

**Company:** Lamont Doherty

**Well:** Expedition 317 Site U1354C

**Field:** Canterbury Basin

**Rig:** JOIDES Resolution Ocean: Pacific

## Natural Gamma Spectroscopy

**Rig:** JOIDES Resolution  
**Field:** Canterbury Basin  
**Location:** Latitude: S 44° 50.849'  
**Well:** Expedition 317 Site U1354C  
**Company:** Lamont Doherty

LOCATION			
Latitude: S 44° 50.849'	Elev.: K.B. -125.00 m	G.L. 0.00 m	D.F. -125.00 m
Longitude: E 171° 47.208'	Elev.: 0.00 m	above Perm. Datum	
Permanent Datum: _____	Sea Floor _____		
Log Measured From: _____	Drill Floor _____		
Drilling Measured From: _____	Drill Floor _____		
API Serial No. _____	Max. Hole Devi. 0 deg	Longitude S 44° 50.849'	Latitude E 171° 47.208'

Logging Date	2-Jan-2010		
Run Number	1		
Depth Driller	387 m		
Schlumberger Depth	383 m		
Bottom Log Interval	350 m		
Top Log Interval	0 m		
Casing Driller Size @ Depth	4.500 in @ 109 m		@
Casing Schlumberger	109 m		
Bit Size	11.438 in		
Type Fluid In Hole	Seawater Gel		
Density	Viscosity	1.26 g/cm3	
Fluid Loss	PH		
Source Of Sample	N/A		
RM @ Measured Temperature			@
RMF @ Measured Temperature			@
RMC @ Measured Temperature			@
Source RMF	RMC	N/A	
RM @ MRT	RMF @ MRT	@ 15	@ 15
Maximum Recorded Temperatures	15 degC		
Circulation Stopped	Time	1-Jan-2010	23:00
Logger On Bottom	Time	2-Jan-2010	3:00
Unit Number	Location	625003	Houston
Recorded By	C. Furman		
Witnessed By	A. Slagle, G. Guerin		

Logging Date	Run 1	Run 2	F
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
Source Of Sample			
RM @ Measured Temperature			
RMF @ Measured Temperature			
RMC @ Measured Temperature			
Source RMF			
RM @ MRT			
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Recorded By			
Witnessed By			

**DISCLAIMER**

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**OTHER SERVICES1**

OS1: DIT  
OS2: DSI

**REMARKS: RUN NUMBER 1**

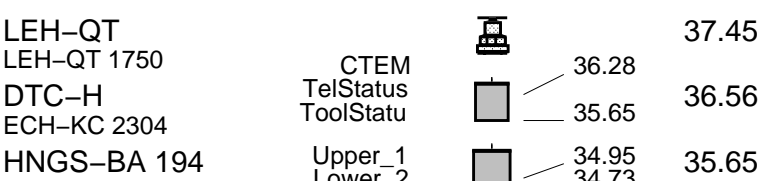
Logs run in third hole ("C" hole) of drilling site U1354 to aid in depth correlation of core data collected in surface labs.  
Average heave during the run was 0.2m; Active Heave Compensator used below 280mbrf.  
TD was found at 505mbrf - with the pipe (bit) at 231mBRF. Sea Bed given as 125mBRF.  
Tools run slick in order to fit through drill pipe, as is standard practice on this project.  
DSI run with MP=Std, UD=Std, and LD=LF.  
  
Depth "Zero" reference adjusted to Sea Bed picked by client.  
Depths shown are measured depth below sea floor, as per client request.

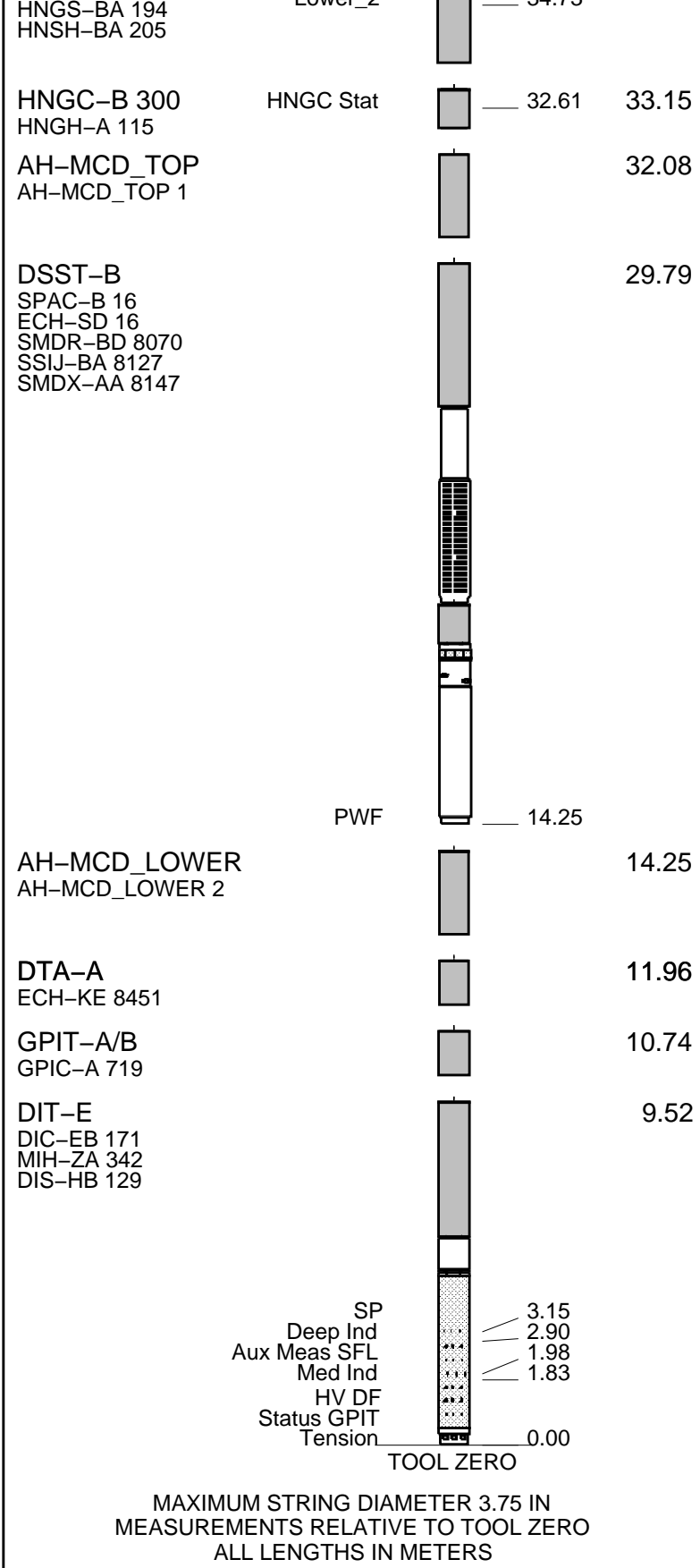
RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
17C0-154					
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

**EQUIPMENT DESCRIPTION**

RUN 1	RUN 2
<b>SURFACE EQUIPMENT</b>	
GSR-U 616008 WITM (DTS)-A	

DOWNHOLE EQUIPMENT	
LEH-QT	37.45
LEH-QT 1750	
DTC-H	36.56
ECH-KC 2304	
HNGS-BA 194	35.65
Upper_1	34.95
Lower_2	34.73

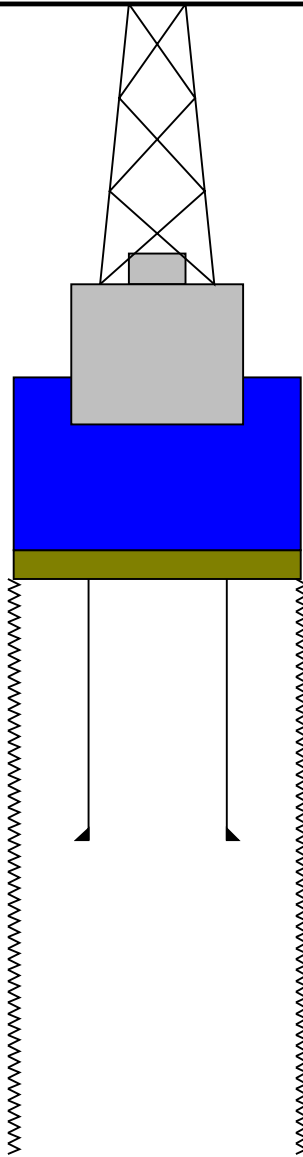




Production String	(in) (m)	Well Schematic	(m) (in)	Casing String
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Kelly Bushing Elevation  
Derrick Floor Elevation  
  
Mean Sea Level

0.0  
0.0  
  
11.0



125.0

Sea Bed

231.0

5.500

Bit Depth

509.0

11.438

Total Depth - Driller

**Schlumberger**

**Main Pass**

MAXIS Field Log

**Input DLIS Files**

DEFAULT	PI_DSI_NGS_011LUP	FN:10	PRODUCER	02-Jan-2010 13:56	505.2 M	78.0 M
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**Output DLIS Files**

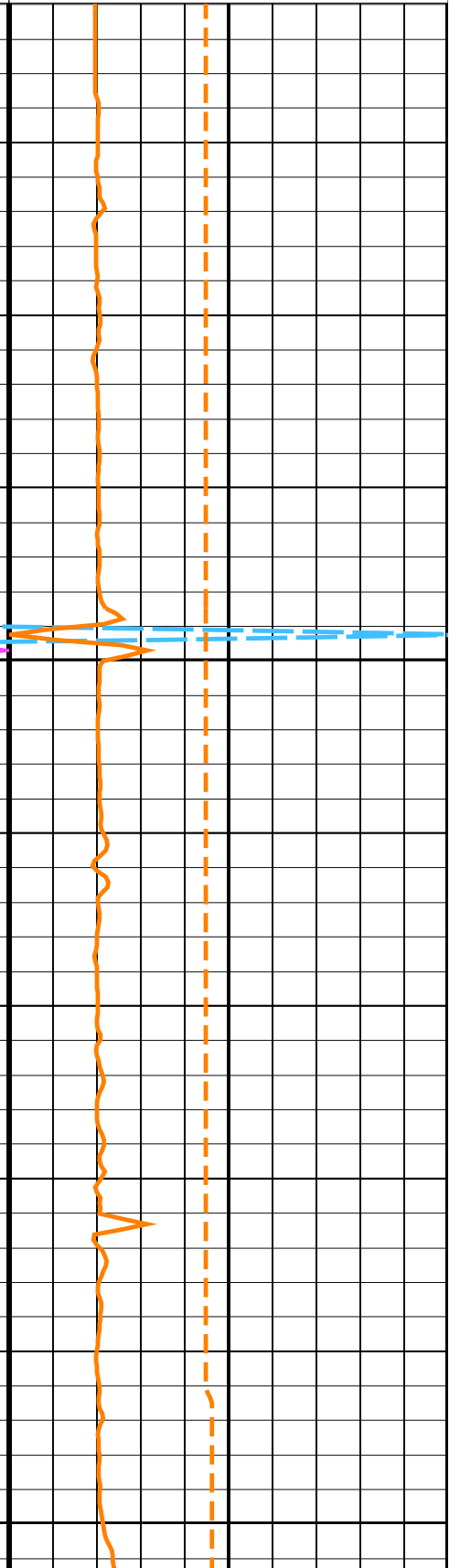
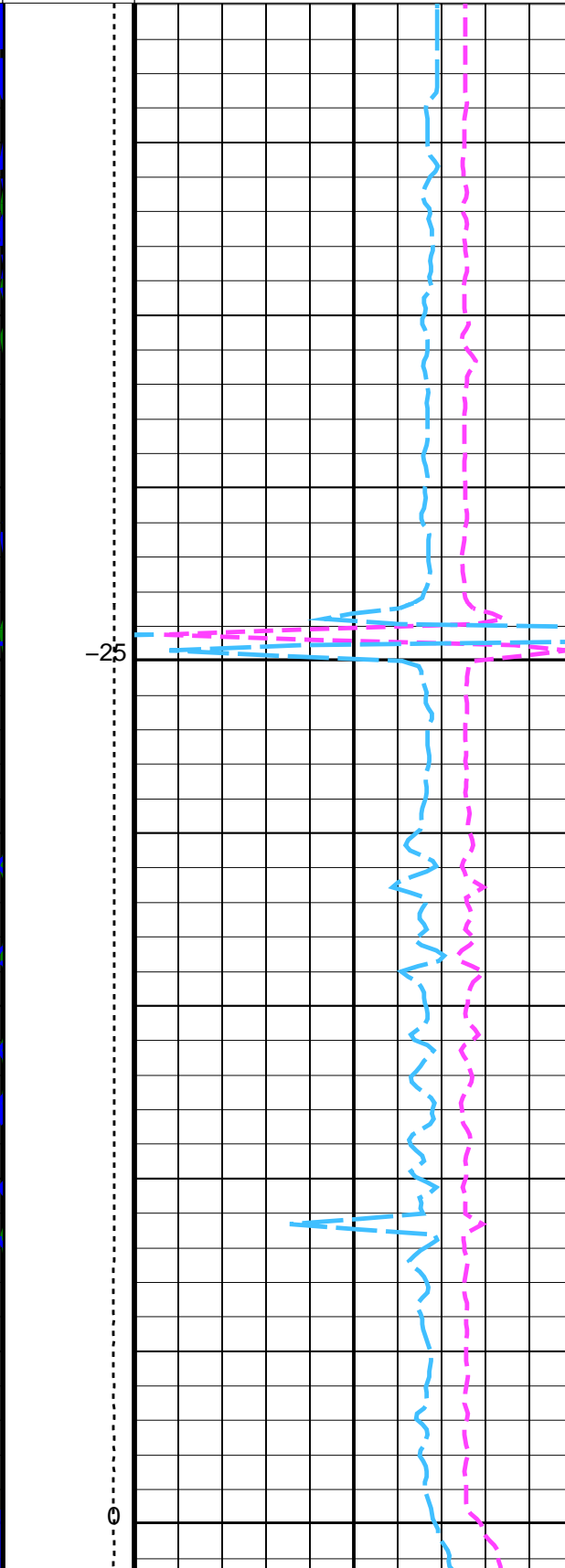
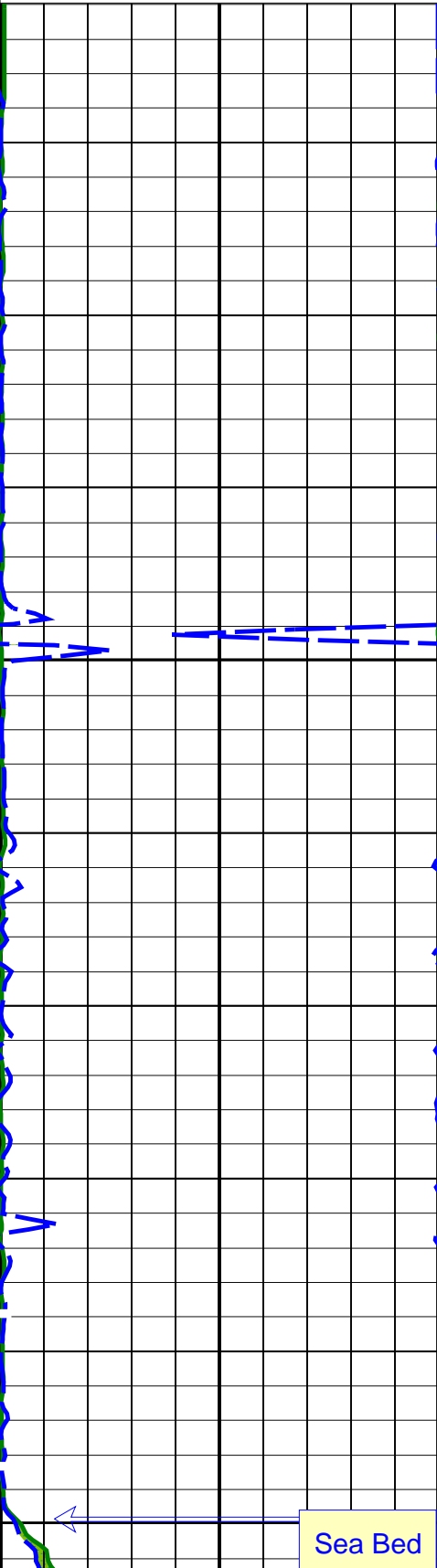
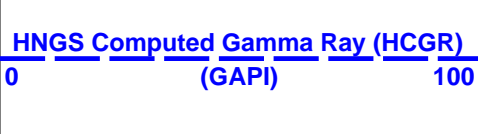
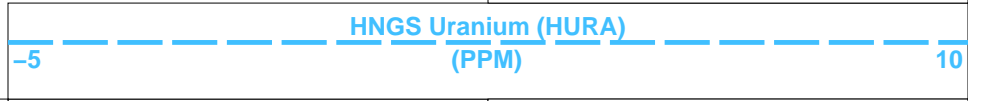
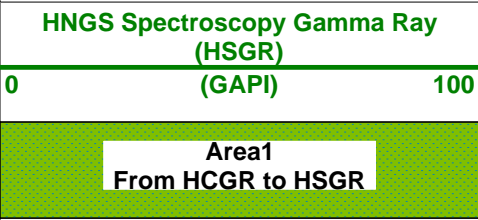
DEFAULT	PI_DSI_NGS_024PUP	FN:23	PRODUCER	02-Jan-2010 14:10	384.0 M	-44.0 M
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**OP System Version: 17C0-154**

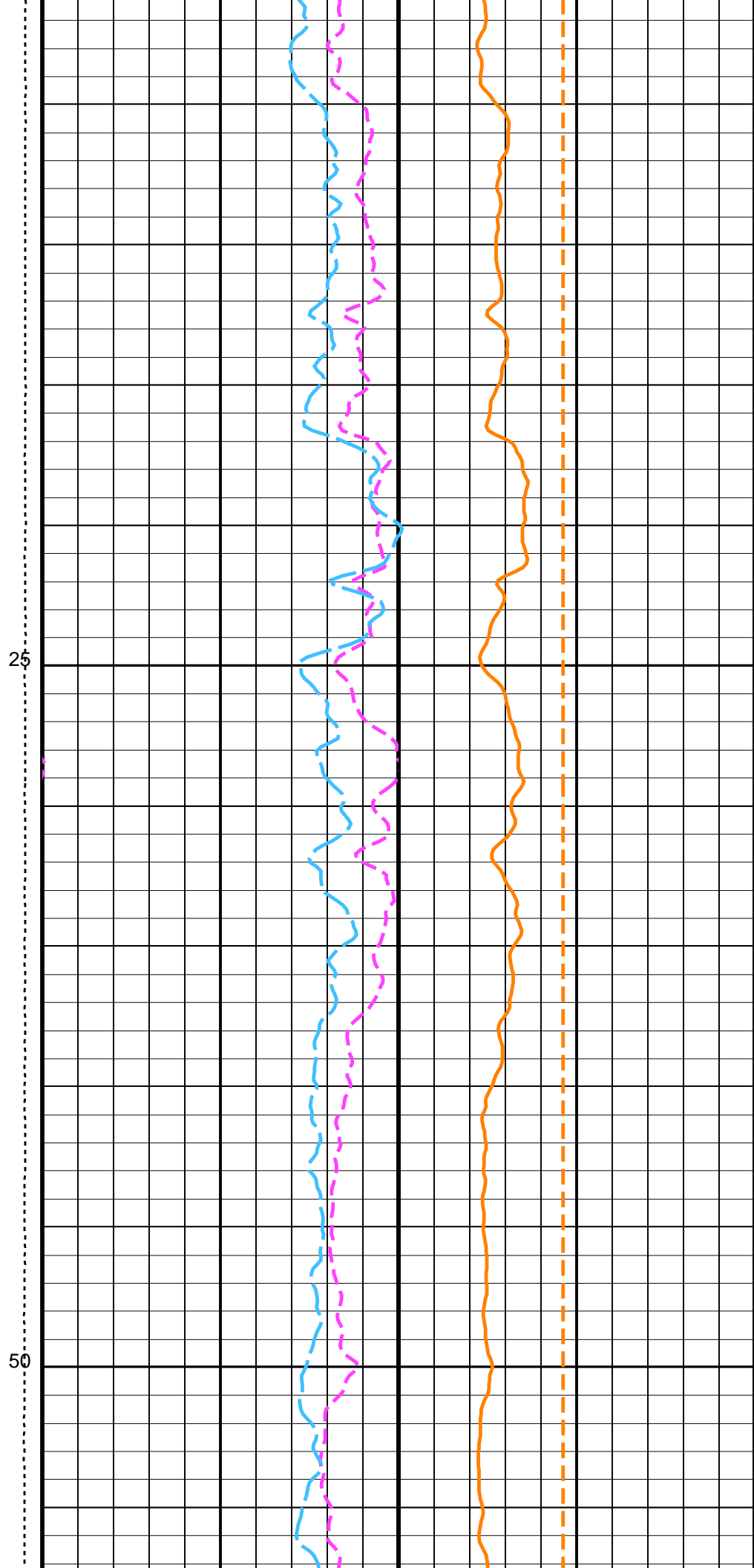
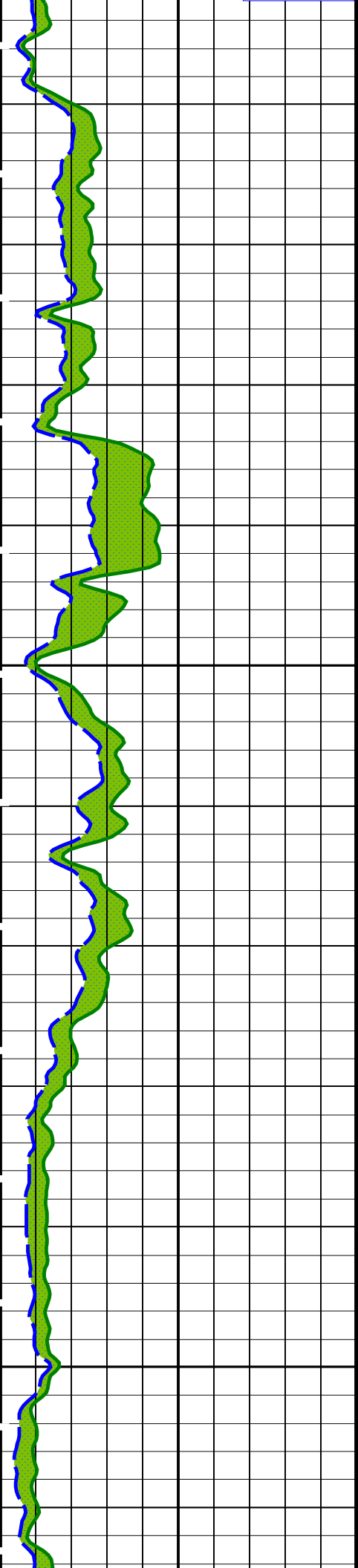
DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	DSST-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

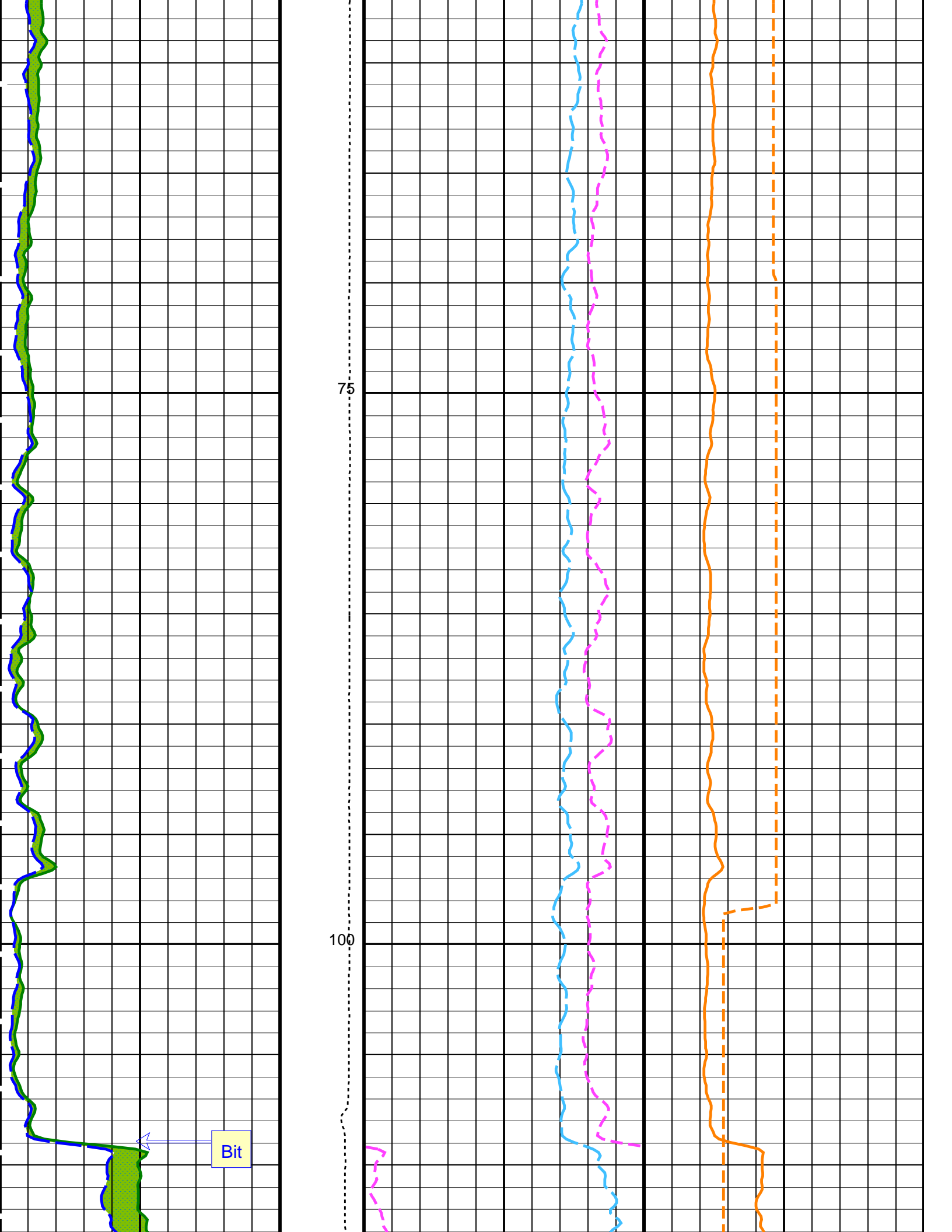
PIP SUMMARY

Time Mark Every 60 S

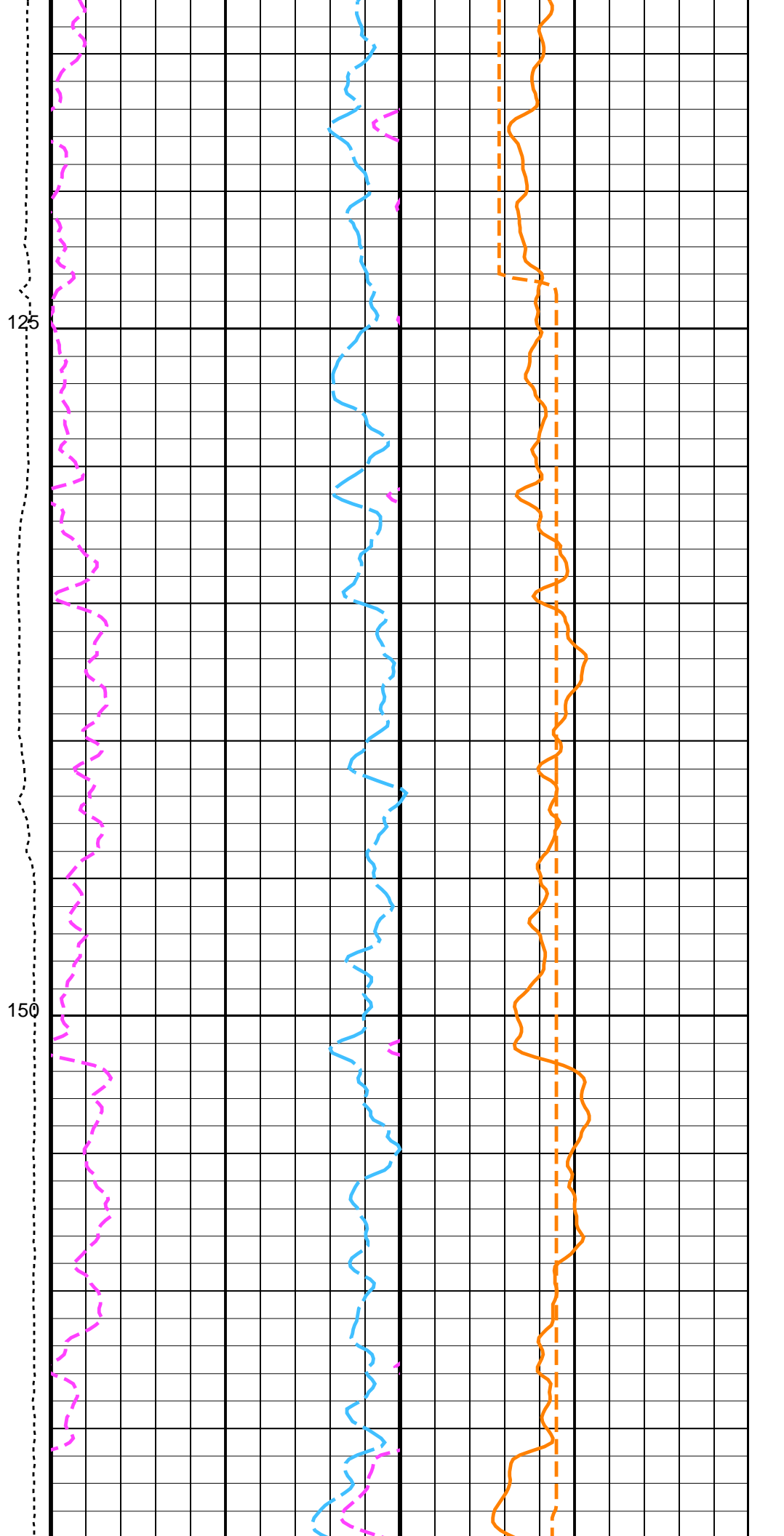
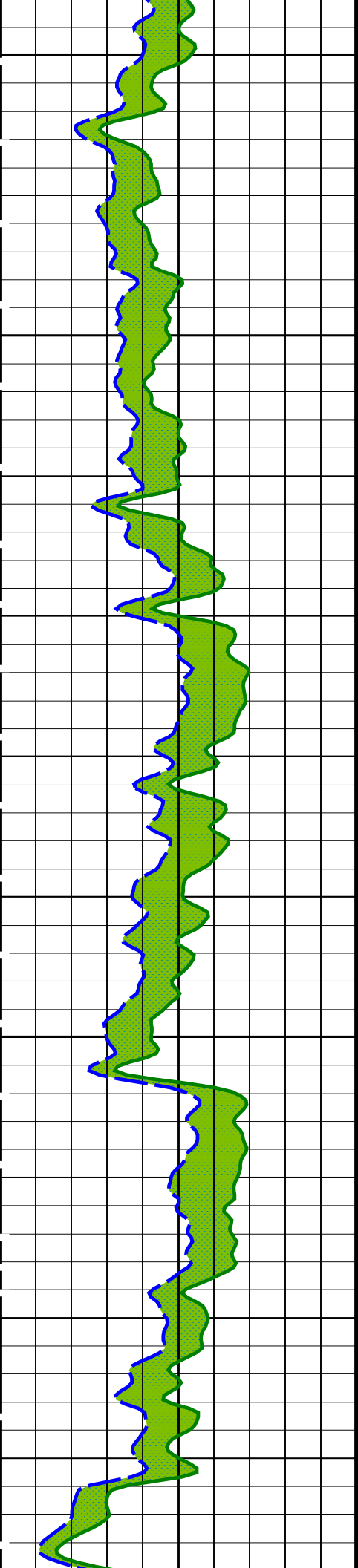


Sea Bed



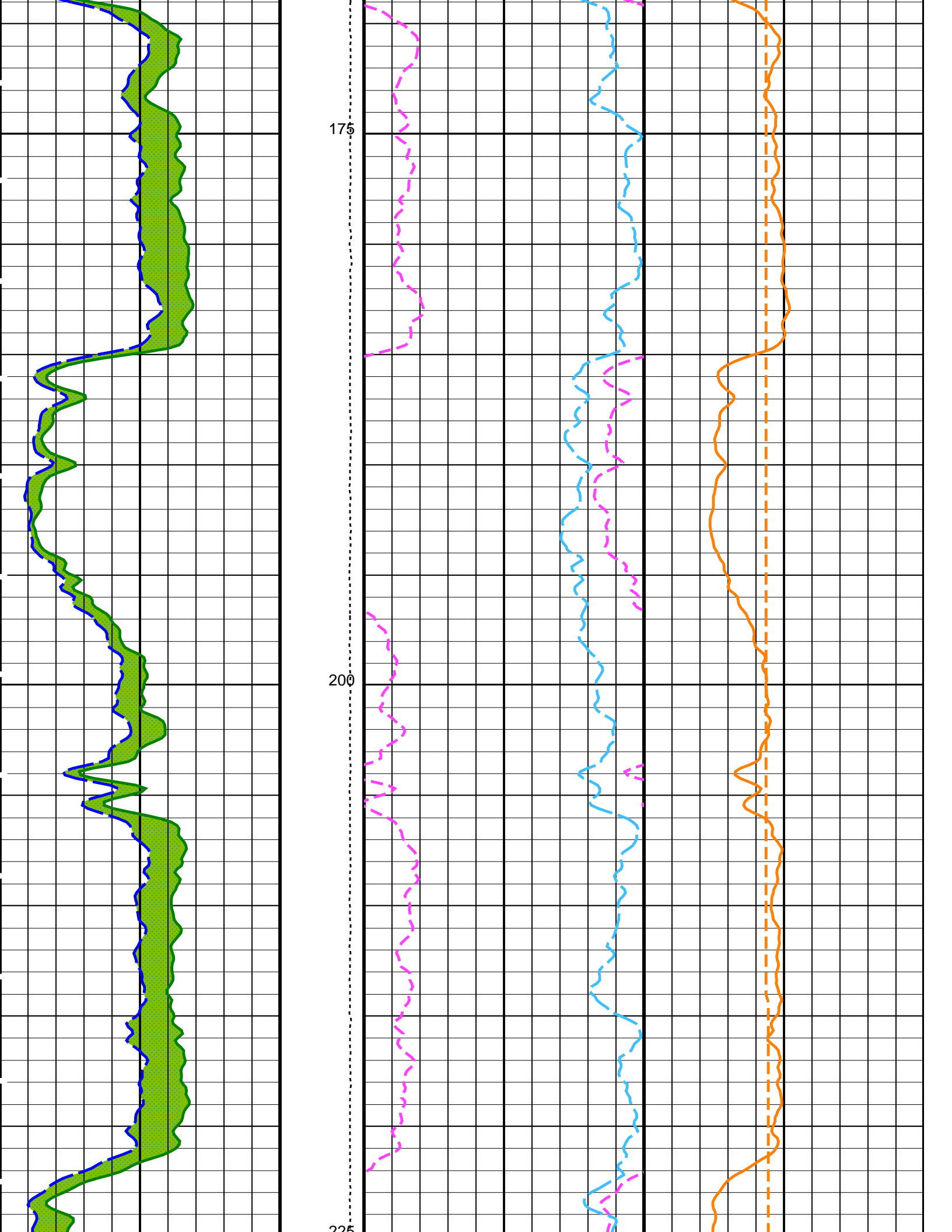


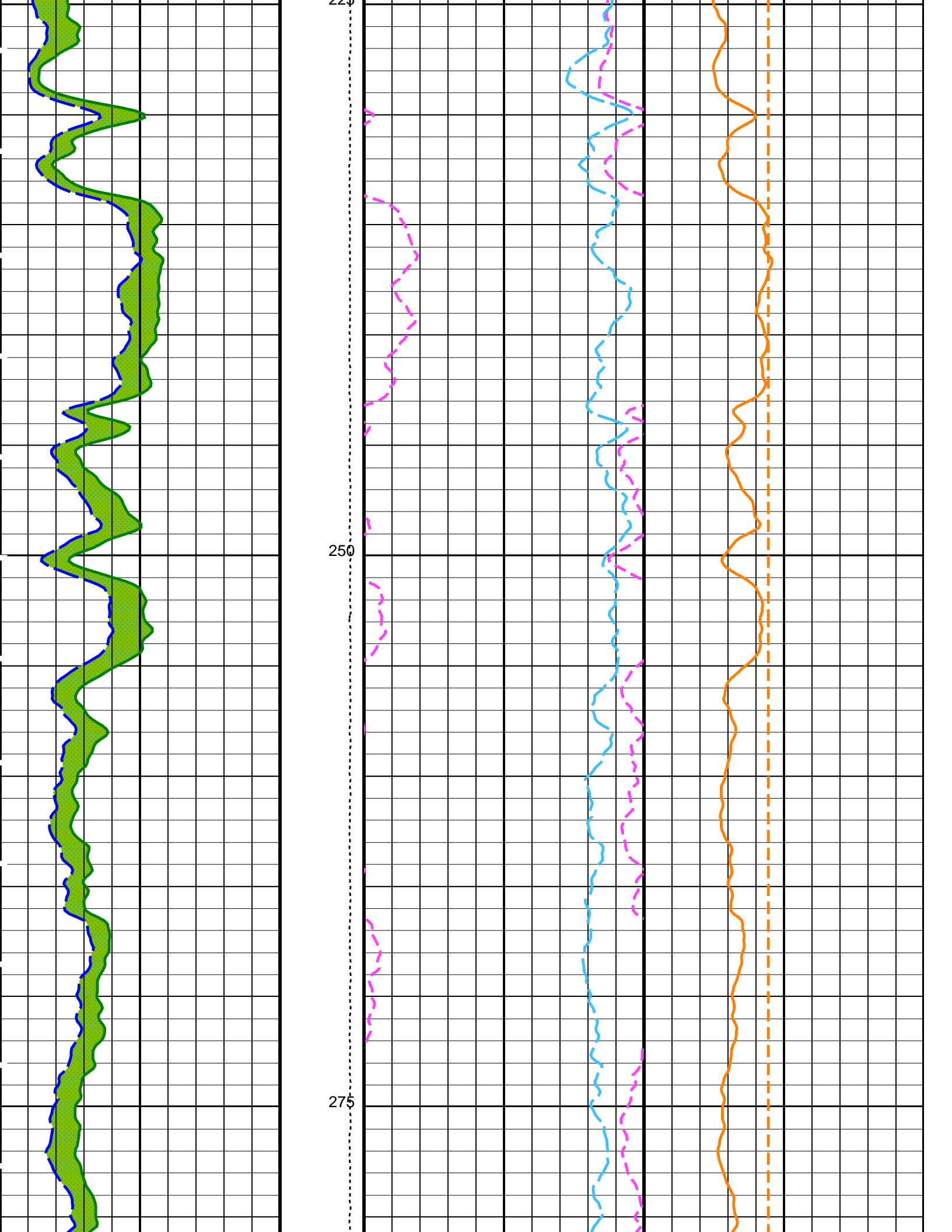


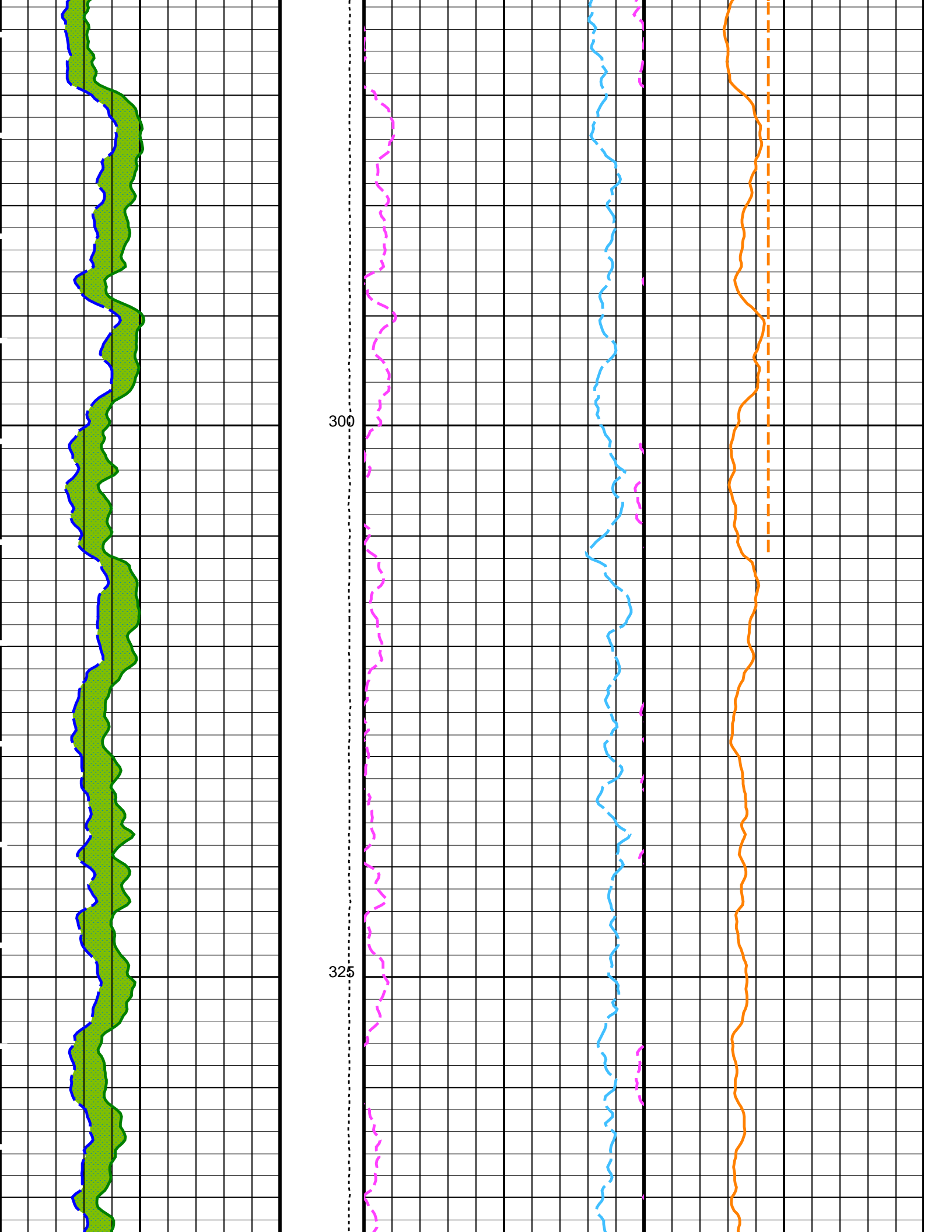


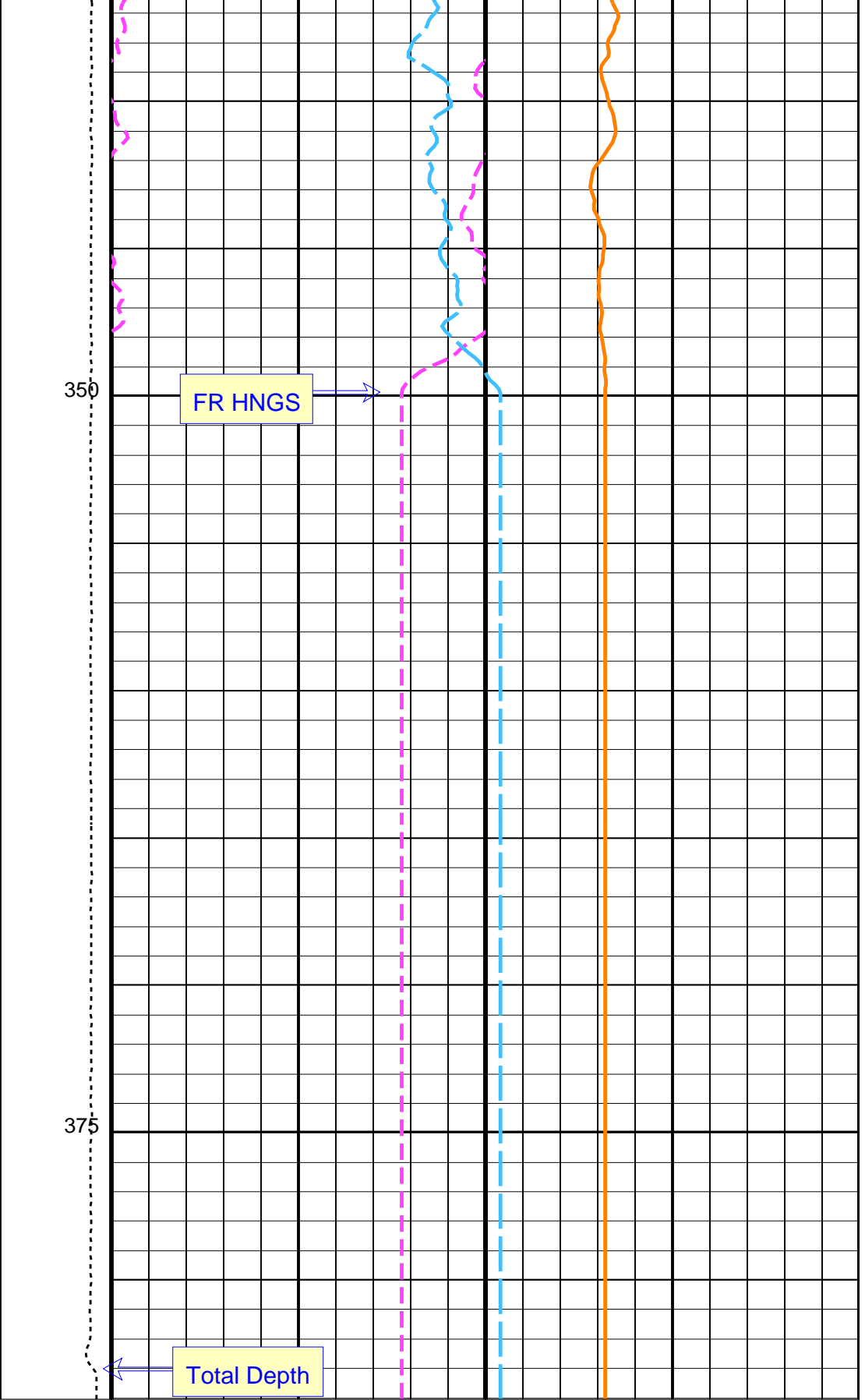
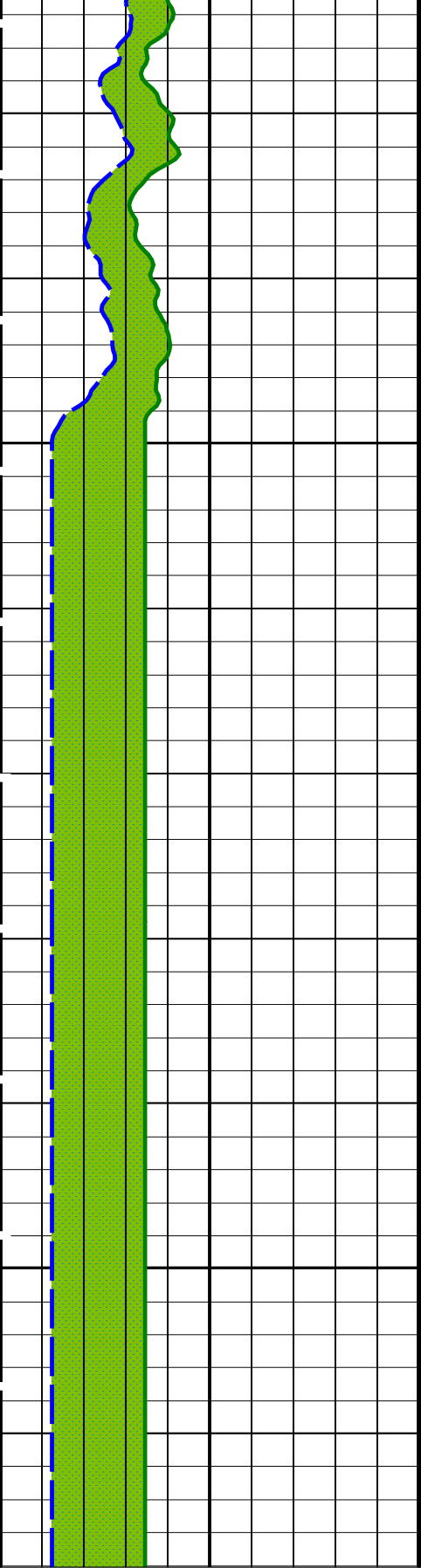
125

150









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

**Tension (TENS) (LBF)**  
 10000 0

**HNGS Thorium (HTHO) (PPM)**  
 5 25

**HNGS Potassium (HFK) (PPM)**  
 -0.01 0.04

**Area1 From HCGR to HSGR**

**HNGS Uranium (HURA) (PPM)**  
 -5 10

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

**HNGS Borehole Potassium (HBHK) (PPM)**  
 -0.05 0.05

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
DIT-E: Dual Induction - E			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	60	DEGF
DGF1	Deep 10 kHz Gain Factor	0.968645	
DGF2	Deep 20 kHz Gain Factor	0.979119	
DGF4	Deep 40 kHz Gain Factor	0.990252	
DPH1	Deep 10 kHz Phase Shift	0.26358	DEG
DPH2	Deep 20 kHz Phase Shift	0.0159963	DEG
DPH4	Deep 40 kHz Phase Shift	-1.11256	DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	39.5751	MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	17.0457	MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	5.15121	MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt	
DSR1	Deep Sigma Reference (10 kHz)	7637	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DSR4	Deep Sigma Reference (40 kHz)	405	MM/M
DSTA	DIT-E Transversal Standoff	0	IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	245.841	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	136.154	MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	78.4516	MM/M
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ISSBAR	Barite Mud Switch	NOBARITE	
ITEN	DIT-E Temperature Enable	ENABLE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MGF1	Medium 10 kHz Gain Factor	0.969585	
MGF2	Medium 20 kHz Gain Factor	0.974788	
MGF4	Medium 40 kHz Gain Factor	0.999842	
MPH1	Medium 10 kHz Phase Shift	0.0787021	DEG
MPH2	Medium 20 kHz Phase Shift	-0.199528	DEG
MPH4	Medium 40 kHz Phase Shift	-0.885081	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	31.1041	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	11.3259	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	3.5782	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MXE1	Medium Quad 10 kHz Sonde Error Correction	328.09	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	172.606	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	112.808	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	68	DEGF
SPAЕ	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
GPIT-A/B: General Purpose Inclinometer			
ACPP	Accelerometer PROM Presence	PRESENT	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ART	Accelerometer Reference Temperature	20	DEGC
GLM	GPIT Logging Mode	DIPM	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	24.3675	DEG
MRTE	Magneto Reference Temperature	19	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
U-GPOF	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?	NO	
DSST-B: Dipole Shear Imager - B			
AGC1	Automatic Gain Control 1	ON	
AGC2	Automatic Gain Control 2	ON	
AGC3	Automatic Gain Control 3	ON	
AGC4	Automatic Gain Control 4	ON	
AGC5	Automatic Gain Control 5	ON	
AGCX	Automatic Gain Control X	ON	
BARS_MTR1	Length for Monopole Transmitter to Receiver 1	2.7432	M
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	60	DEGF
BASF	Label Case Function - Monopole P&G	58	

CASF	Label Casing Function – Monopole P&S	300	US/F
CDTS	C–Delta–T Shale	0	US
COLL	Label Slowness Lower Limit – Monopole P&S Compressional	120	US/F
COUL	Label Slowness Upper Limit – Monopole P&S Compressional	220	US/F
DDE1	Digitizing Delay 1	0	US
DDE2	Digitizing Delay 2	0	US
DDE3	Digitizing Delay 3	0	US
DDE4	Digitizing Delay 4	0	US
DDE5	Digitizing Delay 5	0	US
DDEX	Digitizing Delay X	0	US
DLCS	Label Compressional Source – Dipole Shear	USE	
DLHS	Label Hole Diameter Source for SOBS Channel	C1	
DSHL	Label Slowness Lower Limit – Dipole Shear	300	US/F
DSHU	Label Slowness Upper Limit – Dipole Shear	900	US/F
DSI1	Digitizer Sample Interval 1	40	US
DSI2	Digitizer Sample Interval 2	40	US
DSI3	Digitizer Sample Interval 3	40	US
DSI4	Digitizer Sample Interval 4	10	US
DSI5	Digitizer Sample Interval 5	10	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta–T Source for DTCO Channel	PS_COMP	
DTF	Delta–T Fluid	204.5	US/F
DTM	Delta–T Matrix	56	US/F
DTSS	Shear Delta–T Source for DTSM Channel	LOWER_DIPOLE	
DWC1	Digitizer Word Count 1	512	
DWC2	Digitizer Word Count 2	512	
DWC3	Digitizer Word Count 3	512	
DWC4	Digitizer Word Count 4	512	
DWC5	Digitizer Word Count 5	512	
DWCX	Digitizer Word Count X	512	
FDE1	Firing Delay 1	0	
FDE2	Firing Delay 2	0	
FDE3	Firing Delay 3	0	
FDE4	Firing Delay 4	0	
FDE5	Firing Delay 5	0	
FDEX	Firing Delay X	0	
FGM5	First Motion Gate Moveout 5	40	US/F
FGMX	First Motion Gate Moveout X	40	US/F
FILG	Label Fill Gap Control – Monopole P&S	COMP_SHEAR	
FMG5	First Motion Minimum Gate 5	500	US
FMGX	First Motion Minimum Gate X	500	US
FMLL	Slowness Lower Limit – FMD	40	US/F
FMRC	Restart Control – FMD	CONTINUE	
FMT5	First Motion Threshold 5	UP	
FMTX	First Motion Threshold X	NONE	
FMUL	Slowness Upper Limit – FMD	180	US/F
FNC5	First Motion Noise Counter Input 5	ALO	
FNCX	First Motion Noise Counter Input X	ALO	
FPM	Processing Mode – FMD	NONE	
FTD5	First Motion Threshold Direction 5	UP	
FTDX	First Motion Threshold Direction X	UP	
GAI1	Manual Gain 1	10	
GAI2	Manual Gain 2	10	
GAI3	Manual Gain 3	6	
GAI4	Manual Gain 4	16	
GAI5	Manual Gain 5	16	
GAIX	Manual Gain X	10	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GDT1	Gain Delta–T 1	800	US/F
GDT2	Gain Delta–T 2	800	US/F
GDT3	Gain Delta–T 3	800	US/F
GDT4	Gain Delta–T 4	160	US/F
GDT5	Gain Delta–T 5	160	US/F
GDTX	Gain Delta–T X	800	US/F
GGRD	Geothermal Gradient	0.01	DF/F
GIN1	Gain Interval 1	15360	US
GIN2	Gain Interval 2	15360	US
GIN3	Gain Interval 3	15360	US
GIN4	Gain Interval 4	2560	US
GIN5	Gain Interval 5	1600	US
GINX	Gain Interval X	15360	US
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HPF1	High Pass Filter 1	F80	
HPF2	High Pass Filter 2	F80	
HPF3	High Pass Filter 3	F80	
HPF4	High Pass Filter 4	F8K	
HPF5	High Pass Filter 5	F8K	
HPFX	High Pass Filter X	F80	
ISSBAR	Barite Mud Switch	NOBARITE	
ITTS	Integrated Transit Time Source	DTCO	
LFC	Label Formation Character – Monopole P&S	DYNAMIC	
LPF1	Low Pass Filter 1	F5K	
LPF2	Low Pass Filter 2	F5K	

LPF3	Low Pass Filter 3	F5K	
LPF4	Low Pass Filter 4	F30K	
LPF5	Low Pass Filter 5	F30K	
LPFX	Low Pass Filter X	F5K	
LTXG	Lower Dipole Transmitter Geometry	156	IN
MAI5	Slowness Averaging Interval - FMD	42	IN
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCS	Mean Casing Slowness	57	US/F
MDS5	Multishot Delta-T Scatter - FMD	20	US
MTXG	Monopole Transmitter Geometry	186	IN
MUX1	Sum Difference Multiplexor Input 1	RR	
MUX2	Sum Difference Multiplexor Input 2	RR	
MUX3	Sum Difference Multiplexor Input 3	RR	
MUX4	Sum Difference Multiplexor Input 4	RR	
MUX5	Sum Difference Multiplexor Input 5	RR	
MUXX	Sum Difference Multiplexor Input X	RR	
NTI5	Number Threshold Items 5	0	
NTIX	Number Threshold Items X	0	
NWI1	Number Waveform Items 1	8	
NWI2	Number Waveform Items 2	8	
NWI3	Number Waveform Items 3	0	
NWI4	Number Waveform Items 4	8	
NWI5	Number Waveform Items 5	0	
NWIX	Number Waveform Items X	0	
NWS1	Number Waveforms Stacked 1	1	
NWS2	Number Waveforms Stacked 2	1	
NWS3	Number Waveforms Stacked 3	1	
NWS4	Number Waveforms Stacked 4	1	
NWS5	Number Waveforms Stacked 5	1	
NWSX	Number Waveforms Stacked X	1	
RATE	Firing Rate	R7	
RSMN	Label Shear/Compressional Minimum Ratio - Monopole P&S	1.4	
RSMX	Label Shear/Compressional Maximum Ratio - Monopole P&S	2.12	
RX1G	Receiver 1 Geometry	294	IN
RX2G	Receiver 2 Geometry	300	IN
RX3G	Receiver 3 Geometry	306	IN
RX4G	Receiver 4 Geometry	312	IN
RX5G	Receiver 5 Geometry	318	IN
RX6G	Receiver 6 Geometry	324	IN
RX7G	Receiver 7 Geometry	330	IN
RX8G	Receiver 8 Geometry	336	IN
SAM1	DSST Sonic Acquisition Mode 1 - Lower Dipole Mode	LFD_EVEN	
SAM2	DSST Sonic Acquisition Mode 2 - Upper Dipole Mode	ODD	
SAM3	DSST Sonic Acquisition Mode 3 - Low Frequency Monopole Mode for Stoneley	OFF	
SAM4	DSST Sonic Acquisition Mode 4 - High Frequency Monopole Mode for P&S	ODD	
SAM5	DSST Sonic Acquisition Mode 5 - High Frequency Monopole Mode for FMD	OFF	
SAMX	DSST Sonic Acquisition Mode X - Both Dipoles or Monopole Mode for Expert	OFF	
SAS1	STC Sonic Array Status - Lower Dipole	255	
SAS2	STC Sonic Array Status - Upper Dipole	255	
SAS3	STC Sonic Array Status - Monopole Stoneley	255	
SAS4	STC Sonic Array Status - Monopole P&S	255	
SAS5	Sonic Array Status - FMD	255	
SBO1	STC Search Band Offset - Lower Dipole	3000	US
SBO2	STC Search Band Offset - Upper Dipole	3000	US
SBO3	STC Search Band Offset - Monopole Stoneley	3000	US
SBO4	STC Search Band Offset - Monopole P&S	500	US
SBR4	STC Baseline Removal - Monopole P&S	ON	
SBW1	STC Search Bandwidth - Lower Dipole	8000	US
SBW2	STC Search Bandwidth - Upper Dipole	8000	US
SBW3	STC Search Bandwidth - Monopole Stoneley	8000	US
SBW4	STC Search Bandwidth - Monopole P&S	2000	US
SFC1	STC Formation Character - Lower Dipole	SELECTABLE	
SFC2	STC Formation Character - Upper Dipole	SELECTABLE	
SFC3	STC Formation Character - Monopole Stoneley	SELECTABLE	
SFC4	STC Formation Character - Monopole P&S	SELECTABLE	
SFM1	STC Filter - Lower Dipole	B.3-1.5K	
SFM2	STC Filter - Upper Dipole	B1-2K	
SFM3	STC Filter - Monopole Stoneley	B.5-1.5K	
SFM4	STC Filter - Monopole P&S	B3-20K	
SHLL	Label Slowness Lower Limit - Monopole P&S Shear	120	US/F
SHT	Surface Hole Temperature	68	DEGF
SHUL	Label Slowness Upper Limit - Monopole P&S Shear	220	US/F
SLL1	STC Slowness Lower Limit - Lower Dipole	300	US/F
SLL2	STC Slowness Lower Limit - Upper Dipole	300	US/F
SLL3	STC Slowness Lower Limit - Monopole Stoneley	180	US/F
SLL4	STC Slowness Lower Limit - Monopole P&S	120	US/F
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DTCO	
SST1	STC Slowness Step - Lower Dipole	4	US/F
SST2	STC Slowness Step - Upper Dipole	4	US/F
SST3	STC Slowness Step - Monopole Stoneley	4	US/F



SS13	STC Slowness Step - Monopole Stoneley	2	US/F
SSW1	STC Source Waveform - Lower Dipole	WF_SAM1	
SSW2	STC Source Waveform - Upper Dipole	WF_SAM2	
SSW3	STC Source Waveform - Monopole Stoneley	WF_SAM3	
SSW4	STC Source Waveform - Monopole P&S	WF_SAM4	
STLL	Label Slowness Lower Limit - Monopole Stoneley	180	US/F
STUL	Label Slowness Upper Limit - Monopole Stoneley	780	US/F
SUL1	STC Slowness Upper Limit - Lower Dipole	1600	US/F
SUL2	STC Slowness Upper Limit - Upper Dipole	1600	US/F
SUL3	STC Slowness Upper Limit - Monopole Stoneley	780	US/F
SUL4	STC Slowness Upper Limit - Monopole P&S	220	US/F
SWD1	STC Slowness Width - Lower Dipole	40	US/F
SWD2	STC Slowness Width - Upper Dipole	40	US/F
SWD3	STC Slowness Width - Monopole Stoneley	40	US/F
SWD4	STC Slowness Width - Monopole P&S	10	US/F
TBDB	Tool String Bottom to DSST Bottom	561	IN
TBF1	STC Time for Baseline Fill - Lower Dipole	0	US
TBF2	STC Time for Baseline Fill - Upper Dipole	0	US
TBF3	STC Time for Baseline Fill - Monopole Stoneley	0	US
TBF4	STC Time for Baseline Fill - Monopole P&S	300	US
TLL1	STC Time Lower Limit - Lower Dipole	2450	US
TLL2	STC Time Lower Limit - Upper Dipole	2300	US
TLL3	STC Time Lower Limit - Monopole Stoneley	600	US
TLL4	STC Time Lower Limit - Monopole P&S	580	US
TST1	STC Time Step - Lower Dipole	200	US
TST2	STC Time Step - Upper Dipole	200	US
TST3	STC Time Step - Monopole Stoneley	200	US
TST4	STC Time Step - Monopole P&S	50	US
TTDB	Tool String Top to DSST Bottom	913.4	IN
TUL1	STC Time Upper Limit - Lower Dipole	20440	US
TUL2	STC Time Upper Limit - Upper Dipole	20440	US
TUL3	STC Time Upper Limit - Monopole Stoneley	12000	US
TUL4	STC Time Upper Limit - Monopole P&S	3480	US
TWA1	Transmitter Waveform Amplitude 1	179	
TWA2	Transmitter Waveform Amplitude 2	179	
TWA3	Transmitter Waveform Amplitude 3	166	
TWA4	Transmitter Waveform Amplitude 4	150	
TWA5	Transmitter Waveform Amplitude 5	150	
TWAX	Transmitter Waveform Amplitude X	179	
TWD1	STC Time Width - Lower Dipole	2000	US
TWD2	STC Time Width - Upper Dipole	2000	US
TWD3	STC Time Width - Monopole Stoneley	2000	US
TWD4	STC Time Width - Monopole P&S	1000	US
TWI1	STC Integration Time Window - Lower Dipole	1600	US
TWI2	STC Integration Time Window - Upper Dipole	1600	US
TWI3	STC Integration Time Window - Monopole Stoneley	2400	US
TWI4	STC Integration Time Window - Monopole P&S	500	US
TWR1	Transmitter Waveform Sample Rate 1	20	US
TWR2	Transmitter Waveform Sample Rate 2	5	US
TWR3	Transmitter Waveform Sample Rate 3	5	US
TWR4	Transmitter Waveform Sample Rate 4	5	US
TWR5	Transmitter Waveform Sample Rate 5	5	US
TWRX	Transmitter Waveform Sample Rate X	5	US
TWS1	Transmitter Waveform Select 1	2	
TWS2	Transmitter Waveform Select 2	0	
TWS3	Transmitter Waveform Select 3	4	
TWS4	Transmitter Waveform Select 4	6	
TWS5	Transmitter Waveform Select 5	6	
TWSX	Transmitter Waveform Select X	0	
UTXG	Upper Dipole Transmitter Geometry	162	IN
WFDTSP1	SAM1 Waveform Delta for Spectrum	0	US/F
WFDTSP2	SAM2 Waveform Delta for Spectrum	0	US/F
WFDTSP3	SAM3 Waveform Delta for Spectrum	0	US/F
WFDTSP4	SAM4 Waveform Delta for Spectrum	0	US/F
WFDTSPX	SAMX Waveform Delta for Spectrum	0	US/F
WFLLSP1	SAM1 Waveform Lower Limit for Spectrum	0	US
WFLLSP2	SAM2 Waveform Lower Limit for Spectrum	0	US
WFLLSP3	SAM3 Waveform Lower Limit for Spectrum	0	US
WFLLSP4	SAM4 Waveform Lower Limit for Spectrum	0	US
WFLLSPX	SAMX Waveform Lower Limit for Spectrum	0	US
WFM1	Waveform Mode 1	W1	
WFM2	Waveform Mode 2	W1	
WFM3	Waveform Mode 3	W1	
WFM4	Waveform Mode 4	W1	
WFM5	Waveform Mode 5	W1	
WFMX	Waveform Mode X	W1	
WFULSP1	SAM1 Waveform Upper Limit for Spectrum	20000	US
WFULSP2	SAM2 Waveform Upper Limit for Spectrum	20000	US
WFULSP3	SAM3 Waveform Upper Limit for Spectrum	20000	US
WFULSP4	SAM4 Waveform Upper Limit for Spectrum	5000	US
WFULSPX	SAMX Waveform Upper Limit for Spectrum	20000	US
XMT1	Transmitter Select 1	DLO	
XMT2	Transmitter Select 2	DUP	
XMT3	Transmitter Select 3	MONO	

XMT4	Transmitter Select 4	MONO	
XMT5	Transmitter Select 5	MONO	
XMTX	Transmitter Select X	NONE	
<b>HNGS-BA: Hostile Natural Gamma Ray Sonde</b>			
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	60	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00678649	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.934033	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.970293	

**System and Miscellaneous**

ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	11.438	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.26	G/C3
DO	Depth Offset for Playback	-122.0	M
FLEV	Fluid Level	-50000.00	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2750.9	M
TDD	Total Depth - Driller	387.00	M
TDL	Total Depth - Logger	383.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: HNGSYields    Vertical Scale: 1:200    Graphics File Created: 02-Jan-2010 14:10

**OP System Version: 17C0-154**

DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	DSST-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

**Input DLIS Files**

DEFAULT	PI_DSI_NGS_011LUP	FN:10	PRODUCER	02-Jan-2010 13:56	505.2 M	78.0 M
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**Output DLIS Files**

DEFAULT	PI_DSI_NGS_024PUP	FN:23	PRODUCER	02-Jan-2010 14:10		
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**Repeat Pass**

### Input DLIS Files

DEFAULT PI\_DSI\_NGS\_010LUP FN:9 PRODUCER 02-Jan-2010 13:57 505.2 M 403.3 M

### Output DLIS Files

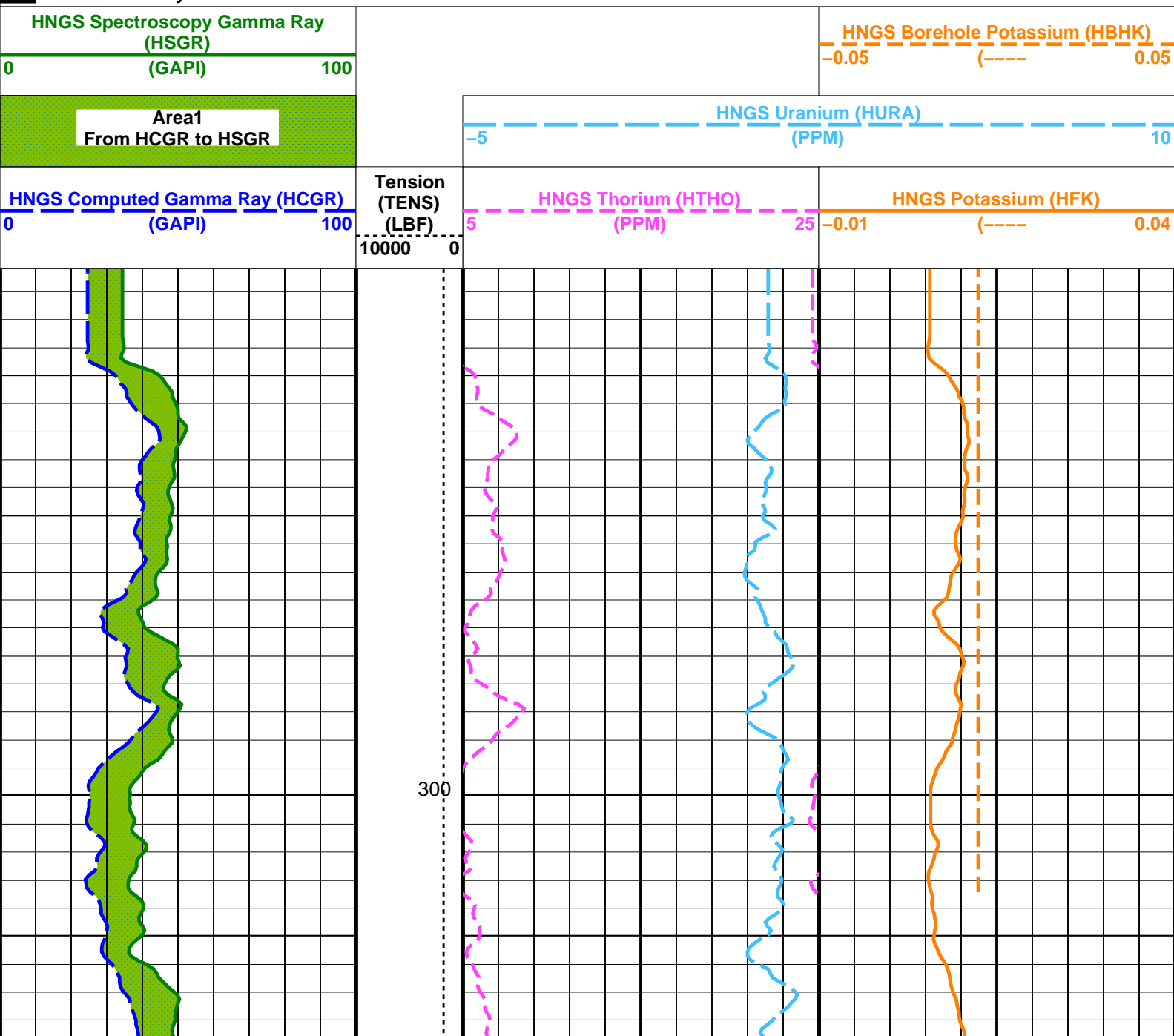
DEFAULT PI\_DSI\_NGS\_023PUP FN:22 PRODUCER 02-Jan-2010 14:09 384.0 M 281.2 M

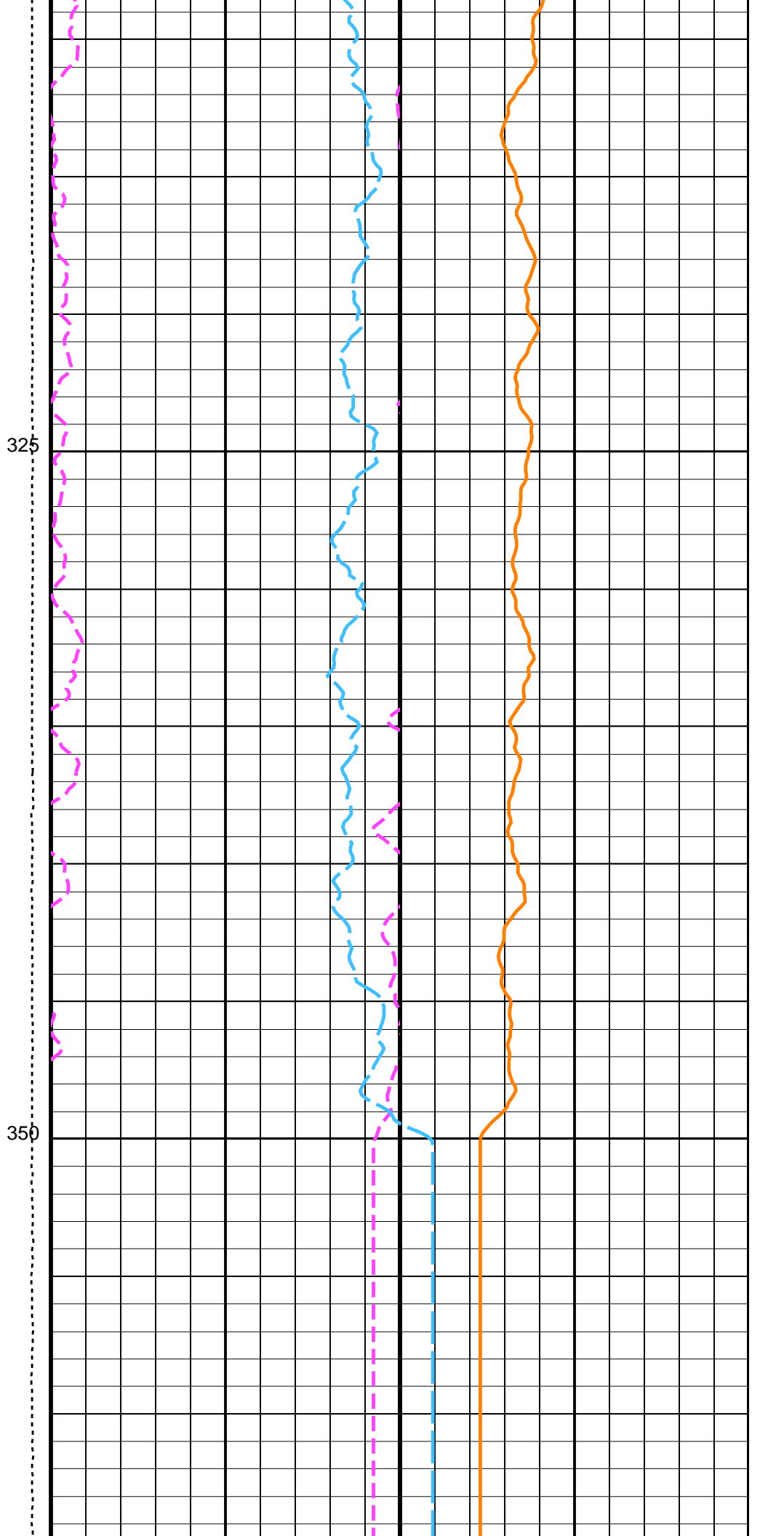
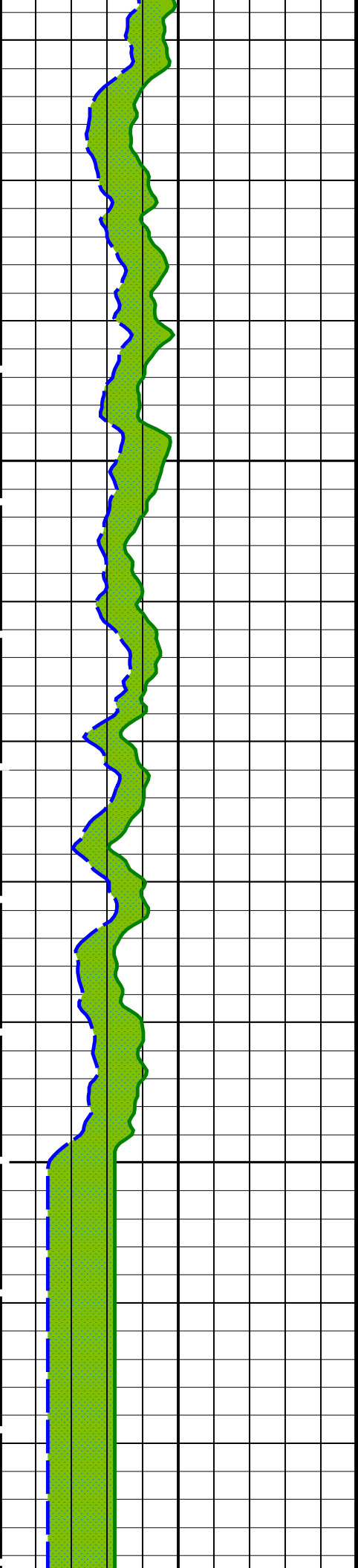
## OP System Version: 17C0-154

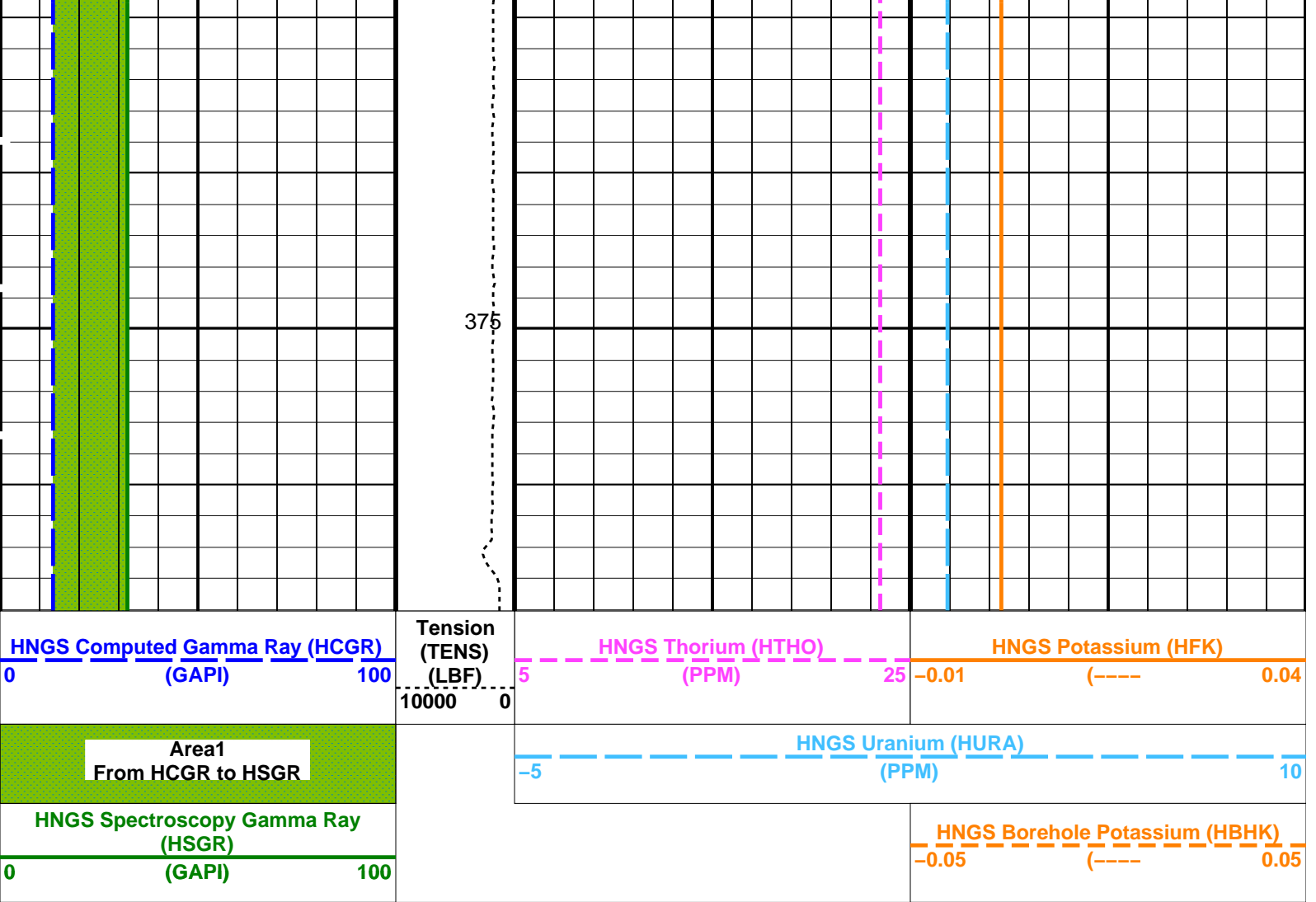
DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	DSST-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

### PIP SUMMARY

Time Mark Every 60 S







Tension  
(TENS)  
(LBF)  
10000 0

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	60 DEG F
DGF1	Deep 10 kHz Gain Factor	0.968645
DGF2	Deep 20 kHz Gain Factor	0.979119
DGF4	Deep 40 kHz Gain Factor	0.990252
DPH1	Deep 10 kHz Phase Shift	0.26358 DEG
DPH2	Deep 20 kHz Phase Shift	0.0159963 DEG
DPH4	Deep 40 kHz Phase Shift	-1.11256 DEG
DRE1	Deep Real 10 kHz Sonde Error Correction	39.5751 MM/M
DRE2	Deep Real 20 kHz Sonde Error Correction	17.0457 MM/M
DRE4	Deep Real 40 kHz Sonde Error Correction	5.15121 MM/M
DRIM	DIT-E Radial Invasion Mode	Rxo>Rt
DSR1	Deep Sigma Reference (10 kHz)	7637 MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843 MM/M
DSR4	Deep Sigma Reference (40 kHz)	405 MM/M
DSTA	DIT-E Transversal Standoff	0 IN
DXE1	Deep Quad 10 kHz Sonde Error Correction	245.841 MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	136.154 MM/M
DXE4	Deep Quad 40 kHz Sonde Error Correction	78.4516 MM/M
GCSE	Generalized Caliper Selection	BS
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.01 DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE
IFRS	DIT-E Induction Frequency Selector	20
IPHA	DIT-E Phasor Processing Mode	ALL
IPRO	DIT-E Induction Processing Selector	PHASOR
ISSBAR	Barite Mud Switch	NOBARITE
ITEN	DIT-E Temperature Enable	ENABLE
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
MGF1	Medium 10 kHz Gain Factor	0.969585

MGF2	Medium 20 kHz Gain Factor	0.974788	
MGF4	Medium 40 kHz Gain Factor	0.999842	
MPH1	Medium 10 kHz Phase Shift	0.0787021	DEG
MPH2	Medium 20 kHz Phase Shift	-0.199528	DEG
MPH4	Medium 40 kHz Phase Shift	-0.885081	DEG
MRE1	Medium Real 10 kHz Sonde Error Correction	31.1041	MM/M
MRE2	Medium Real 20 kHz Sonde Error Correction	11.3259	MM/M
MRE4	Medium Real 40 kHz Sonde Error Correction	3.5782	MM/M
MSR1	Medium Sigma Reference (10 kHz)	13520	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MSR4	Medium Sigma Reference (40 kHz)	685	MM/M
MXE1	Medium Quad 10 kHz Sonde Error Correction	328.09	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	172.606	MM/M
MXE4	Medium Quad 40 kHz Sonde Error Correction	112.808	MM/M
SBR	Shoulder Bed Resistivity Factor	1	OHMM
SFCR	SFL Channel Ratio	1000	
SFLE	SFL Enable	ENABLE	
SHT	Surface Hole Temperature	68	DEGF
SPAE	DIT-E SPARC Processing Enable	ENABLE	
SPNV	SP Next Value	0	MV
GPIT-A/B: General Purpose Inclinometer			
ACPP	Accelerometer PROM Presence	PRESENT	
AFMO	Accelerometer Filtering Mode	MOVING_AVERAGE	
ART	Accelerometer Reference Temperature	20	DEGC
GLM	GPIT Logging Mode	DIPM	
ICMO	Inclinometry Computation Mode	AUTOMATIC_SELECTION	
MAPP	Magnetometer PROM Presence	PRESENT	
MDEC	Magnetic Field Declination	24.3675	DEG
MRTE	Magneto Reference Temperature	19	DEGC
TEMS	GPIT Temperature Sensor Used	BOTH	
U-GPOF	Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ?	NO	
DSST-B: Dipole Shear Imager - B			
AGC1	Automatic Gain Control 1	ON	
AGC2	Automatic Gain Control 2	ON	
AGC3	Automatic Gain Control 3	ON	
AGC4	Automatic Gain Control 4	ON	
AGC5	Automatic Gain Control 5	ON	
AGCX	Automatic Gain Control X	ON	
BARS_MTR1	Length for Monopole Transmitter to Receiver 1	2.7432	M
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	60	DEGF
CASF	Label Casing Function - Monopole P&S	50	
CDTS	C-Delta-T Shale	100	US/F
COLL	Label Slowness Lower Limit - Monopole P&S Compressional	120	US/F
COUL	Label Slowness Upper Limit - Monopole P&S Compressional	220	US/F
DDE1	Digitizing Delay 1	0	US
DDE2	Digitizing Delay 2	0	US
DDE3	Digitizing Delay 3	0	US
DDE4	Digitizing Delay 4	0	US
DDE5	Digitizing Delay 5	0	US
DDEX	Digitizing Delay X	0	US
DLCS	Label Compressional Source - Dipole Shear	USE	
DLHS	Label Hole Diameter Source for SOBS Channel	C1	
DSHL	Label Slowness Lower Limit - Dipole Shear	300	US/F
DSHU	Label Slowness Upper Limit - Dipole Shear	900	US/F
DSI1	Digitizer Sample Interval 1	40	US
DSI2	Digitizer Sample Interval 2	40	US
DSI3	Digitizer Sample Interval 3	40	US
DSI4	Digitizer Sample Interval 4	10	US
DSI5	Digitizer Sample Interval 5	10	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta-T Source for DTCO Channel	PS_COMP	
DTF	Delta-T Fluid	204.5	US/F
DTM	Delta-T Matrix	56	US/F
DTSS	Shear Delta-T Source for DTSM Channel	LOWER_DIPOLE	
DWC1	Digitizer Word Count 1	512	
DWC2	Digitizer Word Count 2	512	
DWC3	Digitizer Word Count 3	512	
DWC4	Digitizer Word Count 4	512	
DWC5	Digitizer Word Count 5	512	
DWCX	Digitizer Word Count X	512	
FDE1	Firing Delay 1	0	
FDE2	Firing Delay 2	0	
FDE3	Firing Delay 3	0	
FDE4	Firing Delay 4	0	
FDE5	Firing Delay 5	0	
FDEX	Firing Delay X	0	
FGM5	First Motion Gate Moveout 5	40	US/F
FGMX	First Motion Gate Moveout X	40	US/F
FILG	Label Fill Gap Control - Monopole P&S	COMP_SHEAR	
FMG5	First Motion Minimum Gate 5	500	US
FMGX	First Motion Minimum Gate X	500	US
FMLL	Slowness Lower Limit - FMD	40	US/F
EMRC	Restart Control - FMD	CONTINUE	

FMT5	First Motion Threshold 5	UP	
FMTX	First Motion Threshold X	NONE	
FMUL	Slowness Upper Limit - FMD	180	US/F
FNC5	First Motion Noise Counter Input 5	ALO	
FNCX	First Motion Noise Counter Input X	ALO	
FPM	Processing Mode - FMD	NONE	
FTD5	First Motion Threshold Direction 5	UP	
FTDX	First Motion Threshold Direction X	UP	
GAI1	Manual Gain 1	10	
GAI2	Manual Gain 2	10	
GAI3	Manual Gain 3	6	
GAI4	Manual Gain 4	16	
GAI5	Manual Gain 5	16	
GAIX	Manual Gain X	10	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GDT1	Gain Delta-T 1	800	US/F
GDT2	Gain Delta-T 2	800	US/F
GDT3	Gain Delta-T 3	800	US/F
GDT4	Gain Delta-T 4	160	US/F
GDT5	Gain Delta-T 5	160	US/F
GDTX	Gain Delta-T X	800	US/F
GGRD	Geothermal Gradient	0.01	DF/F
GIN1	Gain Interval 1	15360	US
GIN2	Gain Interval 2	15360	US
GIN3	Gain Interval 3	15360	US
GIN4	Gain Interval 4	2560	US
GIN5	Gain Interval 5	1600	US
GINX	Gain Interval X	15360	US
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
HPF1	High Pass Filter 1	F80	
HPF2	High Pass Filter 2	F80	
HPF3	High Pass Filter 3	F80	
HPF4	High Pass Filter 4	F8K	
HPF5	High Pass Filter 5	F8K	
HPFX	High Pass Filter X	F80	
ISSBAR	Barite Mud Switch	NOBARITE	
ITTS	Integrated Transit Time Source	DTCO	
LFC	Label Formation Character - Monopole P&S	DYNAMIC	
LPF1	Low Pass Filter 1	F5K	
LPF2	Low Pass Filter 2	F5K	
LPF3	Low Pass Filter 3	F5K	
LPF4	Low Pass Filter 4	F30K	
LPF5	Low Pass Filter 5	F30K	
LPFX	Low Pass Filter X	F5K	
LTXG	Lower Dipole Transmitter Geometry	156	IN
MAI5	Slowness Averaging Interval - FMD	42	IN
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCS	Mean Casing Slowness	57	US/F
MDS5	Multishot Delta-T Scatter - FMD	20	US
MTXG	Monopole Transmitter Geometry	186	IN
MUX1	Sum Difference Multiplexor Input 1	RR	
MUX2	Sum Difference Multiplexor Input 2	RR	
MUX3	Sum Difference Multiplexor Input 3	RR	
MUX4	Sum Difference Multiplexor Input 4	RR	
MUX5	Sum Difference Multiplexor Input 5	RR	
MUXX	Sum Difference Multiplexor Input X	RR	
NTI5	Number Threshold Items 5	0	
NTIX	Number Threshold Items X	0	
NWI1	Number Waveform Items 1	8	
NWI2	Number Waveform Items 2	8	
NWI3	Number Waveform Items 3	0	
NWI4	Number Waveform Items 4	8	
NWI5	Number Waveform Items 5	0	
NWIX	Number Waveform Items X	0	
NWS1	Number Waveforms Stacked 1	1	
NWS2	Number Waveforms Stacked 2	1	
NWS3	Number Waveforms Stacked 3	1	
NWS4	Number Waveforms Stacked 4	1	
NWS5	Number Waveforms Stacked 5	1	
NWSX	Number Waveforms Stacked X	1	
RATE	Firing Rate	R7	
RSMN	Label Shear/Compressional Minimum Ratio - Monopole P&S	1.4	
RSMX	Label Shear/Compressional Maximum Ratio - Monopole P&S	2.12	
RX1G	Receiver 1 Geometry	294	IN
RX2G	Receiver 2 Geometry	300	IN
RX3G	Receiver 3 Geometry	306	IN
RX4G	Receiver 4 Geometry	312	IN
RX5G	Receiver 5 Geometry	318	IN
RX6G	Receiver 6 Geometry	324	IN
RX7G	Receiver 7 Geometry	330	IN
RX8G	Receiver 8 Geometry	336	IN
SAM1	DSST Sonic Acquisition Mode 1 - Lower Dipole Mode	LFD_EVEN	

SAM2	DSST Sonic Acquisition Mode 2 – Upper Dipole Mode	ODD	
SAM3	DSST Sonic Acquisition Mode 3 – Low Frequency Monopole Mode for Stoneley	OFF	
SAM4	DSST Sonic Acquisition Mode 4 – High Frequency Monopole Mode for P&S	ODD	
SAM5	DSST Sonic Acquisition Mode 5 – High Frequency Monopole Mode for FMD	OFF	
SAMX	DSST Sonic Acquisition Mode X – Both Dipoles or Monopole Mode for Expert	OFF	
SAS1	STC Sonic Array Status – Lower Dipole	255	
SAS2	STC Sonic Array Status – Upper Dipole	255	
SAS3	STC Sonic Array Status – Monopole Stoneley	255	
SAS4	STC Sonic Array Status – Monopole P&S	255	
SAS5	Sonic Array Status – FMD	255	
SBO1	STC Search Band Offset – Lower Dipole	3000	US
SBO2	STC Search Band Offset – Upper Dipole	3000	US
SBO3	STC Search Band Offset – Monopole Stoneley	3000	US
SBO4	STC Search Band Offset – Monopole P&S	500	US
SBR4	STC Baseline Removal – Monopole P&S	ON	
SBW1	STC Search Bandwidth – Lower Dipole	8000	US
SBW2	STC Search Bandwidth – Upper Dipole	8000	US
SBW3	STC Search Bandwidth – Monopole Stoneley	8000	US
SBW4	STC Search Bandwidth – Monopole P&S	2000	US
SFC1	STC Formation Character – Lower Dipole	SELECTABLE	
SFC2	STC Formation Character – Upper Dipole	SELECTABLE	
SFC3	STC Formation Character – Monopole Stoneley	SELECTABLE	
SFC4	STC Formation Character – Monopole P&S	SELECTABLE	
SFM1	STC Filter – Lower Dipole	B.3–1.5K	
SFM2	STC Filter – Upper Dipole	B1–2K	
SFM3	STC Filter – Monopole Stoneley	B.5–1.5K	
SFM4	STC Filter – Monopole P&S	B3–20K	
SHLL	Label Slowness Lower Limit – Monopole P&S Shear	120	US/F
SHT	Surface Hole Temperature	68	DEGF
SHUL	Label Slowness Upper Limit – Monopole P&S Shear	220	US/F
SLL1	STC Slowness Lower Limit – Lower Dipole	300	US/F
SLL2	STC Slowness Lower Limit – Upper Dipole	300	US/F
SLL3	STC Slowness Lower Limit – Monopole Stoneley	180	US/F
SLL4	STC Slowness Lower Limit – Monopole P&S	120	US/F
SPFS	Sonic Porosity Formula	RAYMER_HUNT	
SPSO	Sonic Porosity Source	DTCO	
SST1	STC Slowness Step – Lower Dipole	4	US/F
SST2	STC Slowness Step – Upper Dipole	4	US/F
SST3	STC Slowness Step – Monopole Stoneley	4	US/F
SST4	STC Slowness Step – Monopole P&S	2	US/F
SSW1	STC Source Waveform – Lower Dipole	WF_SAM1	
SSW2	STC Source Waveform – Upper Dipole	WF_SAM2	
SSW3	STC Source Waveform – Monopole Stoneley	WF_SAM3	
SSW4	STC Source Waveform – Monopole P&S	WF_SAM4	
STLL	Label Slowness Lower Limit – Monopole Stoneley	180	US/F
STUL	Label Slowness Upper Limit – Monopole Stoneley	780	US/F
SUL1	STC Slowness Upper Limit – Lower Dipole	1600	US/F
SUL2	STC Slowness Upper Limit – Upper Dipole	1600	US/F
SUL3	STC Slowness Upper Limit – Monopole Stoneley	780	US/F
SUL4	STC Slowness Upper Limit – Monopole P&S	220	US/F
SWD1	STC Slowness Width – Lower Dipole	40	US/F
SWD2	STC Slowness Width – Upper Dipole	40	US/F
SWD3	STC Slowness Width – Monopole Stoneley	40	US/F
SWD4	STC Slowness Width – Monopole P&S	10	US/F
TBDB	Tool String Bottom to DSST Bottom	561	IN
TBF1	STC Time for Baseline Fill – Lower Dipole	0	US
TBF2	STC Time for Baseline Fill – Upper Dipole	0	US
TBF3	STC Time for Baseline Fill – Monopole Stoneley	0	US
TBF4	STC Time for Baseline Fill – Monopole P&S	300	US
TLL1	STC Time Lower Limit – Lower Dipole	2450	US
TLL2	STC Time Lower Limit – Upper Dipole	2300	US
TLL3	STC Time Lower Limit – Monopole Stoneley	600	US
TLL4	STC Time Lower Limit – Monopole P&S	580	US
TST1	STC Time Step – Lower Dipole	200	US
TST2	STC Time Step – Upper Dipole	200	US
TST3	STC Time Step – Monopole Stoneley	200	US
TST4	STC Time Step – Monopole P&S	50	US
TTDB	Tool String Top to DSST Bottom	913.4	IN
TUL1	STC Time Upper Limit – Lower Dipole	20440	US
TUL2	STC Time Upper Limit – Upper Dipole	20440	US
TUL3	STC Time Upper Limit – Monopole Stoneley	12000	US
TUL4	STC Time Upper Limit – Monopole P&S	3480	US
TWA1	Transmitter Waveform Amplitude 1	179	
TWA2	Transmitter Waveform Amplitude 2	179	
TWA3	Transmitter Waveform Amplitude 3	166	
TWA4	Transmitter Waveform Amplitude 4	150	
TWA5	Transmitter Waveform Amplitude 5	150	
TWAX	Transmitter Waveform Amplitude X	179	
TWD1	STC Time Width – Lower Dipole	2000	US
TWD2	STC Time Width – Upper Dipole	2000	US
TWD3	STC Time Width – Monopole Stoneley	2000	US



TWD4	STC Time Width – Monopole P&S	1000	US
TWI1	STC Integration Time Window – Lower Dipole	1600	US
TWI2	STC Integration Time Window – Upper Dipole	1600	US
TWI3	STC Integration Time Window – Monopole Stoneley	2400	US
TWI4	STC Integration Time Window – Monopole P&S	500	US
TWR1	Transmitter Waveform Sample Rate 1	20	US
TWR2	Transmitter Waveform Sample Rate 2	5	US
TWR3	Transmitter Waveform Sample Rate 3	5	US
TWR4	Transmitter Waveform Sample Rate 4	5	US
TWR5	Transmitter Waveform Sample Rate 5	5	US
TWRX	Transmitter Waveform Sample Rate X	5	US
TWS1	Transmitter Waveform Select 1	2	
TWS2	Transmitter Waveform Select 2	0	
TWS3	Transmitter Waveform Select 3	4	
TWS4	Transmitter Waveform Select 4	6	
TWS5	Transmitter Waveform Select 5	6	
TWSX	Transmitter Waveform Select X	0	
UTXG	Upper Dipole Transmitter Geometry	162	IN
WFDTSP1	SAM1 Waveform Delta for Spectrum	0	US/F
WFDTSP2	SAM2 Waveform Delta for Spectrum	0	US/F
WFDTSP3	SAM3 Waveform Delta for Spectrum	0	US/F
WFDTSP4	SAM4 Waveform Delta for Spectrum	0	US/F
WFDTSPX	SAMX Waveform Delta for Spectrum	0	US/F
WFLDSP1	SAM1 Waveform Lower Limit for Spectrum	0	US
WFLDSP2	SAM2 Waveform Lower Limit for Spectrum	0	US
WFLDSP3	SAM3 Waveform Lower Limit for Spectrum	0	US
WFLDSP4	SAM4 Waveform Lower Limit for Spectrum	0	US
WFLDSPX	SAMX Waveform Lower Limit for Spectrum	0	US
WFM1	Waveform Mode 1	W1	
WFM2	Waveform Mode 2	W1	
WFM3	Waveform Mode 3	W1	
WFM4	Waveform Mode 4	W1	
WFM5	Waveform Mode 5	W1	
WFMX	Waveform Mode X	W1	
WFULSP1	SAM1 Waveform Upper Limit for Spectrum	20000	US
WFULSP2	SAM2 Waveform Upper Limit for Spectrum	20000	US
WFULSP3	SAM3 Waveform Upper Limit for Spectrum	20000	US
WFULSP4	SAM4 Waveform Upper Limit for Spectrum	5000	US
WFULSPX	SAMX Waveform Upper Limit for Spectrum	20000	US
XMT1	Transmitter Select 1	DLO	
XMT2	Transmitter Select 2	DUP	
XMT3	Transmitter Select 3	MONO	
XMT4	Transmitter Select 4	MONO	
XMT5	Transmitter Select 5	MONO	
XMTX	Transmitter Select X	NONE	
<b>HNGS–BA: Hostile Natural Gamma Ray Sonde</b>			
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	60	DEGF
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00678649	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	BARI	
HNPE	HNGS Processing Enable	YES	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
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	
SHT	Surface Hole Temperature	68	DEGF
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.934033	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.970293	

**System and Miscellaneous**

ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	11.438	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	0.00	LB/F
DFD	Drilling Fluid Density	1.26	G/C3
DO	Depth Offset for Playback	122.0	M

DO	Depth Onset for Playback	-122.0	M
FLEV	Fluid Level	-50000.00	M
MST	Mud Sample Temperature	-50000.00	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	2750.9	M
TDD	Total Depth - Driller	387.00	M
TDL	Total Depth - Logger	383.00	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: HNGSYields Vertical Scale: 1:200 Graphics File Created: 02-Jan-2010 14:09

## OP System Version: 17C0-154

DIT-E	17C0-154	GPIT-A/B	SRPC-3870_Q3_2009_OP17_V3_b
DTA-A	17C0-154	DSST-B	17C0-154
HNGC-B	17C0-154	HNGS-BA	17C0-154
DTC-H	17C0-154		

### Input DLIS Files

DEFAULT	PI_DSI_NGS_010LUP	FN:9	PRODUCER	02-Jan-2010 13:57	505.2 M	403.3 M
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### Output DLIS Files

DEFAULT	PI_DSI_NGS_023PUP	FN:22	PRODUCER	02-Jan-2010 14:09
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## Calibrations

### MAXIS Field Log

#### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
General Purpose Inclinometer Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 2-Jan-2010 1:35							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	92	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	448	N/A	N/A	N/A	
General Purpose Inclinometer Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 2-Jan-2010 1:35							
TEMPERATURE REFERENCE :	N/A	N/A	19	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	428	N/A	N/A	N/A	
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check							
Master: 31-Oct-2009 23:09 Before: 2-Jan-2010 1:40 After: 2-Jan-2010 5:18							
Na 511 Peak Loc	40.00	39.48	39.67	39.72	0.04616	1.000	
Na 511 Peak Res	15.50	16.07	14.82	15.27	0.4481	2.000	%
High Voltage	1150	1200	1161	1165	3.382	N/A	V
Na 1785 Peak Loc	142.6	142.5	141.9	142.6	0.6960	7.000	
Na 1785 Peak Res	8.500	8.076	7.754	8.313	0.5586	2.000	%
Temperature	15.50	36.12	23.15	23.01	-0.1431	N/A	DEGC
Na Count Rate	45.00	34.81	32.95	32.21	-0.7386	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check  
Master: 31-Oct-2009 23:09 Before: 2-Jan-2010 1:40 After: 2-Jan-2010 5:18

Na 511 Peak Loc	40.00	39.63	39.70	39.67	0.02727	1.000	
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Na 511 Peak Loc	40.00	39.63	39.70	39.07	-0.02727	1.000	%
Na 511 Peak Res	15.50	15.54	15.34	15.05	-0.2919	2.000	V
High Voltage	1150	1123	1095	1097	2.693	N/A	V
Na 1785 Peak Loc	142.6	142.2	142.0	142.5	0.4145	7.000	
Na 1785 Peak Res	8.500	8.652	8.016	8.632	0.6154	2.000	%
Temperature	15.50	36.37	23.53	24.25	0.7186	N/A	DEGC
Na Count Rate	45.00	35.36	33.02	32.20	-0.8173	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration – Ratio Of Detector 1 To Detector 2  
 Master: 31-Oct-2009 23:09 Before: 2-Jan-2010 1:40 After: 2-Jan-2010 5:18

Coincidence Count Rate Ratio	1.000	0.9839	0.9978	1.001	0.003223	0.05000
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### Dual Induction – E / Equipment Identification

Primary Equipment:				
Dual Induction Sonde	DIS – HB	129		
Dual Induction Cartridge	DIC – EB	171		
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		30.87	Before		0.9369	Before		8.980
	-300.0 (Minimum) 0 (Nominal) 300.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)			-10.00 (Minimum) 0 (Nominal) 10.00 (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		24.63	Before		0.9526	Before		8.819
	-300.0 (Minimum) 0 (Nominal) 300.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)			-10.00 (Minimum) 0 (Nominal) 10.00 (Maximum)	
Phase	IM Elect Real Offset 10 kHz MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value			
Before		83.56	Before		0.9455			
	-550.0 (Minimum) 0 (Nominal) 550.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)				
Phase	IM Elect Quad Offset 10 kHz MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value			
Before		44.00	Before		0.9262			
	-550.0 (Minimum) 0 (Nominal) 550.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)				

Before: 2-Jan-2010 2:39

### 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		12.21	Before		0.9648	Before		4.290
	-125.0 (Minimum) 0 (Nominal) 125.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)			-15.00 (Minimum) 0 (Nominal) 15.00 (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		9.979	Before		0.9836	Before		4.691
	-125.0 (Minimum) 0 (Nominal) 125.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)			-15.00 (Minimum) 0 (Nominal) 15.00 (Maximum)	
Phase	IM Elect Real Offset 20 kHz MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value			
Before		34.33	Before		0.9898			
	-225.0 (Minimum) 0 (Nominal) 225.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)				
Phase	IM Elect Quad Offset 20 kHz MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value			
Before		18.19	Before		0.9694			
	-225.0 (Minimum) 0 (Nominal) 225.0 (Maximum)			0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum)				

Before: 2-Jan-2010 2:40

### 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		7.958	Before		0.9482	Before		15.28

-85.00 (Minimum)	0 (Nominal)	85.00 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-20.00 (Minimum)	0 (Nominal)	20.00 (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			6.653	Before			0.9758	Before			15.08
-85.00 (Minimum)	0 (Nominal)	85.00 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		-20.00 (Minimum)	0 (Nominal)	20.00 (Maximum)	
Phase	IM Elect Real Offset 40 kHz	MM/M	Value	Phase	IM Elect Real Gain 40 kHz		Value				
Before			22.08	Before			0.9902				
-130.0 (Minimum)	0 (Nominal)	130.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)					
Phase	IM Elect Quad Offset 40 kHz	MM/M	Value	Phase	IM Elect Quad Gain 40 kHz		Value				
Before			11.79	Before			0.9694				
-130.0 (Minimum)	0 (Nominal)	130.0 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)					

Before: 2-Jan-2010 2:41

Dual Induction - E Wellsite Calibration						
SFL Electronics						
Phase	SFL Voltage Offset	MV	Value	Phase	SFL Voltage Gain	Value
Before			0.1544	Before		0.9974
-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			0.03590	Before		1.009
-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)		0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: 2-Jan-2010 2:42

Dual Induction - E Wellsite Calibration									
Electronics Calibration Changes Files/Depth Intervals: 8: 73.2 - 505.7 10: 505.2 - 403.3 11: 505.2 - 78.0									
Phase	ID (R > 27 OHM-M)	MM/M	Value	Phase	ID (R < 27 OHM-M) %	Value	Phase	SFL (R < 1 OHM-M) OHMM	Value
After			0.2634	After		0.0002187	After		0.0006183
0 (Minimum)	0 (Nominal)	0.7500 (Maximum)		0 (Minimum)	0 (Nominal)	2.000 (Maximum)	0 (Minimum)	0 (Nominal)	0.02000 (Maximum)
Phase	IM (R > 27 OHM-M)	MM/M	Value	Phase	IM (R < 27 OHM-M) %	Value			
After			0.3532	After		0.0002399			
0 (Minimum)	0 (Nominal)	0.7500 (Maximum)		0 (Minimum)	0 (Nominal)	2.000 (Maximum)			
Phase	SFL (R > 27 OHM-M)	MM/M	Value	Phase	SFL (R < 27 OHM-M) %	Value			
After			0	After		0.001182			
0 (Minimum)	0 (Nominal)	0.7500 (Maximum)		0 (Minimum)	0 (Nominal)	2.000 (Maximum)			

After: 2-Jan-2010 4:59

### General Purpose Inclinerometer / Equipment Identification

Primary Equipment:	GPIC Cartridge - A	GPIC - A	719
Auxiliary Equipment:	GPIC Housing	GPIH - A	2864

### 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:

Hostile Natural Gamma Ray Sonde Wellsite Calibration								
Detector 1 Check								
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.48	Master		16.07	Master		1200
Before		39.67	Before		14.82	Before		1161
After		39.72	After		15.27	After		1165
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		142.5	Master		8.076	Master		36.12
Before		141.9	Before		7.754	Before		23.15
After		142.6	After		8.313	After		23.01
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.000 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		34.81						
Before		32.95						
After		32.21						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 31-Oct-2009 23:09			Before: 2-Jan-2010 1:40			After: 2-Jan-2010 5:18		

Hostile Natural Gamma Ray Sonde Wellsite Calibration								
Detector 2 Check								
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		39.63	Master		15.54	Master		1123
Before		39.70	Before		15.34	Before		1095
After		39.67	After		15.05	After		1097
	37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)	
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		142.2	Master		8.652	Master		36.37
Before		142.0	Before		8.016	Before		23.53
After		142.5	After		8.632	After		24.25
	135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.000 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)	
Phase	Na Count Rate CPS	Value						
Master		35.36						
Before		33.02						
After		32.20						
	10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)							
Master: 31-Oct-2009 23:09			Before: 2-Jan-2010 1:40			After: 2-Jan-2010 5:18		

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		0.9839
Before		0.9978
After		1.001
	0.9500 (Minimum) 1.000 (Nominal) 1.0500 (Maximum)	

Master: 31-Oct-2009 23:09

Before: 2-Jan-2010 1:40

After: 2-Jan-2010 5:18

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC-H Auxiliary Cartridge  
DTC-H Telemetry Cartridge

DTCH - A  
DTCH - A

8798

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH - KC

2304

Company: **Lamont Doherty**

**Schlumberger**

Well: **Expedition 317 Site U1354C**

Field: **Canterbury Basin**

Rig: **JOIDES Resolution**

Ocean: **Pacific**

Natural Gamma Spectroscopy