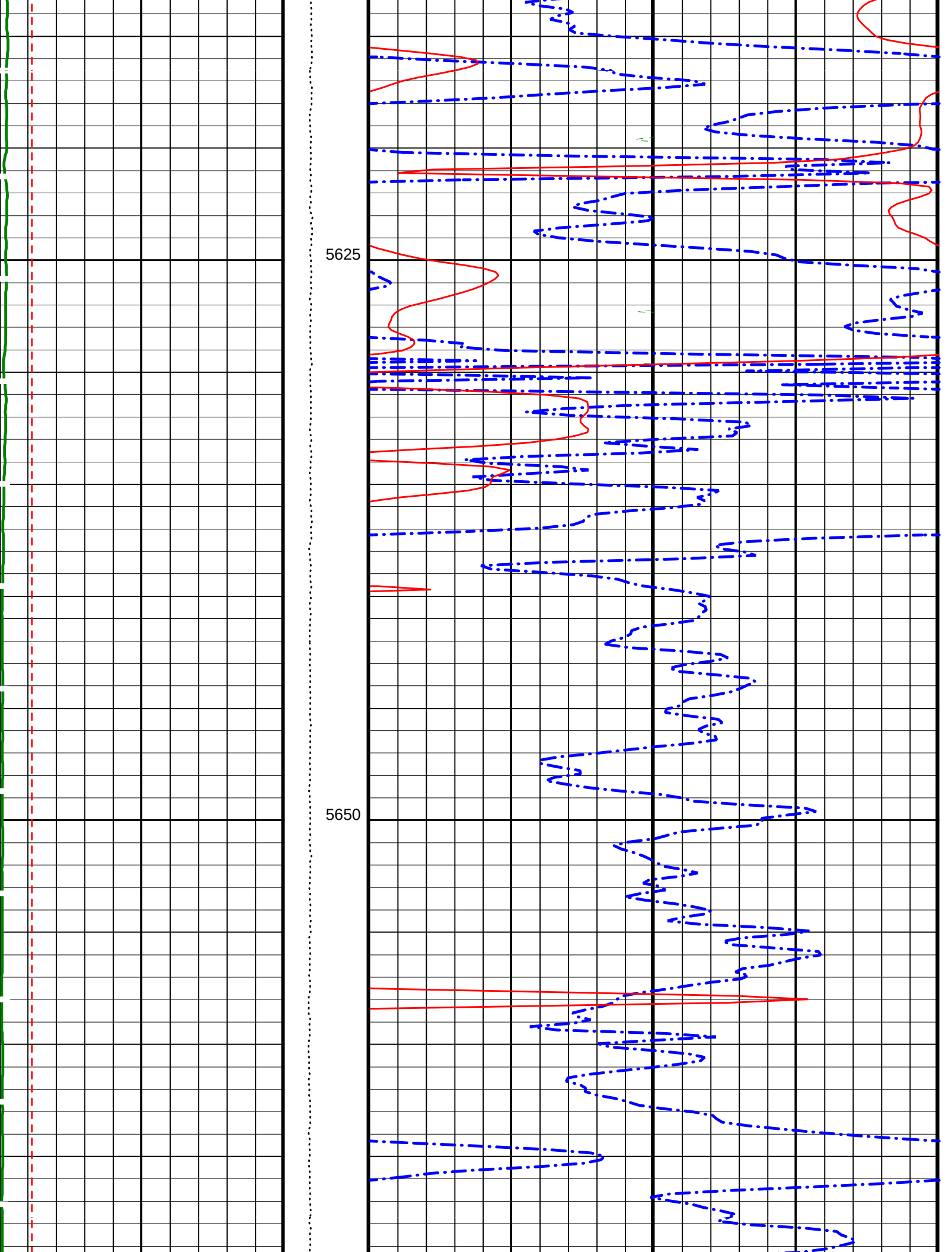
SEA FLOOR
5600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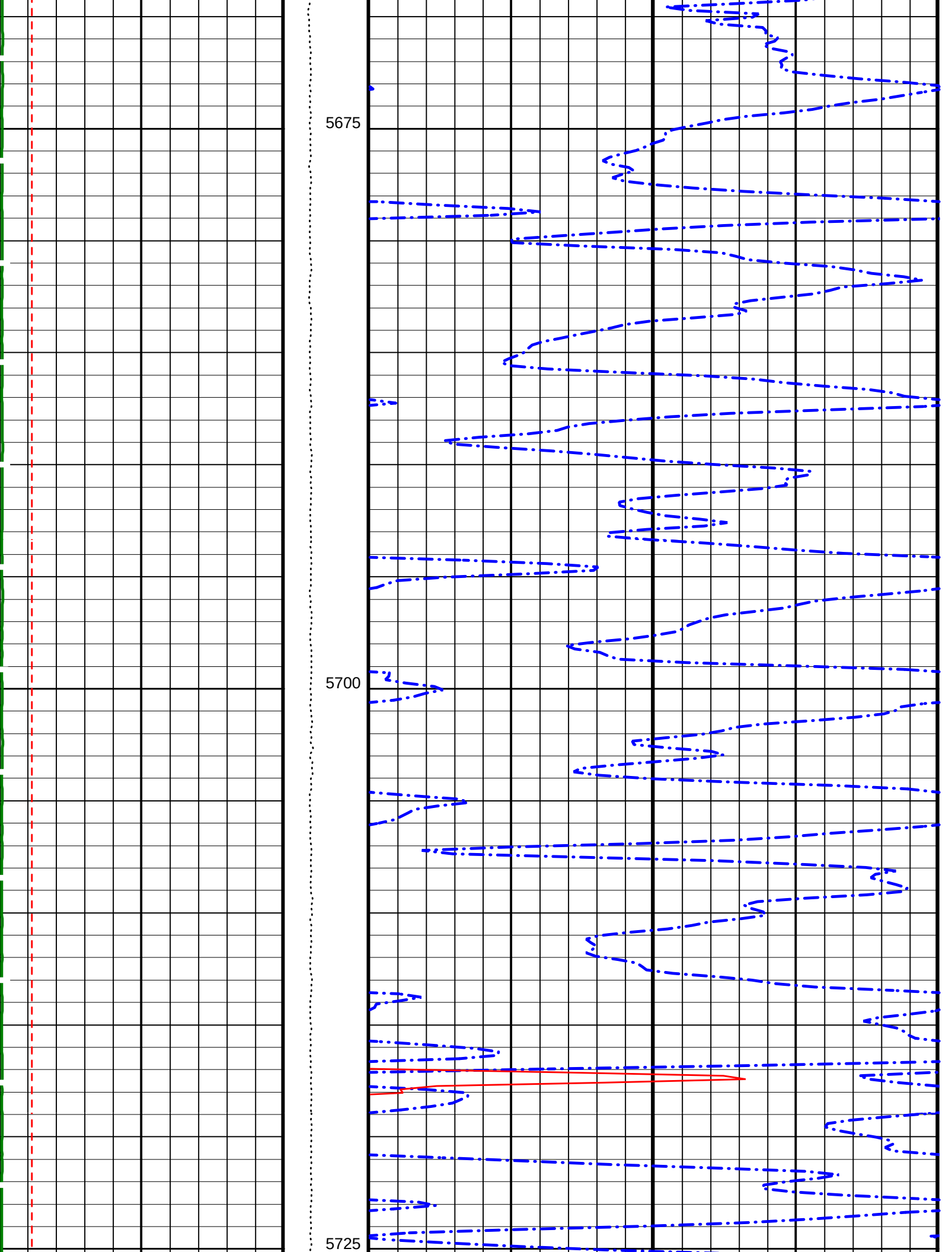
5650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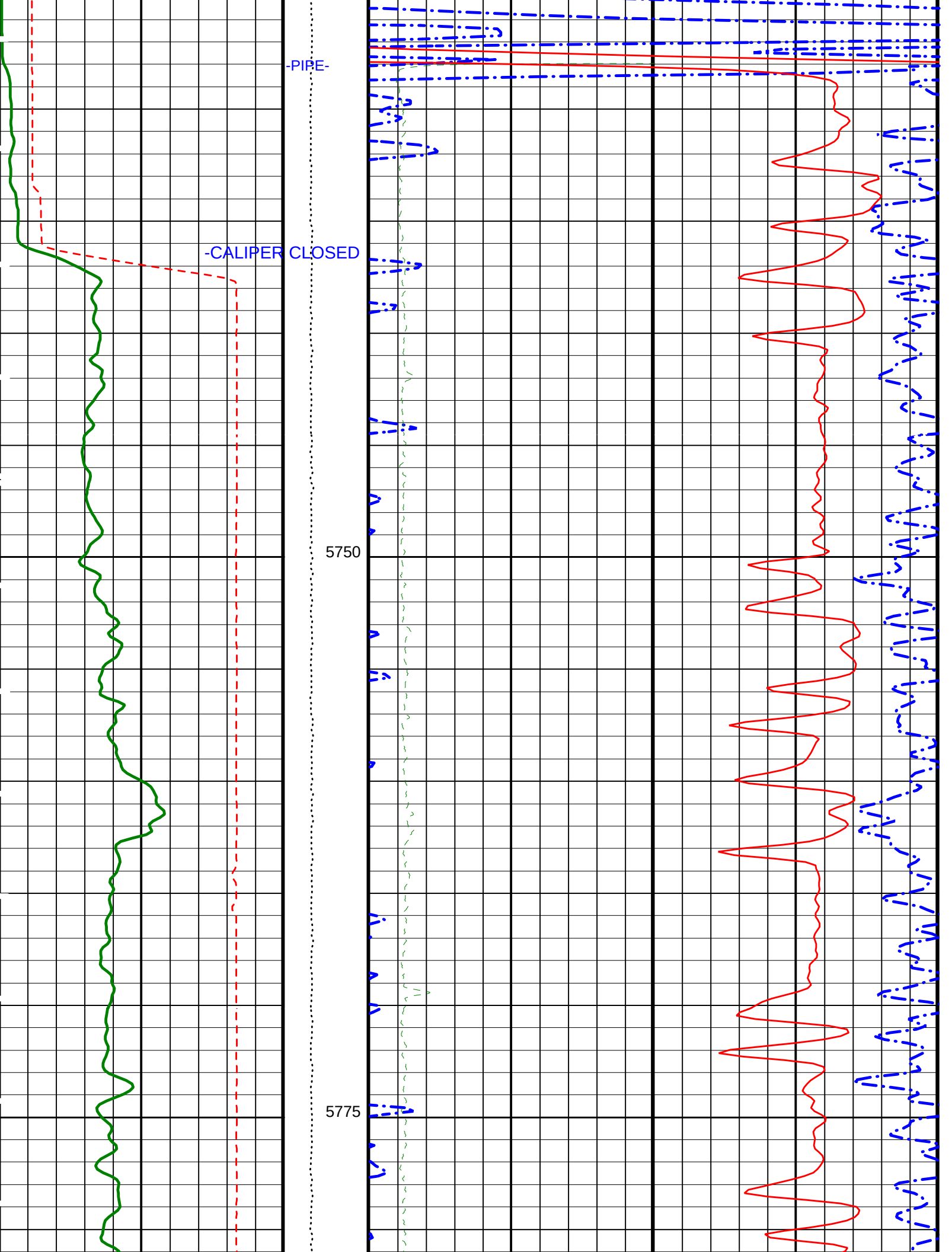
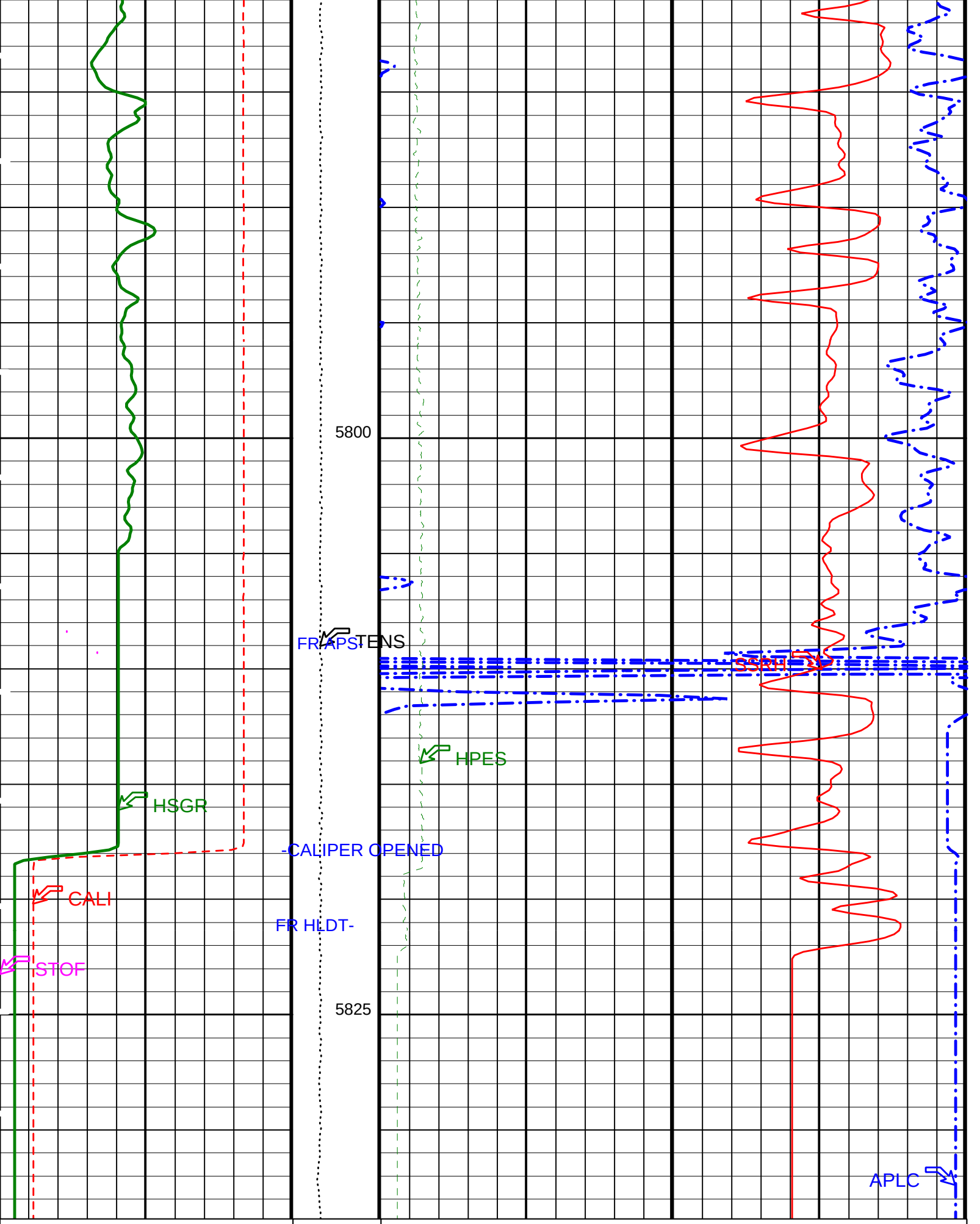
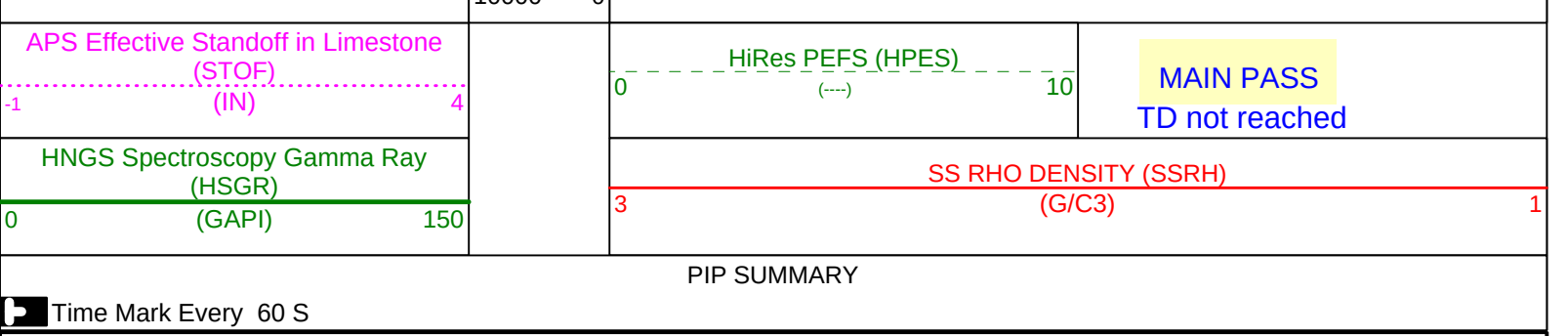
5700
5725


-PIPE-
-CALIPER CLOSED
5750
5775


5800
FR APS TENS
SSBN
HPES
HSGR
-CALIPER OPENED
CALI
FR HLDT-
STOF
5825
APLC
Caliper (CALI)
(IN)
0
20
Tension
(TENS)
(LBF)
10000
0
APS Near/Array Corrected Limestone Porosity (APLC)
(PU)
0
100



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	APS Software Version	0	
	APS Cement Thickness Source	COMPUTED	
	Apparent Thickness of Cement	0	IN
AASD	APS Thermal and Array Detectors High Voltage Setting	1965.09	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	2072.62	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	1747.47	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF	
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	10	DEGC
BKSF	HNGS Borehole Fluid Excluder Sleeve Algorithm Factor	1	
BKSH	HNGS Borehole Fluid Excluder Sleeve Algorithm High Channel	245	
BKSL	HNGS Borehole Fluid Excluder Sleeve Algorithm Low Channel	17	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSIZ	Current Casing Size	0.000	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
CWEI	Casing Weight	0.00	LB/F
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	8.20815	%
D1TC	HNGS Detector 1 Calibration Temperature	33.3413	DEGC
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	210.189	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	7.0296	%
D2TC	HNGS Detector 2 Calibration Temperature	32.3115	DEGC
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	210.126	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DFD	Drilling Fluid Density	8.30	G/C3
DHC	Density Hole Correction	BS	
DO	Depth Offset for Logical Unit 1	0.0	M
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	-50000	PPM
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
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	-0.0140165	
HALF	HNGS Alpha Filter Length	60	IN
HATIM	HNGS Marquardt Accumulation Time	600	S
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
HSLV	HNGS Borehole Fluid Excluder Sleeve Status	NO	
HSVN	HNGS Spectral Standards Version Number	4.96862e-032	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
NARC	APS Near/Array Calibration Ratio	1.06128	
NFRC	APS Near/Far Calibration Ratio	0.893853	
PP	Playback Processing	NORMAL	
QPPS	Quicklook Processing Pe Select	PEFL	
RDF1_START	HNGS Detector 1 RDF Constant	0	
RDF2_START	HNGS Detector 2 RDF Constant	0	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S1NA	HNGS Detector 1 Calibration Sodium Count Rate	36.5021	CPS

S1NA	HNGS Detector 1 Calibration Sodium Count Rate	26.5931	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.986034	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	26.917	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.983854	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.00217055	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	20	DEGC
TD	Total Depth	6052	M
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.01071	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.923111	
WMUD	Mud Weight	0.994556	G/C3

Format: APSLiquidPorosity_1 Vertical Scale: 1:200 Graphics File Created: 18-Aug-2000 21:43

OP System Version: 9C1-303

MCM

DIT-E	OP91-kp2	HLDT-A	OP91-kp2
DTA-A	OP91-kp2	NPLC-B	OP91-kp2
APS-BA	OP91-kp2	HNGS-BA	OP91-kp2
DTC-H	OP91-kp2		

Input DLIS Files

DEFAULT	DITE	.024	FN:13	PRODUCER	05-Aug-2000 17:03	5833.9 M	5550.0 M

Output DLIS Files

DEFAULT	DITE	.067	FN:69	PRODUCER	18-Aug-2000 21:43		

Input DLIS Files

DEFAULT	DITE	.021	FN:8	PRODUCER	05-Aug-2000 14:05	5875.0 M	5777.0 M

Output DLIS Files

DEFAULT	DITE	.066	FN:68	PRODUCER	18-Aug-2000 21:41	5875.0 M	5777.0 M

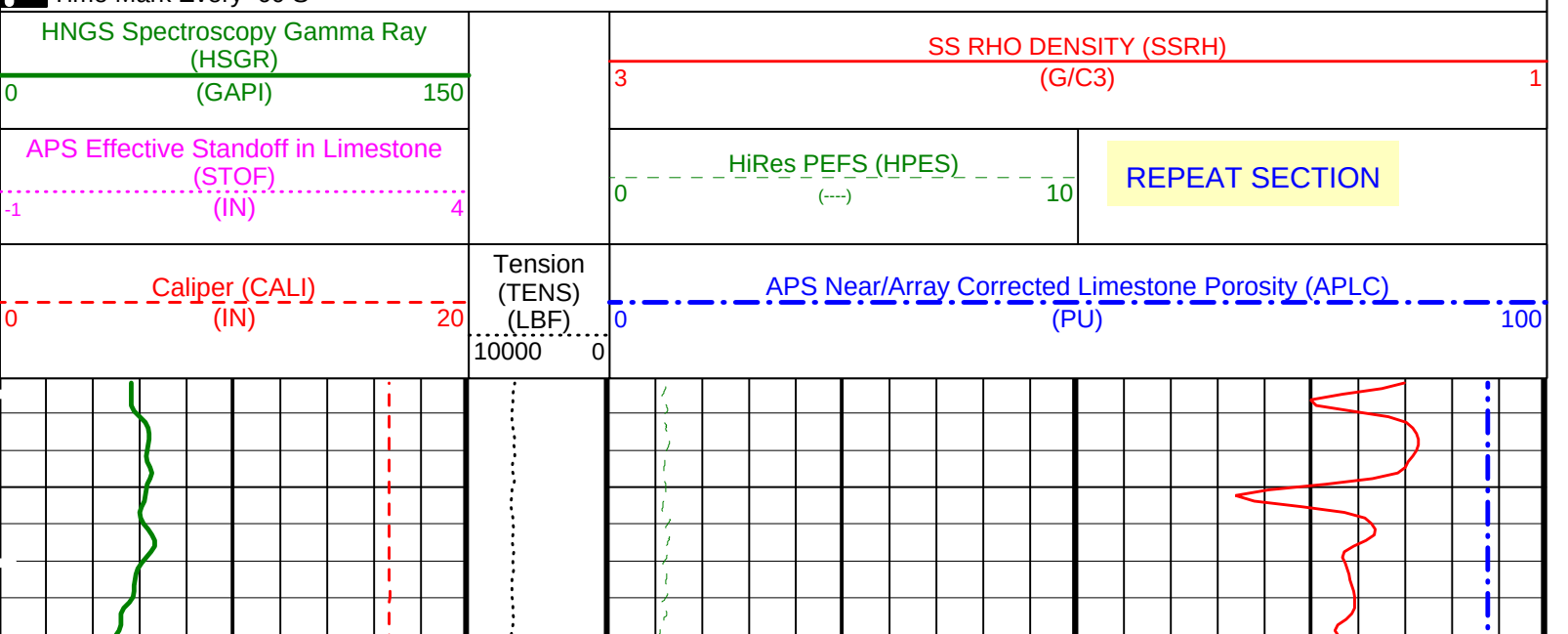
OP System Version: 9C1-303

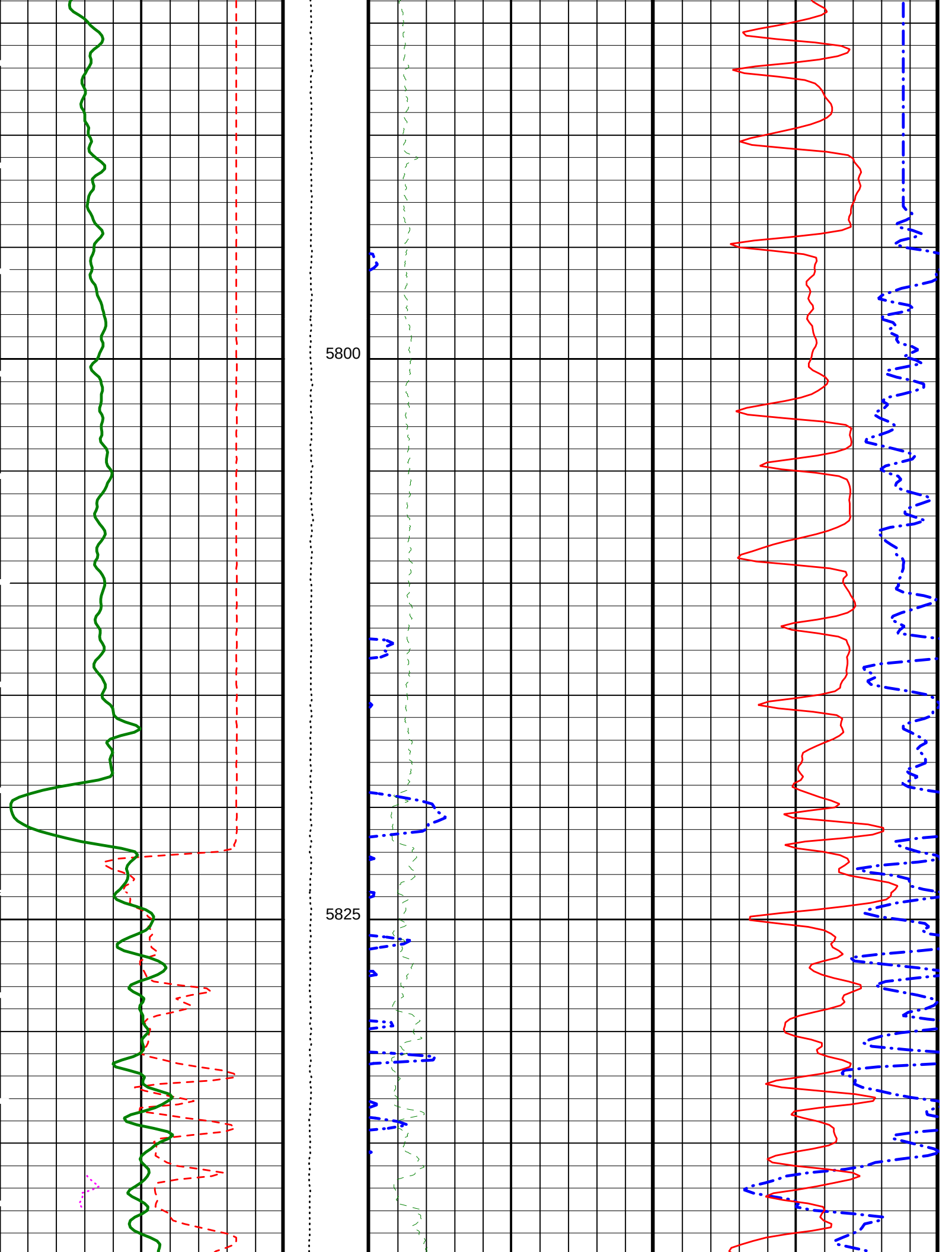
MCM

DIT-E	OP91-kp2	HLDT-A	OP91-kp2
DTA-A	OP91-kp2	NPLC-B	OP91-kp2
APS-BA	OP91-kp2	HNGS-BA	OP91-kp2
DTC-H	OP91-kp2		

PIP SUMMARY

Time Mark Every 60 S

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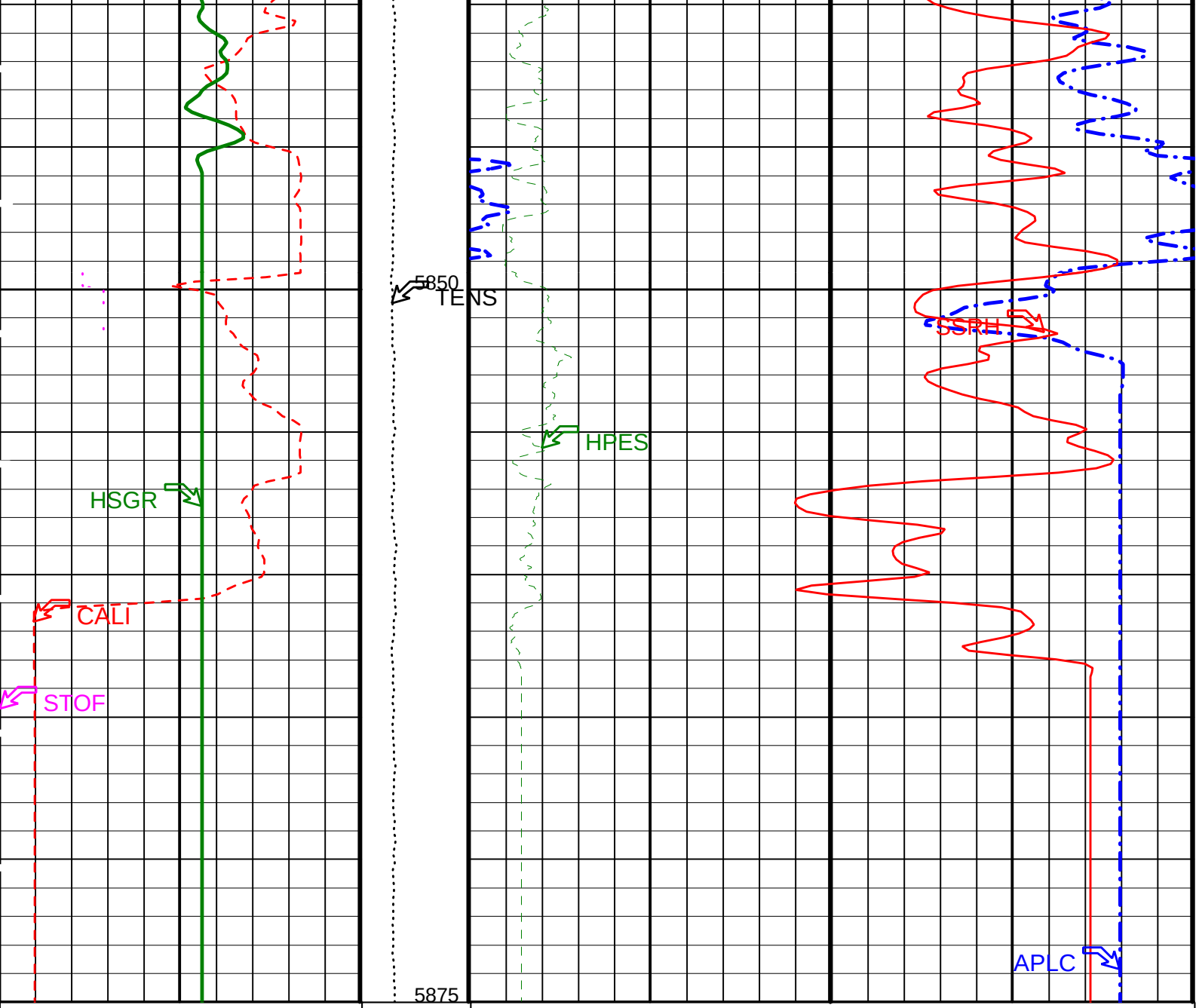


Caliper (CALI)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

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

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

HiRes PEFS (HPES)
0 (----) 10

REPEAT SECTION

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 150

SS RHO DENSITY (SSRH)
3 (G/C3) 1

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	APS Software Version	0	
	APS Cement Thickness Source	COMPUTED	
	Apparent Thickness of Cement	0	IN
AASD	APS Thermal and Array Detectors High Voltage Setting	1965.09	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	2072.62	V
AHGS	APS Holesize Correction Source	GCSE	

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	1747.47	V
ASOS	APS Standoff Correction Switch	ON	
ATSS	APS Temperature-Pressure-Salinity Correction Switch	OFF	
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	10	DEGC
BKSF	HNGS Borehole Fluid Excluder Sleeve Algorithm Factor	1	
BKSH	HNGS Borehole Fluid Excluder Sleeve Algorithm High Channel	245	
BKSL	HNGS Borehole Fluid Excluder Sleeve Algorithm Low Channel	17	
BS	Bit Size	9.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSIZ	Current Casing Size	0.000	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
CWEI	Casing Weight	0.00	LB/F
D1PR	HNGS Detector 1 Calibration Thorium Peak Resolution	8.20815	%
D1TC	HNGS Detector 1 Calibration Temperature	33.3413	DEGC
D1TL	HNGS Detector 1 Calibration Thorium Peak Location	210.189	
D2PR	HNGS Detector 2 Calibration Thorium Peak Resolution	7.0296	%
D2TC	HNGS Detector 2 Calibration Temperature	32.3115	DEGC
D2TL	HNGS Detector 2 Calibration Thorium Peak Location	210.126	
DBCC	HNGS Barite Constant Correction Flag	NONE	
DFD	Drilling Fluid Density	8.30	G/C3
DHC	Density Hole Correction	BS	
DO	Depth Offset for Logical Unit 1	0.0	M
DPPM	Density Porosity Processing Mode	HIRS	
FSAL	Formation Salinity	-50000	PPM
GCF1_START	HNGS Detector 1 GCF Constant	1	
GCF2_START	HNGS Detector 2 GCF Constant	1	
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	-0.0140165	
HALF	HNGS Alpha Filter Length	60	IN
HATIM	HNGS Marquardt Accumulation Time	600	S
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
HSLV	HNGS Borehole Fluid Excluder Sleeve Status	NO	
HSVN	HNGS Spectral Standards Version Number	2.8527e-033	
MARQ_START	HNGS Marquardt Start-up Mode	INTERNAL	
NARC	APS Near/Array Calibration Ratio	1.06128	
NFRC	APS Near/Far Calibration Ratio	0.893853	
PP	Playback Processing	NORMAL	
QPPS	Quicklook Processing Pe Select	PEFL	
RDF1_START	HNGS Detector 1 RDF Constant	0	
RDF2_START	HNGS Detector 2 RDF Constant	0	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S1NA	HNGS Detector 1 Calibration Sodium Count Rate	26.5931	CPS
S1NG	HNGS Detector 1 Calibration End-On / Side-On Gain Ratio	0.986034	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
S2NA	HNGS Detector 2 Calibration Sodium Count Rate	26.917	CPS
S2NG	HNGS Detector 2 Calibration End-On / Side-On Gain Ratio	0.983854	
SABK	HNGS Statistical Uncertainty in Borehole Potassium Running Average	0.00217055	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
SHT	Surface Hole Temperature	20	DEGC
TD	Total Depth	6052	M
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	1.01071	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.923111	
WMUD	Mud Weight	0.994556	G/C3

Format: APSLiquidPorosity_1 Vertical Scale: 1:200 Graphics File Created: 18-Aug-2000 21:42

OP System Version: 9C1-303

MCM

DIT-E	OP91-kp2	HLDT-A	OP91-kp2
DTA-A	OP91-kp2	NPLC-B	OP91-kp2
APS-BA	OP91-kp2	HNGS-BA	OP91-kp2
DTC-H	OP91-kp2		

Input DLIS Files

Input DLIS Files

DEFAULT	DITE	.021	FN:8	PRODUCER	05-Aug-2000 14:05	5875.0 M	5777.0 M

Output DLIS Files

DEFAULT	DITE	.066	FN:68	PRODUCER	18-Aug-2000 21:41

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement							
Master: 1-JUL-2000 5:23 Before: 20-JUL-2000 15:39 After: 5-AUG-2000 21:23							
LSW1 Background	100.0	91.04	91.42	91.07	-0.3508	3.000	CPS
LSW2 Background	105.0	95.70	95.75	94.73	-1.017	3.150	CPS
LSW3 Background	210.0	182.9	182.9	182.3	-0.6791	6.300	CPS
LSW4 Background	290.0	244.7	245.5	246.9	1.405	8.700	CPS
LSW5 Background	610.0	548.1	544.9	543.3	-1.574	18.30	CPS
SSW1 Background	100.0	88.10	88.76	88.26	-0.4932	3.000	CPS
SSW2 Background	200.0	174.3	175.0	172.8	-2.186	6.000	CPS
SSW3 Background	530.0	462.1	461.8	458.1	-3.682	15.90	CPS
SSW4 Background	280.0	246.3	243.2	241.1	-2.163	8.400	CPS
SSW5 Background	205.0	182.3	182.0	181.0	-0.9705	6.150	CPS
Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage							
Master: 1-JUL-2000 5:23 Before: 20-JUL-2000 15:39 After: 5-AUG-2000 21:23							
LS Bkg. High Voltage	1129	1129	1130	1131	0.7391	N/A	V
SS Bkg. High Voltage	1184	1184	1180	1172	-8.083	N/A	V
Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurments							
Master: 1-JUL-2000 5:23 Before: 20-JUL-2000 15:39 After: 5-AUG-2000 21:23							
LS Background Resolution	1.000	1.041	1.040	1.038	-0.002053	N/A	
SS Background Resolution	1.000	0.9466	0.9420	0.9463	0.004300	N/A	
Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration							
Before: 20-JUL-2000 15:23							
Caliper Small Ring	8.000	N/A	13.68	N/A	N/A	N/A	IN
Caliper Large Ring	12.00	N/A	18.44	N/A	N/A	N/A	IN
Hostile Environment Litho Density - A Master Calibration - Aluminum Measurement							
Master: 1-JUL-2000 5:37							
LSW1 Aluminum	648.4	614.3	--	--	--	--	CPS
LSW2 Aluminum	1018	975.5	--	--	--	--	CPS
LSW3 Aluminum	1105	1037	--	--	--	--	CPS
LSW4 Aluminum	609.5	575.6	--	--	--	--	CPS
LSW5 Aluminum	533.8	511.6	--	--	--	--	CPS
SSW1 Aluminum	2664	2574	--	--	--	--	CPS
SSW2 Aluminum	7731	7544	--	--	--	--	CPS
SSW3 Aluminum	10380	10130	--	--	--	--	CPS
SSW4 Aluminum	4574	4469	--	--	--	--	CPS
SSW5 Aluminum	745.2	754.4	--	--	--	--	CPS
Hostile Environment Litho Density - A Master Calibration - Tool Quality Control Information: High Voltage							
Master: 1-JUL-2000 5:37							
LS Alum. High Voltage	1129	1131	--	--	--	--	V
SS Alum. High Voltage	1184	1175	--	--	--	--	V
Hostile Environment Litho Density - A Master Calibration - Detectors Resolution From Aluminum Measurment							
Master: 1-JUL-2000 5:37							
LS Aluminum Resolution	1.000	1.047	--	--	--	--	
SS Aluminum Resolution	1.000	1.050	--	--	--	--	
Hostile Environment Litho Density - A Master Calibration - Aluminum Measurement (Window Ratios)							
Master: Calibration not done							
LSW1/(LSW4 + LSW5) Calc.	0.5400	0.5651	--	--	--	--	
LSW3/(LSW4 + LSW5) Calc.	0.9600	0.9540	--	--	--	--	
SSW1/(SSW4 + SSW5) Calc.	0.4600	0.4927	--	--	--	--	
SSW3/(SSW4 + SSW5) Calc.	1.900	1.940	--	--	--	--	
Hostile Environment Litho Density - A Master Calibration - Litholog Measurement							
Master: 1-JUL-2000 5:42							
LSW1 Iron	410.0	411.7	--	--	--	--	CPS
LSW2 Iron	870.0	790.9	--	--	--	--	CPS
LSW3 Iron	1030	915.9	--	--	--	--	CPS
LSW4 Iron	590.0	527.9	--	--	--	--	CPS

LSW5 Iron	530.0	466.9	--	--	--	--	CPS
SSW1 Iron	1850	1890	--	--	--	--	CPS
SSW2 Iron	6500	6372	--	--	--	--	CPS
SSW3 Iron	10000	9359	--	--	--	--	CPS
SSW4 Iron	4500	4106	--	--	--	--	CPS
SSW5 Iron	750.0	658.1	--	--	--	--	CPS

Hostile Environment Litho Density - A Master Calibration - Tool Quality Control Information: High Voltage
Master: 1-JUL-2000 5:42

LS Lith High Voltage	1129	1132	--	--	--	--	V
SS Lith High Voltage	1184	1173	--	--	--	--	V

Hostile Environment Litho Density - A Master Calibration - Detectors Resolution From Litholog Measurment
Master: 1-JUL-2000 5:42

LS Lith Resolution	1.000	1.050	--	--	--	--	
SS Lith Resolution	1.000	1.018	--	--	--	--	

Accelerator-Porosity Tool Wellsite Calibration - Detector Background
Master: 26-JUN-2000 4:55 Before: 5-AUG-2000 10:38 After: 5-AUG-2000 20:12

Near Det Bkg Cntrate	30.00	32.37	31.53	32.68	1.149	N/A	CPS
Far Det Bkg Cntrate	30.00	32.14	33.48	34.45	0.9748	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	30.09	28.73	30.26	1.525	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.18	30.43	30.02	-0.4088	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.29	31.35	33.60	2.253	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios
Master: 26-JUN-2000 4:55

Near/Far Calibration Ratio	0.9250	0.8939	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.061	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Master Calibration - Tank Check
Master: 26-JUN-2000 4:55

Array-1 Standoff Porosity	10.25	11.38	--	--	--	--	PU
Array-2 Standoff Porosity	10.25	11.54	--	--	--	--	PU
Sigma Formation	27.50	27.93	--	--	--	--	CU

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check
Master: 25-JUN-2000 6:04 Before: 20-JUL-2000 16:42 After: 5-AUG-2000 21:25

Na 511 Peak Loc	40.00	40.55	40.63	40.61	-0.01223	1.000	
Na 511 Peak Res	15.50	16.38	16.72	16.52	-0.2041	2.000	%
High Voltage	1150	1100	1105	1108	2.834	30.00	V
Na 1785 Peak Loc	142.6	145.7	146.3	145.7	-0.5973	7.000	
Na 1785 Peak Res	8.500	8.530	10.06	8.809	-1.253	2.000	%
Temperature	15.50	33.34	35.19	24.72	-10.48	N/A	DEGC
Na Count Rate	45.00	26.59	25.43	24.87	-0.5634	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check
Master: 25-JUN-2000 6:04 Before: 20-JUL-2000 16:42 After: 5-AUG-2000 21:25

Na 511 Peak Loc	40.00	40.64	40.70	40.67	-0.03427	1.000	
Na 511 Peak Res	15.50	15.20	14.66	14.85	0.1898	2.000	%
High Voltage	1150	1189	1195	1196	1.005	30.00	V
Na 1785 Peak Loc	142.6	144.5	145.1	145.2	0.08011	7.000	
Na 1785 Peak Res	8.500	9.442	7.631	7.413	-0.2176	2.000	%
Temperature	15.50	32.31	33.88	24.40	-9.483	N/A	DEGC
Na Count Rate	45.00	26.92	25.69	25.04	-0.6506	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2
Master: 25-JUN-2000 6:04 Before: 20-JUL-2000 16:42 After: 5-AUG-2000 21:25

Coincidence Count Rate Ratio	1.000	0.9864	0.9894	0.9936	0.004173	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration
Master: 25-JUN-2000 5:57

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	210.2	--	--	--	--	
Th Peak Res	7.000	8.208	--	--	--	--	%
Background Count Rate	142.5	17.57	--	--	--	--	CPS
Gain Ratio	1.000	0.9860	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration
Master: 25-JUN-2000 5:57

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	210.1	--	--	--	--	
Th Peak Res	7.000	7.030	--	--	--	--	%
Background Count Rate	142.5	18.88	--	--	--	--	CPS
Gain Ratio	1.000	0.9839	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting 1747 V
Far Detector Plateau Setting 2073 V

Array Detector Plateau Setting 1965 V

Dual Induction - E / Equipment Identification

Primary Equipment:		
Dual Induction Sonde	DIS - HB	433
Dual Induction Cartridge	DIC - EB	390
Auxiliary Equipment:		
Mass Isolated Housing	MIH - ZA	

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
Master		91.04
Before		91.42
After		91.07

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

Phase	LSW2 Background CPS	Value
Master		95.70
Before		95.75
After		94.73

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

Phase	LSW3 Background CPS	Value
Master		182.9
Before		182.9
After		182.3

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

Phase	LSW4 Background CPS	Value
Master		244.7
Before		245.5
After		246.9

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

Phase	LSW5 Background CPS	Value
Master		548.1
Before		544.9
After		543.3

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

Phase	SSW1 Background CPS	Value
Master		88.10
Before		88.76
After		88.26

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

Phase	SSW2 Background CPS	Value
Master		174.3
Before		175.0
After		172.8

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

Phase	SSW3 Background CPS	Value
Master		462.1
Before		461.8
After		458.1

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

Phase	SSW4 Background CPS	Value
Master		246.3
Before		243.2
After		241.1

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

Phase	SSW5 Background CPS	Value
Master		182.3
Before		182.0
After		181.0

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

Master: 1-JUL-2000 5:23 Before: 20-JUL-2000 15:39 After: 5-AUG-2000 21:23

Hostile Environment Litho Density - A Wellsite Calibration

Detectors Resolution From BKG Measurments

Phase	LS Background Resolution	Value
Master		1.041
Before		1.040
After		1.038

Phase	SS Background Resolution	Value
Master		0.9466
Before		0.9420
After		0.9463

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

Master: 1-JUL-2000 5:23 Before: 20-JUL-2000 15:39

After: 5-AUG-2000 21:23

Hostile Environment Litho Density - A Master Calibration

Aluminum Measurement

Phase	LSW1 Aluminum CPS	Value
Master		614.3
440.0 (Minimum)	648.4 (Nominal)	840.0 (Maximum)

Phase	LSW2 Aluminum CPS	Value
Master		975.5
840.0 (Minimum)	1018 (Nominal)	1200 (Maximum)

Phase	LSW3 Aluminum CPS	Value
Master		1037
920.0 (Minimum)	1105 (Nominal)	1280 (Maximum)

Phase	LSW4 Aluminum CPS	Value
Master		575.6
520.0 (Minimum)	609.5 (Nominal)	720.0 (Maximum)

Phase	LSW5 Aluminum CPS	Value
Master		511.6
450.0 (Minimum)	533.8 (Nominal)	670.0 (Maximum)

Phase	SSW1 Aluminum CPS	Value
Master		2574
1850 (Minimum)	2664 (Nominal)	2900 (Maximum)

Phase	SSW2 Aluminum CPS	Value
Master		7544
6200 (Minimum)	7731 (Nominal)	8500 (Maximum)

Phase	SSW3 Aluminum CPS	Value
Master		10130
8750 (Minimum)	10380 (Nominal)	11750 (Maximum)

Phase	SSW4 Aluminum CPS	Value
Master		4469
4000 (Minimum)	4574 (Nominal)	5400 (Maximum)

Phase	SSW5 Aluminum CPS	Value
Master		754.4
570.0 (Minimum)	745.2 (Nominal)	1110 (Maximum)

Master: 1-JUL-2000 5:37

Hostile Environment Litho Density - A Master Calibration

Detectors Resolution From Aluminum Measurment

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

Phase	SS Aluminum Resolution	Value
Master		1.050
0.7000 (Minimum)	1.000 (Nominal)	1.111 (Maximum)

Master: 1-JUL-2000 5:37

Hostile Environment Litho Density - A Master Calibration

Aluminum Measurement (Window Ratios)

Phase	LSW1/(LSW4 + LSW5) Calc.	Value
Master		0.5651
0.3400 (Minimum)	0.5400 (Nominal)	0.7400 (Maximum)

Phase	LSW3/(LSW4 + LSW5) Calc.	Value
Master		0.9540
0.7600 (Minimum)	0.9600 (Nominal)	1.160 (Maximum)

Phase	SSW1/(SSW4 + SSW5) Calc.	Value
Master		0.4927
0.3600 (Minimum)	0.4600 (Nominal)	0.5600 (Maximum)

Phase	SSW3/(SSW4 + SSW5) Calc.	Value
Master		1.940
1.700 (Minimum)	1.900 (Nominal)	2.100 (Maximum)

Master: Calibration not done

Hostile Environment Litho Density - A Master Calibration

Litholog Measurement

Phase	LSW1 Iron CPS	Value
Master		411.7
310.0 (Minimum)	410.0 (Nominal)	510.0 (Maximum)

Phase	LSW2 Iron CPS	Value
Master		790.9
660.0 (Minimum)	870.0 (Nominal)	980.0 (Maximum)

Phase	LSW3 Iron CPS	Value
Master		915.9
810.0 (Minimum)	1030 (Nominal)	1170 (Maximum)

Phase	LSW4 Iron CPS	Value
Master		527.9
470.0 (Minimum)	590.0 (Nominal)	670.0 (Maximum)

Phase	LSW5 Iron CPS	Value
Master		466.9
400.0 (Minimum)	530.0 (Nominal)	620.0 (Maximum)

Phase	SSW1 Iron CPS	Value
Master		1890
1400 (Minimum)	1850 (Nominal)	2120 (Maximum)

Phase	SSW2 Iron CPS	Value
Master		6372
5170 (Minimum)	6500 (Nominal)	7270 (Maximum)

Phase	SSW3 Iron CPS	Value
Master		9359
8100 (Minimum)	10000 (Nominal)	11000 (Maximum)

Phase	SSW4 Iron CPS	Value
Master		4106
3620 (Minimum)	4500 (Nominal)	5020 (Maximum)

Phase	SSW5 Iron CPS	Value
Master		658.1
470.0 (Minimum)	750.0 (Nominal)	10100 (Maximum)

Master: 1-JUL-2000 5:42

Hostile Environment Litho Density - A Master Calibration

Detectors Resolution From Litholog Measurment

Phase	LS Lith Resolution	Value	Phase	SS Lith Resolution	Value
Master		1.050	Master		1.018
	0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)			0.7000 (Minimum) 1.000 (Nominal) 1.111 (Maximum)	

Master: 1-JUL-2000 5:42

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		32.37	Master		32.14	Master		30.09
Before		31.53	Before		33.48	Before		28.73
After		32.68	After		34.45	After		30.26
	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		29.18	Master		32.29
Before		30.43	Before		31.35
After		30.02	After		33.60
	0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

Master: 26-JUN-2000 4:55 Before: 5-AUG-2000 10:38 After: 5-AUG-2000 20:12

Accelerator-Porosity Tool Wellsite Calibration

Calibration Ratios

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value
Master		0.8939	Master		1.061
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.150 (Maximum)	

Master: 26-JUN-2000 4:55

Accelerator-Porosity Tool Master Calibration

Detector Calibration

Phase	Near/Far Calibration Ratio	Value	Phase	Near/Array Calibration Ratio	Value
Master		0.8939	Master		1.061
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)			0.9000 (Minimum) 1.030 (Nominal) 1.150 (Maximum)	

Master: 26-JUN-2000 4:55

Accelerator-Porosity Tool Master Calibration

Tank Check

Phase	Array-1 Standoff Porosity PU	Value	Phase	Array-2 Standoff Porosity PU	Value	Phase	Sigma Formation CU	Value
Master		0.0000	Master		0.0000	Master		7.0000
	0.0000 (Minimum) 0.0000 (Nominal) 0.0000 (Maximum)			0.0000 (Minimum) 0.0000 (Nominal) 0.0000 (Maximum)			0.0000 (Minimum) 7.0000 (Nominal) 50.00 (Maximum)	

Master	11.38	Master	11.54	Master	27.93
5.500 (Minimum)	10.25 (Nominal)	15.00 (Maximum)	5.500 (Minimum)	10.25 (Nominal)	15.00 (Maximum)	20.00 (Minimum)	27.50 (Nominal)	35.00 (Maximum)

Master: 26-JUN-2000 4:55

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS - BA	27
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH - BA	27
Gamma Source Radioactive	GSR - U	135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.55	Master		16.38	Master		1100
Before		40.63	Before		16.72	Before		1105
After		40.61	After		16.52	After		1108
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		145.7	Master		8.530	Master		33.34
Before		146.3	Before		10.06	Before		35.19
After		145.7	After		8.809	After		24.72
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		26.59
Before		25.43
After		24.87
15.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 25-JUN-2000 6:04 Before: 20-JUL-2000 16:42 After: 5-AUG-2000 21:25

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.64	Master		15.20	Master		1189
Before		40.70	Before		14.66	Before		1195
After		40.67	After		14.85	After		1196
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)

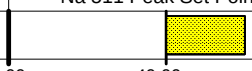
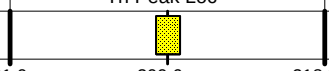
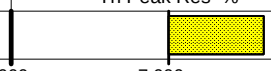
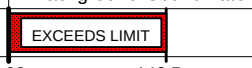
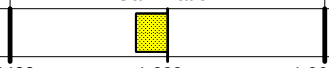
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		144.5	Master		9.442	Master		32.31
Before		145.1	Before		7.631	Before		33.88
After		145.2	After		7.413	After		24.40
135.0 (Minimum)	142.6 (Nominal)	150.3 (Maximum)	7.000 (Minimum)	8.500 (Nominal)	11.00 (Maximum)	-28.89 (Minimum)	15.50 (Nominal)	60.00 (Maximum)

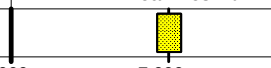
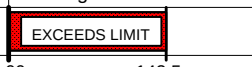
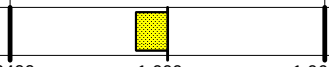
Phase	Na Count Rate CPS	Value
Master		26.92
Before		25.69
After		25.04
15.00 (Minimum)	45.00 (Nominal)	100.0 (Maximum)

Master: 25-JUN-2000 6:04 Before: 20-JUL-2000 16:42 After: 5-AUG-2000 21:25

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9864
Before		0.9894
After		0.9936
0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: 25-JUN-2000 6:04		
Before: 20-JUL-2000 16:42		
After: 5-AUG-2000 21:25		

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		210.2	Master		8.208
38.00 (Minimum)	40.00 (Nominal)	42.00 (Maximum)	201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)	5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master	 EXCEEDS LIMIT	17.57	Master		0.9860	See Remarks		
20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)			
Master: 25-JUN-2000 5:57								

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		210.1	Master		7.030
38.00 (Minimum)	40.00 (Nominal)	42.00 (Maximum)	201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)	5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master	 EXCEEDS LIMIT	18.88	Master		0.9839	See Remarks		
20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)			
Master: 25-JUN-2000 5:57								

COMPANY:	Lamont Doherty	BOTTOM LOG INTERVAL	5861 m
		SCHLUMBERGER DEPTH	5873 m
WELL:	ODP Leg 191, Site 1179D (WP-2A)	DEPTH DRILLER	6052 m
FIELD:	West Pacific ION	KELLY BUSHING	11.3 m
COUNTY:	Offshore	DRILL FLOOR	11 m
STATE:	Pacific Ocean	GROUND LEVEL	-5566 m

Schlumberger

APS/HLDT Porosity Log
Natural Gamma Ray