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Company: **Lamont Doherty**

Well: **NGHP–01–17B**
Field: **Andaman Sea**
Rig: **Joides Resolution** Ocean:

Hostile Natural Gamma–Ray

Rig: Joides Resolution
Field: Andaman Sea
Location:
Well: NGHP–01–17B
Company: Lamont Doherty

LOCATION

		Elev.: K.B.	11.3 m
		G.L.	–1356 m
		D.F.	11 m
Permanent Datum:	Mean Sea Level	Elev.:	0 m
Log Measured From:	Drill Floor	11.0 m	above Perm. Datum
Drilling Measured From:	Drill Floor		

API Serial No.	Latitude: 10* 45.1912' N	Longitude 93* 06.7365' E	

Logging Date			28–Jul–2006					Logging Date
Run Number			One					Run Number
Depth Driller			2074 m					Depth Driller
Schlumberger Depth			2075 m					Schlumberger Depth
Bottom Log Interval			2075 m					Bottom Log Interval
Top Log Interval			1356 m					Top Log Interval
Casing Driller Size @ Depth			0.000 in @ 1616 m			@		Casing Driller Size @ Depth
Casing Schlumberger			1616 m					Casing Schlumberger
Bit Size			11.438 in					Bit Size
Type Fluid In Hole			Barite					Type Fluid In Hole
MUD	Density	Viscosity	1.07 g/cm3					MUD Density / Viscosity
MUD	Fluid Loss	PH						MUD Fluid Loss / PH
MUD	Source Of Sample							MUD Source Of Sample
RM @ Measured Temperature			@			@		RM @ Measured Temperature
RMF @ Measured Temperature			@			@		RMF @ Measured Temperature
RMC @ Measured Temperature			@			@		RMC @ Measured Temperature
Source RMF	RMC							Source RMF / RMC
RM @ MRT	RMF @ MRT		@	@		@	@	RM @ MRT / RMF @ MRT
Maximum Recorded Temperatures								Maximum Recorded Temperatures
Circulation Stopped		Time	28–Jul–2006	6:00				Circulation Stopped / Time
Logger On Bottom		Time	28–Jul–2006	16:54				Logger On Bottom / Time
Unit Number	Location		2082	Webster, TX				Unit Number / Location
Recorded By			Javier Espinosa					Recorded By
Witnessed By			Gilles Guerin, Indrajit Dutta					Witnessed By

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	OTHER SERVICES2
OS1: HLDS	OS1:
OS2: APS	OS2:
OS3: DITE	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
All parameters and presentations as per client request	
Tool ran as per tool sketch below	
Down log presented as repat pass as per client request.	
No APS recorded on downolg	
Caliper closed at 1647 mbrf to avoid toll damage entering drill pipe	

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

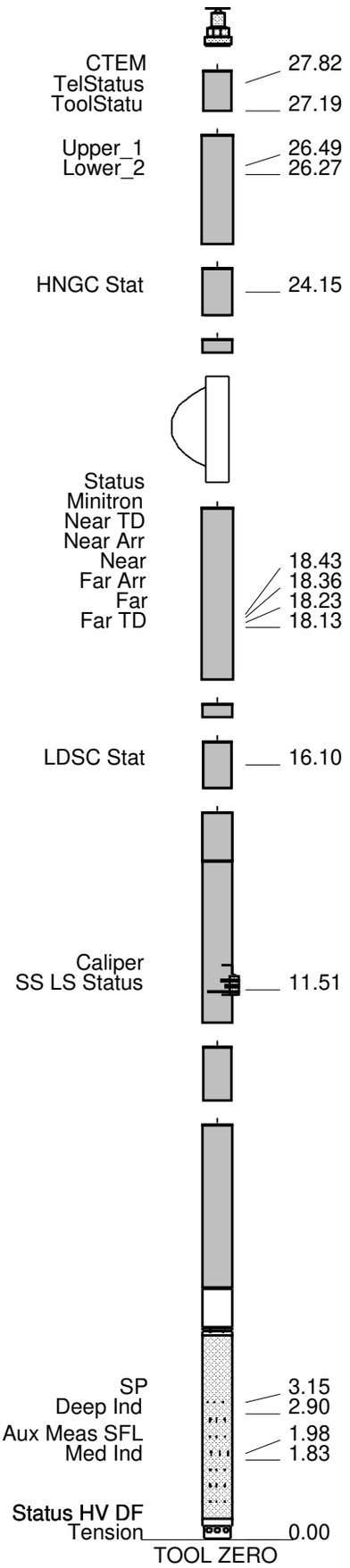
EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

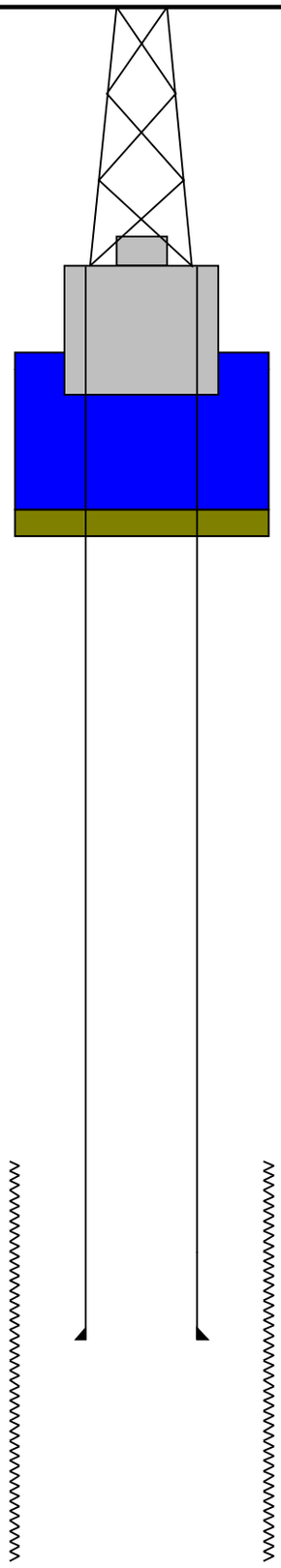
SFT−281 6250
SFT−178 6250
GSR−U 135
WITM (DTS)−A

DOWNHOLE EQUIPMENT



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

Production String	(in) OD	(in) ID	(m) MD	Well Schematic	(m) MD	(in) OD	(in) ID	Casing String
Kelly Bushing Elevation			11.3					
Derrick Floor Elevation			11.0		11.0	5.000		Drill Pipe
Mean Sea Level			0.0					
					1356.0	11.438		Borehole Segment
					1626.0	5.000		Drill Pipe
					2074.0	11.438		Total Depth



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MAIN PASS

MAXIS Field Log

Company: Lamont Doherty **Well: NGHP–01–17B**

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_043LUP	FN:55	PRODUCER	28–Jul–2006 16:52	2075.7 M	1572.6 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_065PUP	FN:1	PRODUCER	12–Aug–2006 14:20	2075.7 M	1577.5 M
REDUCED	PI_LDL_APS_NGS_065PUP	FN:2	PRODUCER	12–Aug–2006 14:20	2075.7 M	1577.5 M

OP System Version: 12C0–301

MCM

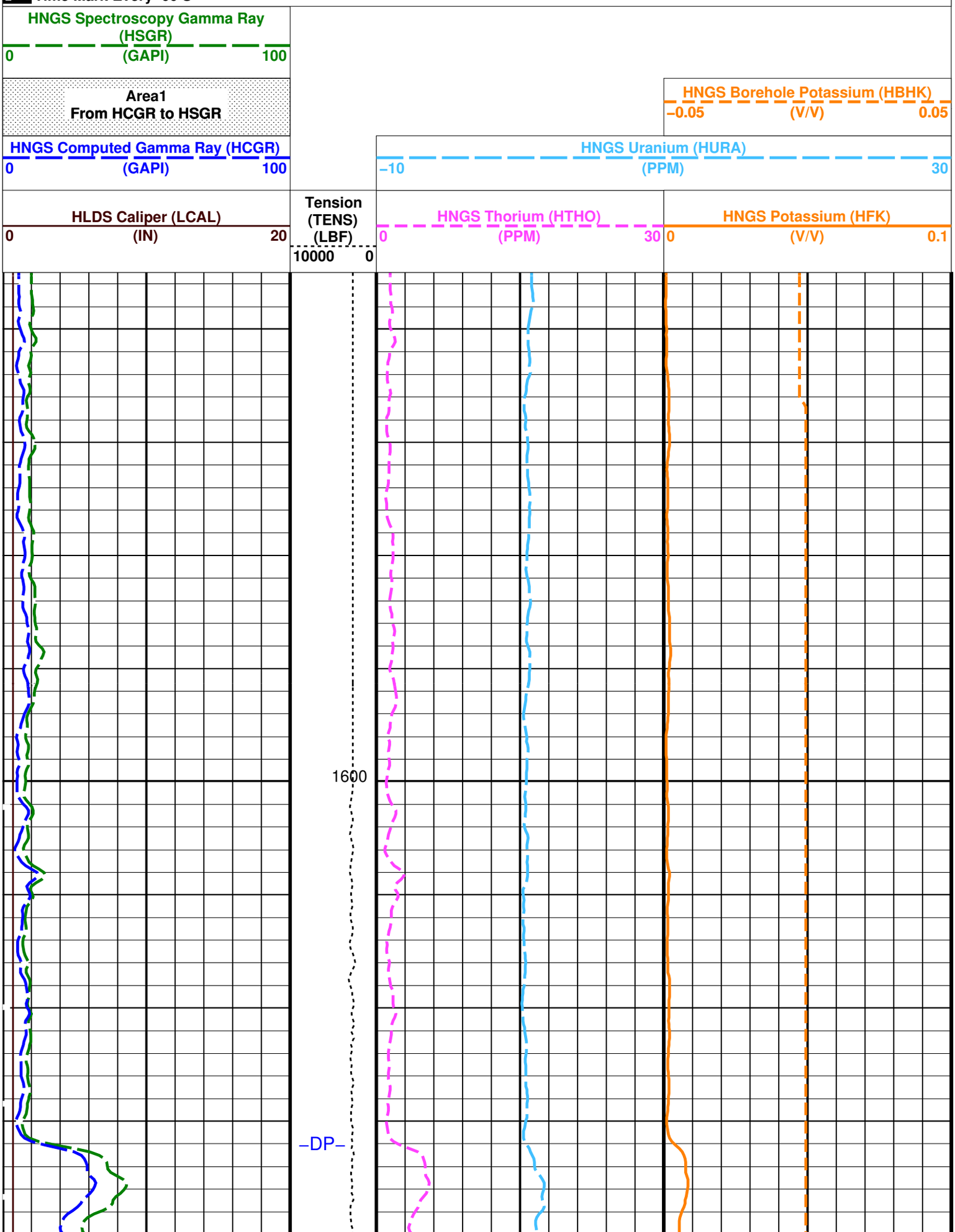
DIT–E	12C0–301	DTA–A	12C0–301
HLDS	SPC–2602–NUCL	LDSC–B	SPC–2602–NUCL
APS–C	SPC–2602–NUCL	HNGC–B	SPC–2602–NUCL
HNGS–BA	SPC–2602–NUCL	DTC–H	12C0–301

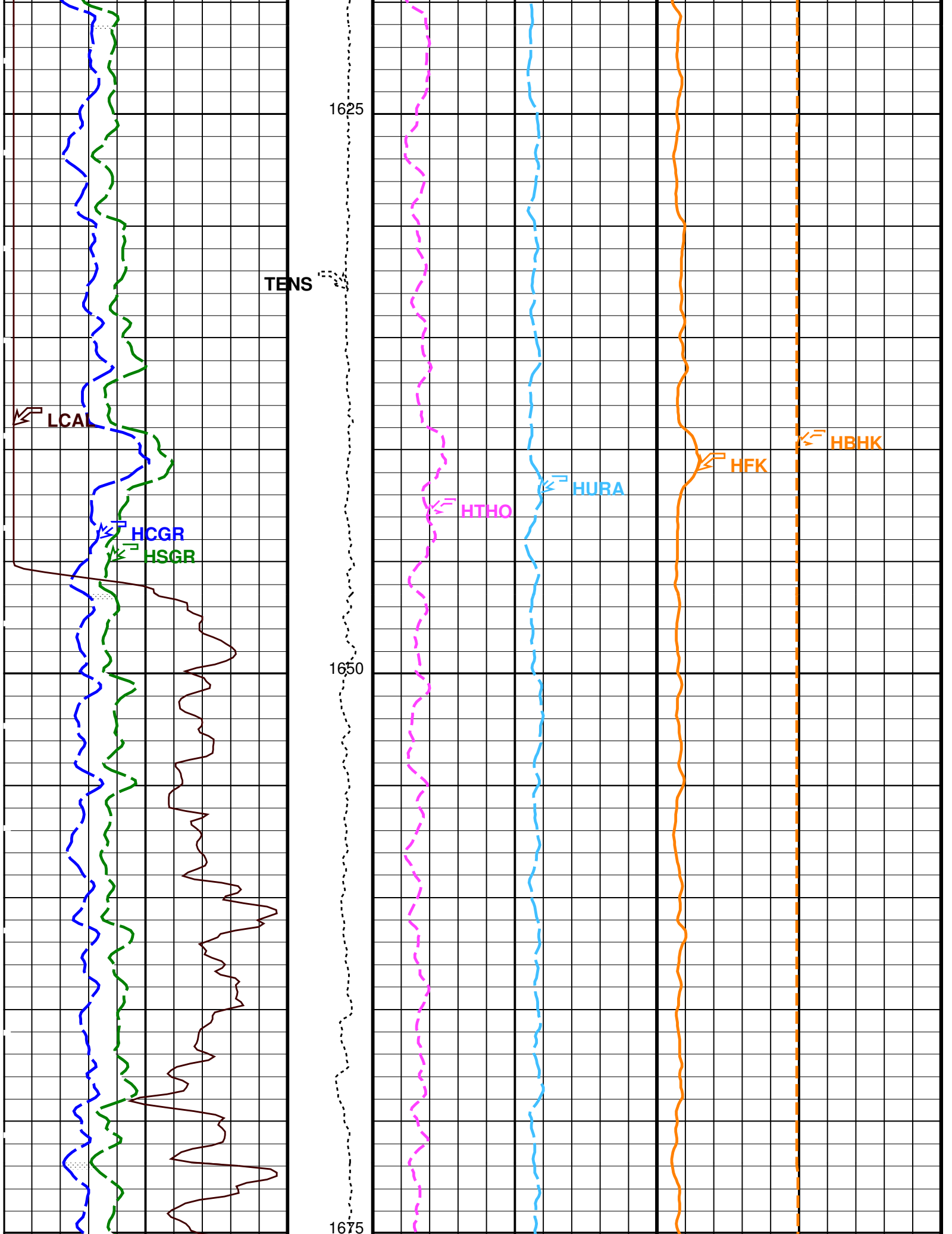
Changed Parameter Summary

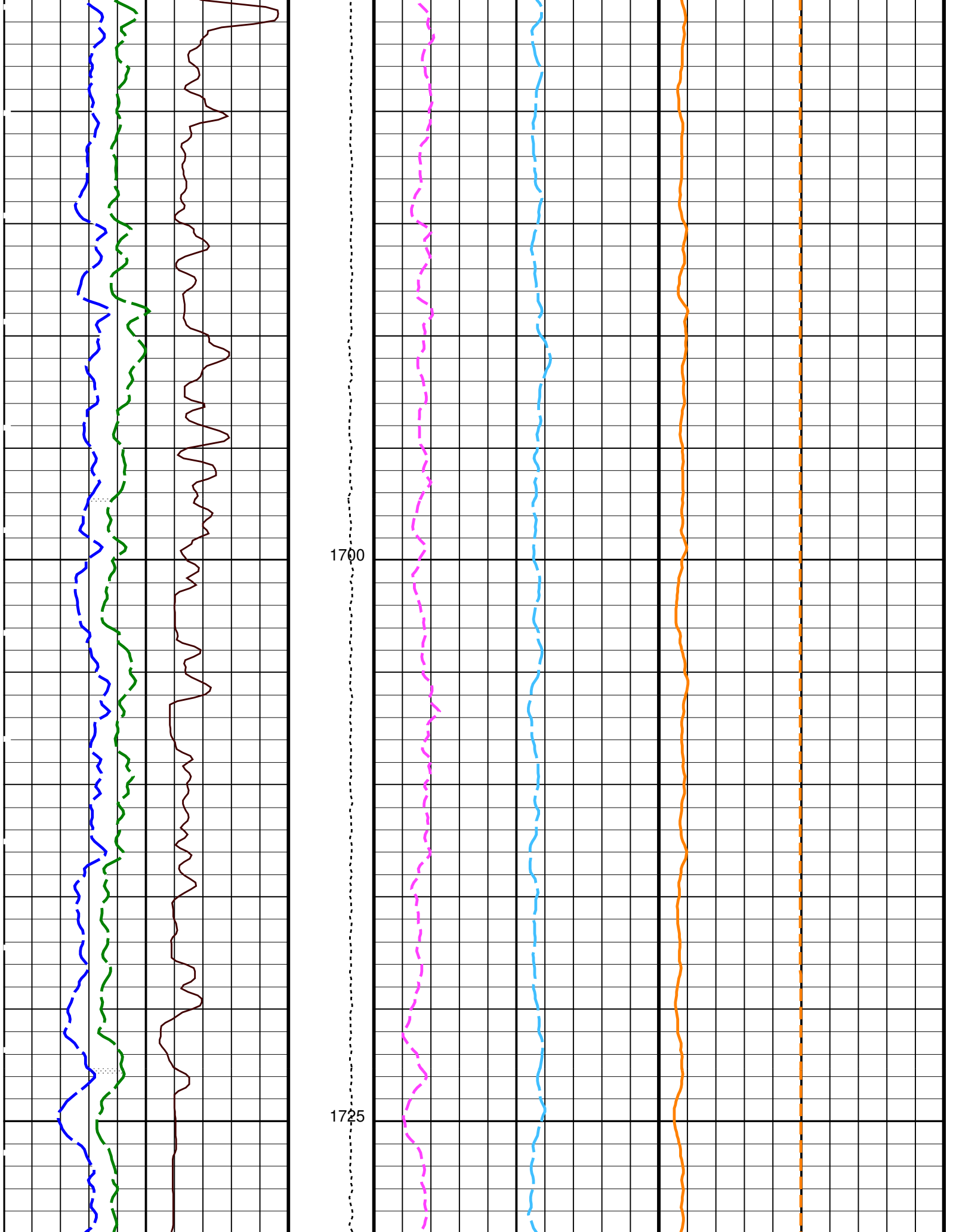
DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS	LCAL	1651.7 14:21:12

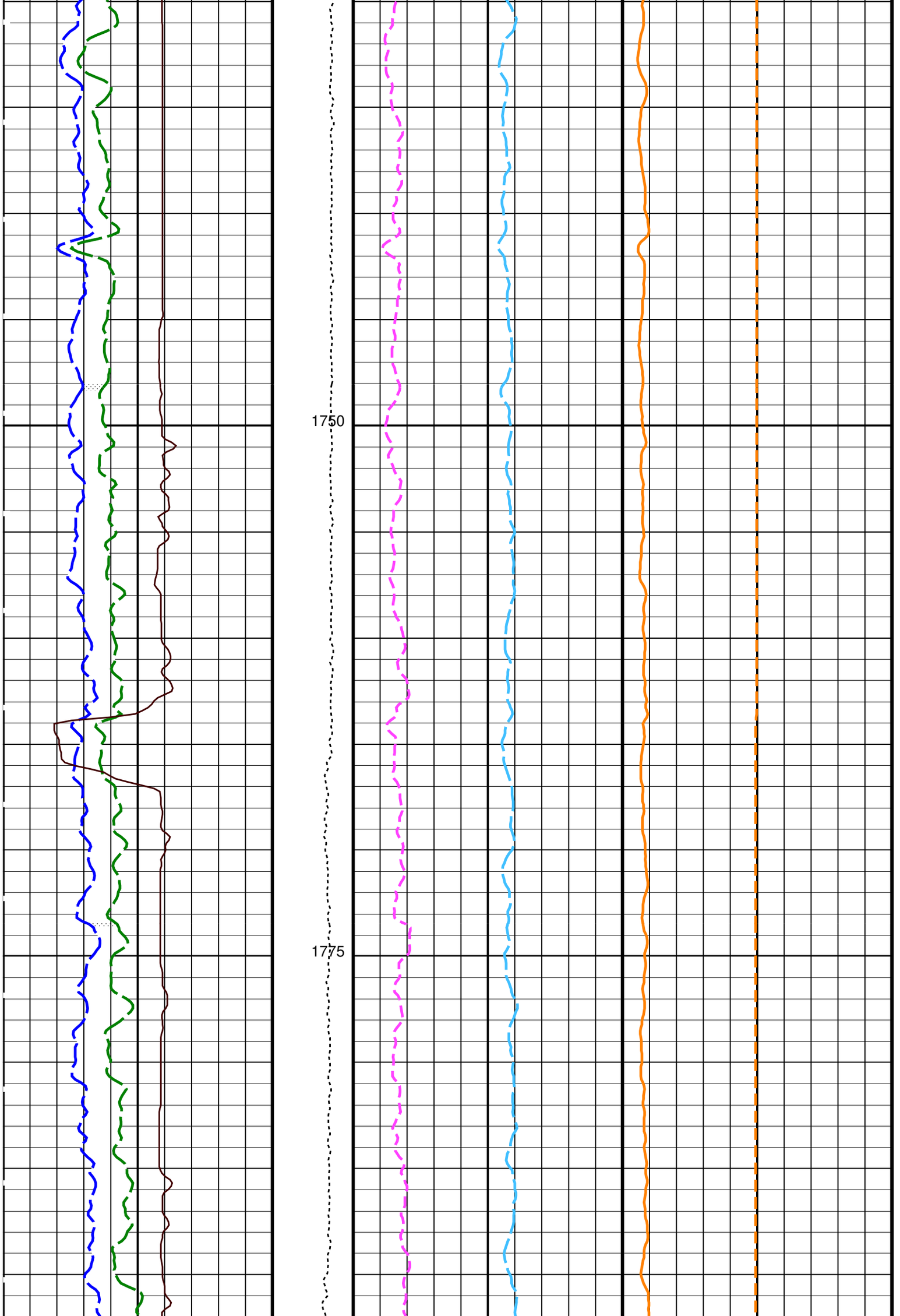
PIP SUMMARY

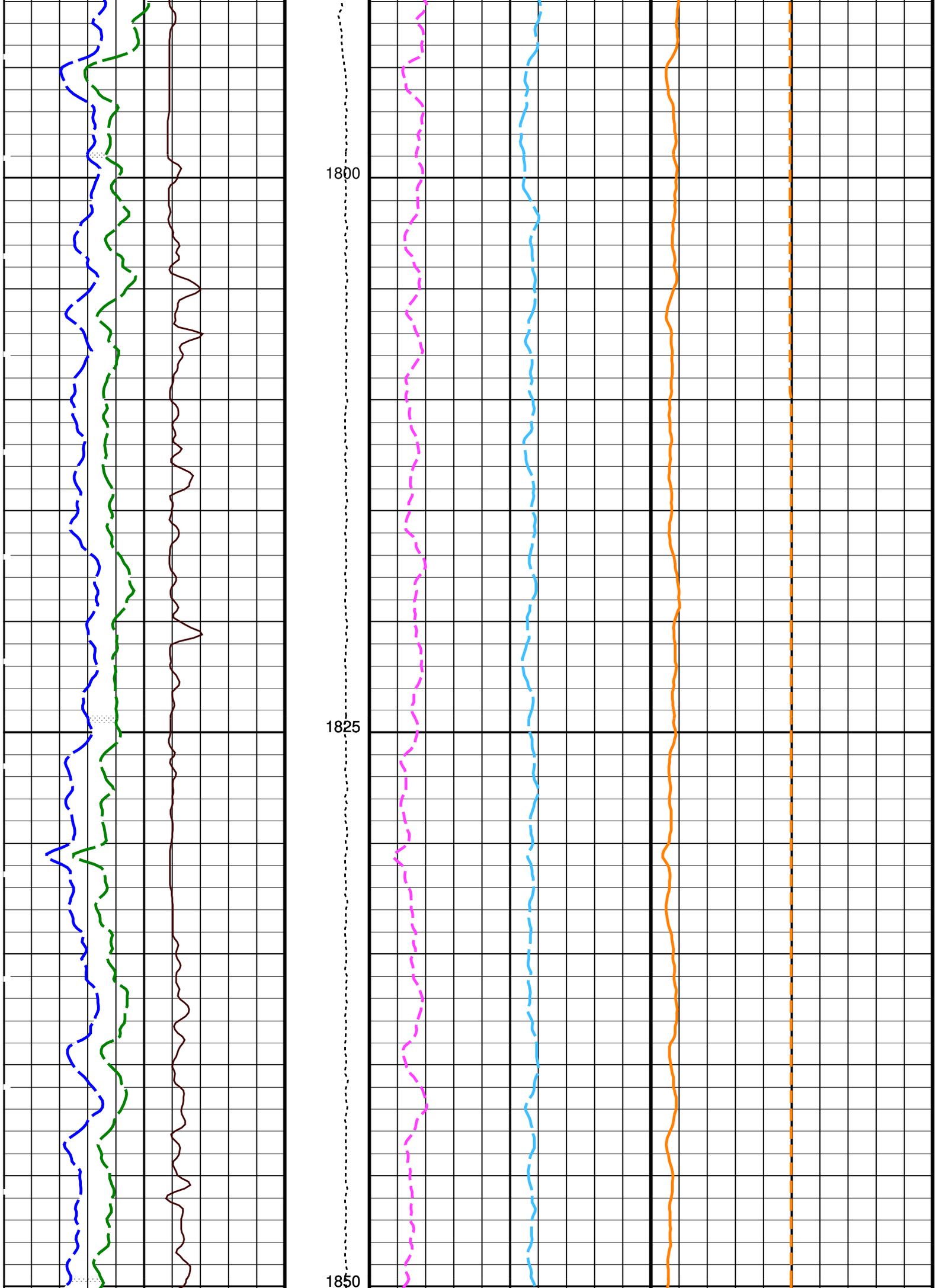
Time Mark Every 60 S

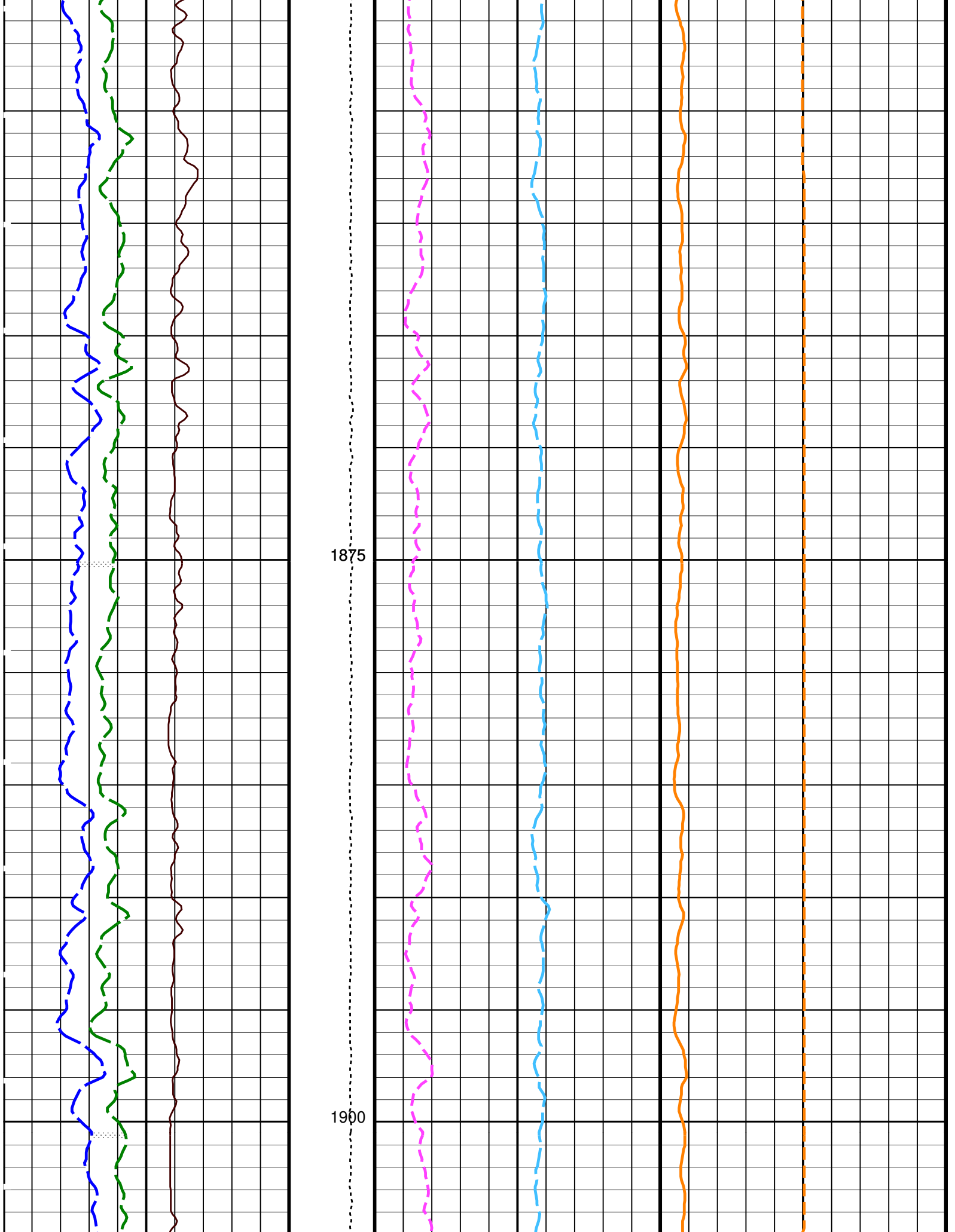


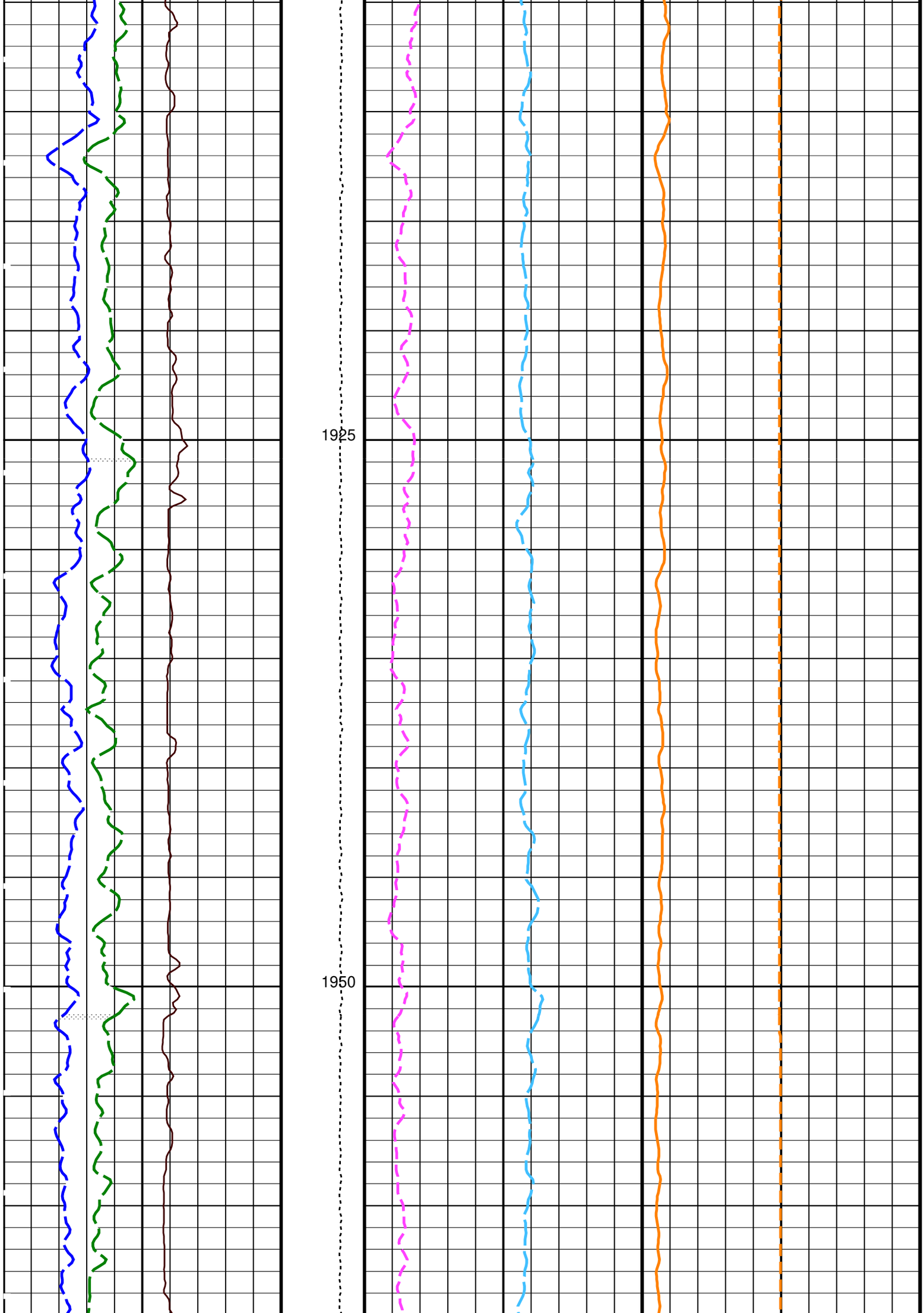

1625
TENS
LCAL
HCGR
HSGR
1650
HTHO
HURA
HFK
HBHK
1675

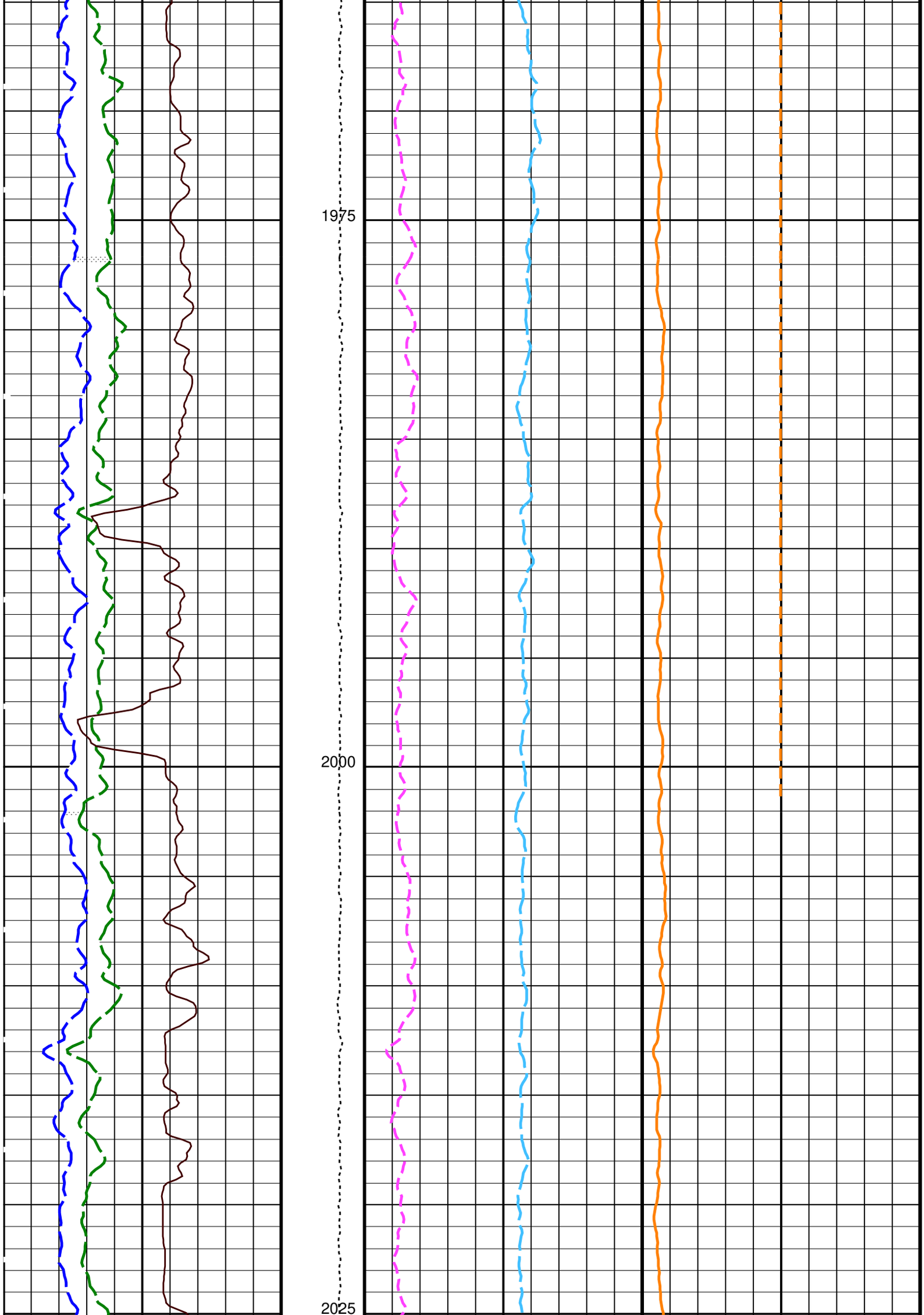

1700
1725

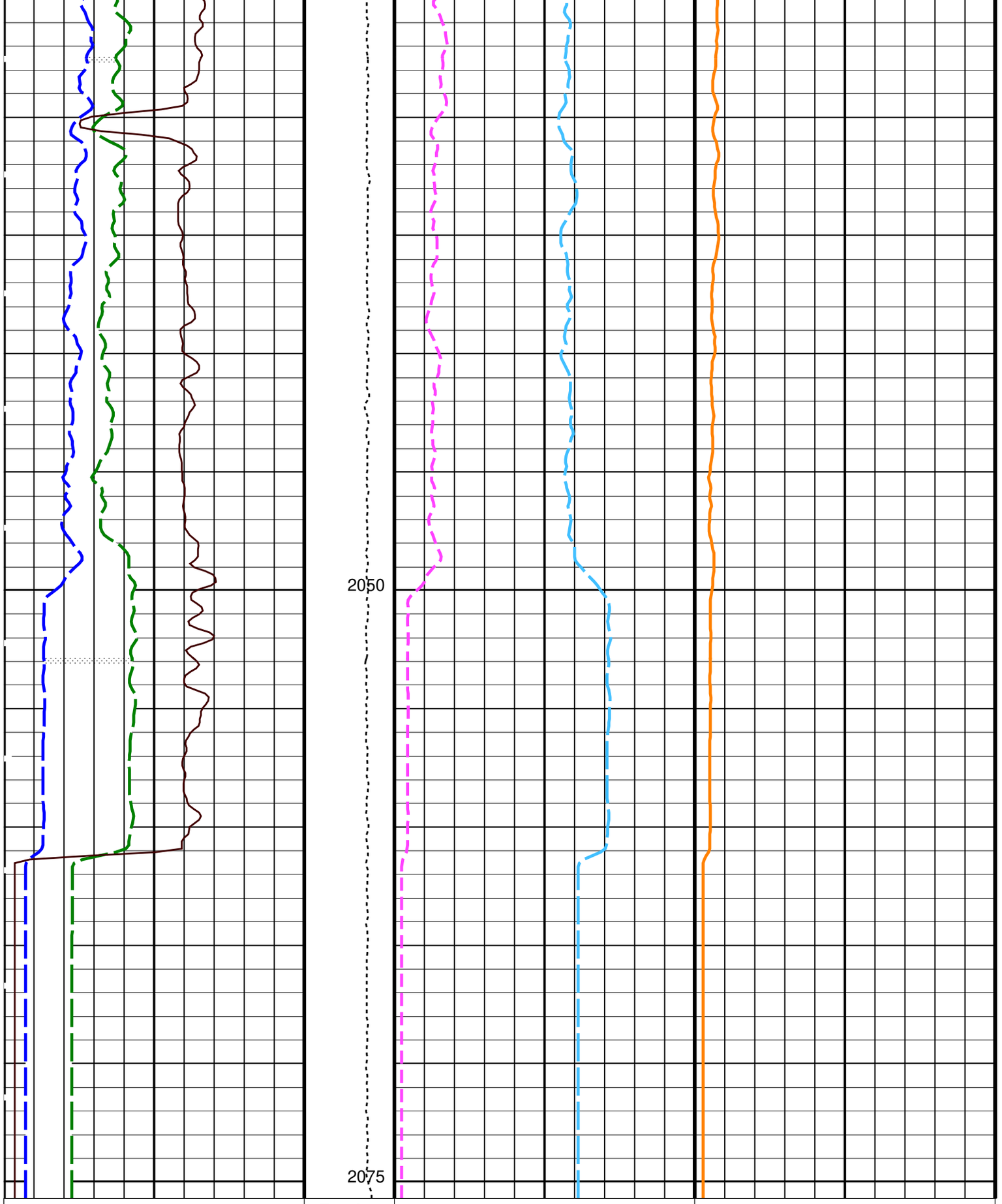

1750
1775


1800
1825
1850


1875
1900


1925
1950


1975
2000
2025



HLDS Caliper (LCAL)
0 (IN) 20

Tension (TENS) (LBF)
10000 0

HNGS Thorium (HTHO)
0 (PPM) 30

HNGS Potassium (HFK)
0 (V/V) 0.1

HNGS Computed Gamma Ray (HCGR)
0 (GAPI) 100

HNGS Uranium (HURA)
−10 (PPM) 30

Area1
From HCGR to HSGR

HNGS Borehole Potassium (HBHK)
−0.05 (V/V) 0.05

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 100

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT–E: Dual Induction – E		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	LCAL	
	APS–C: Accelerator–Porosity Tool		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	LCAL	
	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	LCAL	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	–0.0147654	
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	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma–Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.959479	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.968031	
	System and Miscellaneous		
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.07	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	RECOMPUTE	

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 12–Aug–2006 14:20

OP System Version: 12C0–301

MCM

DIT–E	12C0–301	DTA–A	12C0–301
HLDS	SPC–2602–NUCL	LDSC–B	SPC–2602–NUCL
APS–C	SPC–2602–NUCL	HNGC–B	SPC–2602–NUCL
HNGS–BA	SPC–2602–NUCL	DTC–H	12C0–301

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_043LUP	FN:55	PRODUCER	28–Jul–2006 16:52	2075.7 M	1572.6 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_065PUP	FN:1	PRODUCER	12–Aug–2006 14:20
REDUCED	PI_LDL_APS_NGS_065PUP	FN:2	PRODUCER	12–Aug–2006 14:20

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REPEAT PASS

MAXIS Field Log

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_059PUP	FN:77	PRODUCER	30–Jul–2006 14:03	2018.1 M	1618.6 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_066PUP	FN:3	PRODUCER	12–Aug–2006 15:01	2018.1 M	1625.5 M
REDUCED	PI_LDL_APS_NGS_066PUP	FN:4	PRODUCER	12–Aug–2006 15:01	2018.1 M	1625.5 M

OP System Version: 12C0–301

MCM

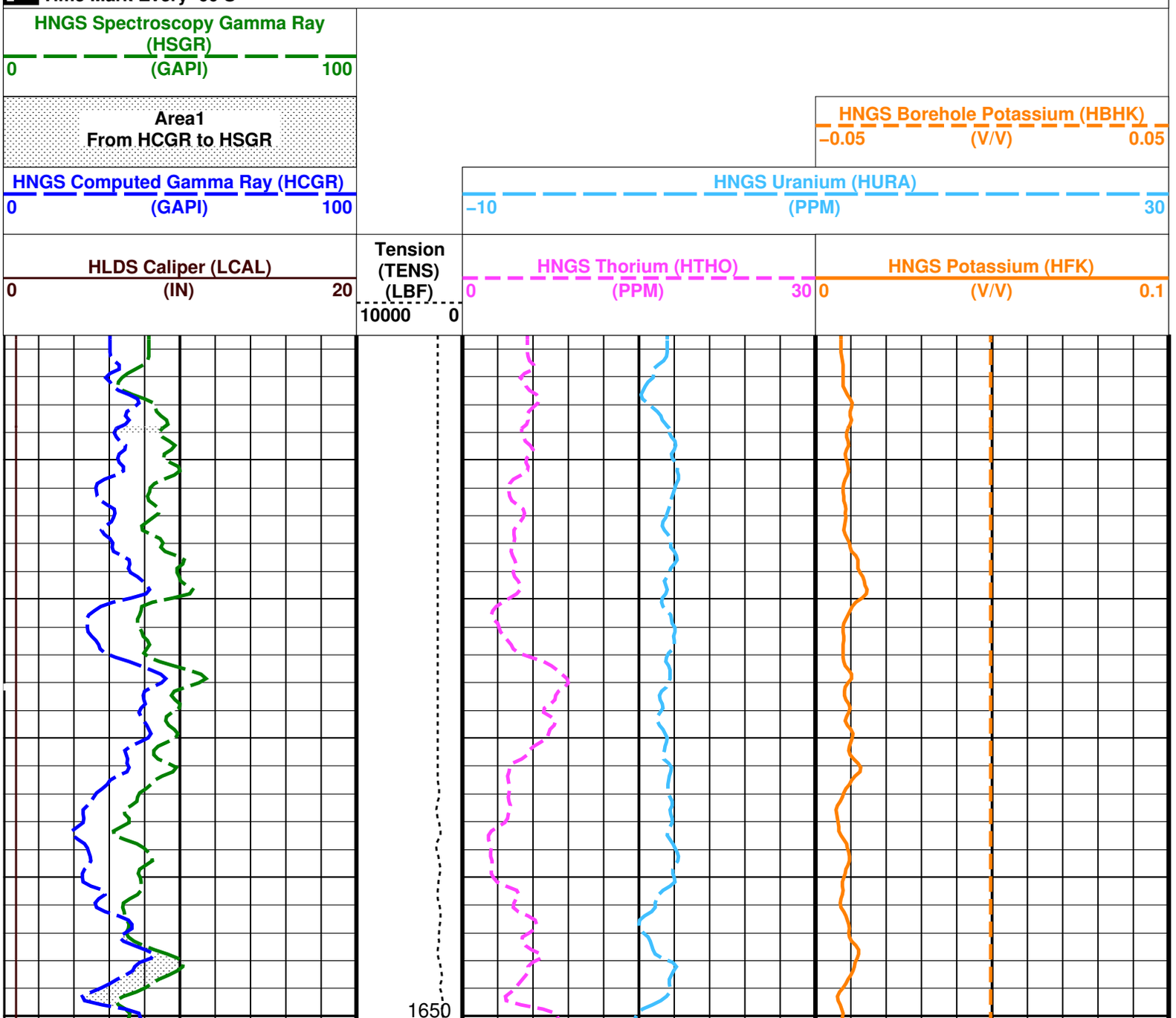
DIT–E	12C0–301	DTA–A	12C0–301
HLDS	SPC–2602–NUCL	LDSC–B	SPC–2602–NUCL
APS–C	SPC–2602–NUCL	HNGC–B	SPC–2602–NUCL
HNGS–BA	SPC–2602–NUCL	DTC–H	12C0–301

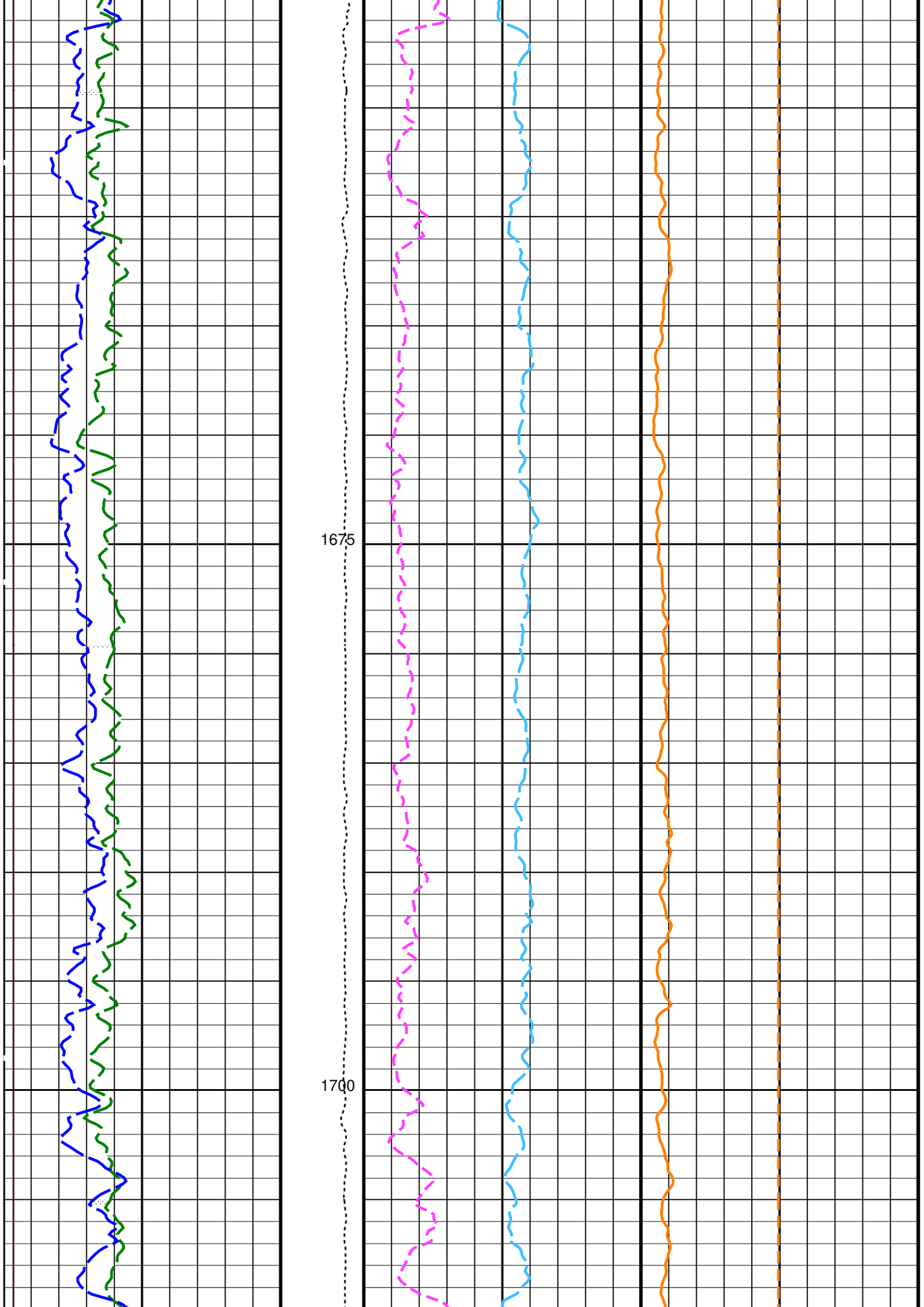
Changed Parameter Summary

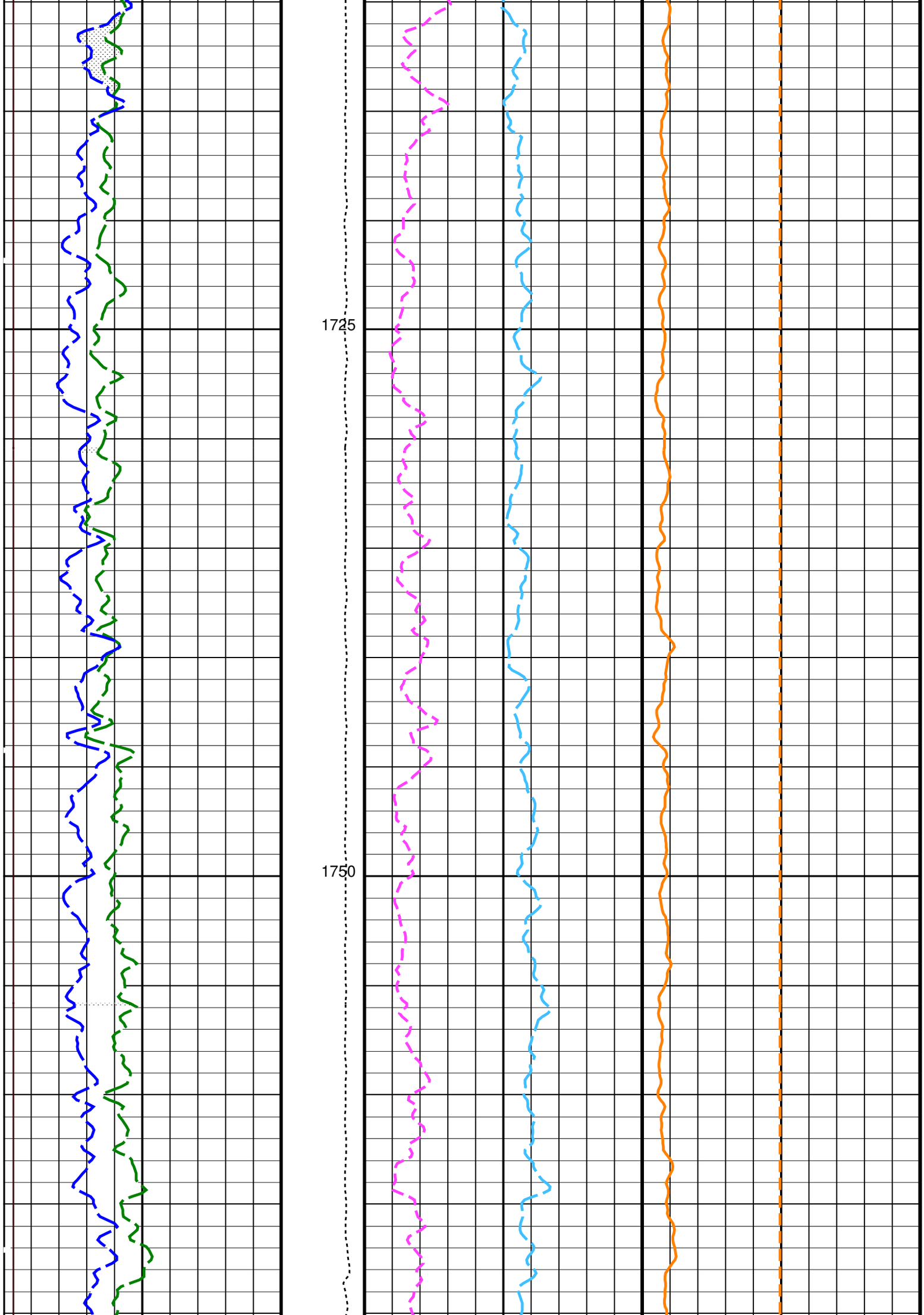
DLIS Name	New Value	Previous Value	Depth & Time
GCSE	BS	BS	0.0 15:01:12

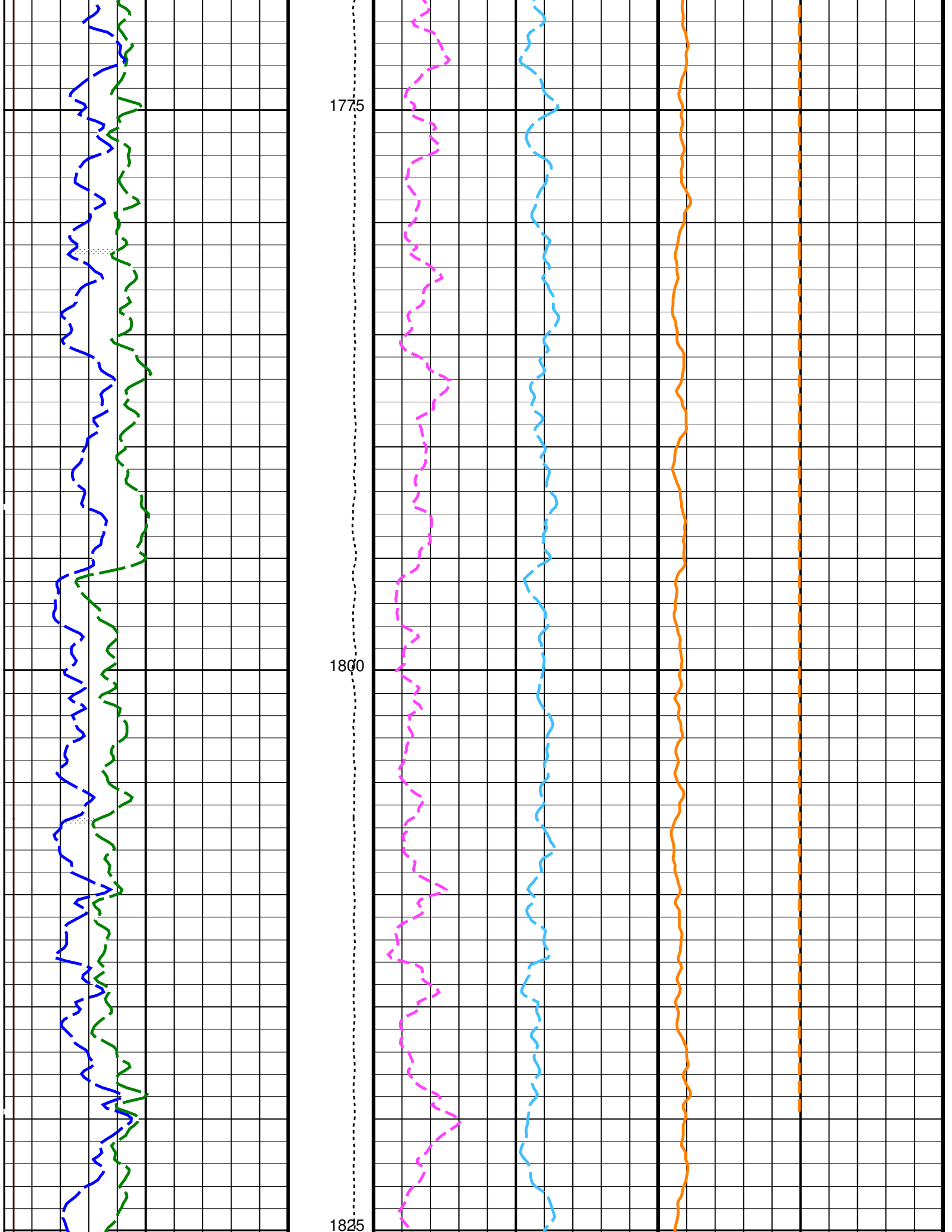
PIP SUMMARY

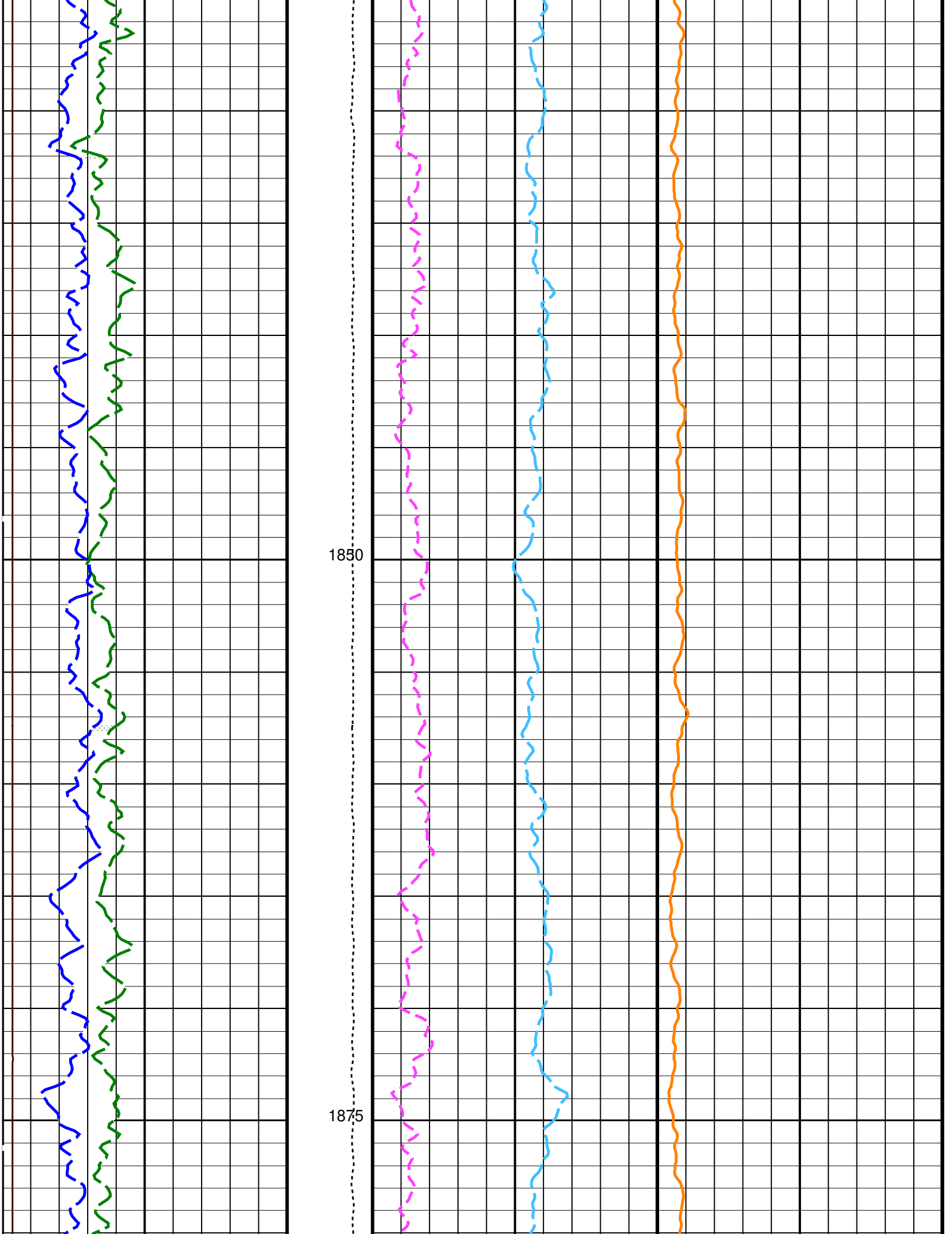
Time Mark Every 60 S

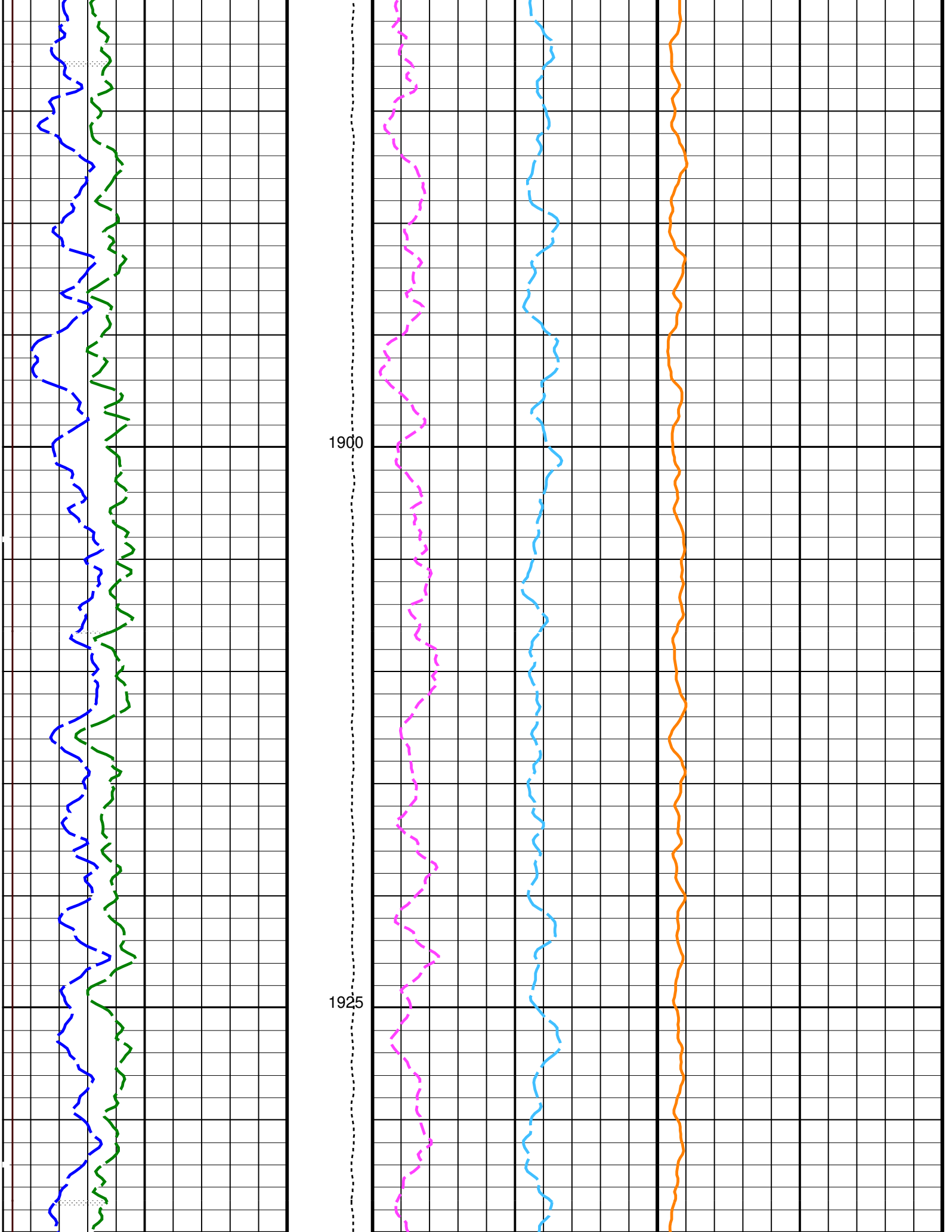


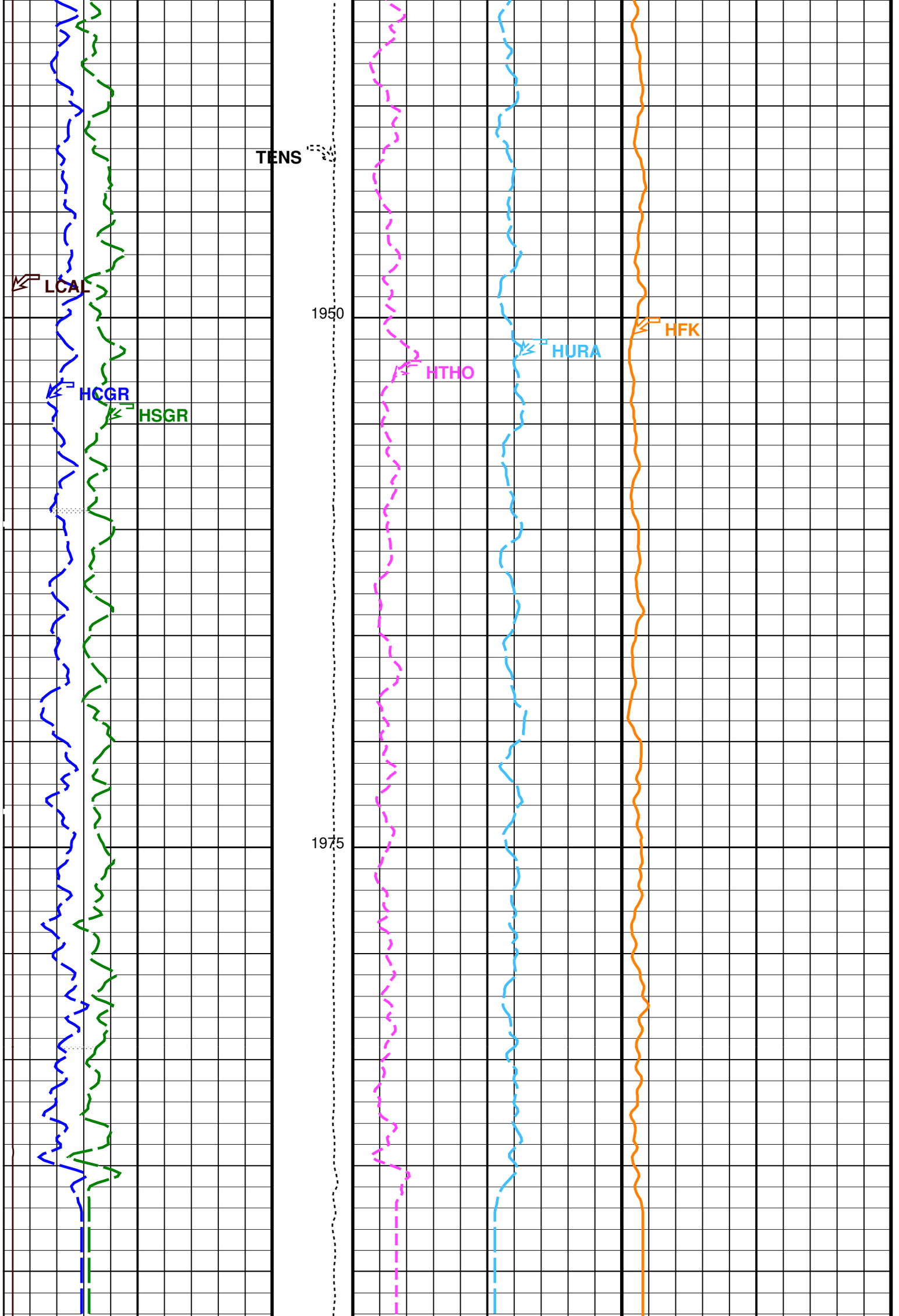

1675
1700

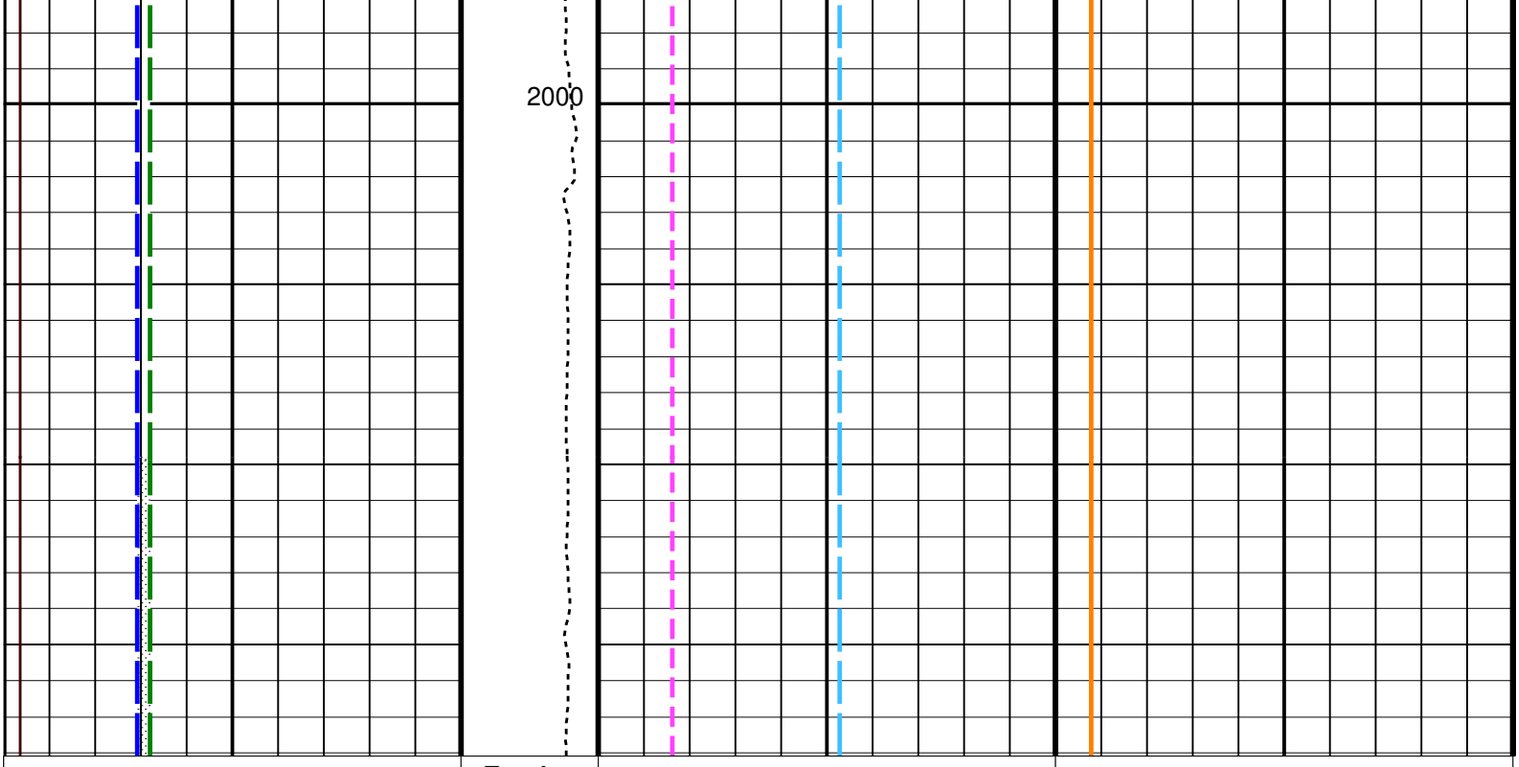

1725
1750


1775
1800
1825


1850
1875


1900
1925


TENS
LCAL
HCGR
HSGR
1950
1975
HTHO
HURA
HFK



HLDS Caliper (LCAL)	Tension (TENS)	HNGS Thorium (HTHO)	HNGS Potassium (HFK)
0 (IN) 20	(LBF) 10000 0	0 (PPM) 30	0 (V/V) 0.1

HNGS Computed Gamma Ray (HCGR)	HNGS Uranium (HURA)	HNGS Borehole Potassium (HBHK)
0 (GAPI) 100	−10 (PPM) 30	−0.05 (V/V) 0.05

Area1
From HCGR to HSGR

HNGS Spectroscopy Gamma Ray (HSGR)
0 (GAPI) 100

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT−E: Dual Induction − E		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	BS	
	APS−C: Accelerator−Porosity Tool		
BHS	Borehole Status	OPEN	
GCSE	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	−0.000815063	
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	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma−Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.963019	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.968599	
	System and Miscellaneous		
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.07	G/C3
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	RECOMPUTE	

OP System Version: 12C0–301

MCM

DIT–E	12C0–301	DTA–A	12C0–301
HLDS	SPC–2602–NUCL	LDSC–B	SPC–2602–NUCL
APS–C	SPC–2602–NUCL	HNGC–B	SPC–2602–NUCL
HNGS–BA	SPC–2602–NUCL	DTC–H	12C0–301

Input DLIS Files

DEFAULT	PI_LDL_APS_NGS_059PUP	FN:77	PRODUCER	30–Jul–2006 14:03	2018.1 M	1618.6 M

Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_066PUP	FN:3	PRODUCER	12–Aug–2006 15:01
REDUCED	PI_LDL_APS_NGS_066PUP	FN:4	PRODUCER	12–Aug–2006 15:01

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CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Hostile Litho–Density Sonde Wellsite Calibration – Background Measurement							
Master: 22–Jul–2006 17:34 Before: 24–Jul–2006 16:29							
SS Cs Resolution Bkg	9.000	8.033	7.995	N/A	N/A	1.800	%
LS Cs Resolution Bkg	9.000	8.197	8.126	N/A	N/A	1.800	%
LSW1 Background	100.0	81.57	80.41	N/A	N/A	3.000	CPS
LSW2 Background	100.0	76.85	76.88	N/A	N/A	3.000	CPS
LSW3 Background	200.0	169.9	167.3	N/A	N/A	6.000	CPS
LSW4 Background	250.0	205.5	204.5	N/A	N/A	7.500	CPS
LSW5 Background	600.0	467.2	465.3	N/A	N/A	18.00	CPS
SSW1 Background	100.0	90.80	90.84	N/A	N/A	3.000	CPS
SSW2 Background	200.0	162.4	164.4	N/A	N/A	6.000	CPS
SSW3 Background	500.0	440.9	443.6	N/A	N/A	15.00	CPS
SSW4 Background	270.0	226.8	224.4	N/A	N/A	8.100	CPS
SSW5 Background	200.0	162.6	160.0	N/A	N/A	6.000	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Aluminum Measurement							
Master: 22–Jul–2006 18:17							
LSW1 Aluminum	600.0	591.6	N/A	N/A	N/A	N/A	CPS
LSW2 Aluminum	900.0	848.8	N/A	N/A	N/A	N/A	CPS
LSW3 Aluminum	1100	1014	N/A	N/A	N/A	N/A	CPS
LSW4 Aluminum	580.0	509.0	N/A	N/A	N/A	N/A	CPS
LSW5 Aluminum	570.0	465.8	N/A	N/A	N/A	N/A	CPS
SSW1 Aluminum	2800	2441	N/A	N/A	N/A	N/A	CPS
SSW2 Aluminum	8000	6999	N/A	N/A	N/A	N/A	CPS
SSW3 Aluminum	11600	10160	N/A	N/A	N/A	N/A	CPS
SSW4 Aluminum	5000	4133	N/A	N/A	N/A	N/A	CPS
SSW5 Aluminum	660.0	499.7	N/A	N/A	N/A	N/A	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Lithology Measurement							
Master: 22–Jul–2006 18:09							
LSW1 Iron	400.0	411.6	N/A	N/A	N/A	N/A	CPS
LSW2 Iron	730.0	697.4	N/A	N/A	N/A	N/A	CPS
LSW3 Iron	1000	909.8	N/A	N/A	N/A	N/A	CPS
LSW4 Iron	520.0	465.7	N/A	N/A	N/A	N/A	CPS
LSW5 Iron	470.0	424.2	N/A	N/A	N/A	N/A	CPS
SSW1 Iron	2100	1815	N/A	N/A	N/A	N/A	CPS
SSW2 Iron	6800	5838	N/A	N/A	N/A	N/A	CPS
SSW3 Iron	10800	9223	N/A	N/A	N/A	N/A	CPS
SSW4 Iron	4600	3748	N/A	N/A	N/A	N/A	CPS
SSW5 Iron	580.0	438.8	N/A	N/A	N/A	N/A	CPS
Hostile Litho–Density Sonde Wellsite Calibration – Caliper Calibration							
Before: 24–Jul–2006 16:39							
HLDS Caliper Small Ring	8.000	N/A	9.552	N/A	N/A	N/A	IN
HLDS Caliper Large Ring	12.00	N/A	13.60	N/A	N/A	N/A	IN

Accelerator−Porosity Tool Wellsite Calibration − Detector Background
Master: 22−Jul−2006 20:55 Before: 24−Jul−2006 16:29

Near Det Bkg Cntrate	30.00	32.50	30.97	N/A	N/A	N/A	CPS
Far Det Bkg Cntrate	30.00	32.47	33.23	N/A	N/A	N/A	CPS
Array−1 Det Bkg Cntrate	30.00	30.70	30.88	N/A	N/A	N/A	CPS
Array−2 Det Bkg Cntrate	30.00	29.18	28.68	N/A	N/A	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	34.09	33.23	N/A	N/A	N/A	CPS

Accelerator−Porosity Tool Wellsite Calibration − Calibration Ratios
Master: 22−Jul−2006 20:55

Near/Far Calibration Ratio	0.9250	0.8848	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.057	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.007	N/A	N/A	N/A	N/A	

Accelerator−Porosity Tool Wellsite Calibration − Tank Check
Master: 22−Jul−2006 20:55

Array−1 Standoff Porosity	11.75	11.29	N/A	N/A	N/A	N/A	PU
Array−2 Standoff Porosity	11.75	11.77	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.859	N/A	N/A	N/A	N/A	US
Array−1 SDT Ratio Up/Down	1.000	0.9822	N/A	N/A	N/A	N/A	
Array−2 SDT Ratio Up/Down	1.000	0.9902	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.26	N/A	N/A	N/A	N/A	CU

Accelerator−Porosity Tool Wellsite Calibration − CCR7 signal boxes
Master: 22−Jul−2006 20:55

Near Detector Plateau Setting	1650	1733	N/A	N/A	N/A	N/A	V
Far Detector Plateau Setting	2000	2085	N/A	N/A	N/A	N/A	V
Array Detector Plateau Setting	2000	1969	N/A	N/A	N/A	N/A	V

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 1 Check
Master: 24−Jul−2006 16:23 Before: 24−Jul−2006 16:30

Na 511 Peak Loc	40.00	39.58	39.56	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.48	16.37	N/A	N/A	2.000	%
High Voltage	1150	1123	1123	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.5	142.6	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.129	8.682	N/A	N/A	2.000	%
Temperature	15.50	36.53	36.50	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	37.68	37.84	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Detector 2 Check
Master: 24−Jul−2006 16:23 Before: 24−Jul−2006 16:30

Na 511 Peak Loc	40.00	39.59	39.58	N/A	N/A	1.000	
Na 511 Peak Res	15.50	16.42	16.53	N/A	N/A	2.000	%
High Voltage	1150	1207	1207	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.7	142.3	N/A	N/A	7.000	
Na 1785 Peak Res	8.500	8.425	9.825	N/A	N/A	2.000	%
Temperature	15.50	35.82	35.80	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	37.20	37.47	N/A	N/A	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration − Ratio Of Detector 1 To Detector 2
Master: 24−Jul−2006 16:23 Before: 24−Jul−2006 16:30

Coincidence Count Rate Ratio	1.000	1.013	1.011	N/A	N/A	0.05000	

Hostile Natural Gamma Ray Sonde Master Calibration − Detector 1 Calibration
Master: 24−Jul−2006 16:18

Na 511 Peak Set Point	40.00	41.00	−−	−−	−−	−−	
Th Peak Loc	209.6	208.9	−−	−−	−−	−−	
Th Peak Res	7.000	7.545	−−	−−	−−	−−	%
Background Count Rate	142.5	20.06	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.004	−−	−−	−−	−−	

Hostile Natural Gamma Ray Sonde Master Calibration − Detector 2 Calibration
Master: 24−Jul−2006 16:18

Na 511 Peak Set Point	40.00	41.00	−−	−−	−−	−−	
Th Peak Loc	209.6	209.3	−−	−−	−−	−−	
Th Peak Res	7.000	7.437	−−	−−	−−	−−	%
Background Count Rate	142.5	18.13	−−	−−	−−	−−	CPS
Gain Ratio	1.000	1.005	−−	−−	−−	−−	

Accelerator−Porosity Tool − Detector Plateau Settings :

Near Detector Plateau Setting 1733 V
Far Detector Plateau Setting 2085 V
Array Detector Plateau Setting 1969 V

Dual Induction − E / Equipment Identification

Primary Equipment:

Dual Induction Sonde	DIS − HB	129
Dual Induction Cartridge	DIC − EB	335

Auxiliary Equipment:

Mass Isolated Housing	MIH − ZA	342

Dual Induction – E Wellsite Calibration

Induction Electronics (10 kHz)

Phase	ID Elect Real Offset 10 kHz MM/M	Value	Phase	ID Elect Real Gain 10 kHz	Value	Phase	ID Elect Phase 10 kHz DEG	Value
Before		32.58	Before		0.9350	Before		9.257
−269.6 (Minimum)	30.40 (Nominal)	330.4 (Maximum)	0.7935 (Minimum)	0.9435 (Nominal)	1.120 (Maximum)	−0.7818 (Minimum)	9.218 (Nominal)	19.22 (Maximum)
Phase	ID Elect Quad Offset 10 kHz MM/M	Value	Phase	ID Elect Quad Gain 10 kHz	Value	Phase	IM Elect Phase 10 kHz DEG	Value
Before		21.54	Before		0.9524	Before		9.131
−276.3 (Minimum)	23.67 (Nominal)	323.7 (Maximum)	0.8068 (Minimum)	0.9568 (Nominal)	1.139 (Maximum)	−0.9390 (Minimum)	9.061 (Nominal)	19.06 (Maximum)
Phase	IM Elect Real Offset 10 kHz MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value			
Before		84.00	Before		0.9441			
−467.2 (Minimum)	82.79 (Nominal)	632.8 (Maximum)	0.8014 (Minimum)	0.9514 (Nominal)	1.131 (Maximum)			
Phase	IM Elect Quad Offset 10 kHz MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value			
Before		44.62	Before		0.9242			
−505.4 (Minimum)	44.63 (Nominal)	594.6 (Maximum)	0.7854 (Minimum)	0.9354 (Nominal)	1.109 (Maximum)			

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Dual Induction – E Wellsite Calibration

Induction Electronics (20 kHz)

Phase	ID Elect Real Offset 20 kHz MM/M	Value	Phase	ID Elect Real Gain 20 kHz	Value	Phase	ID Elect Phase 20 kHz DEG	Value
Before		12.91	Before		0.9637	Before		4.924
−113.0 (Minimum)	12.04 (Nominal)	137.0 (Maximum)	0.8168 (Minimum)	0.9668 (Nominal)	1.153 (Maximum)	−10.55 (Minimum)	4.454 (Nominal)	19.45 (Maximum)
Phase	ID Elect Quad Offset 20 kHz MM/M	Value	Phase	ID Elect Quad Gain 20 kHz	Value	Phase	IM Elect Phase 20 kHz DEG	Value
Before		8.752	Before		0.9846	Before		5.320
−115.3 (Minimum)	9.695 (Nominal)	134.7 (Maximum)	0.8327 (Minimum)	0.9827 (Nominal)	1.176 (Maximum)	−10.15 (Minimum)	4.849 (Nominal)	19.85 (Maximum)
Phase	IM Elect Real Offset 20 kHz MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value			
Before		34.52	Before		0.9893			
−190.9 (Minimum)	34.10 (Nominal)	259.1 (Maximum)	0.8384 (Minimum)	0.9884 (Nominal)	1.184 (Maximum)			
Phase	IM Elect Quad Offset 20 kHz MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value			
Before		18.49	Before		0.9684			
−206.6 (Minimum)	18.38 (Nominal)	243.4 (Maximum)	0.8215 (Minimum)	0.9715 (Nominal)	1.160 (Maximum)			

Before: 24–Jul–2006 16:33

Dual Induction – E Wellsite Calibration

Induction Electronics (40 kHz)

Phase	ID Elect Real Offset 40 kHz MM/M	Value	Phase	ID Elect Real Gain 40 kHz	Value	Phase	ID Elect Phase 40 kHz DEG	Value
Before		8.502	Before		0.9553	Before		16.99
−77.13 (Minimum)	7.866 (Nominal)	92.87 (Maximum)	0.8027 (Minimum)	0.9527 (Nominal)	1.133 (Maximum)	−4.520 (Minimum)	15.48 (Nominal)	35.48 (Maximum)
Phase	ID Elect Quad Offset 40 kHz MM/M	Value	Phase	ID Elect Quad Gain 40 kHz	Value	Phase	IM Elect Phase 40 kHz DEG	Value
Before		5.896	Before		0.9855	Before		16.76
−78.50 (Minimum)	6.495 (Nominal)	91.50 (Maximum)	0.8261 (Minimum)	0.9761 (Nominal)	1.166 (Maximum)	−4.699 (Minimum)	15.30 (Nominal)	35.30 (Maximum)
Phase	IM Elect Real Offset 40 kHz MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value			
Before		22.42	Before		0.9982			
−108.0 (Minimum)	21.97 (Nominal)	152.0 (Maximum)	0.8384 (Minimum)	0.9884 (Nominal)	1.184 (Maximum)			
Phase	IM Elect Quad Offset 40 kHz MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value			
Before		12.09	Before		0.9767			
−118.1 (Minimum)	11.90 (Nominal)	141.9 (Maximum)	0.8211 (Minimum)	0.9711 (Nominal)	1.159 (Maximum)			

Before: 24–Jul–2006 16:34

Dual Induction – E Wellsite Calibration

SFL Electronics

Phase	SFL Voltage Offset MV	Value	Phase	SFL Voltage Gain	Value
Before		0.2119	Before		1.002
−15.00 (Minimum)	0 (Nominal)	15.00 (Maximum)	0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Phase	SFL Current Offset MA	Value	Phase	SFL Current Gain	Value
Before		0.04116	Before		1.014
−0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)	0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: 24–Jul–2006 16:34

Dual Induction – E Master Calibration

Test Loop Calibration: Calibration of Internal Reference to Test Loop Standard

Phase	Deep 10 kHz Gain Factor	Value	Phase	Deep 20 kHz Gain Factor	Value	Phase	Deep 40 kHz Gain Factor	Value
Master		0.9695	Master		0.9797	Master		0.9935
0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)
Phase	Medium 10 kHz Gain Factor	Value	Phase	Medium 20 kHz Gain Factor	Value	Phase	Medium 40 kHz Gain Factor	Value
Master		0.9872	Master		0.9915	Master		1.014
0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)	0.9000 (Minimum)	1.000 (Nominal)	1.100 (Maximum)
Phase	Deep 10 kHz Phase Shift	Value	Phase	Deep 20 kHz Phase Shift	Value	Phase	Deep 40 kHz Phase Shift	Value
Master		0.1433	Master		0.01494	Master		−1.040
−1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)	−2.000 (Minimum)	0 (Nominal)	2.000 (Maximum)	−4.000 (Minimum)	−1.000 (Nominal)	2.000 (Maximum)
Phase	Medium 10 kHz Phase Shift	Value	Phase	Medium 20 kHz Phase Shift	Value	Phase	Medium 40 kHz Phase Shift	Value
Master		−0.2545	Master		−0.8779	Master		−2.216
−1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)	−3.000 (Minimum)	−1.000 (Nominal)	1.000 (Maximum)	−5.000 (Minimum)	−2.000 (Nominal)	1.000 (Maximum)

Master: Calibration out of date 10−Jan−2006 19:19

Dual Induction – E Master Calibration

Sonde Error Corrections: Correction for sonde response in zero conductivity environment. (Normalized to 25C).

Phase	Real Deep 10 kHz S.E. Corr.	Value	Phase	Real Deep 20 kHz S.E. Corr.	Value	Phase	Real Deep 40 kHz S.E. Corr.	Value
Master		41.18	Master		16.95	Master		5.103
−50.00 (Minimum)	0 (Nominal)	125.0 (Maximum)	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)	−15.00 (Minimum)	0 (Nominal)	15.00 (Maximum)
Phase	Quad Deep 10 kHz S.E. Corr.	Value	Phase	Quad Deep 20 kHz S.E. Corr.	Value	Phase	Quad Deep 40 kHz S.E. Corr.	Value
Master		242.9	Master		134.7	Master		77.51
−250.0 (Minimum)	0 (Nominal)	350.0 (Maximum)	−125.0 (Minimum)	0 (Nominal)	200.0 (Maximum)	−75.00 (Minimum)	0 (Nominal)	125.0 (Maximum)
Phase	Real Medium 10 kHz S.E. Corr.	Value	Phase	Real Medium 20 kHz S.E. Corr.	Value	Phase	Real Medium 40 kHz S.E. Corr.	Value
Master		30.63	Master		10.49	Master		1.325
−50.00 (Minimum)	0 (Nominal)	140.0 (Maximum)	−50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)	−30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
Phase	Quad Medium 10 kHz S.E. Corr.	Value	Phase	Quad Medium 20 kHz S.E. Corr.	Value	Phase	Quad Medium 40 kHz S.E. Corr.	Value
Master		333.6	Master		175.2	Master		114.2
−1300 (Minimum)	0 (Nominal)	1300 (Maximum)	−650.0 (Minimum)	0 (Nominal)	650.0 (Maximum)	−350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)

Master: Calibration out of date 10−Jan−2006 19:30

Hostile Litho−Density Sonde / Equipment Identification

Primary Equipment:		
Hostile Litho Density Sonde	HLDS − D	45
Hostile Litho Density High Voltage	HLDV − D	35
Gamma Source Radioactive	GSR − Z	2326
Auxiliary Equipment:		
Hostile Litho Density Pad	HLDP − C	45
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		8.033	Master		8.197	Master		81.57
Before		7.995	Before		8.126	Before		80.41
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		76.85	Master		169.9	Master		205.5
Before		76.88	Before		167.3	Before		204.5
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		467.2	Master		90.80	Master		162.4
Before		465.3	Before		90.84	Before		164.4
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		440.9	Master		226.8	Master		162.6
Before		443.6	Before		224.4	Before		160.0
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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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		81.57	Master		76.85	Master		169.9
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		205.5	Master		467.2	Master		8.197
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		90.80	Master		162.4	Master		440.9
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		226.8	Master		162.6	Master		8.033
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)

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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		591.6	Master		848.8	Master		1014
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		509.0	Master		465.8	Master		2441
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		6999	Master		10160	Master		4133
5800 (Minimum)	8000 (Nominal)	9300 (Maximum)	8300 (Minimum)	11600 (Nominal)	13500 (Maximum)	3500 (Minimum)	5000 (Nominal)	5800 (Maximum)

Phase	SSW5 Aluminum CPS	Value
Master		499.7
470.0 (Minimum)	660.0 (Nominal)	770.0 (Maximum)

Master: 22–Jul–2006 18:17

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		411.6	Master		697.4	Master		909.8
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		465.7	Master		424.2	Master		1815
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		5838	Master		9223	Master		3748
4900 (Minimum)	6800 (Nominal)	7900 (Maximum)	7800 (Minimum)	10800 (Nominal)	12600 (Maximum)	3300 (Minimum)	4600 (Nominal)	5400 (Maximum)

Phase	SSW5 Iron CPS	Value
Master		438.8
420.0 (Minimum)	580.0 (Nominal)	680.0 (Maximum)

Master: 22–Jul–2006 18:09

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		1.040	Master		2.194	Master		0.6069
	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		0.5269	Master		0.9922	Master		0.9869
	0.4000 (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		0.9971	Master		0.9972
	0.9900 (Minimum) 0.9940 (Nominal) 1.015 (Maximum)			0.9850 (Minimum) 0.9940 (Nominal) 1.010 (Maximum)	

Master: 22−Jul−2006 18:01

Litho−Density Spectroscopy Cartridge − B / Equipment Identification

Primary Equipment:		
LDSC Cartridge	LDSC − B	366
Auxiliary Equipment:		
LDSC Housing	LDSH − A	333

Accelerator−Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator−Porosity Sonde	APS − C	22
APS Minitron	MNTR − F	4185
Auxiliary Equipment:		
Accelerator−Porosity Housing	APH − AC	22
APS Calibration Water Tank	SFT − 178	6250
APS Aluminum Calibrator Sleeve	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		32.50	Master		32.47	Master		30.70
Before		30.97	Before		33.23	Before		30.88
	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		29.18	Master		34.09
Before		28.68	Before		33.23
	1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)			1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum)	

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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		0.8848	Master		1.057	Master		1.007
	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: 22−Jul−2006 20:55

Accelerator−Porosity Tool Wellsite Calibration

Tank Check

Phase	Array−1 Standoff Porosity PU	Value	Phase	Array−2 Standoff Porosity PU	Value	Phase	Average Slowing Down Time US	Value
Master		11.29	Master		11.77	Master		5.859
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)			9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)			5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)	

Phase	Array−1 SDT Ratio Up/Down	Value	Phase	Array−2 SDT Ratio Up/Down	Value	Phase	Sigma Formation CU	Value
Master		0.9822	Master		0.9902	Master		27.26
	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: 22−Jul−2006 20:55

Accelerator–Porosity Tool Master Calibration

Detector Calibration

Phase	Near/Far Calibration Ratio	Value
Master		0.8848
	0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum)	

Phase	Near/Array Calibration Ratio	Value
Master		1.057
	0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum)	

Phase	Near/Array Cal Ratio Up/Down	Value
Master		1.007
	0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum)	

Master: 22–Jul–2006 20:55

Accelerator–Porosity Tool Master Calibration

Tank Check

Phase	Array–1 Standoff Porosity PU	Value
Master		11.29
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)	

Phase	Array–2 Standoff Porosity PU	Value
Master		11.77
	9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum)	

Phase	Average Slowing Down Time US	Value
Master		5.859
	5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum)	

Phase	Array–1 SDT Ratio Up/Down	Value
Master		0.9822
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Phase	Array–2 SDT Ratio Up/Down	Value
Master		0.9902
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Phase	Sigma Formation CU	Value
Master		27.26
	20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum)	

Master: 22–Jul–2006 20:55

Hostile Natural Gamma Ray Cartridge – B / Equipment Identification

Primary Equipment:		
HNGC Cartridge	HNGC – B	300
Auxiliary Equipment:		
HNGC Housing	HNGH – A	115

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:		
HNGS Sonde	HNGS – BA	194
Auxiliary Equipment:		
HNGS Sonde Housing	HNSH – BA	205
Gamma Source Radioactive	GSR – U	135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value
Master		39.58
Before		39.56
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		16.48
Before		16.37
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1123
Before		1123
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		142.5
Before		142.6
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.129
Before		8.682
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		36.53
Before		36.50
	–28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		37.68
Before		37.84
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 24–Jul–2006 16:23 Before: 24–Jul–2006 16:30

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value
Master		39.59
Before		39.58
	37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)	

Phase	Na 511 Peak Res %	Value
Master		16.42
Before		16.53
	12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)	

Phase	High Voltage V	Value
Master		1207
Before		1207
	900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	

Phase	Na 1785 Peak Loc	Value
Master		142.7
Before		142.3
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)	

Phase	Na 1785 Peak Res %	Value
Master		8.425
Before		9.825
	7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)	

Phase	Temperature DEGC	Value
Master		35.82
Before		35.80
	−28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	

Phase	Na Count Rate CPS	Value
Master		37.20
Before		37.47
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)	

Master: 24−Jul−2006 16:23 Before: 24−Jul−2006 16:30

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Ratio Of Detector 1 To Detector 2

Phase	Coincidence Count Rate Ratio	Value
Master		1.013
Before		1.011
	0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum)	

Master: 24−Jul−2006 16:23
Before: 24−Jul−2006 16:30

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 1 Calibration

Phase	Na 511 Peak Set Point	Value
Master		41.00
	38.00 (Minimum) 40.00 (Nominal) 42.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		208.9
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		7.545
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master		20.06
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		1.004
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 24−Jul−2006 16:18

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 2 Calibration

Phase	Na 511 Peak Set Point	Value
Master		41.00
	38.00 (Minimum) 40.00 (Nominal) 42.00 (Maximum)	

Phase	Th Peak Loc	Value
Master		209.3
	201.0 (Minimum) 209.6 (Nominal) 218.3 (Maximum)	

Phase	Th Peak Res %	Value
Master		7.437
	5.000 (Minimum) 7.000 (Nominal) 9.000 (Maximum)	

Phase	Background Count Rate CPS	Value
Master	EXCEEDS LIMIT	18.13
	20.00 (Minimum) 142.5 (Nominal) 265.0 (Maximum)	

Phase	Gain Ratio	Value
Master		1.005
	0.9400 (Minimum) 1.000 (Nominal) 1.060 (Maximum)	

Master: 24−Jul−2006 16:18

Company: **Lamont Doherty**

Schlumberger

Well: **NGHP−01−17B**
Field: **Andaman Sea**
Rig: **Joides Resolution**
Ocean:

Hostile Natural Gamma−Ray