

Schlumberger

Company: Lamont Doherty

Well: Site 1301B

Field: Expedition 301

County: Juan de Fuca

State: Oregon

Hostile Natural Gamma Ray Sonde

County: Juan de Fuca		Elev.: K.B. 11.3 m	
Field: Expedition 301		G.L. -2667.8 m	
Location:		D.F. 11.3 m	
Well: Site 1301B			
Company: Lamont Doherty			
LOCATION			
Permanent Datum: _____		Mean Sea Level _____	
Log Measured From: _____		Drill Floor _____	
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 @ 3014 m	
Casing Schlumberger	3014 m	
Bit Size	9.875 in	
Type Fluid In Hole	Septolite	
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	Time	
Logger On Bottom	Time	
Unit Number	Location	
Recorded By	Javier Espinosa	
Witnessed By	Gerardo Iturrino	

Logging Date	Run 1	Run 2	Run
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
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	Javier Espinosa		
Witnessed By	Gerardo Iturrino		

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 @ 3014 m	
Casing Schlumberger	3014 m	
Bit Size	9.875 in	
Type Fluid In Hole	Septolite	
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	Time	
Logger On Bottom	Time	
Unit Number	Location	
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: QIAT/HLDS/APS OS2: UBI OS3: FMS OS4: DSI OS5: WST	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
---	---

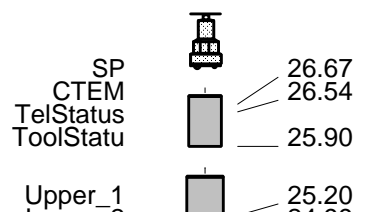
REMARKS: RUN NUMBER 1 Parameters and Presentations as per IODP standards Tool ran as per tool sketch below. Caliper opened at maximum	REMARKS: RUN NUMBER 2
Thanks for choosing Schlumberger	

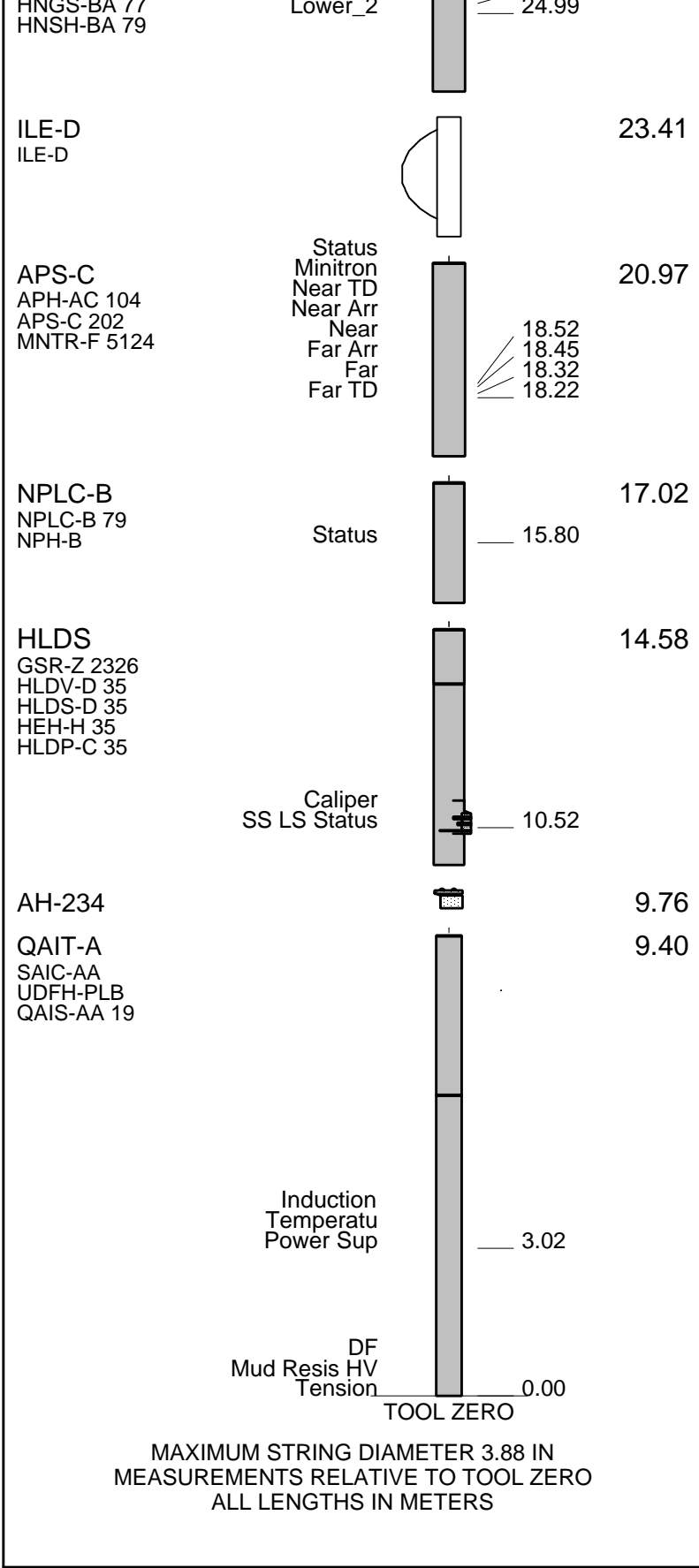
RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:	12C0-301		PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1	RUN 2
SURFACE EQUIPMENT SFT-281 6250 SFT-178 6250 GSR-U 135 WITM (DTS)-A	

DOWNHOLE EQUIPMENT	
LEH-MT LEH-MT	27.78
DTC-H ECH-KC	26.82
HNGS-BA HNGS-BA	25.90





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

Kelly Bushing Elevation

11.3

Derrick Floor Elevation

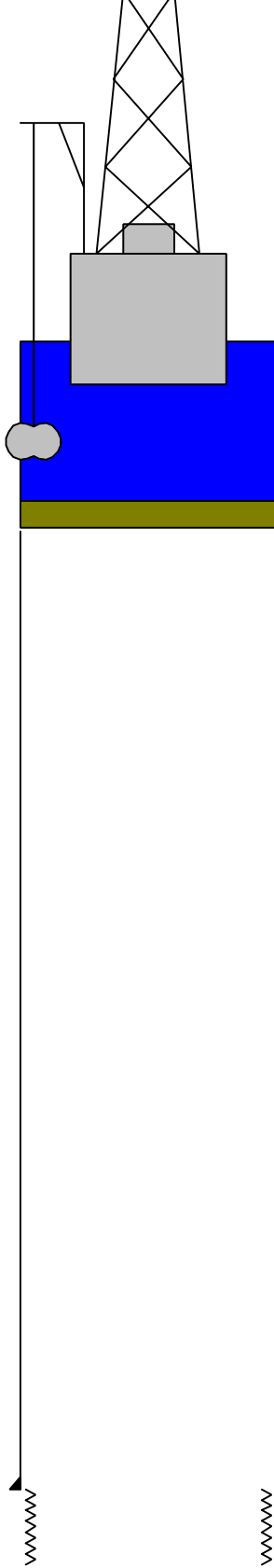
11.3

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
---------	------------------------	-------	----------	-------------------	----------	----------

Output DLIS Files

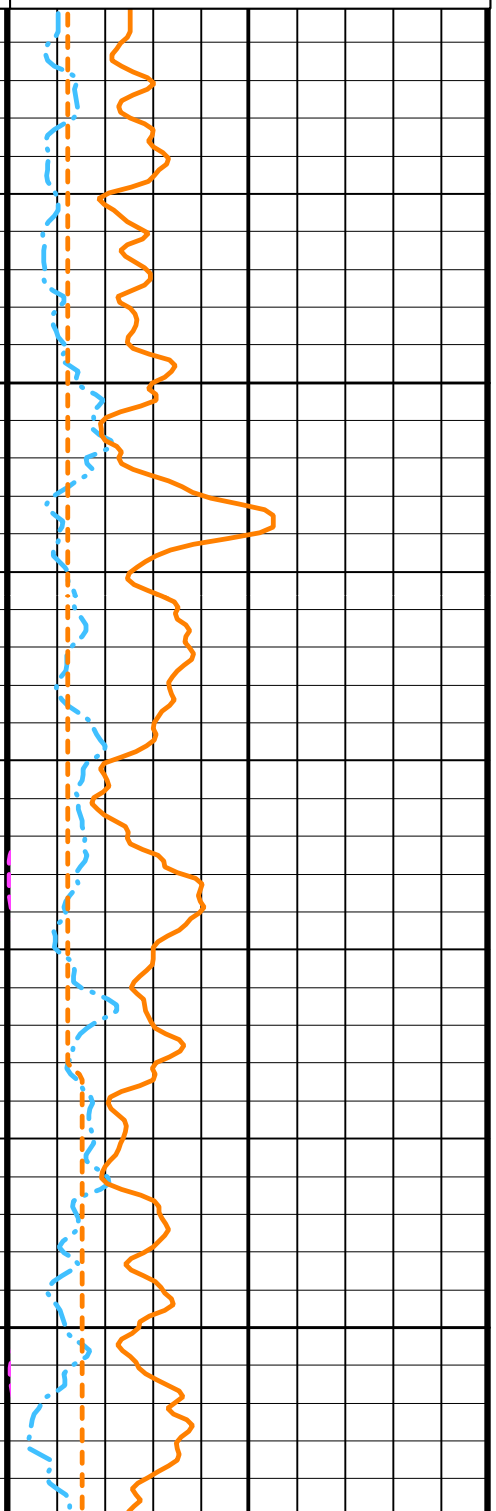
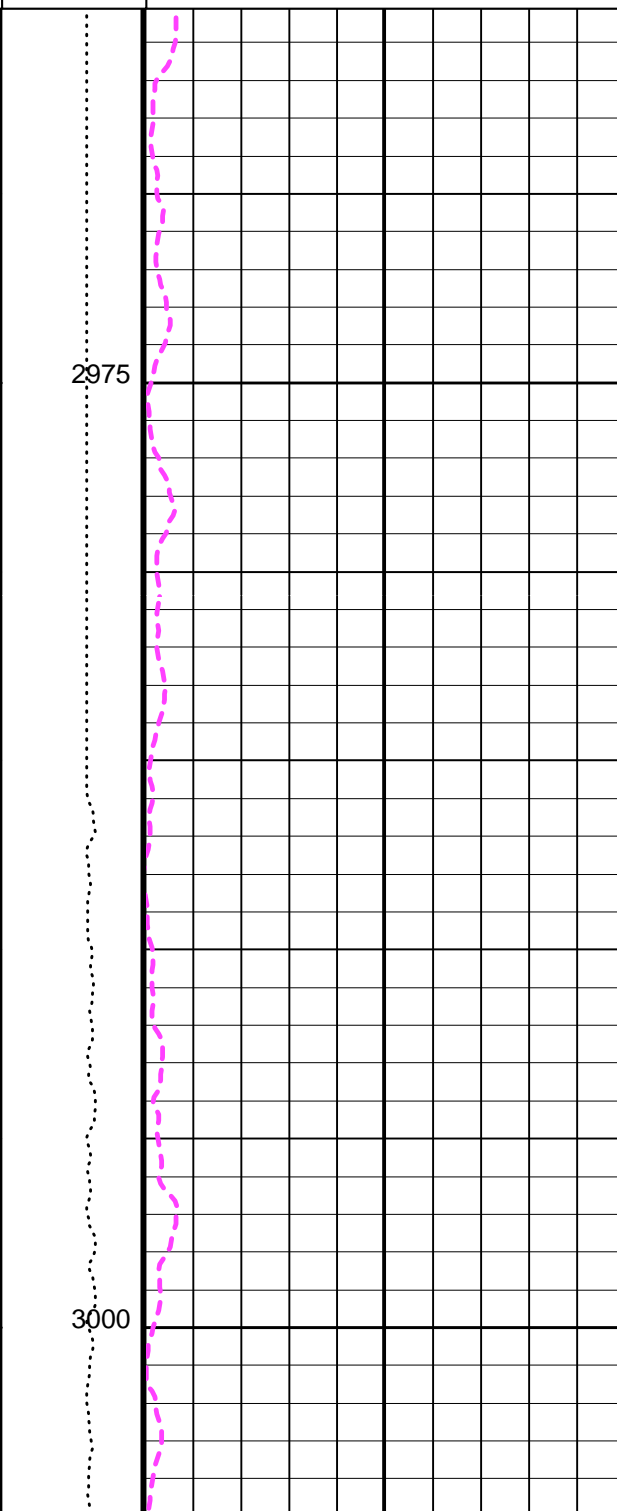
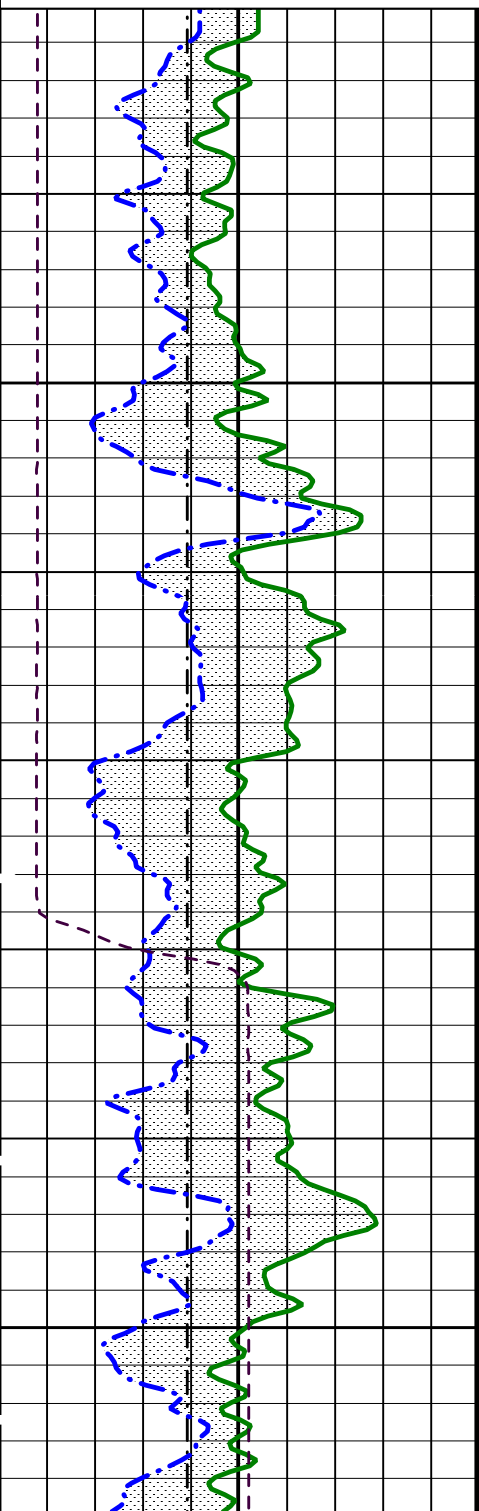
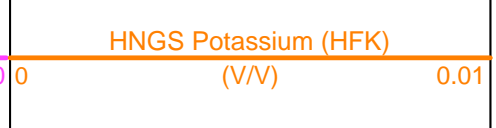
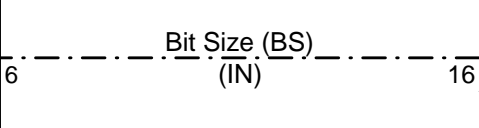
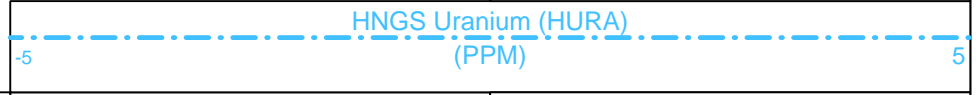
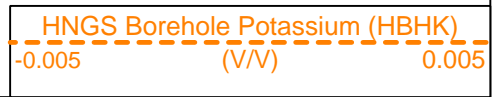
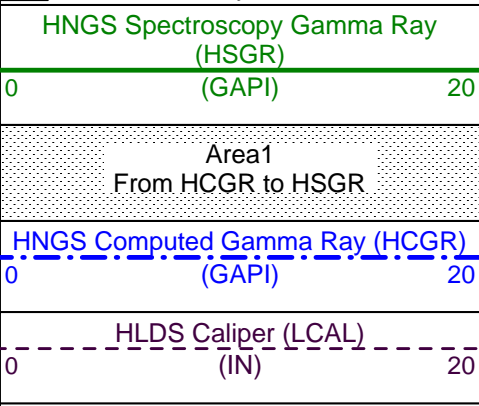
DEFAULT	AIT_LDL_APS_NGS_062PUP	FN:72	PRODUCER	02-Aug-2004 18:20	3246.1 M	2965.4 M
REDUCED	AIT_LDL_APS_NGS_062PUP	FN:73	PRODUCER	02-Aug-2004 18:20		

OP System Version: 12C0-301

MCM

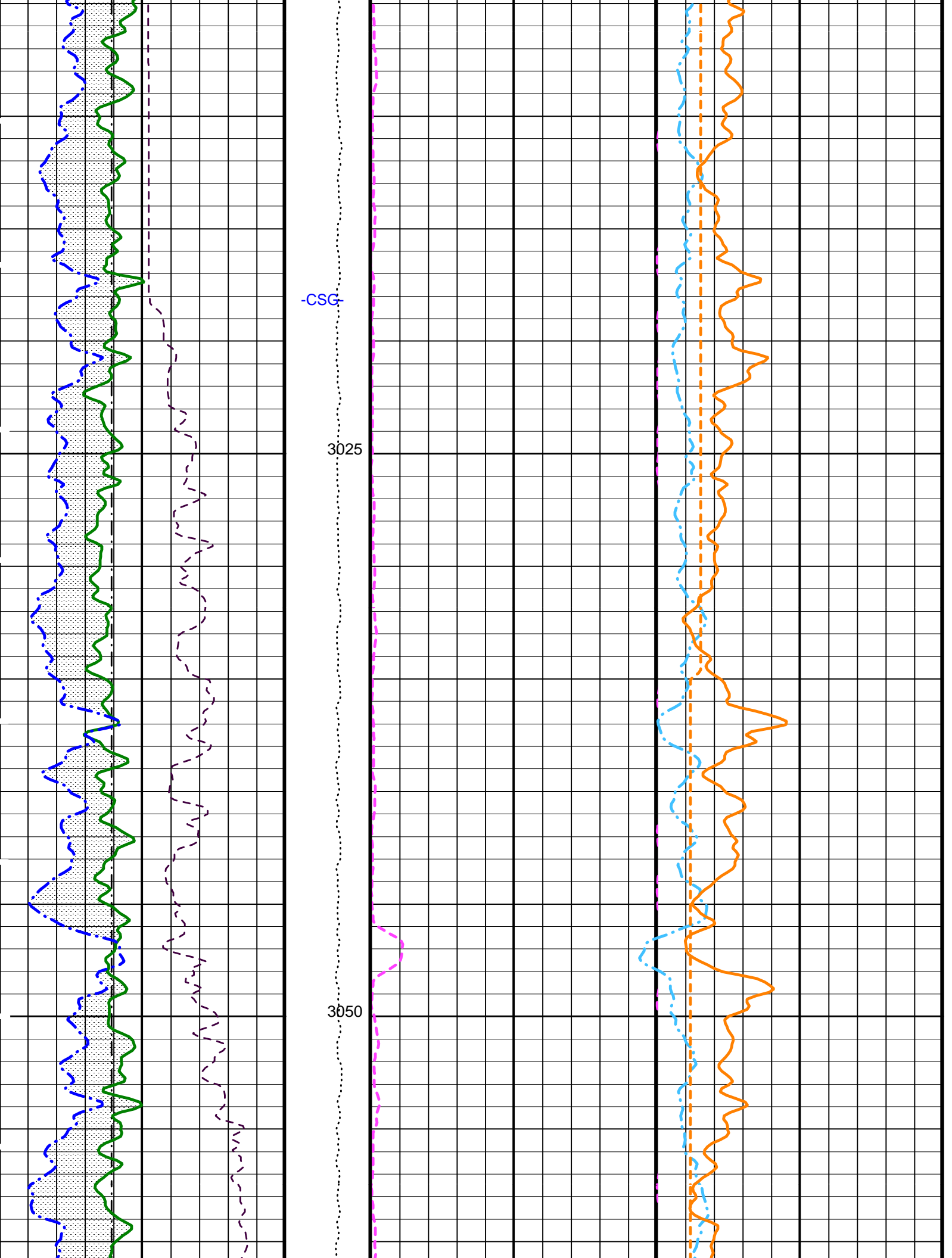
QAIT-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

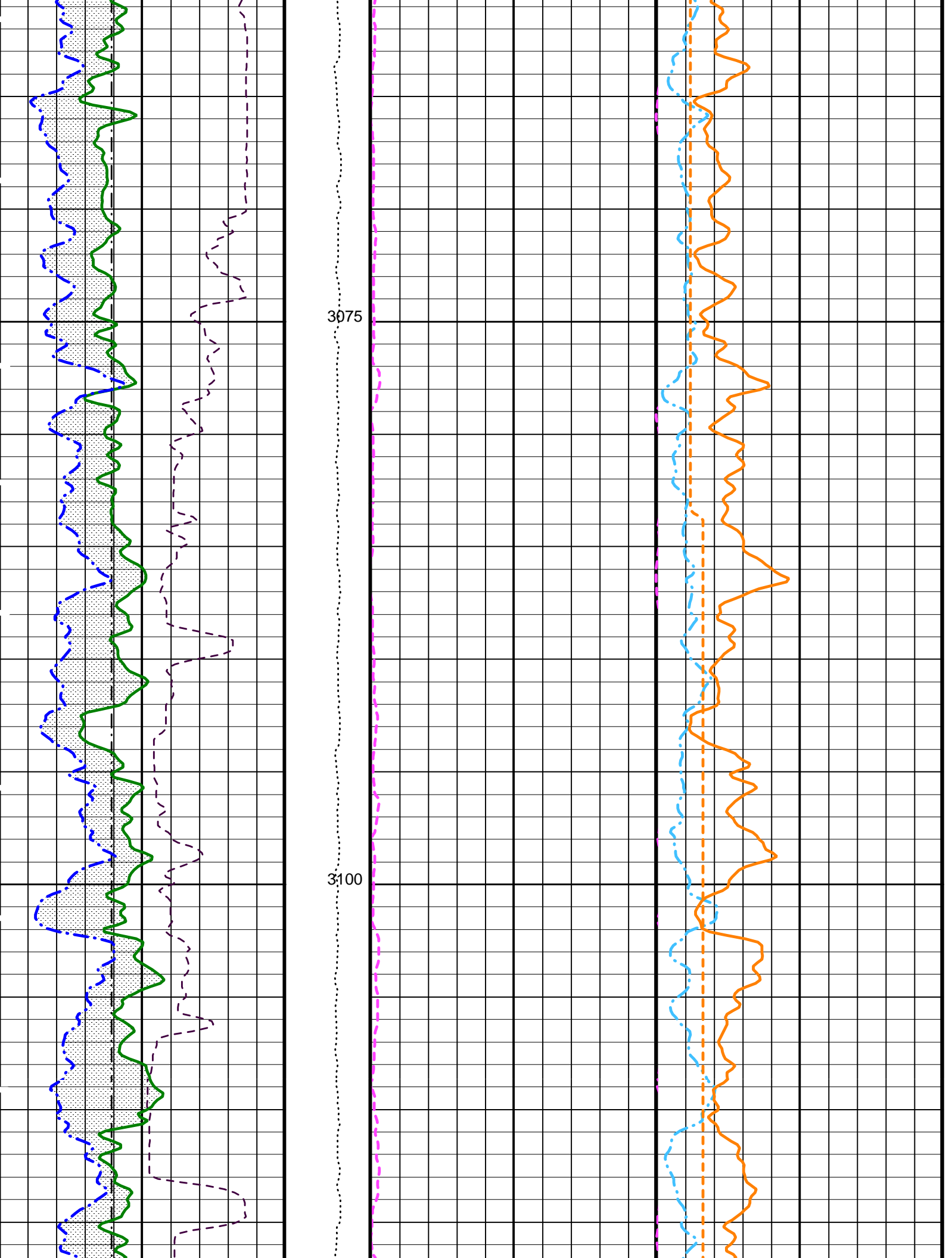
Time Mark Every 60 S

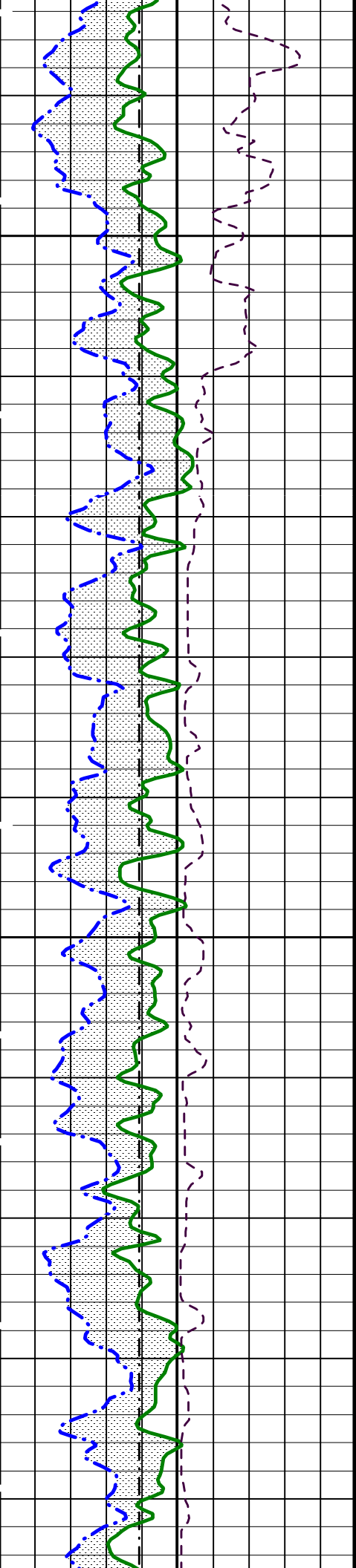


2975

3000

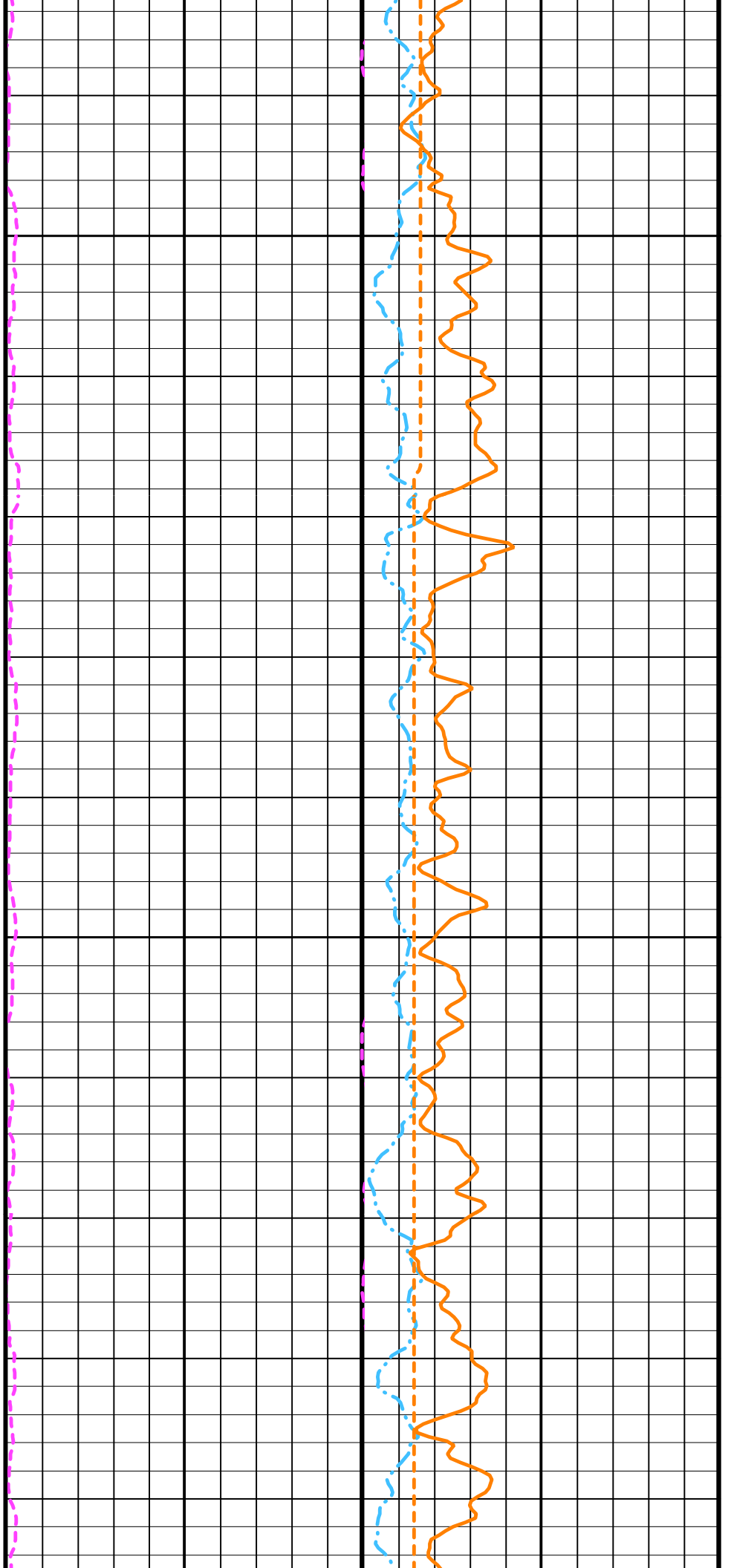


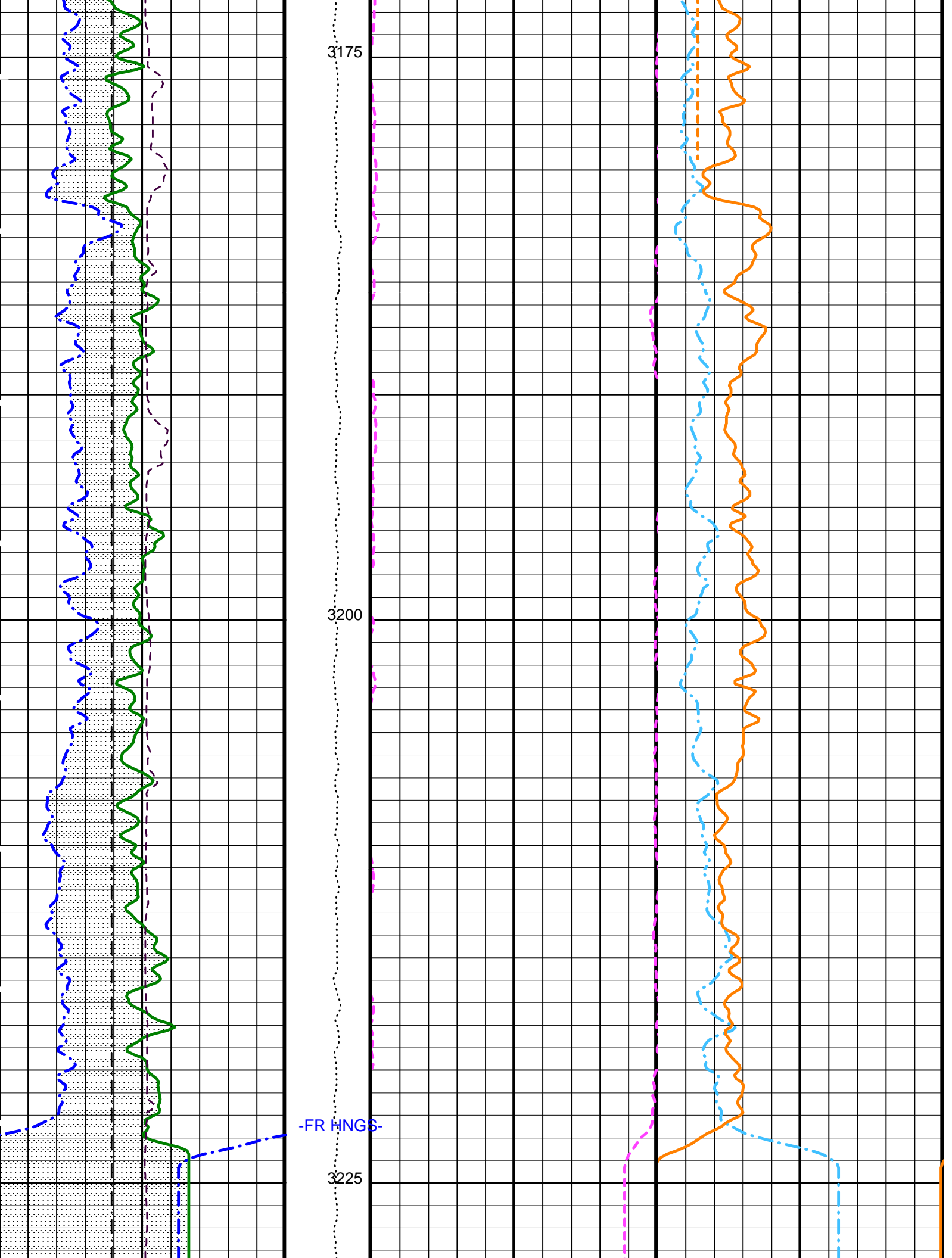


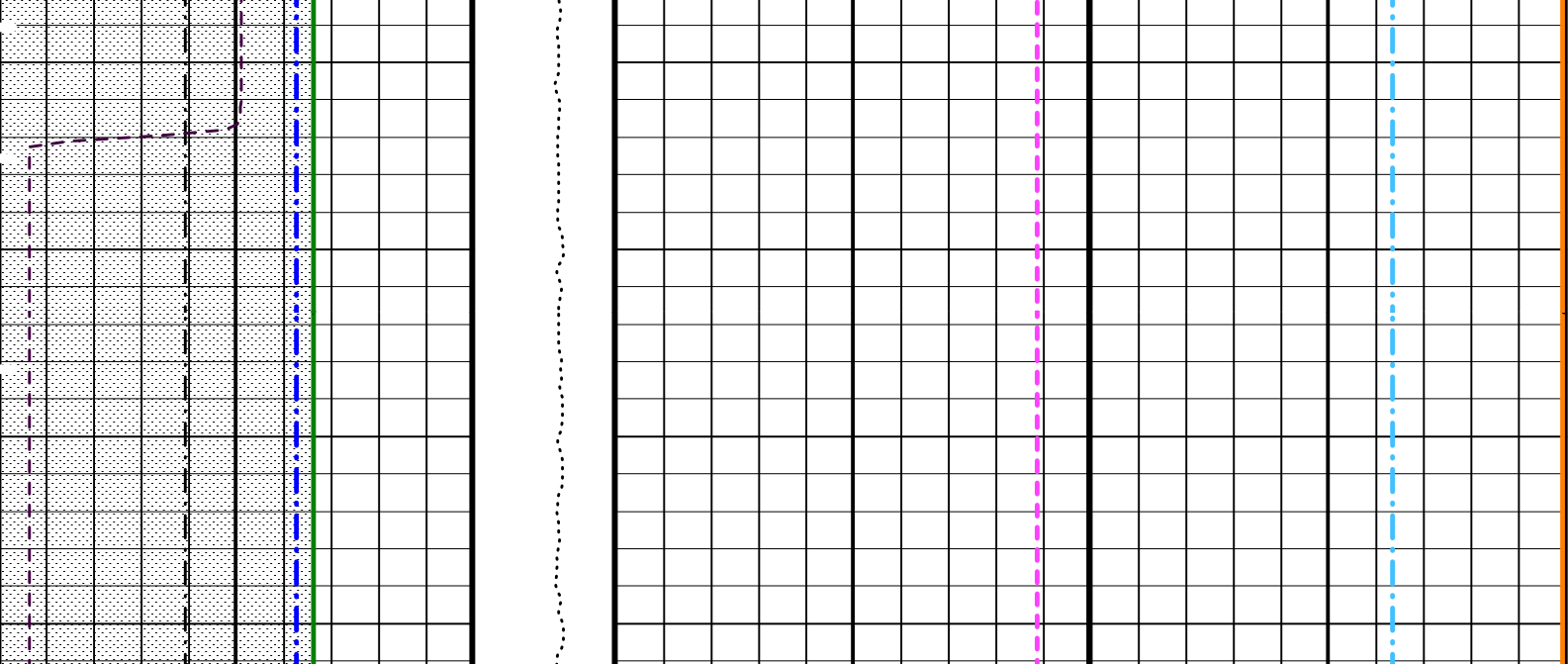


3125

3150







Bit Size (BS) (IN)	6	16	Tension (TENS) (LBF)	0	10000	0	HNGS Thorium (HTHO) (PPM)	20	HNGS Potassium (HFK) (V/V)	0	0.01
HLDS Caliper (LCAL) (IN)	0	20					HNGS Uranium (HURA) (PPM)	-5			5
HNGS Computed Gamma Ray (HCGR) (GAPI)	0	20							HNGS Borehole Potassium (HBHK) (V/V)	-0.005	0.005
Area1 From HCGR to HSGR											
HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)	0	20									

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BHS	QAIT-A: Slim Hostile Array Induction Tool - A	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	BS
BHS	APS-C: Accelerator-Porosity Tool	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	BS
	HNGS-BA: Hostile Natural Gamma Ray Sonde	
BAR1	HNGS Detector 1 Barite Constant	1
BAR2	HNGS Detector 2 Barite Constant	1
BHK	HNGS Borehole Potassium Correction Concentration	0
BHS	Borehole Status	OPEN
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
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
TPOS	Tool Position	FCCE

TPOS	Tool Position	ECC	
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
PP	Playback Processing	RECOMPUTE	

Format: HNGSYields_1 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 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

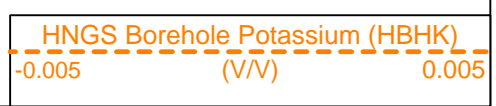
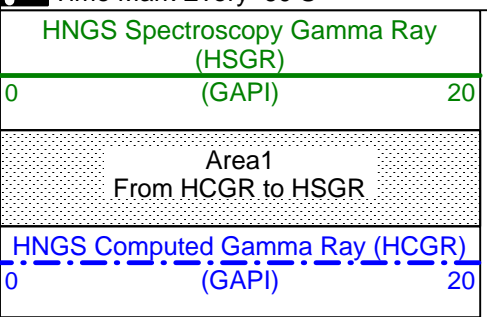
DEFAULT	AIT_LDL_APS_NGS_063PUP	FN:74	PRODUCER	02-Aug-2004 18:21	3122.7 M	2560.6 M
REDUCED	AIT_LDL_APS_NGS_063PUP	FN:75	PRODUCER	02-Aug-2004 18:21	3122.7 M	2560.5 M

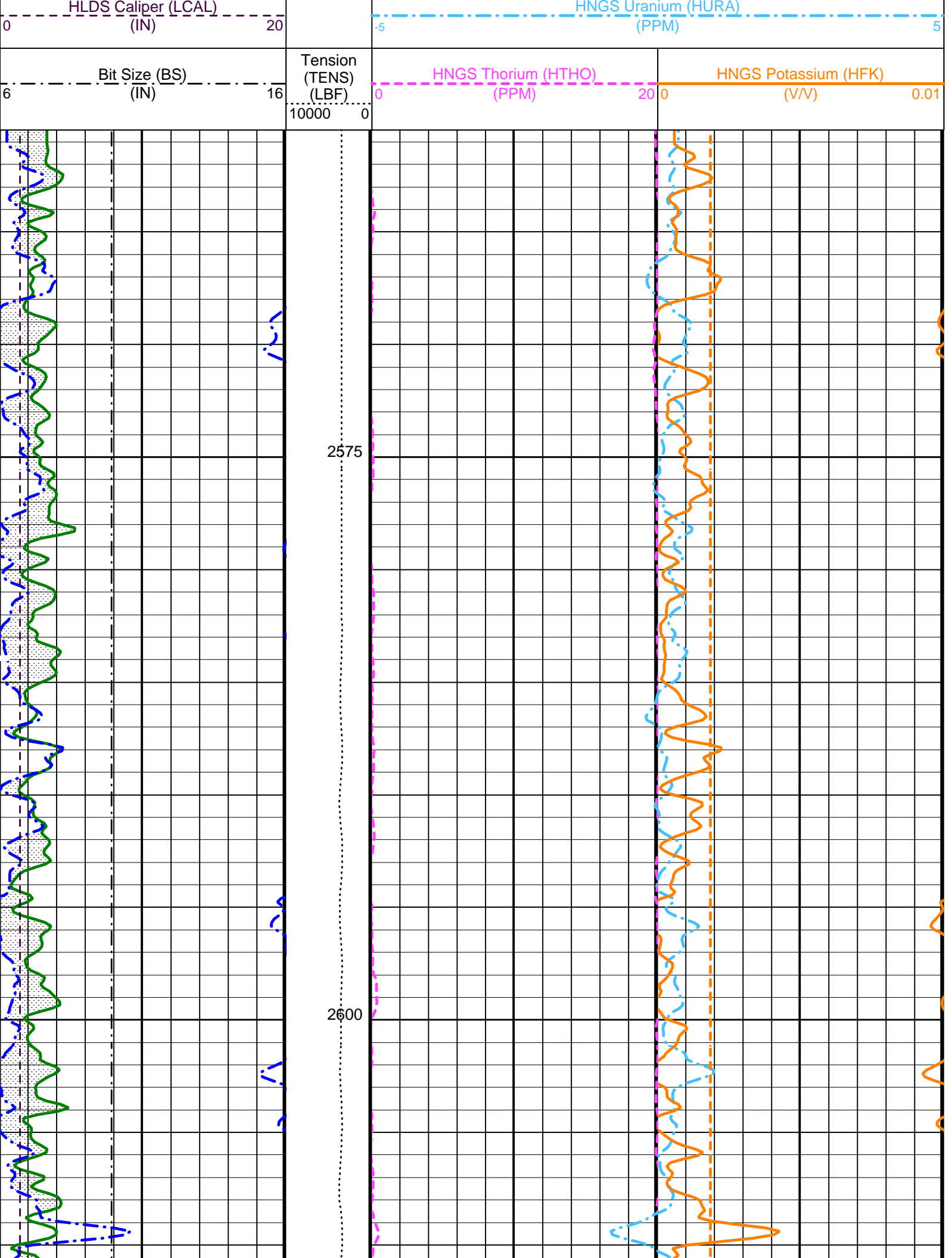
OP System Version: 12C0-301
MCM

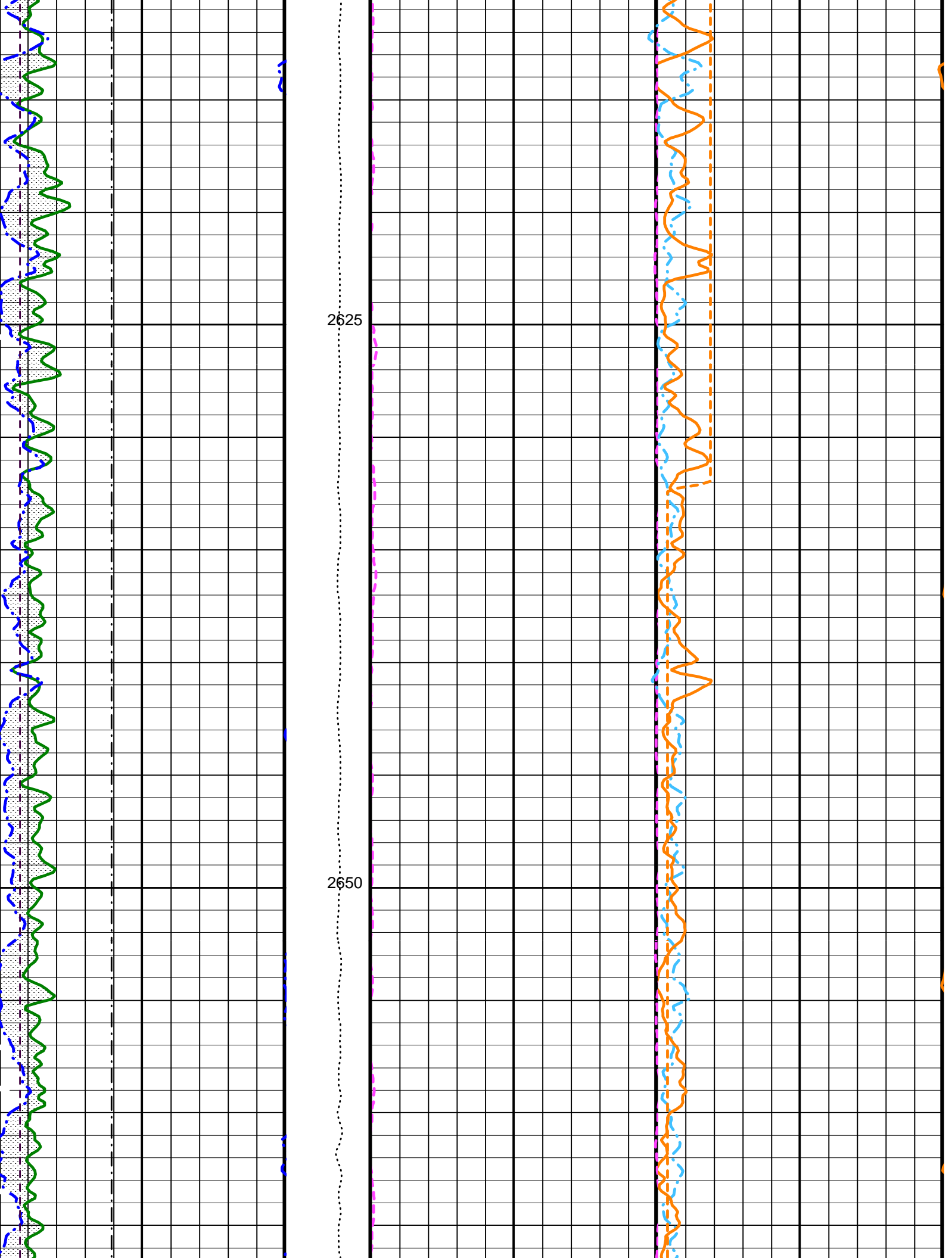
QAIT-A	12C0-301	HLDS	12C0-301
NPLC-B	12C0-301	APS-C	12C0-301
HNGS-BA	12C0-301	DTC-H	12C0-301

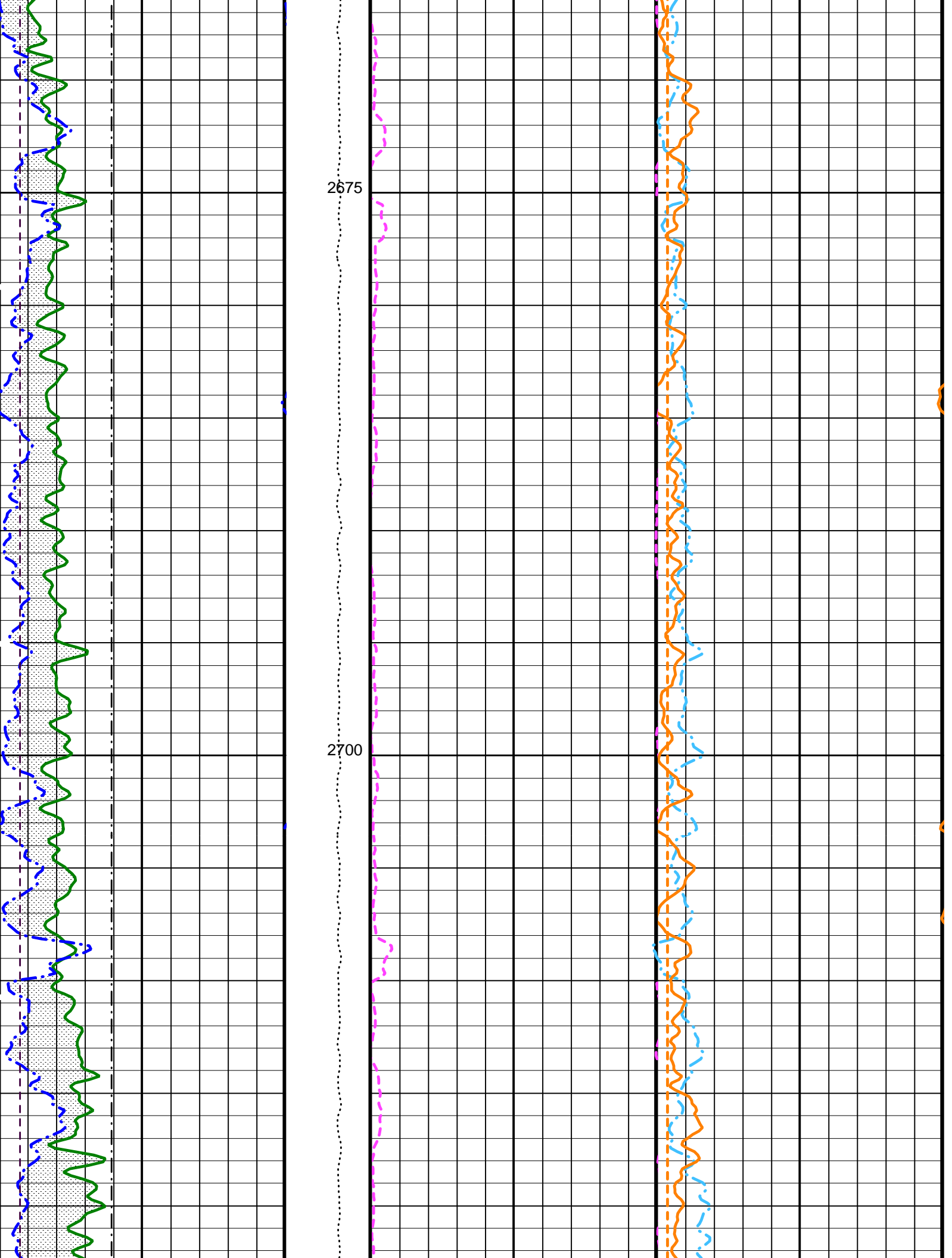
PIP SUMMARY

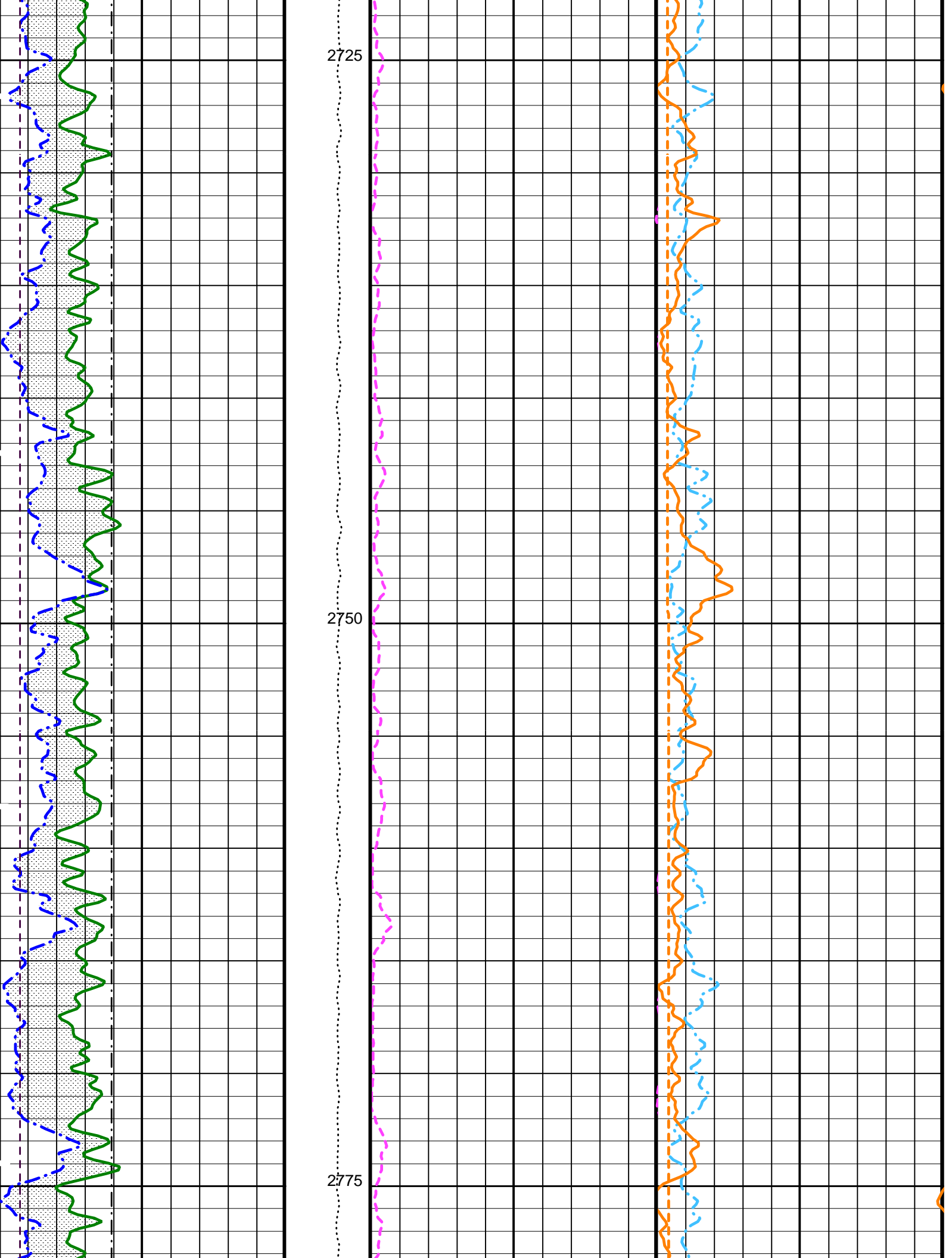
Time Mark Every 60 S

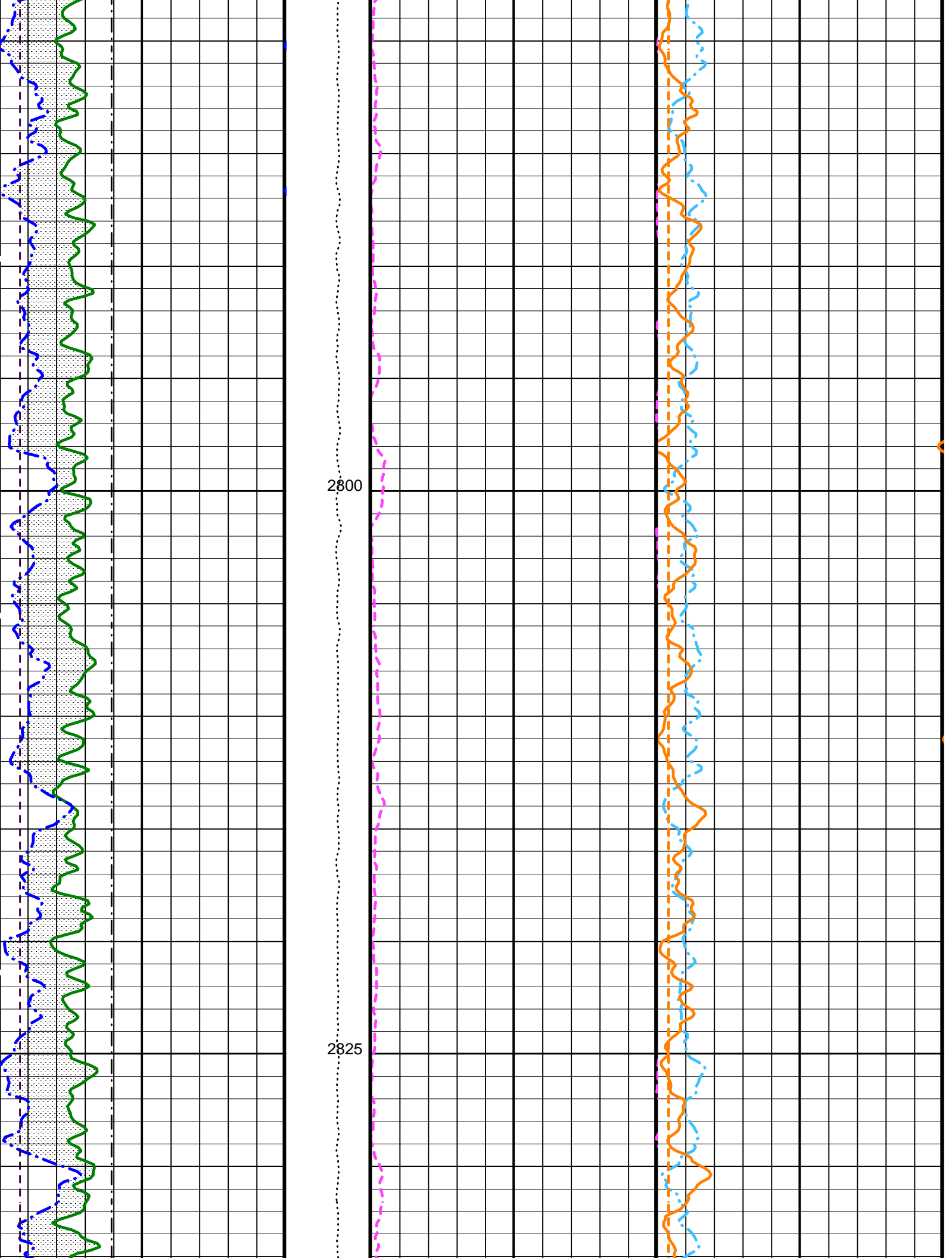


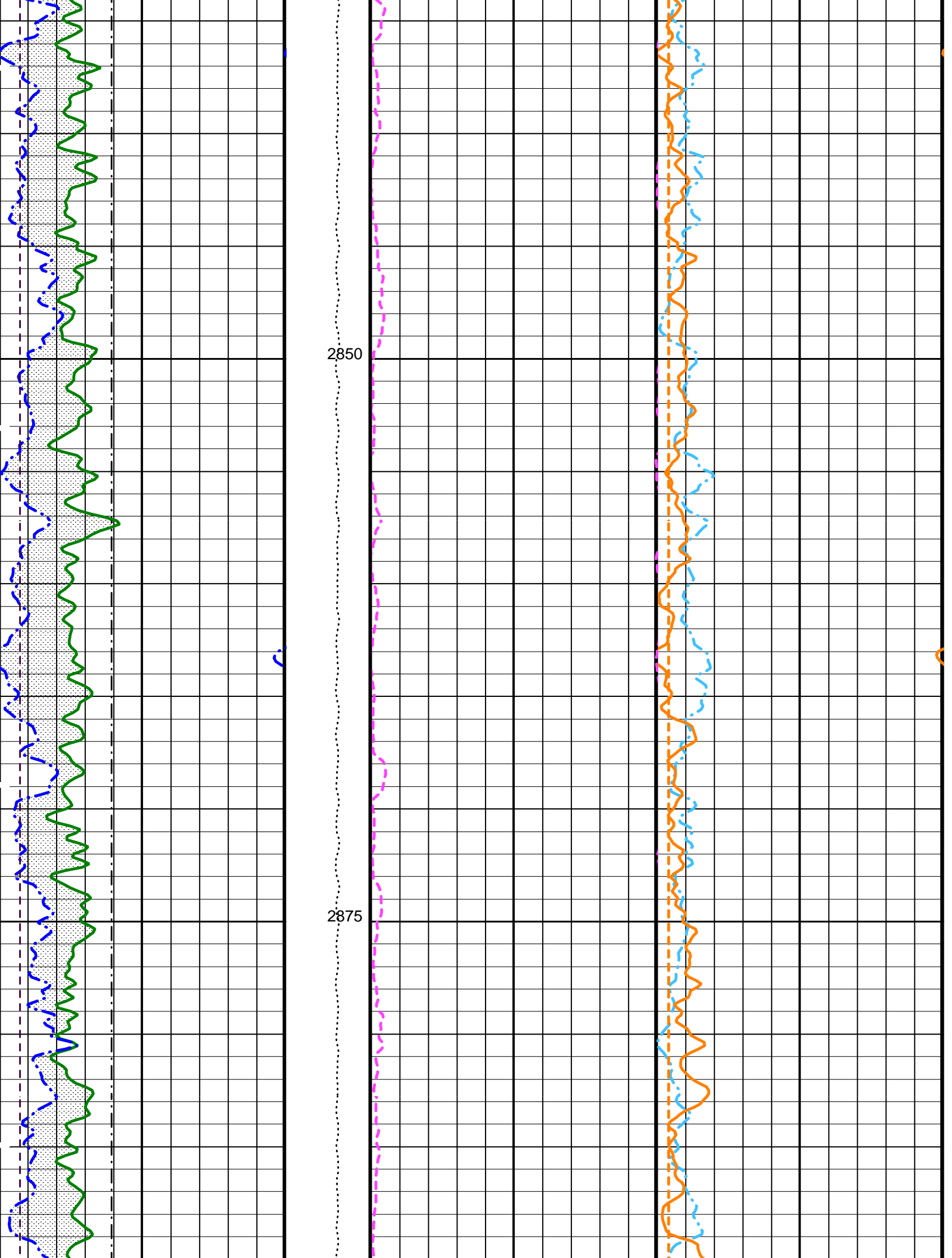


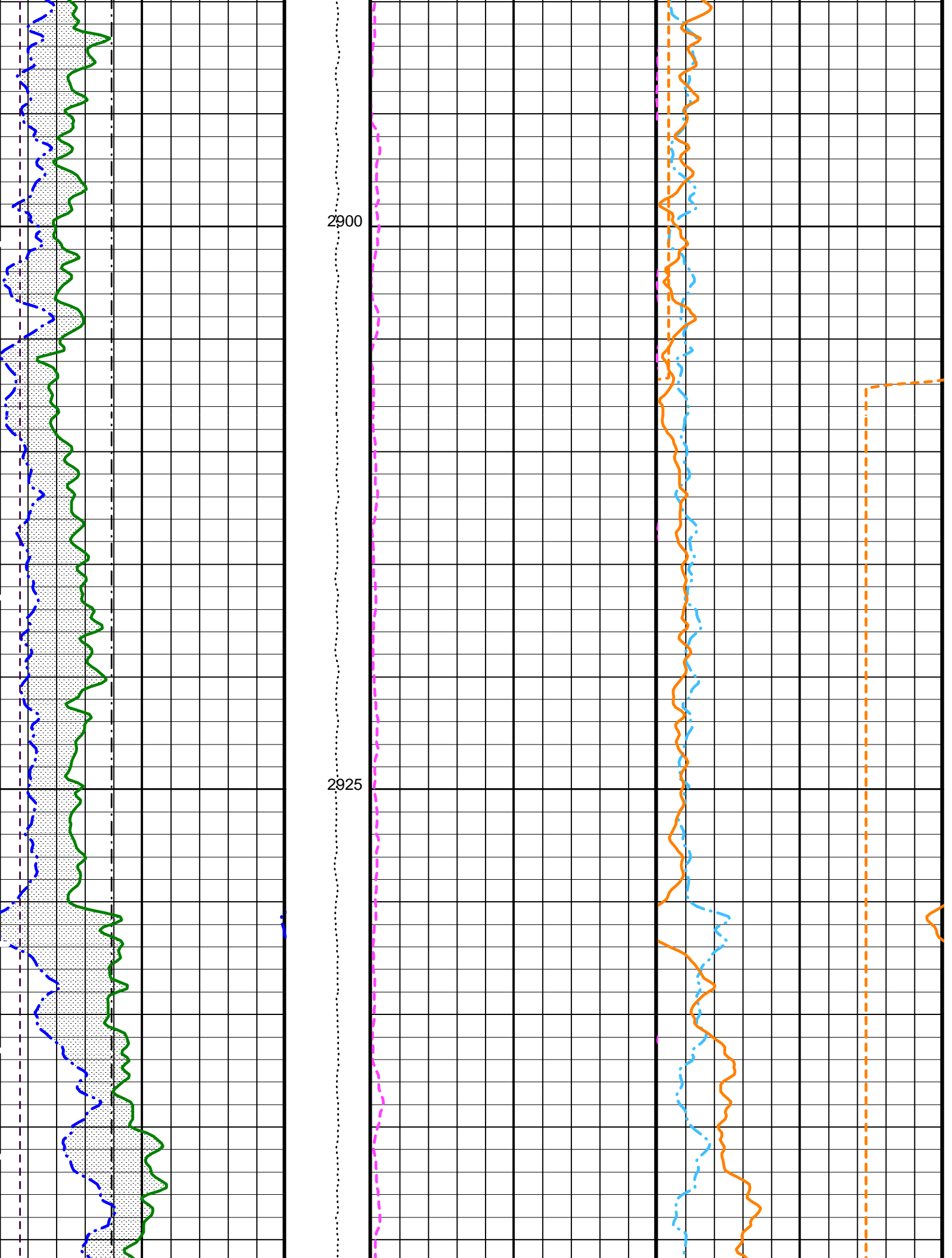


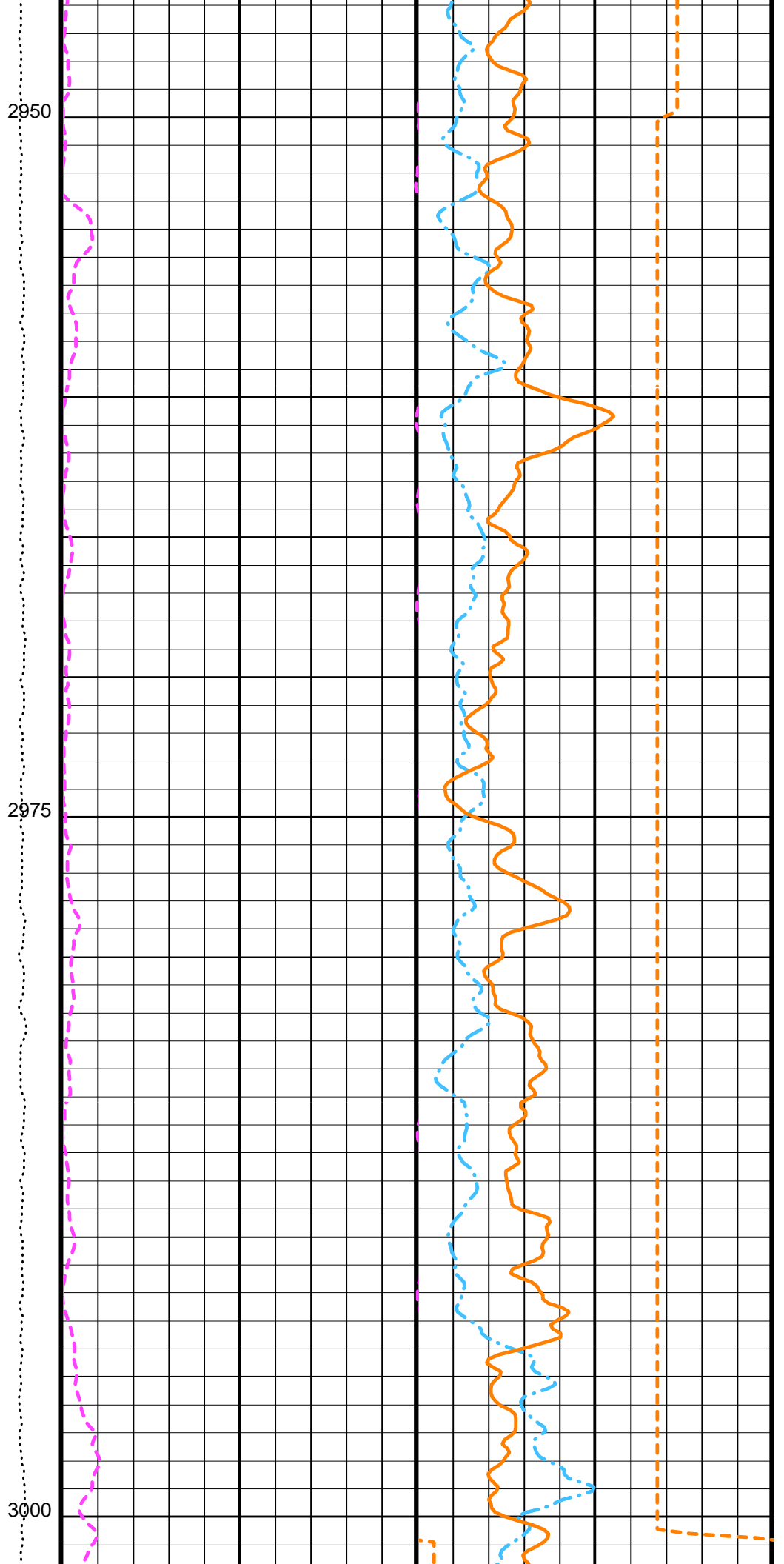
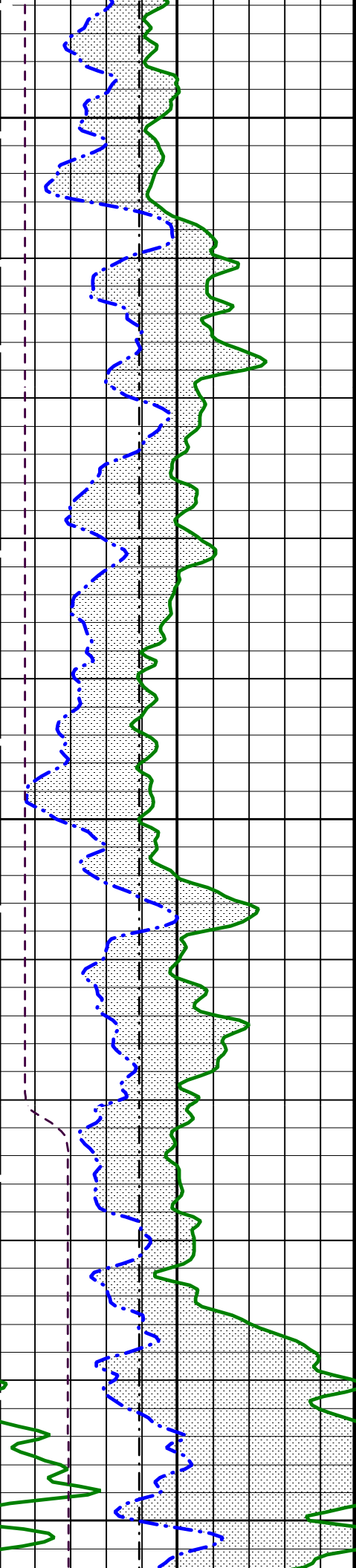


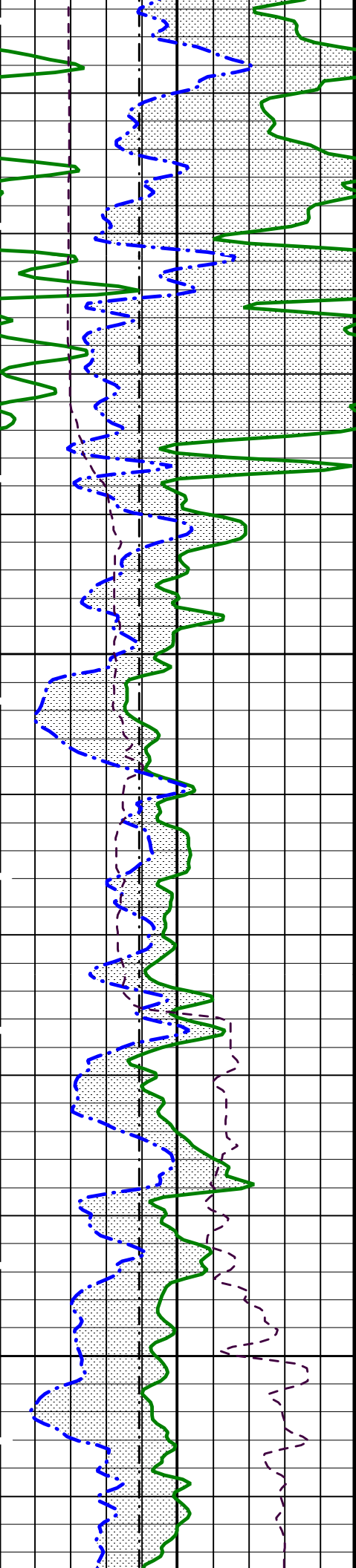






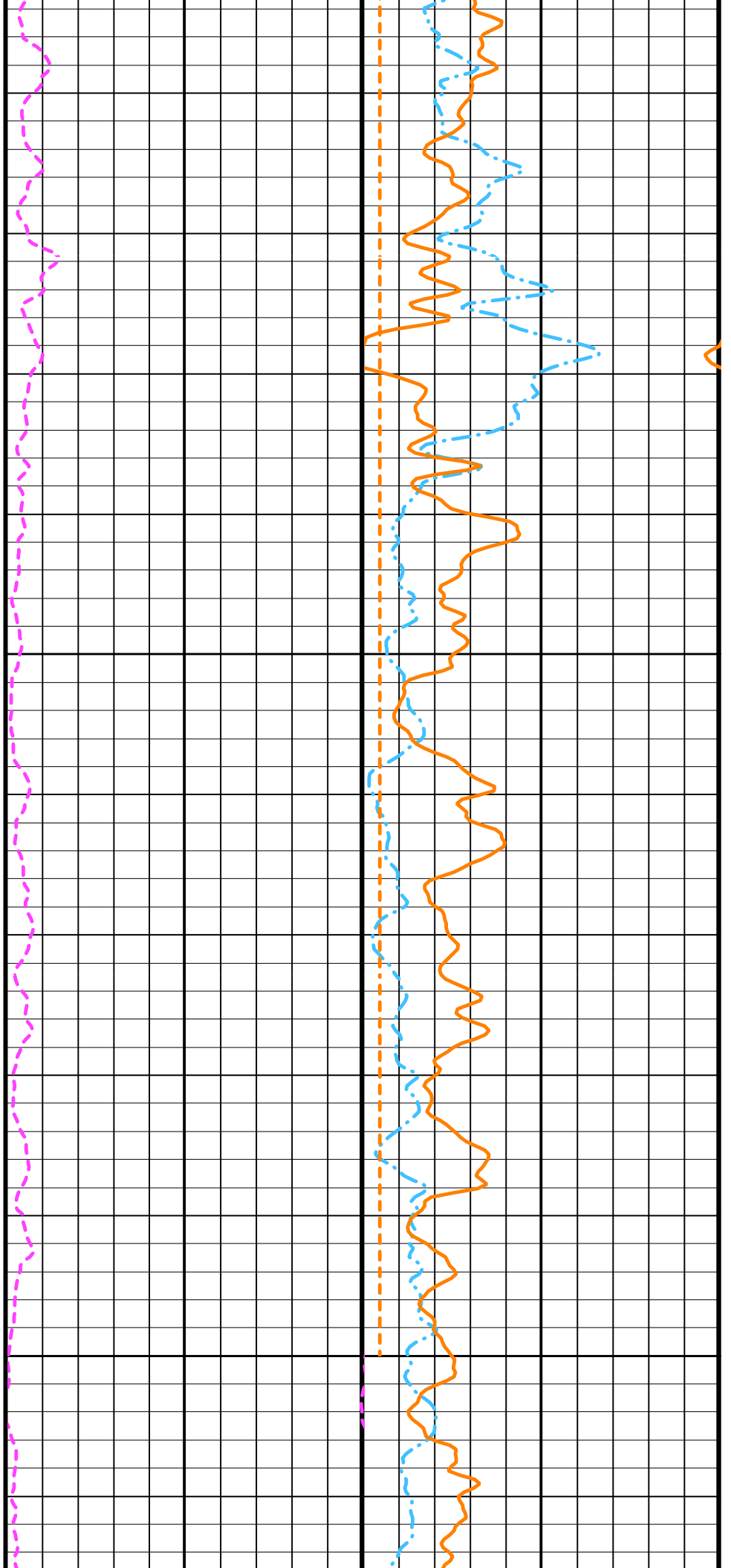


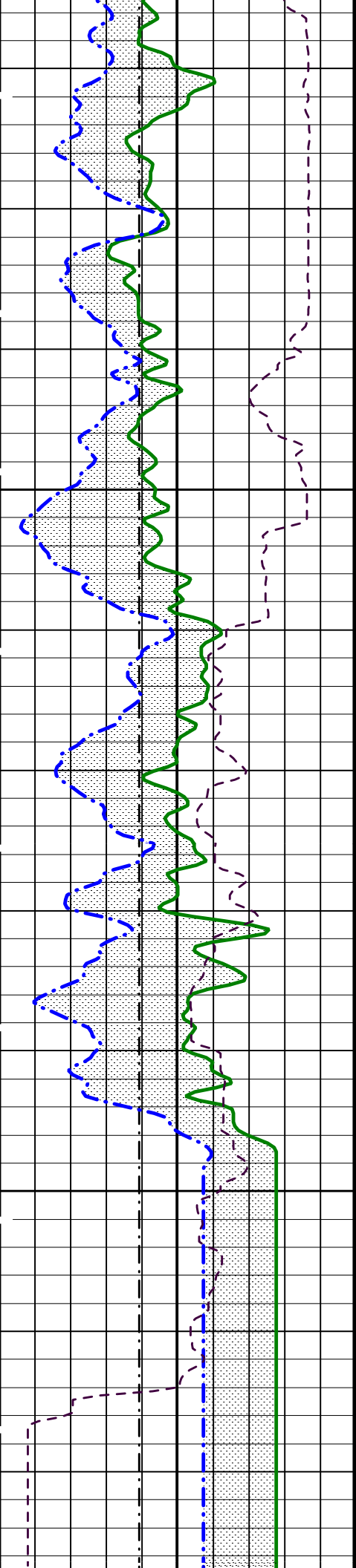




3025

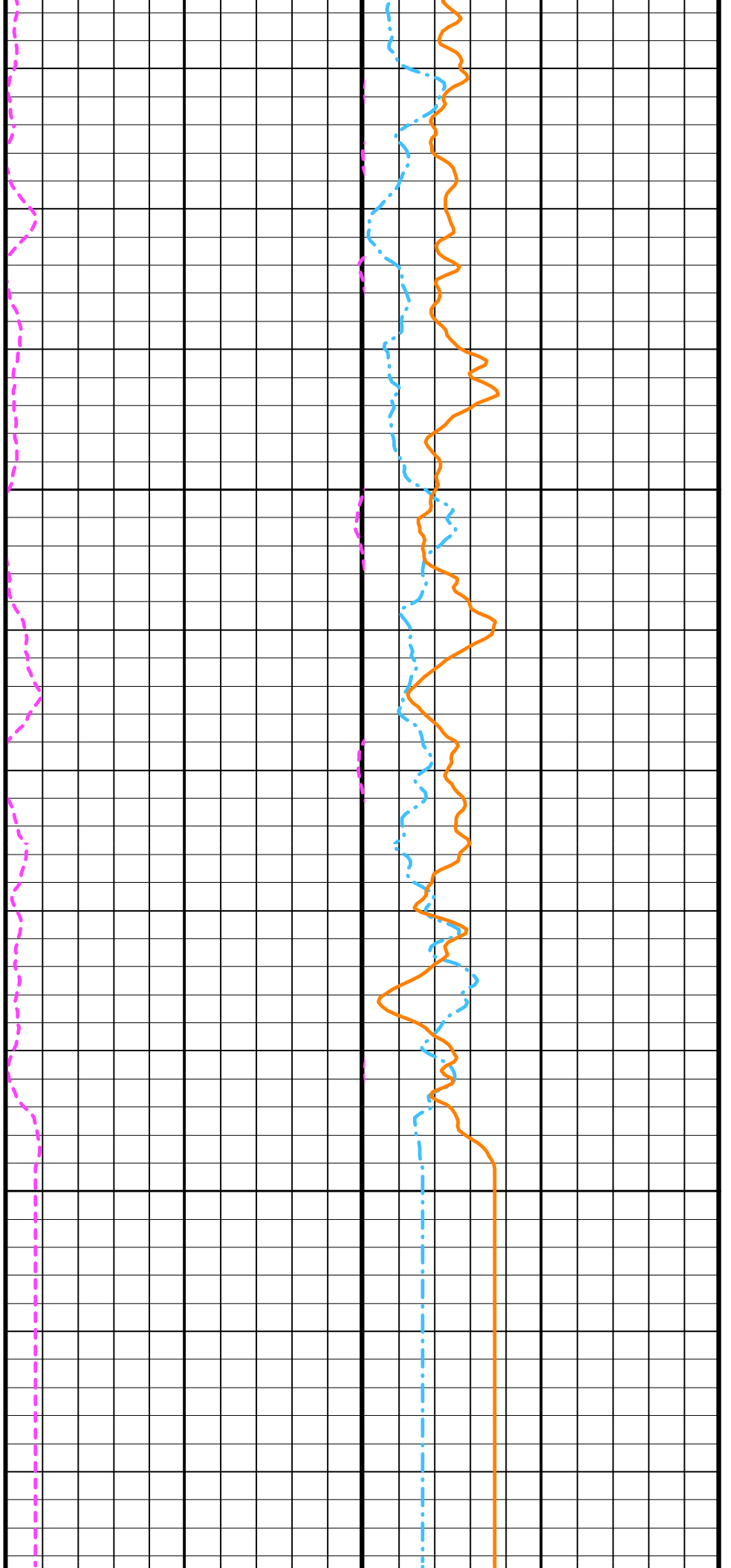
3050

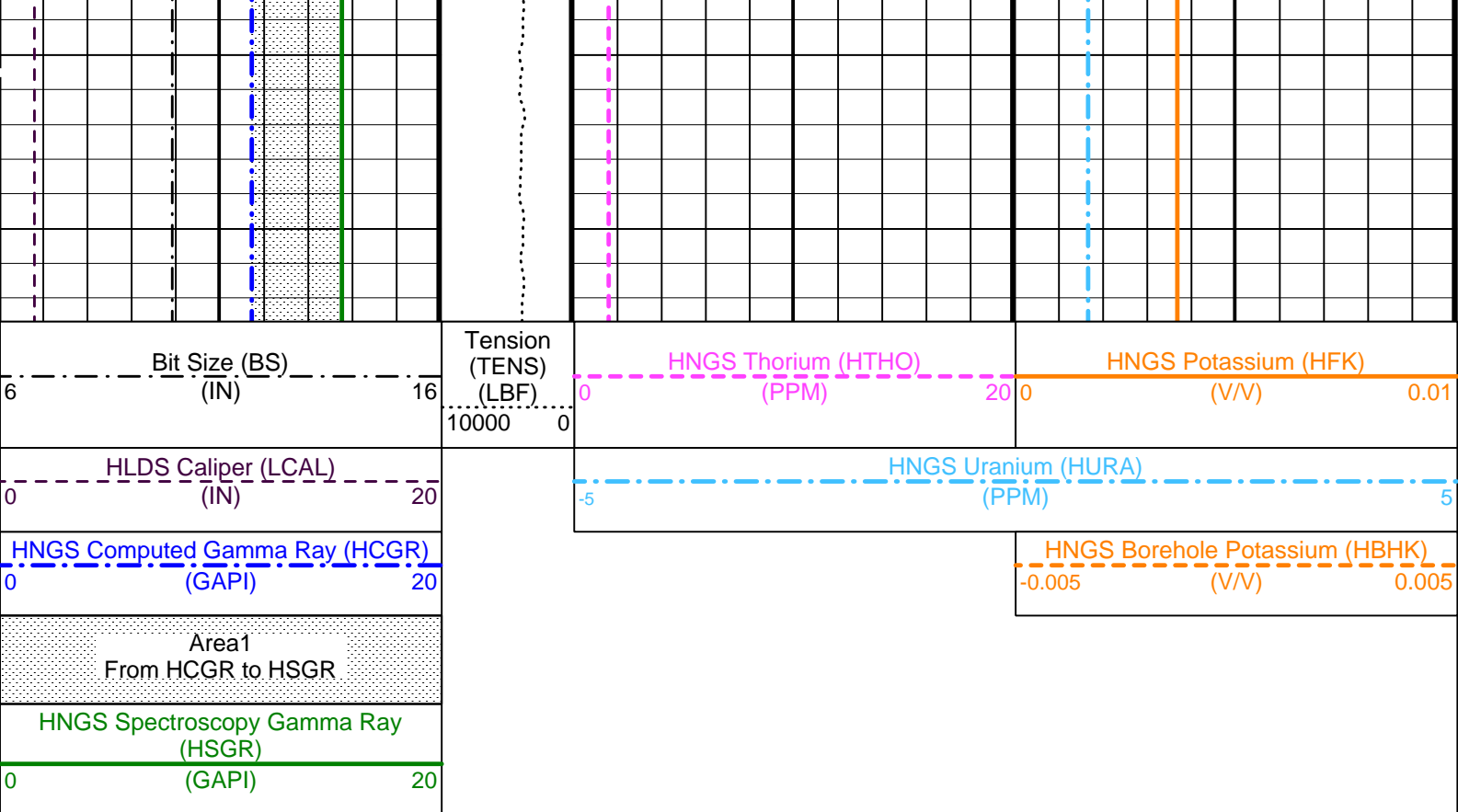




3075

3100





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BHS	QAIT-A: Slim Hostile Array Induction Tool - A	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	BS
BHS	APS-C: Accelerator-Porosity Tool	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	BS
BAR1	HNGS-BA: Hostile Natural Gamma Ray Sonde	
BAR2	HNGS Detector 1 Barite Constant	1
BHK	HNGS Detector 2 Barite Constant	1
BHS	HNGS Borehole Potassium Correction Concentration	0
CSD1	Borehole Status	OPEN
CSD2	Inner Casing Outer Diameter	0 IN
CSW1	Outer Casing Outer Diameter	0 IN
CSW2	Inner Casing Weight	0 LB/F
DBCC	Outer Casing Weight	0 LB/F
GCSE	HNGS Barite Constant Correction Flag	NONE
H1P	Generalized Caliper Selection	BS
H2P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW
HABK	HNGS Detector 2 Allow/Disallow In Processing	ALLOW
HALF	HNGS Borehole Potassium Running Average	-0.00365202
HCRB	HNGS Alpha Filter Length	60 IN
HMWM	HNGS Apply Borehole Potassium Correction	NONE
HNPE	Mud Weighting Material	NATU
S1BI	HNGS Processing Enable	YES
S2BI	HNGS Detector 1 Calibration Bismuth Count Rate	-999.25 CPS
SGRC	HNGS Detector 2 Calibration Bismuth Count Rate	-999.25 CPS
TPOS	HNGS Standard Gamma-Ray Correction Flag	YES
VBA1	Tool Position	ECCE
VBA2	HNGS Detector 1 Variable Barite Factor Running Average	0.879779
	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
PP	Playback Processing	RECOMPUTE

Format: HNGSYields_1

Vertical Scale: 1:200

Graphics File Created: 02-Aug-2004 18:21

QAIT-A 12C0-301
 NPLC-B 12C0-301
 HNGS-BA 12C0-301

HLDS 12C0-301
 APS-C 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

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
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
LSW4 Background	250.0	212.4	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	26.00	27.00	N/A	N/A	N/A	CPS

Far Det Bkg Cntrate	30.00	26.06	27.83	N/A	N/A	N/A	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	27.53	26.21	N/A	N/A	N/A	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	26.25	27.33	N/A	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	23.56	23.53	N/A	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	N/A	
Near/Array Calibration Ratio	1.030	0.9865	N/A	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	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	N/A	PU
Array-2 Standoff Porosity	11.75	11.95	N/A	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	N/A	US
Array-1 SDT Ratio Up/Down	1.000	1.003	N/A	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	N/A	
Sigma Formation	27.50	27.17	N/A	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	N/A	V
Far Detector Plateau Setting	2000	2083	N/A	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1971	N/A	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	
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	
------------------------------	-------	--------	-------	-----	-----	---------	--

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

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	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	0.1930	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9951	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	0.06180	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	1.001	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	0.1537	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	0.9957	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-0.4079	-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	-876.0 (Minimum)	-701.0 (Nominal)	-526.0 (Maximum)	-1455	-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	266.6	232.0 (Minimum)	277.0 (Nominal)	322.0 (Maximum)	348.1	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	105.3	52.30 (Minimum)	97.30 (Nominal)	142.3 (Maximum)	-77.81	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	54.58	19.30 (Minimum)	44.30 (Nominal)	69.30 (Maximum)	82.35	-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	16.88	9.800 (Minimum)	19.80 (Nominal)	29.80 (Maximum)	15.71	-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	4.192	-6.500 (Minimum)	3.500 (Nominal)	13.50 (Maximum)	-41.87	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	3.815	-0.7000 (Minimum)	4.300 (Nominal)	9.300 (Maximum)	1.960	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.3850	-4.670 (Minimum)	0.3300 (Nominal)	5.330 (Maximum)	-8.263	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)

Master: 11-Jun-2004 18:01

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	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	1.020	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.021	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	1.020	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.021	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	1.020	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 11-Jun-2004 18:01

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	Nominal
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)

Master: 11-Jun-2004 18:01

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)	

Master: 11-Jun-2004 18:01

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		V	0.6556		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
1	1.030		V	0.8656		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
2	1.008		V	0.2043		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
3	1.001		V	0.1728		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
4	0.9987		V	0.1930		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
5	0.9951		V	0.06180		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
6	1.001		V	0.1537		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		
			-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
7	0.9957		V	-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 Master Calibration						
Sonde Error Correction						
Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M		
0	-566.5		R	-1455		
		-876.0 (Minimum)	-701.0 (Nominal)	-526.0 (Maximum)		
			-2250 (Minimum)	0 (Nominal)	2250 (Maximum)	
1	266.6		R	348.1		
		232.0 (Minimum)	277.0 (Nominal)	322.0 (Maximum)		
			-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)	
2	105.3		R	-77.81		
		52.30 (Minimum)	97.30 (Nominal)	142.3 (Maximum)		
			-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)	
3	54.58		R	82.35		
		19.30 (Minimum)	44.30 (Nominal)	69.30 (Maximum)		
			-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)	

4	16.88	9.800 (Minimum)	19.80 (Nominal)	29.80 (Maximum)	15.71	-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	4.192	-6.500 (Minimum)	3.500 (Nominal)	13.50 (Maximum)	-41.87	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	3.815	-0.7000 (Minimum)	4.300 (Nominal)	9.300 (Maximum)	1.960	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.3850	-4.670 (Minimum)	0.3300 (Nominal)	5.330 (Maximum)	-8.263	-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	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	1.020	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	1.021	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	1.020	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	1.021	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	1.020	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 11-Jun-2004 18:01

Hostile Litho-Density Sonde / Equipment Identification

Primary Equipment:

Hostile Litho Density Sonde	HLDS - D	35
Hostile Litho Density High Voltage	HLDV - D	35
Gamma Source Radioactive	GSR - Z	2326

Auxiliary Equipment:

Hostile Litho Density Pad	HLDP - C	35
Hostile Litho Density High Voltage Housi	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	
Master	8.422	8.422	Master	8.036	8.036	Master	82.68	82.68	
Before	8.375	8.375	Before	7.997	7.997	Before	82.70	82.70	
	7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)	7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)	55.00 (Minimum)	100.0 (Nominal)	150.0 (Maximum)
Phase	LSW2 Background CPS	Value	Phase	LSW3 Background CPS	Value	Phase	LSW4 Background CPS	Value	
Master	76.07	76.07	Master	172.2	172.2	Master	212.4	212.4	
Before	75.57	75.57	Before	170.1	170.1	Before	210.6	210.6	
	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	LSW5 Background CPS	Value	Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	
Master	473.3	473.3	Master	80.33	80.33	Master	142.1	142.1	
Before	475.6	475.6	Before	80.89	80.89	Before	143.3	143.3	
	330.0 (Minimum)	600.0 (Nominal)	830.0 (Maximum)	55.00 (Minimum)	100.0 (Nominal)	150.0 (Maximum)	100.0 (Minimum)	200.0 (Nominal)	260.0 (Maximum)
Phase	SSW3 Background CPS	Value	Phase	SSW4 Background CPS	Value	Phase	SSW5 Background CPS	Value	
Master	384.0	384.0	Master	206.5	206.5	Master	146.5	146.5	
Before	382.8	382.8	Before	205.6	205.6	Before	148.8	148.8	
	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)

Master: 12-Jun-2004 14:54

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
Master		82.68	Master		76.07	Master		172.2
	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)	
Phase	LSW4 Background CPS	Value	Phase	LSW5 Background CPS	Value	Phase	LS Cs Resolution Bkg %	Value
Master		212.4	Master		473.3	Master		8.036
	140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum)			330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum)			7.000 (Minimum) 9.000 (Nominal) 11.00 (Maximum)	
Phase	SSW1 Background CPS	Value	Phase	SSW2 Background CPS	Value	Phase	SSW3 Background CPS	Value
Master		80.33	Master		142.1	Master		384.0
	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)	
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) 11.00 (Maximum)	

Master: 12-Jun-2004 14:54

Hostile Litho-Density Sonde Master Calibration

Detector Aluminum Measurement (bkgd-subtracted)

Phase	LSW1 Aluminum CPS	Value	Phase	LSW2 Aluminum CPS	Value	Phase	LSW3 Aluminum CPS	Value
Master		569.4	Master		857.9	Master		1046
	420.0 (Minimum) 600.0 (Nominal) 700.0 (Maximum)			650.0 (Minimum) 900.0 (Nominal) 1050 (Maximum)			800.0 (Minimum) 1100 (Nominal) 1300 (Maximum)	
Phase	LSW4 Aluminum CPS	Value	Phase	LSW5 Aluminum CPS	Value	Phase	SSW1 Aluminum CPS	Value
Master		524.0	Master		489.0	Master		2464
	410.0 (Minimum) 580.0 (Nominal) 670.0 (Maximum)			410.0 (Minimum) 570.0 (Nominal) 660.0 (Maximum)			2000 (Minimum) 2800 (Nominal) 3200 (Maximum)	
Phase	SSW2 Aluminum CPS	Value	Phase	SSW3 Aluminum CPS	Value	Phase	SSW4 Aluminum CPS	Value
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	HNSH - BA	79
	Gamma Source Radioactive	GSR - U	135

Hostile Natural Gamma Ray Sonde Wellsite Calibration											
Detector 1 Check											
Phase	Na 511 Peak Loc		Value	Phase	Na 511 Peak Res %		Value	Phase	High Voltage V		Value
Master			40.71	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								

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								
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

Schlumberger

Well: Site 1301B

Field: Expedition 301

County: Juan de Fuca

State: Oregon

Hostile Natural Gamma Ray Sonde