

County: Weld
District: Wellington

Log	
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Run 3

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[illegible]

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







DATA INVALID IN TIGHT PULLS AND WASHOUTS					
Your Crew today: Mark Hoffman, Brent Westhoff					
THANK YOU FOR CHOOSING SCHLUMBERGER					
RUN 1			RUN 2		
SERVICE ORDER #:		11352326	SERVICE ORDER #:		
PROGRAM VERSION:		13C0-300	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

RUN 2

GSR-U/Y NCT-B CNB-AB NCS-VB	SURFACE EQUIPMENT WITM (DTS)-A
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DOWNHOLE EQUIPMENT			
LEH-QT LEH-QT 2429			51.6
DTC-H ECH-KC DTCH0-A DTCH1-A	CTEM TelStatus ToolStatu		47.7 48.6 45.6
AH-NM AH-NM			45.6
GPIT-C GPIC-C GPIH-B			41.6
HILTB-FTB HGNSD-B HMCA HGNI 940 NLS-KL NSR-F 5068 HACCZ HCNT HGR HRCC-B 1866 HRMS-B 1929 HRGD-B 1921 GLS-VJ 1827 MCFL Device HILT Nucl. LS HILT Nucl. SS HILT Nucl. BS AIT-H 397 AHIS-BA 397 AHRM-A NPV-N	HGNS HTEM HMCA Gamma-Ray Neutron F Neutron N HGNS sens HRCC cart		37.6 36.9 37.6 31.1 30.6 28.2 24.2
			18.8 18.3

HRDD-BS

17.9

Induction
Temperatu
Power Sup

7.9

SP SENSOR
GPIT HV DF
HTEN HMAS
Accelerom
Mud Resis
Tension

0.1

0.0

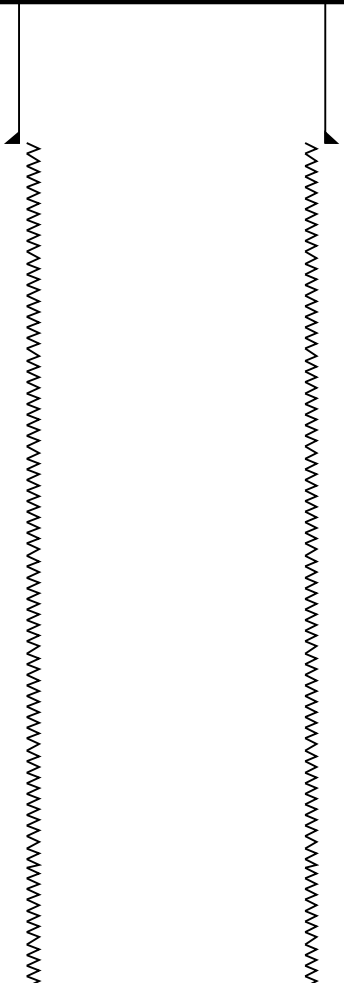
TOOL ZERO

MAXIMUM STRING DIAMETER 4.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Client: Kerr-Mcgee
Well: Barney 35-14
Field:
State: CO
Country: USA

Drawing Date 9/9/2006
API #05-123-24141

Rig Name: Patterson 184
Reference Datum: Kelly Bushing
Elevation: 4930.0 ft

Production String	(in)		(ft)	Well Schematic	(ft)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	8.625		Casing String, 24.0 lbm/ft
					630.0	8.625		Casing Shoe
					630.0	7.875		Borehole Segment

All Depths are
Drillers Depths

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7470.0

7.875

Borehole Segment Bottom

Schlumberger

UPPER POROSITY LOG 5" = 100'

MAXIS Field Log

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_015LUP FN:14 PRODUCER 10-Sep-2006 04:31 7692.0 FT 3248.5 FT

Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_030PUP FN:28 PRODUCER 10-Sep-2006 07:01 6000.0 FT 3503.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 909.02 F3
Cement Volume = 633.31 F3 (assuming 4.50 IN casing O.D.)
Computed from 6000.0 FT to 3504.0 FT using data channel(s) HCAL

OP System Version: 13C0-300

MCM

HILTB-FTB SRPC-2788-HILT GPIT-C 13C0-300
DTC-H 13C0-300

Changed Parameter Summary

DLIS Name

New Value

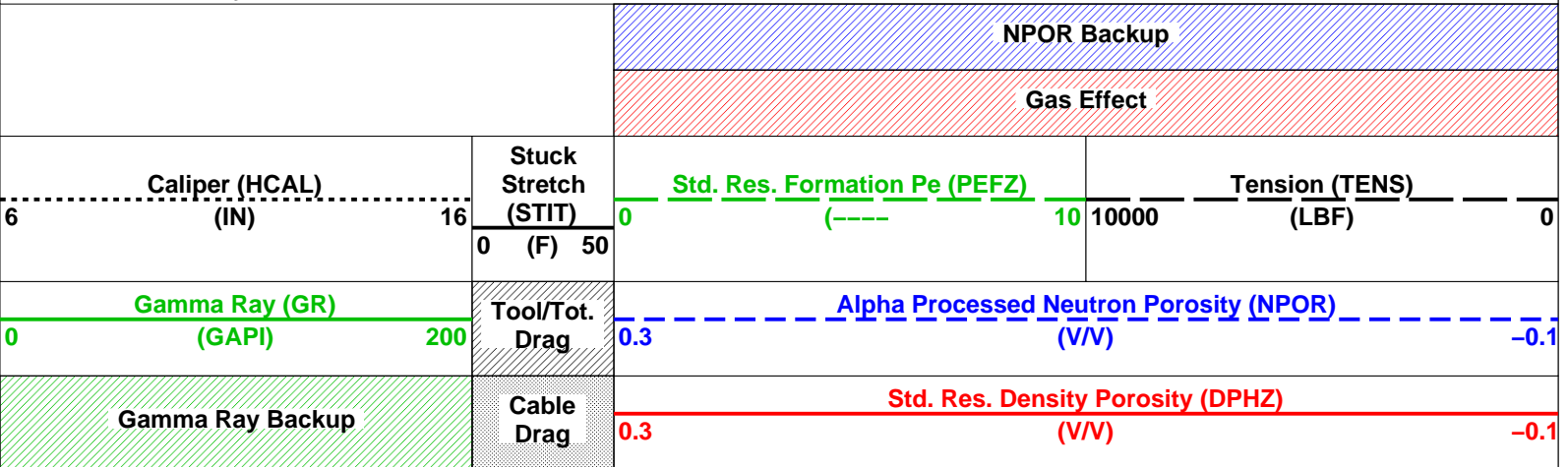
Previous Value Depth & Time

MATR
MDENSANDSTONE
2.68 G/C3SANDSTONE
2.68 G/C36000.0 07:01:12
6000.0 07:01:12

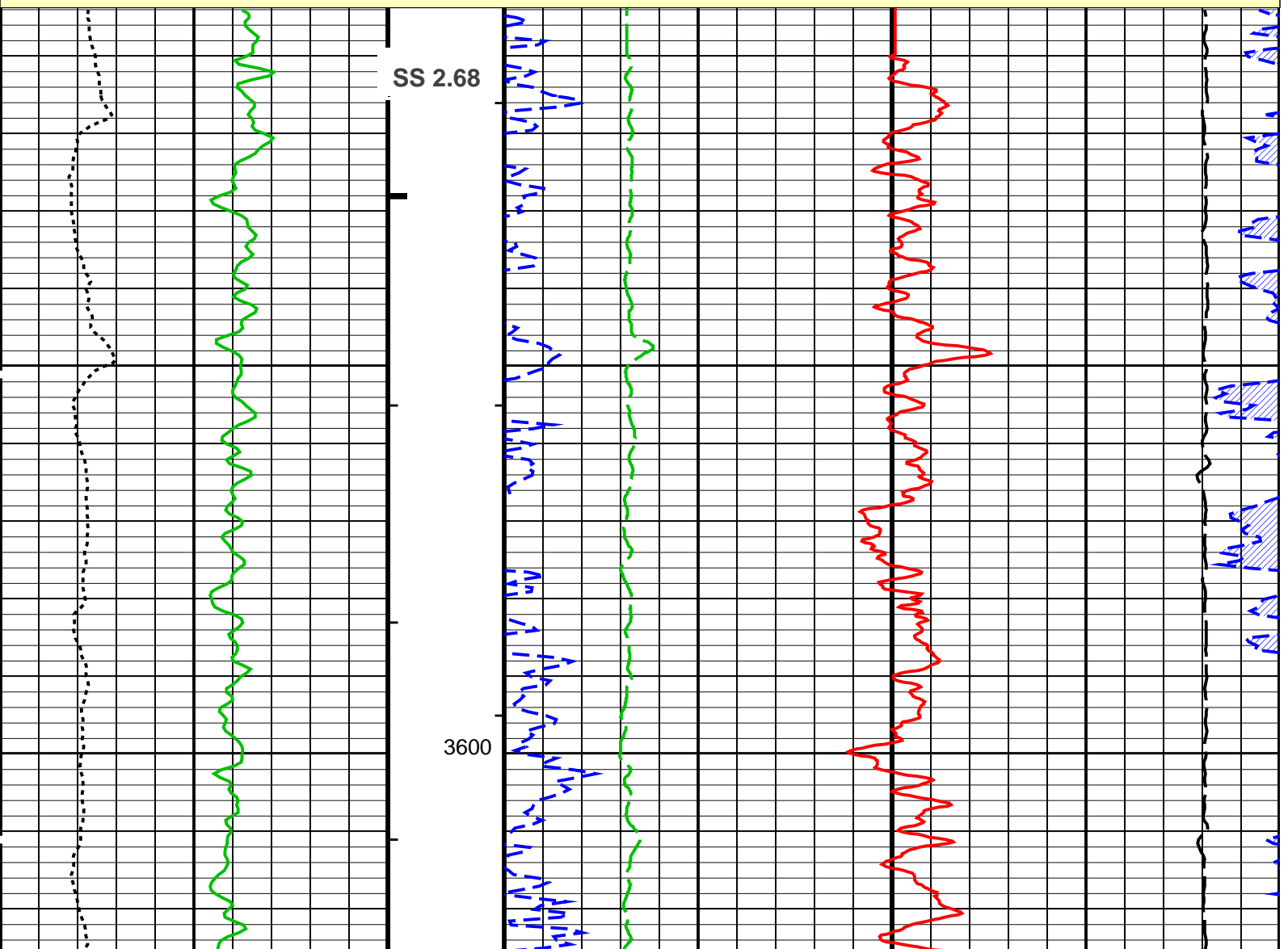
PIP SUMMARY

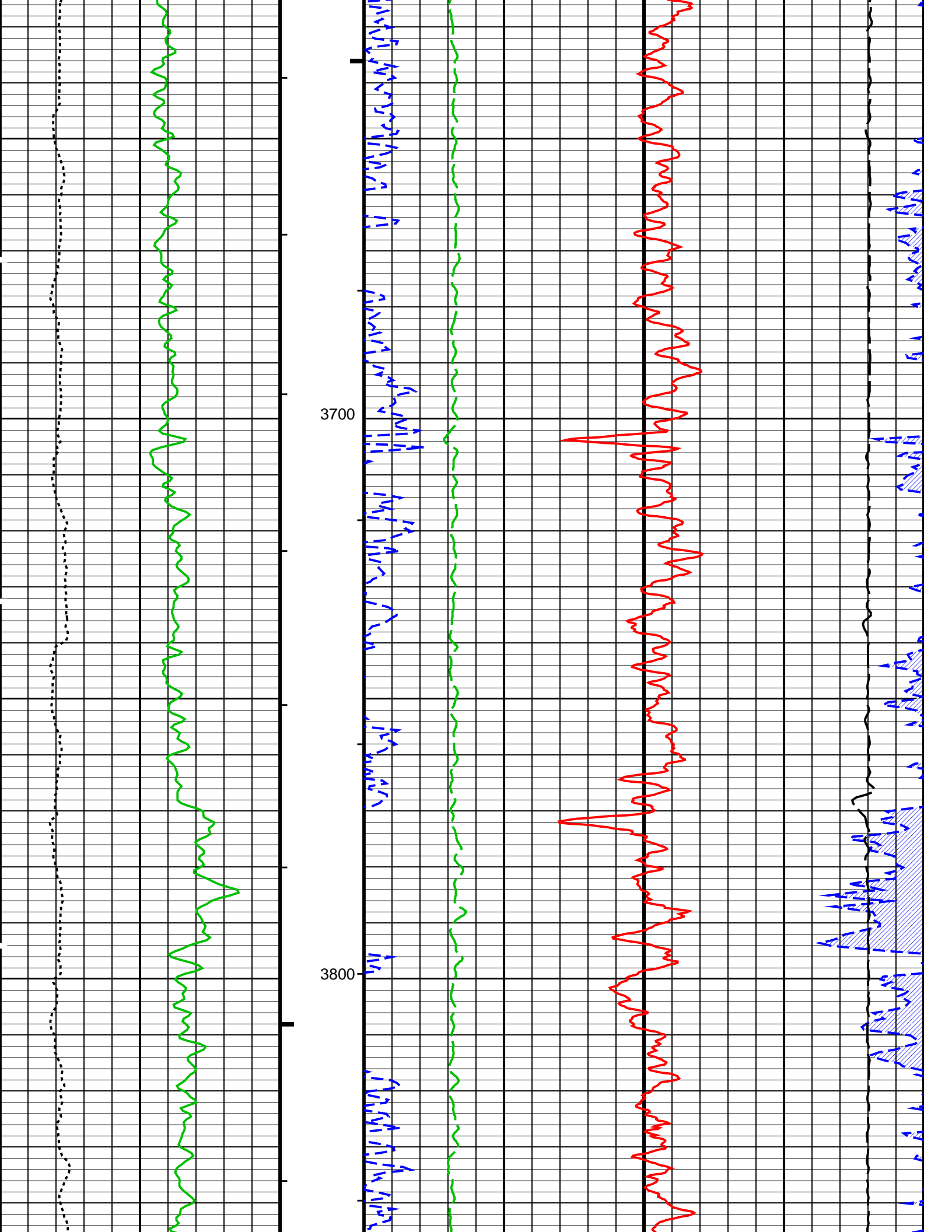
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

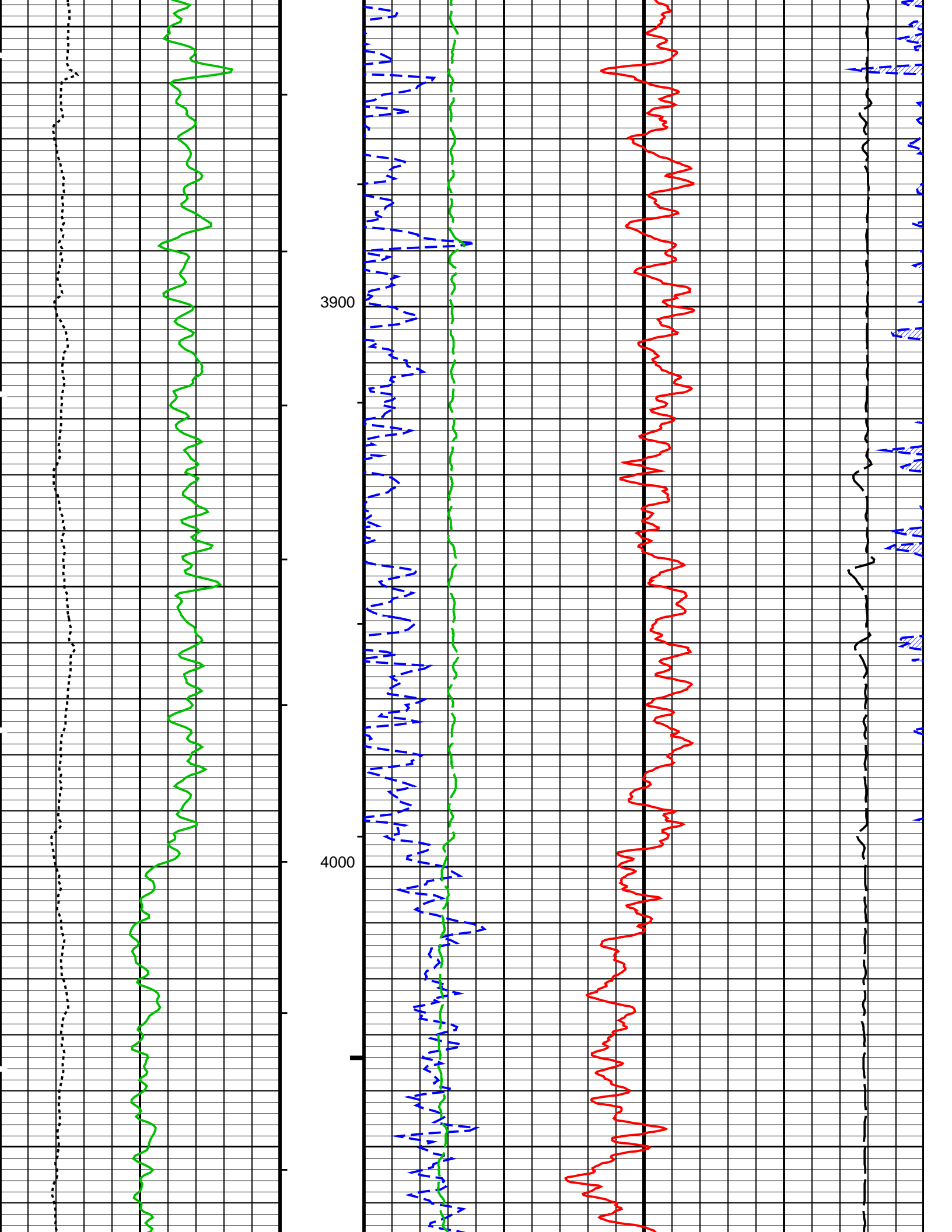
Time Mark Every 60 S

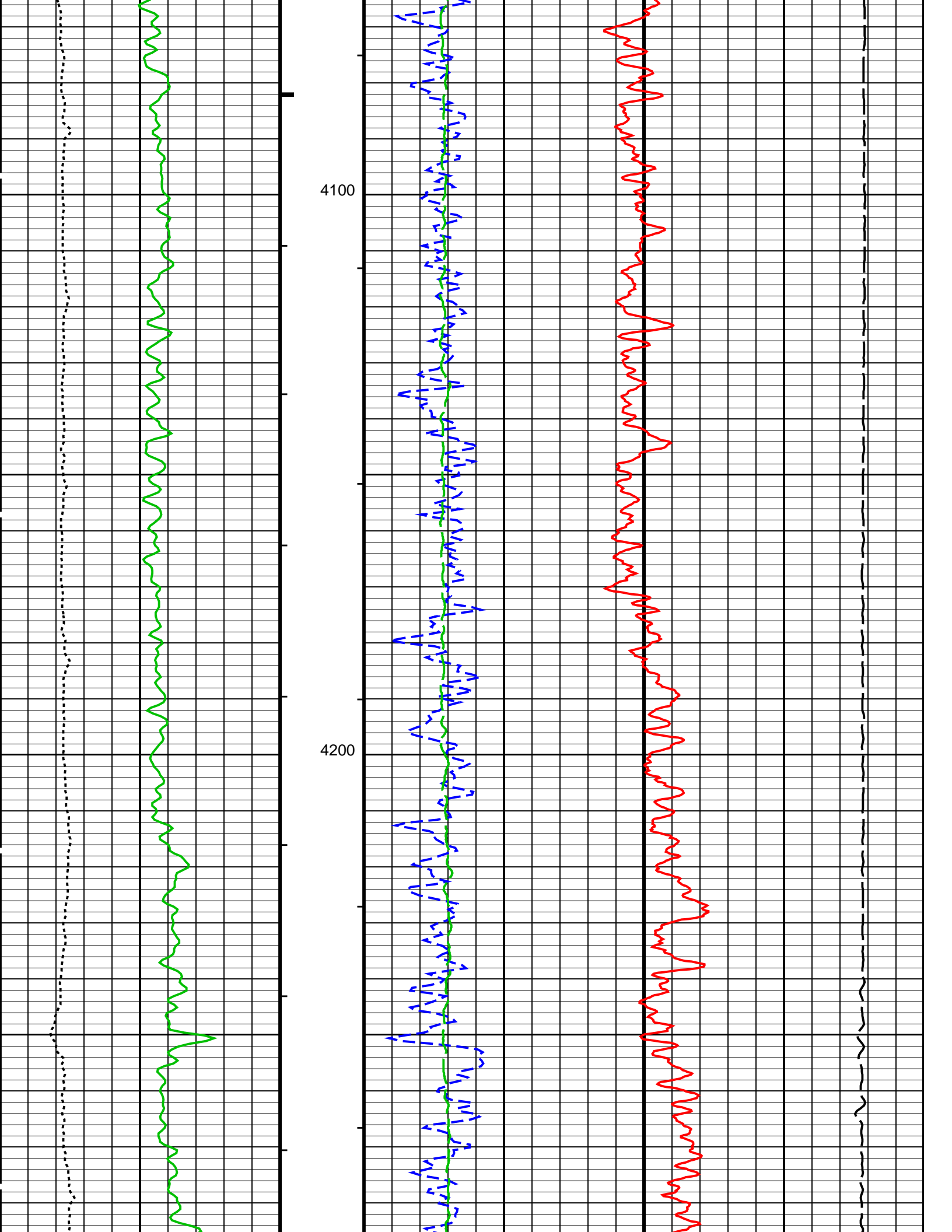


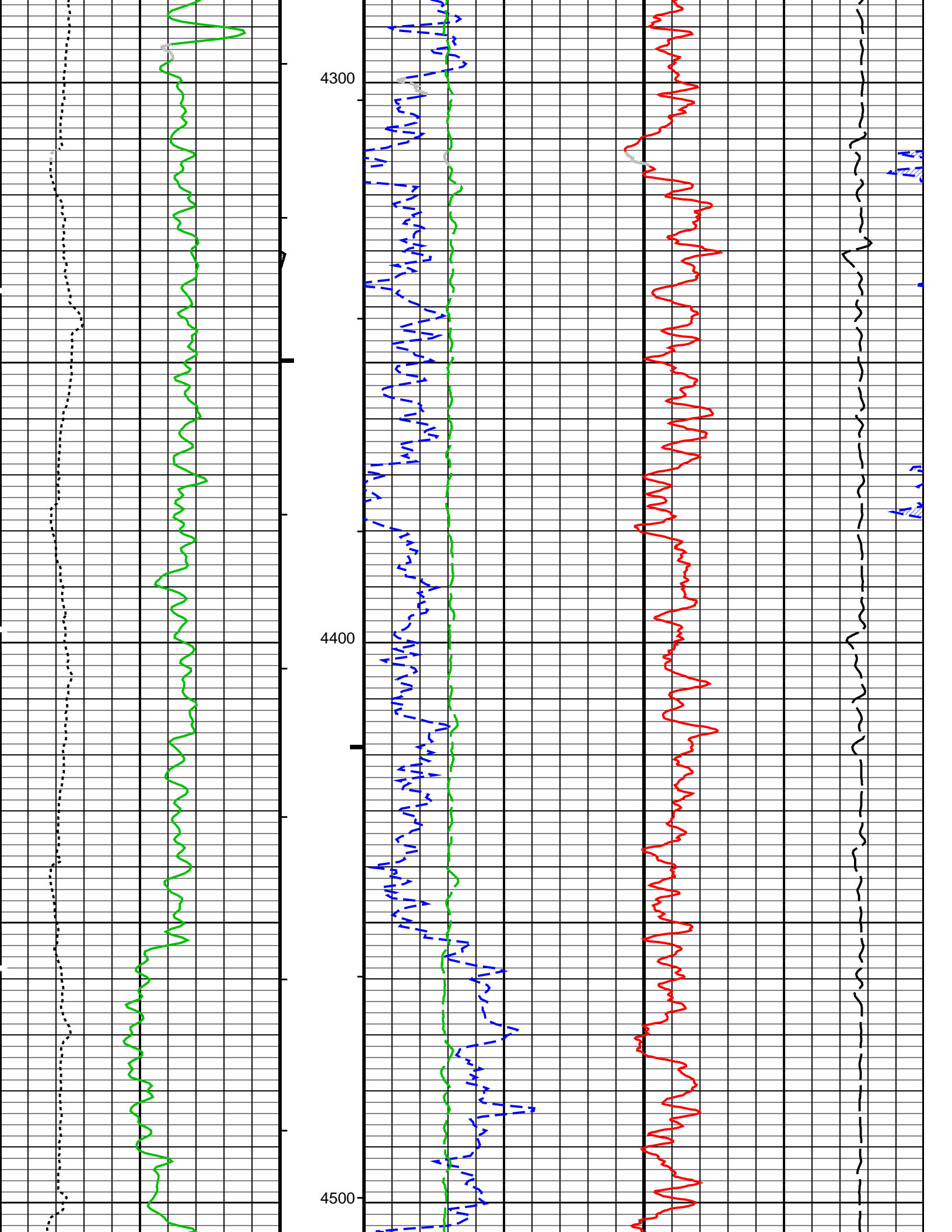
MAIN PASS: *** PLATFORM EXPRESS - NUCLEAR POROSITY ***

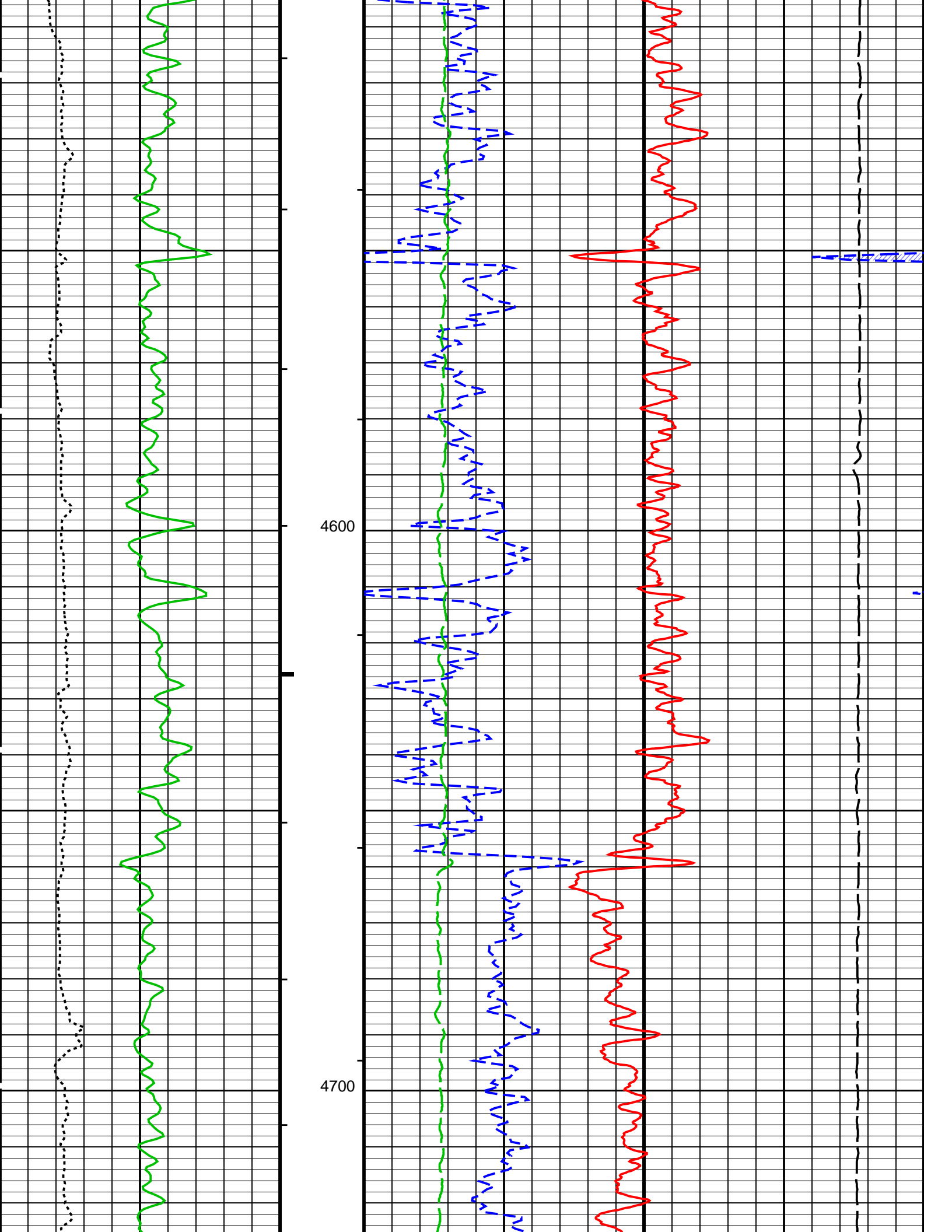


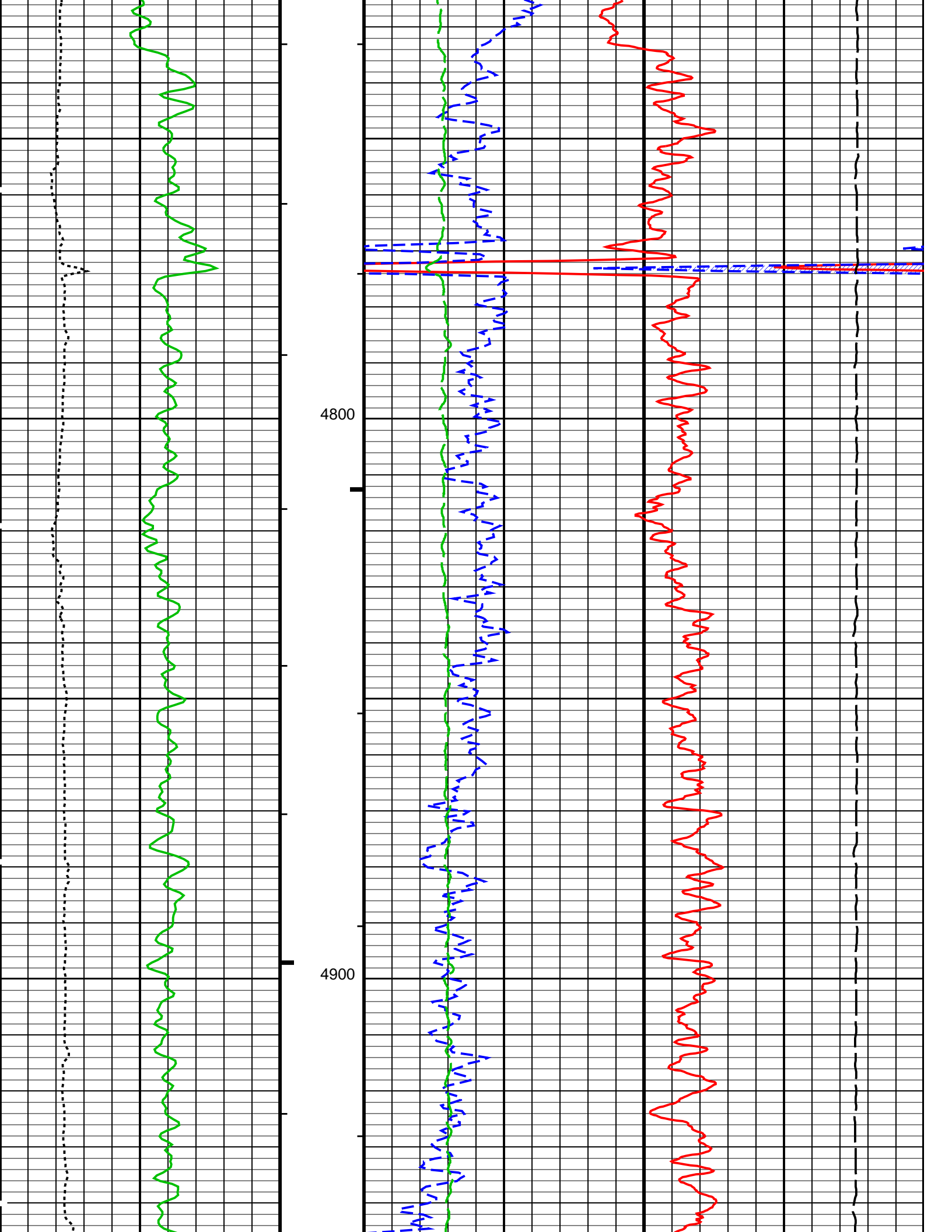


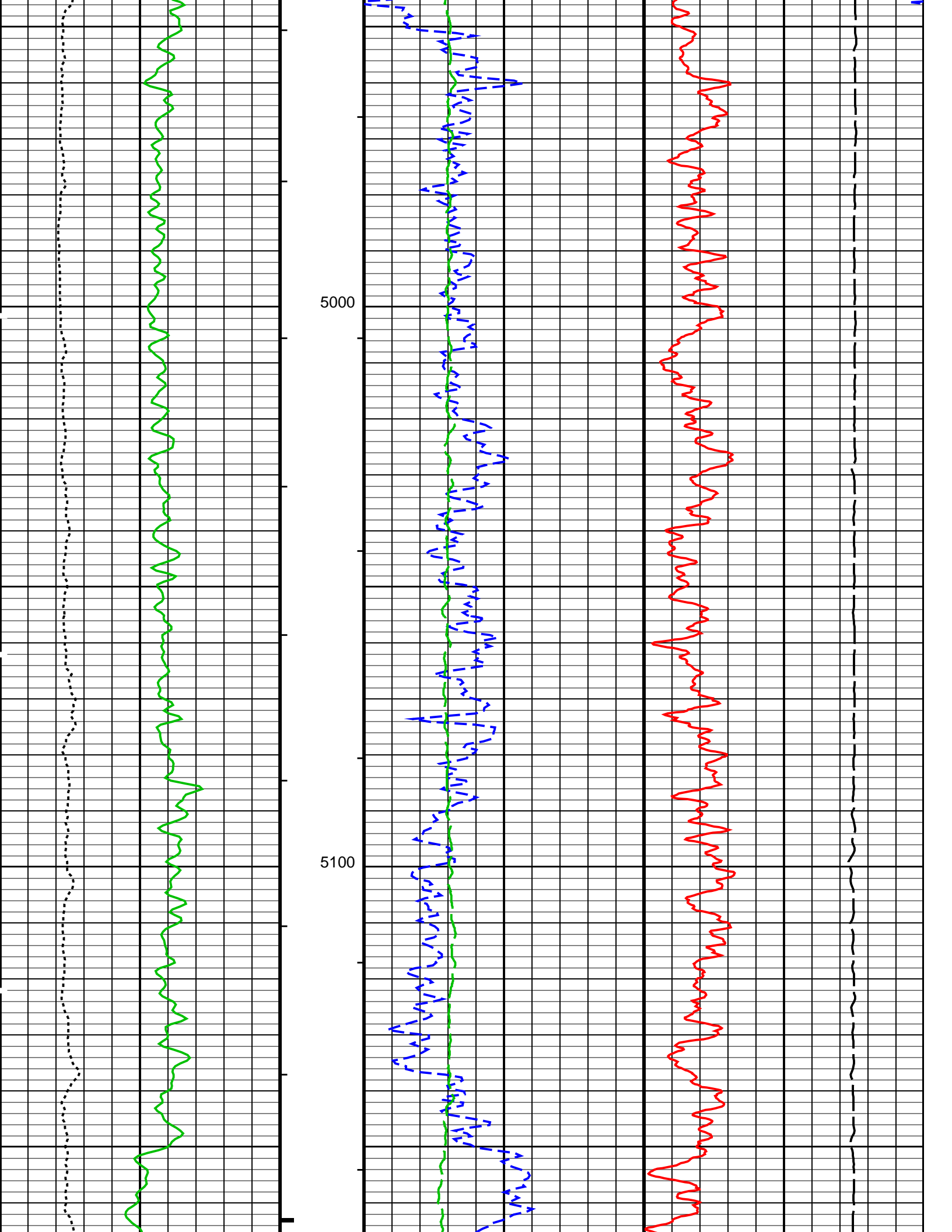


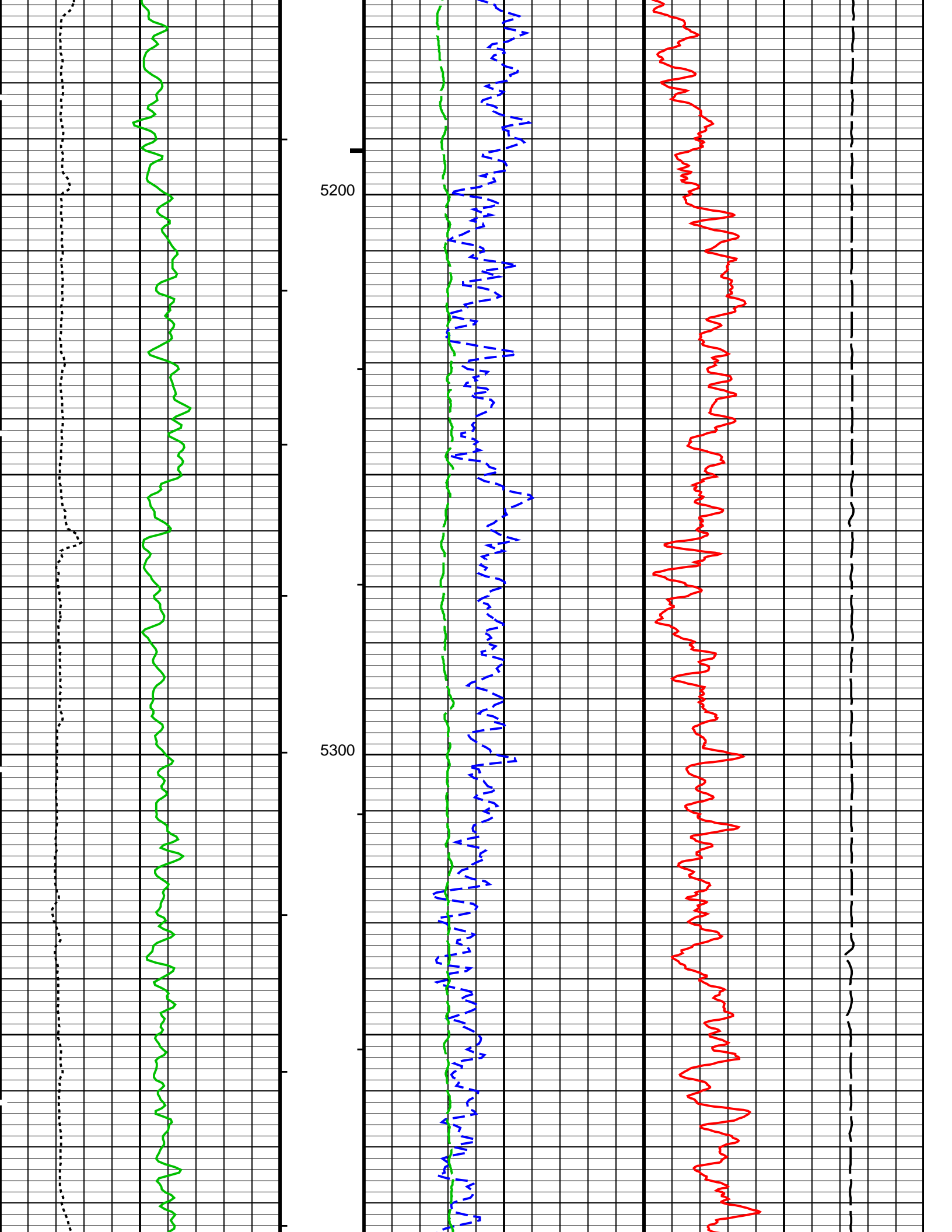


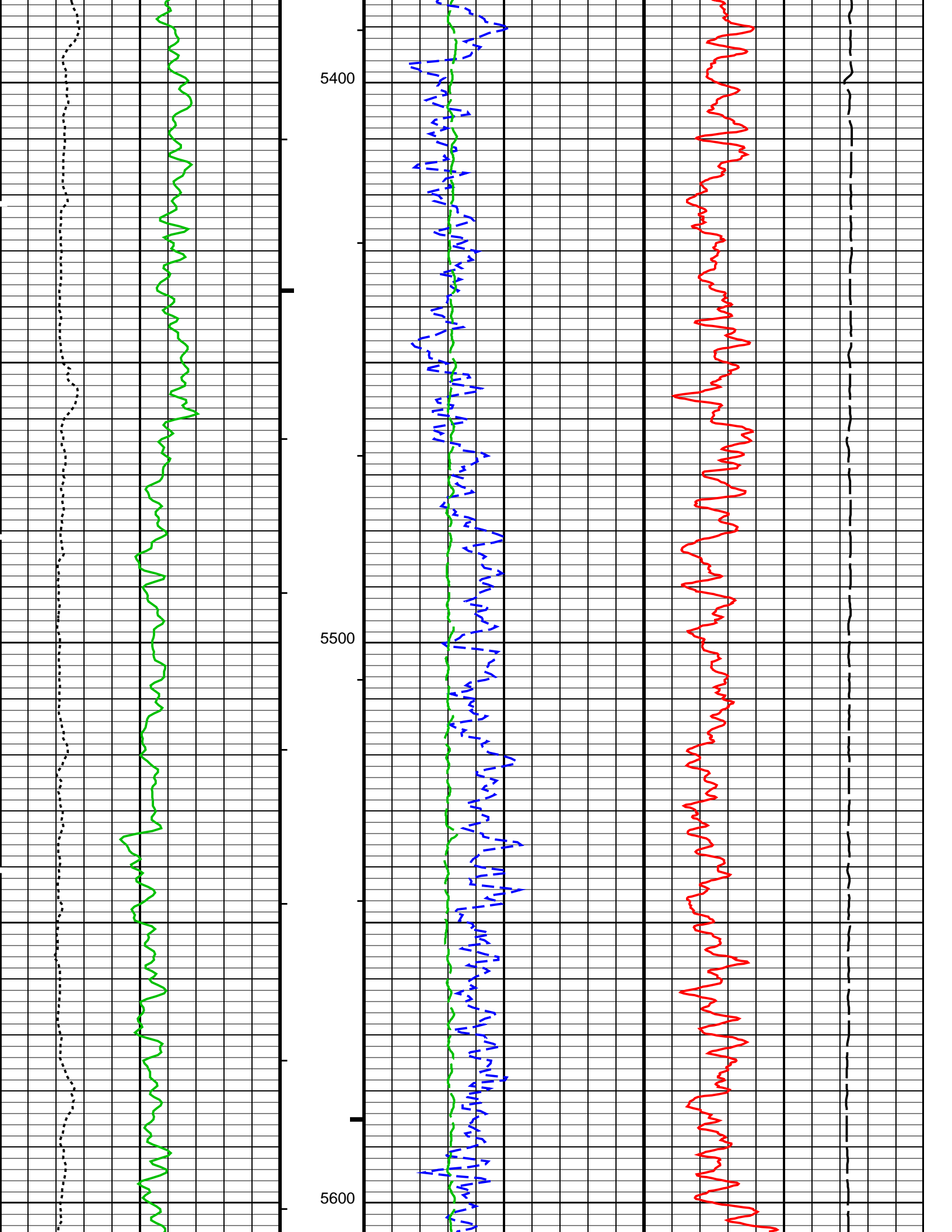


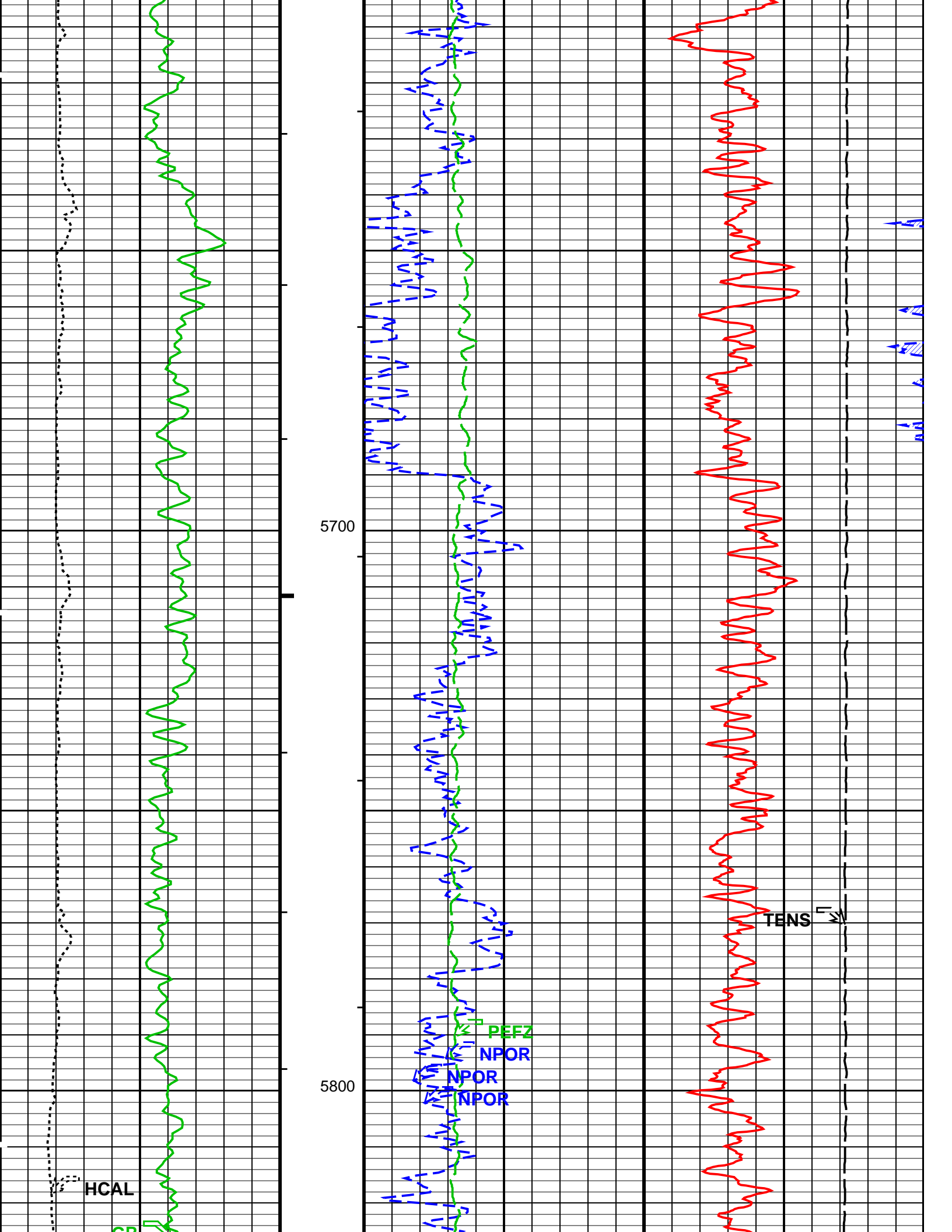


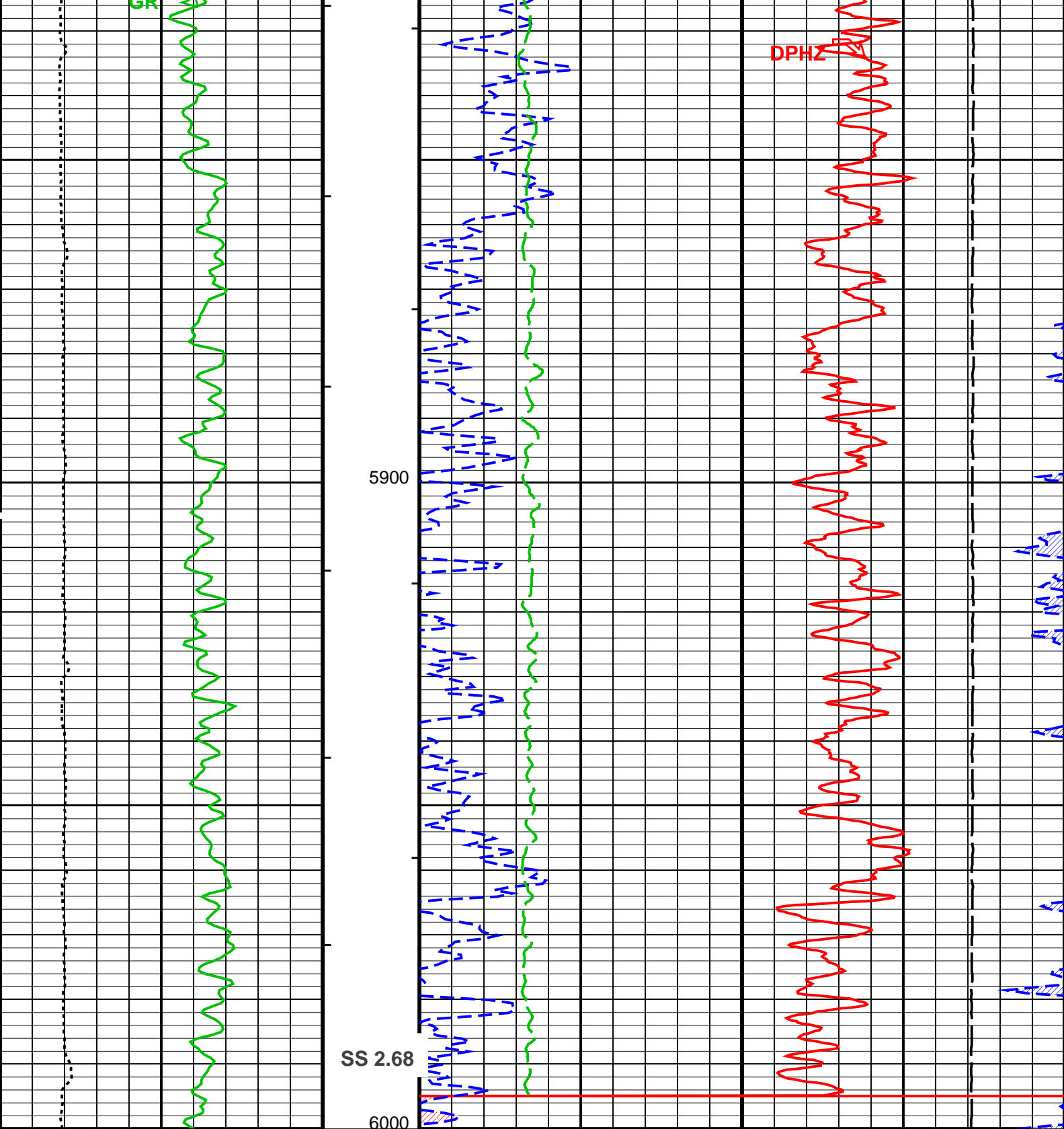












MAIN PASS: *** PLATFORM EXPRESS - NUCLEAR POROSITY ***

Gamma Ray Backup		Cable Drag	Std. Res. Density Porosity (DPHZ)	
			0.3	-0.1
Gamma Ray (GR) (GAPI)		Tool/Tot. Drag	Alpha Processed Neutron Porosity (NPOR)	
0 200			0.3	-0.1
Caliper (HCAL) (IN)		Stuck Stretch (STIT)	Std. Res. Formation Pe (PEFZ)	Tension (TENS) (LBF)
6 16		0 (F) 50	0 10 10000	0

PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.68	G/C3
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	4.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation - Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	7670.00	FT
TDL	Total Depth - Logger	7676.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	900.00	PPM
CSIZ	Current Casing Size	8.625	IN
CWEI	Casing Weight	24.00	LB/F
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset for Playback	2.0	FT
MST	Mud Sample Temperature	85.00	DEGF
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	3.5000	OHMM
TD	Total Depth	7676	FT

OP System Version: 13C0-300

MCM

HILTB-FTB
DTC-H

SRPC-2788-HILT
13C0-300

GPIT-C

13C0-300

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER	10-Sep-2006 04:31	7692.0 FT	3248.5 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_030PUP	FN:28	PRODUCER	10-Sep-2006 07:01
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Schlumberger

MAIN POROSITY LOG 5" = 100'

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER	10-Sep-2006 04:31	7692.0 FT	3248.5 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_029PUP	FN:27	PRODUCER	10-Sep-2006 06:47	7694.0 FT	5903.5 FT
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Integrated Hole/Cement Volume Summary

Hole Volume = 601.42 F3

Cement Volume = 405.67 F3 (assuming 4.50 IN casing O.D.)

Computed from 7676.0 FT to 5904.0 FT using data channel(s) HCAL

OP System Version: 13C0-300

MCM

HILTB-FTB
DTC-H

SRPC-2788-HILT
13C0-300

GPIT-C

13C0-300

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
MATR	SANDSTONE	SANDSTONE	7694.0 06:47:31
	LIMESTONE	SANDSTONE	7511.0 06:47:38
MDEN	2.68 G/C3	2.68 G/C3	7694.0 06:47:31
	2.71 G/C3	2.68 G/C3	7511.0 06:47:38

PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

NPOR Backup

Gas Effect

Caliper (HCAL)

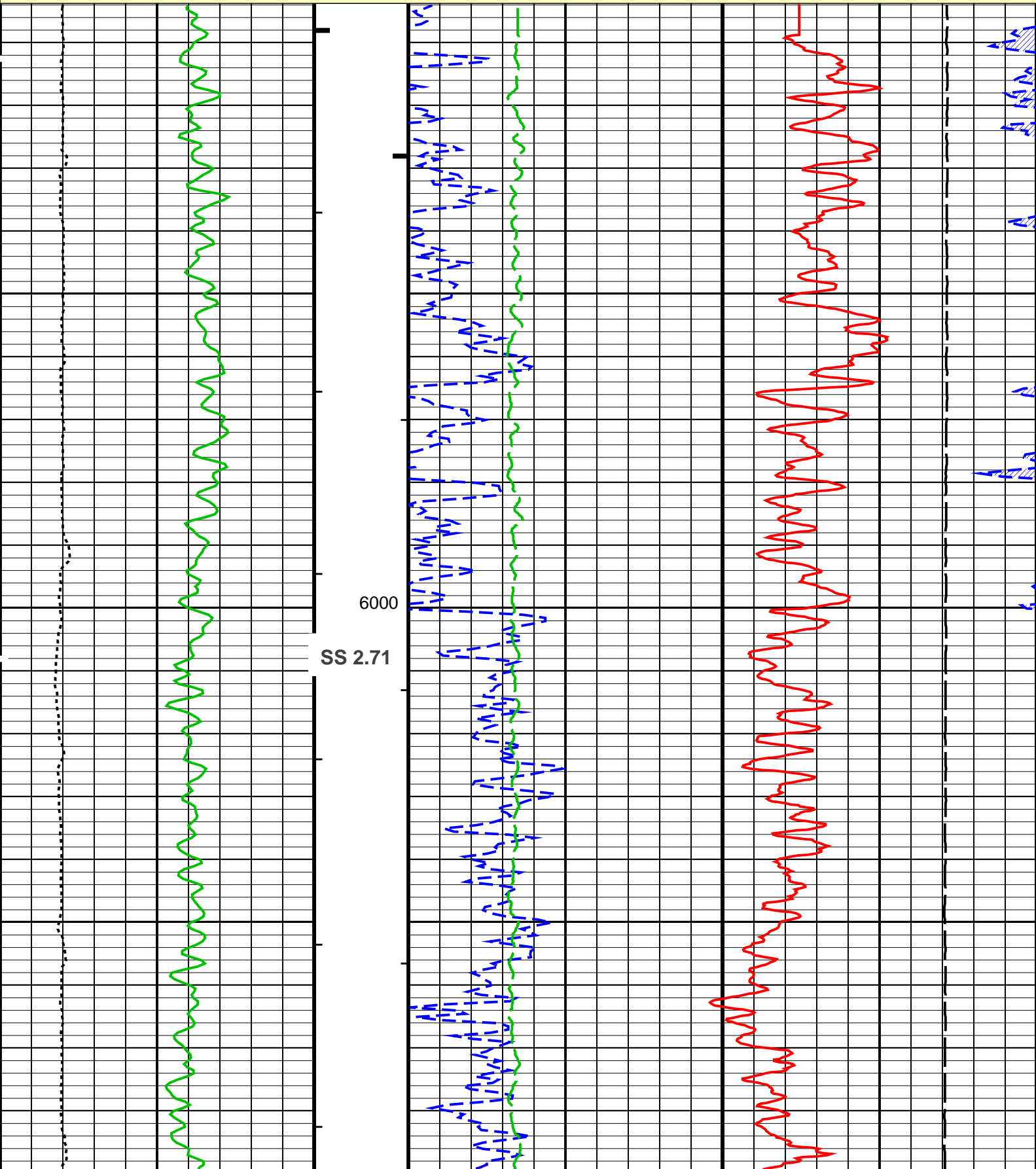
Stuck
Stretch
(STIT)

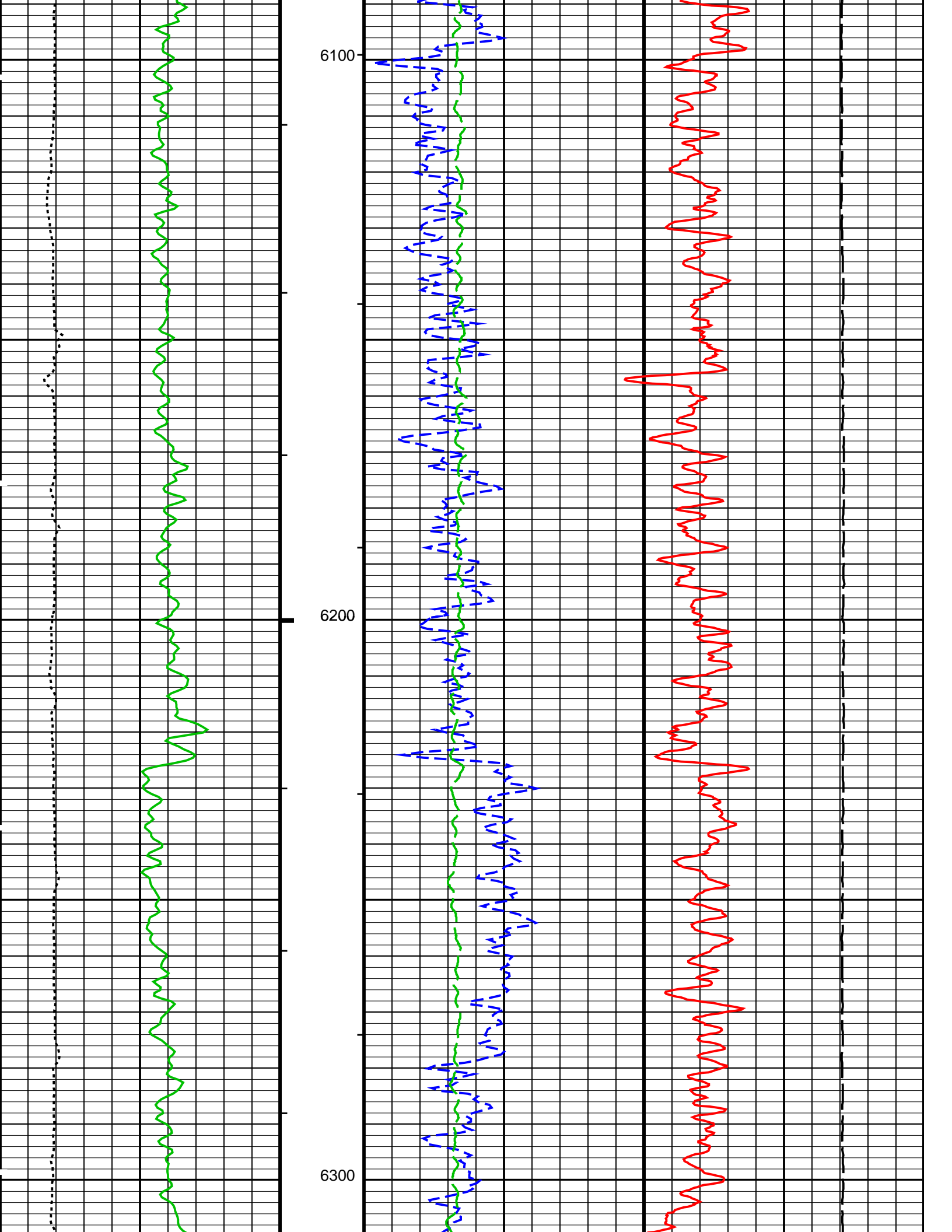
Std. Res. Formation Pe (PEFZ)

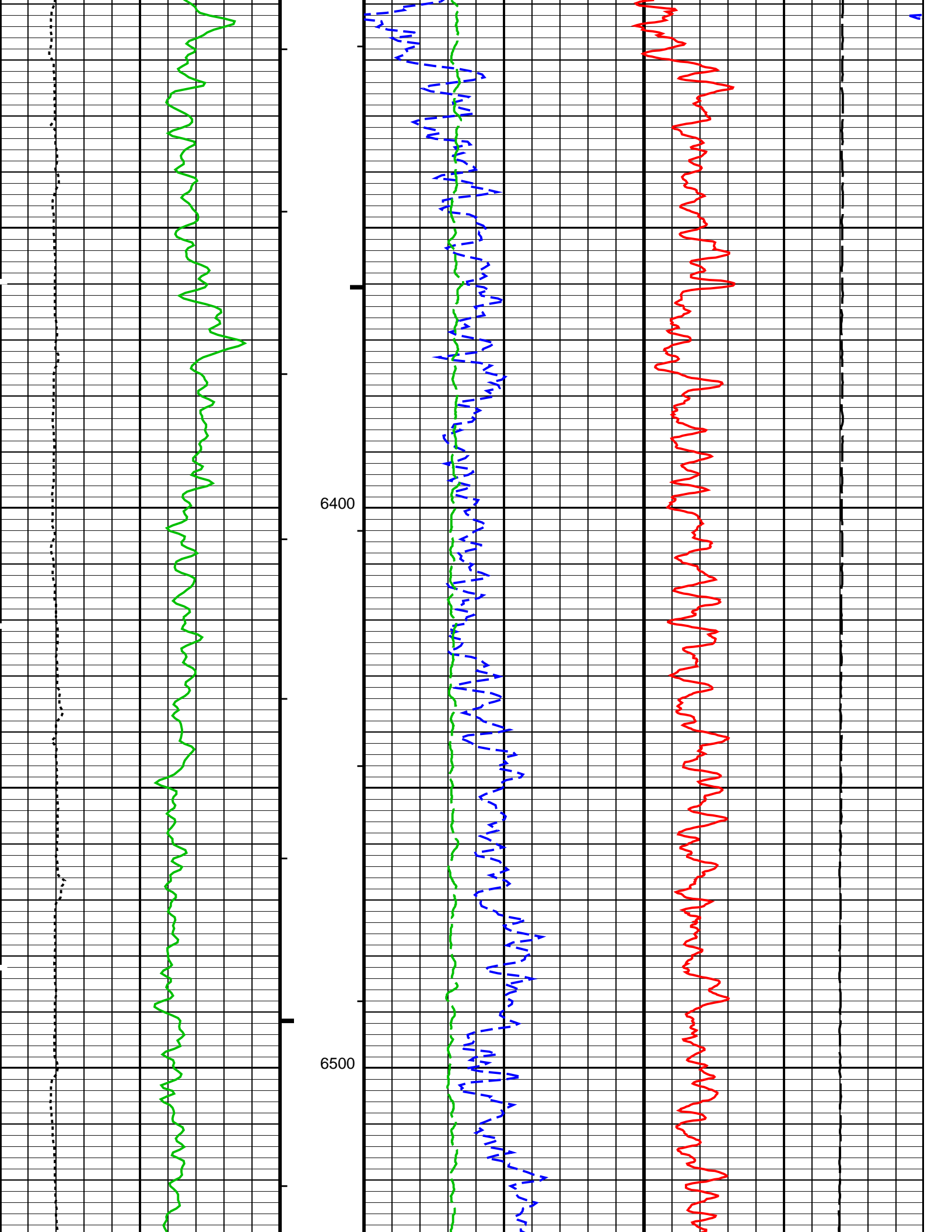
Tension (TENS)

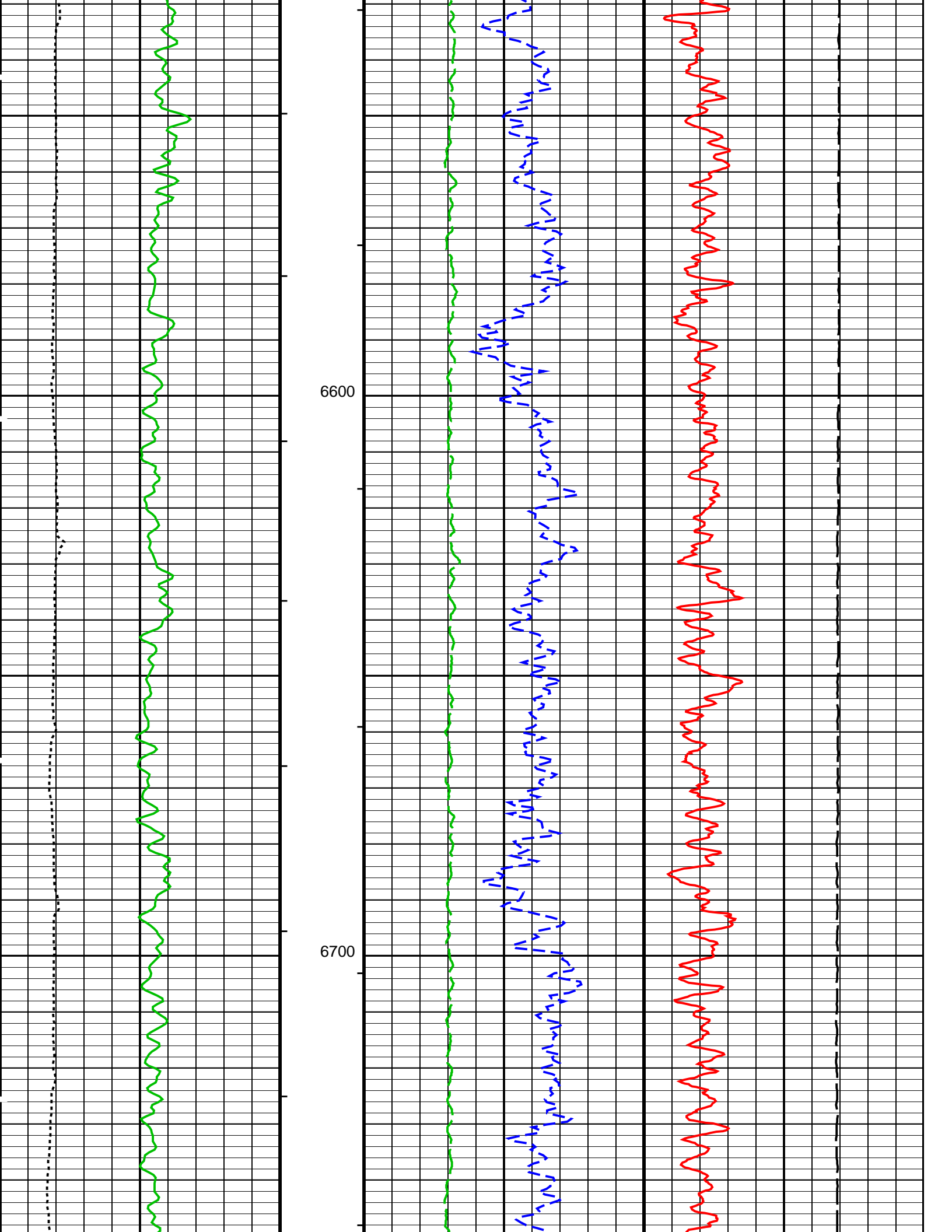
(IN)	16	(S11)	0	10	10000	(LBF)	0
		(F)	50				
Gamma Ray (GR) (GAPI)		0	200	Tool/Tot. Drag		Alpha Processed Neutron Porosity (NPOR) (V/V)	
				0.3		-0.1	
Gamma Ray Backup		Cable Drag		Std. Res. Density Porosity (DPHZ) (V/V)		-0.1	
		0.3					

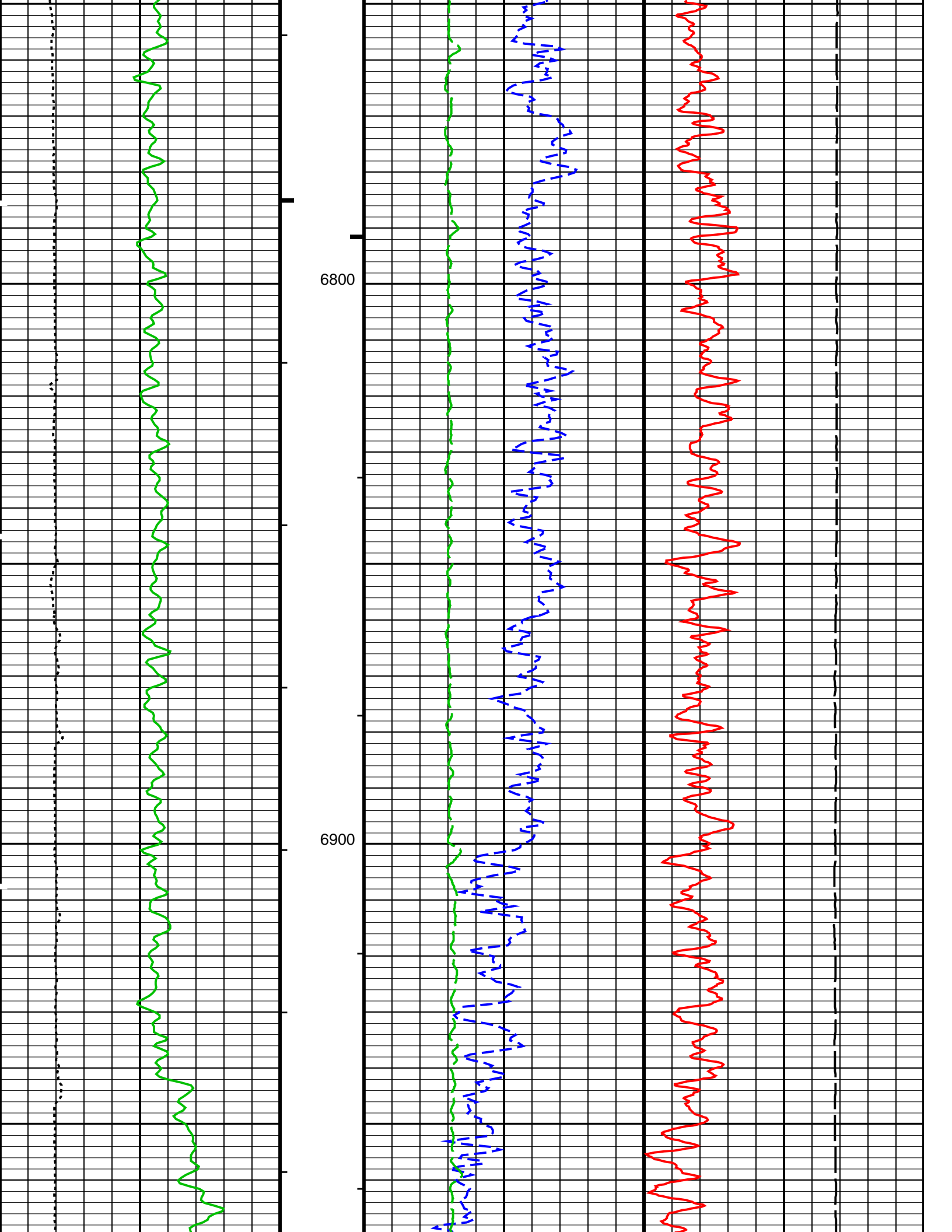
MAIN PASS: *** PLATFORM EXPRESS - NUCLEAR POROSITY ***

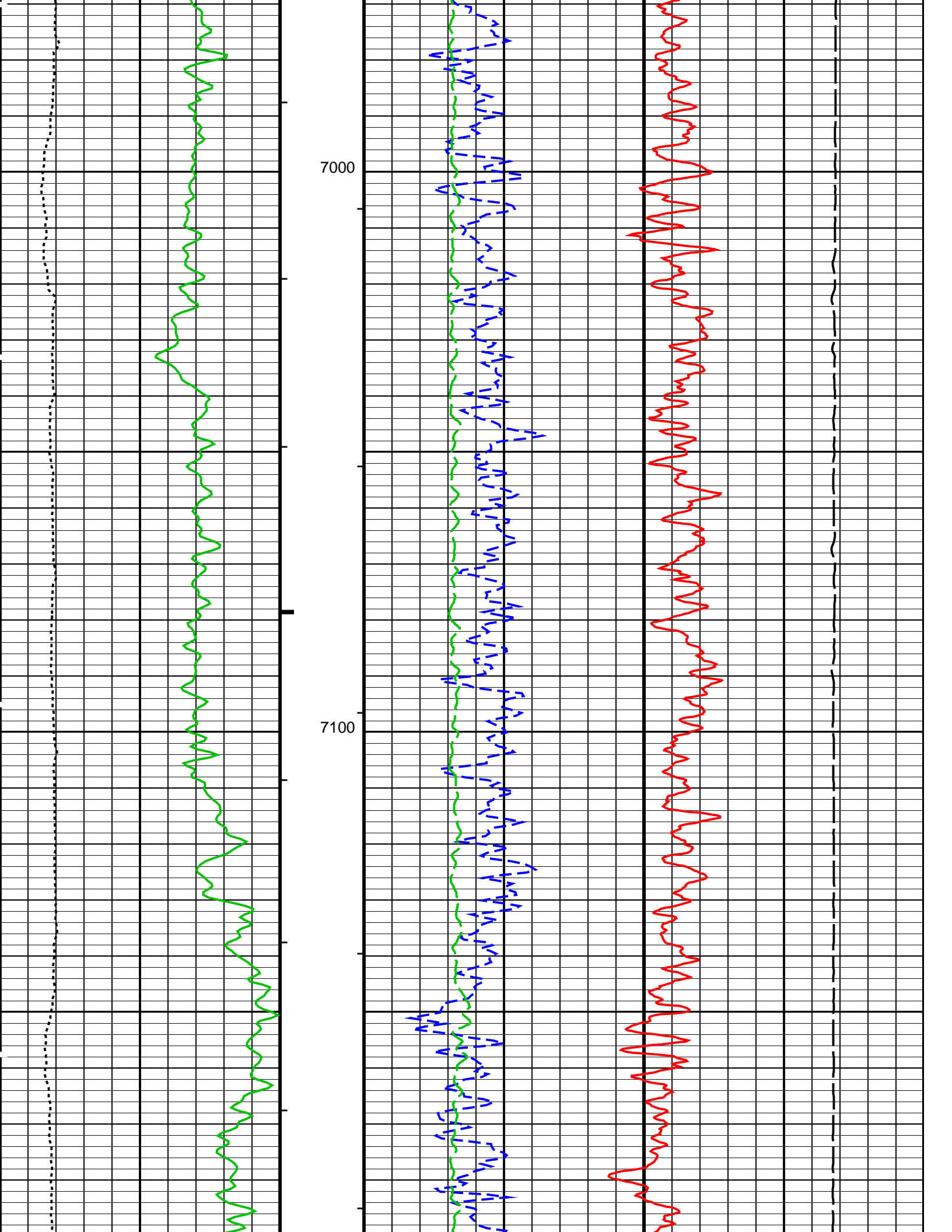


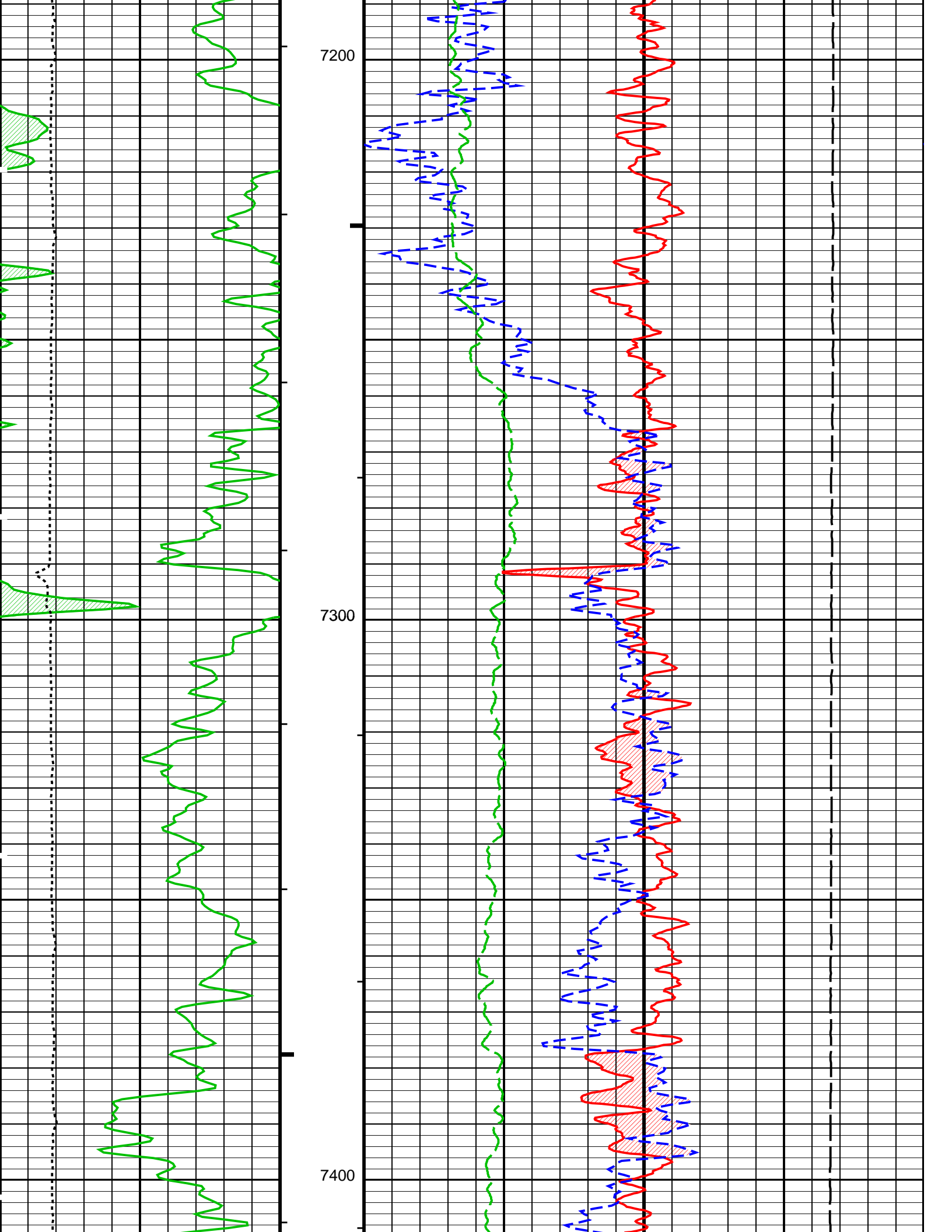


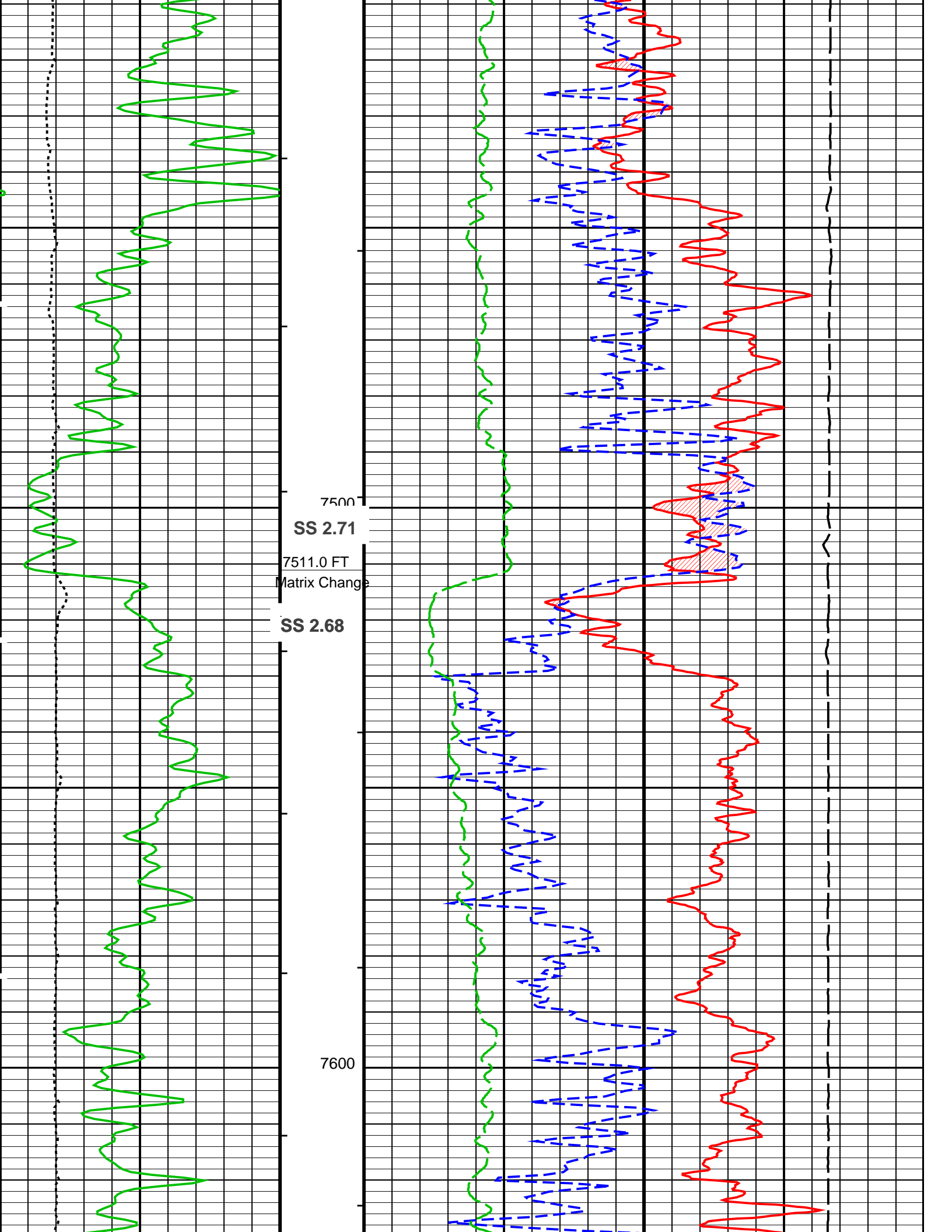


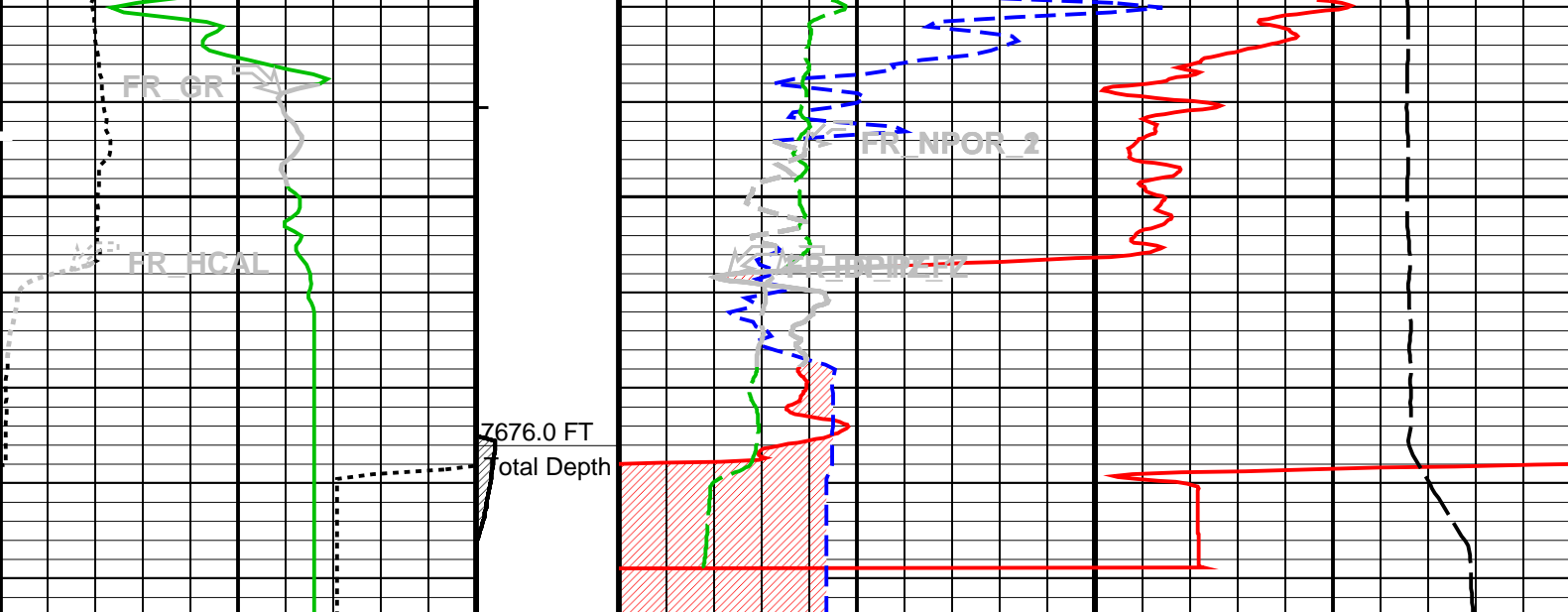












MAIN PASS: *** PLATFORM EXPRESS – NUCLEAR POROSITY ***

Gamma Ray Backup	Cable Drag	Std. Res. Density Porosity (DPHZ)			
		0.3	(V/V)		-0.1
Gamma Ray (GR)	Tool/Tot. Drag	Alpha Processed Neutron Porosity (NPOR)			
0 (GAPI) 200		0.3	(V/V)		-0.1
Caliper (HCAL)	Stuck Stretch (STIT)	Std. Res. Formation Pe (PEFZ)		Tension (TENS)	
6 (IN) 16	0 (F) 50	0	(-----)	10	10000 (LBF) 0
		Gas Effect			
		NPOR Backup			

PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.68	G/C3
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	

SDAT	Standard Data Source	68	DEGF
SHT	Surface Hole Temperature	0.125	IN
SOCN	Standoff Distance	YES	
SOCO	Standoff Correction Option		
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	4.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth – Driller	7670.00	FT
TDL	Total Depth – Logger	7676.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	900.00	PPM
CSIZ	Current Casing Size	8.625	IN
CWEI	Casing Weight	24.00	LB/F
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset for Playback	2.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
MST	Mud Sample Temperature	85.00	DEGF
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	3.5000	OHMM
TD	Total Depth	7676	FT

Format: LOWER_PORO Vertical Scale: 5" per 100' Graphics File Created: 10-Sep-2006 06:47

OP System Version: 13C0-300

MCM

HILTB-FTB	SRPC-2788-HILT	GPIT-C	13C0-300
DTC-H	13C0-300		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER	10-Sep-2006 04:31	7692.0 FT	3248.5 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_029PUP	FN:27	PRODUCER	10-Sep-2006 06:47		
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Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER	10-Sep-2006 04:31	7692.0 FT	3248.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_014PUP	FN:13	PRODUCER	10-Sep-2006 04:30	7700.0 FT	7145.5 FT

Output DLIS Files

OP System Version: 13C0-300
MCM

HILTB-FTB SRPC-2788-HILT GPIT-C 13C0-300
DTC-H 13C0-300

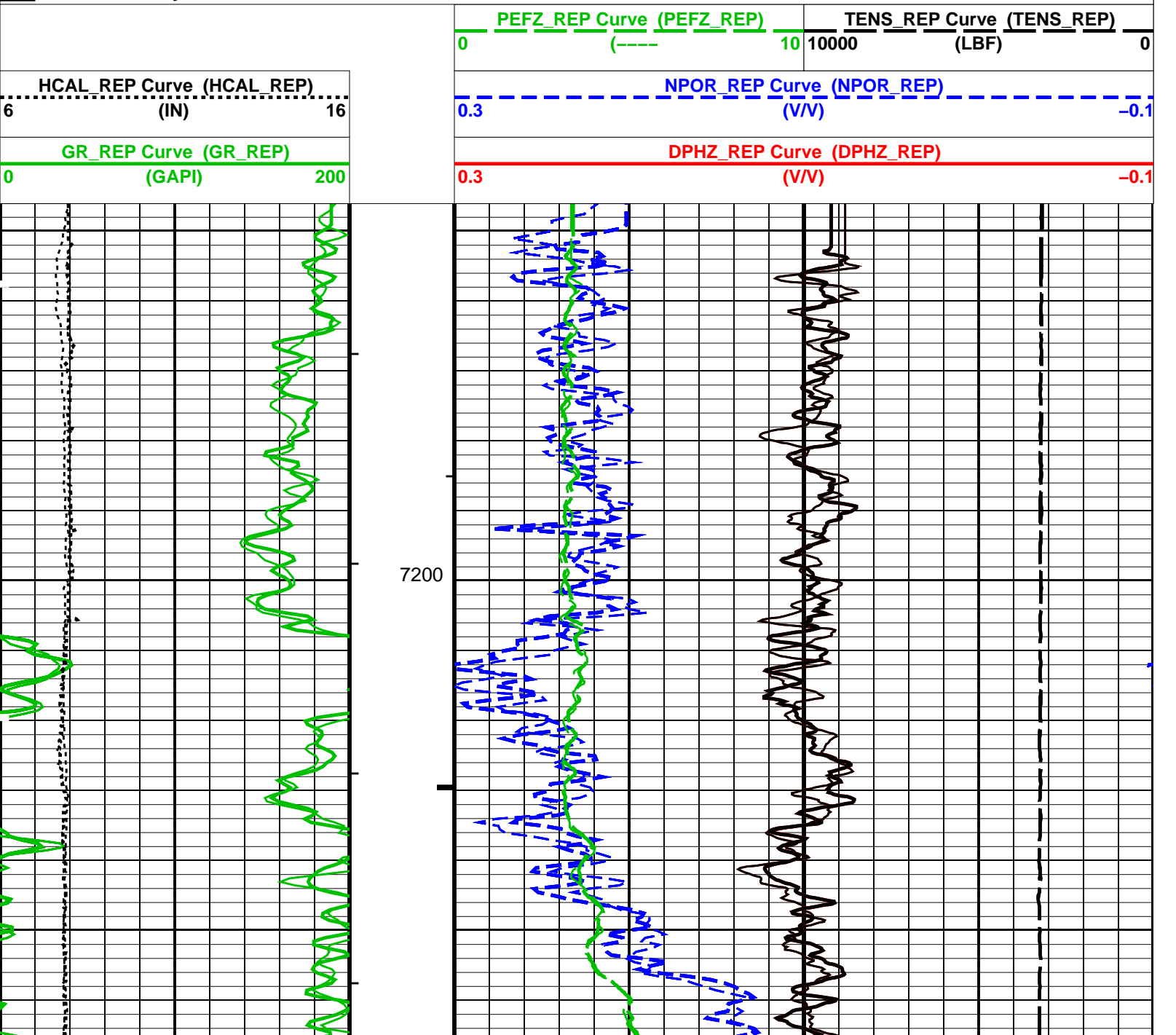
Changed Parameter Summary

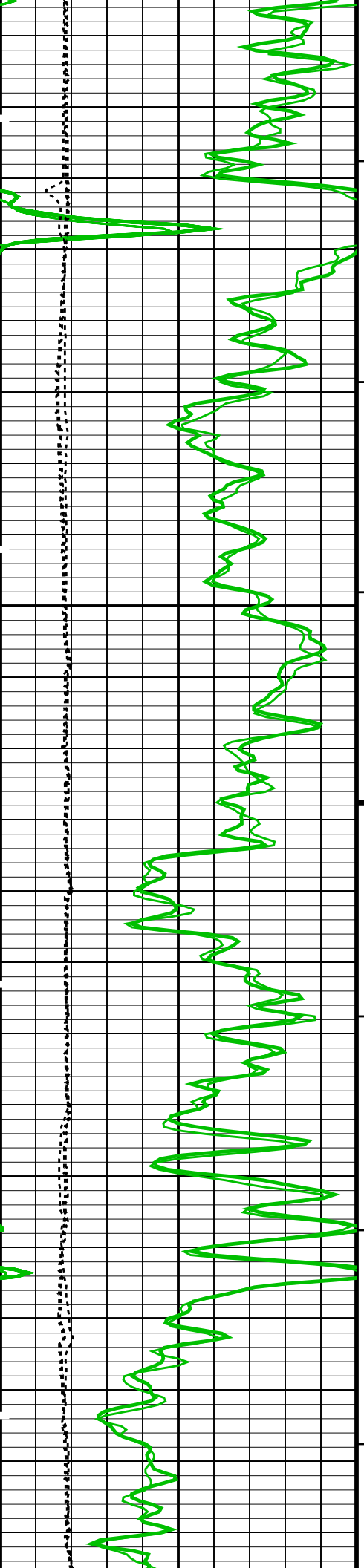
DLIS Name	New Value	Previous Value	Depth & Time
MATR	SANDSTONE	SANDSTONE	7694.0 06:47:31
	LIMESTONE	SANDSTONE	7511.0 06:47:38
MDEN	2.68 G/C3	2.68 G/C3	7694.0 06:47:31
	2.71 G/C3	2.68 G/C3	7511.0 06:47:38

PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

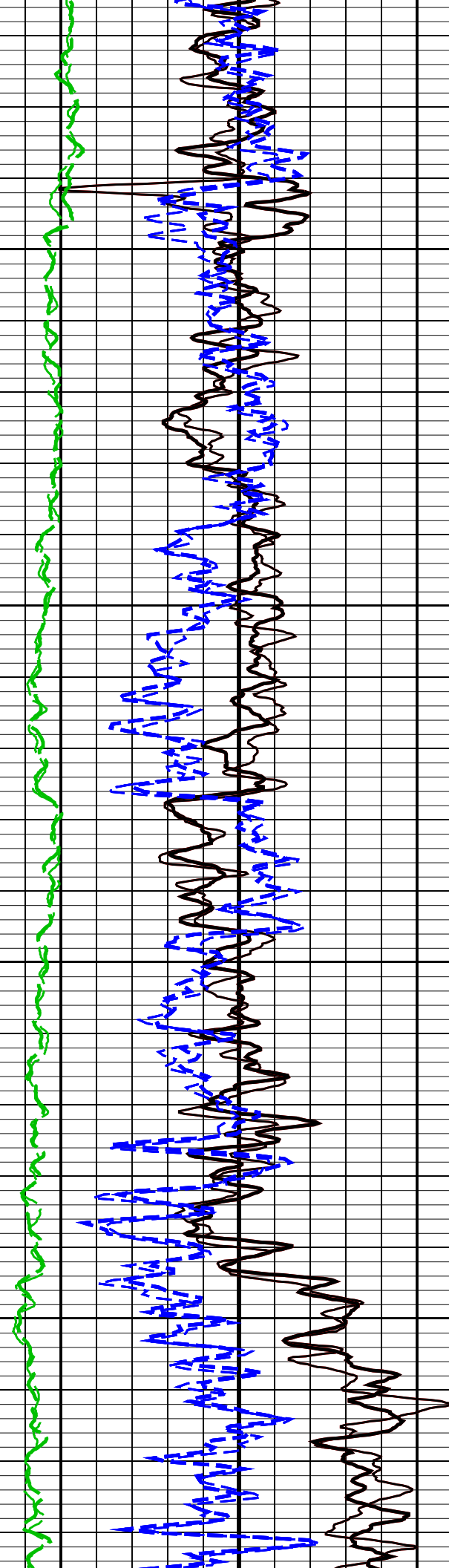
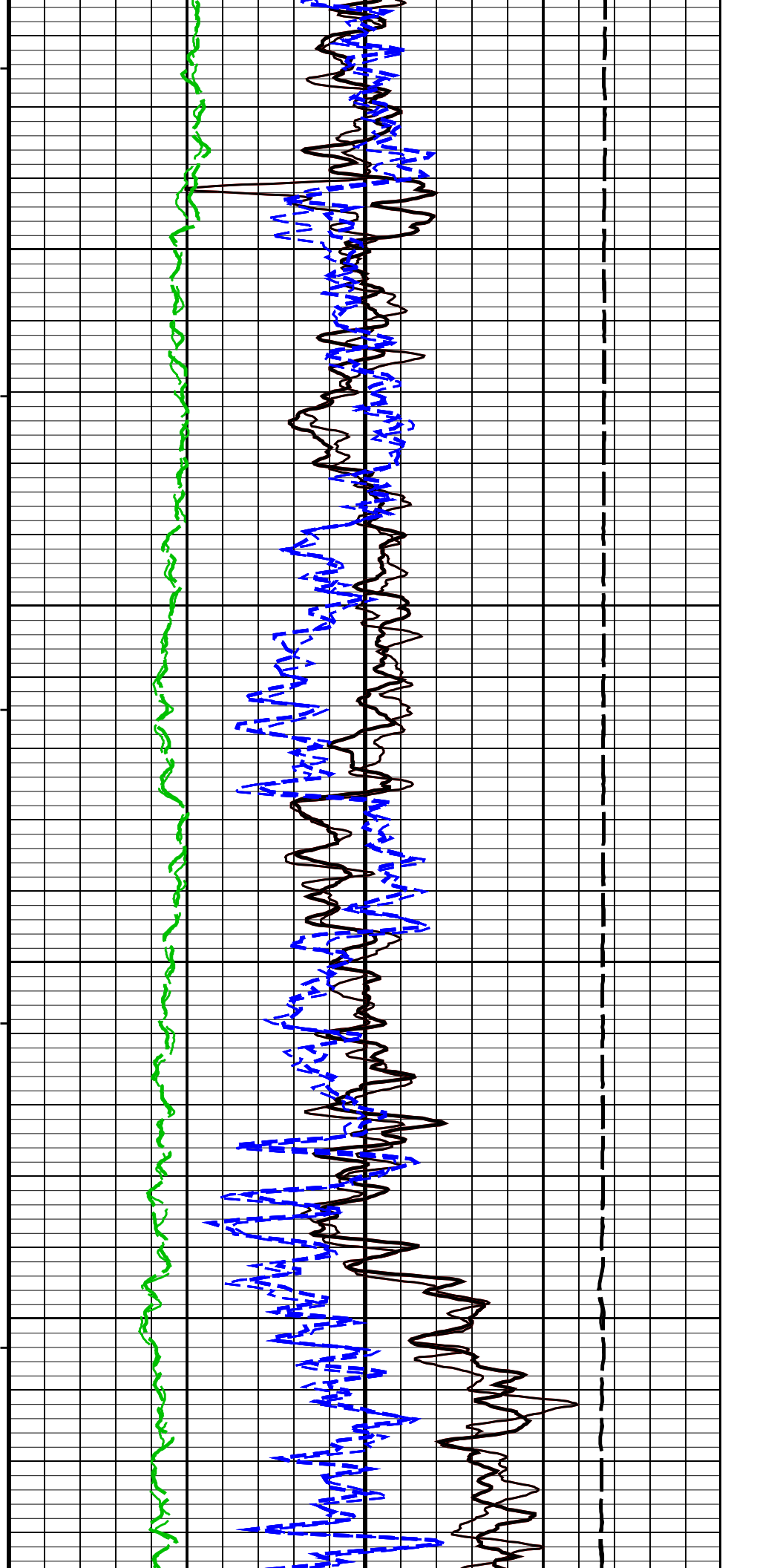
Time Mark Every 60 S

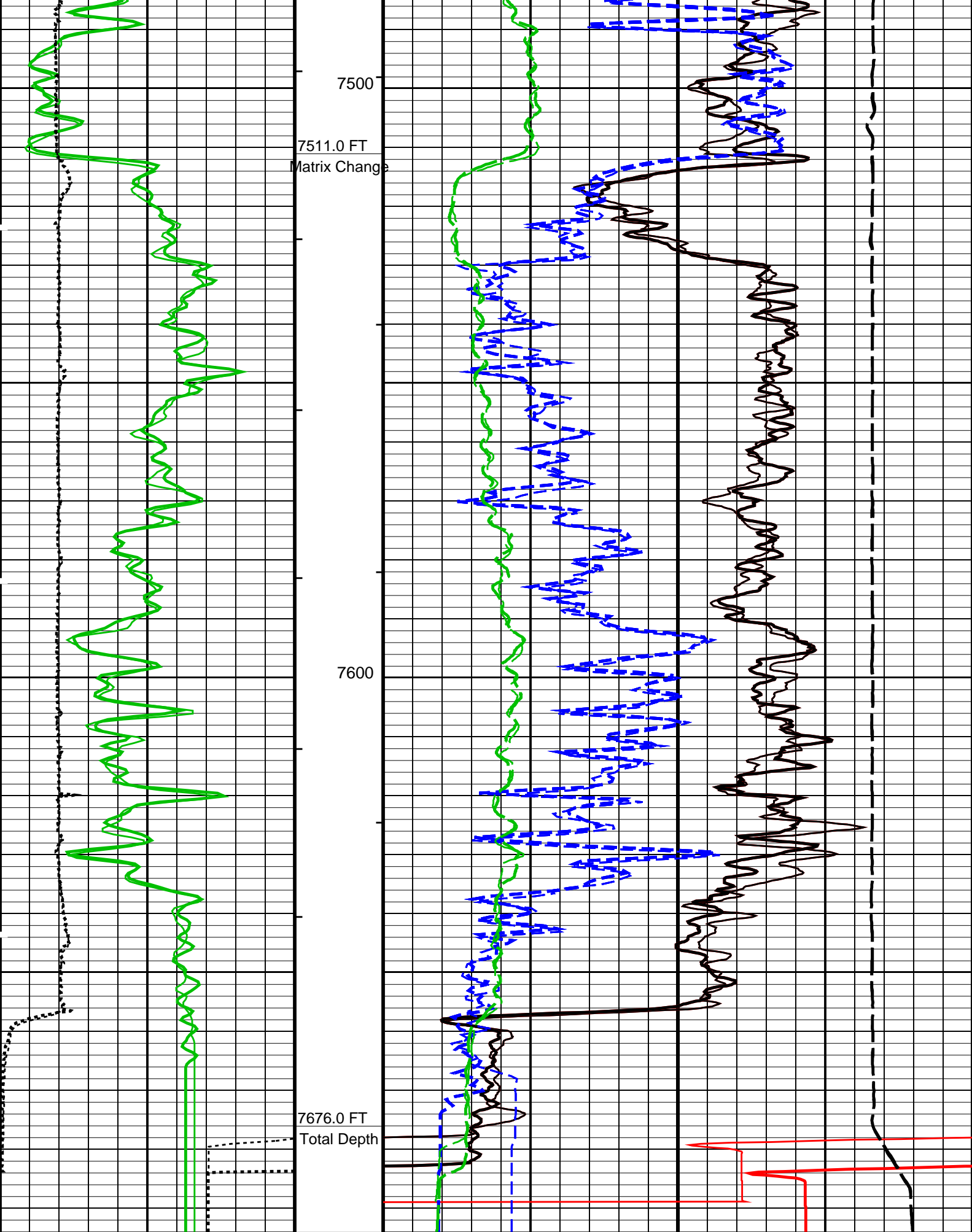




7300

7400





HCAL_REP Curve (HCAL_REP)	NPOR_REP Curve (NPOR_REP)	TENS_REP Curve (TENS_REP)
6 (IN) 16	0.3 (V/V) -0.1	
	PEFZ_REP Curve (PEFZ_REP)	
	0 (----) 10	10000 (LBF) 0

PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.68	G/C3
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	4.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation - Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
TDL	Total Depth - Logger	7676.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	900.00	PPM
CSIZ	Current Casing Size	8.625	IN
CWEI	Casing Weight	24.00	LB/F
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset for Playback	2.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
MST	Mud Sample Temperature	85.00	DEGF
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	3.5000	OHMM
TD	Total Depth	7676	FT

OP System Version: 13C0-300
MCM

HILTB-FTB DTC-H	SRPC-2788-HILT 13C0-300	GPIT-C	13C0-300
Input DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER 10-Sep-2006 04:31 7692.0 FT 3248.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_014PUP	FN:13	PRODUCER 10-Sep-2006 04:30 7700.0 FT 7145.5 FT
Output DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_029PUP	FN:27	PRODUCER 10-Sep-2006 06:47

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UPPER DENSITY LOG 5" = 100'

MAXIS Field Log

Input DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER 10-Sep-2006 04:31 7692.0 FT 3248.5 FT
Output DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_030PUP	FN:28	PRODUCER 10-Sep-2006 07:01 6000.0 FT 3503.5 FT

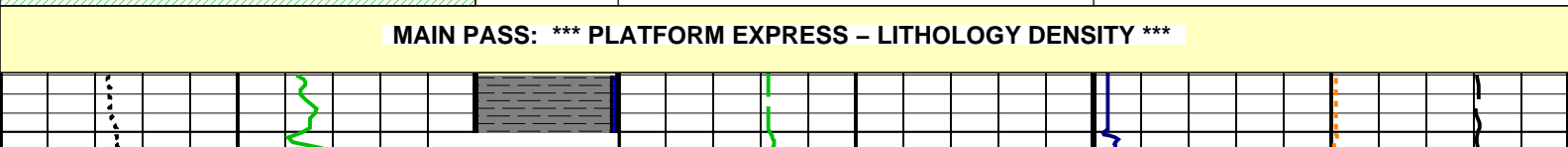
OP System Version: 13C0-300
MCM

HILTB-FTB DTC-H	SRPC-2788-HILT 13C0-300	GPIT-C	13C0-300
Changed Parameter Summary			
DLIS Name	New Value	Previous Value	Depth & Time
MATR	SANDSTONE	SANDSTONE	6000.0 07:01:12
POUT	SANDSTONE	SANDSTONE	6000.0 07:01:12

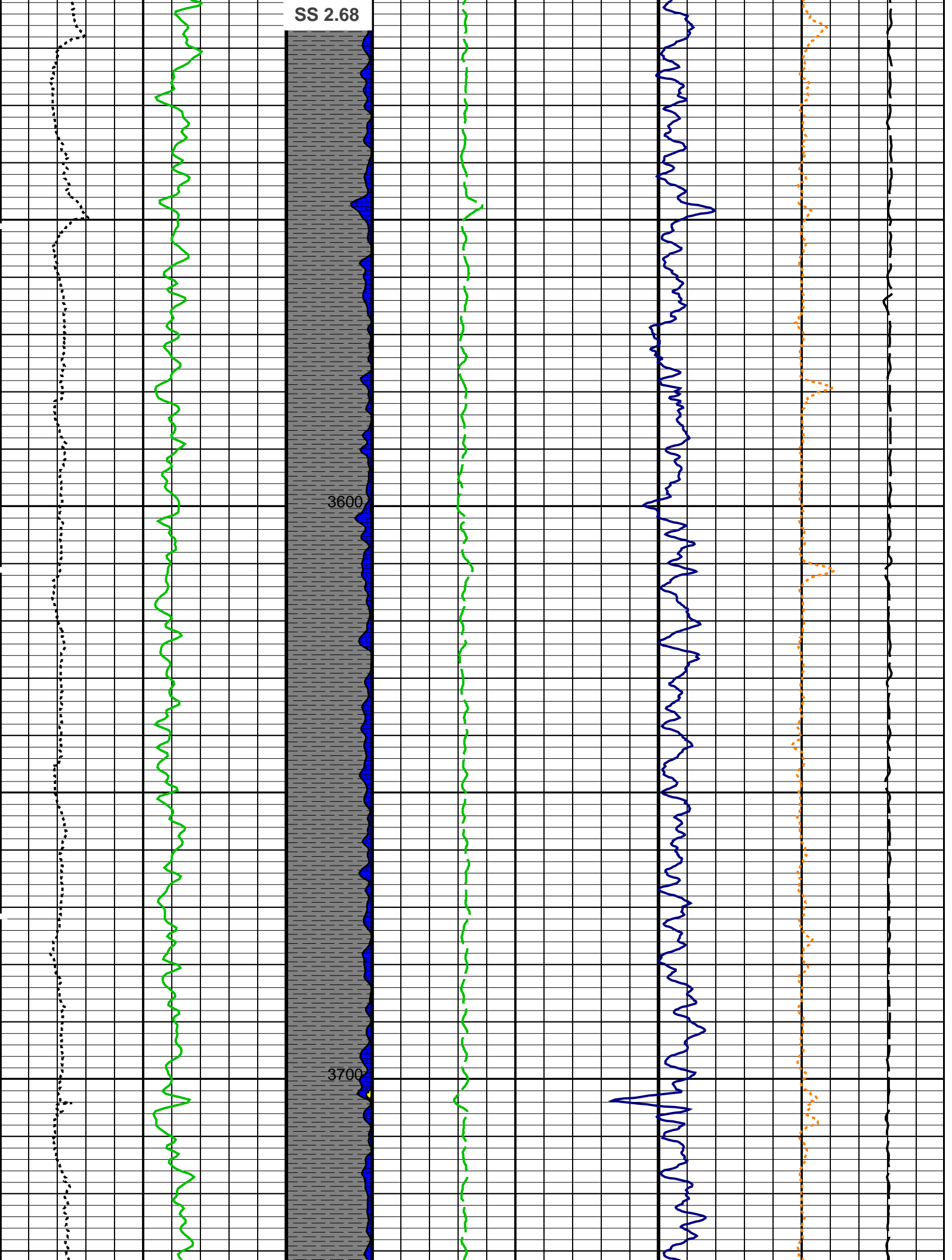
PIP SUMMARY

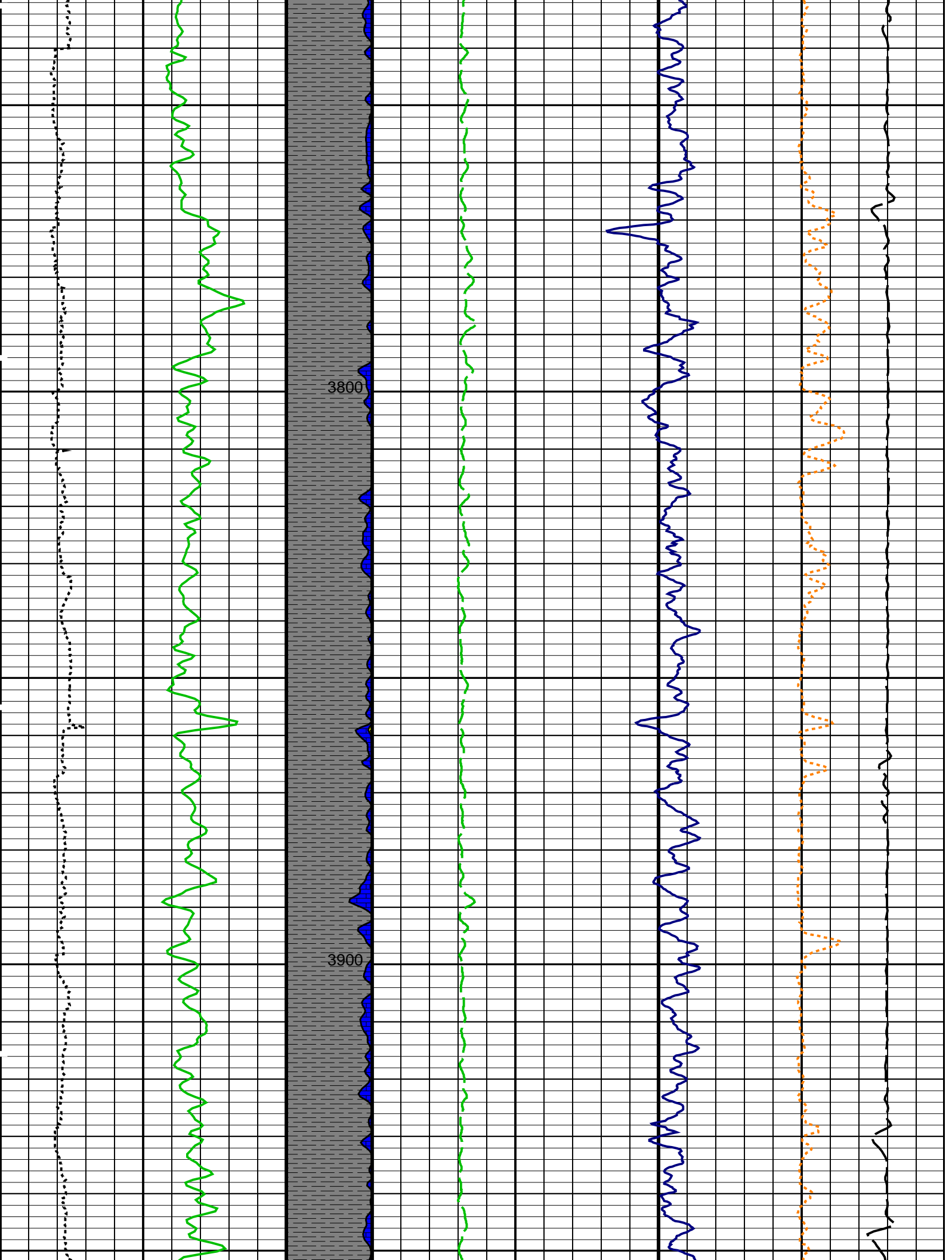
Time Mark Every 60 S

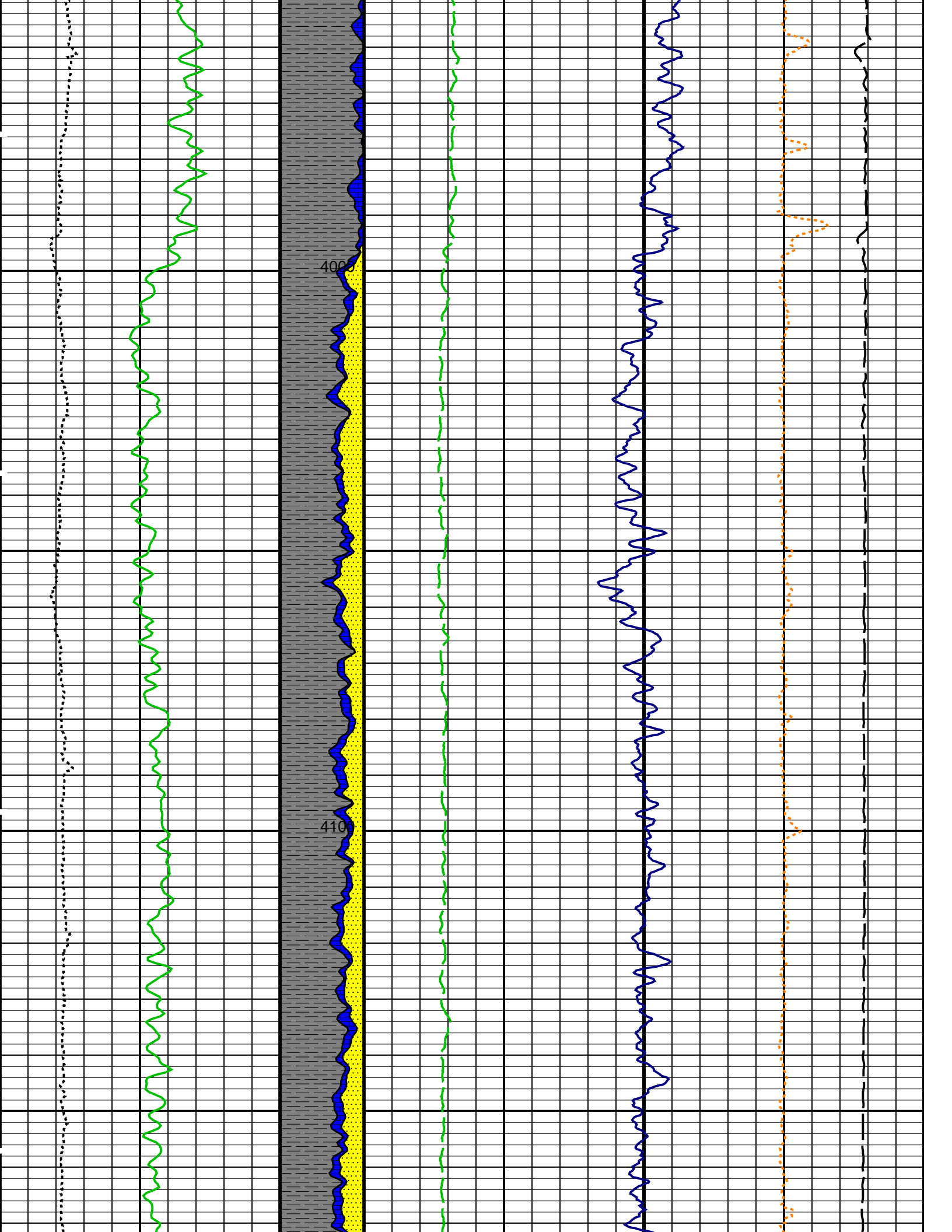
SHALE			
Caliper (HCAL) (IN)	16	SAND	Tension (TENS) (LBF)
6		10000	0
Gamma Ray (GR) (GAPI)	200	LIME	Std. Res. Formation Density (RHOZ) (G/C3)
0		2	3
Gamma Ray Backup	Stuck Stretch (STIT)	Std. Res. Formation Pe (PEFZ)	Density Correction (HDRA) (G/C3)
	0 (F) 50	0 (---) 10	-0.25 0.25
MAIN PASS: *** PLATFORM EXPRESS - LITHOLOGY DENSITY ***			

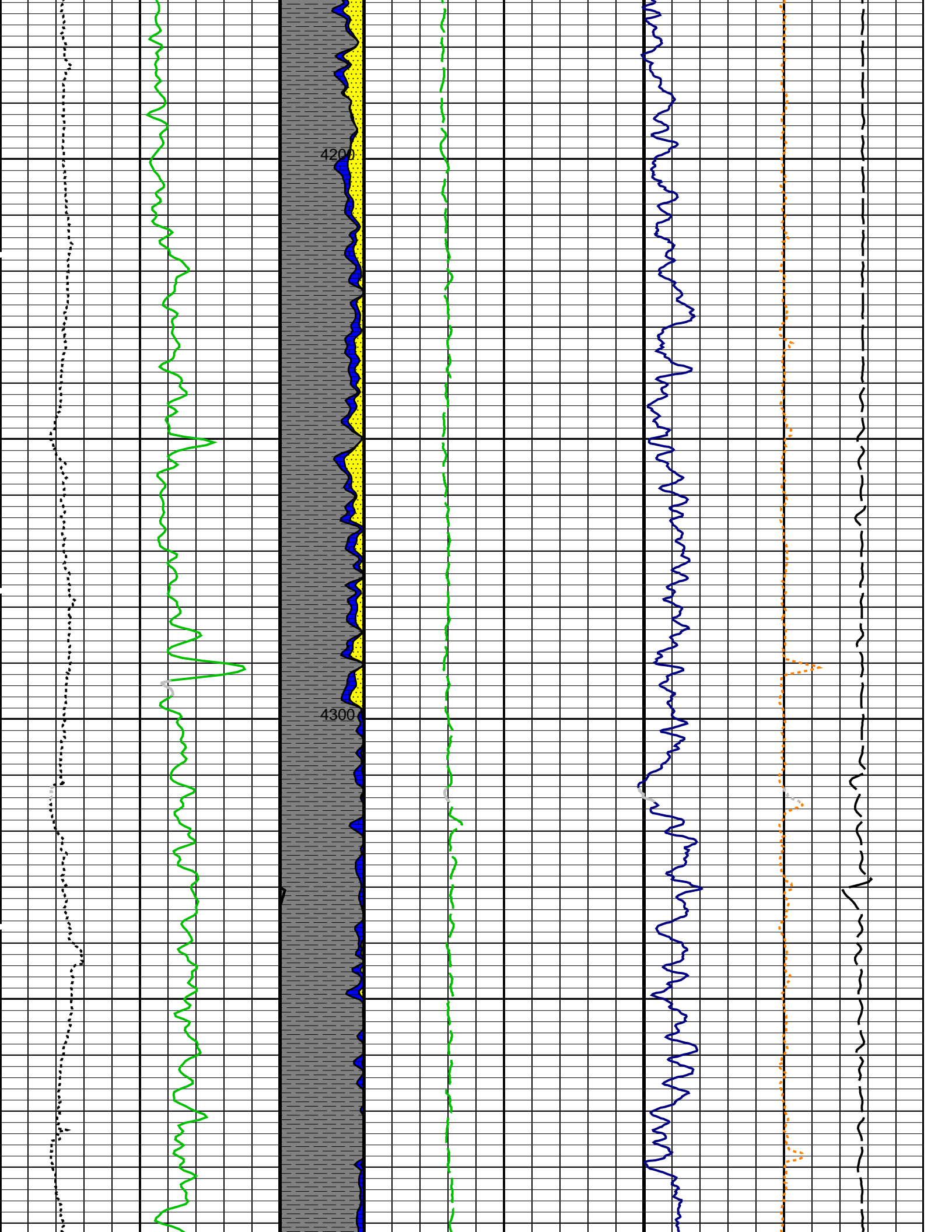


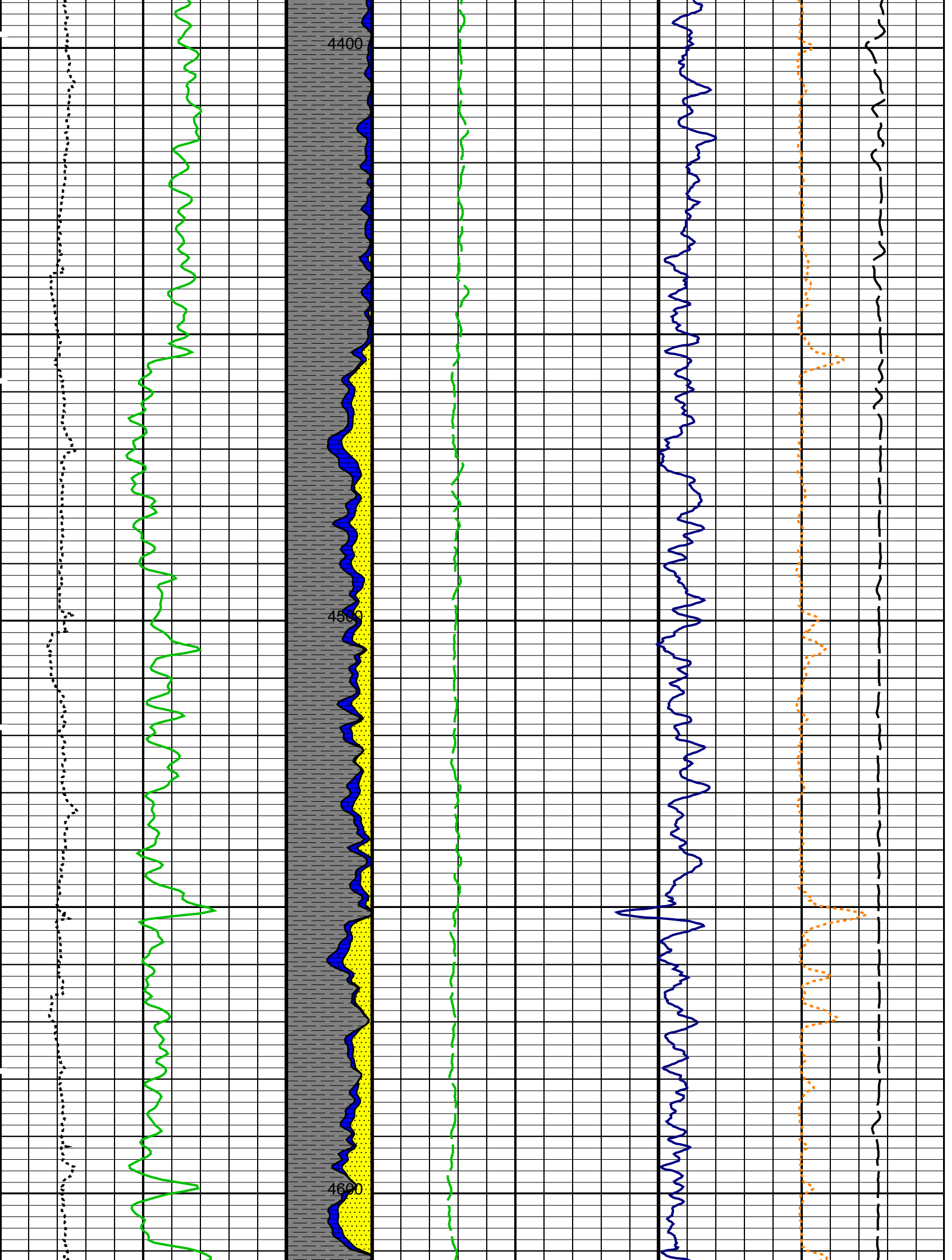
SS 2.68

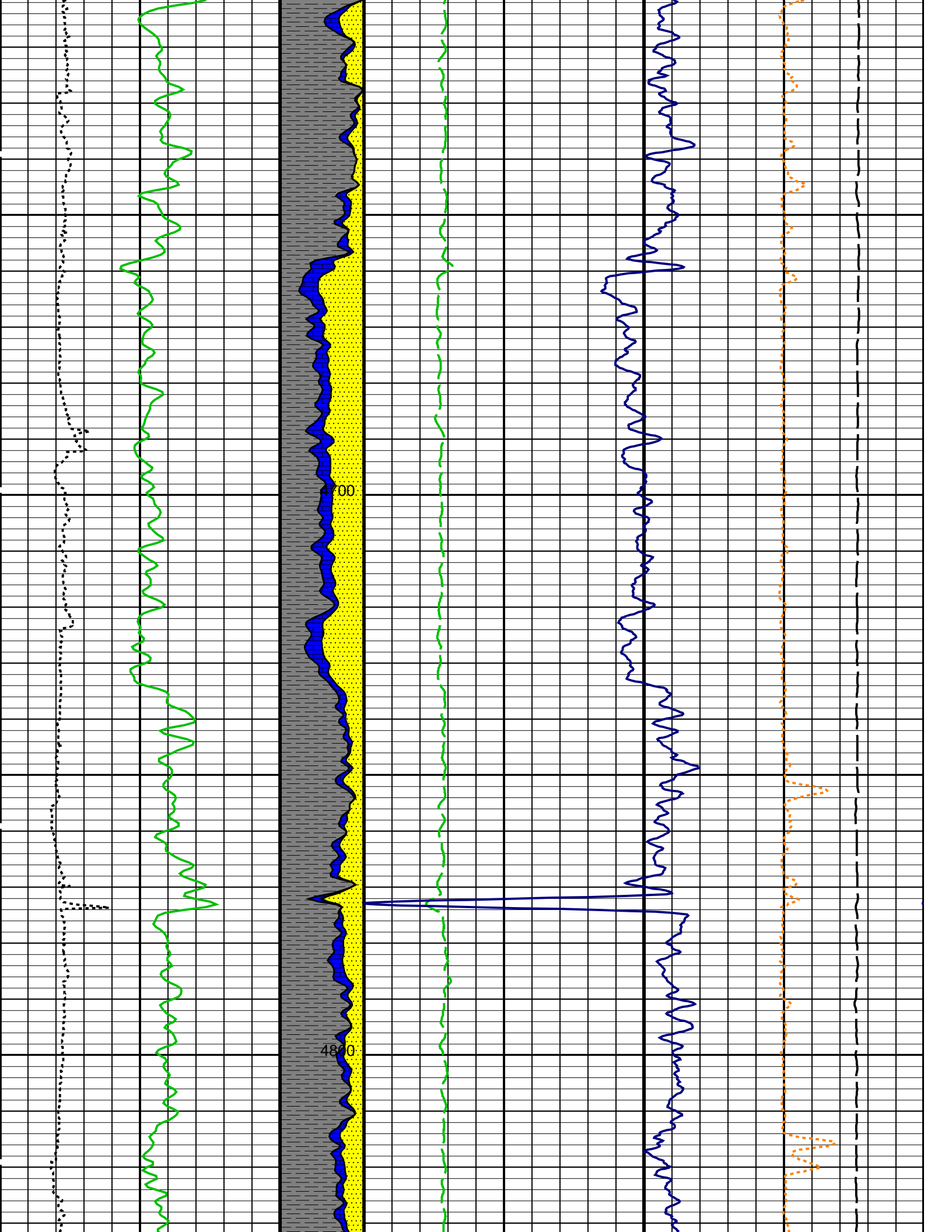


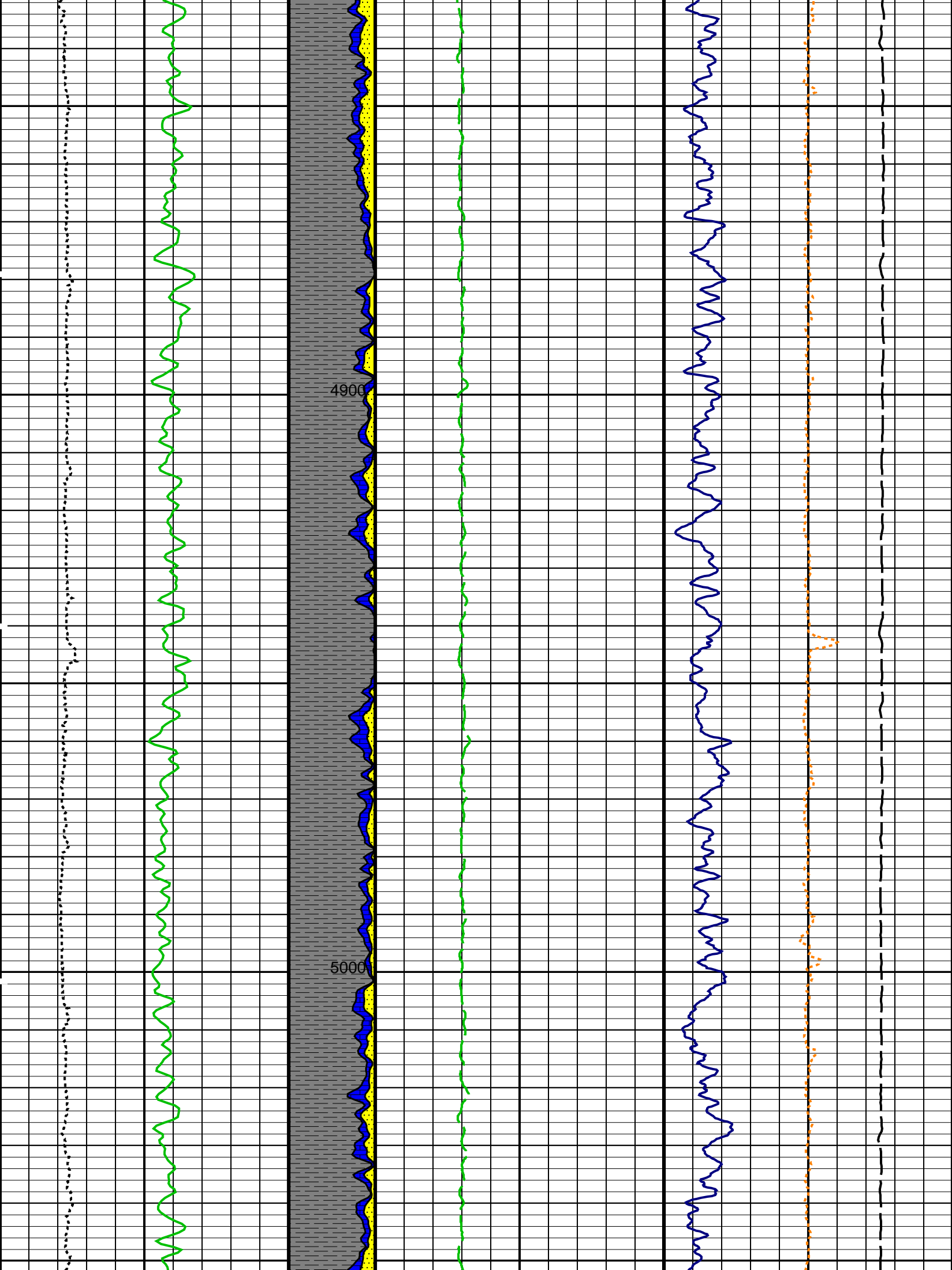


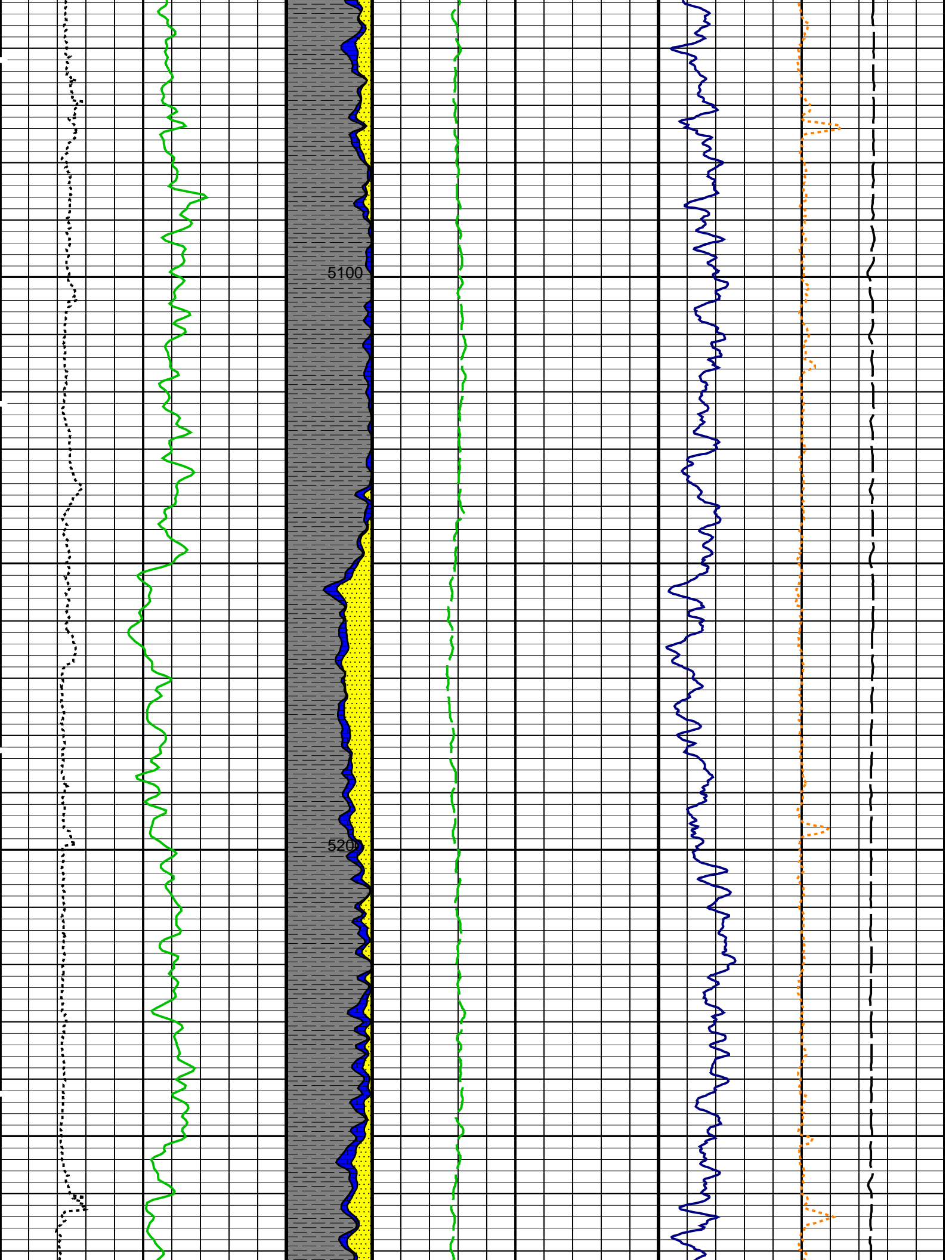


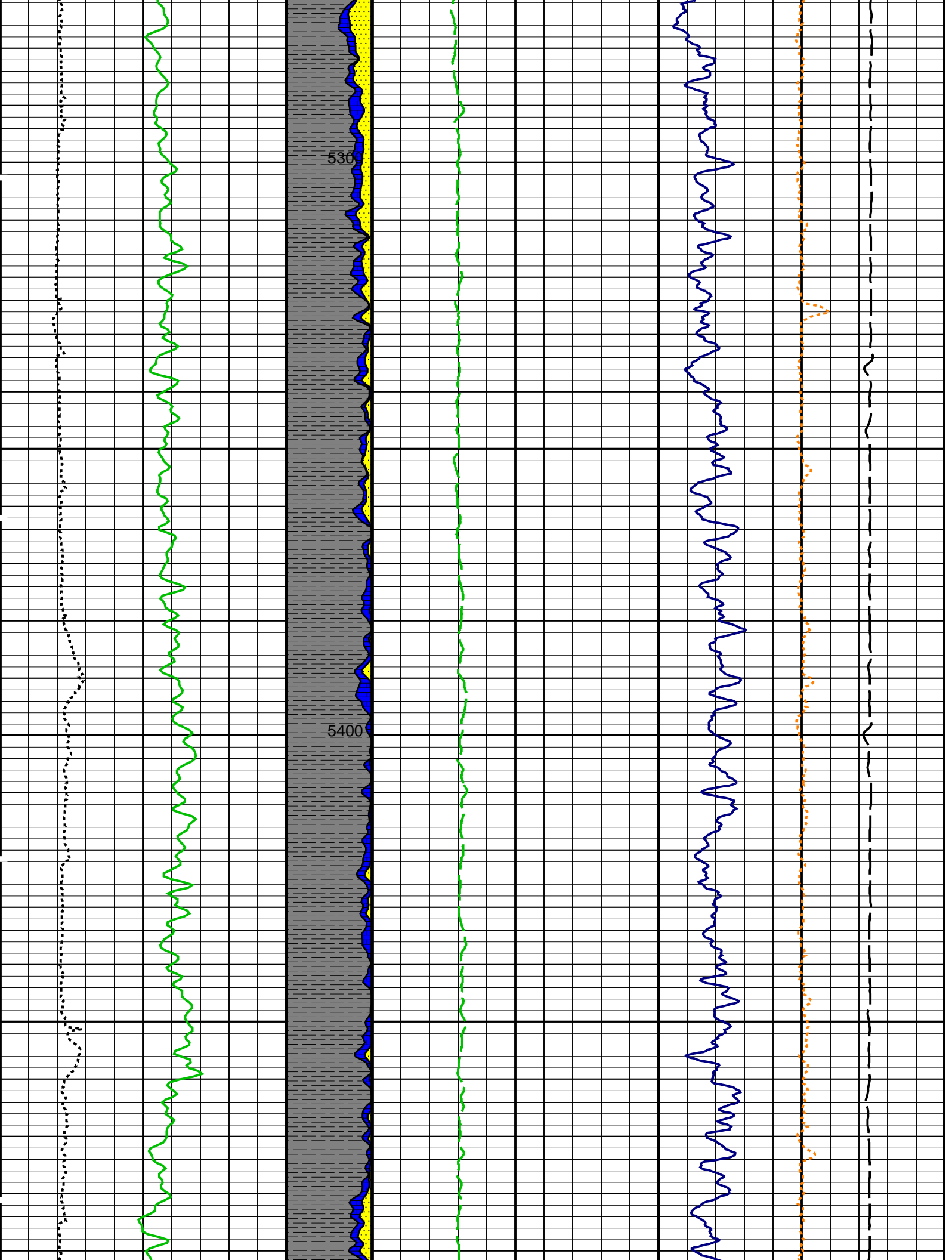


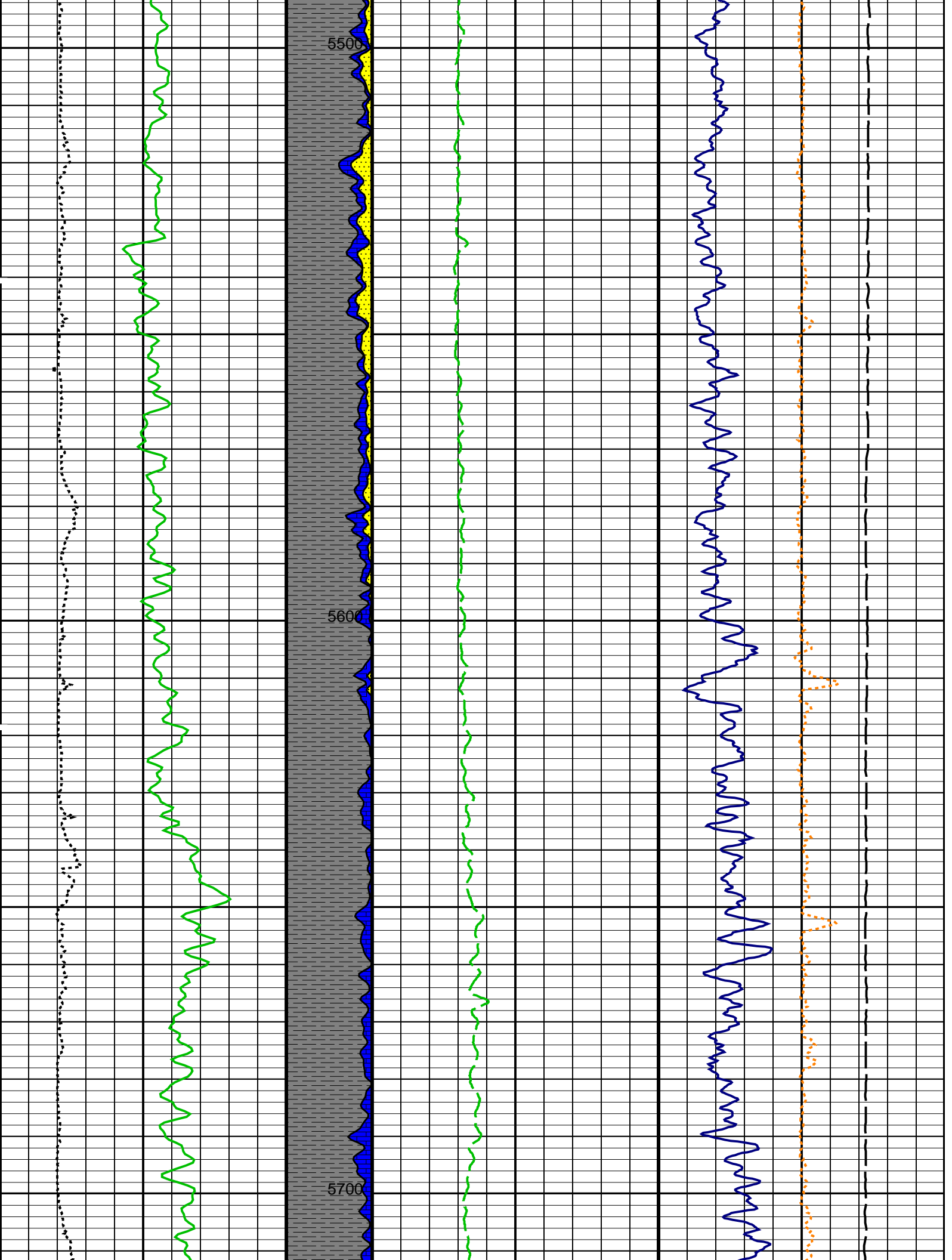


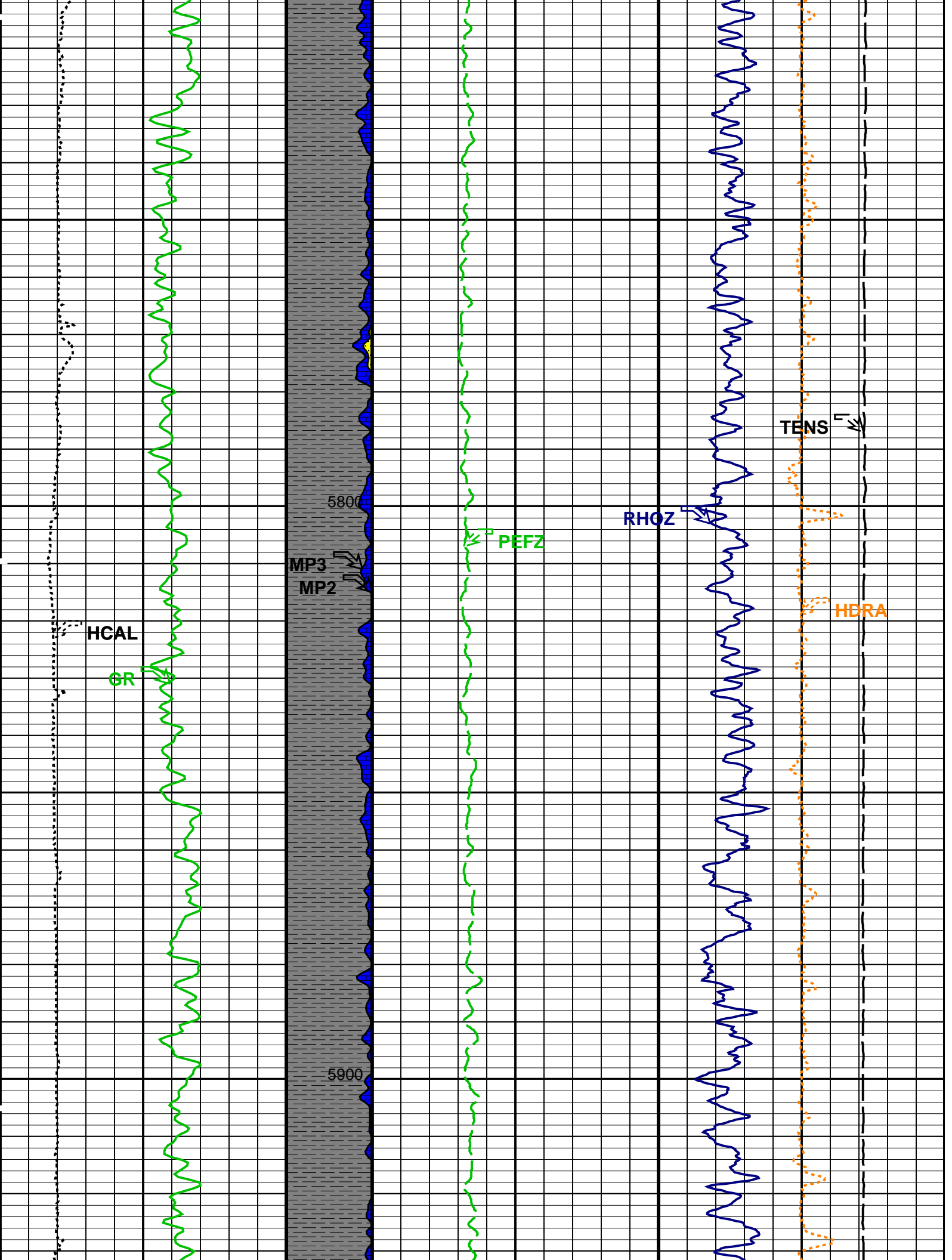


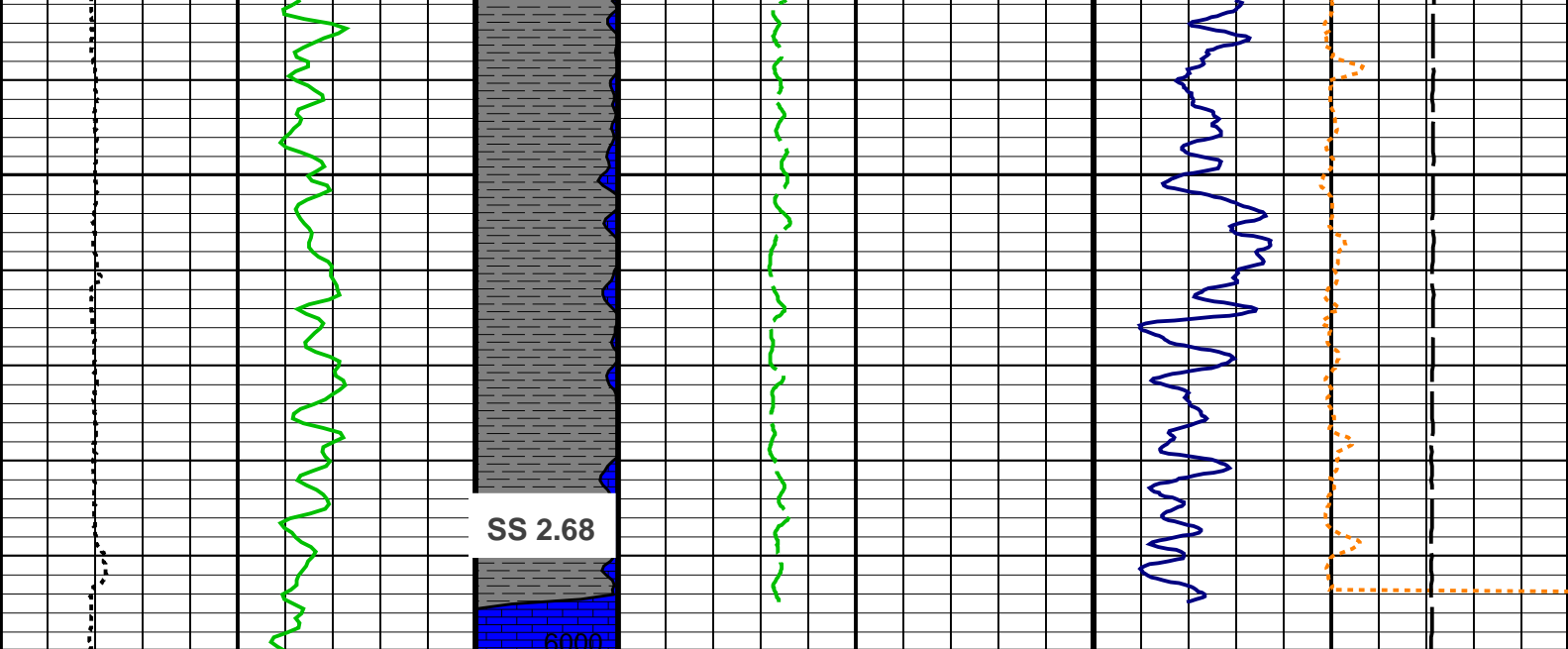












MAIN PASS: *** PLATFORM EXPRESS - LITHOLOGY DENSITY ***

Gamma Ray Backup	Stuck Stretch (STIT)	0	Std. Res. Formation Pe (PEFZ)	10	Density Correction (HDRA)	-0.25	0.25
	(F) 50		(----		(G/C3)		
Gamma Ray (GR) (GAPI)	LIME	2	Std. Res. Formation Density (RHOZ) (G/C3)				
0 200							3
Caliper (HCAL) (IN)	SAND		Tension (TENS) (LBF)				
6 16							10000 0
	SHALE						

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
SHT	Surface Hole Temperature	68	DEGF
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BDPS	Bulk Density Processing Selector	Standard	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF

CLIM	Caliper Limit for Bad Hole	999	IN
CNPS	Corrected Neutron Porosity Selector	NPHI	
DRUL	DRHO Upper Limit	999	G/C3
FCAL	Caliper Presence Flag	PRESENT	
FCGR	CGR Presence Flag	PRESENT	
FEXP	Form Factor Exponent	2	
FLDT	Bulk Density Presence Flag	PRESENT	
FNUM	Form Factor Numerator	1	
FSON	Sonic Presence Flag	ABSENT	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
PMAX	PHI Maximum	0.5	CFCF
POUT	Porosity Output Lithology	SANDSTONE	
RG21	RHO Grain (2-Mineral Model, Min-1)	2.71	G/C3
RG22	RHO Grain (2-Mineral Model, Min-2)	2.644	G/C3
RG23	RHO Grain (2-Mineral Model, Min-3)	2.877	G/C3
RG31	RHO Grain (3-Mineral Model, Min-1)	2.71	G/C3
RG32	RHO Grain (3-Mineral Model, Min-2)	2.644	G/C3
RG33	RHO Grain (3-Mineral Model, Min-3)	2.877	G/C3
RTLF	RT Limit Flag	NO_LIMIT	
RWF	Resistivity of Free Water	0.02	OHMM
SHT	Surface Hole Temperature	68	DEGF
UF	U Fluid	0.398	
UM21	U Matrix (2-Mineral Model, Min-1)	13.77	
UM22	U Matrix (2-Mineral Model, Min-2)	4.779	
UM23	U Matrix (2-Mineral Model, Min-3)	8.997	
UM31	U Matrix (3-Mineral Model, Min-1)	13.77	
UM32	U Matrix (3-Mineral Model, Min-2)	4.779	
UM33	U Matrix (3-Mineral Model, Min-3)	8.997	
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	7670.00	FT
TDL	Total Depth - Logger	7676.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset for Playback	2.0	FT
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	3.5000	OHMM
TD	Total Depth	7676	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: DENS Vertical Scale: 5" per 100' Graphics File Created: 10-Sep-2006 07:01

OP System Version: 13C0-300

MCM

HILTB-FTB	SRPC-2788-HILT	GPIT-C	13C0-300
DTC-H	13C0-300		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER	10-Sep-2006 04:31	7692.0 FT	3248.5 FT
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_030PUP	FN:28	PRODUCER	10-Sep-2006 07:01		
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MAIN DENSITY LOG 5" = 100'

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015LUP	FN:14	PRODUCER	10-Sep-2006 04:31	7692.0 FT	3248.5 FT
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Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_029PUP FN:27 PRODUCER 10-Sep-2006 06:47 7694.0 FT 5903.5 FT

OP System Version: 13C0-300

MCM

HILTB-FTB
DTC-H

SRPC-2788-HILT
13C0-300

GPIT-C

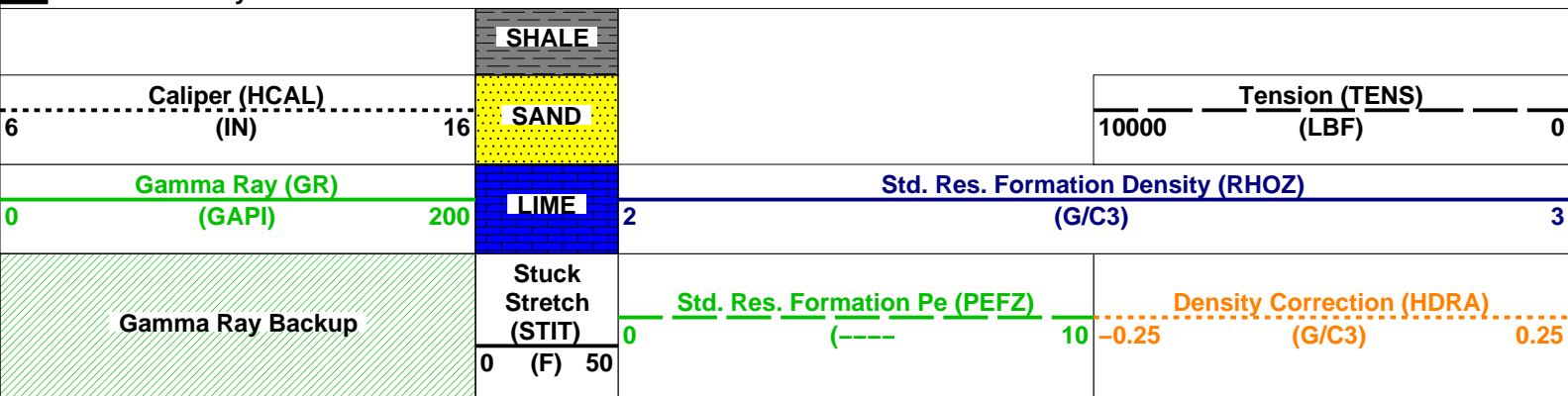
13C0-300

Changed Parameter Summary

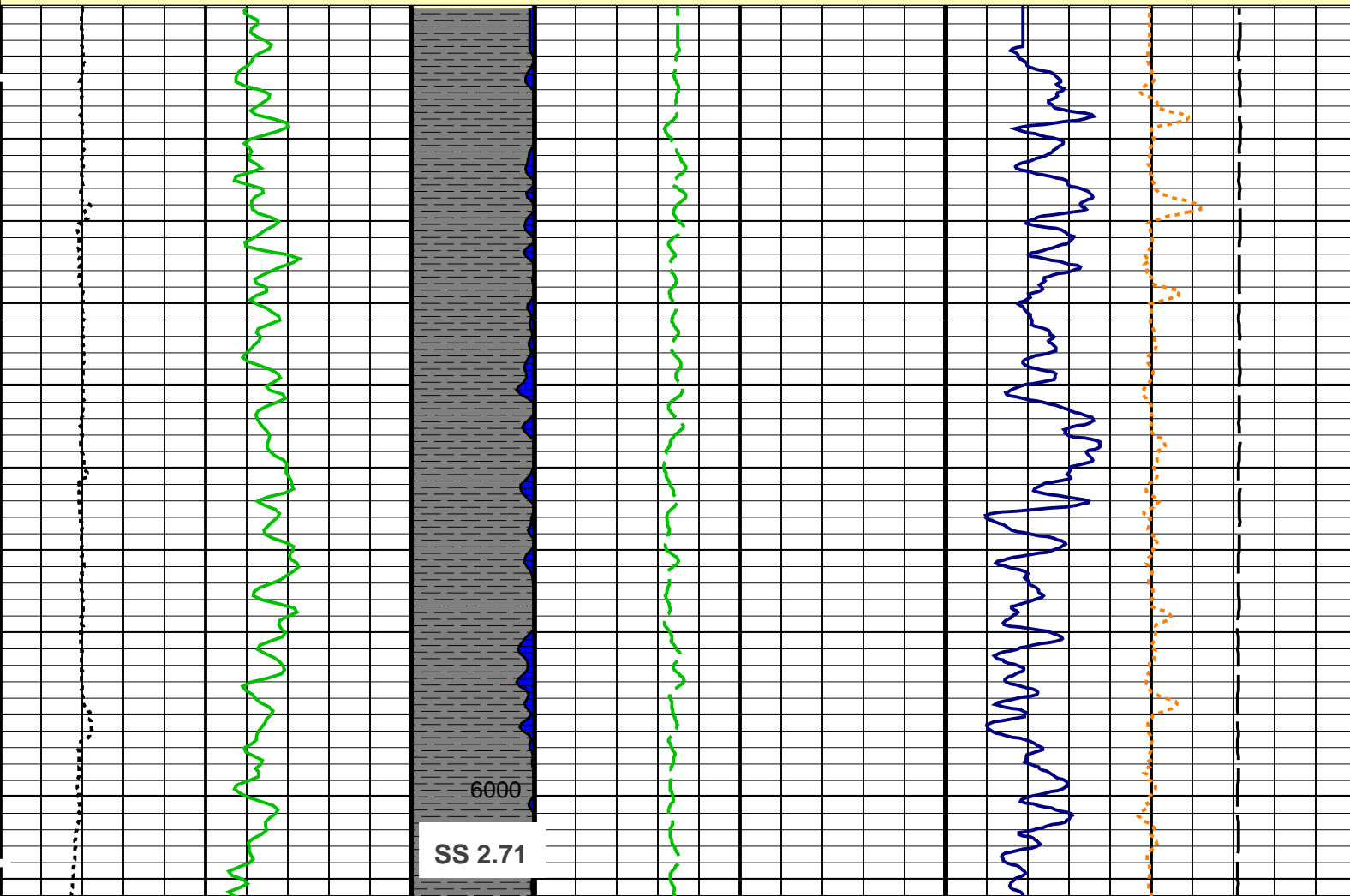
DLIS Name	New Value	Previous Value	Depth & Time
MATR	SANDSTONE	SANDSTONE	7694.0 06:47:31
	LIMESTONE	SANDSTONE	7511.0 06:47:38
POUT	SANDSTONE	SANDSTONE	7694.0 06:47:31
	LIMESTONE	SANDSTONE	7511.0 06:47:38

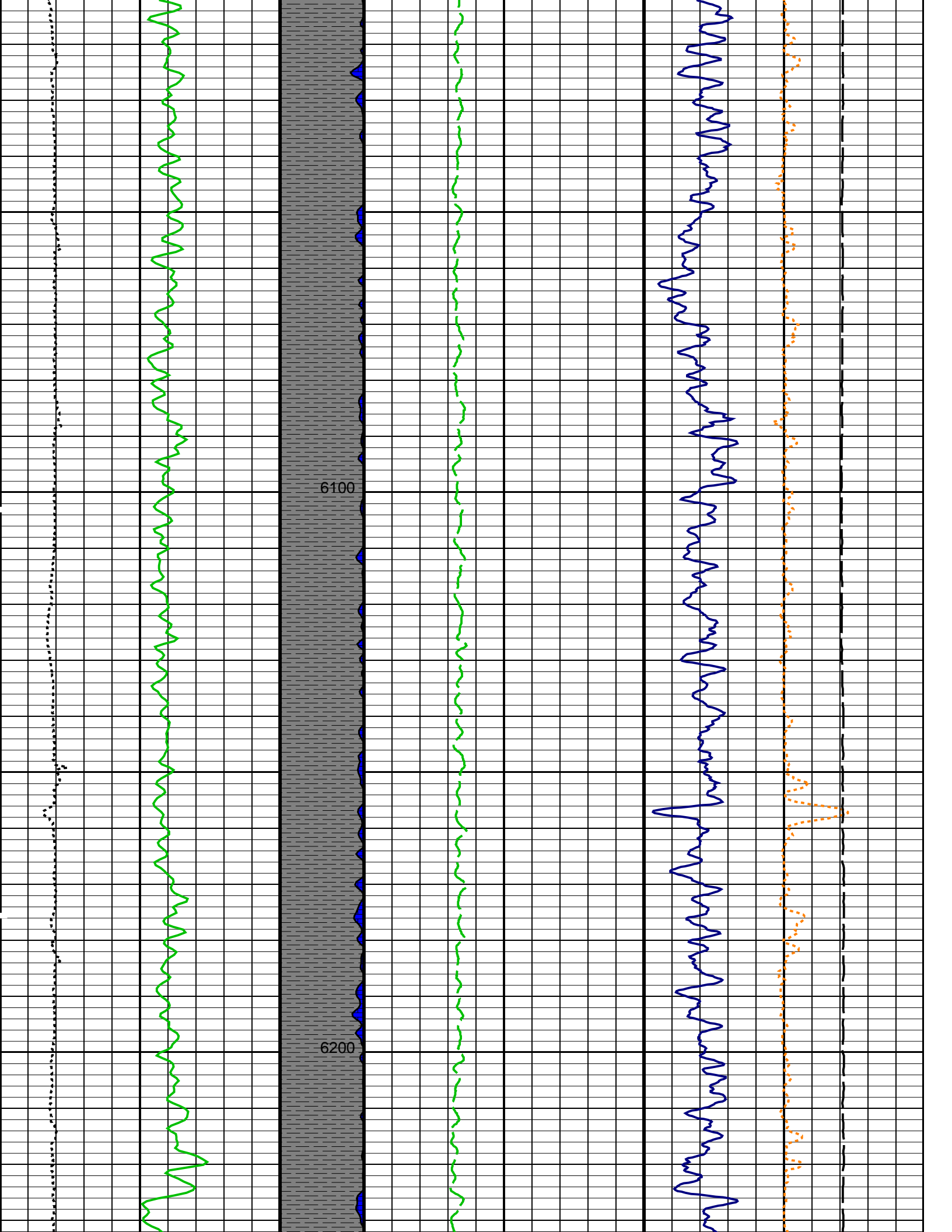
PIP SUMMARY

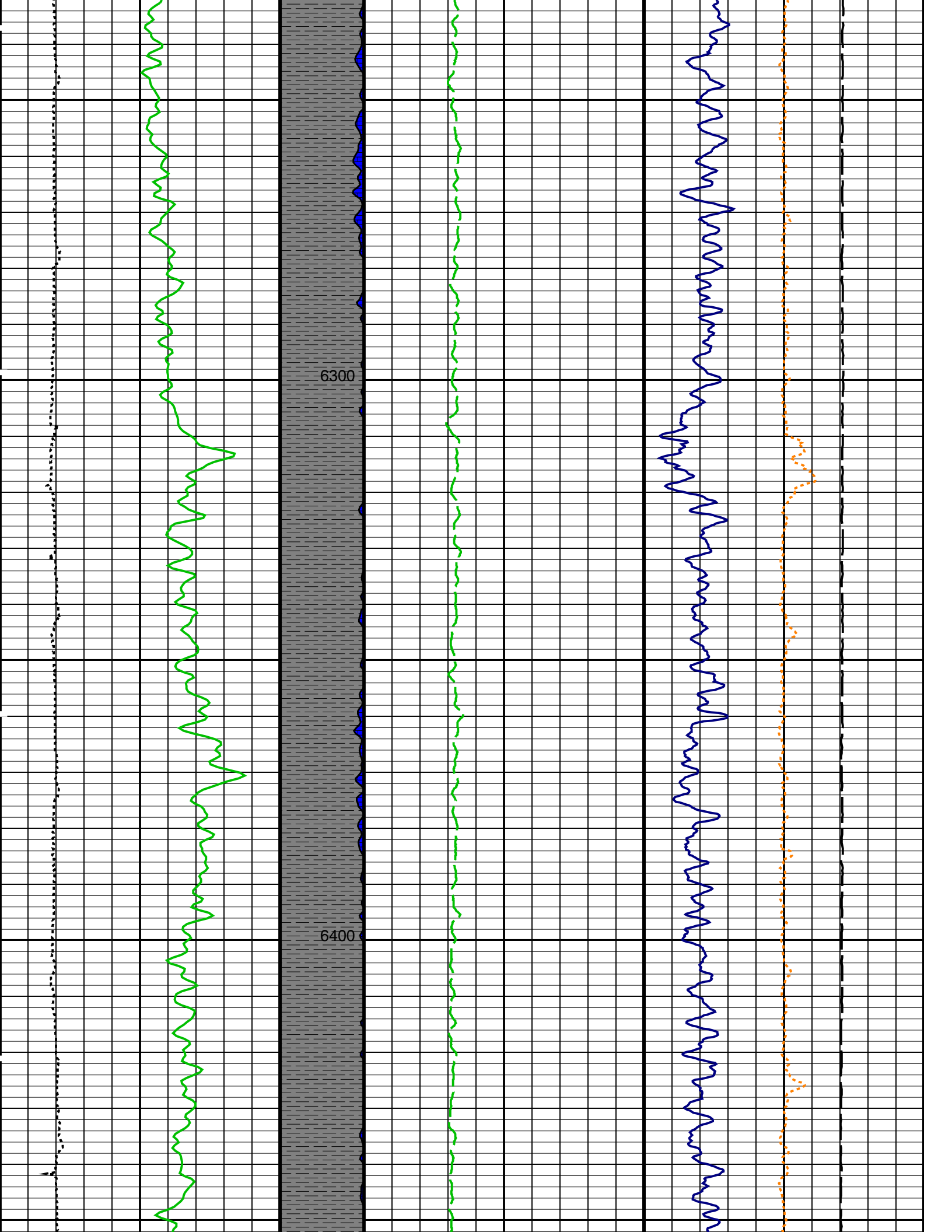
Time Mark Every 60 S

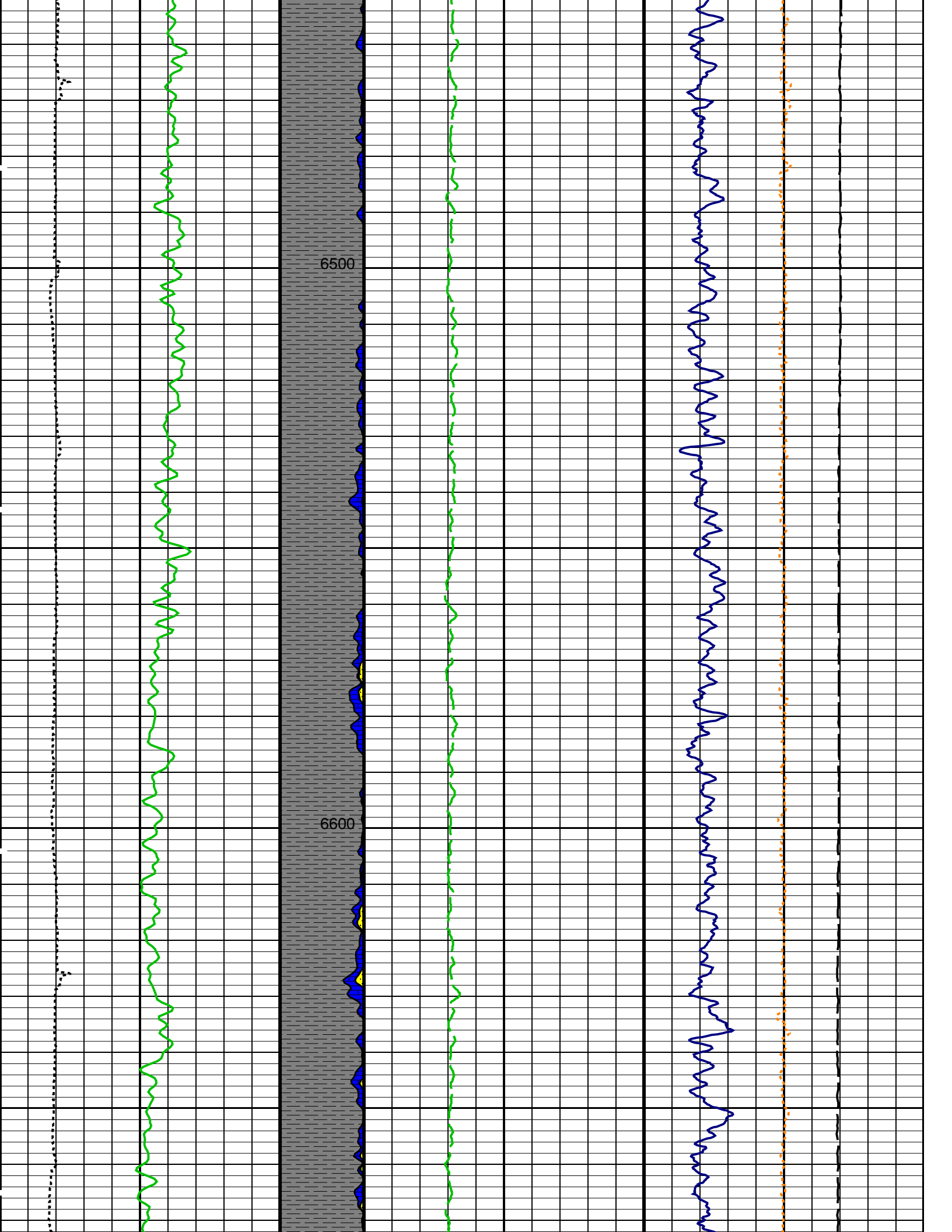


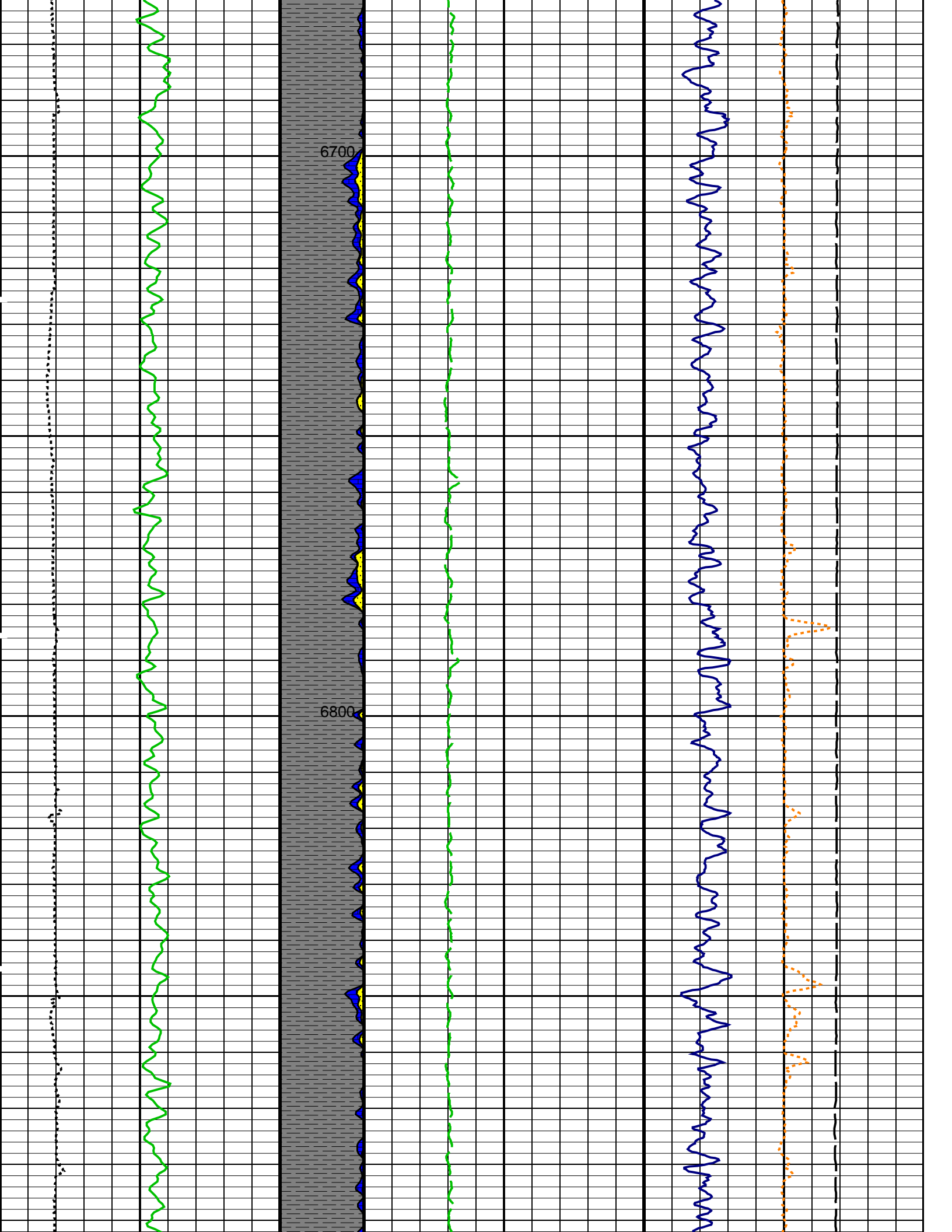
MAIN PASS: *** PLATFORM EXPRESS - LITHOLOGY DENSITY ***

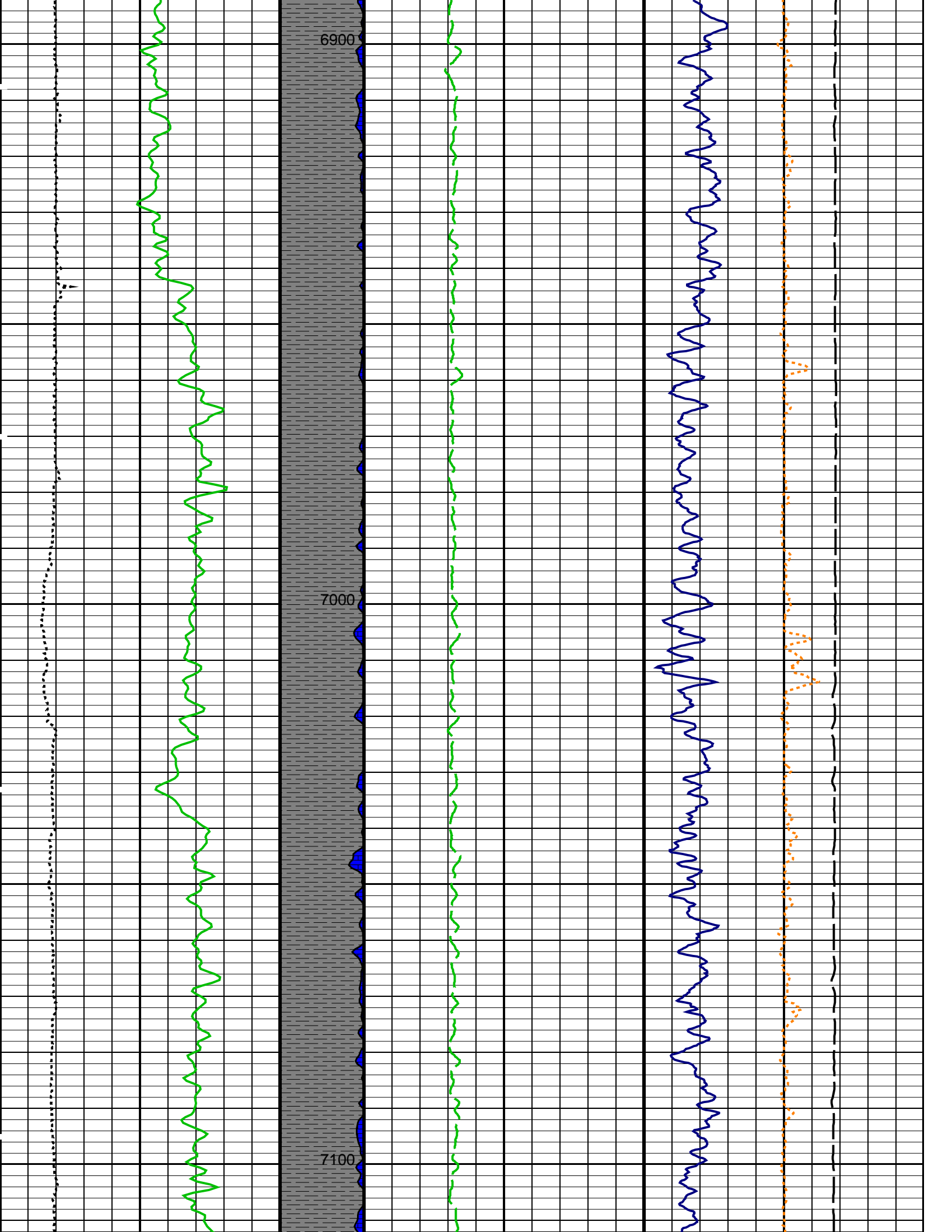


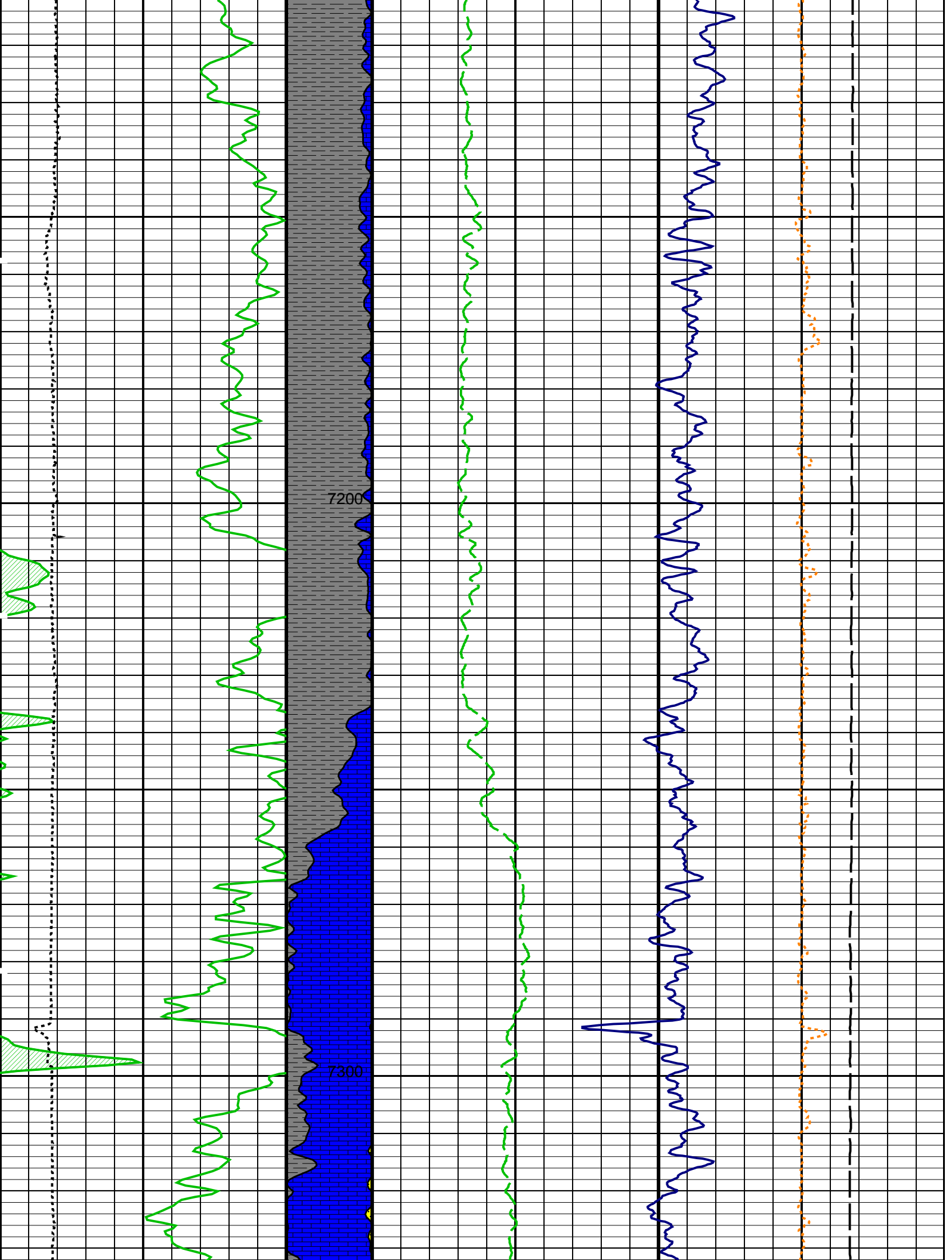


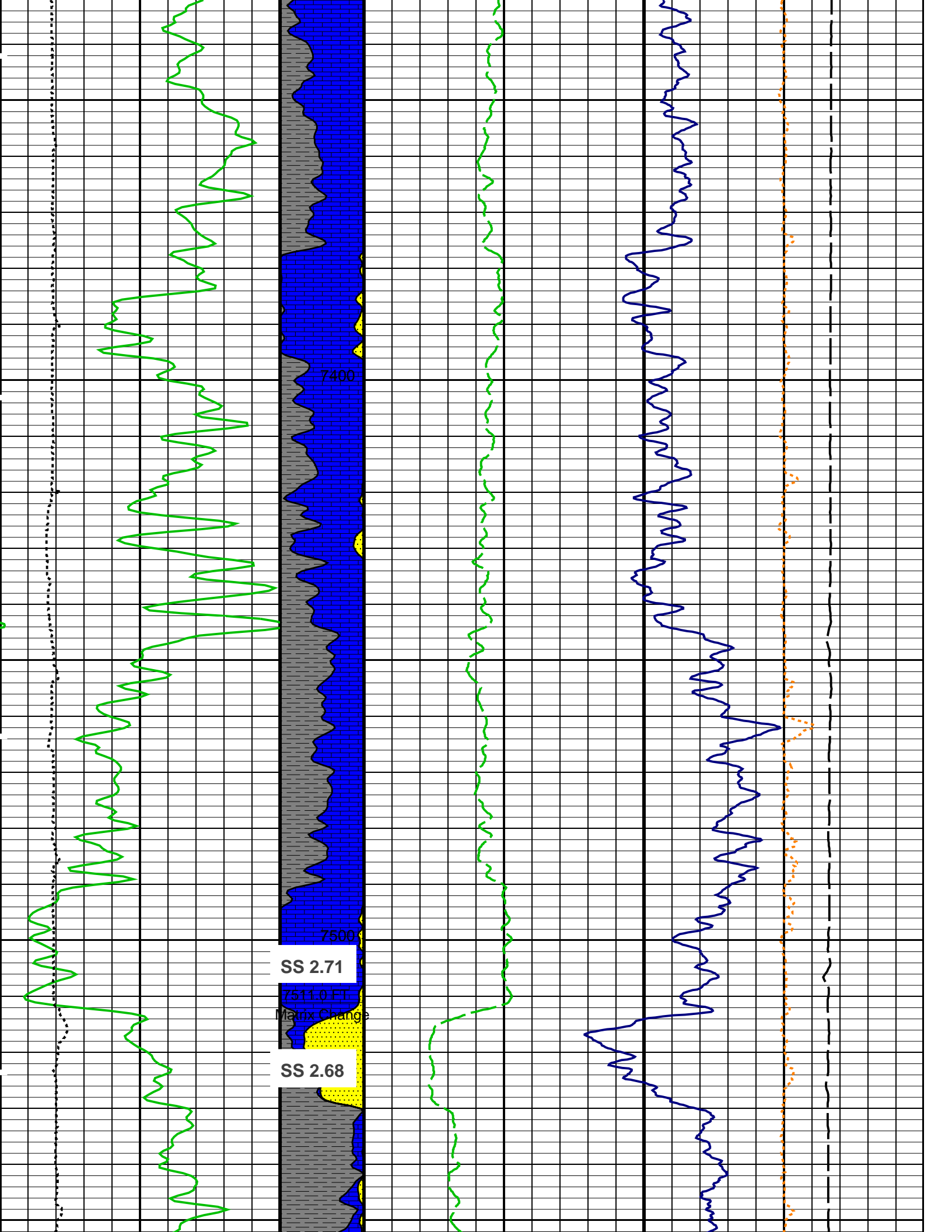


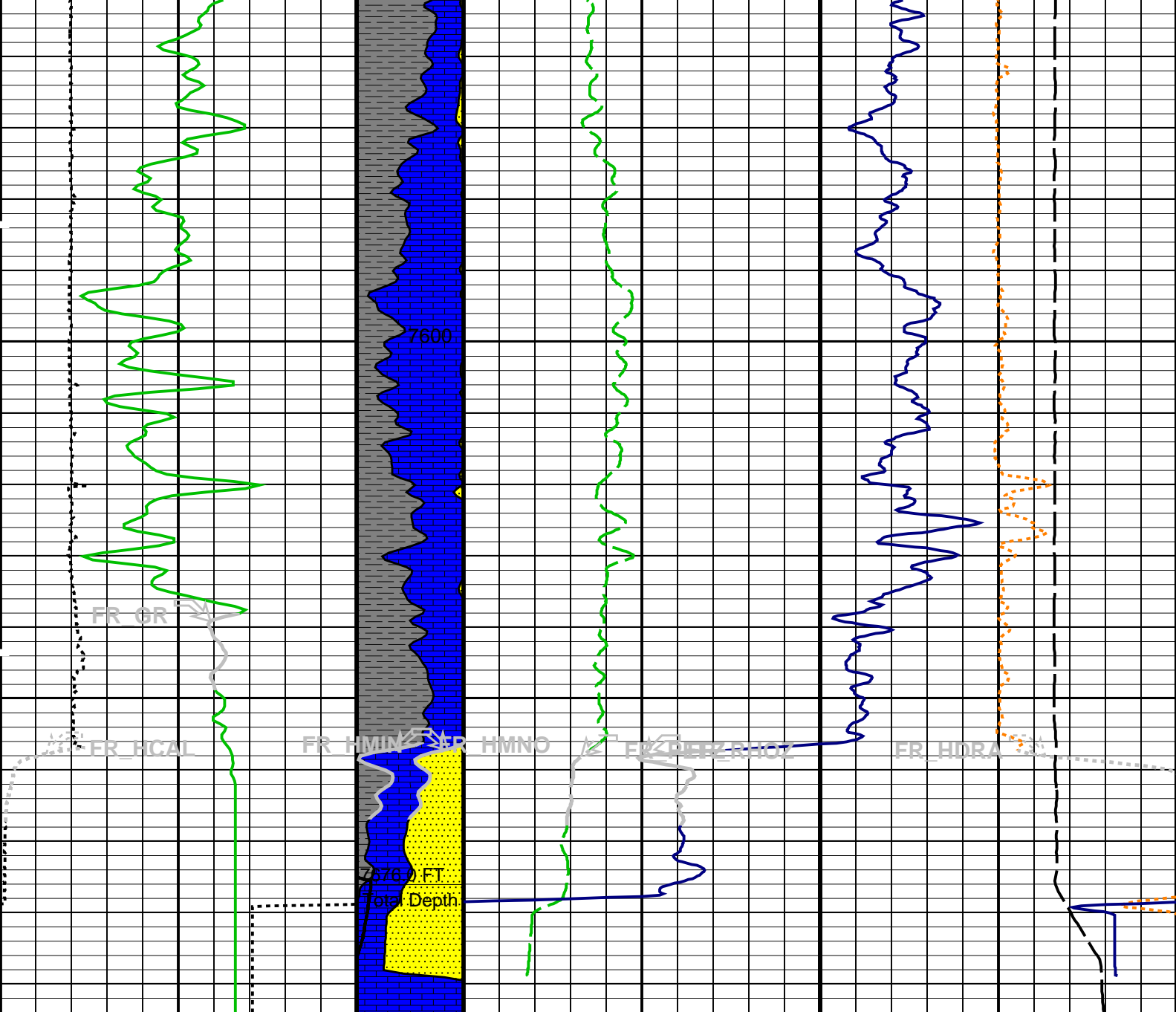












MAIN PASS: *** PLATFORM EXPRESS – LITHOLOGY DENSITY ***

Gamma Ray Backup	Stuck Stretch (STIT)	0	Std. Res. Formation Pe (PEFZ)	10	Density Correction (HDRA)	-0.25	0.25
	0 (F) 50		(----		(G/C3)		
Gamma Ray (GR) (GAPI)	LIME	2	Std. Res. Formation Density (RHOZ)	3			
0 200			(G/C3)				
Caliper (HCAL) (IN)	SAND				Tension (TENS)	10000	0
6 16					(LBF)		
	SHALE						

PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
HILTB-FTB:	High resolution Integrated Logging Tool-DTS	
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHT	Bottom Hole Temperature (used in calculations)	212 DEGE

DHC	Bottom Hole Temperature (used in calculations)	212	DEGF
FD	Density Hole Correction	BS	
FEXP	Fluid Density	1	G/C3
FNUM	Form Factor Exponent	2	
GGRD	Form Factor Numerator	1	
GTSE	Geothermal Gradient	0.01	DF/F
MATR	Generalized Temperature Selection	HSTS_HTEM	
NAAC	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
NMT	HRDD APS Activation Correction	OFF	
NPRM	HILT Nuclear Mud Type	NOBARITE	
NSAR	HRDD Processing Mode	HiRes	
SHT	HRDD Depth Sampling Rate	1	IN
	Surface Hole Temperature	68	DEGF
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	FT
TIMD	Along-hole depth of Tie-in Point	0	FT
TIVD	TVD of Tie-in Point	0	FT
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation - Real Time			
BDPS	Bulk Density Processing Selector	Standard	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
CLIM	Caliper Limit for Bad Hole	999	IN
CNPS	Corrected Neutron Porosity Selector	NPHI	
DRUL	DRHO Upper Limit	999	G/C3
FCAL	Caliper Presence Flag	PRESENT	
FCGR	CGR Presence Flag	PRESENT	
FEXP	Form Factor Exponent	2	
FLDT	Bulk Density Presence Flag	PRESENT	
FNUM	Form Factor Numerator	1	
FSO	Sonic Presence Flag	ABSENT	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
PMAX	PHI Maximum	0.5	CFCF
POUT	Porosity Output Lithology	SANDSTONE	
RG21	RHO Grain (2-Mineral Model, Min-1)	2.71	G/C3
RG22	RHO Grain (2-Mineral Model, Min-2)	2.644	G/C3
RG23	RHO Grain (2-Mineral Model, Min-3)	2.877	G/C3
RG31	RHO Grain (3-Mineral Model, Min-1)	2.71	G/C3
RG32	RHO Grain (3-Mineral Model, Min-2)	2.644	G/C3
RG33	RHO Grain (3-Mineral Model, Min-3)	2.877	G/C3
RTLF	RT Limit Flag	NO_LIMIT	
RWF	Resistivity of Free Water	0.02	OHMM
SHT	Surface Hole Temperature	68	DEGF
UF	U Fluid	0.398	
UM21	U Matrix (2-Mineral Model, Min-1)	13.77	
UM22	U Matrix (2-Mineral Model, Min-2)	4.779	
UM23	U Matrix (2-Mineral Model, Min-3)	8.997	
UM31	U Matrix (3-Mineral Model, Min-1)	13.77	
UM32	U Matrix (3-Mineral Model, Min-2)	4.779	
UM33	U Matrix (3-Mineral Model, Min-3)	8.997	
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	7670.00	FT
TDL	Total Depth - Logger	7676.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
DFD	Drilling Fluid Density	9.20	LB/G
DO	Depth Offset for Playback	2.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	3.5000	OHMM
TD	Total Depth	7676	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: LOWER_DENS Vertical Scale: 5" per 100' Graphics File Created: 10-Sep-2006 06:47

OP System Version: 13C0-300

MCM

HILTB-FTB	SRPC-2788-HILT	GPIT-C	13C0-300
DTC-H	13C0-300		

Input DLIS Files

DETAILS NE-TLB-MSTL SWL-0415VR EN-11 PRODNOTES 10-09-2006 0000-01-01 7000-0-FT 00-10-5-FT

Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_029PUP FN:27 PRODUCER 10-Sep-2006 06:47

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BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-DTS Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 4-Aug-2006 15:08 Before: 9-Sep-2006 19:49							
Thru Cal Magnitude – 0	0	0.6339	0.6354	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.301	1.304	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6445	0.6456	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7284	0.7303	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.361	1.365	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.969	1.975	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.972	1.978	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.380	1.390	N/A	N/A	N/A	V
Phase – 0	0	68.81	69.84	N/A	N/A	N/A	DEG
Phase – 1	0	67.81	68.85	N/A	N/A	N/A	DEG
Phase – 2	0	63.70	64.79	N/A	N/A	N/A	DEG
Phase – 3	0	62.83	63.93	N/A	N/A	N/A	DEG
Phase – 4	0	56.03	57.20	N/A	N/A	N/A	DEG
Phase – 5	0	53.82	55.08	N/A	N/A	N/A	DEG
Phase – 6	0	53.79	55.05	N/A	N/A	N/A	DEG
Phase – 7	0	47.88	49.68	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-DTS Wellsite Calibration – Electronics Calibration Check – Auxilliary							
Master: 4-Aug-2006 15:08 Before: 9-Sep-2006 19:49							
Array Induction SPA Plus	990.5	992.9	991.9	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	-0.2051	-0.2051	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9196	0.9187	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	-0.0002045	-0.0002051	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration – Test Loop Gain Correction							
Master: 4-Aug-2006 15:08							
Test Loop Gain Magnitude – 0	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.018	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	1.001	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9926	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	1.004	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	1.008	N/A	N/A	N/A	N/A	V
Phase – 0	0	0.5333	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.5303	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	-0.1135	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	0.09604	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	-0.08085	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	-0.2575	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	0.1060	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	-0.1925	N/A	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-DTS Wellsite Calibration – Sonde Error Correction							
Master: 4-Aug-2006 15:08							
R Sonde Error Correction – 0	0	-49.94	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	160.6	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	112.4	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	61.29	N/A	N/A	N/A	N/A	MM/M

R Sonde Error Correction – 4	0	25.17	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	10.94	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	12.99	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–1.652	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	–38.52	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	52.55	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	–78.82	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	–75.45	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	–23.77	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	14.54	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	7.196	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	9.048	N/A	N/A	N/A	N/A	MM/M

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Mud Gain Correction

Master: 4–Aug–2006 15:08

Coarse – Mag, Real, Imag – 0	0	1.175	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	1.176	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	1.176	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	1.175	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	1.175	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	1.175	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Stab Measurement Summary

Before: 9–Sep–2006 20:01

BS Window Ratio	0.7399	N/A	0.7415	N/A	N/A	N/A	
BS Window Sum	11900	N/A	11890	N/A	N/A	N/A	CPS
SS Window Ratio	0.4823	N/A	0.4839	N/A	N/A	N/A	
SS Window Sum	11820	N/A	11780	N/A	N/A	N/A	CPS
LS Window Ratio	0.2955	N/A	0.2947	N/A	N/A	N/A	
LS Window Sum	1263	N/A	1264	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Photo–multiplier High Voltages Calibrations

Before: 9–Sep–2006 20:01

BS PM High Voltage (Command)	1503	N/A	1531	N/A	N/A	N/A	V
SS PM High Voltage (Command)	2020	N/A	2024	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1999	N/A	1995	N/A	N/A	N/A	V

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Crystal Quality Resolutions Calibration

Before: 9–Sep–2006 20:01

BS Crystal Resolution	11.75	N/A	11.89	N/A	N/A	N/A	%
SS Crystal Resolution	9.721	N/A	9.820	N/A	N/A	N/A	%
LS Crystal Resolution	9.595	N/A	9.490	N/A	N/A	N/A	%

High resolution Integrated Logging Tool–DTS Wellsite Calibration – MCFL Calibration

Before: 9–Sep–2006 19:49

Raw B0 Resistivity	3875	N/A	3873	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3813	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3810	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool–DTS Wellsite Calibration – HILT Caliper Calibration

Before: 9–Sep–2006 19:46

HILT Caliper Zero Measurement	8.000	N/A	8.104	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.28	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Detector Calibration

Before: 9–Sep–2006 20:05

Gamma Ray Background	30.00	N/A	90.60	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	169.6	N/A	169.6	N/A	N/A	15.42	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Zero Measurement

Master: 30–Aug–2006 15:26 Before: 9–Sep–2006 19:49

CNTC Background	28.03	28.03	27.61	N/A	N/A	4.205	CPS
CFTC Background	28.12	28.12	29.43	N/A	N/A	4.218	CPS

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Ratio Measurement

Master: 30–Aug–2006 15:26

Thermal Near Corr. (Tank)	6031	5387	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2793	2272	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.372	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–DTS Wellsite Calibration – Accelerometer Calibration

Before: 10–Sep–2006 2:50

Z–Axis Acceleration	32.19	N/A	32.20	N/A	N/A	N/A	F/S2
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High resolution Integrated Logging Tool–DTS Master Calibration – Inversion results

Master: 2–Sep–2006 0:43

Rho Aluminum	2.596	2.596	---	---	---	---	G/C3
Rho Magnesium	1.686	1.687	---	---	---	---	G/C3
Pe Aluminum	2.570	2.562	---	---	---	---	
Pe Magnesium	2.650	2.642	---	---	---	---	

High resolution Integrated Logging Tool–DTS Master Calibration – Deviation Summary

Master: 2–Sep–2006 0:43							
BS Average Deviation	0	0.5212	--	--	--	--	%
BS Max Deviation	0	1.060	--	--	--	--	%
SS Average Deviation	0	0.2784	--	--	--	--	%
SS Max Deviation	0	0.8036	--	--	--	--	%
LS Average Deviation	0	0.6005	--	--	--	--	%
LS Max Deviation	0	2.069	--	--	--	--	%

General Purpose Inclinomometer Wellsite Calibration – CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY

Before: 10–Sep–2006 2:50							
TEMPERATURE REFERENCE :	N/A	N/A	68	N/A	N/A	N/A	DEGF
YEAR OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	10	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	897	N/A	N/A	N/A	

General Purpose Inclinomometer Wellsite Calibration – CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY

Before: 10–Sep–2006 2:50							
TEMPERATURE REFERENCE :	N/A	N/A	73	N/A	N/A	N/A	DEGF
YEAR OF CALIBRATION :	N/A	N/A	98	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	2	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	375	N/A	N/A	N/A	

The GLS–VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT–B Water Temperature	71.0	DEGF.
Thermal Housing Size	3.354	IN.
NSR–F serial number	5068	

High resolution Integrated Logging Tool–DTS / Equipment Identification









Primary Equipment:

Array Induction Tool – H	AIT – H	397
Rm/SP Bottom Nose	AHRM – A	
Array Induction Sonde	AHIS – BA	397
HILT high–Resolution Mechanical Sonde	HRMS – B	1929
HILT Rxo Gamma–ray Device	HRGD – B	1921
HILT Micro Cylindrically Focused Log Dev	MCFL –	
GR Logging Source	GLS – VJ	1827
HILT High Res. Control Cartridge	HRCC – B	1866

Auxiliary Equipment:

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6339		0.6050	68.81		71.00
	Before	0.6354			69.84		
1	Master	1.301		1.270	67.81		70.00
	Before	1.304			68.85		
2	Master	0.6445		0.6230	63.70		66.00
	Before	0.6456			64.79		
3	Master	0.7284		0.7040	62.83		65.00
	Before	0.7303			63.93		
4	Master	1.361		1.337	56.03		59.00
	Before	1.365			57.20		
5	Master	1.969		1.955	53.82		57.00
	Before	1.975			55.08		
	Master	1.979			59.79		

6	Master	1.972		1.955	53.79		57.00
	Before	1.978			55.05		
7	Master	1.380		1.415	47.88		53.00
	Before	1.390			49.68		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 4-Aug-2006 15:08				Before: 9-Sep-2006 19:49			

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
Electronics Calibration Check – Auxilliary									
Phase	Array Induction SPA Plus MV			Value	Phase	Array Induction SPA Zero MV			Value
Master				992.9	Master				-0.2051
Before				991.9	Before				-0.2051
941.0 (Minimum) 990.5 (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				0.9196	Master				-0.0002045
Before				0.9187	Before				-0.0002051
0.8700 (Minimum) 0.9150 (Nominal) 0.9600 (Maximum)					-0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)				
Master: 4-Aug-2006 15:08					Before: 9-Sep-2006 19:49				

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG	
0	1.014				0.5333		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
1	1.018				0.5303		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
2	1.014				-0.1135		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
3	1.017				0.09604		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
4	1.001				-0.08085		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
5	0.9926				-0.2575		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
6	1.004				0.1060		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
7	1.008				-0.1925		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
Master: 4-Aug-2006 15:08							

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-49.94				-38.52		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	160.6				52.55		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	112.4				-78.82		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	61.29				75.45		

Master: 4-Aug-2006 15:08


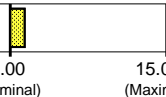
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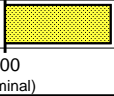
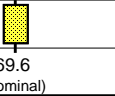
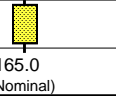
Before: 9-Sep-2006 20:01





Before: 9-Sep-2006 20:01

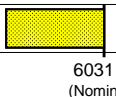
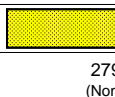
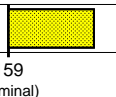
Before: 9-Sep-2006 20:01


Before: 9-Sep-2006 19:49

















High resolution Integrated Logging Tool–DTS Wellsite Calibration							
HILT Caliper Calibration							
Phase	HILT Caliper Zero Measurement IN		Value	Phase	HILT Caliper Plus Measurement IN		Value
Before			8.104	Before			12.28
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 9–Sep–2006 19:46							



High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Detector Calibration									
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig – Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value	
Before		90.60	Before		169.6	Before		165.0	
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	154.2 (Minimum)	169.6 (Nominal)	185.0 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)
Before: 9–Sep–2006 20:05									






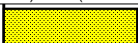
High resolution Integrated Logging Tool–DTS Wellsite Calibration								
Zero Measurement								
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value	
Master			28.03	Master			28.12	
Before			27.61	Before			29.43	
5.000 (Minimum)			28.03 (Nominal)	5.000 (Minimum)			28.12 (Nominal)	40.00 (Maximum)
Master: 30–Aug–2006 15:26				Before: 9–Sep–2006 19:49				





High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Ratio Measurement									
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value	
Master		5387	Master		2272	Master		2.372	
	5000 (Minimum)	6031 (Nominal)	7200 (Maximum)	2075 (Minimum)	2793 (Nominal)	3125 (Maximum)	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)
Master: 30–Aug–2006 15:26									



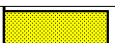



High resolution Integrated Logging Tool–DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z–Axis Acceleration F/S2	Value	
Before		32.20	
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 10–Sep–2006 2:50			



High resolution Integrated Logging Tool–DTS Master Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6339		0.6050	68.81		71.00
1	Master	1.301		1.270	67.81		70.00
2	Master	0.6445		0.6230	63.70		66.00
3	Master	0.7284		0.7040	62.83		65.00
4	Master	1.361		1.337	56.03		59.00
5	Master	1.969		1.955	53.82		57.00
6	Master	1.972		1.955	53.79		57.00
7	Master	1.380		1.415	47.88		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom –60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 4–Aug–2006 15:08							





High resolution Integrated Logging Tool–DTS Master Calibration					
Electronics Calibration Check – Auxilliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
					

High resolution Integrated Logging Tool–DTS Master Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	1.175				1.175		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	1.176				1.175		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
2	1.176				1.175		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
Master: 4–Aug–2006 15:08							

High resolution Integrated Logging Tool–DTS Master Calibration									
Inversion results									
Phase	Rho Aluminum G/C3			Value	Phase	Rho Magnesium G/C3			Value
Master				2.596	Master				1.687
	2.586 (Minimum)	2.596 (Nominal)	2.606 (Maximum)			1.676 (Minimum)	1.686 (Nominal)	1.696 (Maximum)	
Phase	Pe Aluminum			Value	Phase	Pe Magnesium			Value
Master				2.562	Master				2.642
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)			2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)	
Master: 2–Sep–2006 0:43									

High resolution Integrated Logging Tool–DTS Master Calibration									
Deviation Summary									
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value
Master				0.5212	Master				0.2784
	–0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)			–1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)	
Phase	BS Max Deviation %			Value	Phase	SS Max Deviation %			Value
Master				1.060	Master				0.8036
	–1.600 (Minimum)	0 (Nominal)	1.600 (Maximum)			–2.500 (Minimum)	0 (Nominal)	2.500 (Maximum)	
Phase	LS Average Deviation %			Value	Phase	LS Max Deviation %			Value
Master				0.6005	Master				2.069
	–1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)			–3.500 (Minimum)	0 (Nominal)	3.500 (Maximum)	
Master: 2–Sep–2006 0:43									

High resolution Integrated Logging Tool–DTS Master Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				28.03	Master				28.12
	5.000 (Minimum)	28.03 (Nominal)	40.00 (Maximum)			5.000 (Minimum)	28.12 (Nominal)	40.00 (Maximum)	
Master: 30–Aug–2006 15:26									

High resolution Integrated Logging Tool–DTS Master Calibration									
Tank Measurement									
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value
Master				5387	Master				2272
	5000 (Minimum)	6031 (Nominal)	7200 (Maximum)			2075 (Minimum)	2793 (Nominal) 3125 (Maximum)		
Phase	CNTC/CFTC (Tank)			Value	Phase	CNTC/CFTC (Tank)			Value
Master				2.372	Master				2.372
	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)			2.120 (Minimum)	2.159 (Nominal) 2.540 (Maximum)		
Master: 30–Aug–2006 15:26									

General Purpose Inclinator / Equipment Identification	
Primary Equipment: GPIT Cartridge – C	GPIC – C
Auxiliary Equipment: GPIT Housing	GPIH – B

Company: **Kerr–McGee Oil & Gas Onshore LP**

Schlumberger

Well: **Barney 35–14**

Field: **Wattenberg**

County: **Weld**

State: **Colorado**

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THREE DETECTOR LITHO DENSITY