

# HSM-15A\_B

## SonicScope

### Quadrupole Shear Processing QC Plot

\* A Mark of Schlumberger

Using the following logs: SonicScope, NeoScope

COMPANY: IODP  
 WELL: HSM-15A\_B  
 FIELD: Joides Resolution  
 COUNTRY: New Zealand

Date Logged: 23-Dec-2017 Date Processed: 28-Dec-2017

Surface Location Longitude: 178° 53' 45.618" E Latitude: 38° 51' 32.202" S  
 Elevations: DF: 11 m GL: -2637 m

FOLD HERE: The well name, location and borehole reference data were furnished by the customer.

Any interpretation, research, analysis, data, results, estimates, or recommendation furnished with the services or otherwise communicated by Schlumberger to the customer at any time in connection with the services are opinions based on inferences from measurements, empirical relationships, and/or assumptions; which, inferences, empirical relationships and/or assumptions are not infallible and with respect to which professionals in the industry may differ. Accordingly, Schlumberger cannot and does not warrant the accuracy, correctness, or completeness of any such interpretation, research, analysis, data, results, estimates, or recommendation. The customer acknowledges that it is accepting the services "as is," that Schlumberger makes no representation or warranty, express or implied, of any kind or description in respect thereto, and that such services are delivered with the explicit understanding and agreement that any action taken based on the services received shall be at its own risk and responsibility, and no claim shall be made against Schlumberger as a consequence thereof.

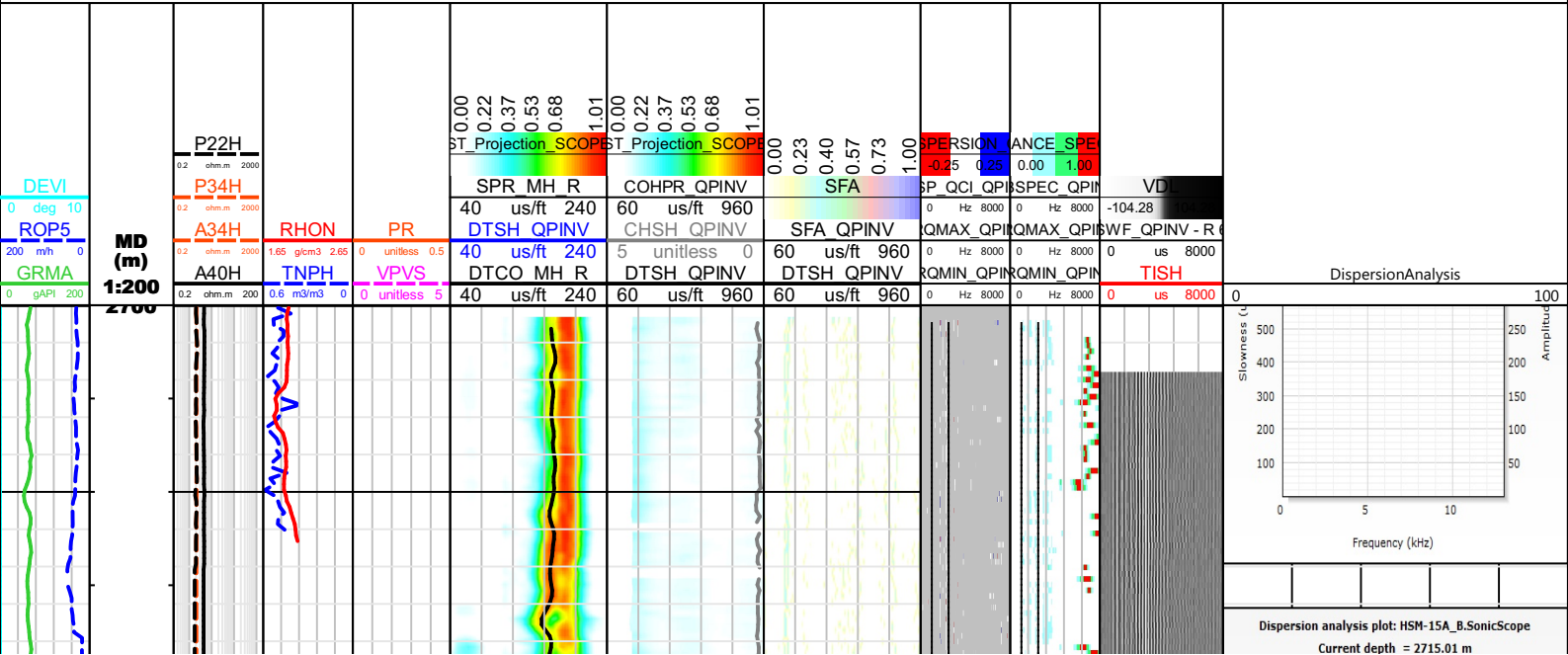
Svc. Order #:	Techlog Vers: 2017.2	Analyst P. Bhuyan	Process Date: 28 December 2017
---------------	----------------------	-------------------	--------------------------------

Mud and Borehole Measurements:		
Casing Size:	BHT : 5 degC	Bit Size: 8.5 in
Casing ID:	Type Fluid in Hole: Sea Water	
Casing Weight:	Mud density: 1.02 gm/cc	

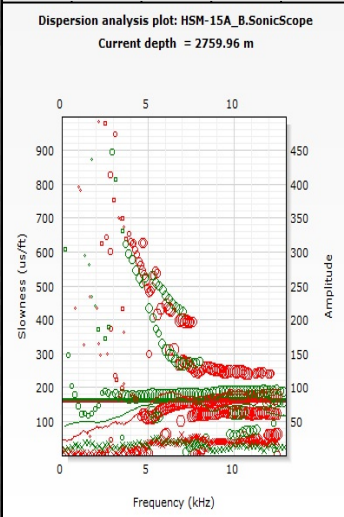
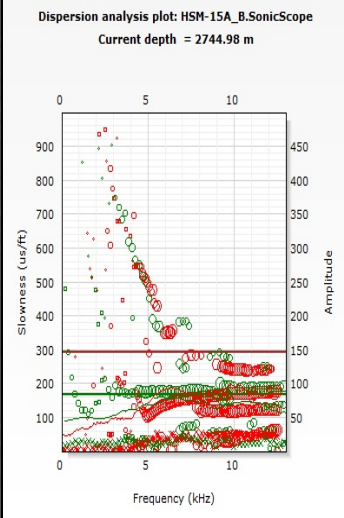
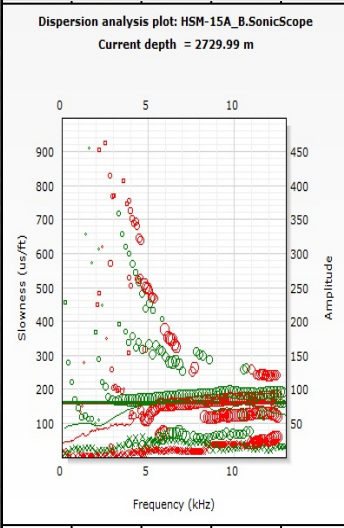
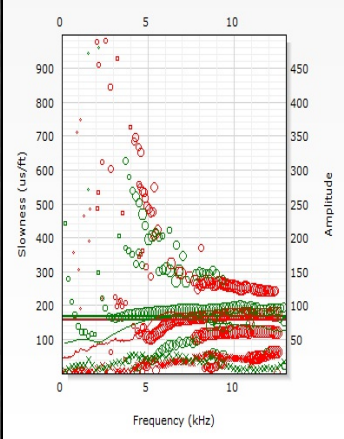
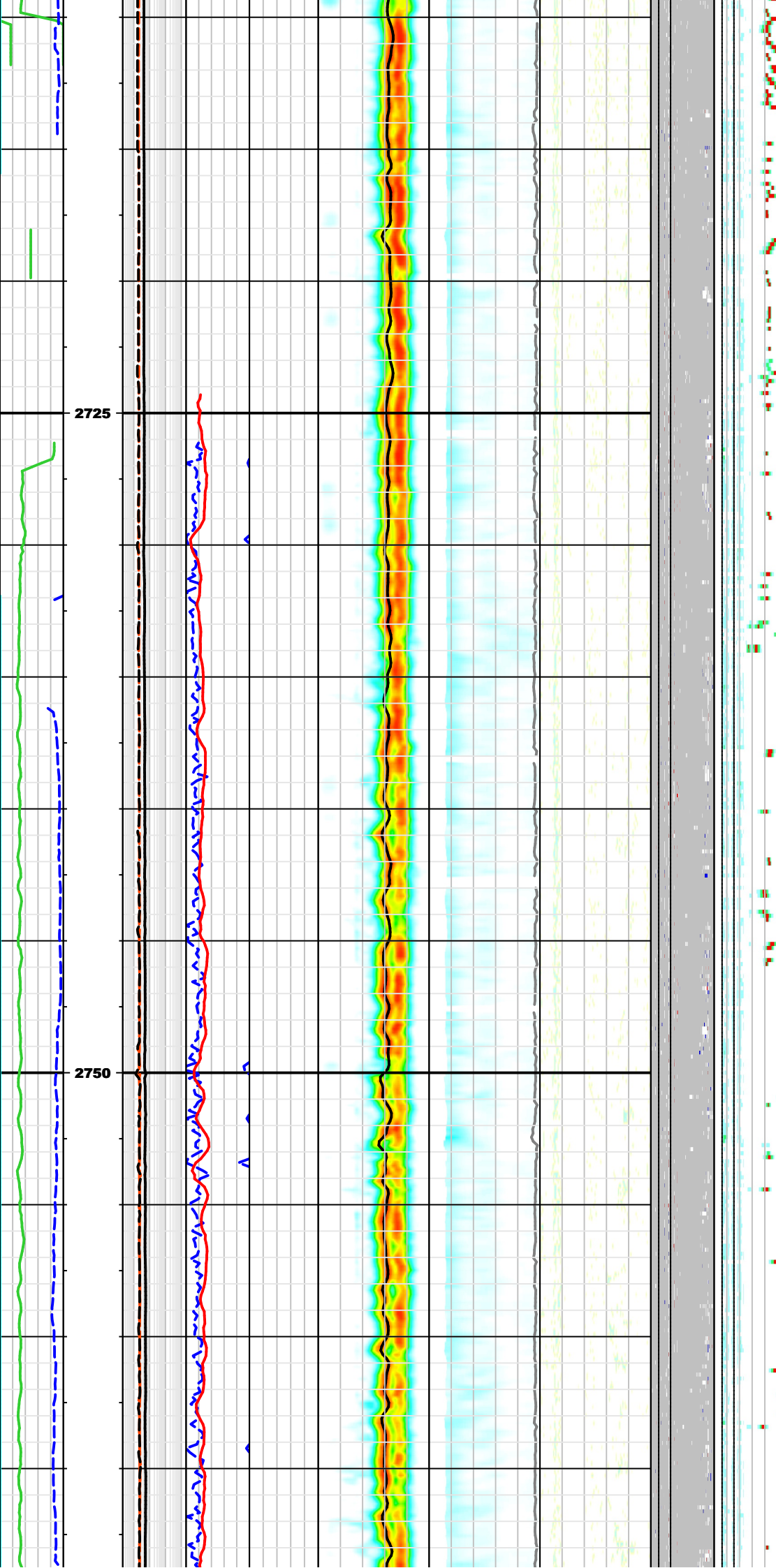
Remarks:  
 Quadrupole waveform is processed to get formation shear arrival.  
 Data might be affected due to borehole condition.

### Processing parameters summary

Quadrupole inversion		
<b>Binning option:</b> Yes	<b>Bin width:</b> 1000 Hz	<b>Caliper:</b> 8.5 in
<b>Compressional slowness:</b> DTCO_ML_LP_M57_R_1_RUN4 us/ft	<b>Window move out (Shear DT):</b> DTSH_QPND_M57_R_6_RUN4_2 us/ft	<b>Leaky-Q filtering:</b> Yes
<b>Filter band high for inversion:</b> 2200 Hz	<b>Filter band high for filtered waveform:</b> 5000 Hz	<b>Filter band low for inversion:</b> 600 Hz
<b>Filter band low for filtered waveform:</b> 0 Hz	<b>Filter type:</b> Static filter	<b>Formation type:</b> Very slow
<b>Inversion type:</b> 2-Parameters	<b>Monopole high ST Projection:</b> SPR_ML_LP_M57_R_1_RUN4 unitless	<b>Mud slowness:</b> 200 us/ft
<b>Mud density:</b> 1.030507 g/cm3	<b>Mud type:</b> WBM	<b>Multishot NRSA:</b> 7
<b>Max frequency for SFA:</b> 4000 Hz	<b>Min frequency for SFA:</b> 0 Hz	<b>Slowness lower limit:</b> 60 us/ft
<b>Slowness upper limit:</b> 960 us/ft	<b>Waveform length:</b> 512	<b>Max frequency for TKO:</b> 12000 Hz
<b>Min frequency for TKO:</b> 0 Hz	<b>Model order:</b> 3	<b>Matching tolerance:</b> 50
<b>Waveform:</b> WFA_QPT	<b>Reference receiver:</b> 6	<b>Receiver selection:</b> R1;R2;R3;R4;R5;R6;R7;R8;R9;R10;R11;R12
<b>Processing window start:</b> 0 us	<b>Processing window width:</b> 10000 us	

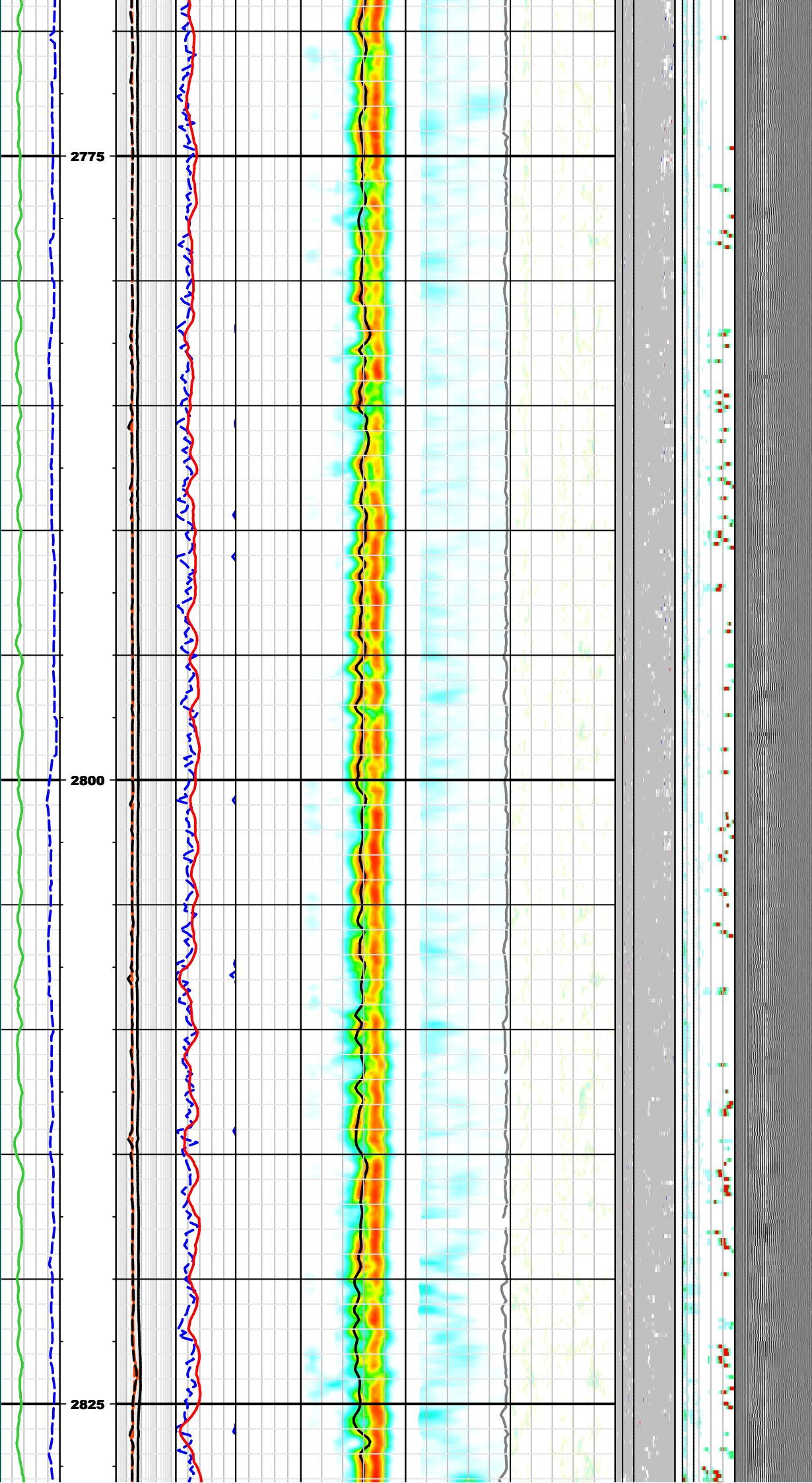


Dispersion analysis plot: HSM-15A\_B.SonicScope  
 Current depth = 2715.01 m



Dispersion analysis plot: HSM-15A\_B.SonicScope

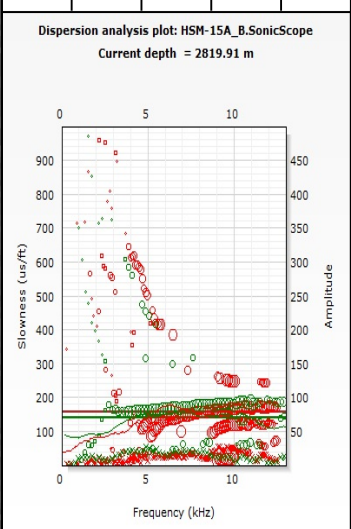
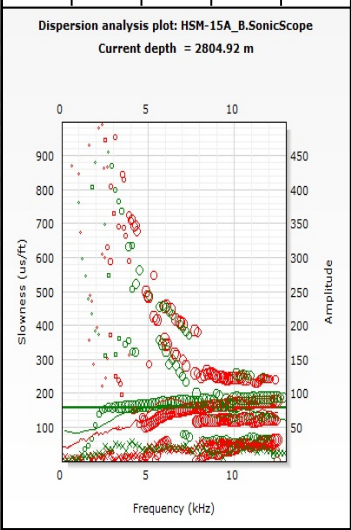
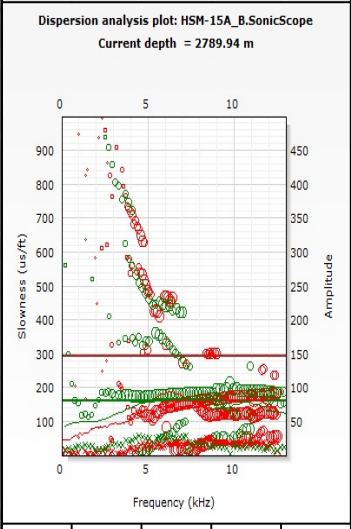
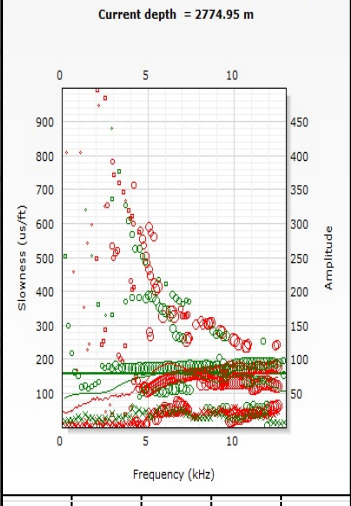
Current depth = 2774.95 m

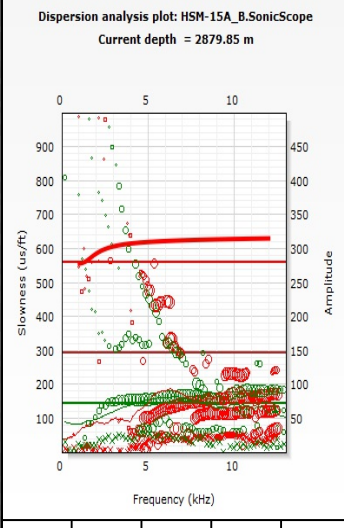
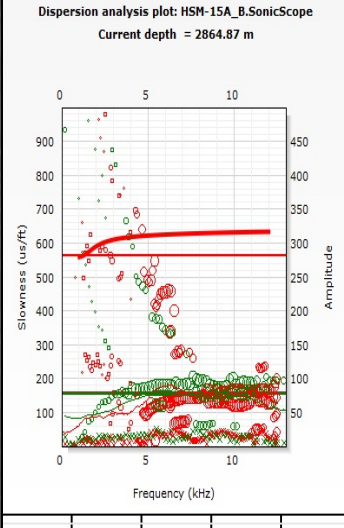
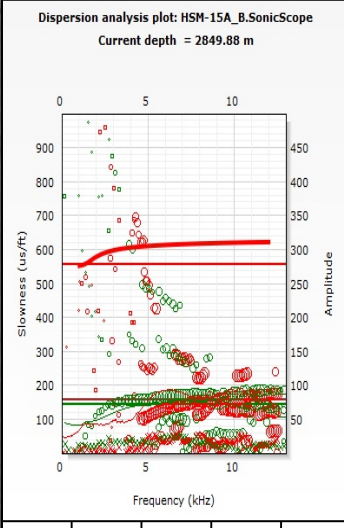
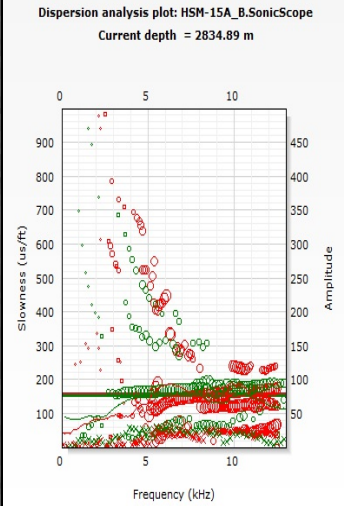
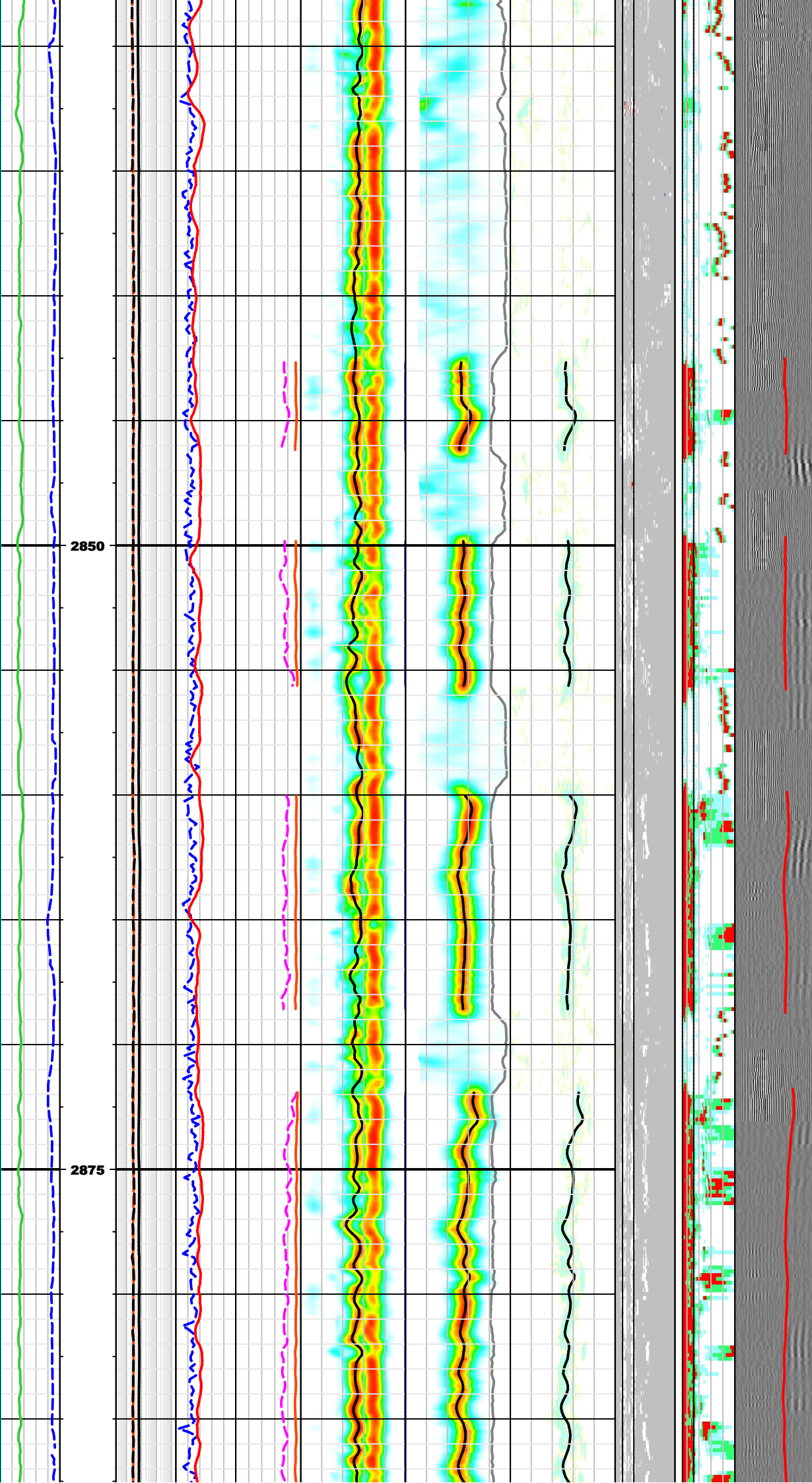


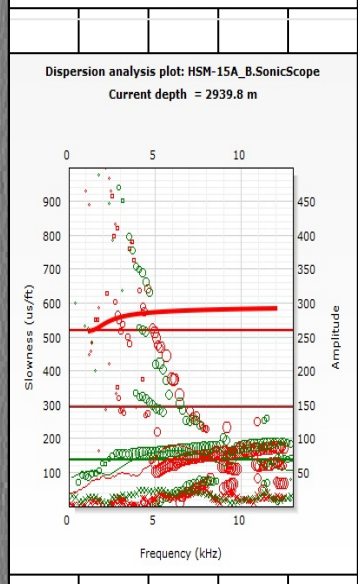
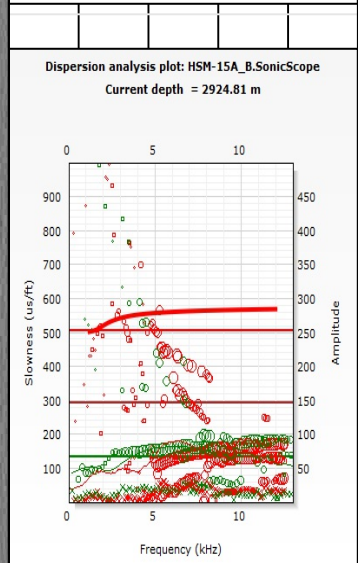
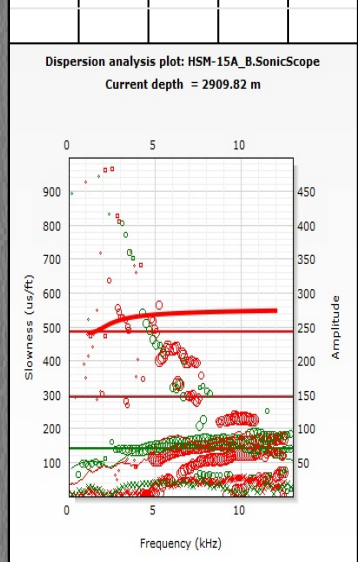
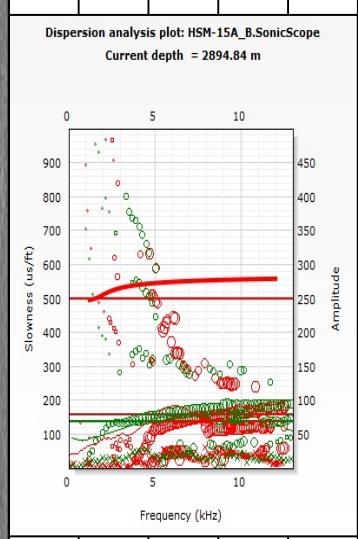
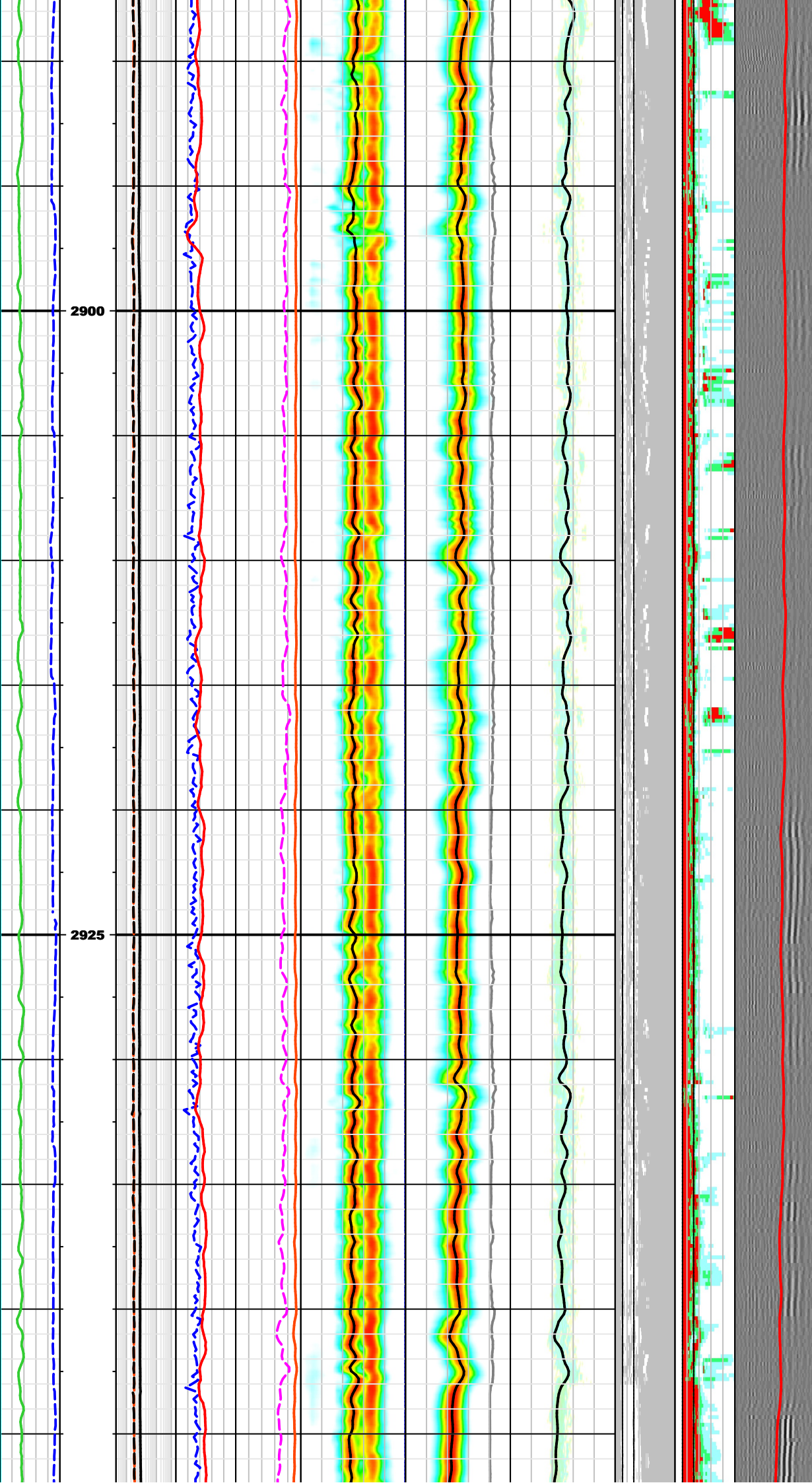
2775

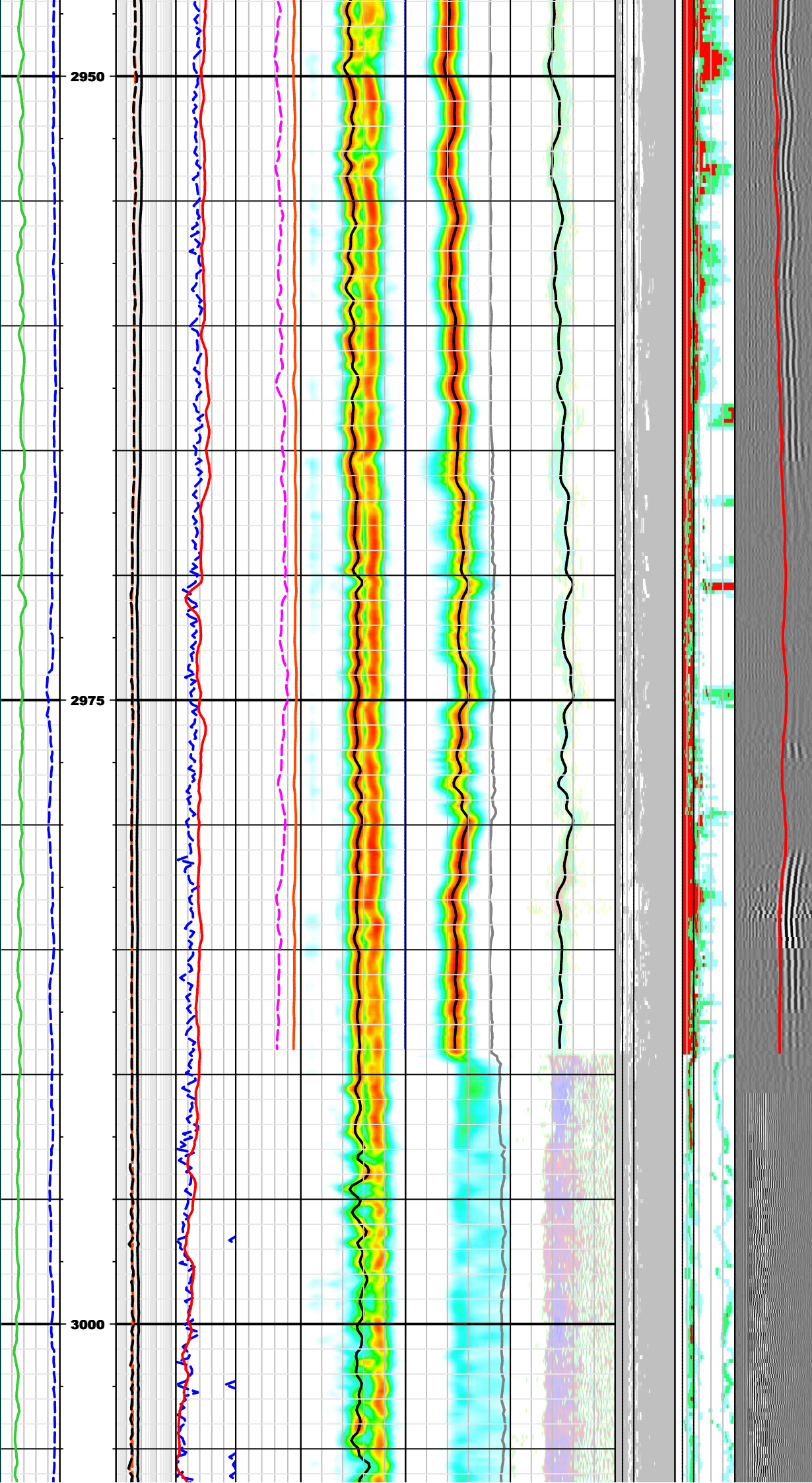
2800

2825

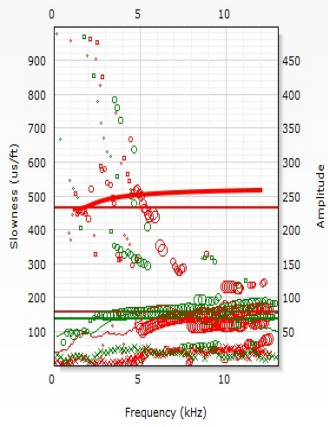




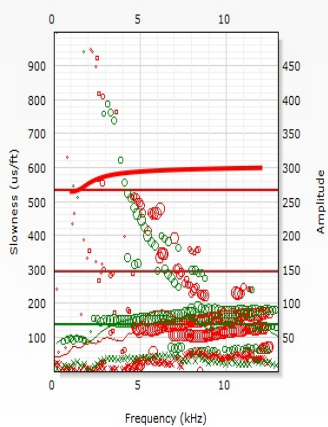




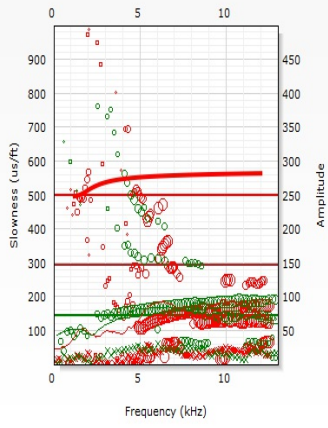
Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 2954.78 m



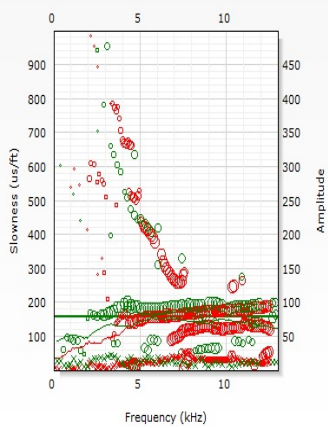
Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 2969.77 m

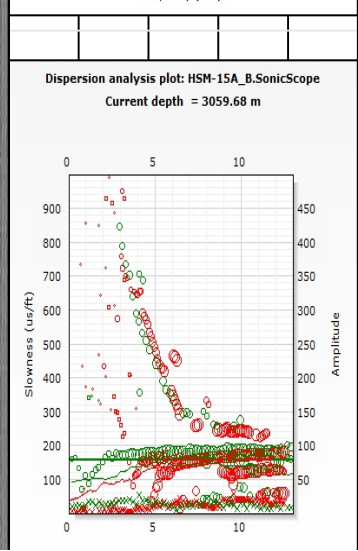
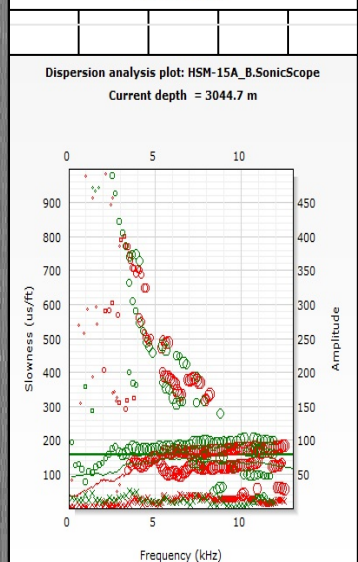
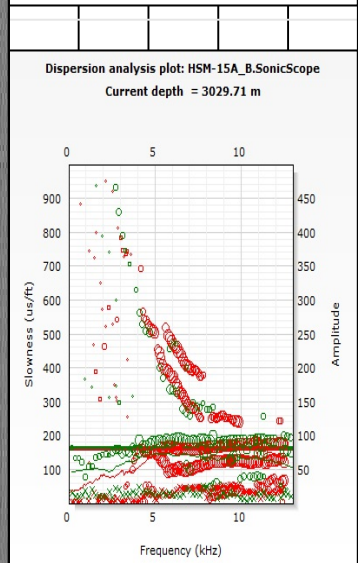
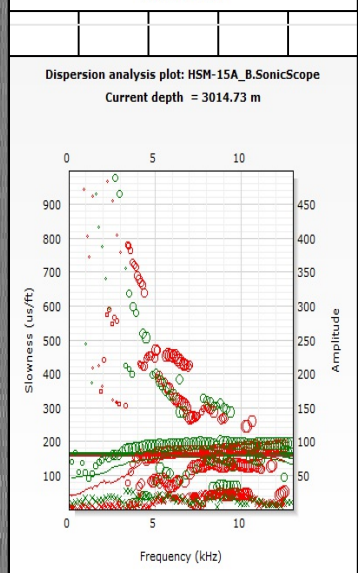
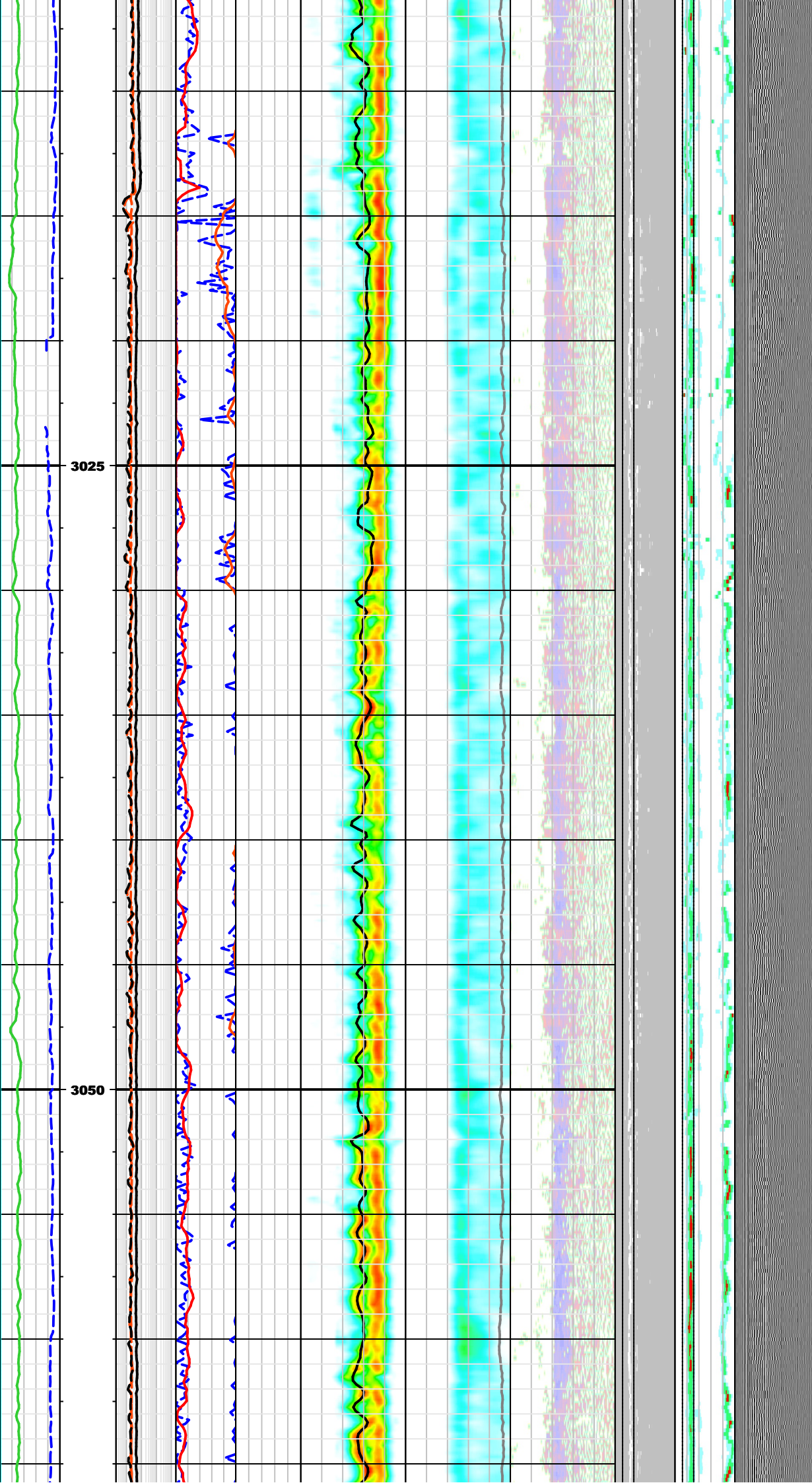


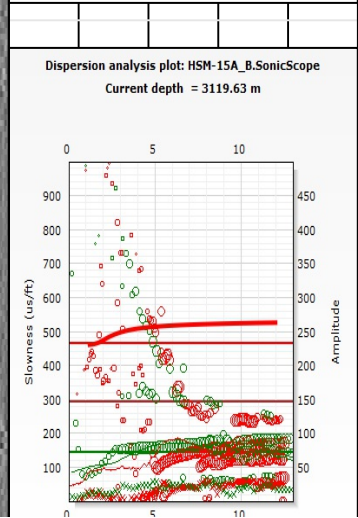
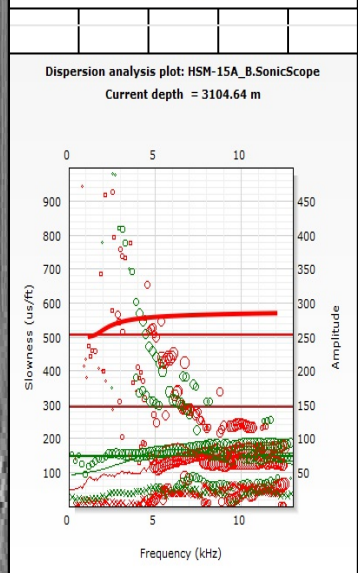
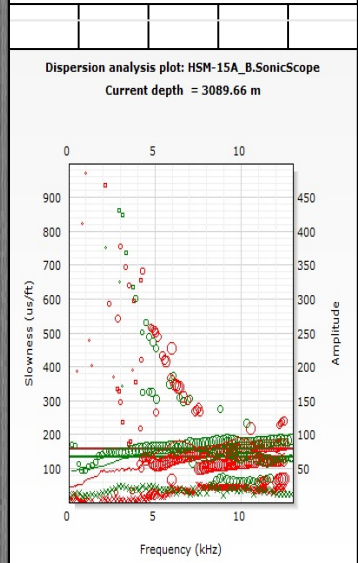
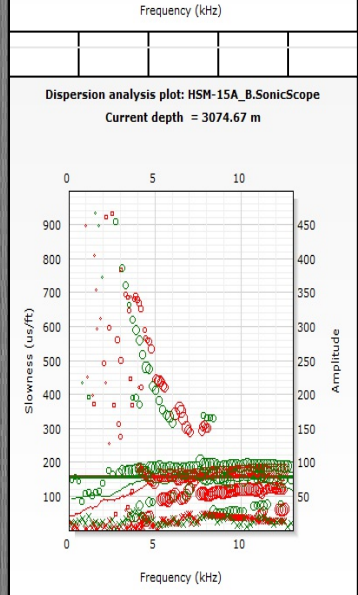
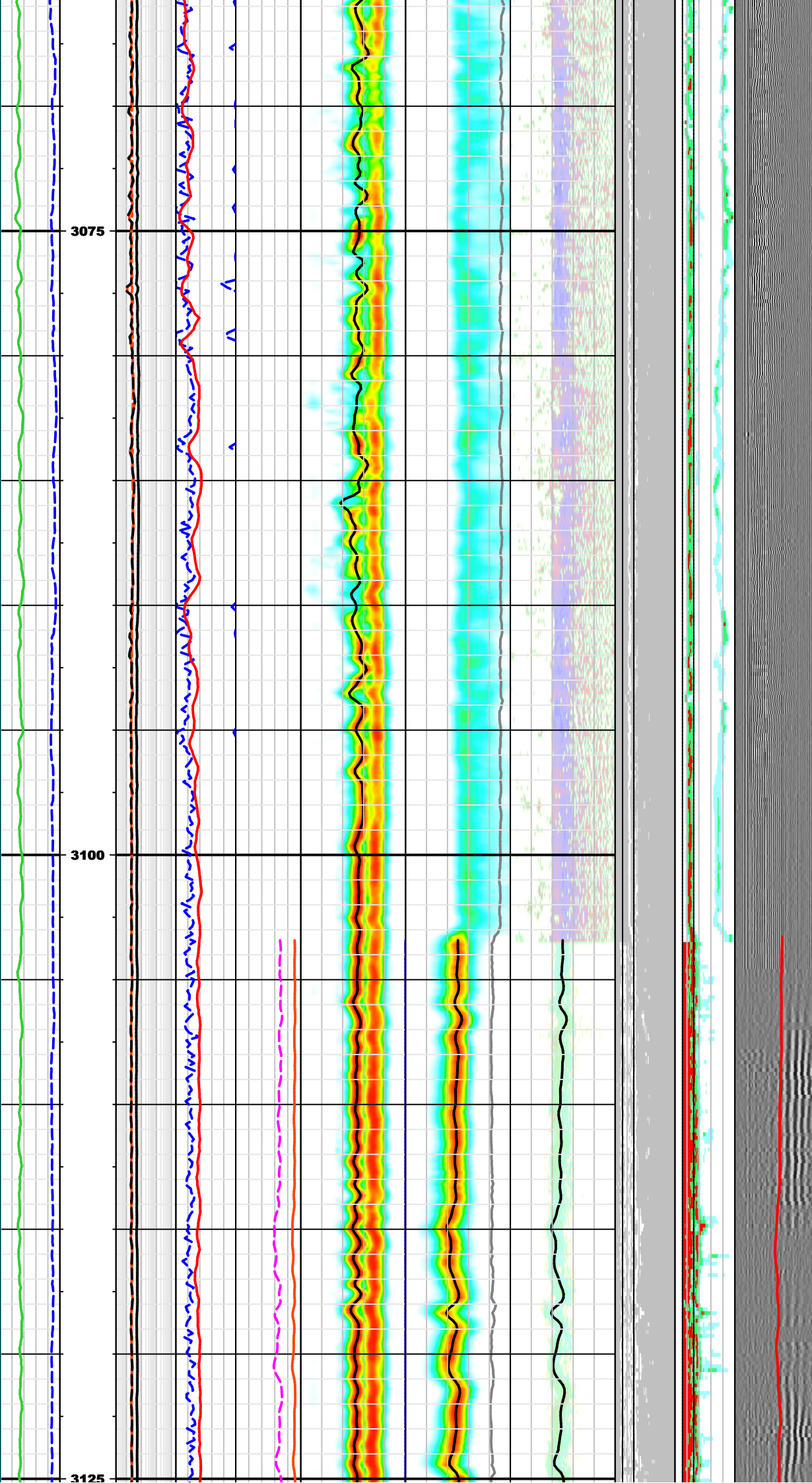
Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 2984.75 m



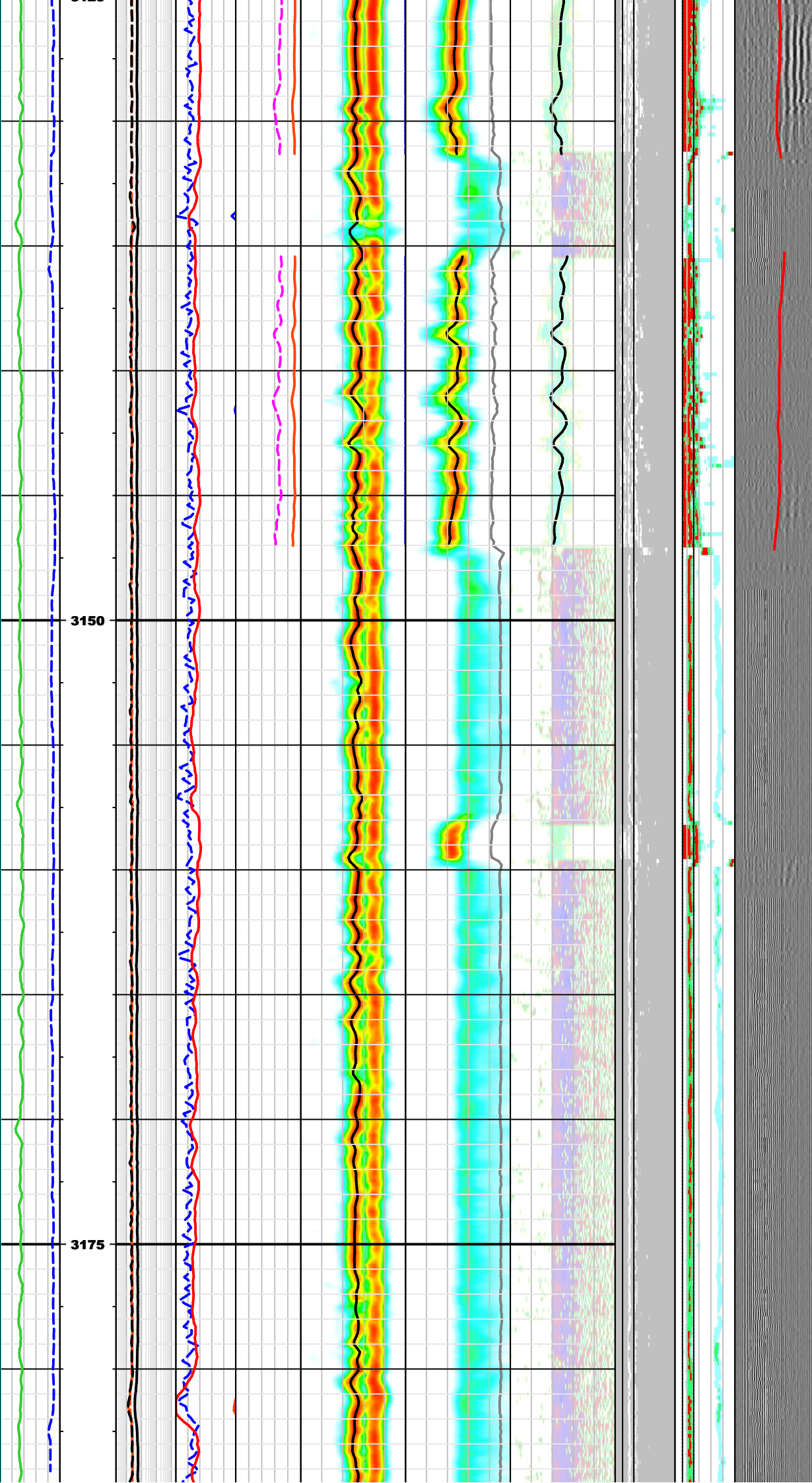
Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 2999.74 m









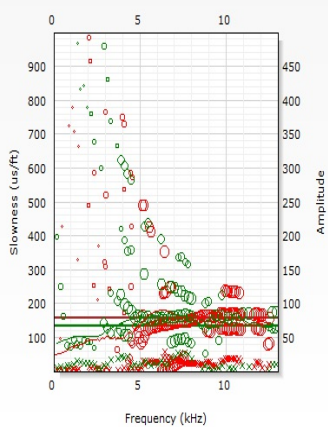


3150

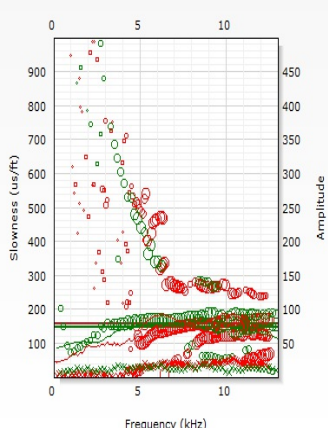
3175

Frequency (kHz)

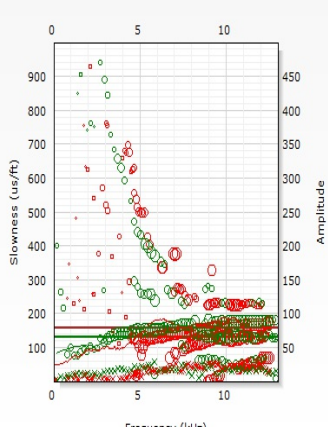
Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 3134.61 m



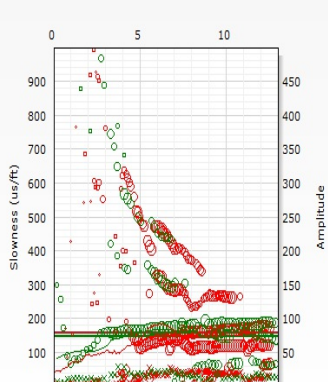
Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 3149.6 m

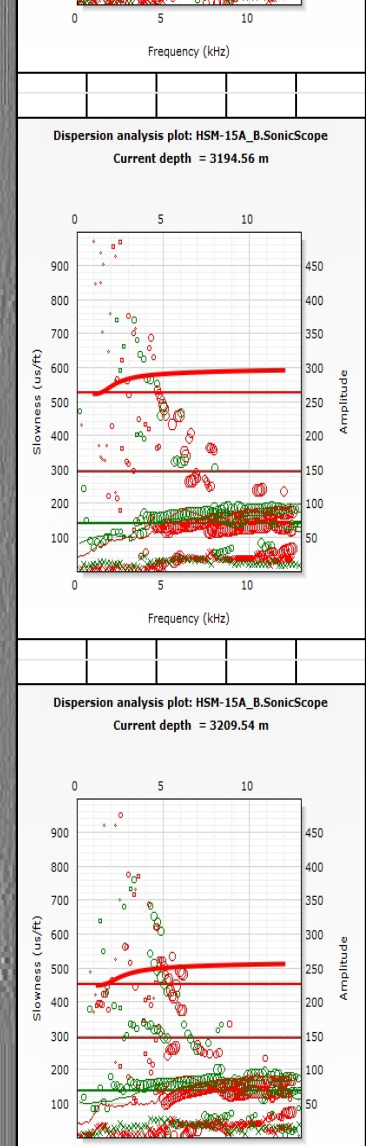
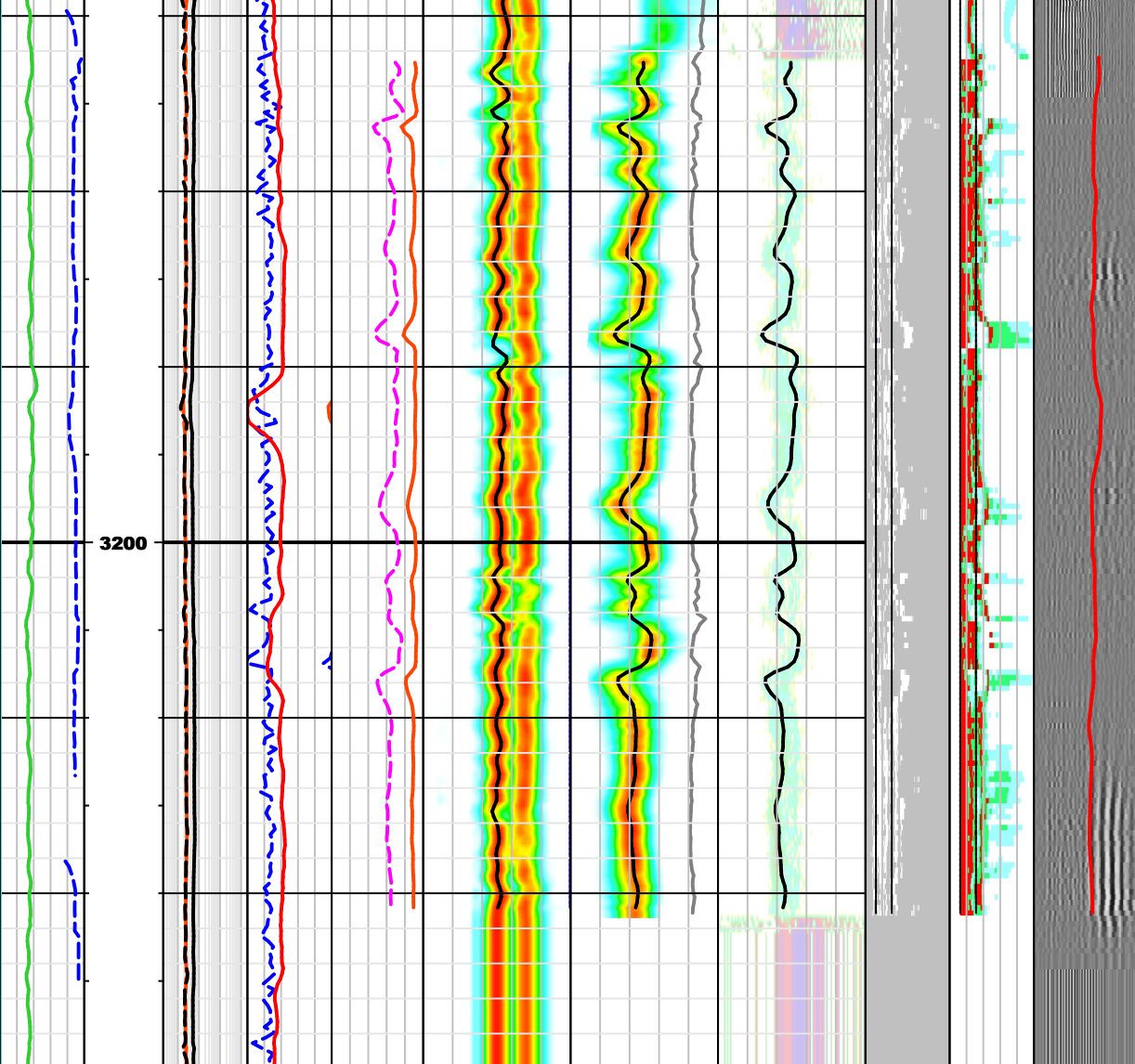


Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 3164.59 m



Dispersion analysis plot: HSM-15A\_B.SonicScope  
Current depth = 3179.57 m





DEV1 0 deg 10		P22H 0.2 ohm.m 2000		ST Projection_SCOPE		0.00 0.22 0.37 0.53 0.68 1.01		ST Projection_SCOPE		0.00 0.22 0.37 0.53 0.68 1.01		PERSONANCE SPE		VD	
ROP5 200 mh 0		P34H 0.2 ohm.m 2000		SPR MH R		40 us/ft 240		COHPR QPINV		60 us/ft 960		SP_QCI_QPISPEC_QPII		-104.28	
GRMA 0 gAPI 200		A34H 0.2 ohm.m 2000		RHON		40 us/ft 240		CHSH QPINV		60 us/ft 960		QMAX_QPINQMAX_QPIISWF_QPINV - R		0 us 8000	
MD (m) 1:200		A40H 0.2 ohm.m 2000		TNPH		DTCO MH R		DTSH QPINV		60 us/ft 960		RQMIN_QPINRQMIN_QPIN		TISH	
				PR		5 unitless 0		DTSH QPINV		60 us/ft 960		0 Hz 8000 0 Hz 8000		0 us 8000	
				VPVS		0 unitless 5		DTSH QPINV		60 us/ft 960		0 Hz 8000 0 Hz 8000		0 us 8000	

Company: IODP  
 Well: HSM-15A\_B  
 Field: Joides Resolution  
 Country: New Zealand

**Schlumberger**

Date Logged: 23-Dec-2017 Date Processed: 28-Dec-2017  
 Well Location: Longitude: 178° 53' 45.618" E Latitude: 38° 51' 32.202" S

Elevations: DF: 11m GL: -2637m

DispersionAnalysis 100