

Schlumberger

Company: Lamont Doherty

Well: Site 1301B

Field: Expedition 301

County: Juan de Fuca

State: Oregon

SlimXtreme Array Induction

Hostile Natural Gamma Ray.

County: Juan de Fuca

Field: Expedition 301

Location:

Site 1301B

Company: Lamont Doherty

LOCATION			Elev.:	K.B.	11.3 m
Permanent Datum:			Mean Sea Level	G.L.	-2667.8 m
Log Measured From:			Drill Floor	D.F.	11.3 m
Drilling Measured From:			Drill Floor		
API Serial No.	Max. Hole Devi.	Longitude	Latitude		

Logging Date

1-Aug-2004

Run Number

One

Depth Driller

3250.67 m

Schlumberger Depth

3245 m

Bottom Log Interval

3237 m

Top Log Interval

2667.8 m

Casing Driller Size @ Depth

10.750 in

Casing Schlumberger

3014 m

Bit Size

9.875 in

Type Fluid In Hole

Sepiolite

Density

1.1 g/cm3

Fluid Loss

PH

Source Of Sample

RM @ Measured Temperature

0.322 ohm.m

@ 23 degC

RMF @ Measured Temperature

@

RMC @ Measured Temperature

@

Source RMF

RMC

RM @ MRT

@

RMF @ MRT

@

Maximum Recorded Temperatures

Circulation Stopped

Logger On Bottom

Unit Number

Recorded By

Witnessed By

1-Aug-2004

2082

Webster

Javier Espinosa

8:00

Gerardo Iturrino

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			
Density			
Fluid Loss			
Source Of Sample			
RM @ Measured Temperature			
RMF @ Measured Temperature			
RMC @ Measured Temperature			
Source RMF			
RM @ MRT			
RMF @ MRT			
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Recorded By			
Witnessed By			

Logging Date	1-Aug-2004	Longitude	Latitude
Run Number	One		
Depth Driller	3250.67 m		
Schlumberger Depth	3245 m		
Bottom Log Interval	3237 m		
Top Log Interval	2667.8 m		
Casing Driller Size @ Depth	10.750 in		
Casing Schlumberger	3014 m		
Bit Size	9.875 in		
Type Fluid In Hole	Sepiolite		
Density	1.1 g/cm3		
Fluid Loss	PH		
Source Of Sample			
RM @ Measured Temperature	0.322 ohm.m		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF	RMC		
RM @ MRT	@		
RMF @ MRT	@		
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number	2082		
Recorded By	Javier Espinosa		
Witnessed By	Gerardo Iturrino		

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1
 OS1: HLDS/APS
 OS2: UBI
 OS3: FMS
 OS4: DSI
 OS5: WST

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

REMARKS: RUN NUMBER 1
 Parameters and Presentations as per IODP standards
 Tool ran as per tool sketch below.
 Caliper opened at maximum

 Thanks for choosing Schlumberger

REMARKS: RUN NUMBER 2

RUN 1
 SERVICE ORDER #:
 PROGRAM VERSION: 12C0-301
 FLUID LEVEL:

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

LOGGED INTERVAL	START	STOP

LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

RUN 2


SURFACE EQUIPMENT


SFT-281 6250
 SFT-178 6250
 GSR-U 135
 WITM (DTS)-A


DOWNHOLE EQUIPMENT

LEH-MT  27.78

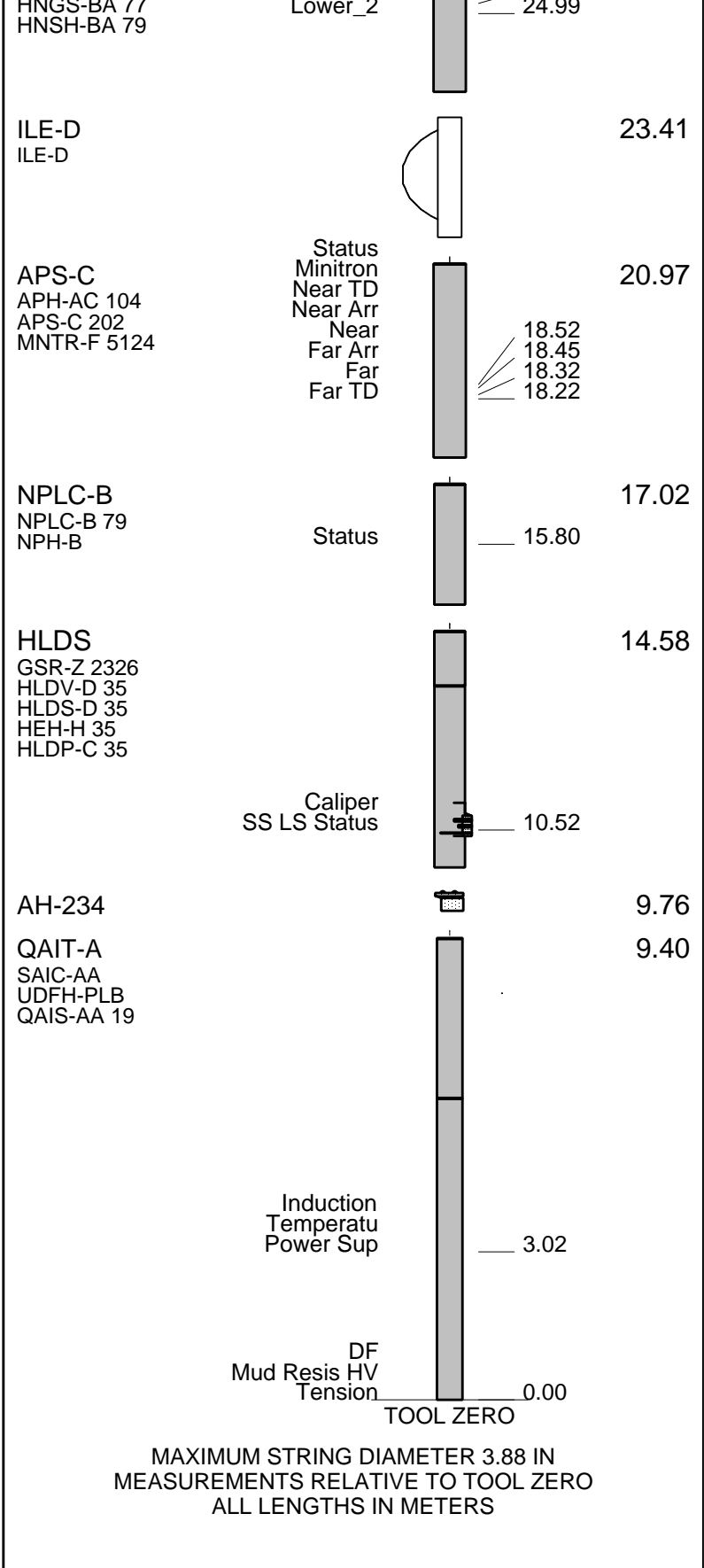
LEH-MT  26.67

DTC-H  26.54

ECH-KC  25.90

HNGS-BA  25.20

SP
 CTEM
 TelStatus
 ToolStatu
 Upper_1



Production String	(in)	(m)	Well Schematic	(m)	(in)	Casing String
	OD	ID		MD	MD	

Kelly Bushing Elevation
Derrick Floor Elevation

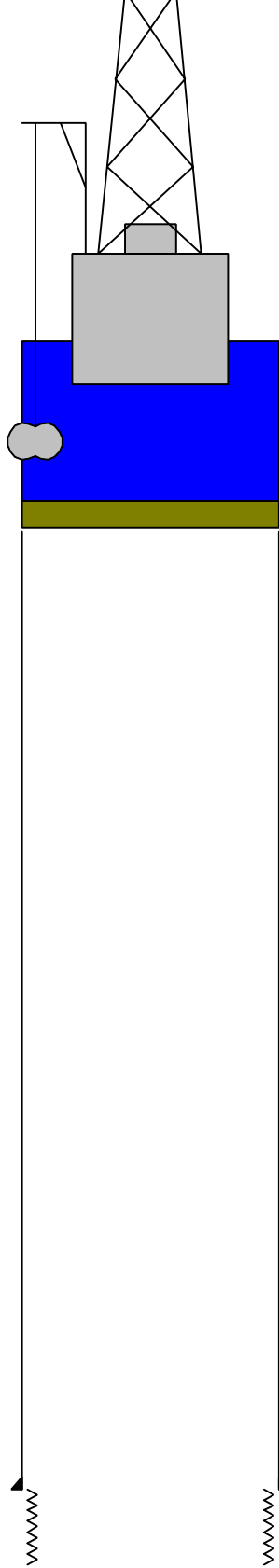
11.3
11.3

Mean Sea Level

0.0

Seismic Gun depth below MSL

3.0



11.3 10.750

Casing String

3013.0 10.750
3013.0 9.875

Casing Shoe
Borehole Segment

Schlumberger

Main Pass

MAXIS Field Log

Company: Lamont Doherty

Well: Site 1301 B

Input DLIS Files

DEFAULT	AIT_LDL_APS_NGS_021LUP	FN:21	PRODUCER	01-Aug-2004 09:00	3246.1 M	2959.2 M
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Output DLIS Files

DEFAULT	AIT_LDL_APS_NGS_062PUP	FN:72	PRODUCER	02-Aug-2004 18:20	3246.1 M	2965.1 M
REDUCED	AIT_LDL_APS_NGS_062PUP	FN:73	PRODUCER	02-Aug-2004 18:20	3246.1 M	2965.1 M

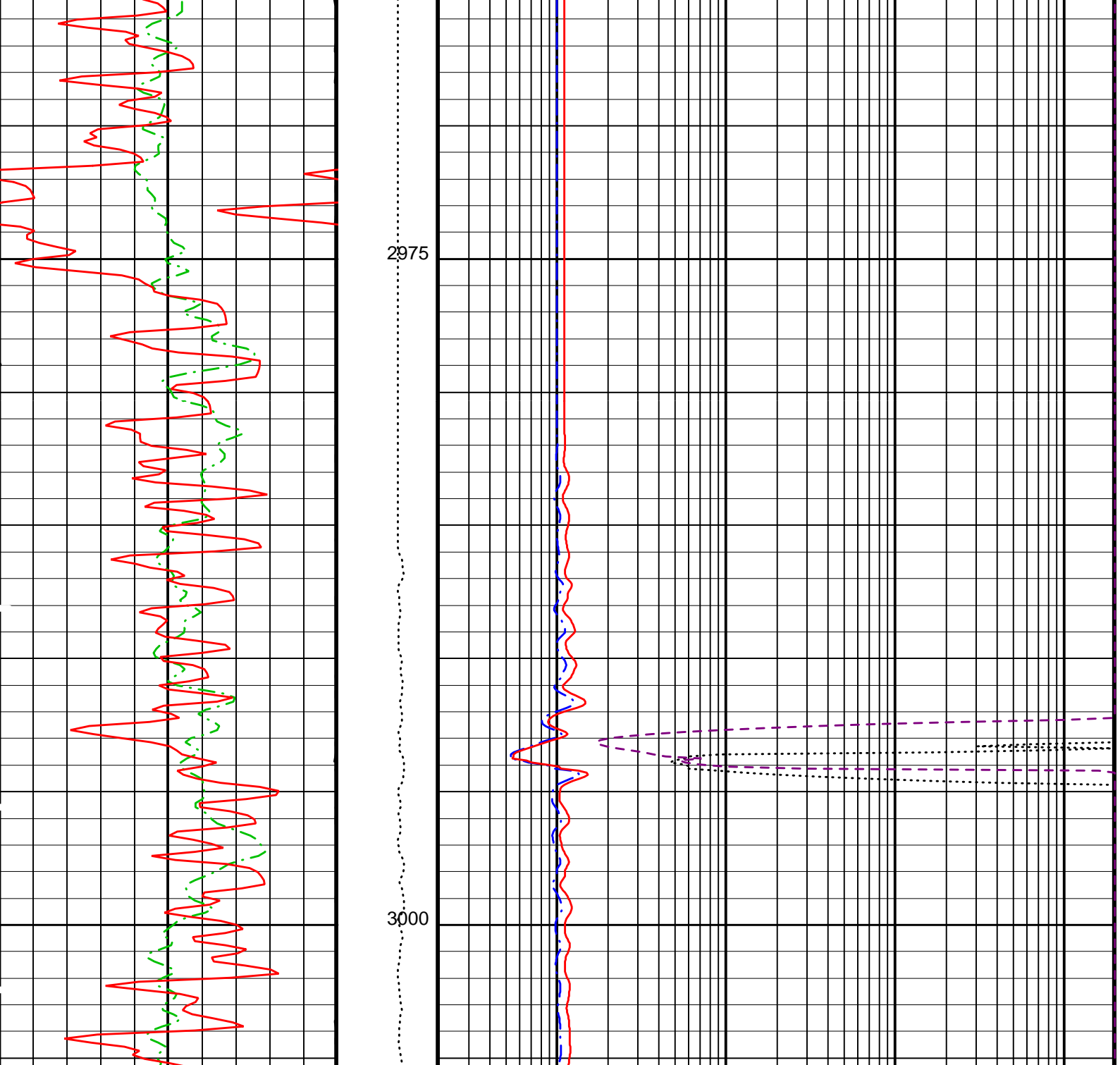
OP System Version: 12C0-301 MCM

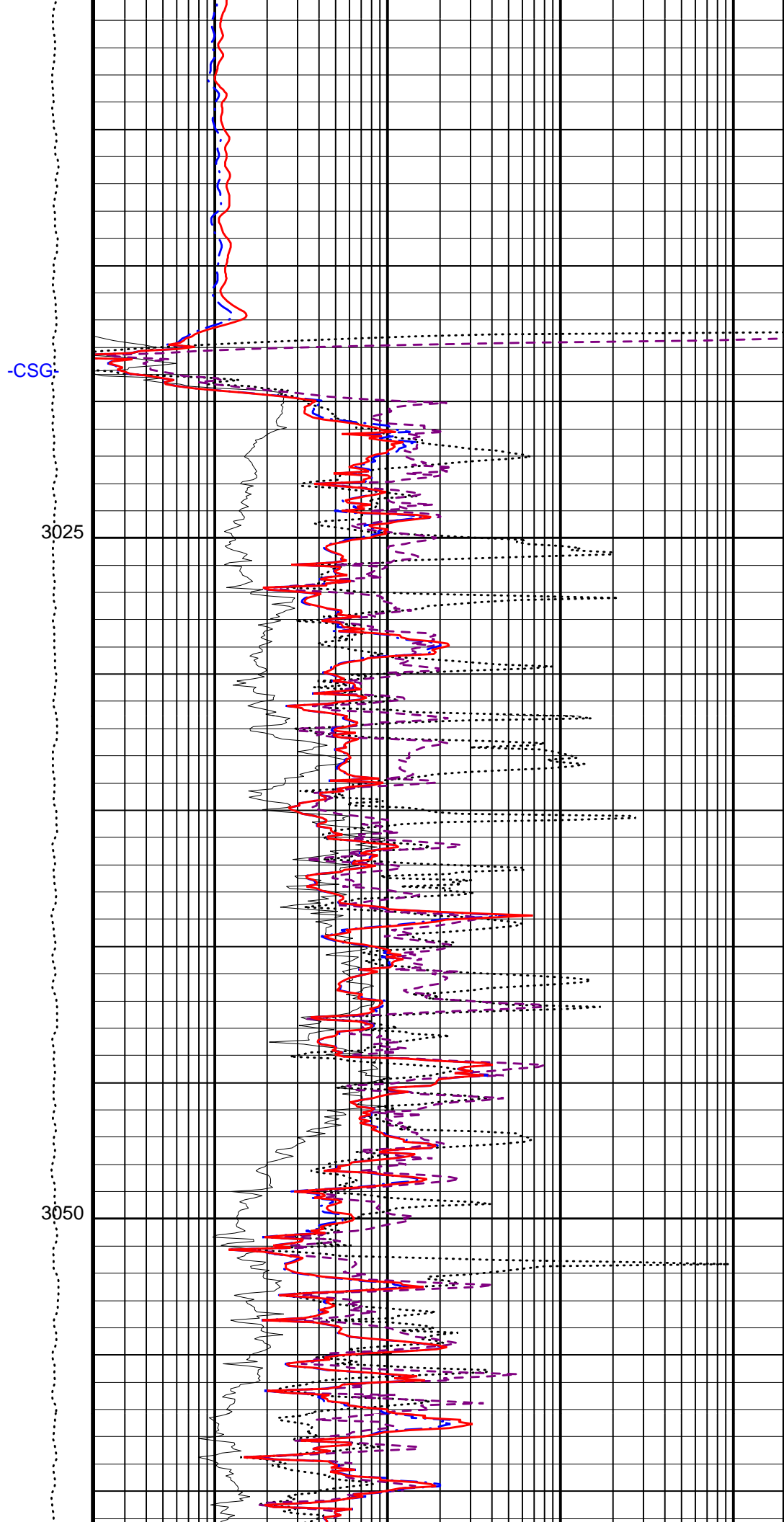
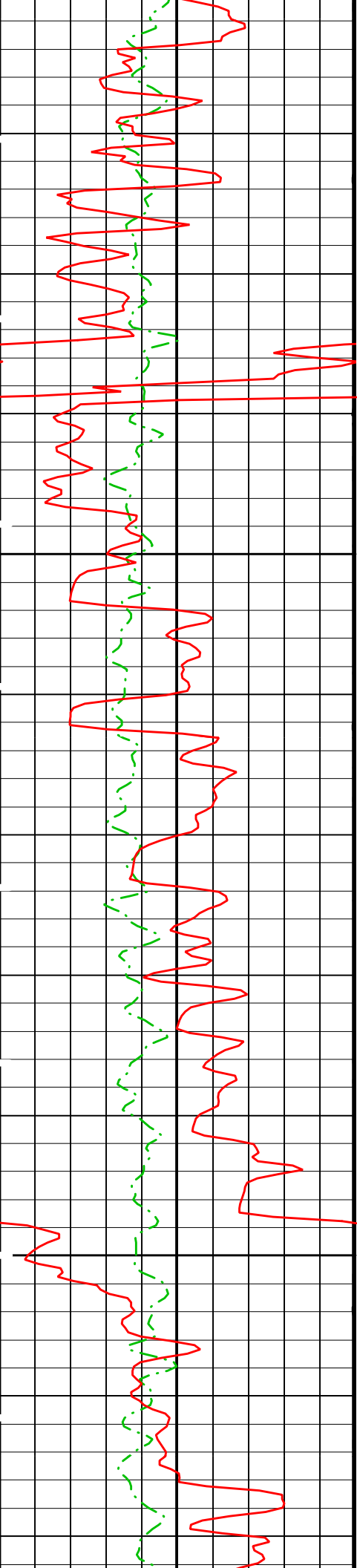
QAIT-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

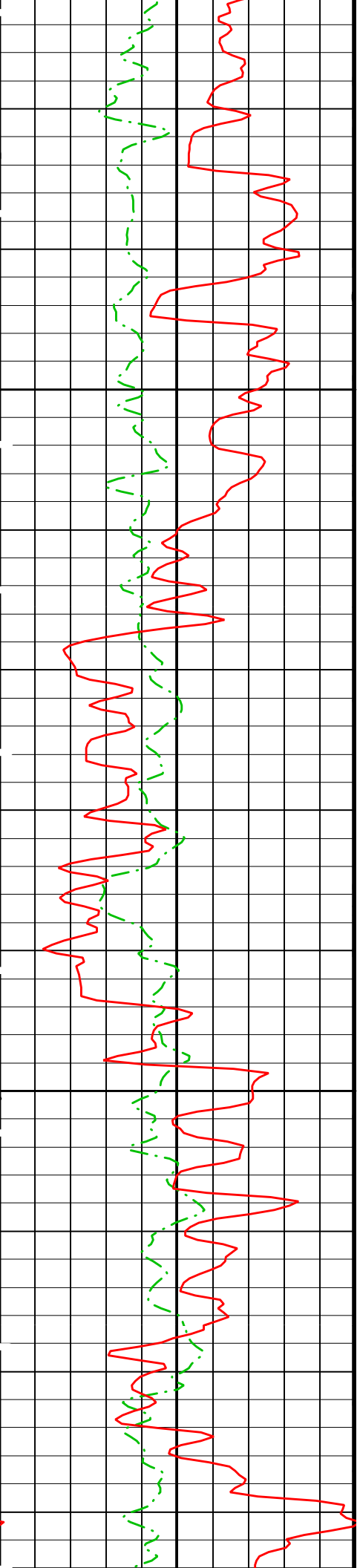
PIP SUMMARY

Time Mark Every 60 S

		AIT 90 Inch Investigation (AO90) (OHMM)	2000
		AIT 60 Inch Investigation (AO60) (OHMM)	2000
HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)	0 20	AIT 30 Inch Investigation (AO30) (OHMM)	2000
SP (SP) (MV)	-80 20	AIT 20 Inch Investigation (AO20) (OHMM)	2000
Cartridge Temperature (CTEM) (DEGC)	0 200	AIT 10 Inch Investigation (AO10) (OHMM)	2000
	Tension (TENS) (LBF)		
	10000 0		

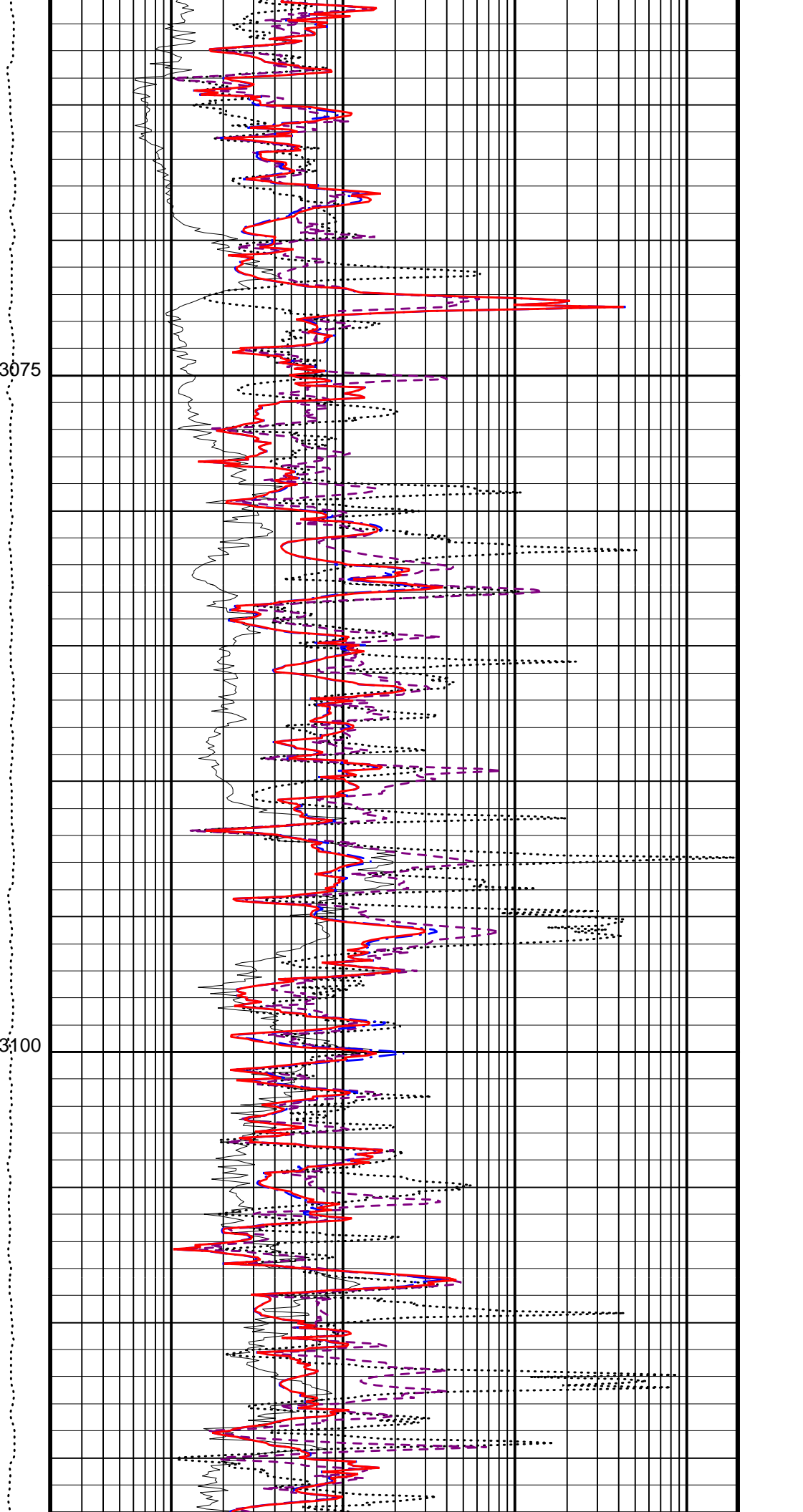


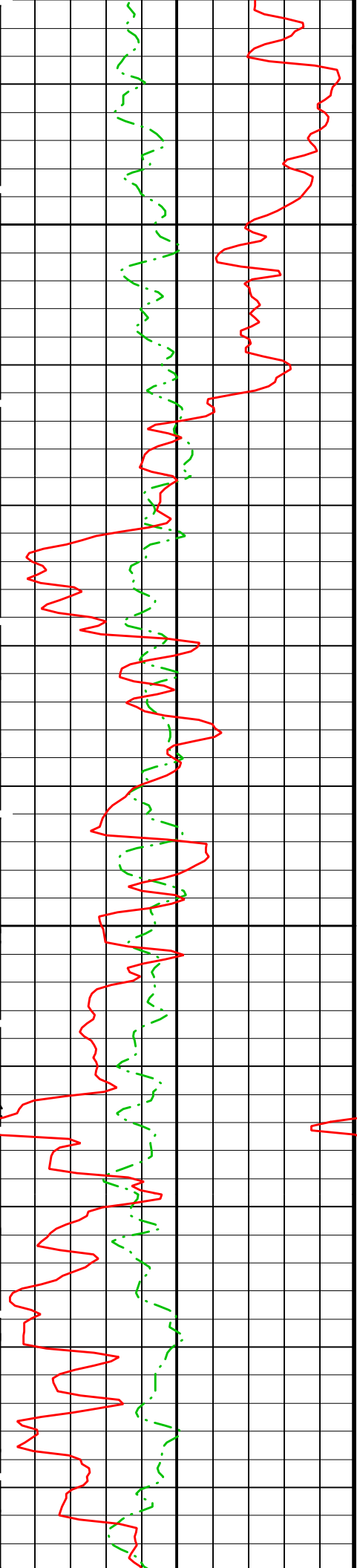




3075

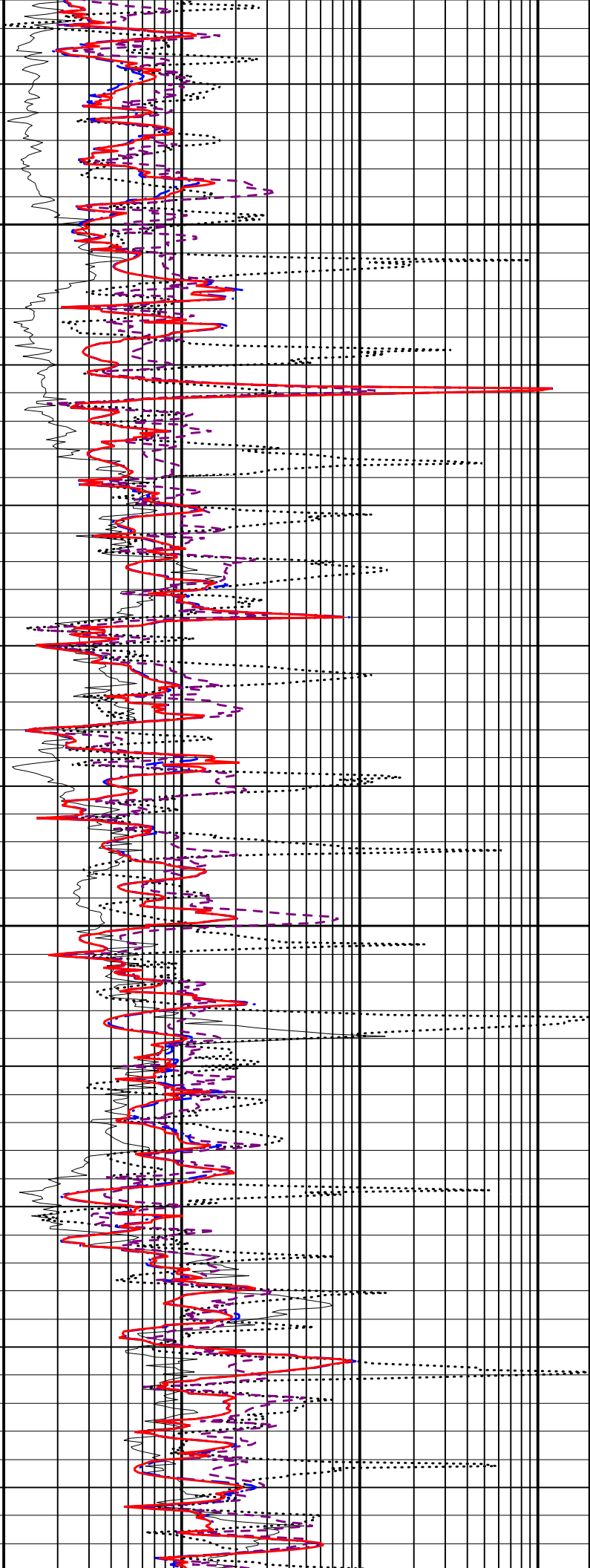
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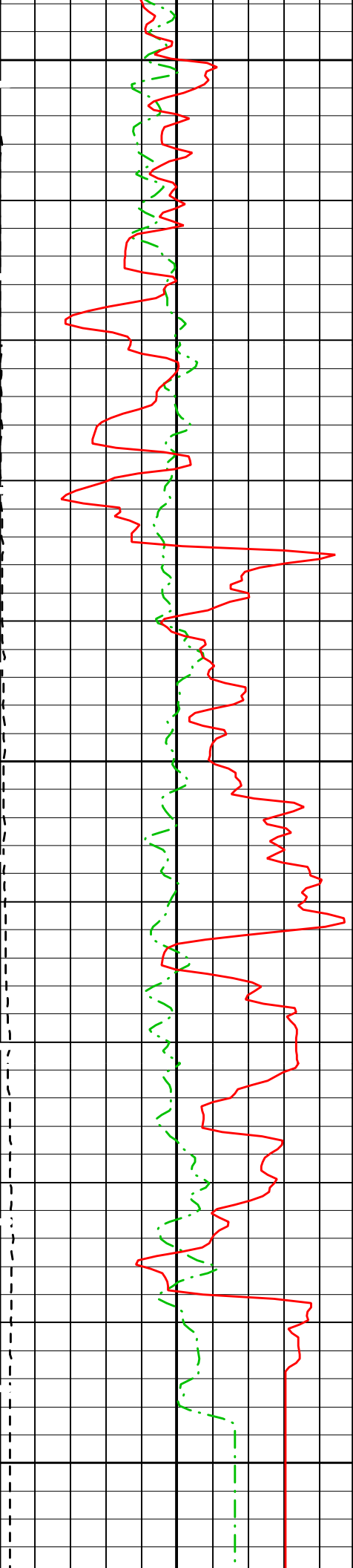




3125

3150

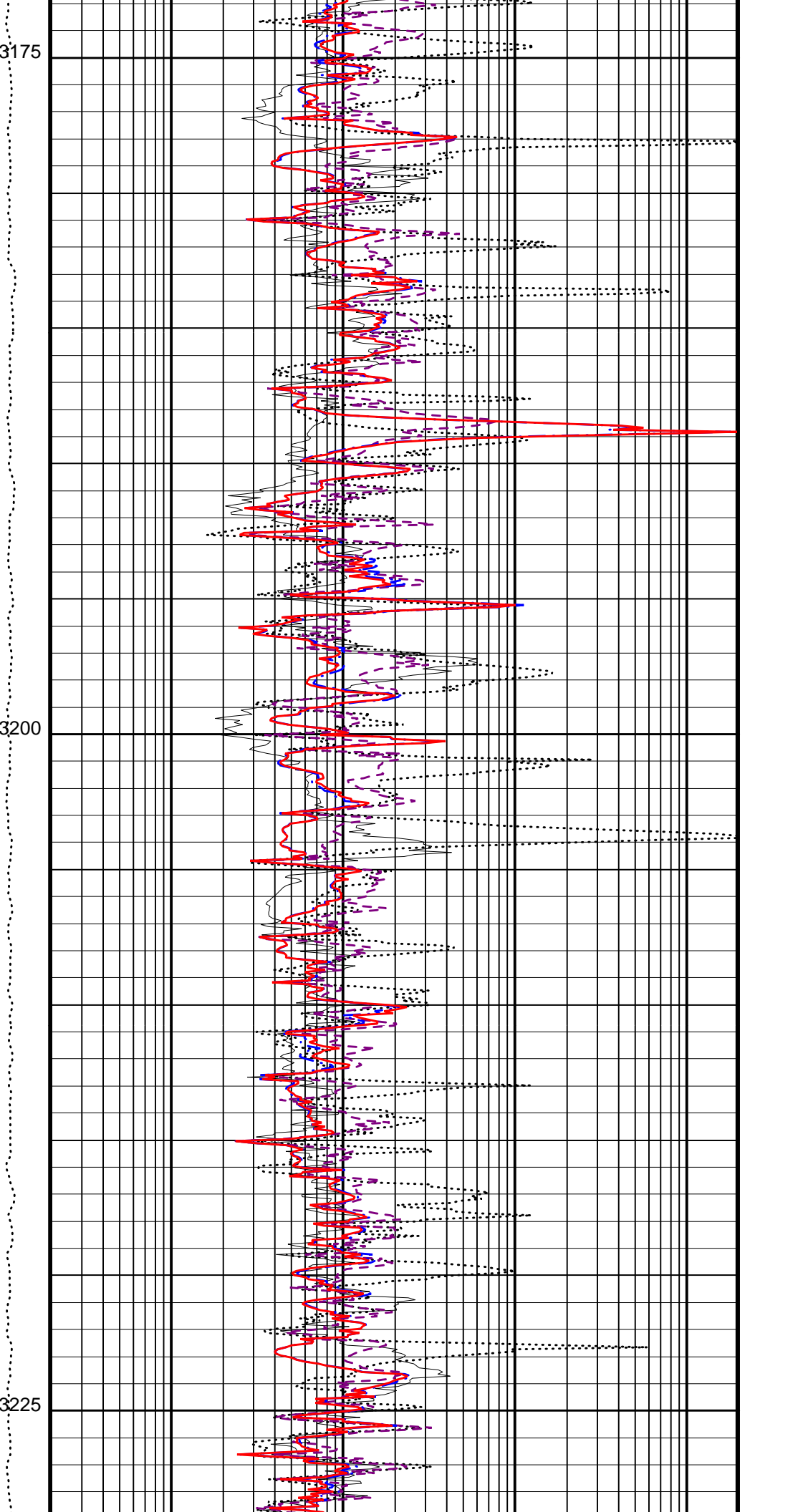


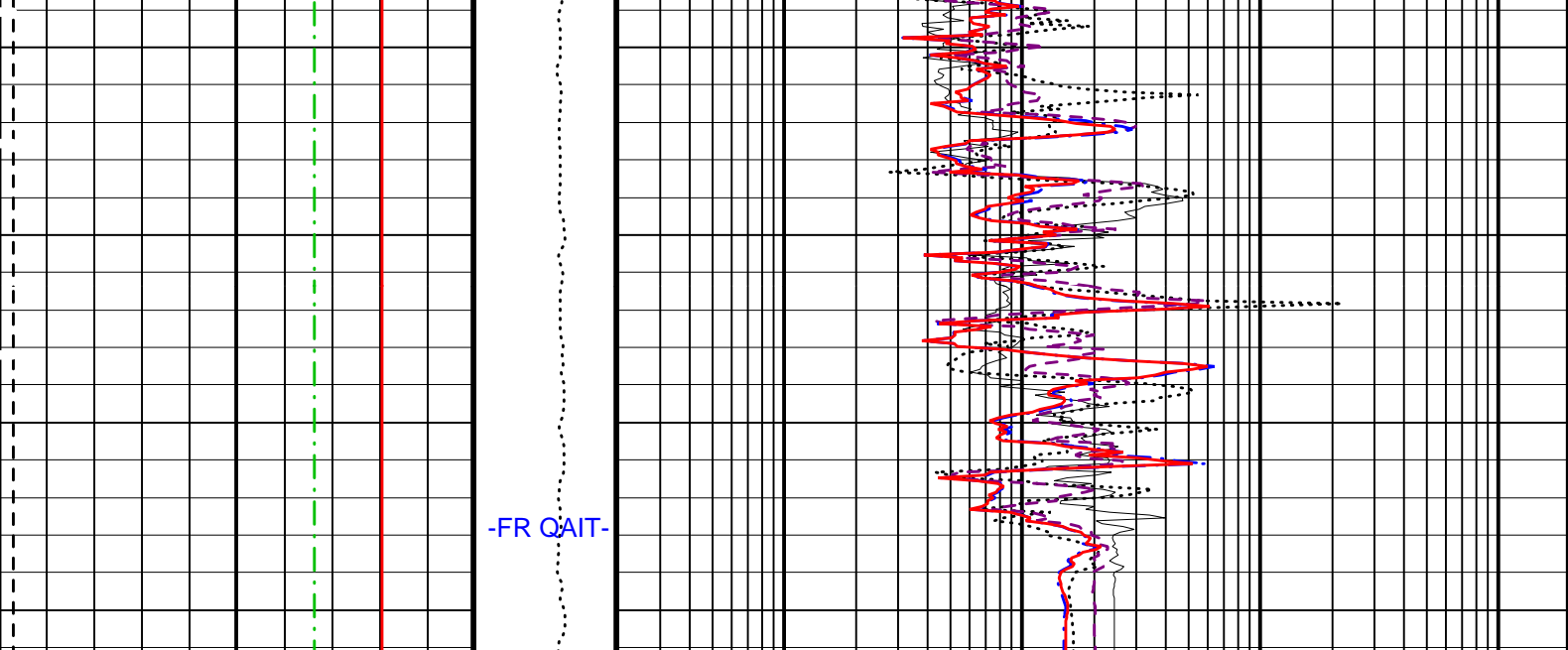


3175

3200

3225





Cartridge Temperature (CTEM) (DEGC)	Tension (LBF)	AIT 10 Inch Investigation (AO10) (OHMM)
0 200	10000 0	0.2 2000
SP (SP) (MV)		AIT 20 Inch Investigation (AO20) (OHMM)
-80 20		0.2 2000
HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)		AIT 30 Inch Investigation (AO30) (OHMM)
0 20		0.2 2000
		AIT 60 Inch Investigation (AO60) (OHMM)
		0.2 2000
		AIT 90 Inch Investigation (AO90) (OHMM)
		0.2 2000

PIP SUMMARY

Time Mark Every 60 S

QAIT Answer Product Processing Summary. Data taken with sonde # 19

***** Bhole Correction *****

Effective Mud Resistivity computed. Borehole diameter taken as input (see GCSE parameter)

Tool is run in ECCENTERED mode with a tool stand-off of 0.25 IN. Bit Size is 9.88 IN.

***** Input Selections to QAIT Answer Product processing *****

Caliper (GCSE): BS Mud Resistivity (GRSE): GEN_9 Temperature (GTSE): GRADIENT_FROM_BOTTOM Porosity (FPHI): DPO

***** Other parameters used by QAIT Answer Product processing *****

Mud Sample Resistivity (RMS) 0.322 OHMM Mud Sample Temperature (MST) 23.000 DEGC

Form Factor Exponent (FEXP) 2.000 Form Factor Numerator (FNUM) 1.000

Mud Filtrate Sample Resistivity (RMFS) -50000.000 OHMM Mud Filtrate Sample Temperature (MFST) -50000.000 DEGC

Resitivity Connate Water (RW) 1.000 OHMM

***** QAIT Answer Product processing control parameters *****

Playback Mode: RECOMPUTE

(AEBC): Yes (AEBL): Yes (AERP): Yes

(ABHM): 0_ComputeMudResistivity (ABLM): 6_One_Two_and_Four (ARPM): 6_One_Two_and_Four

Parameters

DLIS Name	Description	Value
QAIT-A:	Slim Hostile Array Induction Tool - A	
ABHM	Array Induction Borehole Correction Mode	0_ComputeMudResistivity
ABHV	Array Induction Borehole Correction Code Version Number	880
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four

ABL	Array Induction Basic Logs Code Version Number	708	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	M
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	40.70.24.21	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	40.70.24.21	
ARFV	Array Induction Radial Profiling Code Version Number	700	
ARPV	Array Induction Radial Parametrization Code Version Number	223	
ASTA	Array Induction Tool Standoff	0.25	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	40.70.24.21	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	1	DEGC
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	BS	
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	GRADIENT_FROM_BOTTOM	
SHT	Surface Hole Temperature	20	DEGC
SPNV	SP Next Value	0	MV
APS-C: Accelerator-Porosity Tool			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	1	DEGC
GCSE	Generalized Caliper Selection	BS	
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	GRADIENT_FROM_BOTTOM	
SHT	Surface Hole Temperature	20	DEGC
HNCS-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)	1	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	BS	
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	GRADIENT_FROM_BOTTOM	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00404965	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	-999.25	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	-999.25	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	0.747517	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.701546	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	23.00	DEGC
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	3250.67	M

Format: QAIT Vertical Scale: 1:200 Graphics File Created: 02-Aug-2004 18:20

OP System Version: 12C0-301
MCM

QAIT-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

Input DI IS Files

Input DLIS Files

DEFAULT AIT_LDL_APS_NGS_021LUP FN:21 PRODUCER 01-Aug-2004 09:00 3246.1 M 2959.2 M

Output DLIS Files

DEFAULT AIT_LDL_APS_NGS_062PUP FN:72 PRODUCER 02-Aug-2004 18:20
 REDUCED AIT_LDL_APS_NGS_062PUP FN:73 PRODUCER 02-Aug-2004 18:20



Repeat Pass

MAXIS Field Log

Company: Lamont Doherty

Well: Site 1301 B

Input DLIS Files

DEFAULT AIT_LDL_APS_NGS_024LUP FN:27 PRODUCER 01-Aug-2004 10:09 3122.7 M 2555.6 M

Output DLIS Files

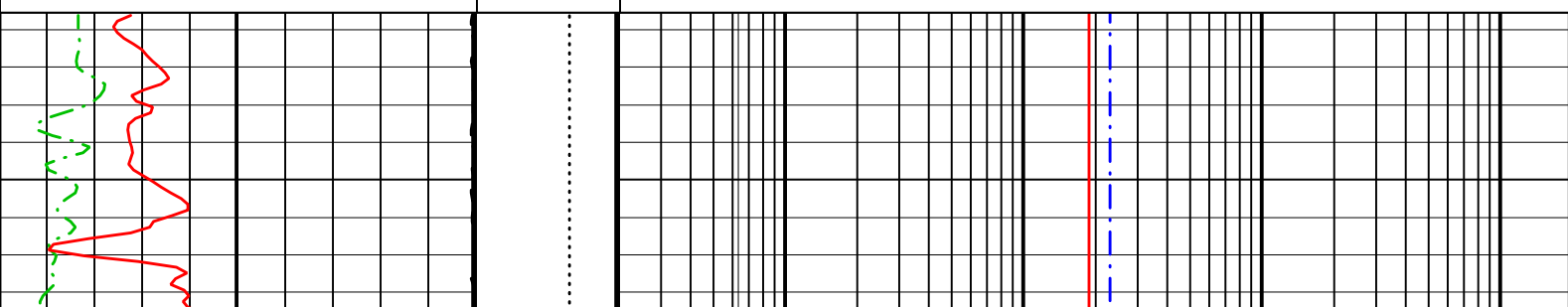
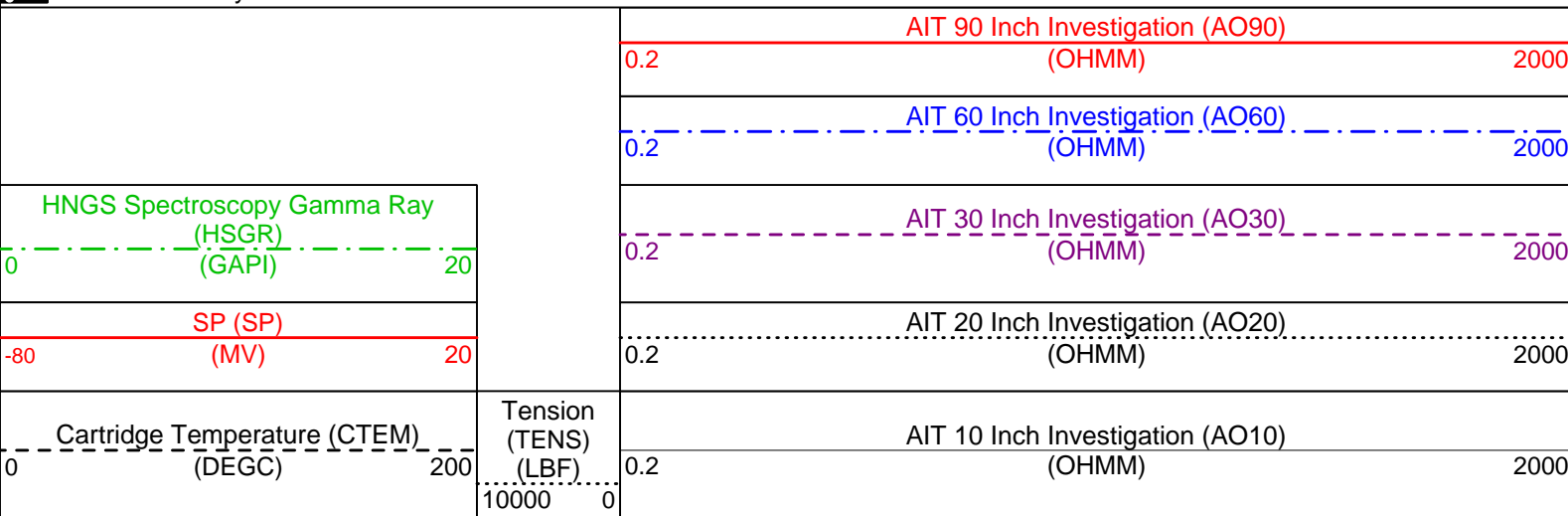
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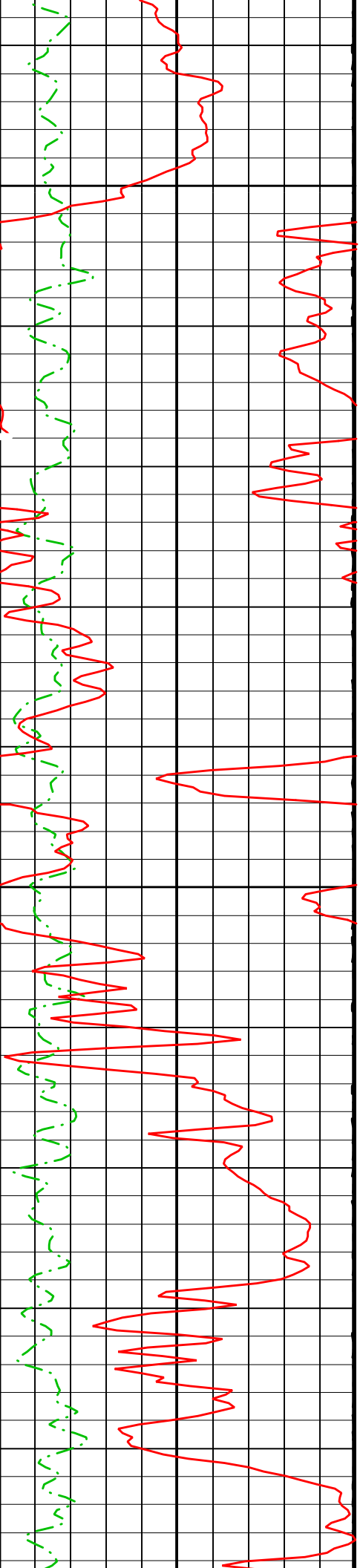
OP System Version: 12C0-301
MCM

QAIT-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

PIP SUMMARY

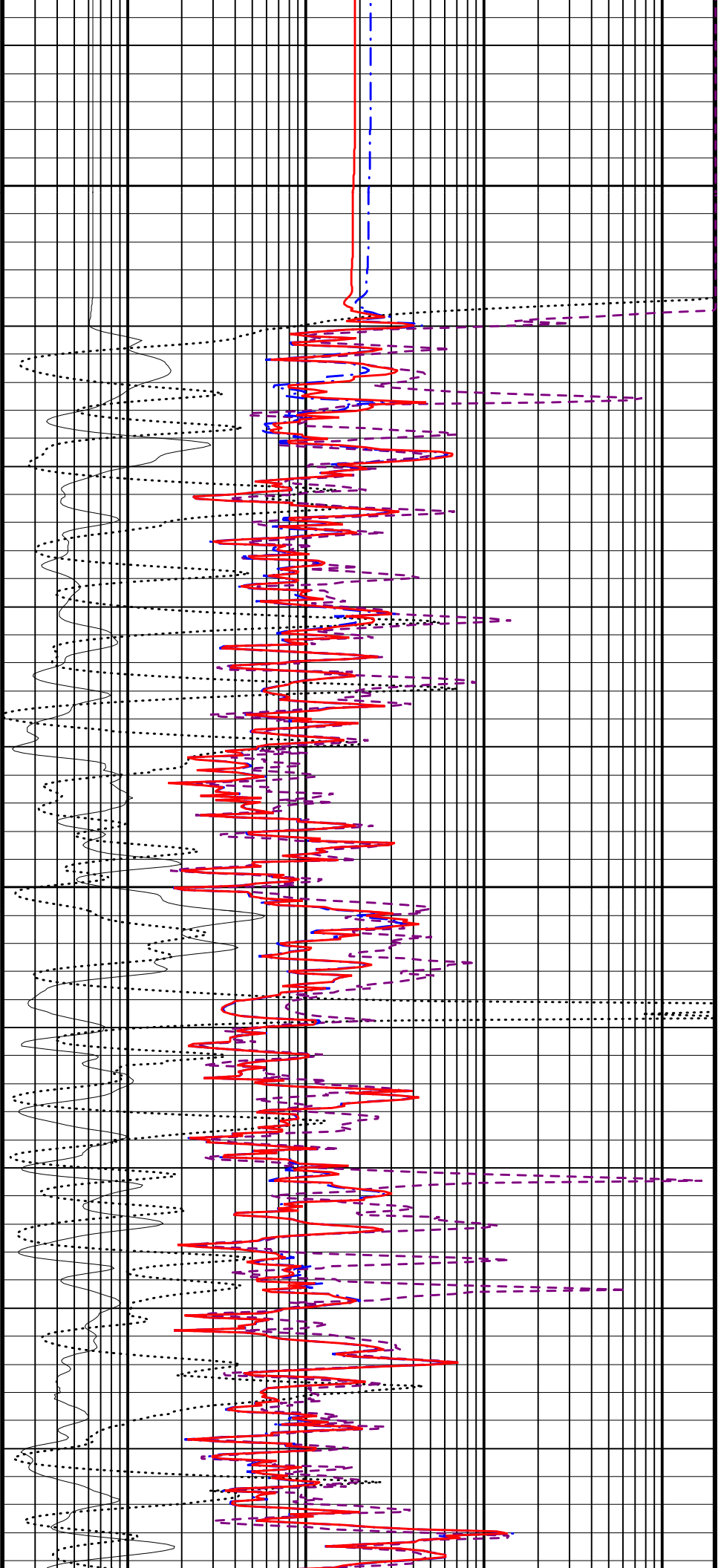
Time Mark Every 60 S

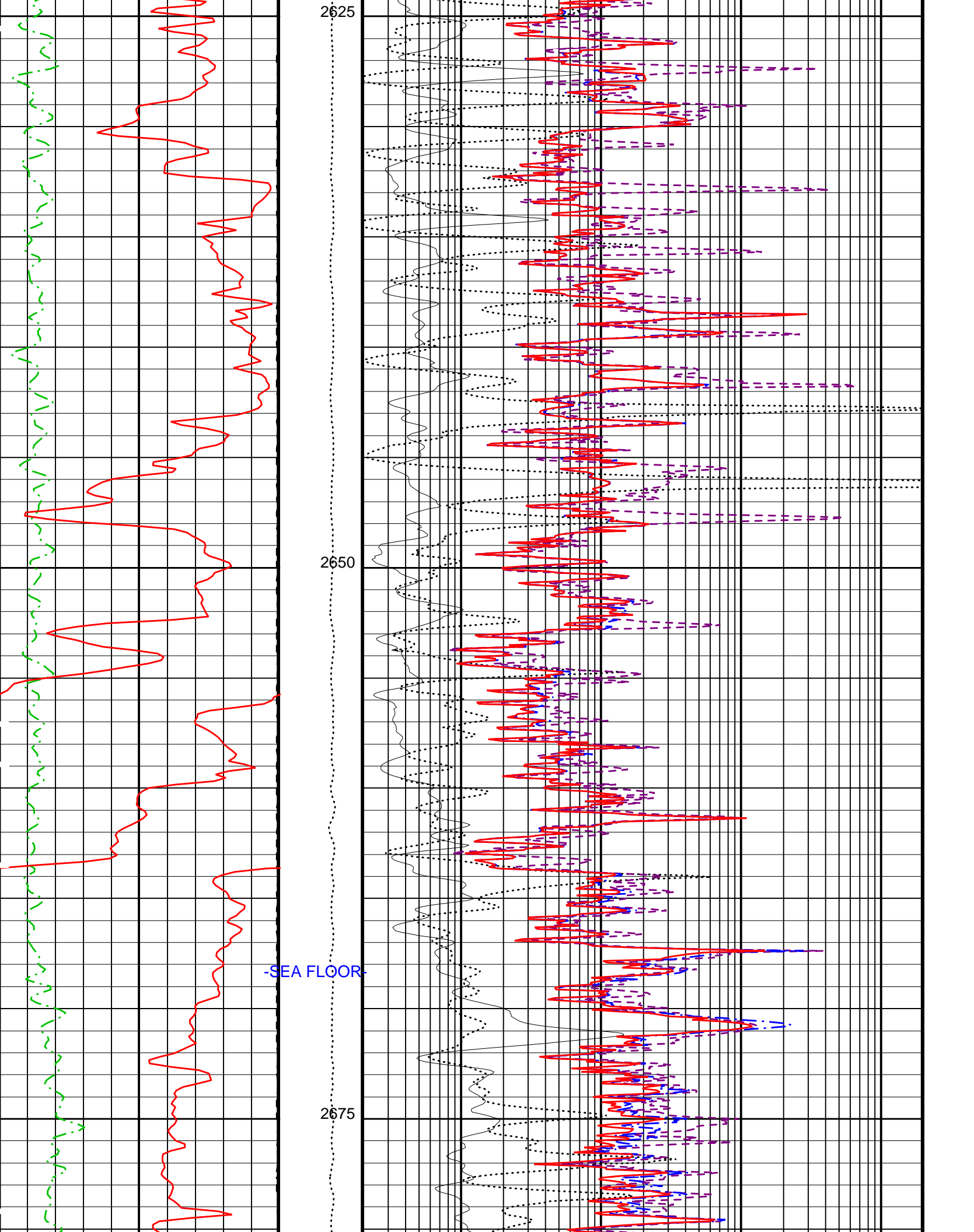


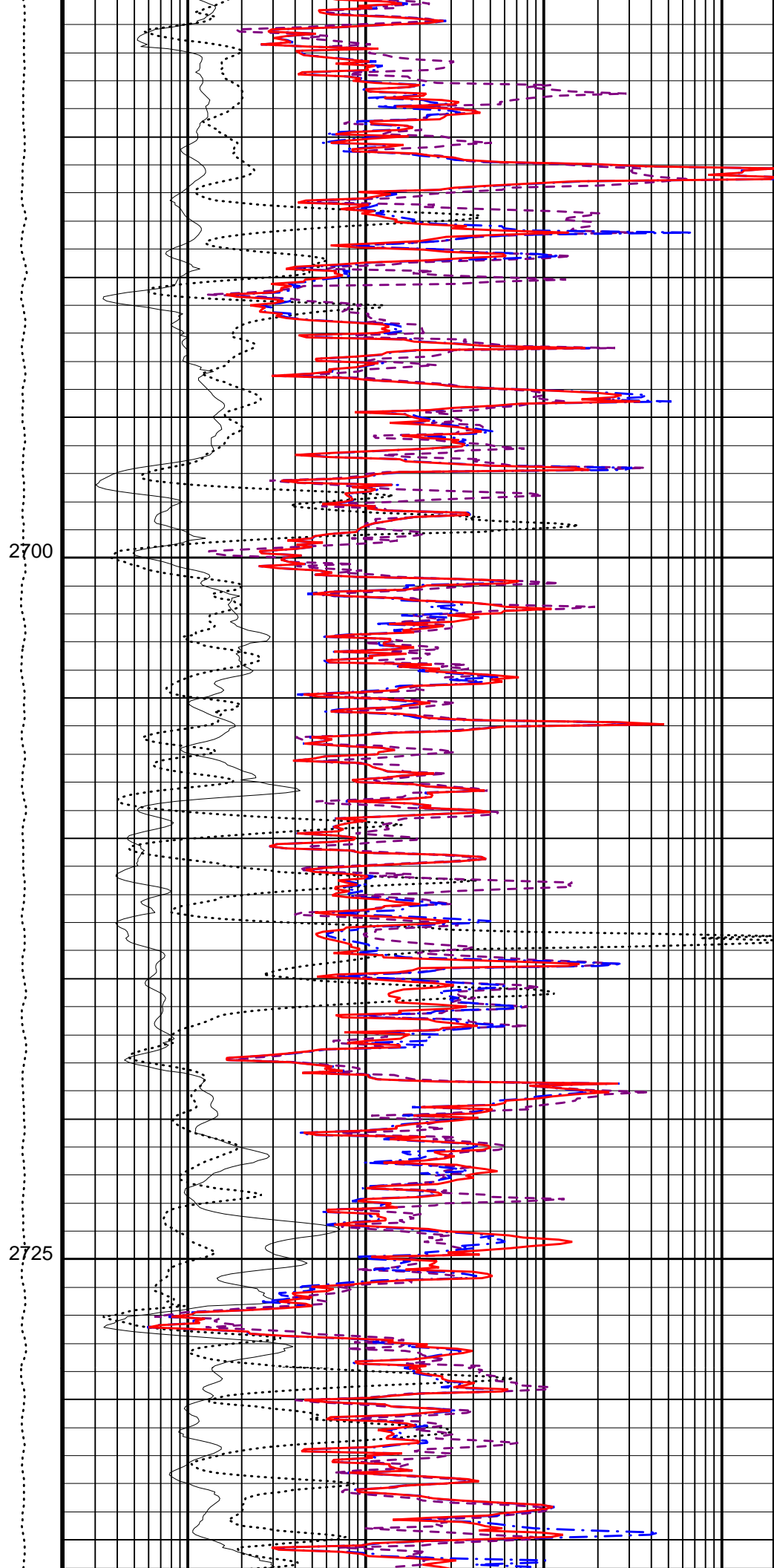
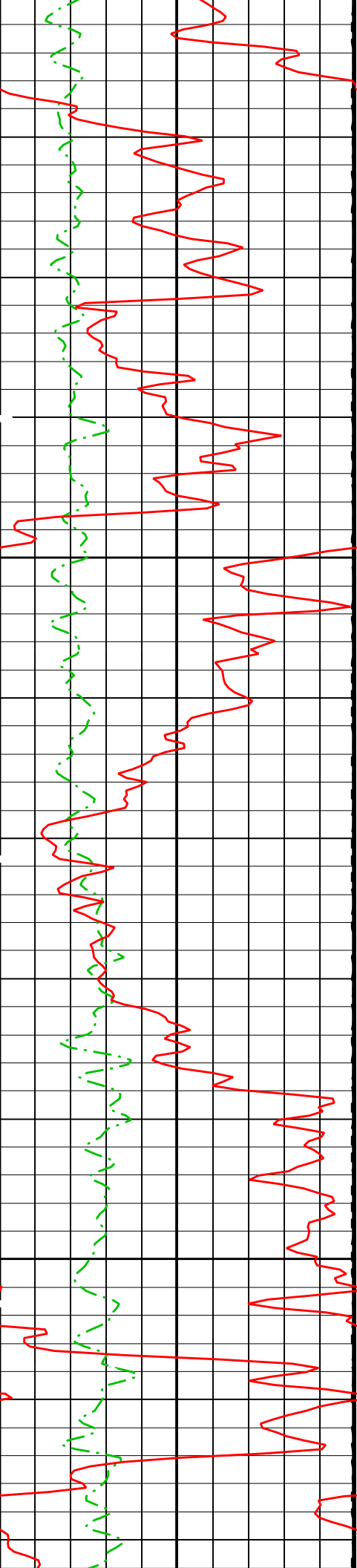


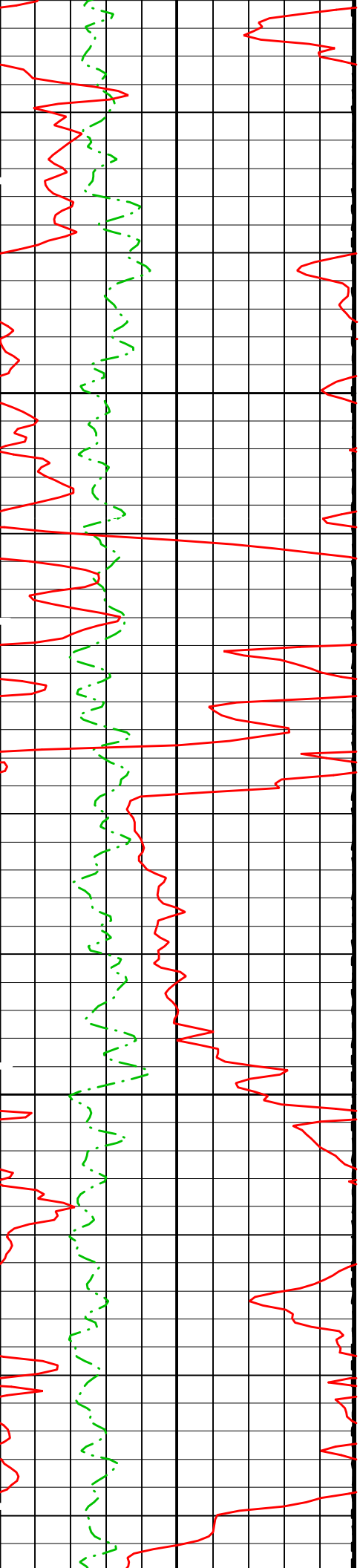
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2600



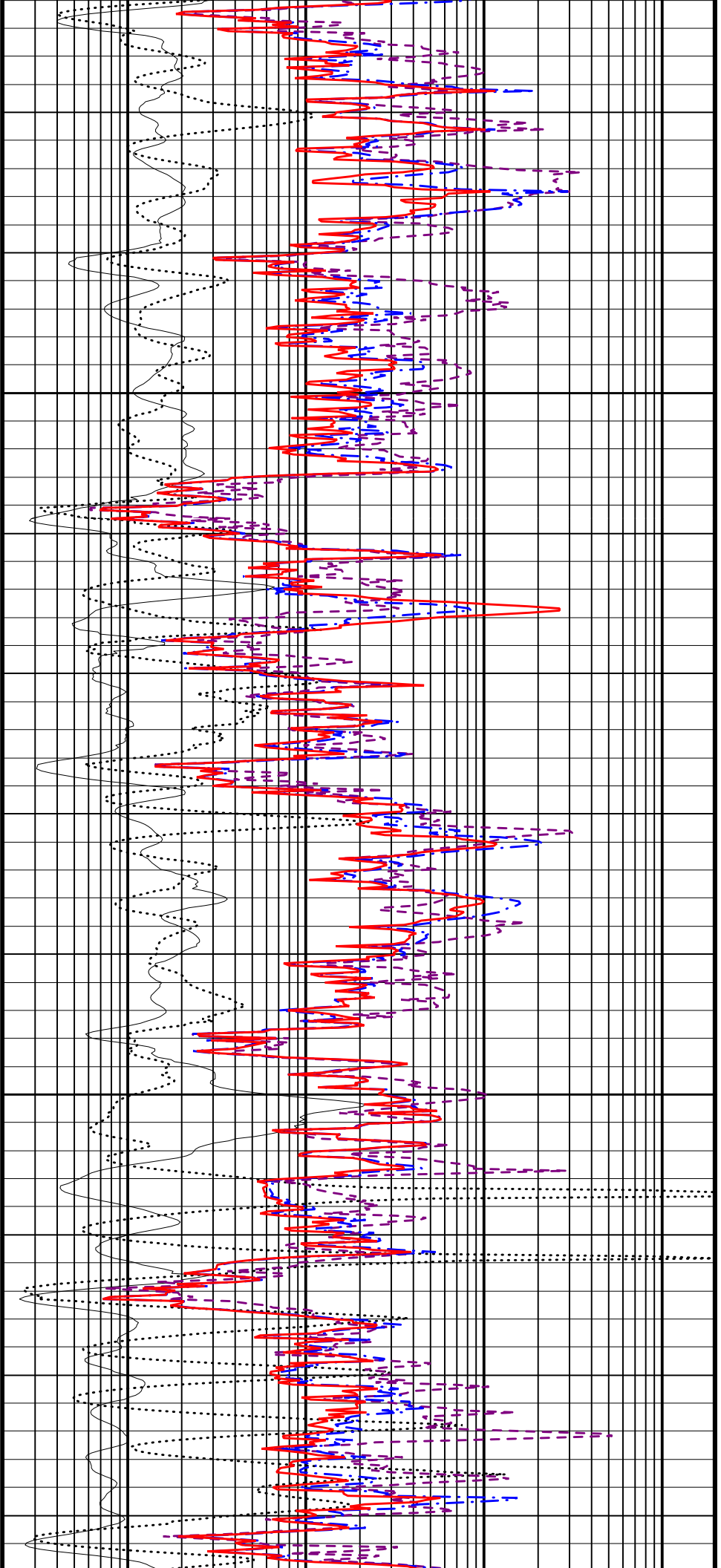


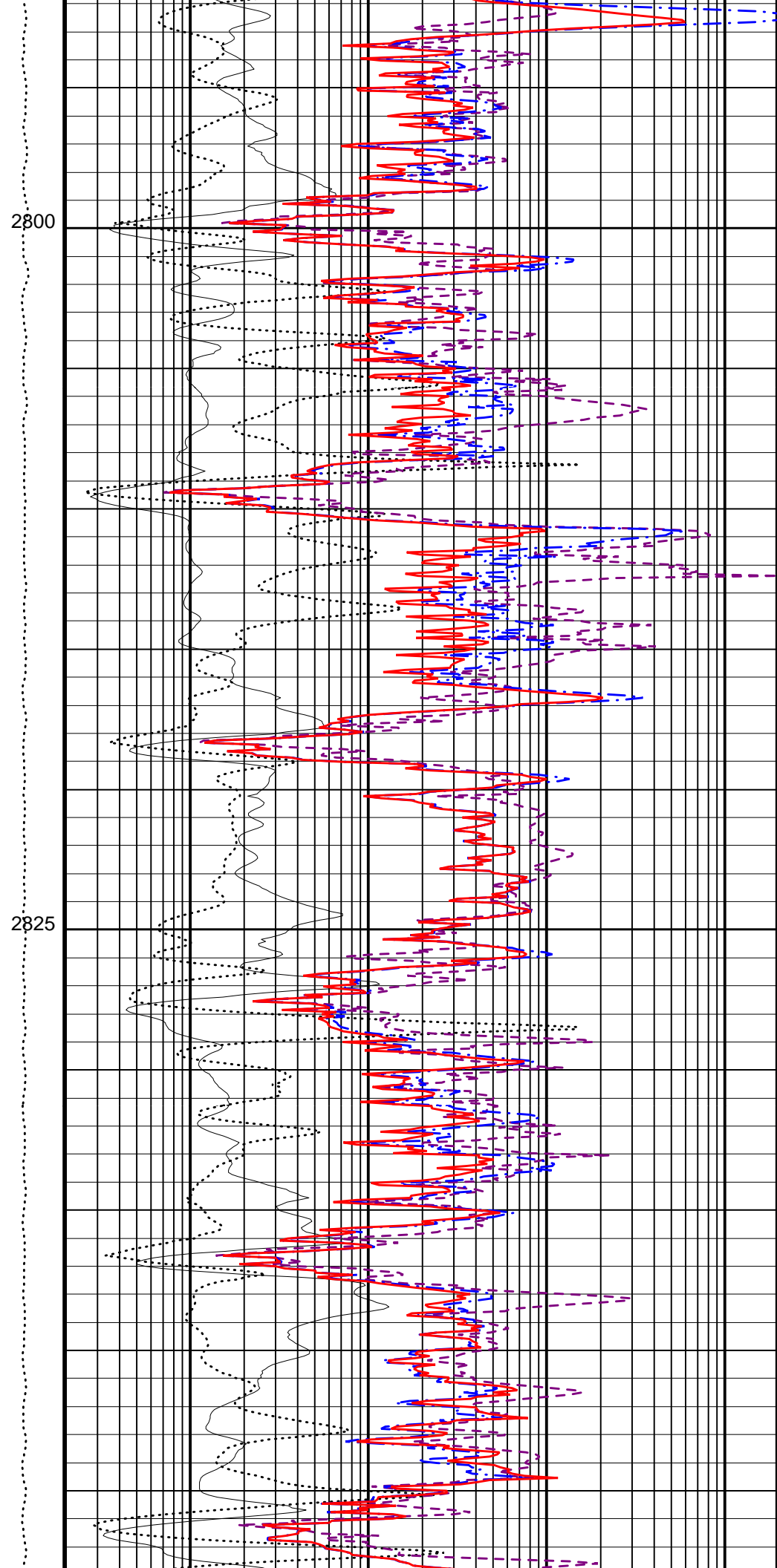
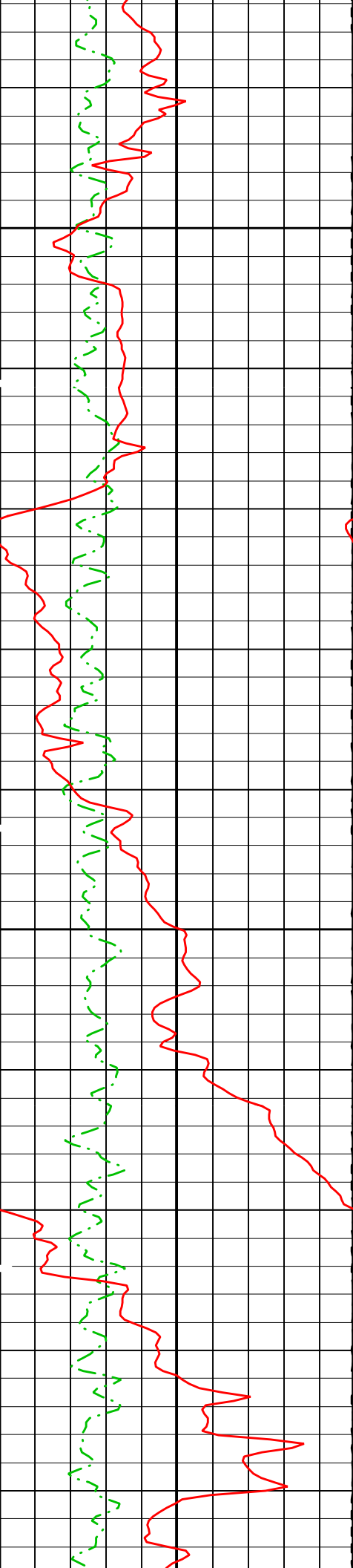


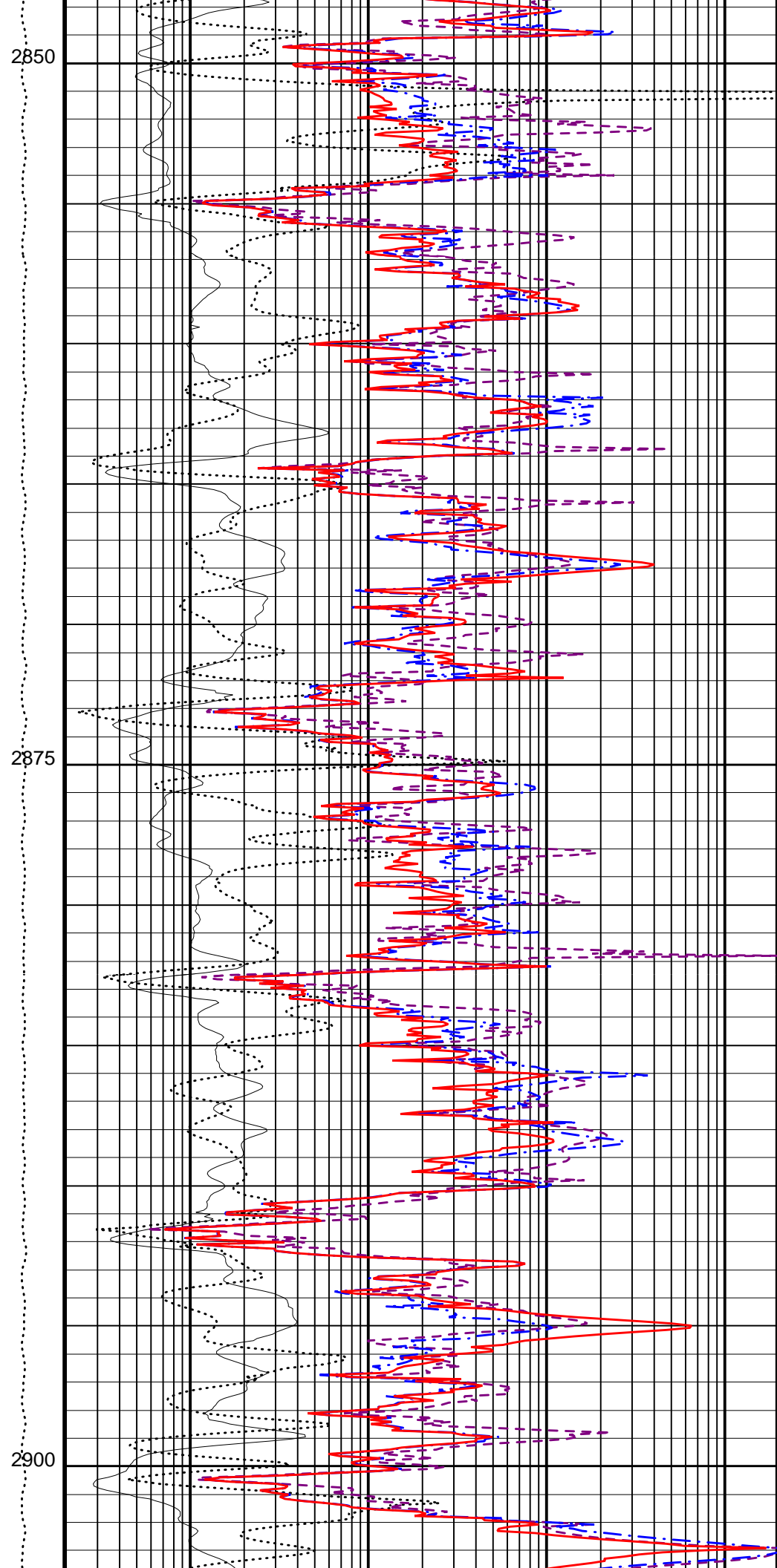
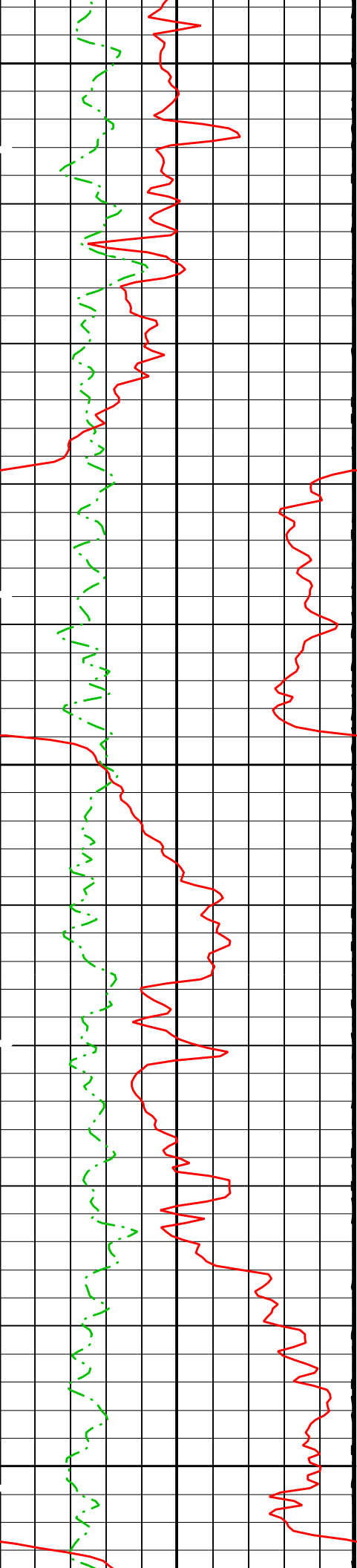


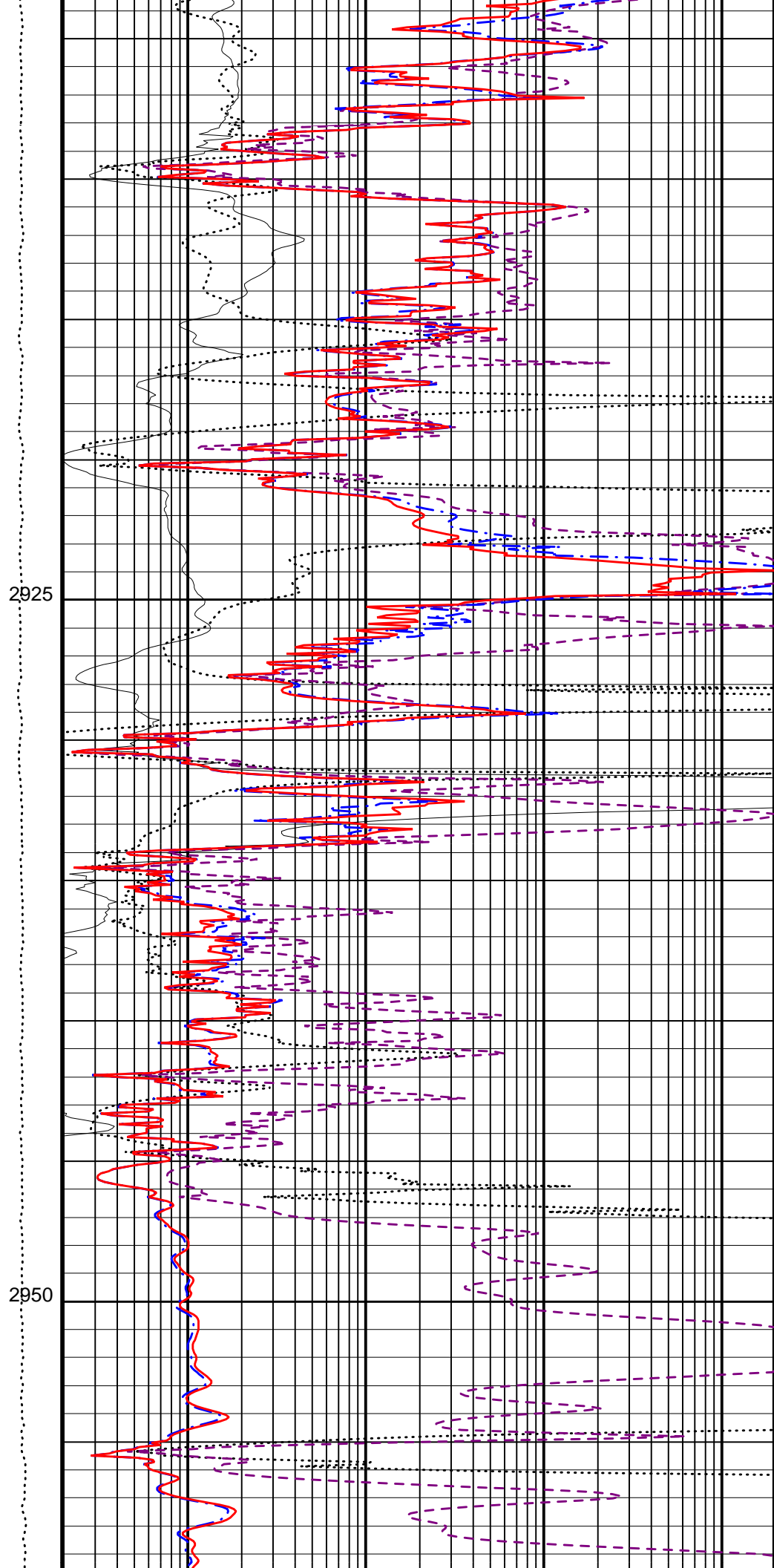
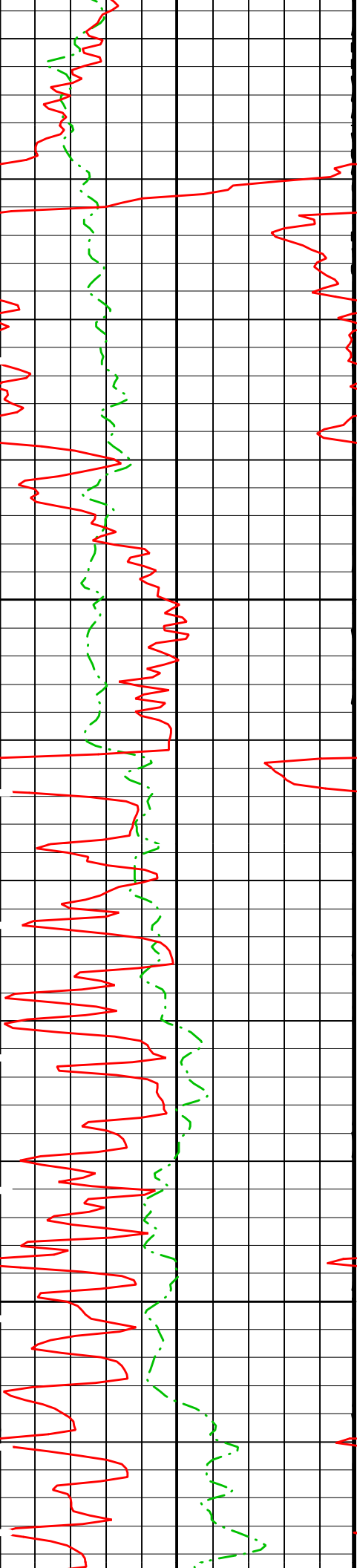
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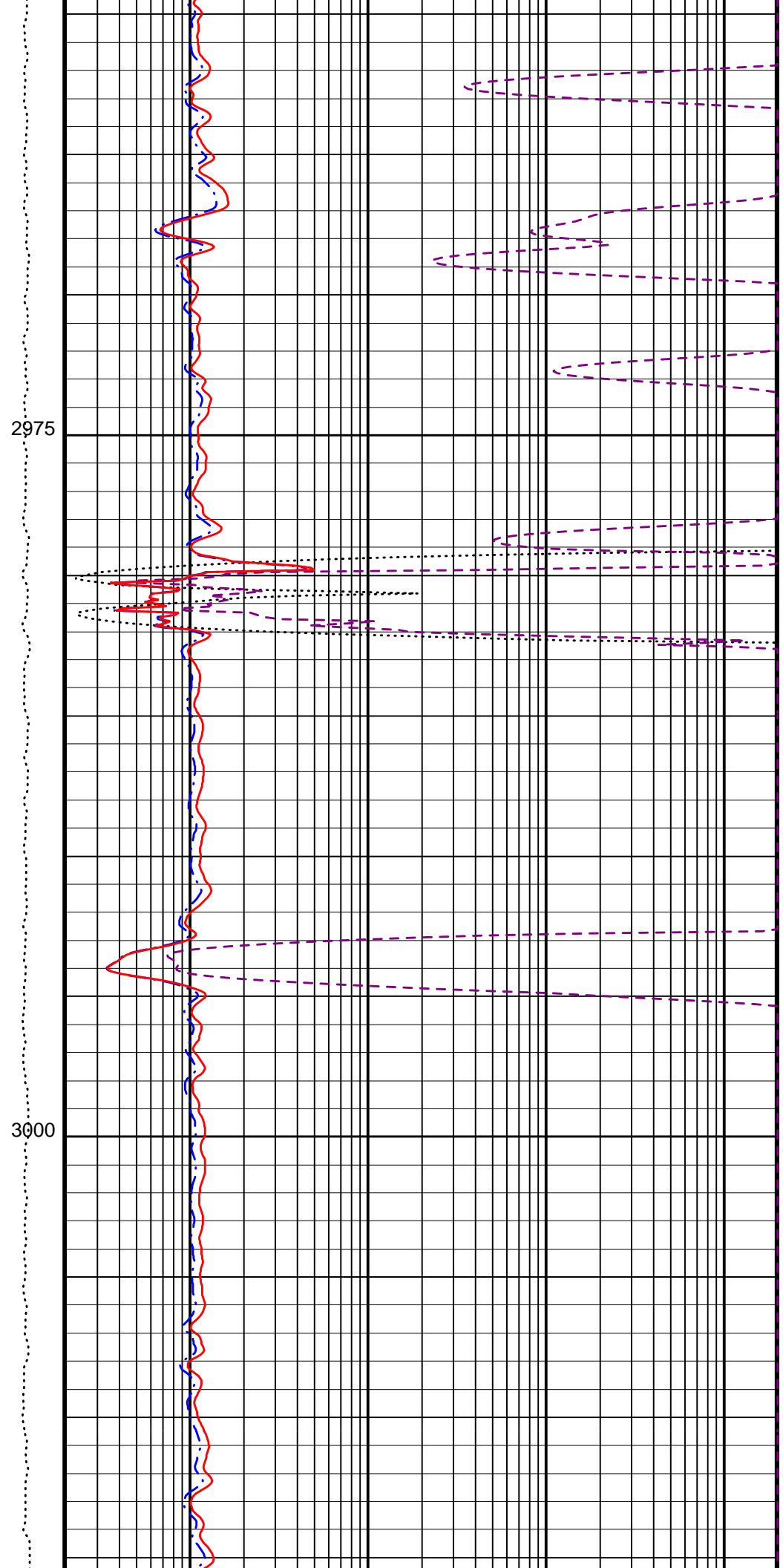
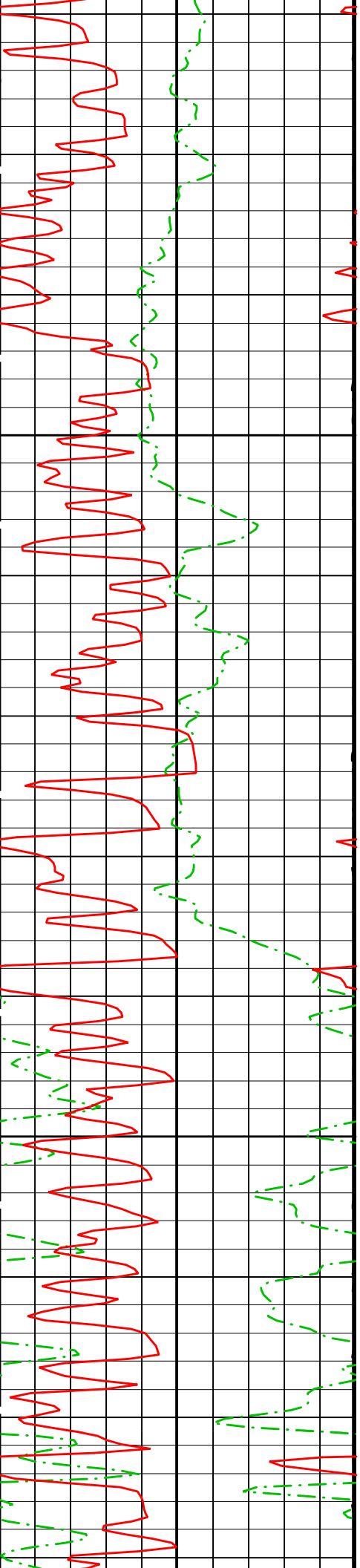
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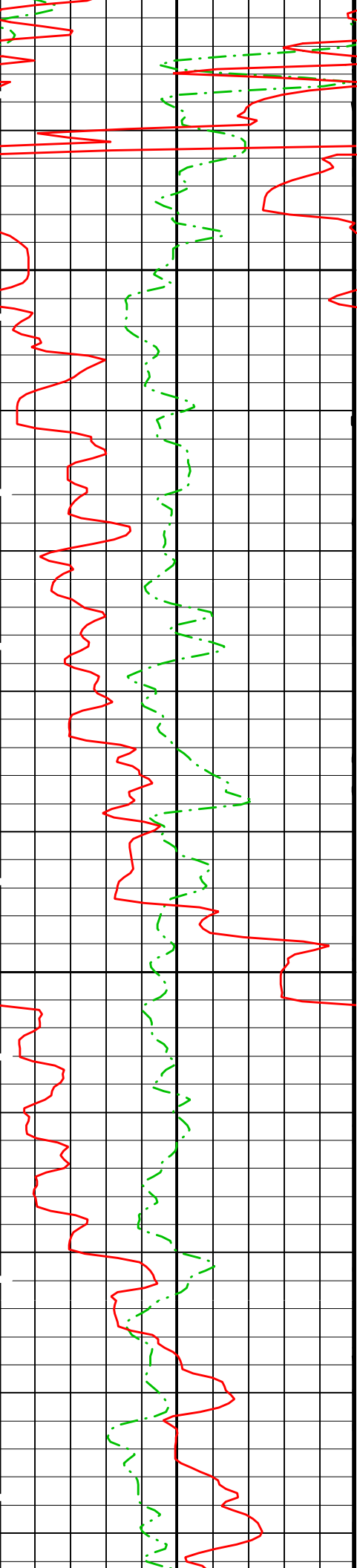






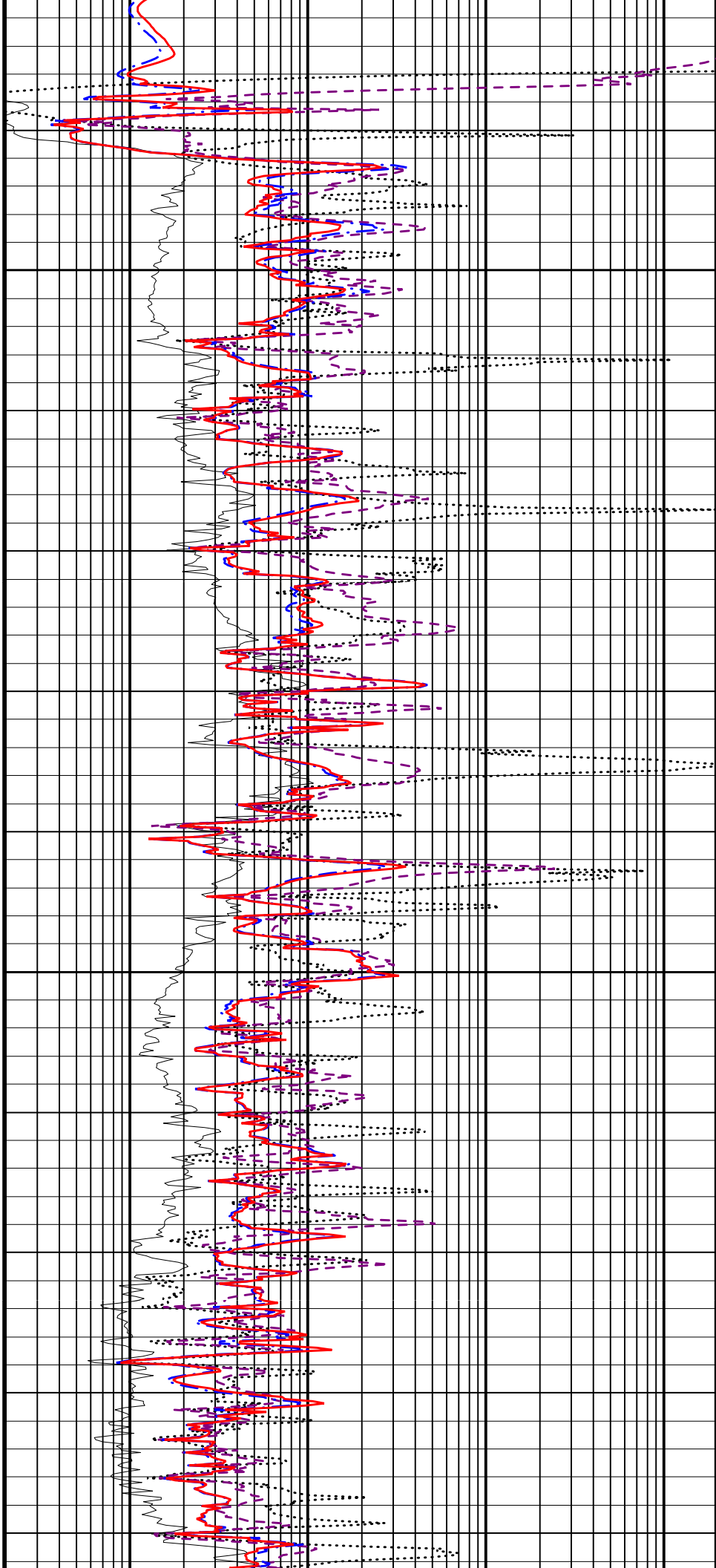


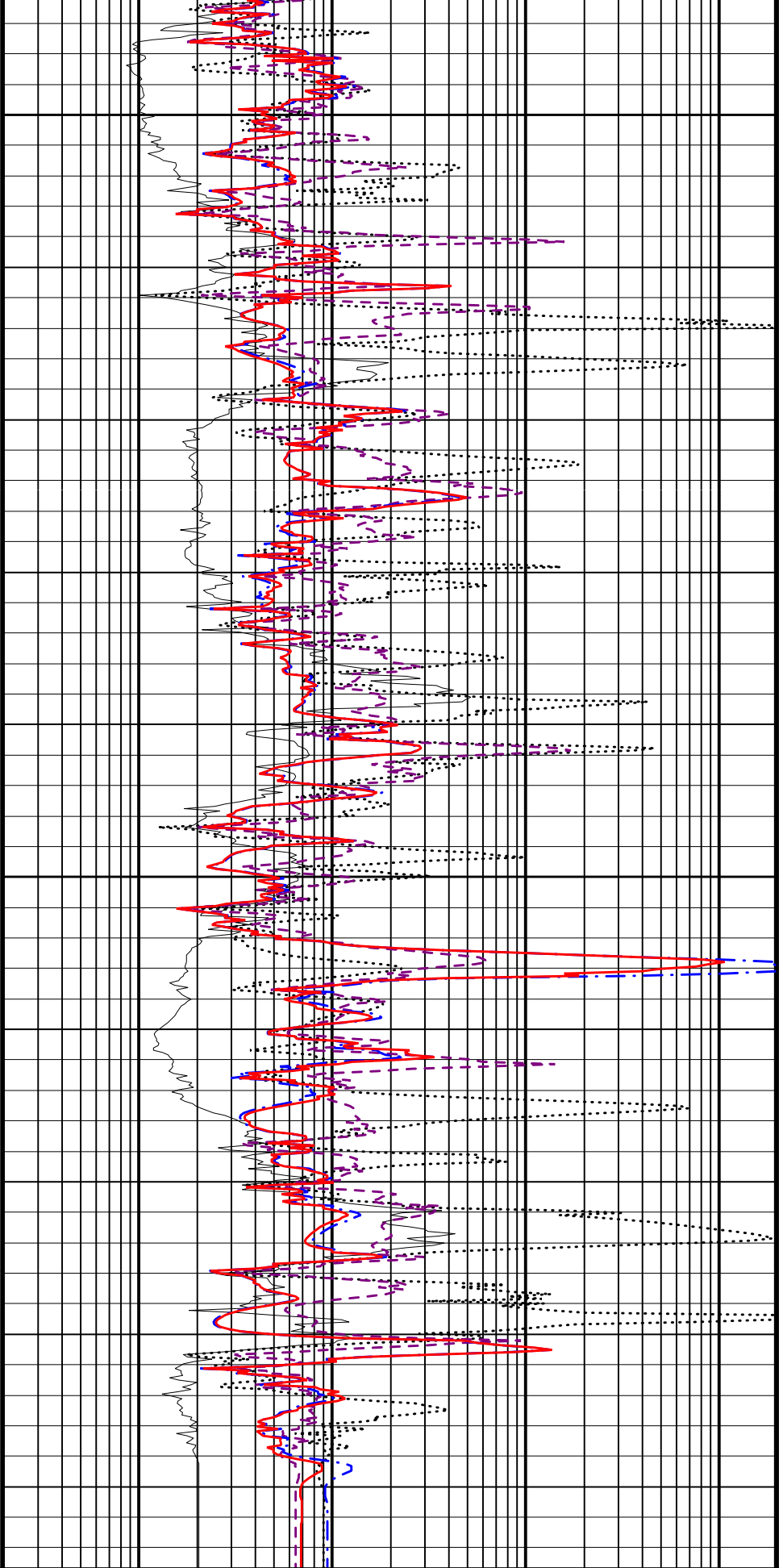
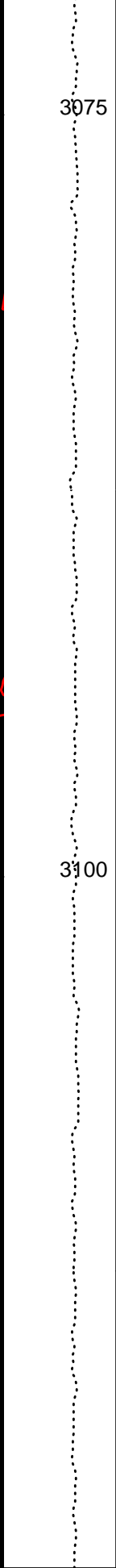
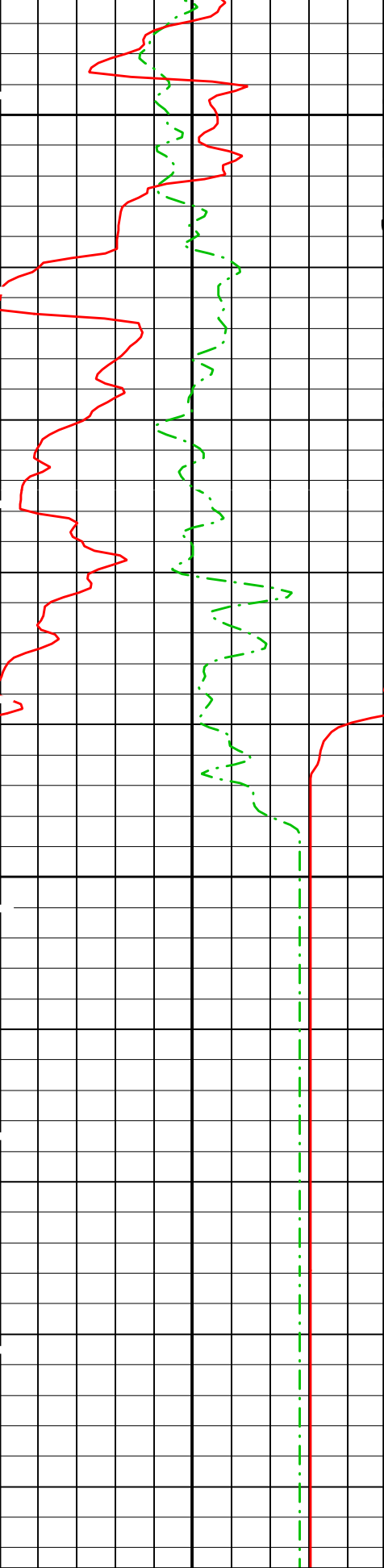




3025

3050





Cartridge Temperature (CTEM)
(DEGC)

Tension (TENS)
(LBF)

AIT 10 Inch Investigation (AO10)
(OHMM)

SP (SP)

AIT 20 Inch Investigation (AO20)

-80	(MV)	20	0.2	(OHMM)	2000
HNGS Spectroscopy Gamma Ray			AIT 30 Inch Investigation (AO30)		
0	(HSGR)	20	0.2	(OHMM)	2000
			AIT 60 Inch Investigation (AO60)		
			0.2	(OHMM)	2000
			AIT 90 Inch Investigation (AO90)		
			0.2	(OHMM)	2000

PIP SUMMARY

Time Mark Every 60 S

QAIT Answer Product Processing Summary. Data taken with sonde # 19

***** Bhole Correction *****

Effective Mud Resistivity computed. Borehole diameter taken as input (see GCSE parameter)

Tool is run in ECCENTERED mode with a tool stand-off of 0.25 IN. Bit Size is 9.88 IN.

***** Input Selections to QAIT Answer Product processing *****

Caliper (GCSE): BS Mud Resistivity (GRSE): GEN_9 Temperature (GTSE): GRADIENT_FROM_BOTTOM Porosity (FPHI): DPO

***** Other parameters used by QAIT Answer Product processing *****

Mud Sample Resistivity (RMS) 0.322 OHMM Mud Sample Temperature (MST) 23.000 DEGC
 Form Factor Exponent (FEXP) 2.000 Form Factor Numerator (FNUM) 1.000
 Mud Filtrate Sample Resistivity (RMFS) -50000.000 OHMM Mud Filtrate Sample Temperature (MFST) -50000.000 DEGC
 Resistivity Connate Water (RW) 1.000 OHMM

***** QAIT Answer Product processing control parameters *****

Playback Mode: RECOMPUTE

(AEBC): Yes (AEBL): Yes (AERP): Yes

(ABHM): 0_ComputeMudResistivity (ABLM): 6_One_Two_and_Four (ARPM): 6_One_Two_and_Four

Parameters

DLIS Name	Description	Value	
QAIT-A: Slim Hostile Array Induction Tool - A			
ABHM	Array Induction Borehole Correction Mode	0_ComputeMudResistivity	
ABHV	Array Induction Borehole Correction Code Version Number	880	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	108	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	-50000	M
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	40.70.24.21	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	40.70.24.21	
ARFV	Array Induction Radial Profiling Code Version Number	700	
ARPV	Array Induction Radial Parametrization Code Version Number	223	
ASTA	Array Induction Tool Standoff	0.25	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	40.70.24.21	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	1	DEGC
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	BS	
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	GRADIENT_FROM_BOTTOM	
SHT	Surface Hole Temperature	20	DEGC
SPNV	SP Next Value	0	MV
APS-C: Accelerator-Porosity Tool			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	1	DEGC
GCSE	Generalized Caliper Selection	BS	
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	GRADIENT_FROM_BOTTOM	
SHT	Surface Hole Temperature	20	DEGC
HNGBS-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)	1	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	BS	
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	GRADIENT_FROM_BOTTOM	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00365202	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	-999.25	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	-999.25	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	0.879779	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.829927	
System and Miscellaneous			
BS	Bit Size	9.875	IN
DFD	Drilling Fluid Density	1.10	G/C3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	23.00	DEGC
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	3250.67	M

Format: QAIT Vertical Scale: 1:200 Graphics File Created: 02-Aug-2004 18:21

OP System Version: 12C0-301

MCM

QAIT-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGBS-BA	12C0-301	DTC-H	12C0-301

Input DLIS Files

DEFAULT	AIT_LDL_APS_NGS_024LUP	FN:27	PRODUCER	01-Aug-2004 10:09	3122.7 M	2555.6 M
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Output DLIS Files

DEFAULT	AIT_LDL_APS_NGS_063PUP	FN:74	PRODUCER	02-Aug-2004 18:21
REDUCED	AIT_LDL_APS_NGS_063PUP	FN:75	PRODUCER	02-Aug-2004 18:21

Calibrations

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
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Measurement	Nominal	Master	Before	Alter	Change	Limit	Units
Slim Hostile Array Induction Tool - A Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase							
Master: 11-Jun-2004 18:01 Before: 8-Jul-2004 16:50							
Thru Cal Magnitude - 0	0	0.5636	0.5634	N/A	N/A	N/A	V
Thru Cal Magnitude - 1	0	1.009	1.009	N/A	N/A	N/A	V
Thru Cal Magnitude - 2	0	0.5293	0.5292	N/A	N/A	N/A	V
Thru Cal Magnitude - 3	0	0.6441	0.6440	N/A	N/A	N/A	V
Thru Cal Magnitude - 4	0	1.169	1.169	N/A	N/A	N/A	V
Thru Cal Magnitude - 5	0	1.678	1.678	N/A	N/A	N/A	V
Thru Cal Magnitude - 6	0	1.817	1.817	N/A	N/A	N/A	V
Thru Cal Magnitude - 7	0	1.248	1.252	N/A	N/A	N/A	V
Thru Cal Phase - 0	0	194.1	195.0	N/A	N/A	N/A	DEG
Thru Cal Phase - 1	0	193.0	193.9	N/A	N/A	N/A	DEG
Thru Cal Phase - 2	0	187.2	188.1	N/A	N/A	N/A	DEG
Thru Cal Phase - 3	0	185.1	186.0	N/A	N/A	N/A	DEG
Thru Cal Phase - 4	0	175.0	176.0	N/A	N/A	N/A	DEG
Thru Cal Phase - 5	0	172.2	173.2	N/A	N/A	N/A	DEG
Thru Cal Phase - 6	0	170.1	171.1	N/A	N/A	N/A	DEG
Thru Cal Phase - 7	0	163.4	164.5	N/A	N/A	N/A	DEG
Slim Hostile Array Induction Tool - A Wellsite Calibration - Electronics Calibration Check - Auxiliary							
Master: 11-Jun-2004 18:01 Before: 8-Jul-2004 16:50							
Array Induction SPA Plus	991.0	983.6	983.4	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.1053	0.1010	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9170	0.9106	0.9105	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.0001035	0.00009976	N/A	N/A	N/A	V
Slim Hostile Array Induction Tool - A Wellsite Calibration - Test Loop Gain Correction							
Master: 11-Jun-2004 18:01							
Test Loop Gain Correctio - 0	0	1.002	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 1	0	1.030	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 2	0	1.008	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 3	0	1.001	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 4	0	0.9987	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 5	0	0.9951	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 6	0	1.001	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 7	0	0.9957	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio - 0	0	0.6556	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 1	0	0.8656	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 2	0	0.2043	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 3	0	0.1728	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 4	0	0.1930	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 5	0	0.06180	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 6	0	0.1537	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio - 7	0	-0.4079	N/A	N/A	N/A	N/A	DEG
Slim Hostile Array Induction Tool - A Wellsite Calibration - Sonde Error Correction							
Master: 11-Jun-2004 18:01							
R Sonde Error Correction - 0	0	-566.5	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 1	0	266.6	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 2	0	105.3	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 3	0	54.58	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 4	0	16.88	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 5	0	4.192	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 6	0	3.815	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 7	0	-0.3850	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 0	0	-1455	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 1	0	348.1	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 2	0	-77.81	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 3	0	82.35	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 4	0	15.71	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 5	0	-41.87	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 6	0	1.960	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 7	0	-8.263	N/A	N/A	N/A	N/A	MM/M
Slim Hostile Array Induction Tool - A Wellsite Calibration - Mud Gain Correction							
Master: 11-Jun-2004 18:01							
Coarse - Mag, Real, Imag - 0	0	1.021	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 1	0	1.021	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 2	0	1.021	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 0	0	1.020	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 1	0	1.020	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 2	0	1.020	N/A	N/A	N/A	N/A	
Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement							
Master: 12-Jun-2004 14:54 Before: 8-Jul-2004 16:52							
SS Cs Resolution Bkg	9.000	8.422	8.375	N/A	N/A	1.800	%
LS Cs Resolution Bkg	9.000	8.036	7.997	N/A	N/A	1.800	%
LSW1 Background	100.0	82.68	82.70	N/A	N/A	3.000	CPS
LSW2 Background	100.0	76.07	75.57	N/A	N/A	3.000	CPS
LSW3 Background	200.0	172.2	170.1	N/A	N/A	6.000	CPS

LSW6 Background	250.0	473.3	210.6	N/A	N/A	7.500	CPS
LSW4 Background	250.0	473.3	210.6	N/A	N/A	7.500	CPS
LSW5 Background	600.0	473.3	475.6	N/A	N/A	18.00	CPS
SSW1 Background	100.0	80.33	80.89	N/A	N/A	3.000	CPS
SSW2 Background	200.0	142.1	143.3	N/A	N/A	6.000	CPS
SSW3 Background	500.0	384.0	382.8	N/A	N/A	15.00	CPS
SSW4 Background	270.0	206.5	205.6	N/A	N/A	8.100	CPS
SSW5 Background	200.0	146.5	148.8	N/A	N/A	6.000	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement

Master: 12-Jun-2004 15:48

LSW1 Aluminum	600.0	569.4	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	857.9	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	1046	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	524.0	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	489.0	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2464	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	7163	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10360	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4401	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	606.5	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement

Master: 12-Jun-2004 15:42

LSW1 Iron	400.0	386.4	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	683.9	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	917.1	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	479.7	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	448.7	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1828	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5944	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9382	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3978	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	535.3	N/A	N/A	N/A	N/A	CPS

Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration

Before: 8-Jul-2004 17:09

HLDS Caliper Small Ring	8.000	N/A	10.42	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	12.00	N/A	14.63	N/A	N/A	N/A	IN

Accelerator-Porosity Tool Wellsite Calibration - Detector Background

Master: 7-Jul-2004 21:59 Before: 8-Jul-2004 16:56

Near Det Bkg Cntrate	30.00	25.97	26.03	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	26.06	27.83	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	27.53	26.21	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	26.25	27.33	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	23.56	23.53	N/A	N/A	N/A	CPS

Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios

Master: 7-Jul-2004 21:59

Near/Far Calibration Ratio	0.9250	0.9552	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	0.9865	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.011	N/A	N/A	N/A	N/A	

Accelerator-Porosity Tool Wellsite Calibration - Tank Check

Master: 7-Jul-2004 21:59

Array-1 Standoff Porosity	11.75	12.35	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.95	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.772	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	1.003	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9959	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.17	N/A	N/A	N/A	N/A	CU

Accelerator-Porosity Tool Wellsite Calibration - CCR7 signal boxes

Master: 7-Jul-2004 21:59

Near Detector Plateau Setting	1650	1737	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2083	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1971	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check

Master: 5-Jul-2004 18:53 Before: 8-Jul-2004 16:53

Na 511 Peak Loc	40.00	40.71	40.63	N/A	N/A	1.000	
Na 511 Peak Res	15.50	17.54	17.28	N/A	N/A	2.000	%
High Voltage	1150	1250	1255	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	144.2	145.0	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	10.18	10.15	N/A	N/A	2.000	%
Temperature	15.50	21.21	20.28	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	53.01	53.43	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check

Master: 5-Jul-2004 18:53 Before: 8-Jul-2004 16:53

Na 511 Peak Loc	40.00	40.45	40.58	N/A	N/A	1.000	
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Na 511 Peak Res	15.50	17.86	17.14	N/A	N/A	2.000	%
High Voltage	1150	1272	1277	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	144.8	144.4	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	9.592	10.89	N/A	N/A	2.000	%
Temperature	15.50	20.08	19.40	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	53.19	53.46	N/A	N/A	8.000	CPS

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

Master: 5-Jul-2004 18:53 Before: 8-Jul-2004 16:53

Coincidence Count Rate Ratio	1.000	0.9966	1.000	N/A	N/A	0.05000
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Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 5-Jul-2004 18:48

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.8	--	--	--	--	
Th Peak Res	7.000	8.676	--	--	--	--	%
Background Count Rate	142.5	25.70	--	--	--	--	CPS
Gain Ratio	1.000	0.9764	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration

Master: 5-Jul-2004 18:48

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.1	--	--	--	--	
Th Peak Res	7.000	8.030	--	--	--	--	%
Background Count Rate	142.5	25.73	--	--	--	--	CPS
Gain Ratio	1.000	0.9786	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting	1737 V
Far Detector Plateau Setting	2083 V
Array Detector Plateau Setting	1971 V

Slim Hostile Array Induction Tool - A / Equipment Identification

Primary Equipment:		
Slim Hostile Array Induction Sonde	QAIS - AA	19
Slim Array Induction Cartridge	SAIC - AA	
Auxiliary Equipment:		
Slim Hostile Cartridge Flask	UDFH - PLB	

Slim Hostile Array Induction Tool - A Wellsite Calibration

Electronics Calibration Check - Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.5636		0.5510	194.1		197.0
	Before	0.5634			195.0		
1	Master	1.009		0.9860	193.0		196.0
	Before	1.009			193.9		
2	Master	0.5293		0.5220	187.2		192.0
	Before	0.5292			188.1		
3	Master	0.6441		0.6370	185.1		191.0
	Before	0.6440			186.0		
4	Master	1.169		1.214	175.0		185.0
	Before	1.169			176.0		
5	Master	1.678		1.777	172.2		182.0
	Before	1.678			173.2		
6	Master	1.817		1.945	170.1		181.0
	Before	1.817			171.1		
7	Master	1.248		1.416	163.4		175.0
	Before	1.252			164.5		

60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 11-Jun-2004 18:01			Before: 8-Jul-2004 16:50		

Slim Hostile Array Induction Tool - A Wellsite Calibration						
Electronics Calibration Check - Auxiliary						
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value	
Master		983.6	Master		0.1053	
Before		983.4	Before		0.1010	
	941.0 (Minimum)	991.0 (Nominal)	1040 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value	
Master		0.9106	Master		0.0001035	
Before		0.9105	Before		9.976E-00	
	0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)	-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 11-Jun-2004 18:01			Before: 8-Jul-2004 16:50			

Slim Hostile Array Induction Tool - A Wellsite Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Correction Magnitude V	Value	Test Loop Gain Correction Phase DEG			
0	1.002		0.6556				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.030		0.8656				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.008		0.2043				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.001		0.1728				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9987		0.1930				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9951		0.06180				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	1.001		0.1537				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	0.9957		-0.4079				
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 11-Jun-2004 18:01							

Slim Hostile Array Induction Tool - A Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M			
0	-566.5		-1455				
		-876.0 (Minimum)	-701.0 (Nominal)	-526.0 (Maximum)	-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	266.6		348.1				
		232.0 (Minimum)	277.0 (Nominal)	322.0 (Maximum)	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	105.3		-77.81				
		52.30 (Minimum)	97.30 (Nominal)	142.3 (Maximum)	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	54.58		82.35				
		19.30 (Minimum)	44.30 (Nominal)	69.30 (Maximum)	-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	16.88		15.71				
		9.800 (Minimum)	19.80 (Nominal)	29.80 (Maximum)	-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)

5	4.192		-41.87			
	-6.500 (Minimum)	3.500 (Nominal)	13.50 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	3.815		1.960			
	-0.7000 (Minimum)	4.300 (Nominal)	9.300 (Maximum)	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.3850		-8.263			
	-4.670 (Minimum)	0.3300 (Nominal)	5.330 (Maximum)	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

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Slim Hostile Array Induction Tool - A Wellsite Calibration							
Mud Gain Correction							
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag	
0	1.021				1.020		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.021				1.020		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.021				1.020		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

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Slim Hostile Array Induction Tool - A Master Calibration								
Electronics Calibration Check - Thru Cal Mag. & Phase								
Idx	Phase	Value	Thru Cal Magnitude V		Nominal	Value	Thru Cal Phase DEG	
0	Master	0.5636			0.5510	194.1		197.0
1	Master	1.009			0.9860	193.0		196.0
2	Master	0.5293			0.5220	187.2		192.0
3	Master	0.6441			0.6370	185.1		191.0
4	Master	1.169			1.214	175.0		185.0
5	Master	1.678			1.777	172.2		182.0
6	Master	1.817			1.945	170.1		181.0
7	Master	1.248			1.416	163.4		175.0
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)		Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

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Slim Hostile Array Induction Tool - A Master Calibration						
Electronics Calibration Check - Auxiliary						
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value	
Master		983.6	Master		0.1053	
	941.0 (Minimum)	991.0 (Nominal)	1040 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value	
Master		0.9106	Master		0.0001035	
	0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)	-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)

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Slim Hostile Array Induction Tool - A Master Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Correction Magnitude V			Value	Test Loop Gain Correction Phase DEG	
0	1.002				0.6556		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.030				0.8656		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

	1.008	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	0.2043	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.001				0.1728			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9987				0.1930			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9951				0.06180			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	1.001				0.1537			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	0.9957				-0.4079			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

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Slim Hostile Array Induction Tool - A Master Calibration								
Sonde Error Correction								
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	-566.5				-1455			
		-876.0 (Minimum)	-701.0 (Nominal)	-526.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	266.6				348.1			
		232.0 (Minimum)	277.0 (Nominal)	322.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	105.3				-77.81			
		52.30 (Minimum)	97.30 (Nominal)	142.3 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	54.58				82.35			
		19.30 (Minimum)	44.30 (Nominal)	69.30 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	16.88				15.71			
		9.800 (Minimum)	19.80 (Nominal)	29.80 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	4.192				-41.87			
		-6.500 (Minimum)	3.500 (Nominal)	13.50 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	3.815				1.960			
		-0.7000 (Minimum)	4.300 (Nominal)	9.300 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.3850				-8.263			
		-4.670 (Minimum)	0.3300 (Nominal)	5.330 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 11-Jun-2004 18:01

Slim Hostile Array Induction Tool - A Master Calibration								
Mud Gain Correction								
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	1.021				1.020			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.021				1.020			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.021				1.020			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 11-Jun-2004 18:01

Primary Equipment:
 Hostile Litho Density Sonde
 Hostile Litho Density High Voltage
 Gamma Source Radioactive

HLDS - D 35
 HLDV - D 35
 GSR - Z 2326

Auxiliary Equipment:
 Hostile Litho Density Pad
 Hostile Litho Density High Voltage Housi

HLDP - C 35
 HEH - H 35

Hostile Litho-Density Sonde Wellsite Calibration											
Background Measurement											
Phase	SS Cs Resolution Bkg %	Value	Phase	LS Cs Resolution Bkg %	Value	Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value
Master		8.422	Master		8.036	Master		82.68	Master		76.07
Before		8.375	Before		7.997	Before		82.70	Before		75.57
7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)			55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)		
Phase	LSW3 Background CPS	Value	Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value	Phase	SSW1 Background CPS	Value
Master		172.2	Master		212.4	Master		473.3	Master		80.33
Before		170.1	Before		210.6	Before		475.6	Before		80.89
110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)			140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)			330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)			55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)		
Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value	Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value
Master		142.1	Master		384.0	Master		206.5	Master		146.5
Before		143.3	Before		382.8	Before		205.6	Before		148.8
100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)			280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)			150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)		

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Before: 8-Jul-2004 16:52

Hostile Litho-Density Sonde Master Calibration											
Detector Background Measurement											
Phase	LSW1 Background CPS	Value	Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value	Phase	LSW4 Background CPS	Value
Master		82.68	Master		76.07	Master		172.2	Master		212.4
55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum)			140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)		
Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value	Phase	LS Cs Resolution Bkg %	Value
Master		80.33	Master		142.1	Master		384.0	Master		8.036
55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum)			100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum)			280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)		
Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value	Phase	SS Cs Resolution Bkg %	Value			
Master		206.5	Master		146.5	Master		8.422			
150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum)			110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum)					

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Hostile Litho-Density Sonde Master Calibration											
Detector Aluminum Measurement (bkqd-subtracted)											
Phase	LSW1 Aluminum CPS	Value	Phase	LSW2 Aluminum CPS	Value	Phase	LSW3 Aluminum CPS	Value	Phase	LSW4 Aluminum CPS	Value
Master		569.4	Master		857.9	Master		1046	Master		524.0
420.0 (Minimum) 600.0 (Nominal) 700.0 (Maximum)			650.0 (Minimum) 900.0 (Nominal) 1050 (Maximum)			800.0 (Minimum) 1100 (Nominal) 1300 (Maximum)			410.0 (Minimum) 580.0 (Nominal) 670.0 (Maximum)		
Phase	SSW1 Aluminum CPS	Value	Phase	SSW2 Aluminum CPS	Value	Phase	SSW3 Aluminum CPS	Value	Phase	SSW4 Aluminum CPS	Value
Master		2464	Master		489.0	Master		489.0	Master		489.0
2000 (Minimum) 2800 (Nominal) 3200 (Maximum)			410.0 (Minimum) 570.0 (Nominal) 660.0 (Maximum)			2000 (Minimum) 2800 (Nominal) 3200 (Maximum)					

Master		7163	Master		10360	Master		4401	
	5800 (Minimum)	8000 (Nominal)	9300 (Maximum)	8300 (Minimum)	11600 (Nominal)	13500 (Maximum)	3500 (Minimum)	5000 (Nominal)	5800 (Maximum)
Phase	SSW5 Aluminum CPS		Value						
Master		606.5							
	470.0 (Minimum)	660.0 (Nominal)	770.0 (Maximum)						
Master: 12-Jun-2004 15:48									

Hostile Litho-Density Sonde Master Calibration											
Detector Litholog Measurement (bkgd-subtracted)											
Phase	LSW1 Iron CPS		Value	Phase	LSW2 Iron CPS		Value	Phase	LSW3 Iron CPS		Value
Master		386.4	Master		683.9	Master		917.1			
	290.0 (Minimum)	400.0 (Nominal)	470.0 (Maximum)	520.0 (Minimum)	730.0 (Nominal)	850.0 (Maximum)	720.0 (Minimum)	1000 (Nominal)	1160 (Maximum)		
Phase	LSW4 Iron CPS		Value	Phase	LSW5 Iron CPS		Value	Phase	SSW1 Iron CPS		Value
Master		479.7	Master		448.7	Master		1828			
	370.0 (Minimum)	520.0 (Nominal)	600.0 (Maximum)	340.0 (Minimum)	470.0 (Nominal)	550.0 (Maximum)	1500 (Minimum)	2100 (Nominal)	2400 (Maximum)		
Phase	SSW2 Iron CPS		Value	Phase	SSW3 Iron CPS		Value	Phase	SSW4 Iron CPS		Value
Master		5944	Master		9382	Master		3978			
	4900 (Minimum)	6800 (Nominal)	7900 (Maximum)	7800 (Minimum)	10800 (Nominal)	12600 (Maximum)	3300 (Minimum)	4600 (Nominal)	5400 (Maximum)		
Phase	SSW5 Iron CPS		Value								
Master		535.3									
	420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)								
Master: 12-Jun-2004 15:42											

Hostile Litho-Density Sonde Master Calibration											
Quality Ratios											
Phase	AL CALIBRATION RATIO 1		Value	Phase	AL CALIBRATION RATIO 2		Value	Phase	AL CALIBRATION RATIO 3		Value
Master		1.032	Master		2.068	Master		0.5621			
	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	1.900 (Minimum)	2.100 (Nominal)	2.300 (Maximum)	0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)		
Phase	AL CALIBRATION RATIO 4		Value	Phase	Pad-Wear SS Ratio		Value	Phase	Pad-Wear LS Ratio		Value
Master		0.4920	Master		0.9885	Master		0.9858			
	0.4500 (Minimum)	0.5500 (Nominal)	0.6500 (Maximum)	0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)	0.9800 (Minimum)	0.9880 (Nominal)	0.9960 (Maximum)		
Phase	Pad-Position SS Ratio		Value	Phase	Pad-Position LS Ratio		Value				
Master		1.014	Master		1.001						
	0.9900 (Minimum)	0.9940 (Nominal)	1.015 (Maximum)	0.9850 (Minimum)	0.9940 (Nominal)	1.010 (Maximum)					
Master: 12-Jun-2004 15:36											

Nuclear Porosity Lithology Cartridge - B / Equipment Identification

Primary Equipment:
NPLC Cartridge

NPLC - B 79

Auxiliary Equipment:
NPLC Housing

NPH - B

Accelerator-Porosity Tool / Equipment Identification

Primary Equipment:
Accelerator-Porosity Sonde
APS Minitron

APS - C 202
MNTR - F 5124

Auxiliary Equipment:
Accelerator-Porosity Housing
APS Calibration Water Tank
APS Aluminum Calibrator Sleeve

APH - AC 104
SFT - 178 6250
SFT - 281 6250

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		25.97	Master		26.06	Master		27.53
Before		26.03	Before		27.83	Before		26.21
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	
Phase	Array-2 Det Bkg Cntrate CPS	Value	Phase	Array Therm Det Bkg Cntrate CPS	Value			
Master		26.25	Master		23.56			
Before		27.33	Before		23.53			
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)				
Master: 7-Jul-2004 21:59			Before: 8-Jul-2004 16:56					

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		0.9552	Master		0.9865	Master		1.011
	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: 7-Jul-2004 21:59								

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		12.35	Master		11.95	Master		5.772
	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		1.003	Master		0.9959	Master		27.17
	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: 7-Jul-2004 21:59								

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
Master		0.9552	Master		0.9865	Master		1.011
	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: 7-Jul-2004 21:59								

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		12.35	Master		11.95	Master		5.772
	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		1.003	Master		0.9959	Master		27.17
	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: 7-Jul-2004 21:59								

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:
HNGS Sonde

HNGS - BA 77

Auxiliary Equipment:
HNGS Sonde Housing
Gamma Source Radioactive

HNSH - BA 79
GSR - U 135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.71	Master		17.54	Master		1250
Before		40.63	Before		17.28	Before		1255
	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		144.2	Master		10.18	Master		21.21
Before		145.0	Before		10.15	Before		20.28
	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		53.01						
Before		53.43						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 5-Jul-2004 18:53				Before: 8-Jul-2004 16:53				

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		40.45	Master		17.86	Master		1272
Before		40.58	Before		17.14	Before		1277
	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		144.8	Master		9.592	Master		20.08
Before		144.4	Before		10.89	Before		19.40
	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		53.19						
Before		53.46						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 5-Jul-2004 18:53				Before: 8-Jul-2004 16:53				

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9966
Before		1.000
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	
Master: 5-Jul-2004 18:53		
Before: 8-Jul-2004 16:53		

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		208.8	Master		8.676
	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		25.70	Master		0.9764			
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)			0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)				
Master: 5-Jul-2004 18:48								

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 2 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		208.1	Master		8.030	
	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		25.73	Master		0.9786				
	20.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)	0.9400 (Minimum)	1.000 (Nominal)				1.060 (Maximum)
Master: 5-Jul-2004 18:48									

Company: Lamont Doherty



Well: Site 1301B
 Field: Expedition 301
 County: Juan de Fuca
 State: Oregon

SlimXtreme Array Induction

Hostile Natural Gamma Ray.