

**COMPANY: Lamont Doherty**

**WELL: ODP Leg 200, Site 1224F**

**FIELD: H2O**

**COUNTY: Joides Resolution STATE: Pacific Ocean**



**Dipole Sonic**

COUNTY: Joides Resolution  
 Field: H2O  
 Location: H2O  
 Well: ODP Leg 200, Site 1224F  
 Company: Lamont Doherty

LOCATION		GROUND LEVEL	
H2O	Elev.: K.B. 11.3 m G.L. -4978 m D.F. 11 m	Elev.: 0 m	above Perm. Datum
Permanent Datum:	DES	Log Measured From:	DES
Drilling Measured From:	DES	API Serial No.	Max. Hole Devi.
	Longitude 141 58.7580 W	Latitude 27 53.3630 N	

Logging Date	Run 1	Run 2	Run
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
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	Steve Kittredge		
Witnessed By	Yue-Feng Sun, Hartley Hoskins		

Logging Date	
Run Number	1
Depth Driller	5152.5 m
Schlumberger Depth	5152 m
Bottom Log Interval	5150 m
Top Log Interval	4999.8 m
Casing Driller Size @ Depth	0.000 in @ 5012.5 m
Casing Schlumberger	5011 m
Bit Size	9.875 in
Type Fluid In Hole	Sepiolite
Density	1.066 g/cm3
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 1/20/02 0100
Logger On Bottom	Time 1/21/02 See Log
Unit Number	99 Houston
Recorded By	Steve Kittredge
Witnessed By	Yue-Feng Sun, Hartley Hoskins

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

**OTHER SERVICES1**  
 OS1: DITE/HLDT  
 OS2: APS/HNGS  
 OS3:  
 OS4:  
 OS5:

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

**REMARKS: RUN NUMBER 1**  
 Hole Core with RCB.  
 All depths in Meters Below Rig Floor (MBRF).  
 Seas were 8-10 ft.  
 WHC was run.  
 Sea Floor at 4978 MBRF.  
 Total Depth Driller- 5152.5 MBRF.  
 Total Depth Logger- 5152 MBRF.  
 Drill Pipe Driller- 5012.5 MBRF.  
 Drill Pipe Logger- 5011 MBRF.  
 Pass #1 DSI Modes- Lower Dipole and P&S.  
 Pass #2 DSI Modes- Cross Dipole only.  
 Pass #3 DSI Modes- Upper Dipole, Stonely, P&S Medium Frequency.

**REMARKS: RUN NUMBER 2**

RUN 1		
SERVICE ORDER #:		
PROGRAM VERSION:	9C2-303	
FLUID LEVEL:		
LOGGED INTERVAL	START	STOP

RUN 2		
SERVICE ORDER #:		
PROGRAM VERSION:		
FLUID LEVEL:		
LOGGED INTERVAL	START	STOP

## EQUIPMENT DESCRIPTION




RUN 1

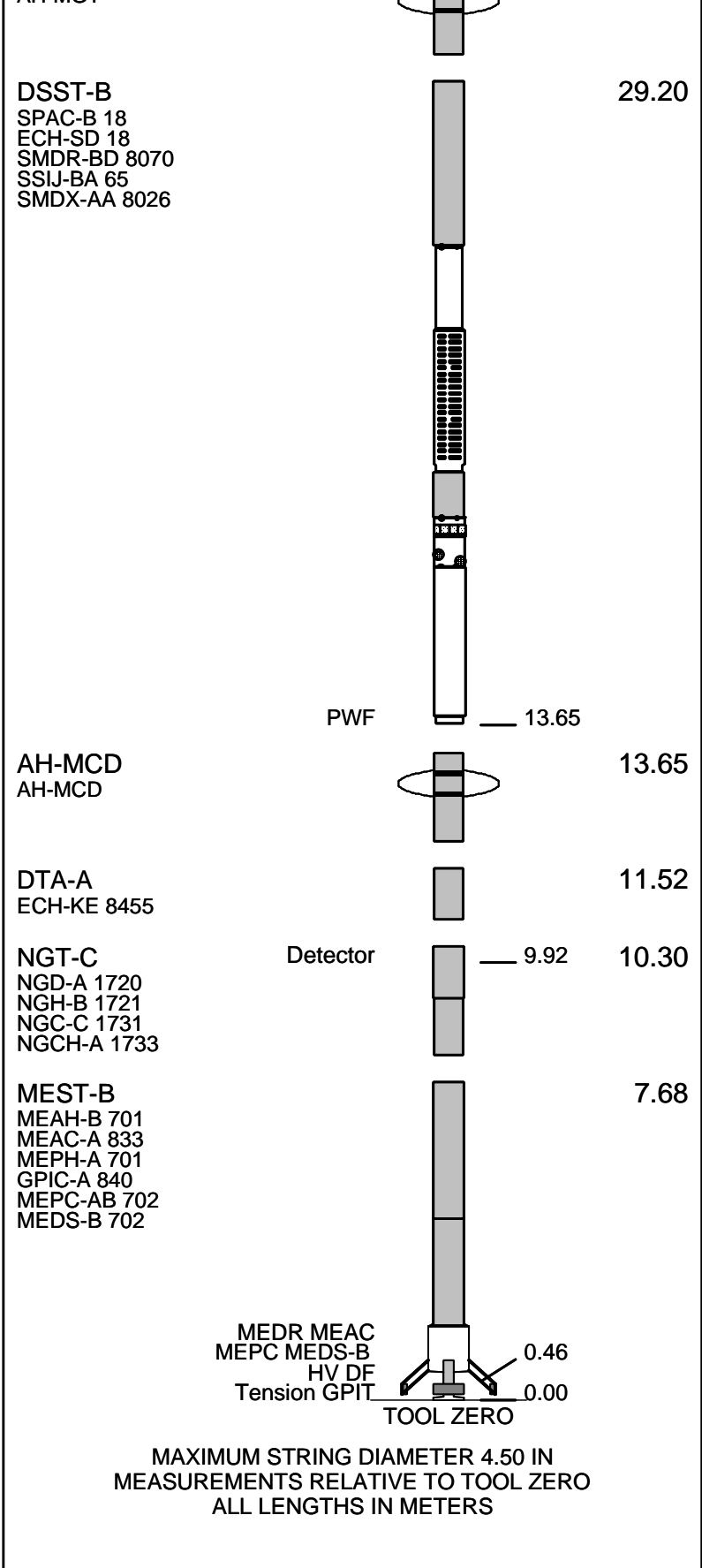
**SURFACE EQUIPMENT**

GSR-U  
 WITM (DTS)-A

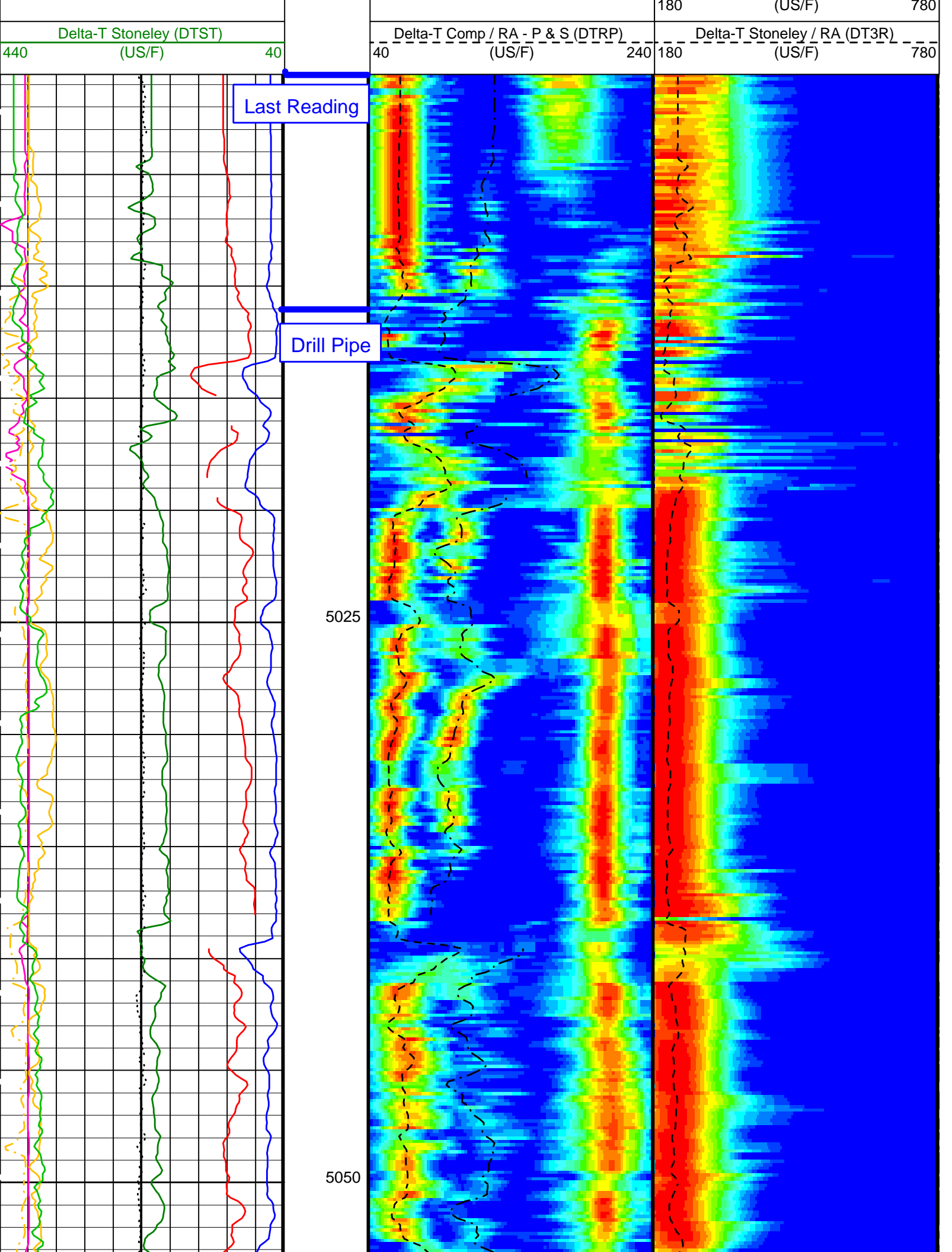
RUN 2

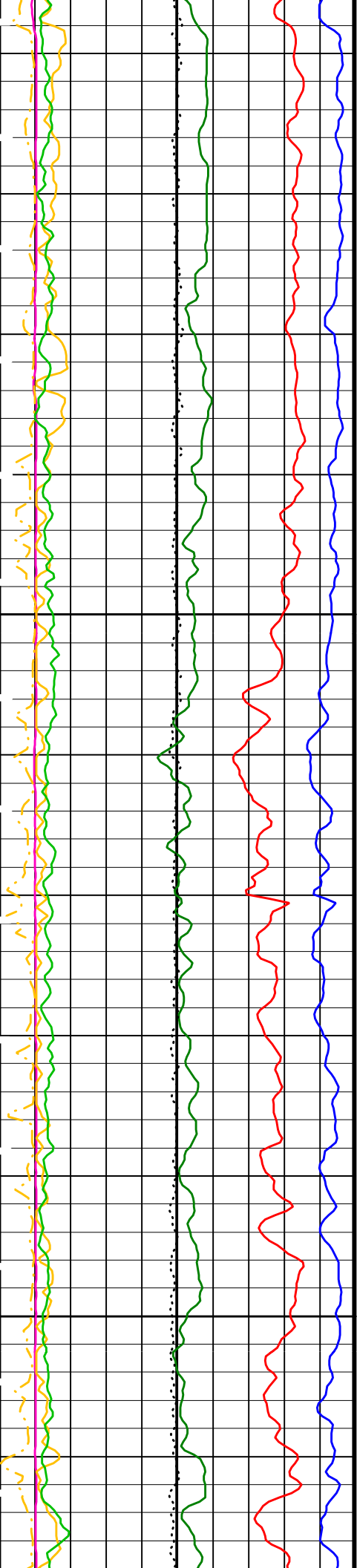
**DOWNHOLE EQUIPMENT**

LEH-QT LEH-QT 1726		33.31
DTC-H ECH-KC 9350	CTEM TelStatus ToolStatu	32.14
		32.42 31.51
AH-MGT AH-MGT		31.51



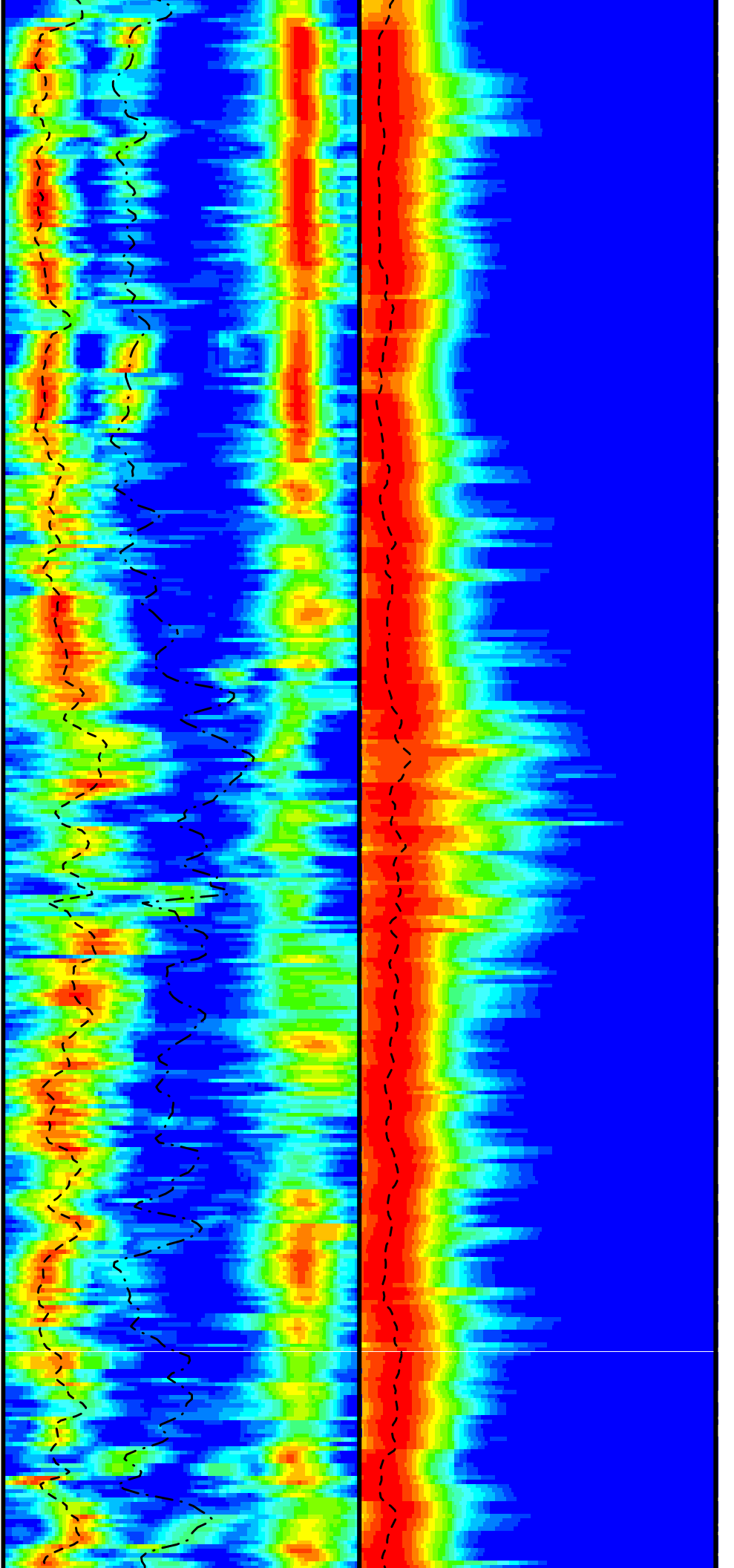


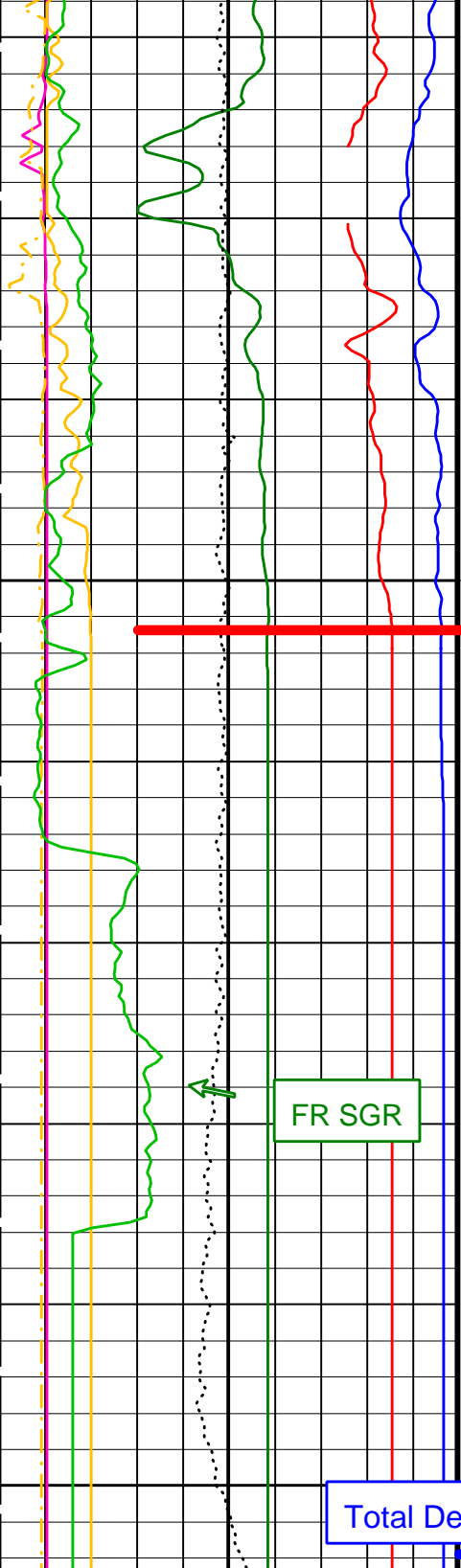




5075

5100





5125

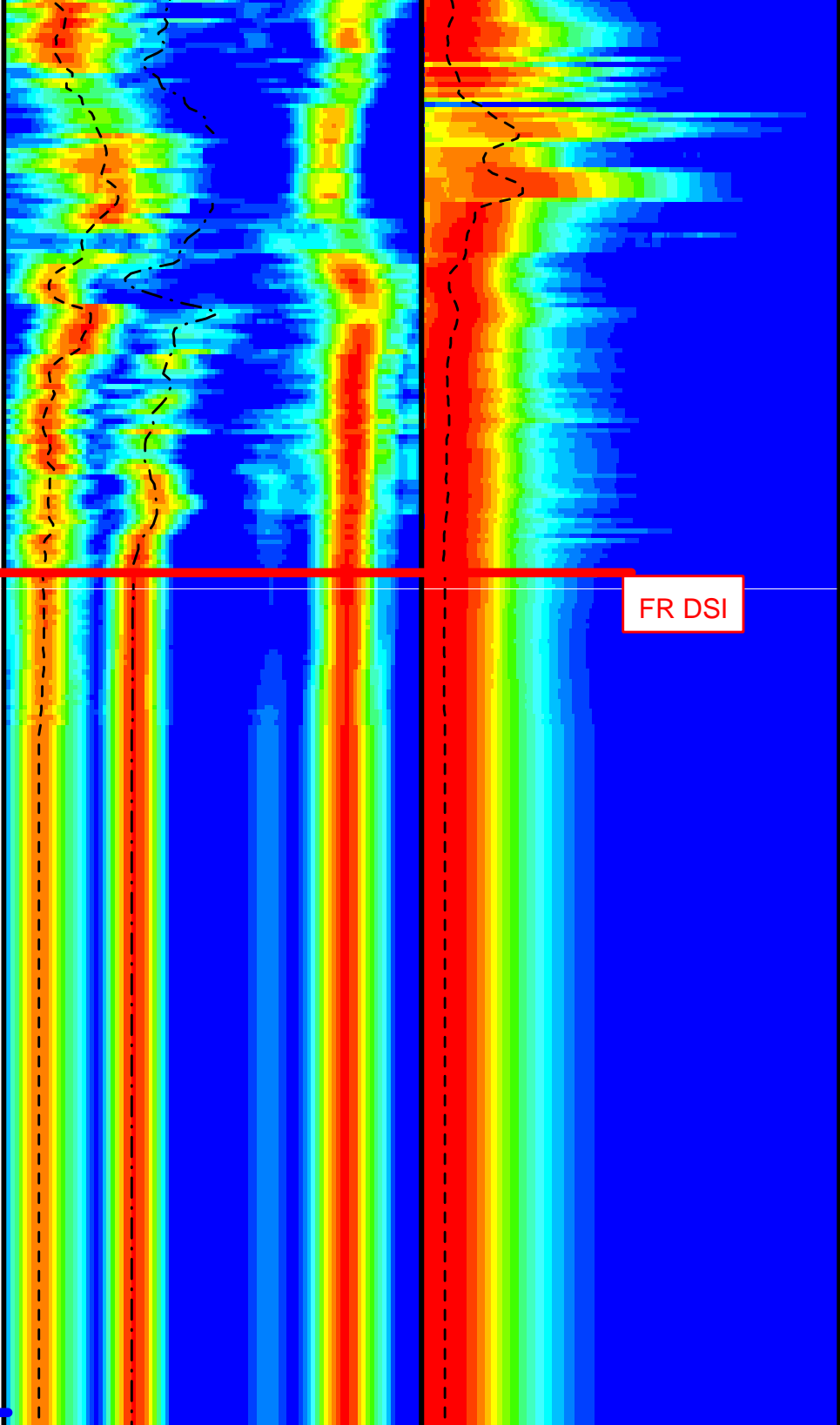
FR DSI

FR SGR

Total Depth

5150

Delta-T Stoneley (DTST)	(US/F)	40
Delta-T Comp - P & S (DT4P)	(US/F)	40
Delta-T Shear - P & S (DT4S)	(US/F)	40
Peak Coherence / RA - Stoneley (CHR3)	(---)	10



Delta-T Comp / RA - P & S (DTRP)	(US/F)	40	240
Delta-T Shear / RA - P & S (DTRS)	(US/F)	40	240
Min	Amplitude	Max	
Rec.Array P&S Slow Proj. CVDL (SPR4)	(US/F)	40	240

Delta-T Stoneley / RA (DT3R)	(US/F)	180	780
Min	Amplitude	Max	
Rec.Array Stoneley Slow Proj. CVDL (SPR3)	(US/F)	180	780

Spectroscopy Gamma Ray (SGR)		
0	(GAPI)	100
Tension (TENS)		
10000	(LBF)	0
Peak Coherence / RA - P & S Comp (CHRP)		
0	(----	10
Peak Coherence / RA - P & S Shear (CHRS)		
-1	(----	9

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BHS	Borehole Status	OPEN	
BS	Bit Size	9.875	IN
CASF	Label Casing Function - Monopole P&S	50	
CBAR	Constant Barite	1	
CGMI	Spectro Computed Gamma Ray Minimum	0	GAPI
CGSH	Spectro Computed Gamma Ray Shale	100	GAPI
COLL	Label Slowness Lower Limit - Monopole P&S Compressional	40	US/F
COUL	Label Slowness Upper Limit - Monopole P&S Compressional	140	US/F
DDE3	Digitizing Delay 3	0	US
DDE4	Digitizing Delay 4	0	US
DDEX	Digitizing Delay X	0	US
DFD	Drilling Fluid Density	1.07	G/C3
DSI3	Digitizer Sample Interval 3	40	US
DSI4	Digitizer Sample Interval 4	10	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta-T Source for DTCO Channel	PS_COMP	
DTF	Delta-T Fluid	189	US/F
DWC3	Digitizer Word Count 3	512	
DWC4	Digitizer Word Count 4	512	
DWCX	Digitizer Word Count X	480	
FILG	Label Fill Gap Control - Monopole P&S	COMP_SHEAR	
KMIN	Potassium Minimum	0	
KSHA	Potassium Shale	0.02	
LFC	Label Formation Character - Monopole P&S	COMP_FIRST	
MCS	Mean Casing Slowness	57	US/F
MTXG	Monopole Transmitter Geometry	186	IN
NFO	NGT Filtering Option	KALMAN	
PMUD	Potassium Mud	0	%
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
SAM3	DSST Sonic Acquisition Mode 3 - Low Frequency Monopole Mode for Stoneley	ODD	
SAM4	DSST Sonic Acquisition Mode 4 - High Frequency Monopole Mode for P&S	MFD_EVEN	
SAMX	DSST Sonic Acquisition Mode X - Both Dipoles or Monopole Mode for Expert	OFF	
SAS3	STC Sonic Array Status - Monopole Stoneley	255	
SAS4	STC Sonic Array Status - Monopole P&S	255	
SBO3	STC Search Band Offset - Monopole Stoneley	2000	US
SBO4	STC Search Band Offset - Monopole P&S	500	US
SBR4	STC Baseline Removal - Monopole P&S	ON	
SBW3	STC Search Bandwidth - Monopole Stoneley	6000	US
SBW4	STC Search Bandwidth - Monopole P&S	2000	US
SFC3	STC Formation Character - Monopole Stoneley	SELECTABLE	
SFC4	STC Formation Character - Monopole P&S	SELECTABLE	
SFM3	STC Filter - Monopole Stoneley	B.5-1.5K	
SFM4	STC Filter - Monopole P&S	B3-12K	
SGMI	Spectro Gamma Ray Minimum	0	GAPI
SGSH	Spectro Gamma Ray Shale	100	GAPI
SHLL	Label Slowness Lower Limit - Monopole P&S Shear	80	US/F
SHUL	Label Slowness Upper Limit - Monopole P&S Shear	180	US/F



STOL	STC Slowness Upper Limit - Monopole P&S	180	US/F
SLL3	STC Slowness Lower Limit - Monopole P&S	40	US/F
SLL4	STC Slowness Lower Limit - Monopole P&S	40	US/F
SST3	STC Slowness Step - Monopole Stoneley	4	US/F
SST4	STC Slowness Step - Monopole P&S	2	US/F
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
SUL3	STC Slowness Upper Limit - Monopole Stoneley	780	US/F
SUL4	STC Slowness Upper Limit - Monopole P&S	240	US/F
SWD3	STC Slowness Width - Monopole Stoneley	40	US/F
SWD4	STC Slowness Width - Monopole P&S	10	US/F
TBF3	STC Time for Baseline Fill - Monopole Stoneley	0	US
TBF4	STC Time for Baseline Fill - Monopole P&S	300	US
TLL3	STC Time Lower Limit - Monopole Stoneley	620	US
TLL4	STC Time Lower Limit - Monopole P&S	150	US
TMIN	Thorium Minimum	0	PPM
TSHA	Thorium Shale	12	PPM
TST3	STC Time Step - Monopole Stoneley	200	US
TST4	STC Time Step - Monopole P&S	50	US
TUL3	STC Time Upper Limit - Monopole Stoneley	12020	US
TUL4	STC Time Upper Limit - Monopole P&S	3660	US
TWD3	STC Time Width - Monopole Stoneley	2000	US
TWD4	STC Time Width - Monopole P&S	1000	US
TWI3	STC Integration Time Window - Monopole Stoneley	1600	US
TWI4	STC Integration Time Window - Monopole P&S	500	US
TWSX	Transmitter Waveform Select X	0	
UMIN	Uranium Minimum	0	PPM
USHA	Uranium Shale	3	PPM

Format: DSST\_P\_S\_STONELEY\_VDL\_COLOR Vertical Scale: 1:200 Graphics File Created: 21-Jan-2002 01:11

### OP System Version: 9C2-303 MCM

MEST-B	9C2-303	NGT-C	9C2-303
DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

### Output DLIS Files

DEFAULT	FMS_NGS_DSI_039LUP	FN:21	PRODUCER	21-Jan-2002 01:11
FMS_CUST	FMS_NGS_DSI_039LUP	FN:22	PRODUCER	21-Jan-2002 01:11

### Output DLIS Files

DEFAULT	FMS_NGS_DSI_039LUP	FN:21	PRODUCER	21-Jan-2002 01:11	5152.5 M	5000.5 M
FMS_CUST	FMS_NGS_DSI_039LUP	FN:22	PRODUCER	21-Jan-2002 01:11	5152.5 M	5000.5 M

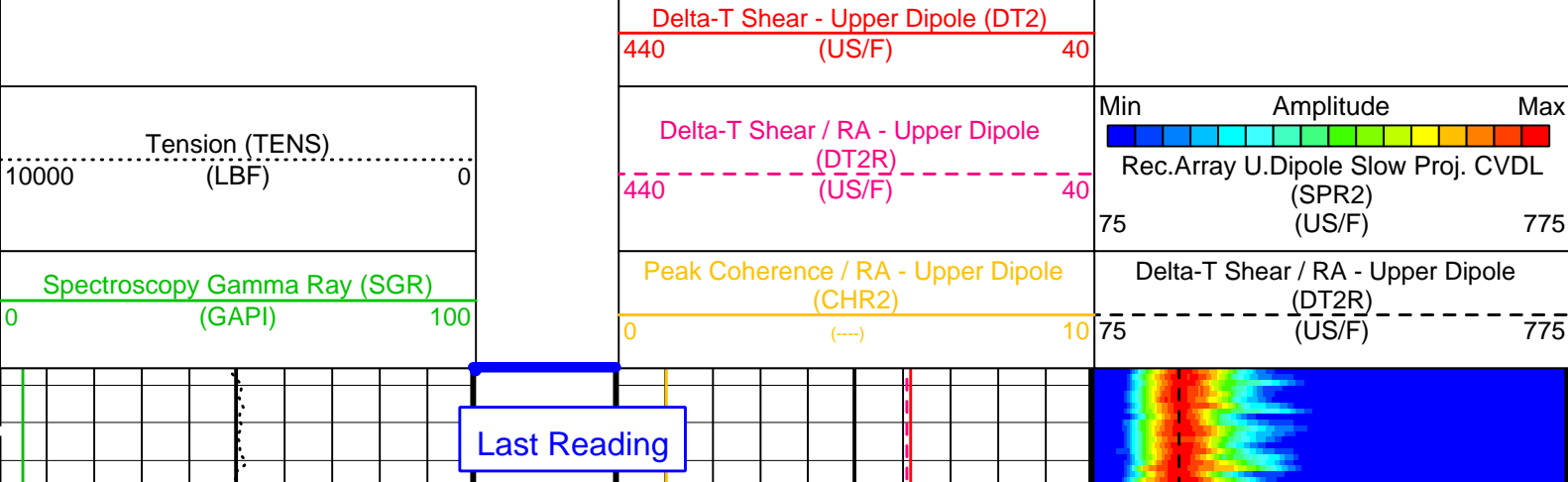
### OP System Version: 9C2-303 MCM

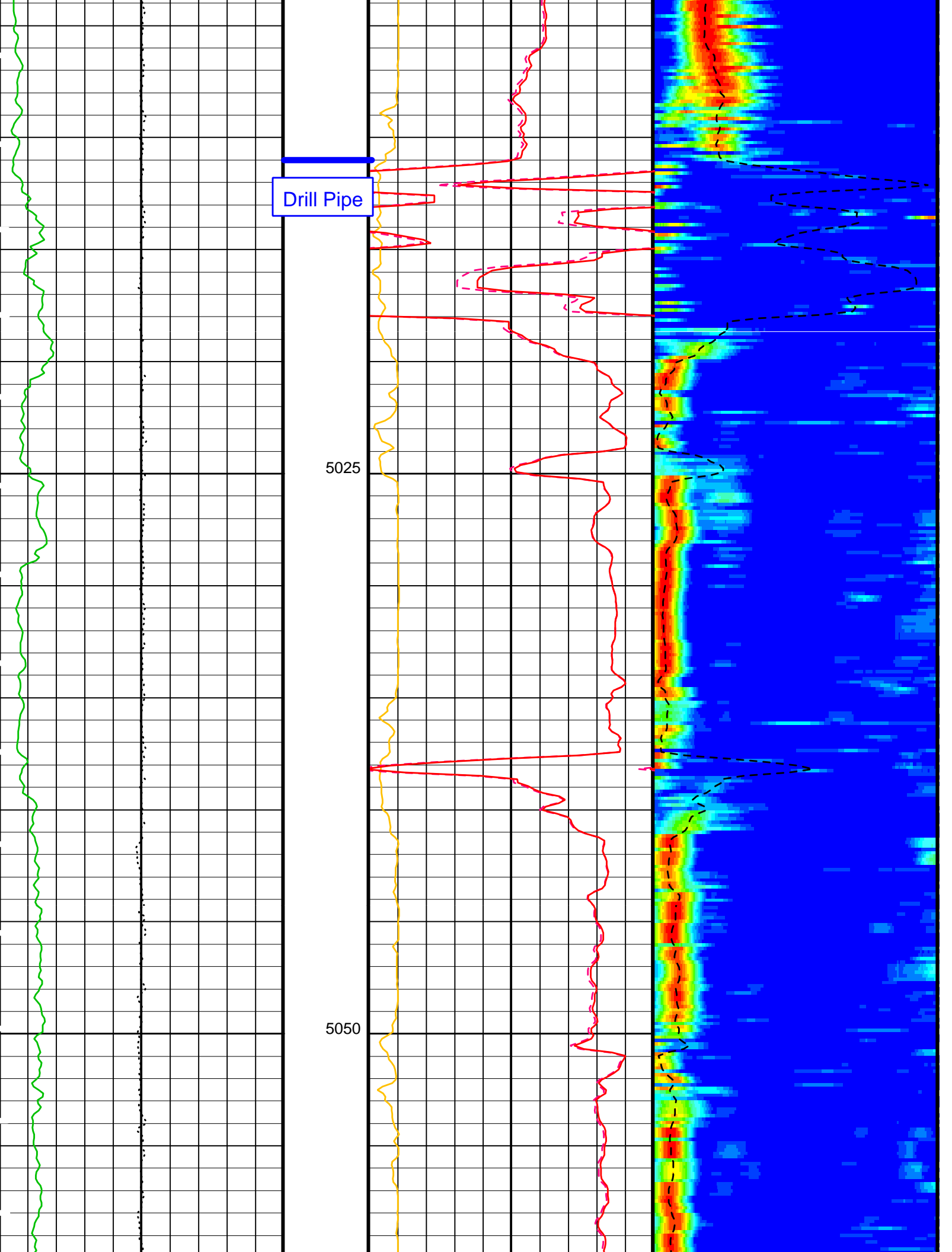
Pass #3

MEST-B	9C2-303	NGT-C	9C2-303
DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

### PIP SUMMARY

Time Mark Every 60 S

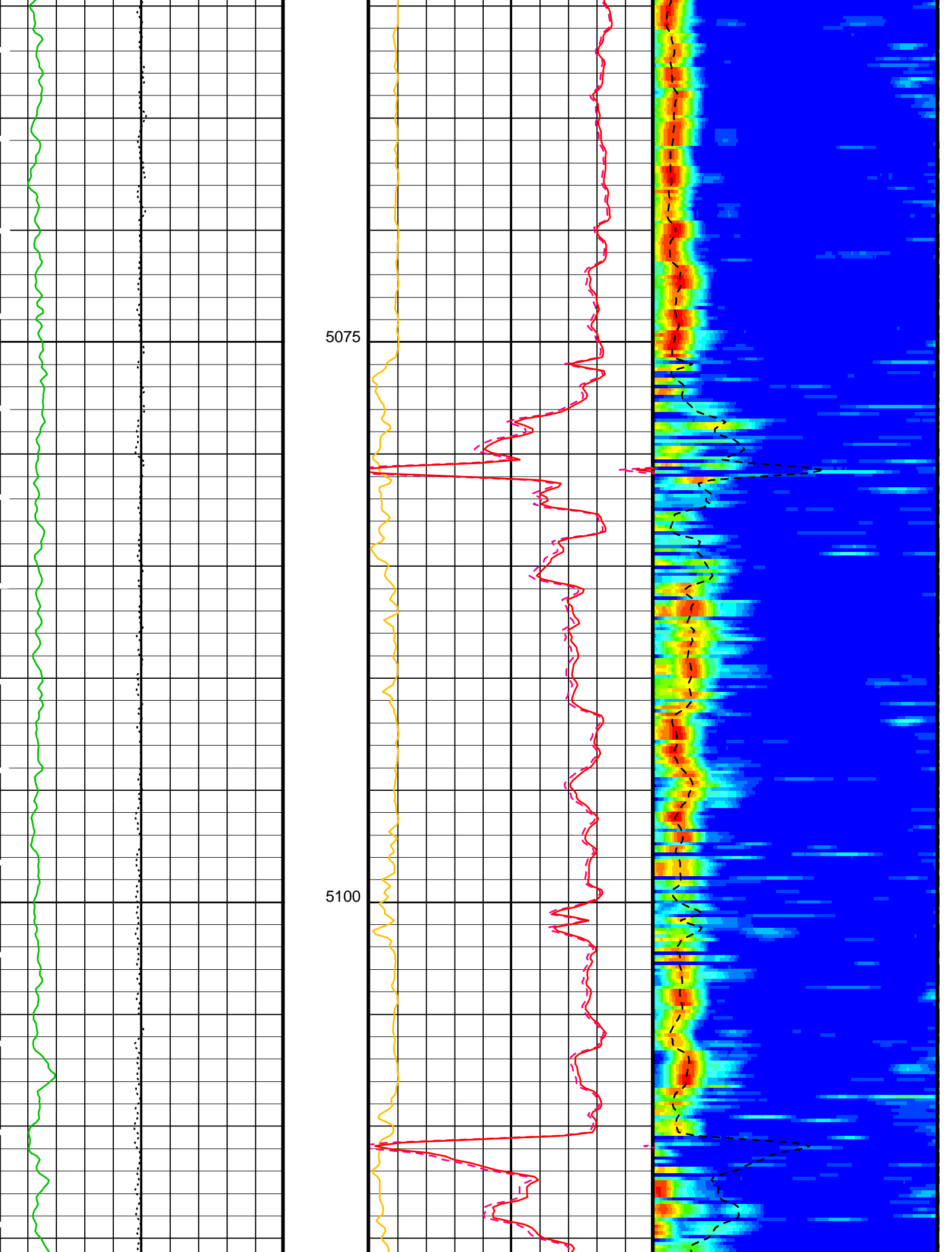


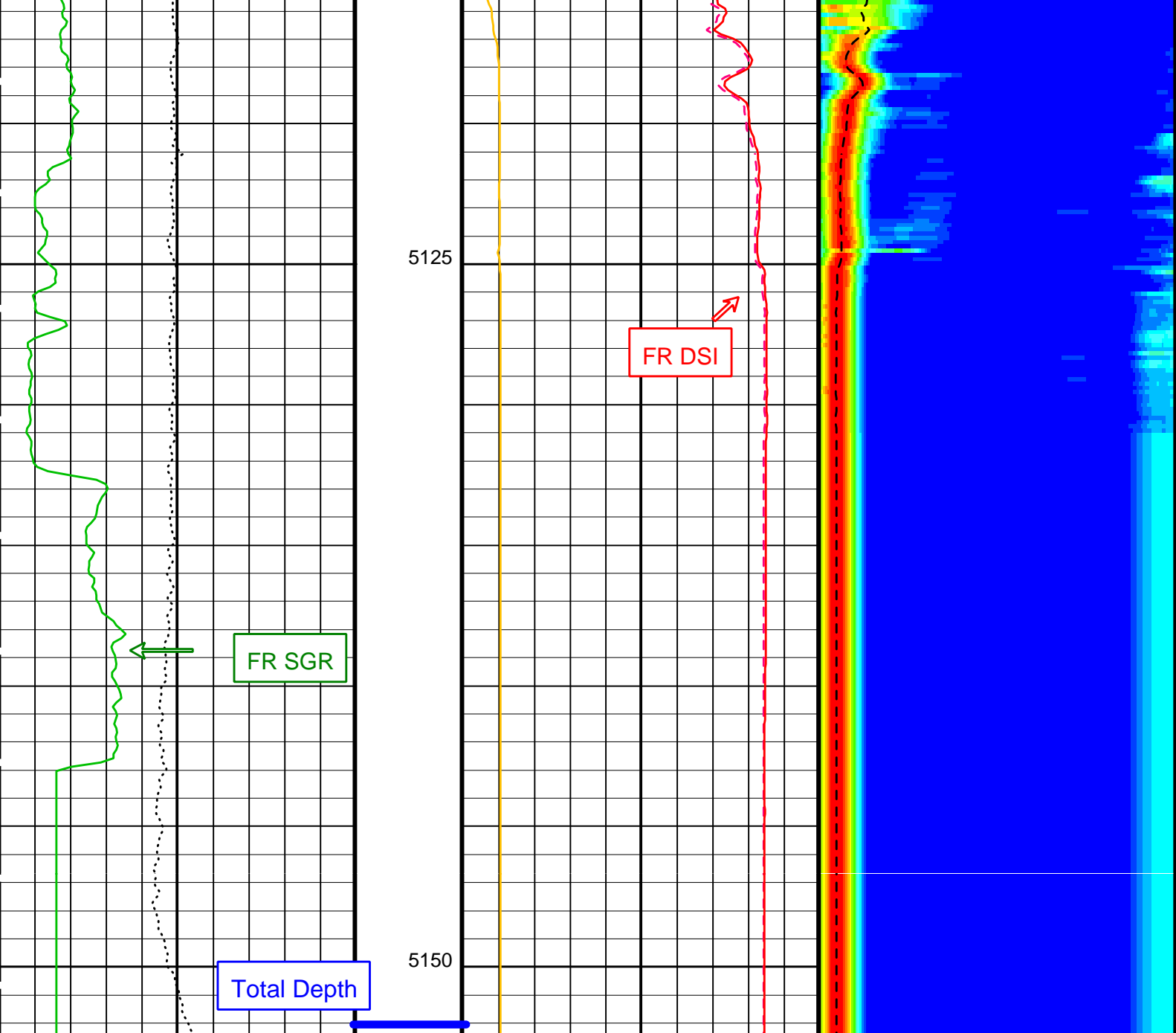


Drill Pipe

5025

5050





Spectroscopy Gamma Ray (SGR) (GAPI)	Peak Coherence / RA - Upper Dipole (CHR2)	Delta-T Shear / RA - Upper Dipole (DT2R)
0 100	0 10	75 775
Tension (TENS) (LBF)	Delta-T Shear / RA - Upper Dipole (DT2R) (US/F)	Min Amplitude Max Rec.Array U.Dipole Slow Proj. CVDL (SPR2) (US/F)
10000 0	440 40	75 775
	Delta-T Shear - Upper Dipole (DT2) (US/F)	
	440 40	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BS	Bit Size	9.875 IN
CBAR	Constant Barite	1
CGMI	Spectro Computed Gamma Ray Minimum	0 GAPI
CGSH	Spectro Computed Gamma Ray Shale	100 GAPI
DDE2	Digitizing Delay 2	0 US

DDEX	Digitizing Delay X	0	US
DFD	Drilling Fluid Density	1.07	G/C3
DLCS	Label Compressional Source - Dipole Shear	USE	
DSHL	Label Slowness Lower Limit - Dipole Shear	75	US/F
DSHU	Label Slowness Upper Limit - Dipole Shear	775	US/F
DSI2	Digitizer Sample Interval 2	40	US
DSIX	Digitizer Sample Interval X	40	US
DTCS	Compressional Delta-T Source for DTCO Channel	PS_COMP	
DWC2	Digitizer Word Count 2	512	
DWCX	Digitizer Word Count X	480	
KMIN	Potassium Minimum	0	
KSHA	Potassium Shale	0.02	
NFO	NGT Filtering Option	KALMAN	
PMUD	Potassium Mud	0	%
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
SAM2	DSST Sonic Acquisition Mode 2 - Upper Dipole Mode	ODD	
SAMX	DSST Sonic Acquisition Mode X - Both Dipoles or Monopole Mode for Expert	OFF	
SAS2	STC Sonic Array Status - Upper Dipole	255	
SBO2	STC Search Band Offset - Upper Dipole	3000	US
SBW2	STC Search Bandwidth - Upper Dipole	8000	US
SFC2	STC Formation Character - Upper Dipole	SELECTABLE	
SFM2	STC Filter - Upper Dipole	B1-3K	
SGMI	Spectro Gamma Ray Minimum	0	GAPI
SGSH	Spectro Gamma Ray Shale	100	GAPI
SLL2	STC Slowness Lower Limit - Upper Dipole	75	US/F
SST2	STC Slowness Step - Upper Dipole	4	US/F
SSW2	STC Source Waveform - Upper Dipole	WF_SAM2	
SUL2	STC Slowness Upper Limit - Upper Dipole	775	US/F
SWD2	STC Slowness Width - Upper Dipole	40	US/F
TBF2	STC Time for Baseline Fill - Upper Dipole	0	US
TLL2	STC Time Lower Limit - Upper Dipole	600	US
TMIN	Thorium Minimum	0	PPM
TSHA	Thorium Shale	12	PPM
TST2	STC Time Step - Upper Dipole	200	US
TUL2	STC Time Upper Limit - Upper Dipole	15525	US
TWD2	STC Time Width - Upper Dipole	2000	US
TWI2	STC Integration Time Window - Upper Dipole	1600	US
TWSX	Transmitter Waveform Select X	0	
UMIN	Uranium Minimum	0	PPM
USHA	Uranium Shale	3	PPM
UTXG	Upper Dipole Transmitter Geometry	162	IN

Format: DSST\_UPPER\_DIPOLE\_VDL\_COLOR Vertical Scale: 1:200 Graphics File Created: 21-Jan-2002 01:11

**OP System Version: 9C2-303**  
MCM

MEST-B	9C2-303	NGT-C	9C2-303
DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

**Output DLIS Files**

DEFAULT	FMS_NGS_DSI_039LUP	FN:21	PRODUCER	21-Jan-2002 01:11
FMS_CUST	FMS_NGS_DSI_039LUP	FN:22	PRODUCER	21-Jan-2002 01:11

**Input DLIS Files**

DEFAULT	FMS_NGS_DSI_037LUP	FN:17	PRODUCER	20-Jan-2002 23:17	5155.4 M	4999.8 M
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**Output DLIS Files**

DEFAULT	FMS_NGS_DSI_050PUP	FN:34	PRODUCER	22-Jan-2002 10:08	5155.4 M	5000.2 M
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**OP System Version: 9C2-303**  
MCM

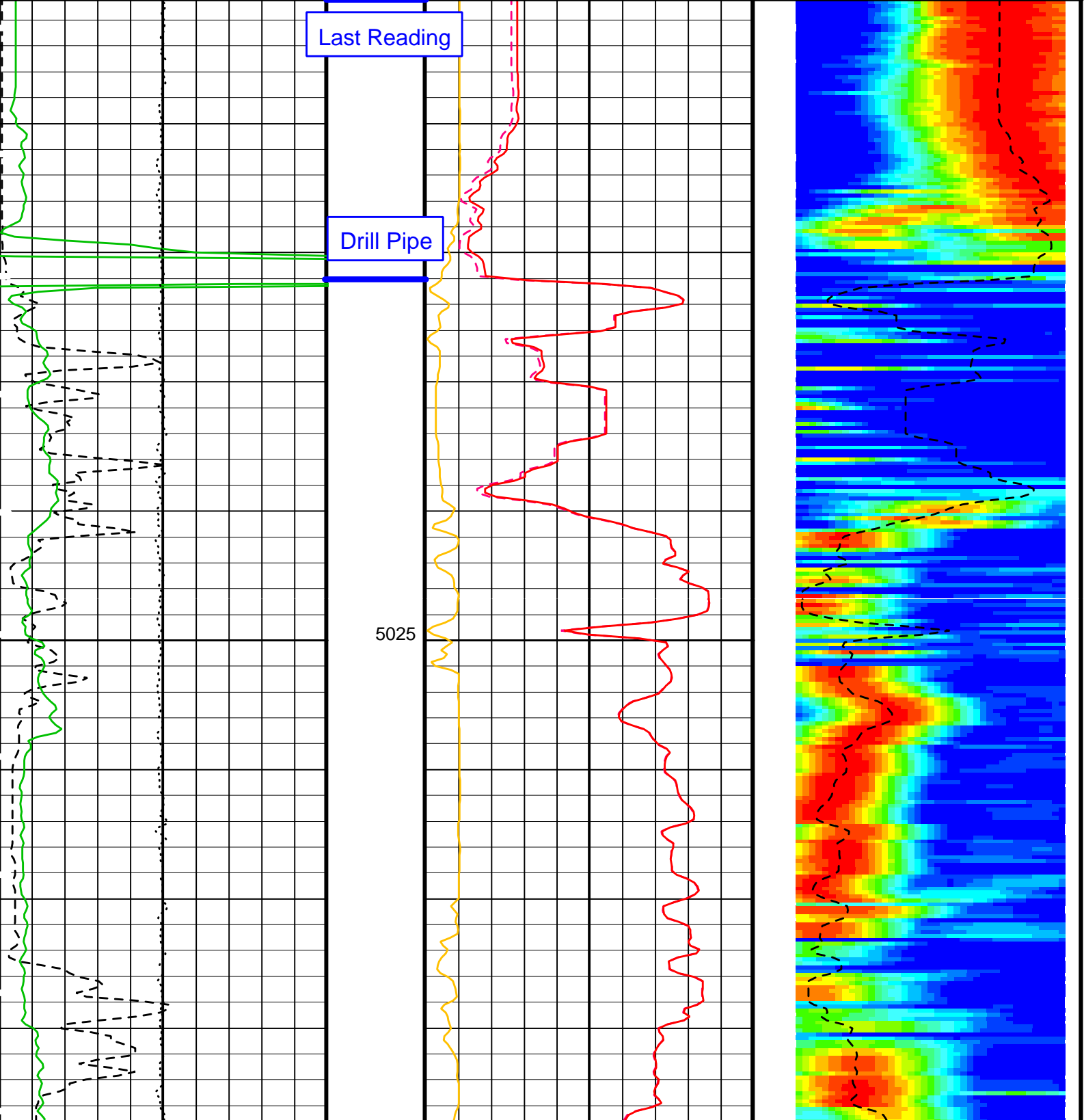
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DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

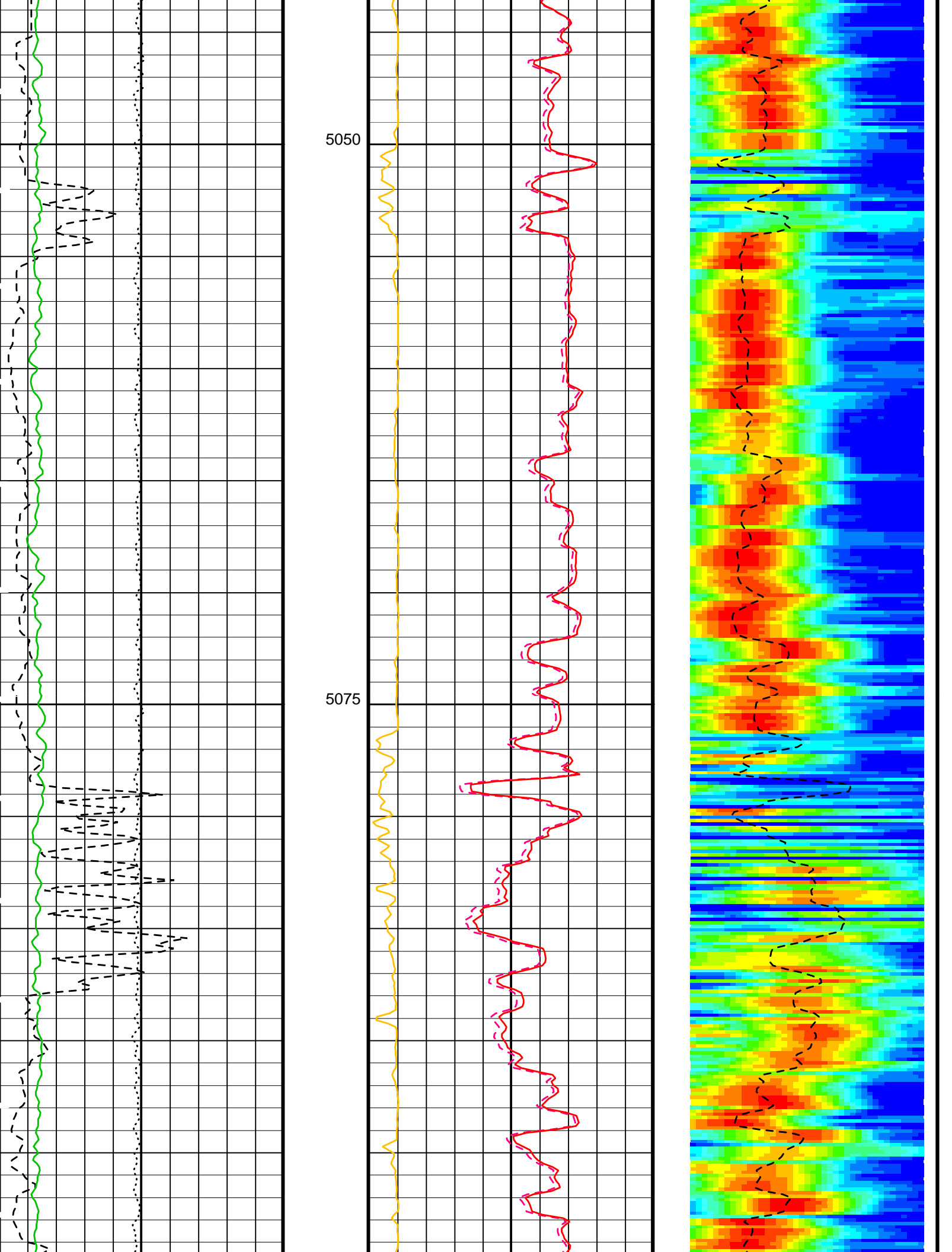
**Pass #1**

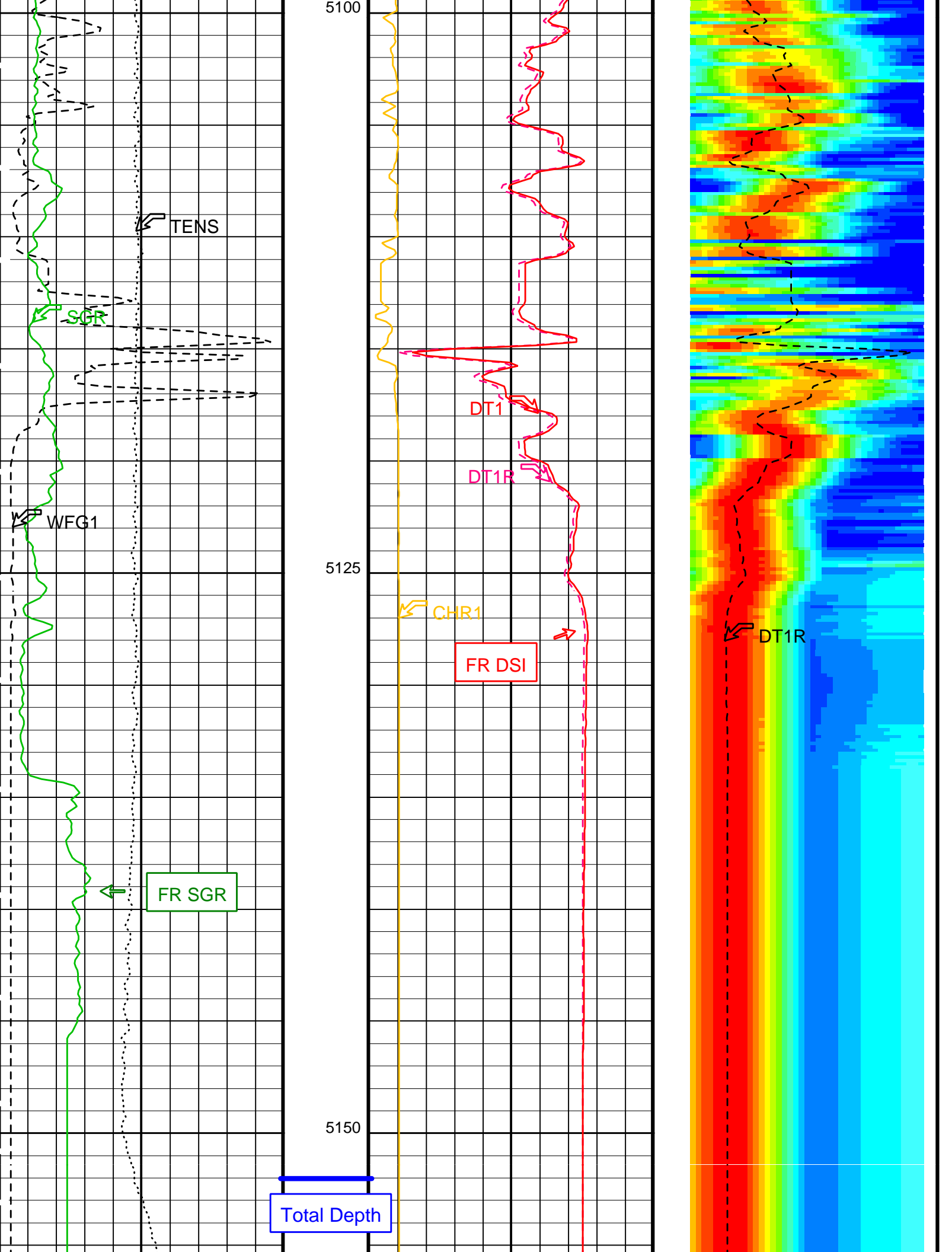
### PIP SUMMARY

Time Mark Every 60 S

<p>Tension (TENS) (LBF)</p> <p>10000 0</p>	<p>Delta-T Shear - Lower Dipole (DT1) (US/F)</p> <p>250 50</p>	
<p>Spectroscopy Gamma Ray (SGR) (GAPI)</p> <p>0 100</p>	<p>Delta-T Shear / RA - Lower Dipole (DT1R) (US/F)</p> <p>250 50</p>	<p>Min Amplitude Max</p> <p>Rec.Array L.Dipole Slow Proj. CVDL (SPR1) (US/F)</p> <p>50 250</p>
<p>SAM1 Waveform Gain (WFG1) (----)</p> <p>0 1000</p>	<p>Peak Coherence / RA - Lower Dipole (CHR1) (----)</p> <p>0 10</p>	<p>Delta-T Shear / RA - Lower Dipole (DT1R) (US/F)</p> <p>50 250</p>









SAM1 Waveform Gain (WFG1) 0 (----) 1000	Peak Coherence / RA - Lower Dipole (CHR1) 0 (----) 10	Delta-T Shear / RA - Lower Dipole (DT1R) 50 (US/F) 250
Spectroscopy Gamma Ray (SGR) 0 (GAPI) 100	Delta-T Shear / RA - Lower Dipole (DT1R) 250 (US/F) 50	Min Amplitude Max Rec.Array L.Dipole Slow Proj. CVDL (SPR1) 50 (US/F) 250
Tension (TENS) 10000 (LBF) 0	Delta-T Shear - Lower Dipole (DT1) 250 (US/F) 50	

PIP SUMMARY

Time Mark Every 60 S

## Parameters

DLIS Name	Description	Value
BS	Bit Size	9.875 IN
CBAR	Constant Barite	1
CGMI	Spectro Computed Gamma Ray Minimum	0 GAPI
CGSH	Spectro Computed Gamma Ray Shale	100 GAPI
DDE1	Digitizing Delay 1	0 US
DDEX	Digitizing Delay X	0 US
DFD	Drilling Fluid Density	1.07 G/C3
DLCS	Label Compressional Source - Dipole Shear	USE
DO	Depth Offset for Playback	0.0 M
DSHL	Label Slowness Lower Limit - Dipole Shear	50 US/F
DSHU	Label Slowness Upper Limit - Dipole Shear	250 US/F
DSI1	Digitizer Sample Interval 1	40 US
DSIX	Digitizer Sample Interval X	40 US
DTCS	Compressional Delta-T Source for DTCO Channel	FMD
DWC1	Digitizer Word Count 1	512
DWCX	Digitizer Word Count X	480
KMIN	Potassium Minimum	0
KSHA	Potassium Shale	0.02
LTXG	Lower Dipole Transmitter Geometry	156 IN
NFO	NGT Filtering Option	KALMAN
PMUD	Potassium Mud	0 %
PP	Playback Processing	NORMAL
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	EVEN
SAMX	DSST Sonic Acquisition Mode X - Both Dipoles or Monopole Mode for Expert	OFF
SAS1	STC Sonic Array Status - Lower Dipole	255
SBO1	STC Search Band Offset - Lower Dipole	3000 US
SBW1	STC Search Bandwidth - Lower Dipole	8000 US
SFC1	STC Formation Character - Lower Dipole	FAST
SFM1	STC Filter - Lower Dipole	B1-3K
SGMI	Spectro Gamma Ray Minimum	0 GAPI
SGSH	Spectro Gamma Ray Shale	100 GAPI
SLL1	STC Slowness Lower Limit - Lower Dipole	50 US/F
SST1	STC Slowness Step - Lower Dipole	4 US/F
SSW1	STC Source Waveform - Lower Dipole	WF_SAM1
SUL1	STC Slowness Upper Limit - Lower Dipole	250 US/F
SWD1	STC Slowness Width - Lower Dipole	40 US/F
TBF1	STC Time for Baseline Fill - Lower Dipole	0 US
TLL1	STC Time Lower Limit - Lower Dipole	600 US
TMIN	Thorium Minimum	0 PPM
TSHA	Thorium Shale	12 PPM
TST1	STC Time Step - Lower Dipole	200 US
TUL1	STC Time Upper Limit - Lower Dipole	9702.5 US
TWD1	STC Time Width - Lower Dipole	2000 US
TWI1	STC Integration Time Window - Lower Dipole	1600 US
TWSX	Transmitter Waveform Select X	0
UMIN	Uranium Minimum	0 PPM
USHA	Uranium Shale	3 PPM
WFM1	Waveform Mode 1	W1

MEST-B	9C2-303	NGT-C	9C2-303
DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

### Input DLIS Files

DEFAULT	FMS_NGS_DSI_037LUP	FN:17	PRODUCER	20-Jan-2002 23:17	5155.4 M	4999.8 M
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### Output DLIS Files

DEFAULT	FMS_NGS_DSI_050PUP	FN:34	PRODUCER	22-Jan-2002 10:08
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### Output DLIS Files

DEFAULT	FMS_NGS_DSI_037LUP	FN:17	PRODUCER	20-Jan-2002 23:17	5155.4 M	4999.8 M
FMS_CUST	FMS_NGS_DSI_037LUP	FN:18	PRODUCER	20-Jan-2002 23:17	5155.4 M	4999.8 M

## OP System Version: 9C2-303


MCM

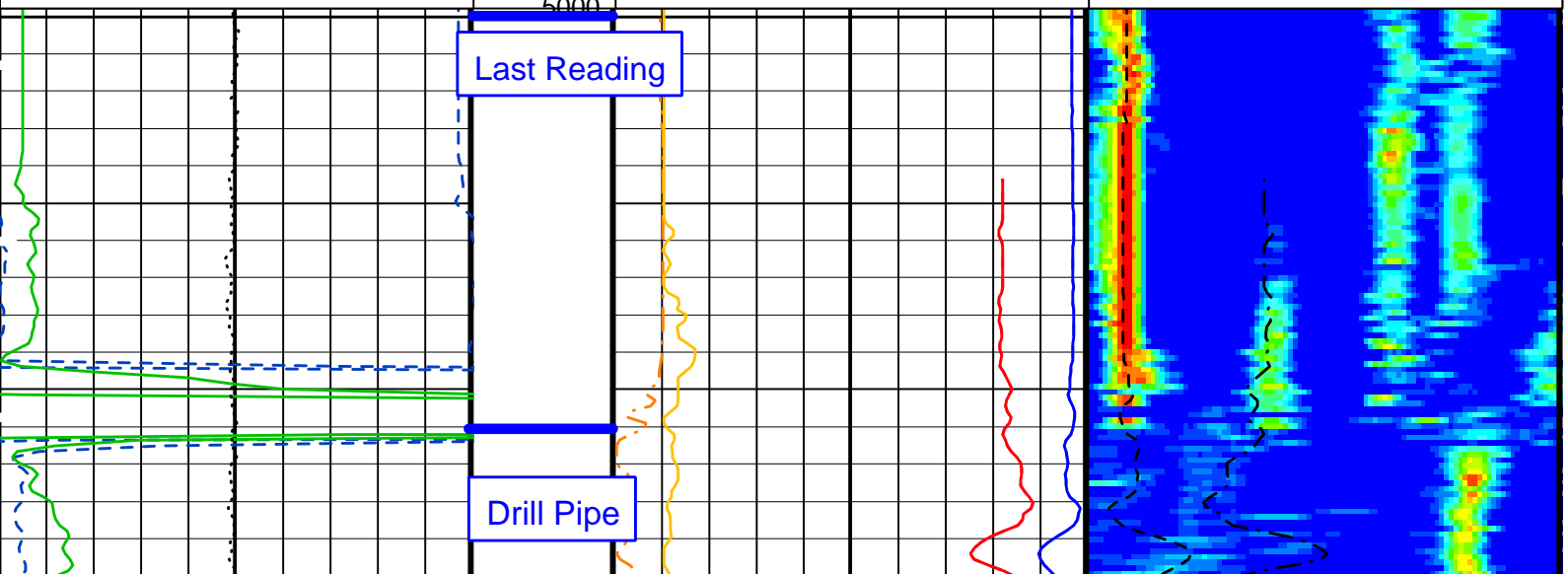
Pass #1

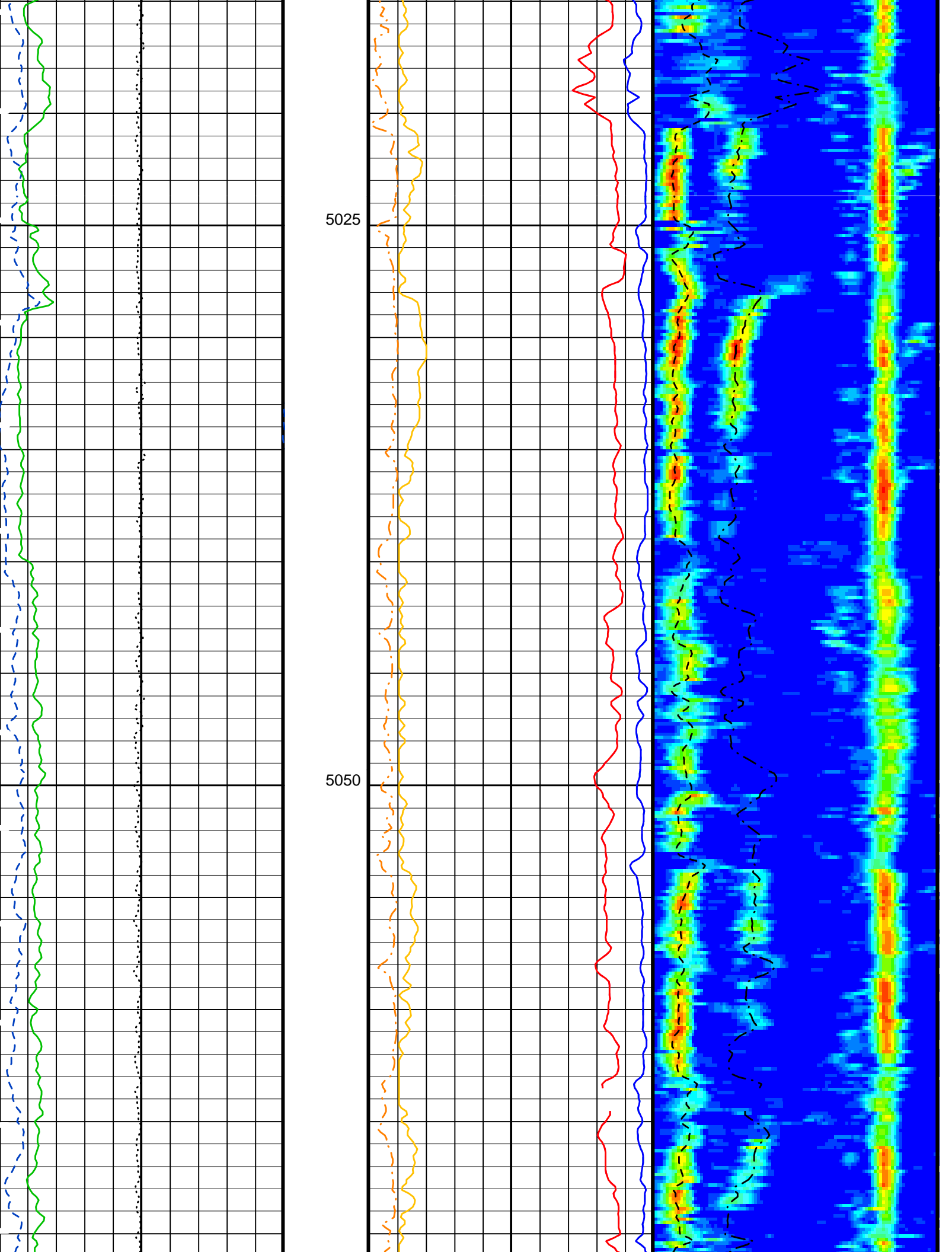
MEST-B	9C2-303	NGT-C	9C2-303
DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

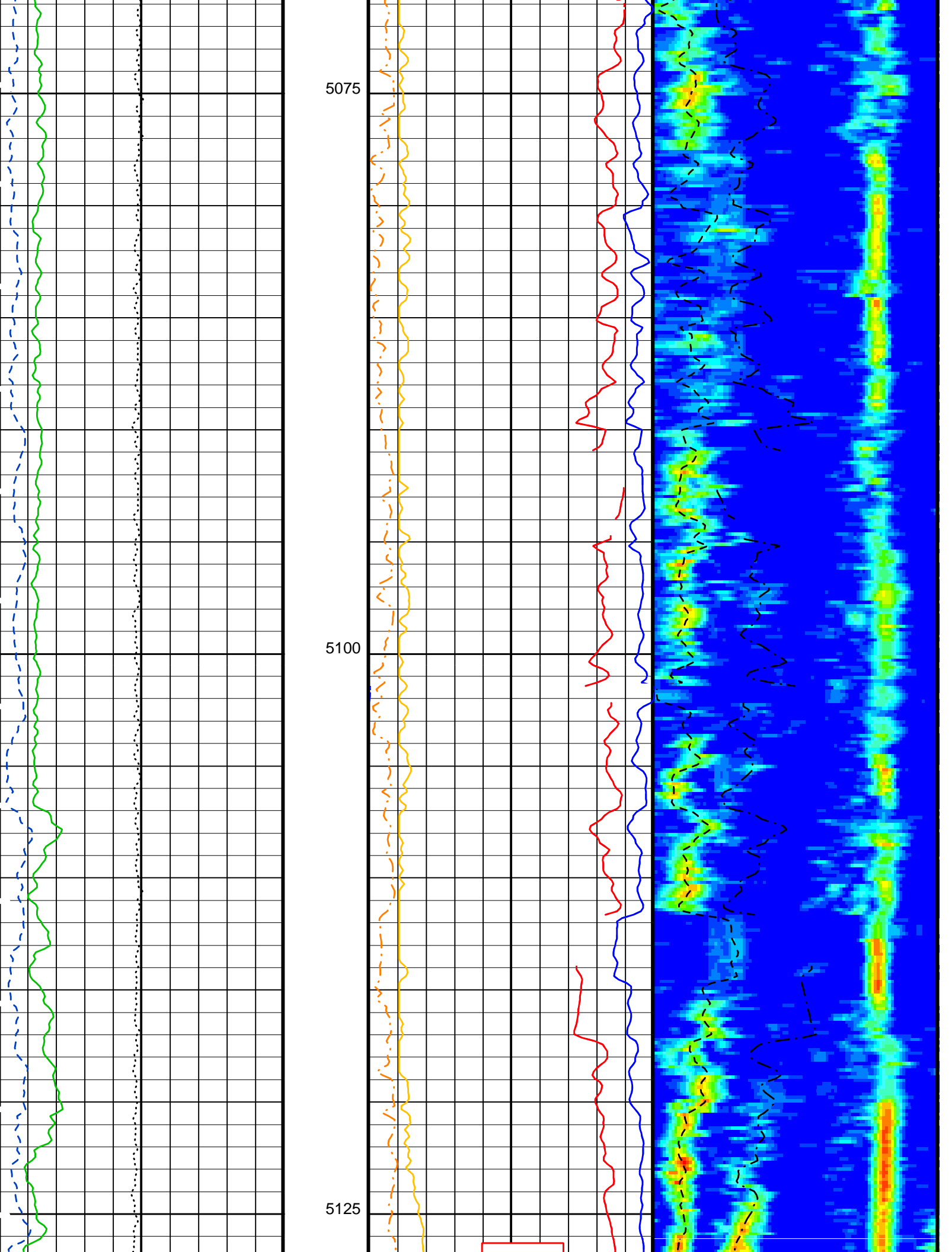
### PIP SUMMARY

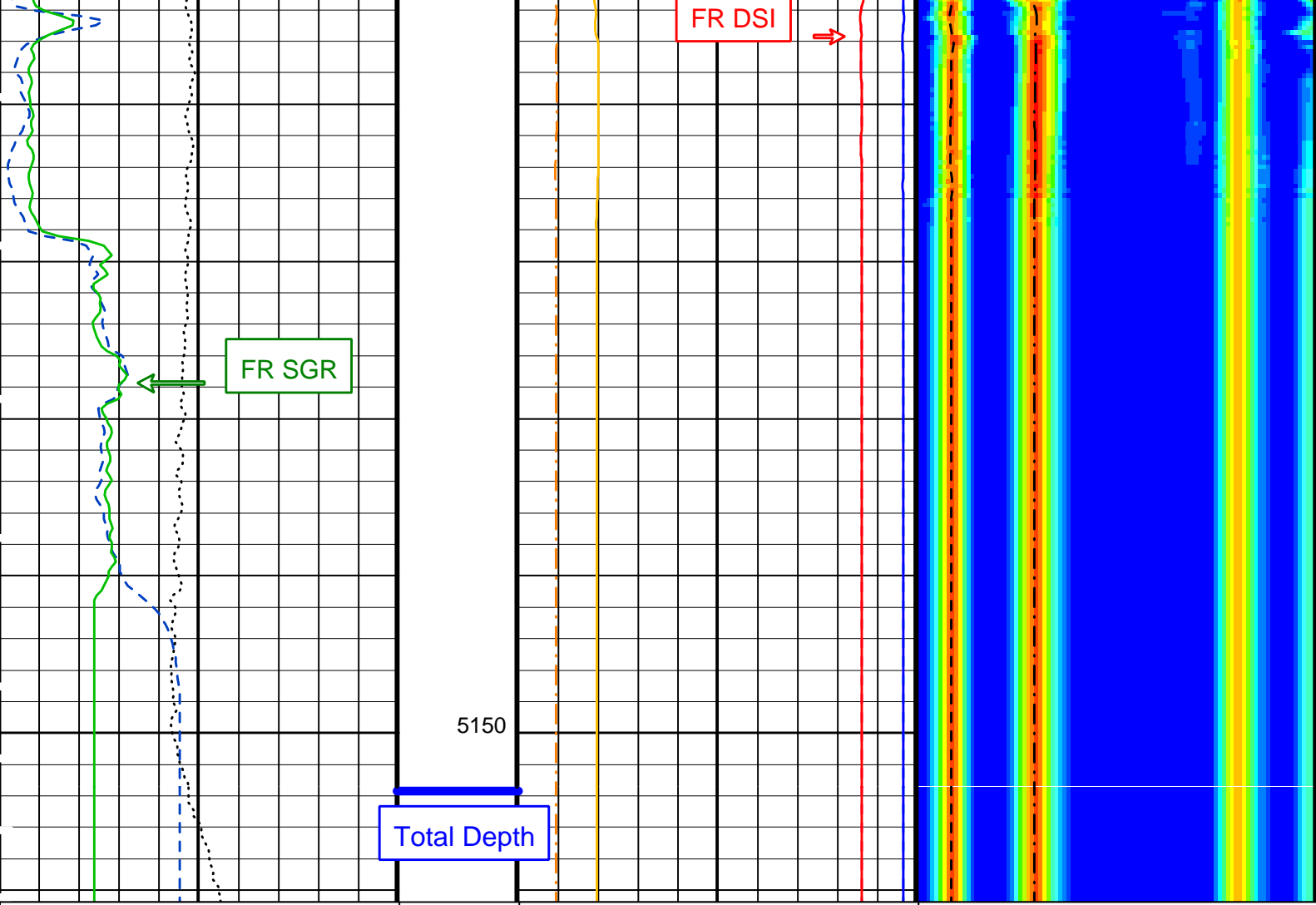
Time Mark Every 60 S

	<p style="color: red;">Delta-T Shear - P &amp; S (DT4S)</p> <p style="color: red;">440 (US/F) 40</p>	
	<p style="color: magenta;">Delta-T Shear / RA - P &amp; S (DTRS)</p> <p style="color: magenta;">440 (US/F) 40</p>	
	<p style="color: blue;">Delta-T Comp - P &amp; S (DT4P)</p> <p style="color: blue;">440 (US/F) 40</p>	
<p style="text-align: center;">Tension (TENS)</p> <p style="text-align: center;">(LBF)</p> <p>10000 0</p>	<p style="color: blue;">Delta-T Comp / RA - P &amp; S (DTRP)</p> <p style="color: blue;">440 (US/F) 40</p>	<p style="text-align: center;">Amplitude</p> <p style="text-align: center;">Min Max</p>  <p style="text-align: center;">Rec.Array P&amp;S Slow Proj. CVDL (SPR4)</p> <p style="text-align: center;">40 (US/F) 240</p>
<p style="color: green;">Spectroscopy Gamma Ray (SGR)</p> <p style="color: green;">(GAPI)</p> <p>0 100</p>	<p style="color: orange;">Peak Coherence / RA - P &amp; S Shear (CHRS)</p> <p style="color: orange;">-1 (---) 9</p>	<p style="color: magenta;">Delta-T Shear / RA - P &amp; S (DTRS)</p> <p style="color: magenta;">40 (US/F) 240</p>
<p style="color: blue;">Computed Gamma Ray (CGR)</p> <p style="color: blue;">(GAPI)</p> <p>0 100</p>	<p style="color: orange;">Peak Coherence / RA - P &amp; S Comp (CHRP)</p> <p style="color: orange;">0 (---) 10</p>	<p style="color: blue;">Delta-T Comp / RA - P &amp; S (DTRP)</p> <p style="color: blue;">40 (US/F) 240</p>









0 --- Computed Gamma Ray (CGR) (GAPI) --- 100	0 --- Peak Coherence / RA - P & S Comp (CHRP) (---) --- 10	40 --- Delta-T Comp / RA - P & S (DTRP) (US/F) --- 240
0 --- Spectroscopy Gamma Ray (SGR) (GAPI) --- 100	-1 --- Peak Coherence / RA - P & S Shear (CHRS) (---) --- 9	40 --- Delta-T Shear / RA - P & S (DTRS) (US/F) --- 240
10000 --- Tension (TENS) (LBF) --- 0	440 --- Delta-T Comp / RA - P & S (DTRP) (US/F) --- 40	Min --- Amplitude --- Max Rec.Array P&S Slow Proj. CVDL (SPR4) (US/F) 40 --- 240
	440 --- Delta-T Comp - P & S (DT4P) (US/F) --- 40	
	440 --- Delta-T Shear / RA - P & S (DTRS) (US/F) --- 40	
	440 --- Delta-T Shear - P & S (DT4S) (US/F) --- 40	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BHS	Borehole Status	OPEN
BS	Bit Size	9.875 IN
CASF	Label Casing Function - Monopole P&S	50
CBAR	Constant Barite	1
CGMI	Spectro Computed Gamma Ray Minimum	0 GAPI
CGSH	Spectro Computed Gamma Ray Shale	100 GAPI
COLL	Label Slowness Lower Limit - Monopole P&S Compressional	40 US/F

COUL	Ear Slowness Lower Limit - Monopole P&S Compressional	140	US/F
DDE4	Digitizing Delay 4	0	US
DDEX	Digitizing Delay X	0	US
DFD	Drilling Fluid Density	1.07	G/C3
DSI4	Digitizer Sample Interval 4	10	US
DSIX	Digitizer Sample Interval X	40	US
DTF	Delta-T Fluid	189	US/F
DWC4	Digitizer Word Count 4	512	
DWCX	Digitizer Word Count X	480	
FILG	Label Fill Gap Control - Monopole P&S	COMP_SHEAR	
KMIN	Potassium Minimum	0	
KSHA	Potassium Shale	0.02	
LFC	Label Formation Character - Monopole P&S	COMP_FIRST	
MCS	Mean Casing Slowness	57	US/F
MTXG	Monopole Transmitter Geometry	186	IN
NFO	NGT Filtering Option	KALMAN	
PMUD	Potassium Mud	0	%
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
SAM4	DSST Sonic Acquisition Mode 4 - High Frequency Monopole Mode for P&S	ODD	
SAMX	DSST Sonic Acquisition Mode X - Both Dipoles or Monopole Mode for Expert	OFF	
SAS4	STC Sonic Array Status - Monopole P&S	255	
SBO4	STC Search Band Offset - Monopole P&S	500	US
SBR4	STC Baseline Removal - Monopole P&S	ON	
SBW4	STC Search Bandwidth - Monopole P&S	2000	US
SFC4	STC Formation Character - Monopole P&S	FAST	
SFM4	STC Filter - Monopole P&S	B3-20K	
SGMI	Spectro Gamma Ray Minimum	0	GAPI
SGSH	Spectro Gamma Ray Shale	100	GAPI
SHLL	Label Slowness Lower Limit - Monopole P&S Shear	80	US/F
SHUL	Label Slowness Upper Limit - Monopole P&S Shear	180	US/F
SLL4	STC Slowness Lower Limit - Monopole P&S	40	US/F
SST4	STC Slowness Step - Monopole P&S	2	US/F
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
SUL4	STC Slowness Upper Limit - Monopole P&S	240	US/F
SWD4	STC Slowness Width - Monopole P&S	10	US/F
TBF4	STC Time for Baseline Fill - Monopole P&S	300	US
TLL4	STC Time Lower Limit - Monopole P&S	150	US
TMIN	Thorium Minimum	0	PPM
TSHA	Thorium Shale	12	PPM
TST4	STC Time Step - Monopole P&S	50	US
TUL4	STC Time Upper Limit - Monopole P&S	3660	US
TWD4	STC Time Width - Monopole P&S	1000	US
TWI4	STC Integration Time Window - Monopole P&S	500	US
TWSX	Transmitter Waveform Select X	0	
UMIN	Uranium Minimum	0	PPM
USHA	Uranium Shale	3	PPM

Format: DSST\_P\_S\_VDL\_COLOR      Vertical Scale: 1:200      Graphics File Created: 20-Jan-2002 23:17

**OP System Version: 9C2-303**  
MCM

MEST-B	9C2-303	NGT-C	9C2-303
DTA-A	9C2-303	DSST-B	9C2-303
DTC-H	9C2-303		

**Output DLIS Files**

DEFAULT	FMS_NGS_DSI_037LUP	FN:17	PRODUCER	20-Jan-2002 23:17
FMS_CUST	FMS_NGS_DSI_037LUP	FN:18	PRODUCER	20-Jan-2002 23:17

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
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Micro Electrical Scanner - B (Slim) Wellsite Calibration - Caliper Calibration

Before: 22-Dec-2001 16:52

Caliper 1 Zero Measurement	8.000	N/A	12.32	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	8.000	N/A	11.89	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.25	N/A	15.62	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.25	N/A	15.18	N/A	N/A	N/A	IN

Micro Electrical Scanner - B (Slim) Wellsite Calibration - ACCELEROMETER PROM HAS NOT BEEN READ

Before: Calibration not done

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	

Micro Electrical Scanner - B (Slim) Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY

Before: 22-Dec-2001 16:48

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	

Natural Gamma Spectroscopy - C Wellsite Calibration - Background Measurement

Master: 1-Dec-2001 23:37 Before: 30-Dec-2001 11:46

WINDOW 1 Background	100.0	20.75	14.17	N/A	N/A	100.0	CPS
WINDOW 2 Background	50.00	5.502	3.274	N/A	N/A	50.00	CPS
WINDOW 3 Background	10.00	1.294	0.7309	N/A	N/A	10.00	CPS
WINDOW 4 Background	6.000	0.4281	0.2337	N/A	N/A	6.000	CPS
WINDOW 5 Background	10.00	0.6467	0.3934	N/A	N/A	10.00	CPS
SGR Background	30.00	7.487	4.918	N/A	N/A	N/A	GAPI

Natural Gamma Spectroscopy - C Wellsite Calibration - Normalized Jig Measurement

Master: 1-Dec-2001 23:01 Before: 30-Dec-2001 13:01

WINDOW 1 Jig	376.0	381.2	382.7	N/A	N/A	22.56	CPS
WINDOW 2 Jig	167.0	168.9	169.9	N/A	N/A	10.02	CPS
WINDOW 3 Jig	24.00	23.42	24.23	N/A	N/A	1.440	CPS
WINDOW 4 Jig	14.00	14.28	13.69	N/A	N/A	2.800	CPS
WINDOW 5 Jig	22.50	22.28	22.76	N/A	N/A	4.500	CPS
SGR Jig	160.0	159.2	160.0	N/A	N/A	7.000	GAPI

The NGT PCSL Value is set to 39.706 KEV

Micro Electrical Scanner - B (Slim) / Equipment Identification

Primary Equipment:

MEST Sonde - B	MEDS - B
MEST Preamplifier Cartridge - AB	MEPC - AB
GPIT Cartridge - A	GPIC - A
MEST Acquisition Cartridge - A	MEAC - A

Auxiliary Equipment:

MEST-B Preamplifier Cartridge Housing	MEPH - A
MEST Acquisition Cartridge Housing (Slim)	MEAH - B

Natural Gamma Spectroscopy - C / Equipment Identification

Primary Equipment:

NGT Cartridge	NGC - C	1731
NGT Sonde	NGD - A	1720










Auxiliary Equipment:













NGT Cartridge Housing	NGCH - A	1733
NGT Sonde Housing	NGH - B	1721
Gamma Source Radioactive	GSR - U	





Natural Gamma Spectroscopy - C Wellsite Calibration


Background Measurement

Phase	WINDOW 1 Background CPS	Value	Phase	WINDOW 2 Background CPS	Value	Phase	WINDOW 3 Background CPS	Value
Master		20.75	Master		5.502	Master		1.294
Slave		14.17	Slave		3.274	Slave		0.7309
Slave		6.000	Slave		0.4281	Slave		0.2337
Slave		10.00	Slave		0.6467	Slave		0.3934
Slave		30.00	Slave		7.487	Slave		4.918

Before		14.17	Before		3.274	Before		0.7309
	0 (Minimum) 100.0 (Nominal) 400.0 (Maximum)			0 (Minimum) 50.00 (Nominal) 200.0 (Maximum)			0 (Minimum) 10.00 (Nominal) 40.00 (Maximum)	
Phase	WINDOW 4 Background CPS	Value	Phase	WINDOW 5 Background CPS	Value	Phase	SGR Background GAPI	Value
Master		0.4281	Master		0.6467	Master		7.487
Before		0.2337	Before		0.3934	Before		4.918
	0 (Minimum) 6.000 (Nominal) 24.00 (Maximum)			0 (Minimum) 10.00 (Nominal) 40.00 (Maximum)			0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)	
Master: 1-Dec-2001 23:37			Before: 30-Dec-2001 11:46					

Natural Gamma Spectroscopy - C Wellsite Calibration								
Normalized Jig Measurement								
Phase	WINDOW 1 Jig CPS	Value	Phase	WINDOW 2 Jig CPS	Value	Phase	WINDOW 3 Jig CPS	Value
Master		381.2	Master		168.9	Master		23.42
Before		382.7	Before		169.9	Before		24.23
	354.0 (Minimum) 376.0 (Nominal) 398.0 (Maximum)			155.0 (Minimum) 167.0 (Nominal) 179.0 (Maximum)			21.50 (Minimum) 24.00 (Nominal) 26.50 (Maximum)	
Phase	WINDOW 4 Jig CPS	Value	Phase	WINDOW 5 Jig CPS	Value	Phase	SGR Jig GAPI	Value
Master		14.28	Master		22.28	Master		159.2
Before		13.69	Before		22.76	Before		160.0
	12.50 (Minimum) 14.00 (Nominal) 15.50 (Maximum)			20.00 (Minimum) 22.50 (Nominal) 25.00 (Maximum)			148.0 (Minimum) 160.0 (Nominal) 172.0 (Maximum)	
Master: 1-Dec-2001 23:01			Before: 30-Dec-2001 13:01					

Natural Gamma Spectroscopy - C Wellsite Calibration					
Quality Control Values					
Phase	DHVF Jig V	Value	Phase	Quality Windows Ratio Jig	Value
Master		1359	Master		2.257
Before		1355	Before		2.253
	1088 (Minimum) 1450 (Nominal) 1813 (Maximum)			2.150 (Minimum) 2.240 (Nominal) 2.330 (Maximum)	
Master: 1-Dec-2001 23:01			Before: 30-Dec-2001 13:01		

Natural Gamma Spectroscopy - C Wellsite Calibration		
Quality Control Values Check		
Phase	Thorium peak Form Factor Jig	Value
Before		0.1004
	-0.2000 (Minimum) 0 (Nominal) 0.2000 (Maximum)	
Before: 30-Dec-2001 13:01		

COMPANY:	Lamont Doherty	BOTTOM LOG INTERVAL	5150 m
WELL:	ODP Leg 200, Site 1224F	SCHLUMBERGER DEPTH	5152 m
FIELD:	H20	DEPTH DRILLER	5152.5 m
COUNTY:	Joides Resolution	KELLY BUSHING	11.3 m
STATE:	Pacific Ocean	DRILL FLOOR	11 m
		GROUND LEVEL	-4978 m

Dipole Sonic

