

HALLIBURTON

CEMENT BOND
LOG

FIELD COPY

Company	URSA OPERATING CO., LLC.		
Well	TOMPKINS 41C-08-07-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
Company URSA OPERATING CO., LLC. Well TOMPKINS 41C-08-07-95 Field PARACHUTE County GARFIELD State CO			
API No.:	05 045 22481 0000	Serv #:	903425844
Location:	LAT: 39.460024 LONG: -108.013914		
SHL: 223 FSL, 571 FEL BHL: 770 FNL, 660 FEL			RMtI
Sec: 11 Twp: 6S Rge: 92W			

Permanent Datum	GL	Elevation	5532	Elevation	
Log Measured From	KB	17 Ft. above perm. datum		K.B. 5549 D.F. 5548 G.L. 5532	
Drilling Measured From	KB				
Date @ Time Logged	16-JUL-16 @0900	Type Fluid in Hole	FRESH WATER		
Run No.	ONE	Density of Fluid	8.33		
Depth - Driller	7085	Fluid Level	SURFACE		
Depth - Logger	6830	Cement Top Est. Logged	3252		
Bottom - Logged Interval	6830	Equipment / Location	RS06 / SULLIVAN		US RK
Top - Log Interval	1625	Recorded by	RICHARD		
Max. Recorded Temp.	215	Witnessed by			
CEMENTING DATA	Surface String	Protection String	Production String	Liner	
Date / Time Cemented					
Primary / Squeeze					
Expected Compressive Strength	psi@ hrs	psi@ hrs	psi@ hrs	psi@ hrs	
Cement Volume					
Cement Type / Weight	/	/	/	/	
Formulation					
Mud Type / Mud Wgt.	/	/	/	/	
Borehole Record					
Run Number	Bit	From	To	Size	Weight
	24			16	60
	12.25			8.625	1724.9
	7.875			4.5	7100.8

<<< Fold Here >>>

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

LOG INTERVAL PER CUSTOMER REQUEST

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES

Log Variables

DatabaseC:\ProgramData\Warrior\Data\tompkins_41c.db
Dataset field/well/run1/main1/_vars_

Top - Bottom

BHTEMP_Src	BHSAL2	BHSAL1	POROS2	POROS1	LTH	UHSGC	RHO CF
TEMP	0	1	0	1	Sandstone	NONE	0.25
SO in 0	BORSAL kppm 150	CASED? Yes	MSGGN 1	USERFTT usec/ft 0	ZREF MRayl 1.7	CASEWGHT lb/ft 11.6	SRFTEMP degF 0
MudWgt lb/gal	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BITSIZE in	

8.34	0.5	4.5	0	7085	200	7.875
------	-----	-----	---	------	-----	-------

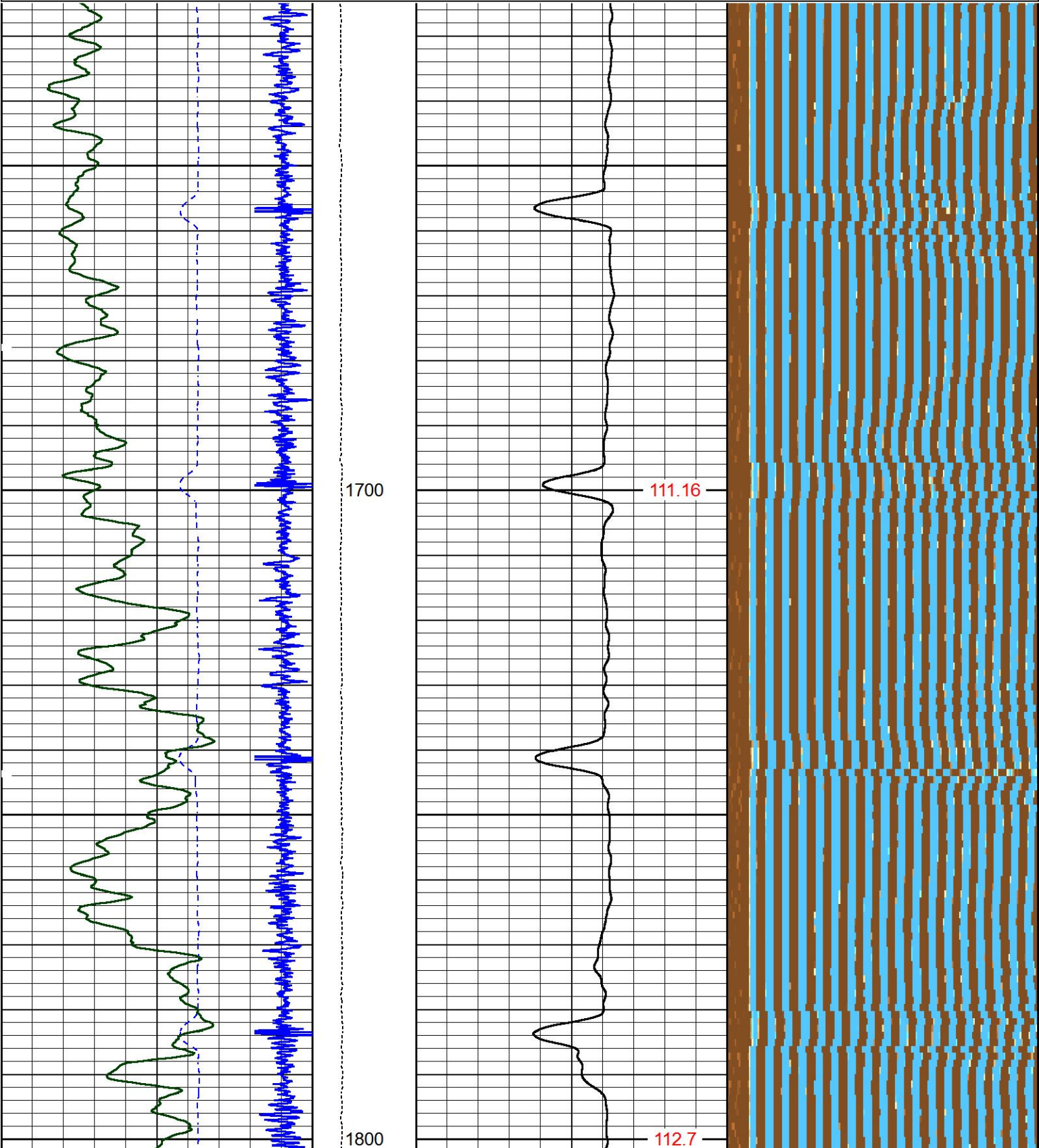
MAIN LOG

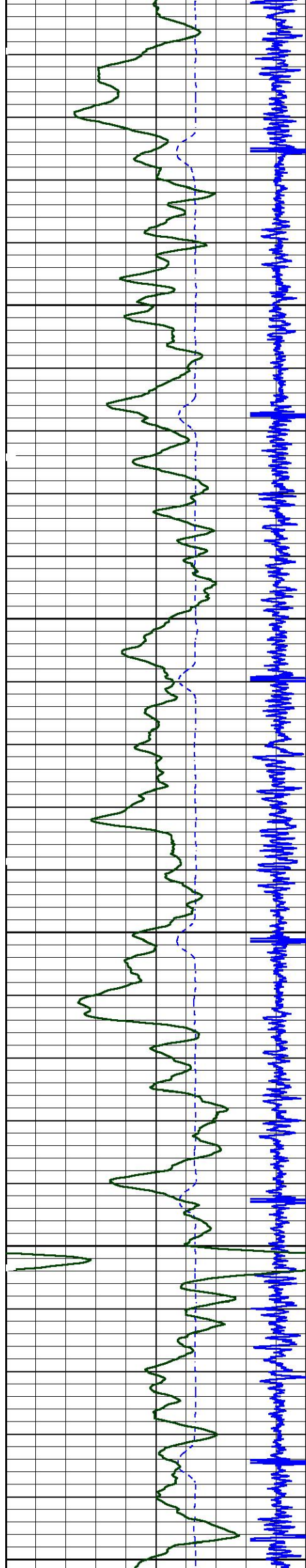
HALLIBURTON

5"=100'

Database File	tompkins_41c.db
Dataset Pathname	main1
Presentation Format	1_ss_cblm
Dataset Creation	Sat Jul 16 09:18:44 2016
Charted by	Depth in Feet scaled 1:240

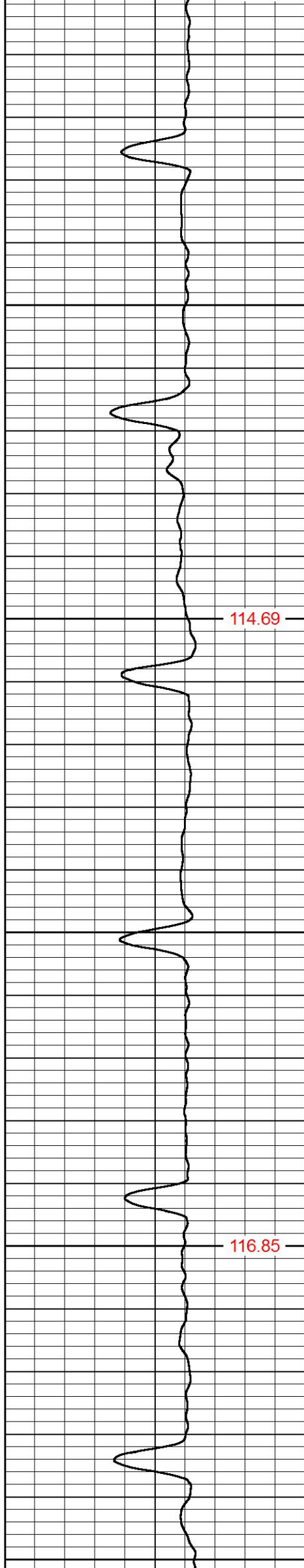
310	3' Travel Time (usec)	210	LTEN	0	3' Amplitude (mV)	100	200	MSG	1060
-1000	CCL	100	0 (lb.1500	0	3' Amplitude X5 (mV)	10	20		150
0	Gamma Ray (GAPI)	150							
					CblITemp (degF)				





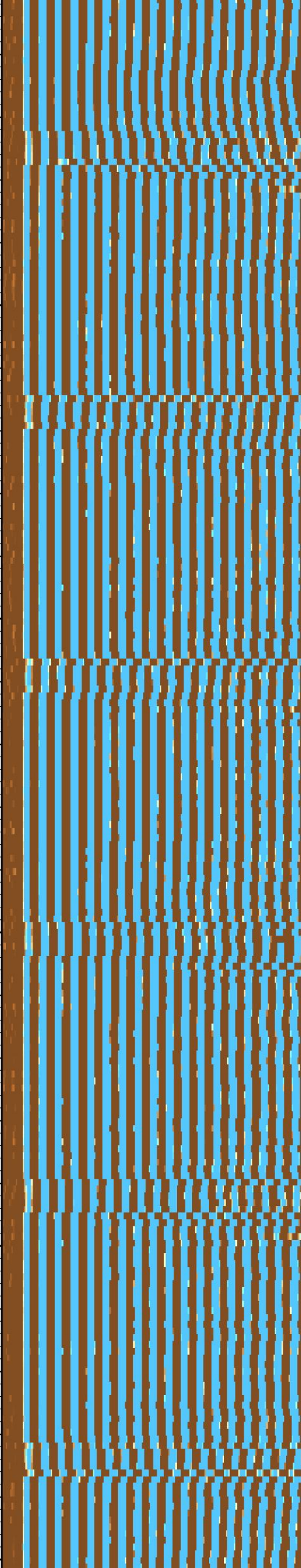
1900

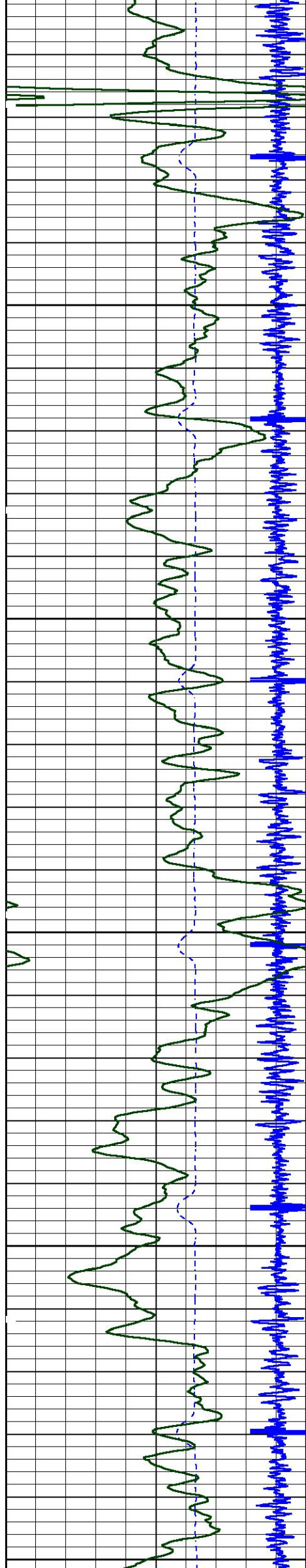
2000



114.69

116.85

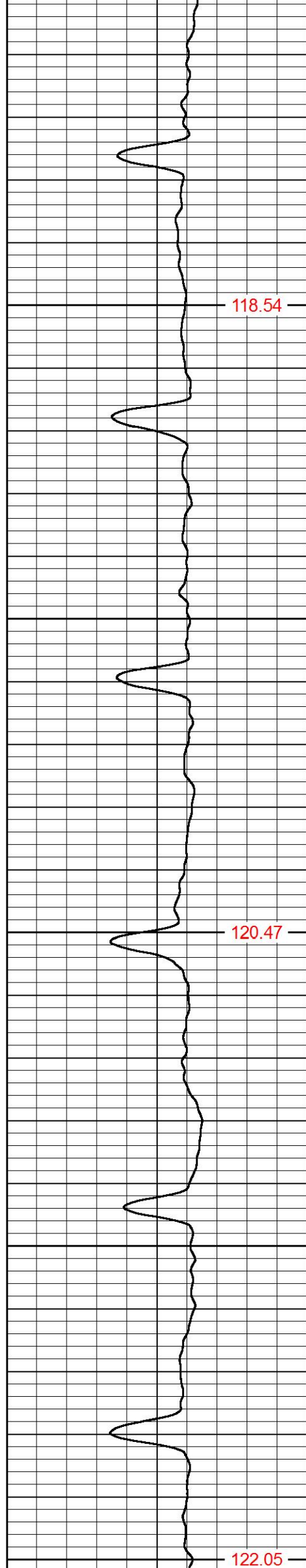




2100

2200

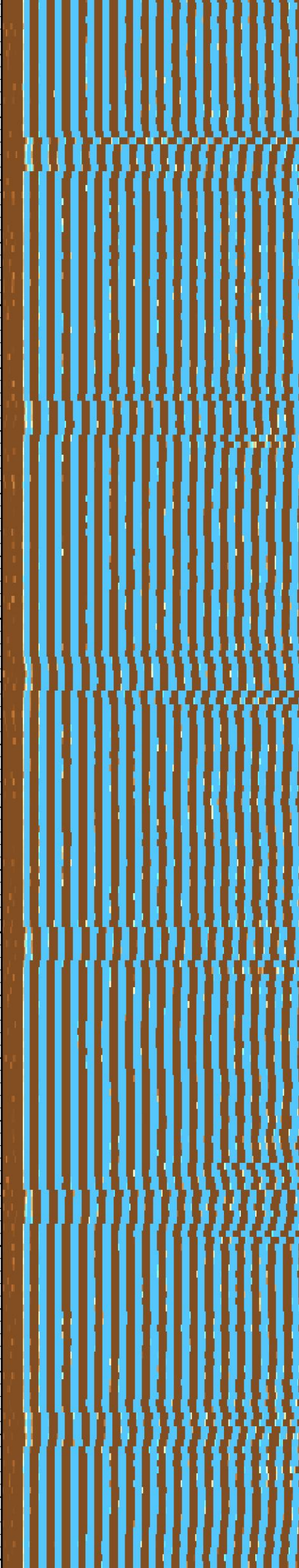
2300

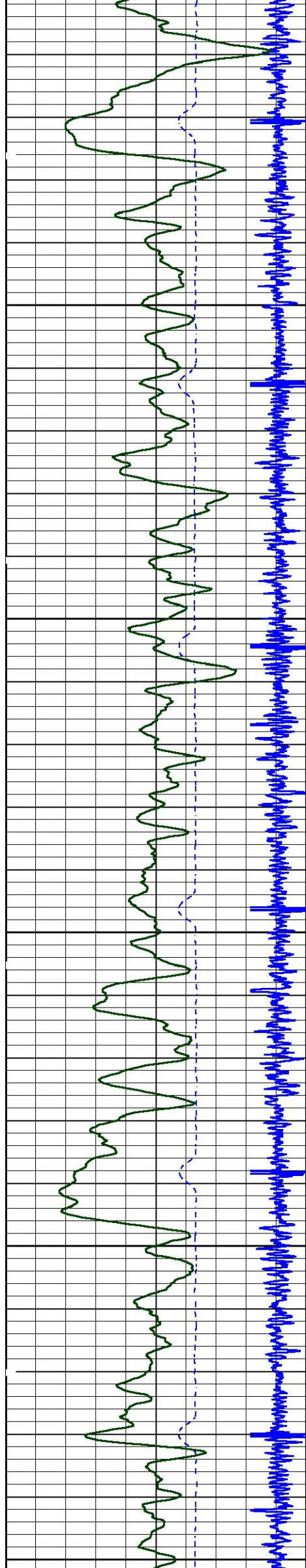


118.54

120.47

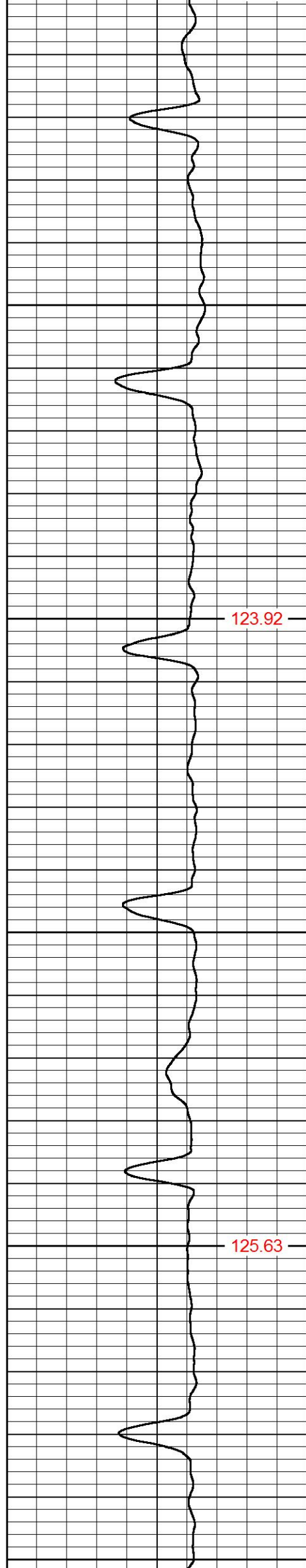
122.05





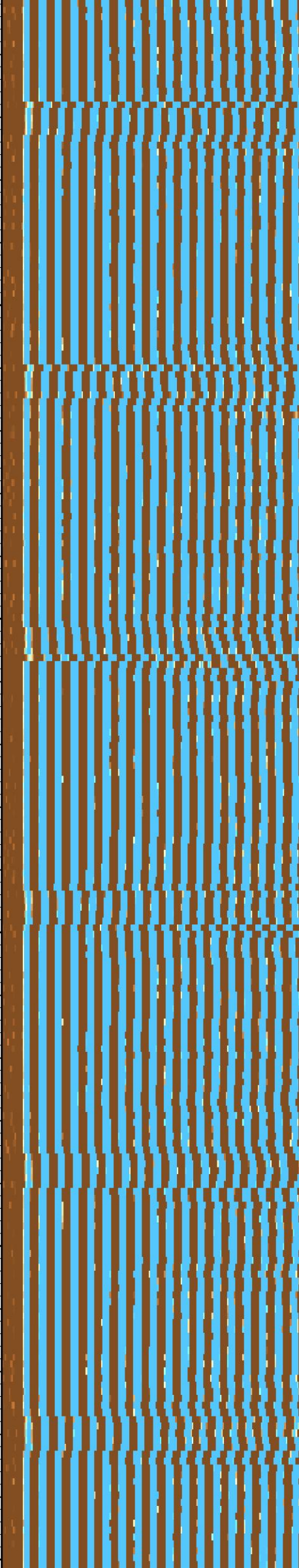
2400

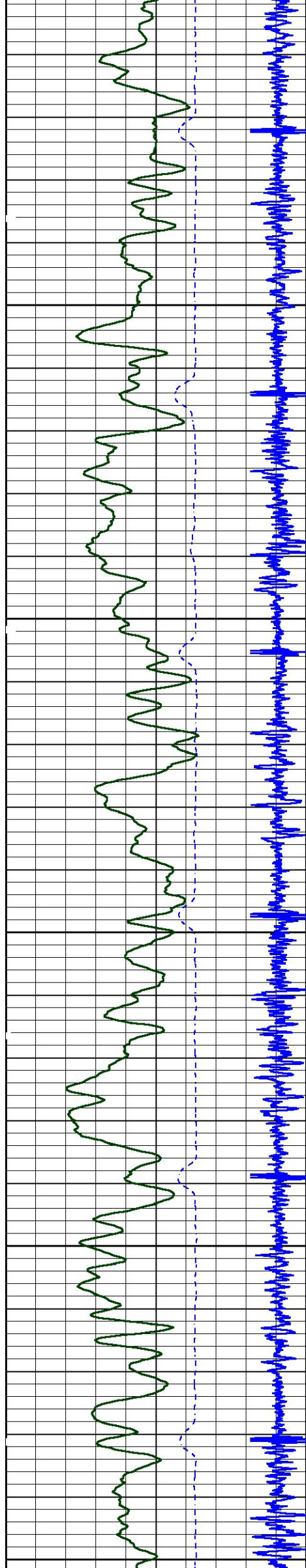
2500



123.92

125.63

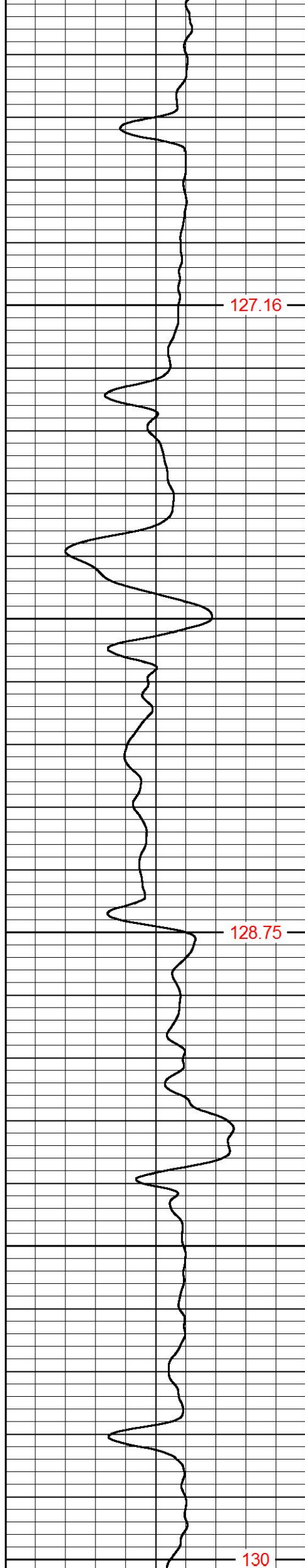




2600

2700

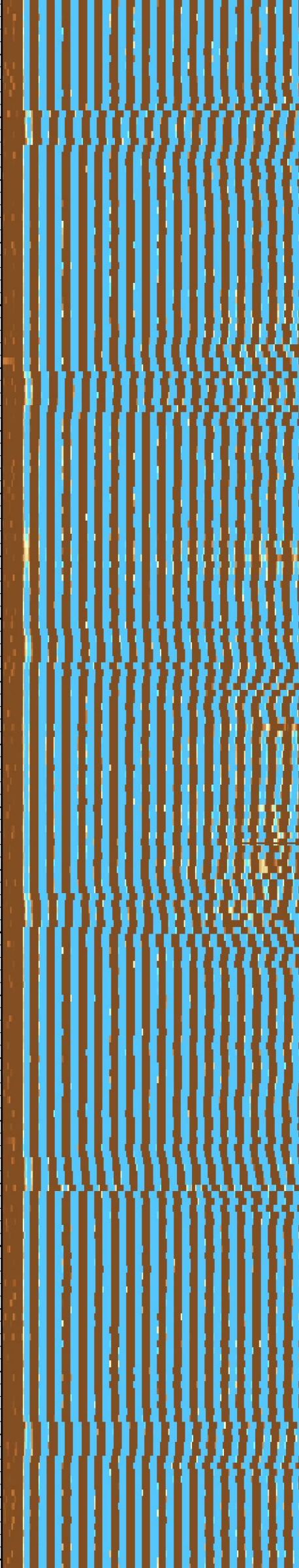
2800

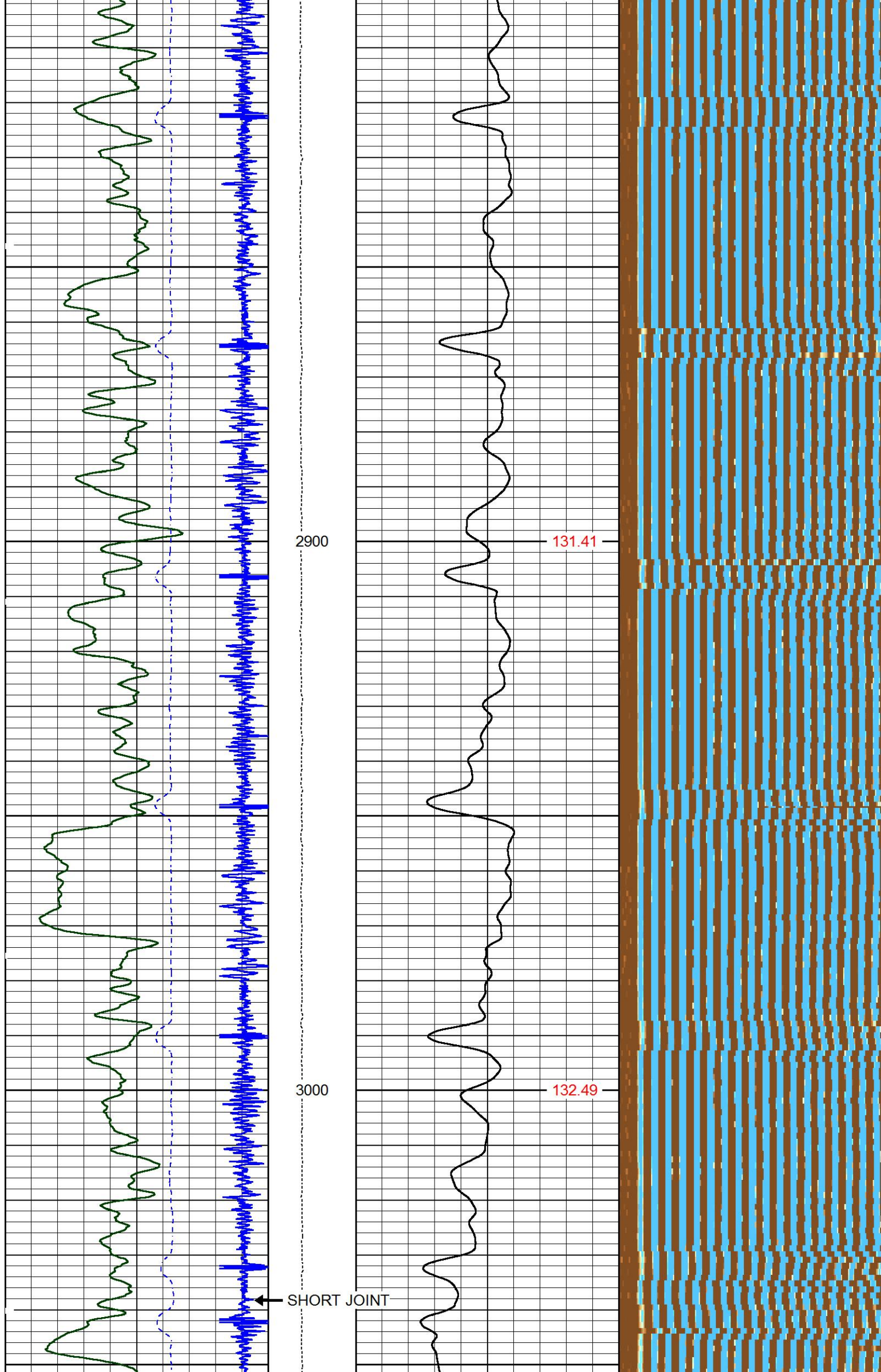


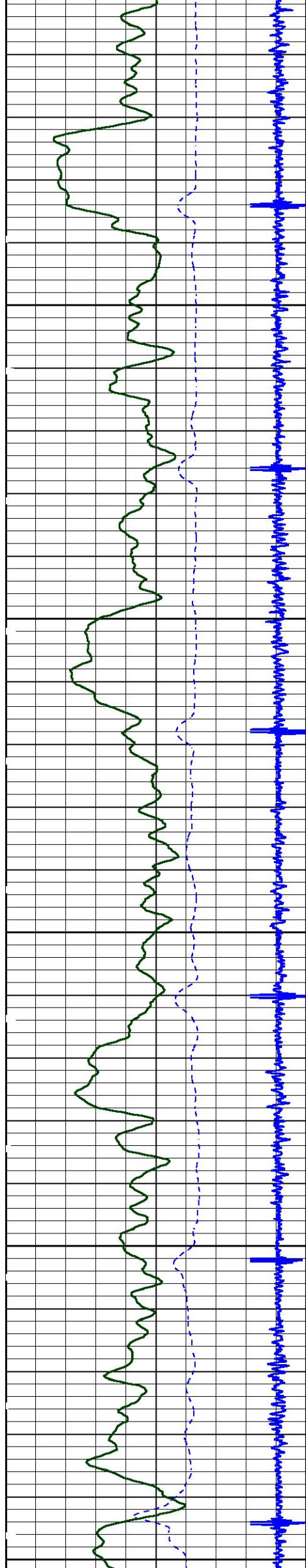
127.16

128.75

130



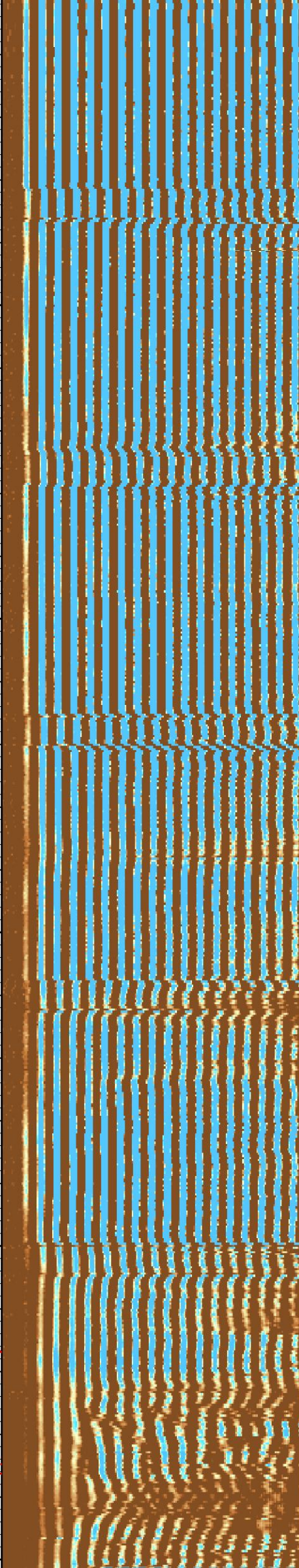
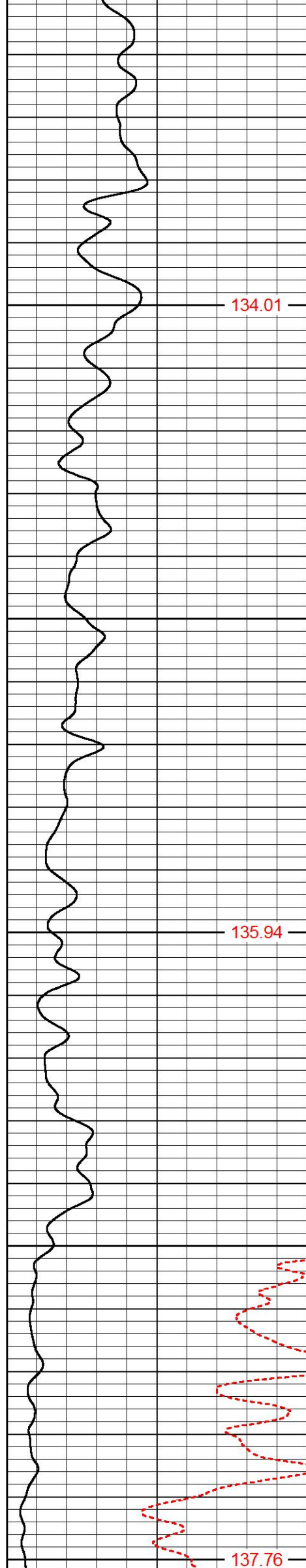


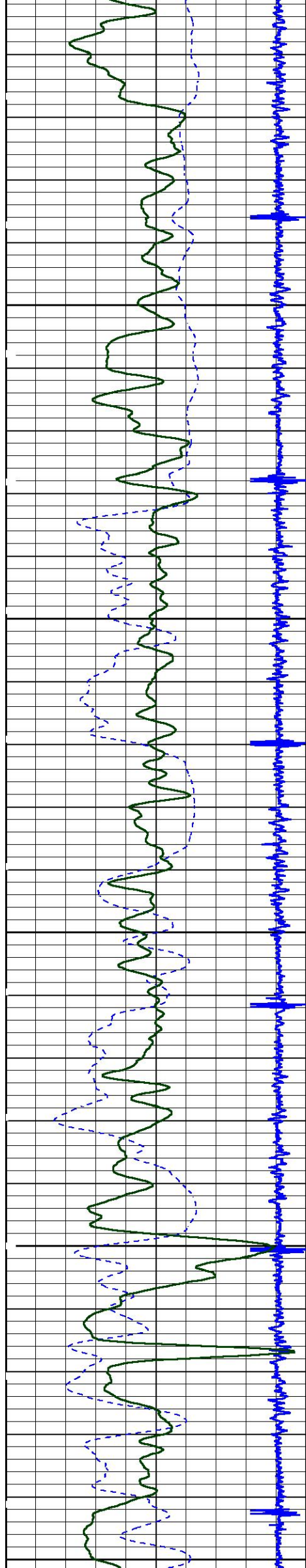


3100

3200

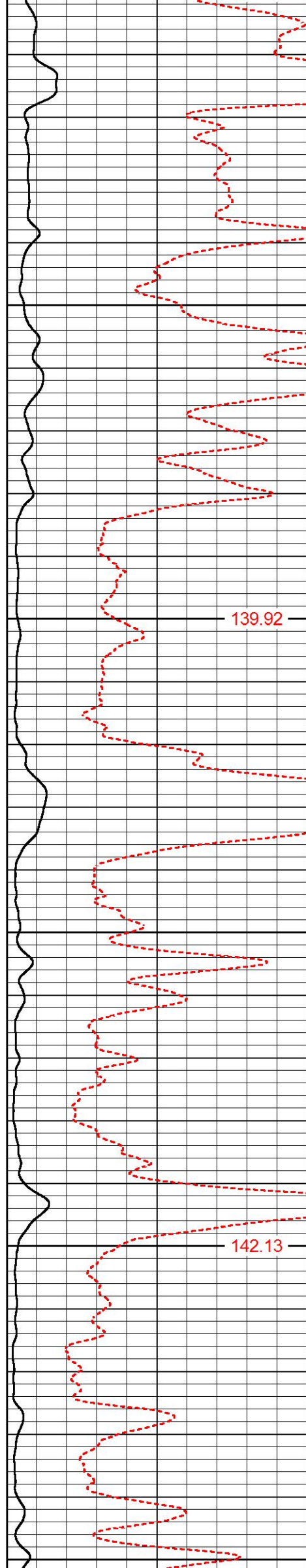
3300





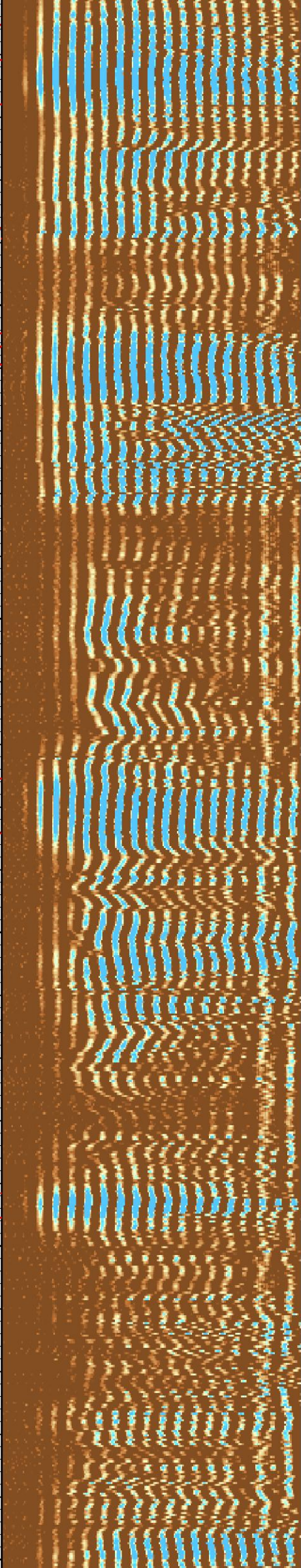
3400

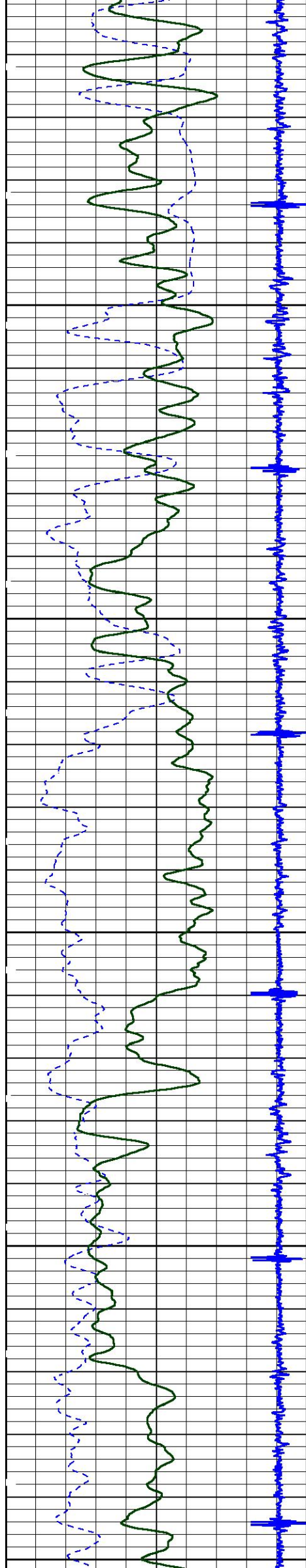
3500



139.92

142.13

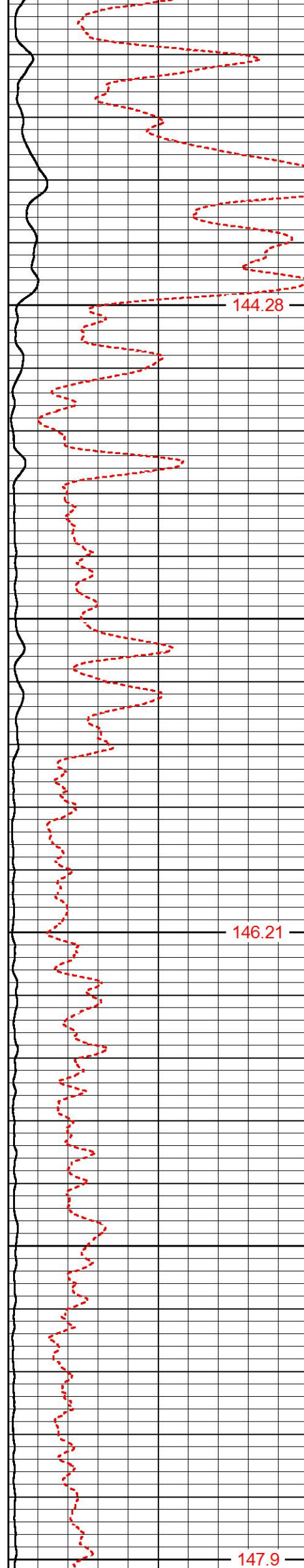




3600

3700

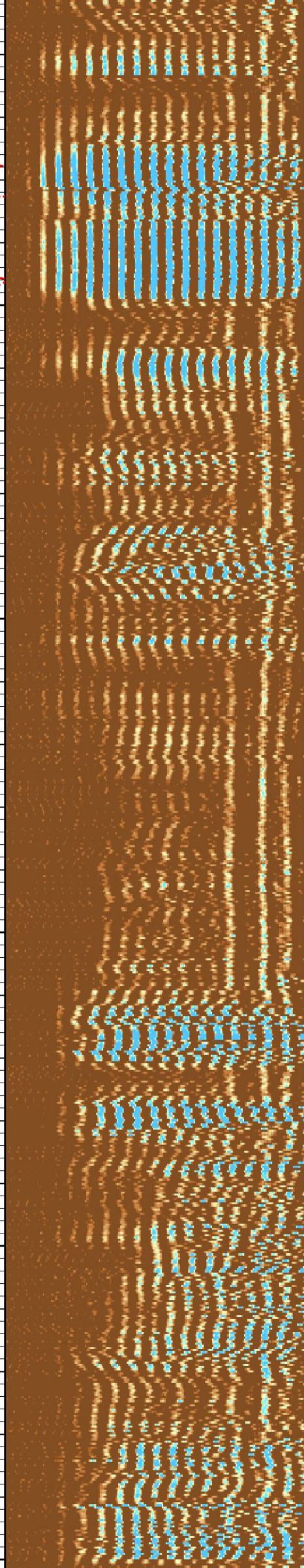
3800

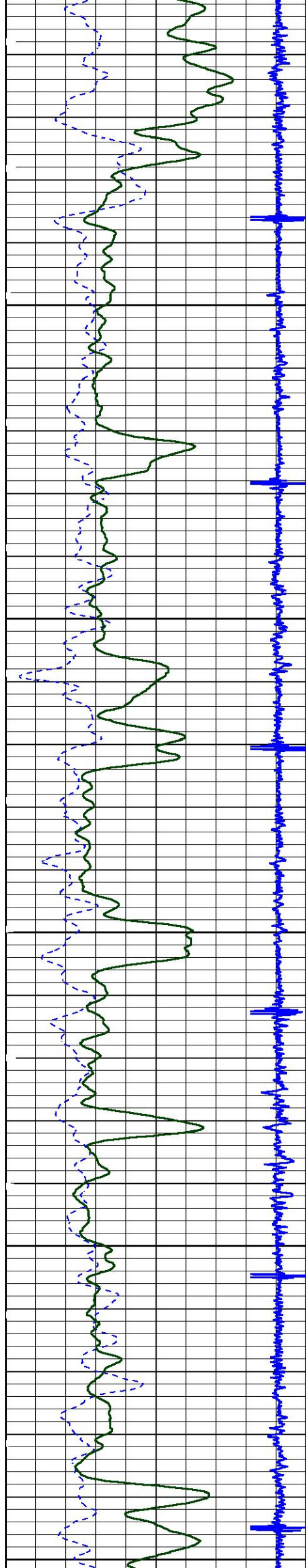


144.28

146.21

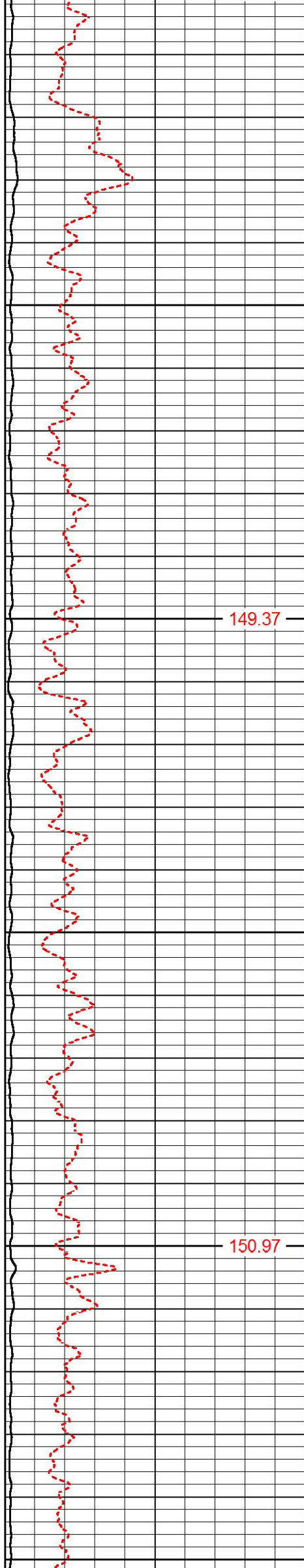
147.9





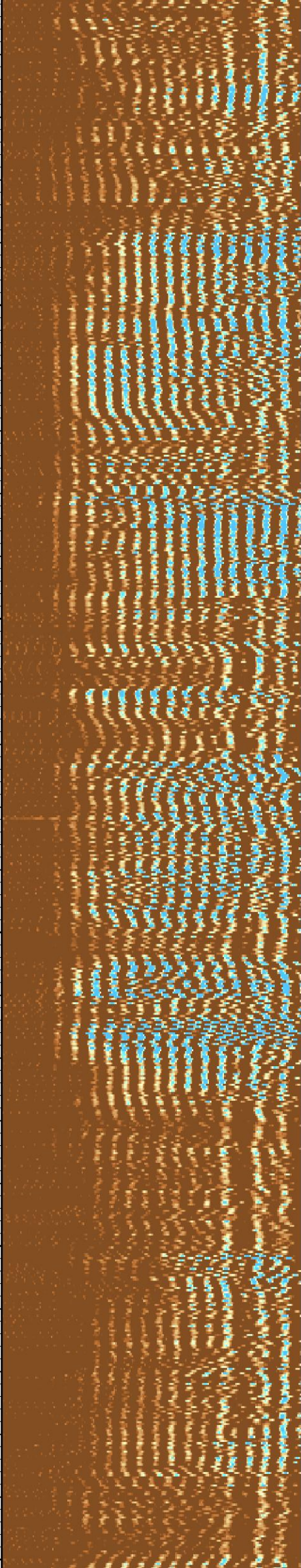
3900

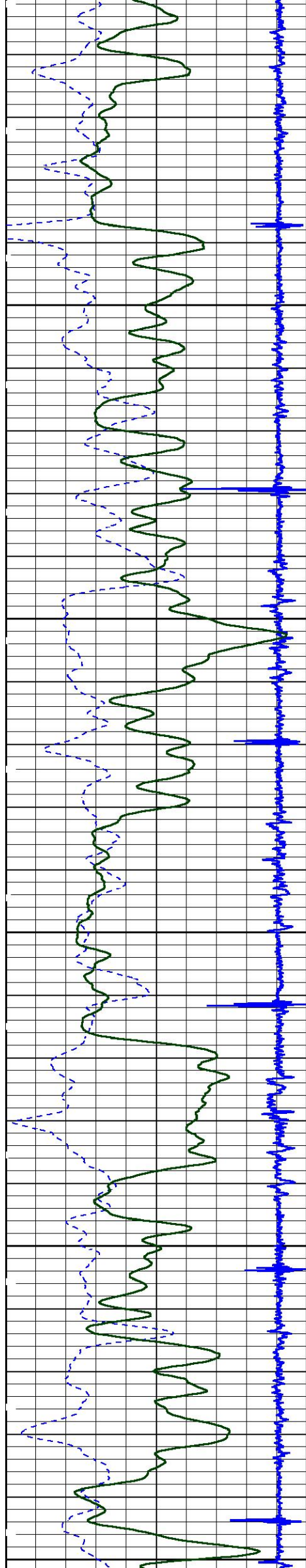
4000



149.37

150.97

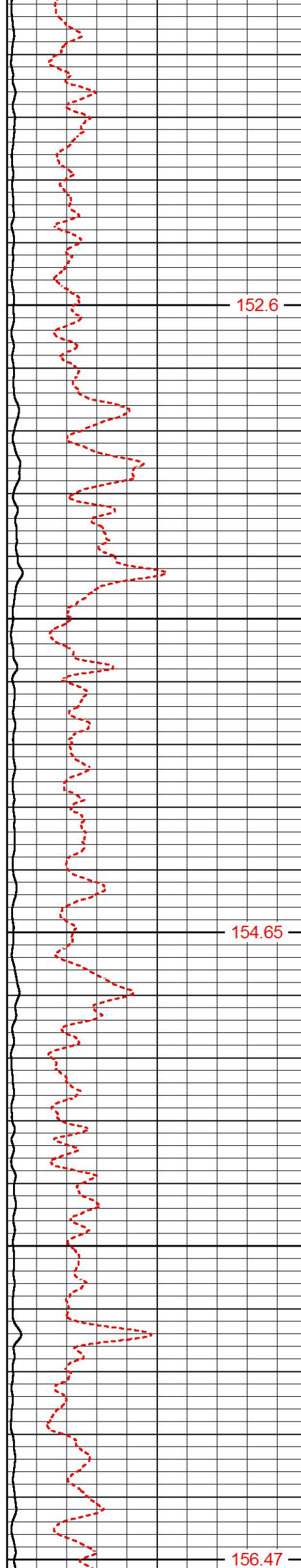




4100

4200

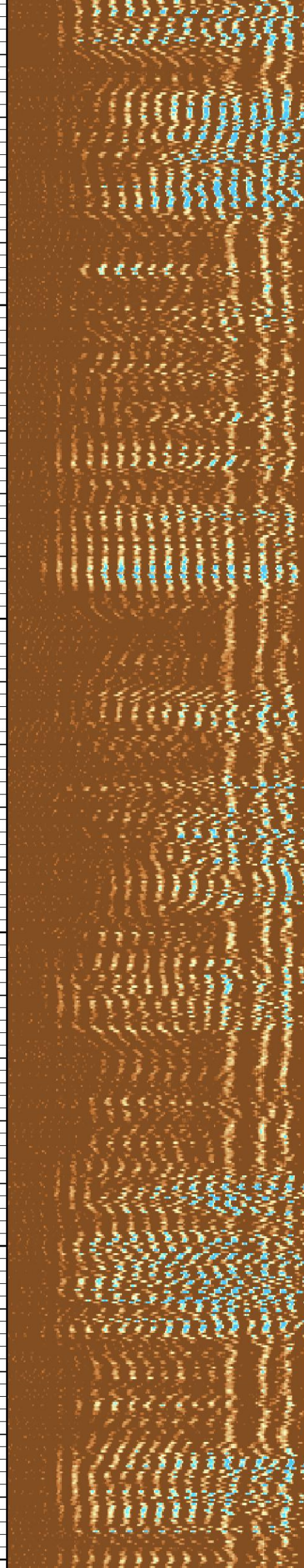
4300

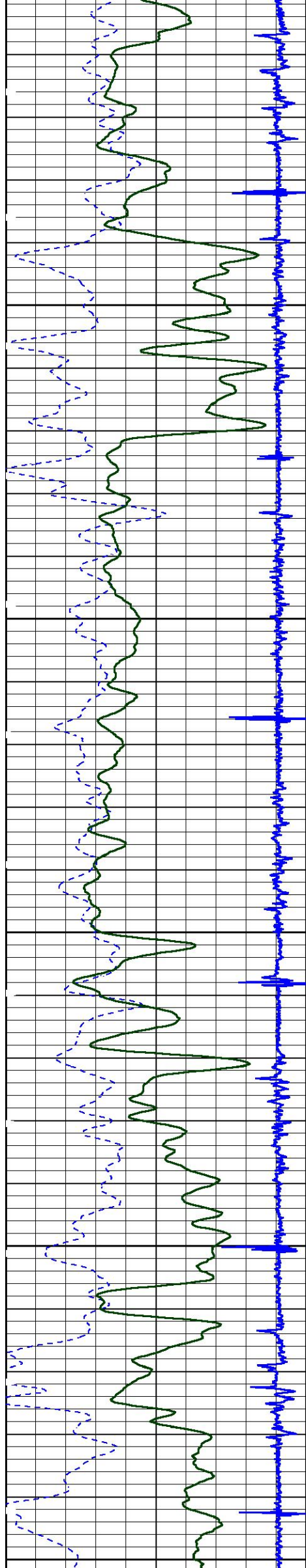


152.6

154.65

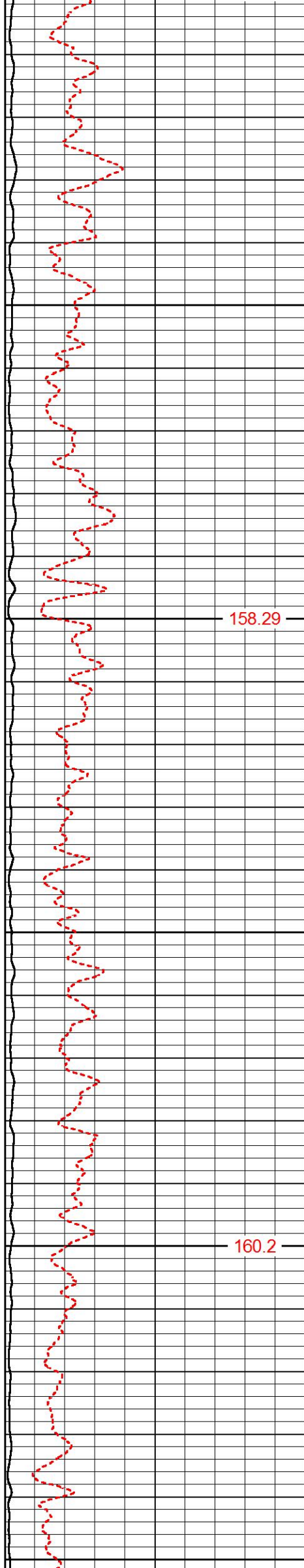
156.47





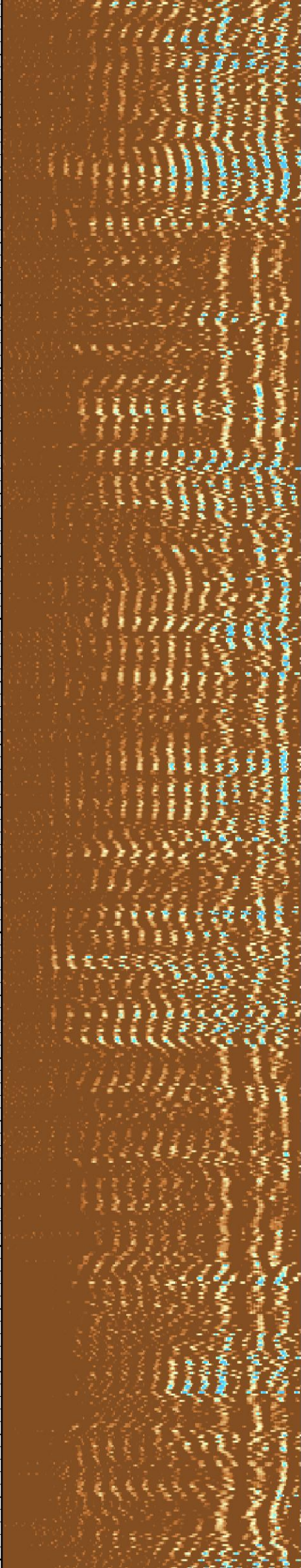
4400

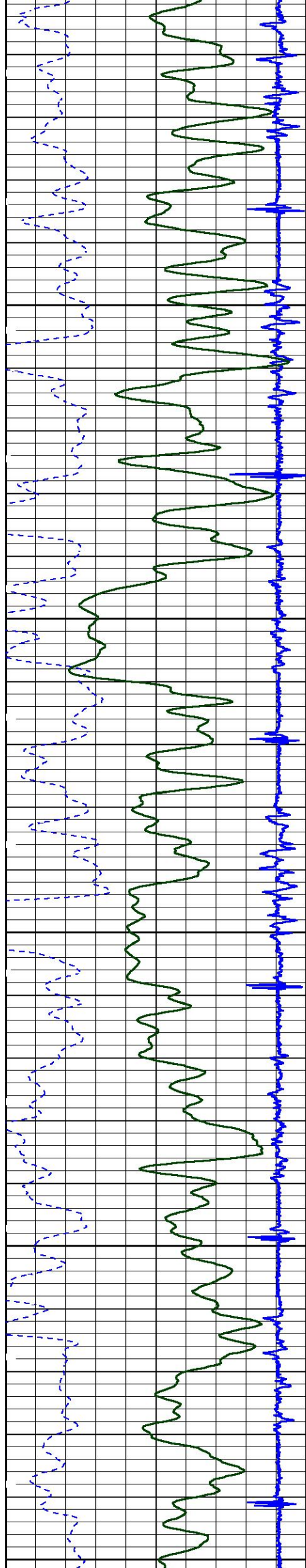
4500



158.29

160.2

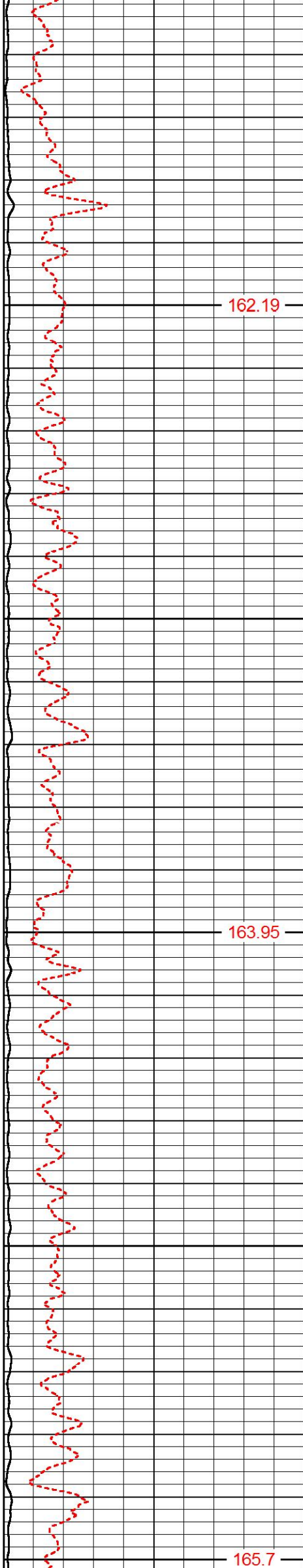




4600

4700

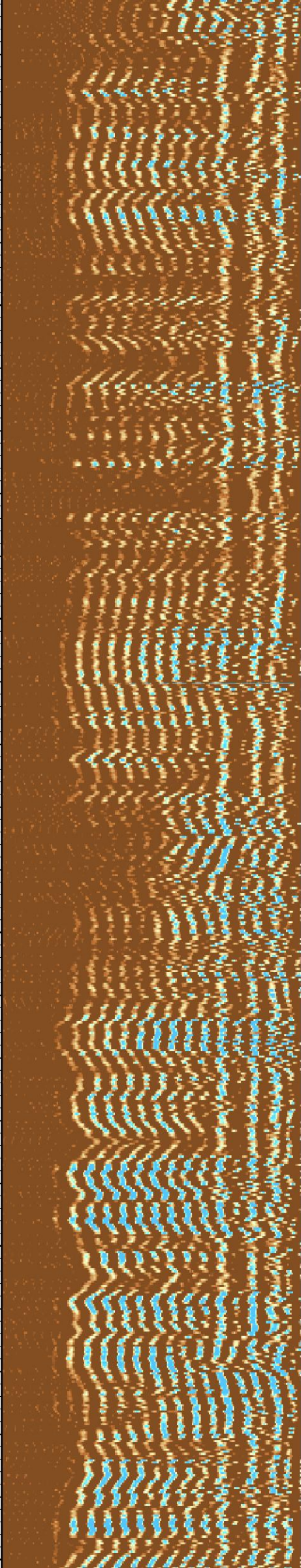
4800

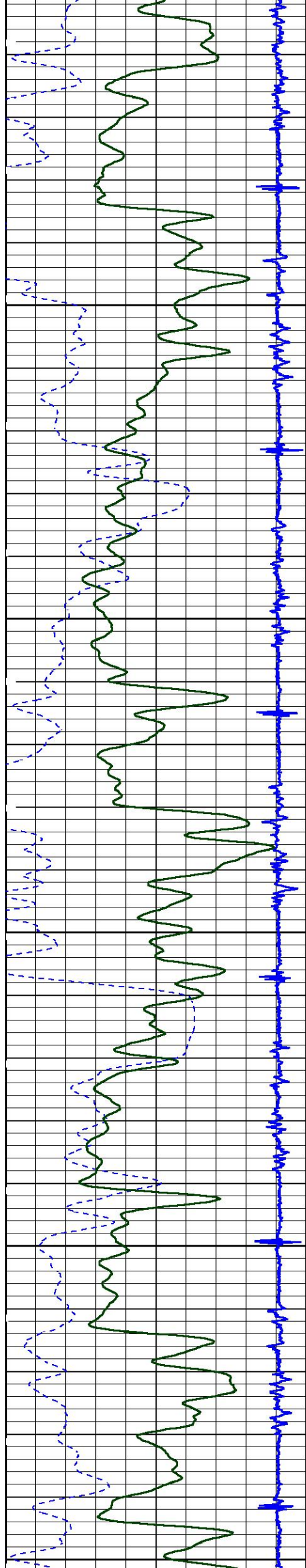


162.19

163.95

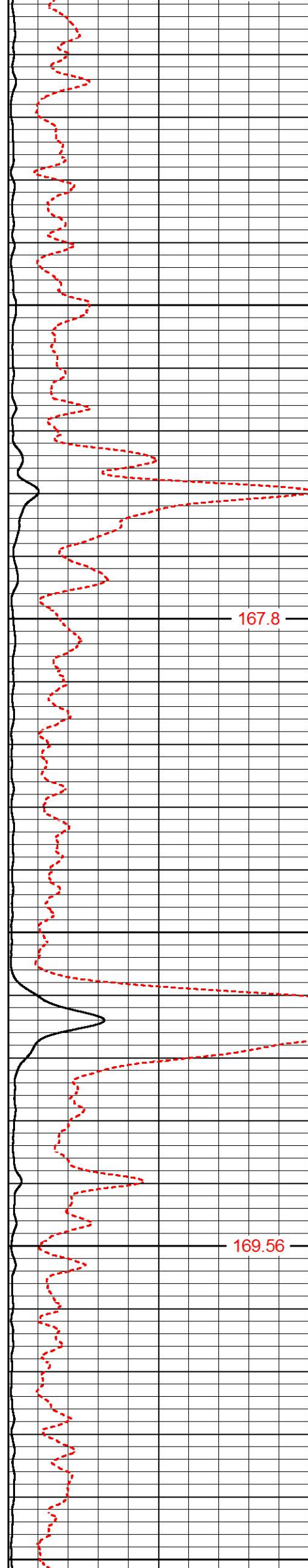
165.7





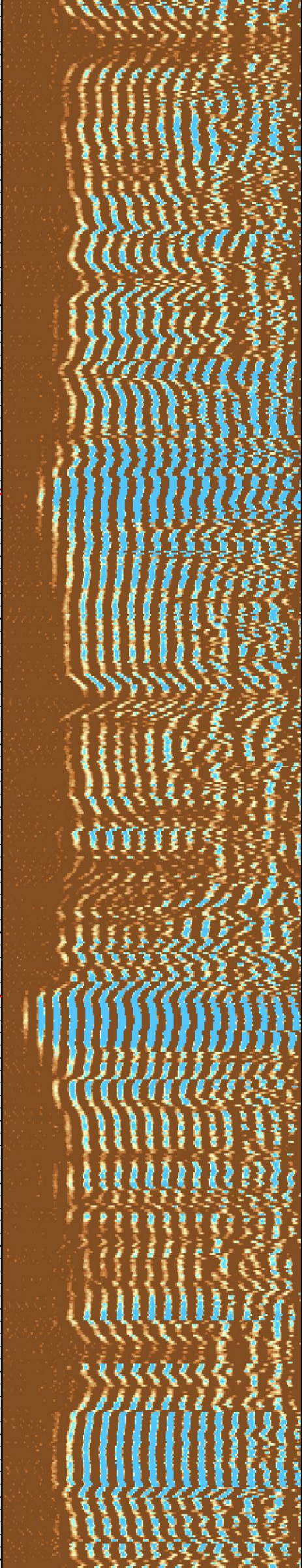
4900

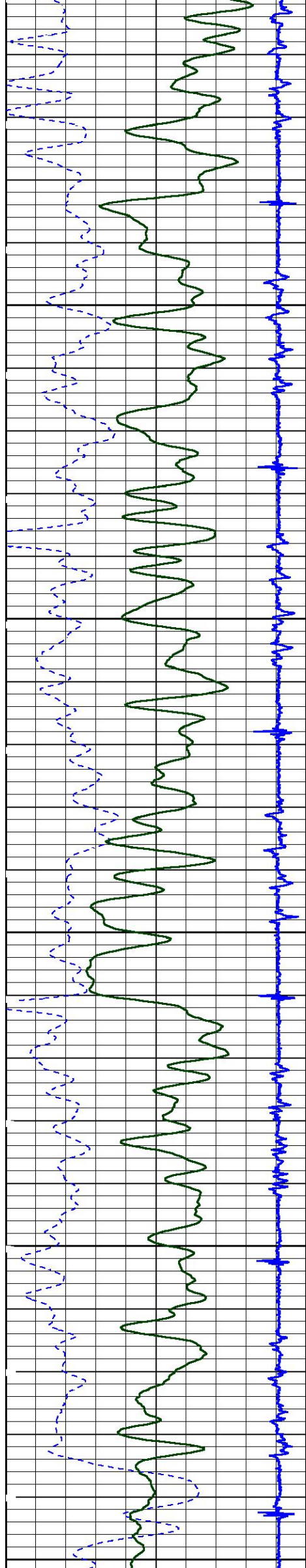
5000



167.8

169.56

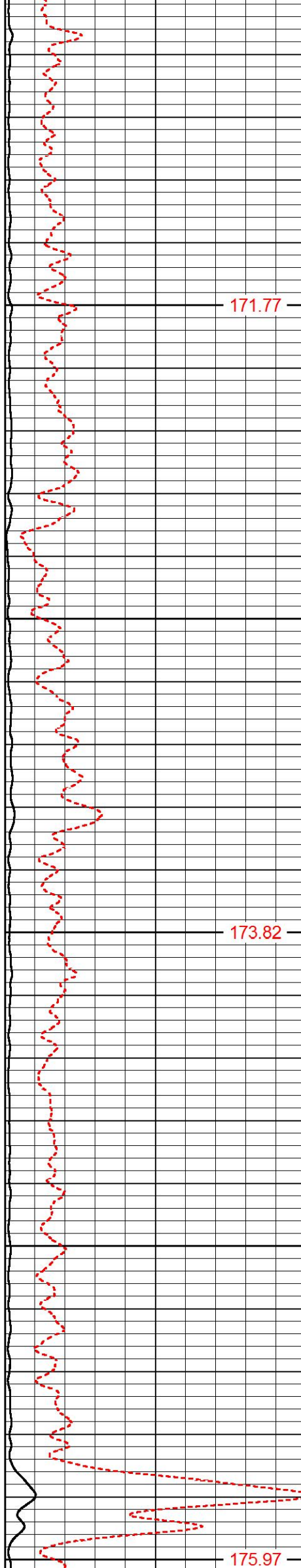




5100

5200

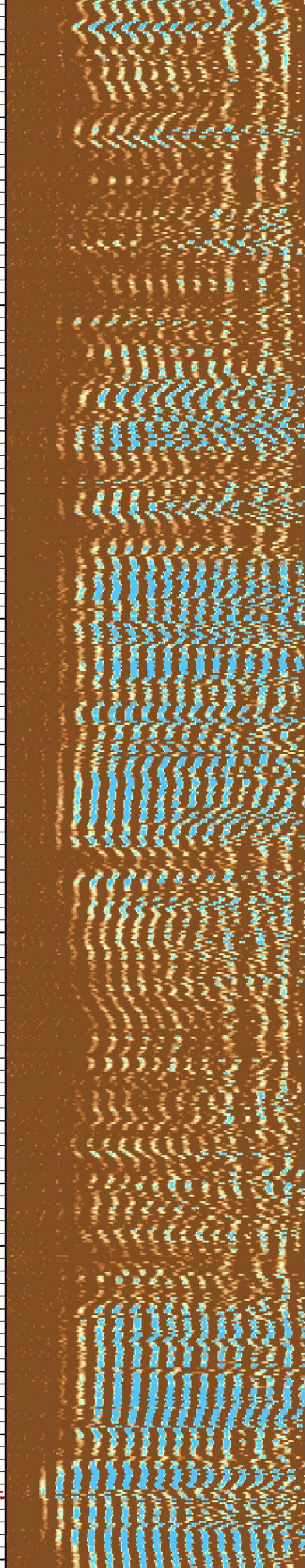
5300

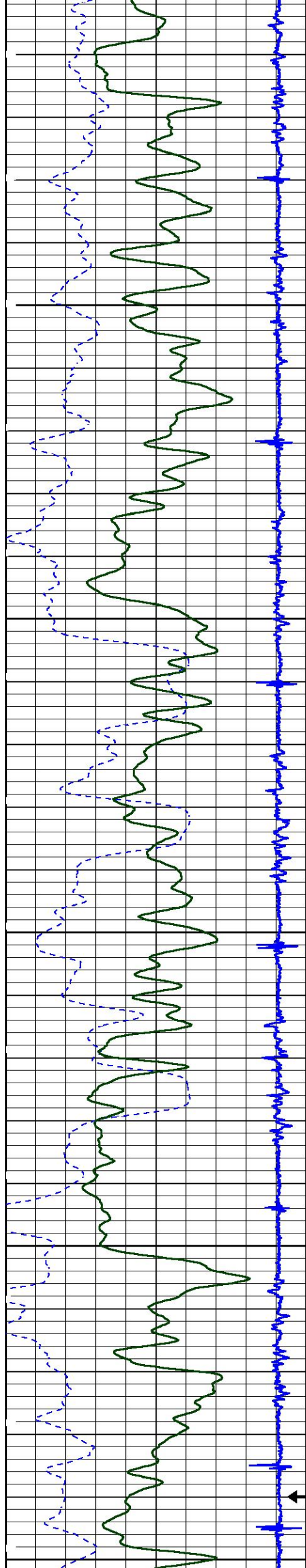


171.77

173.82

175.97

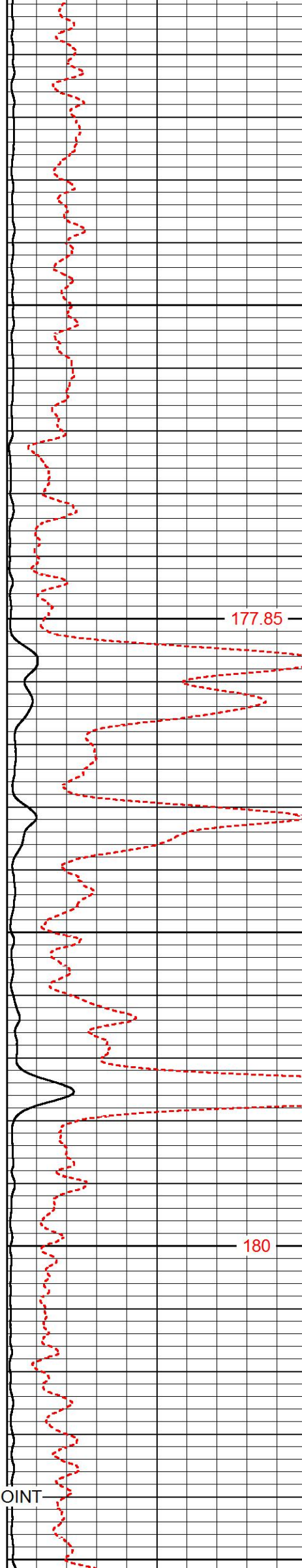




5400

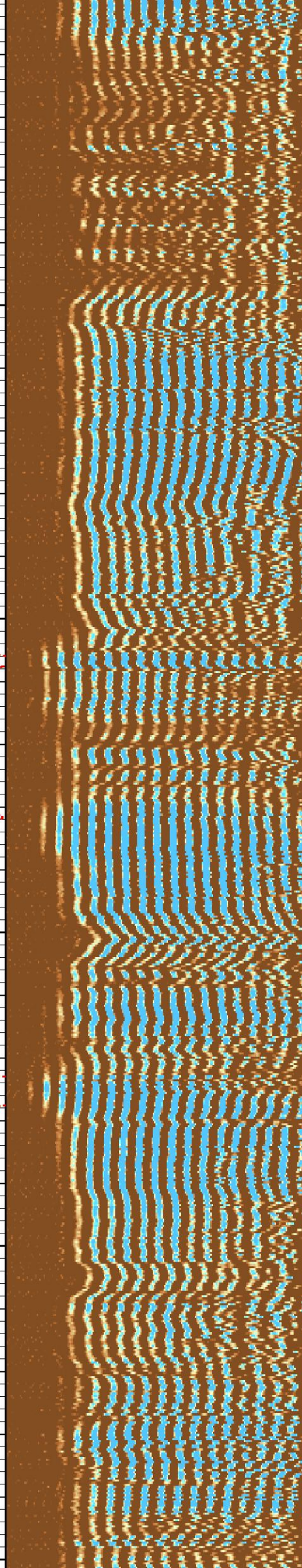
5500

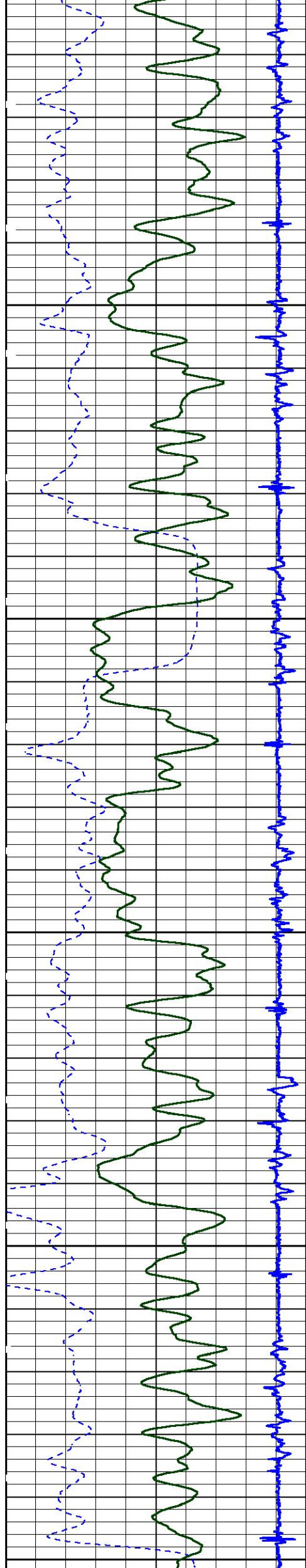
← SHORT JOINT



177.85

180





5600

5700

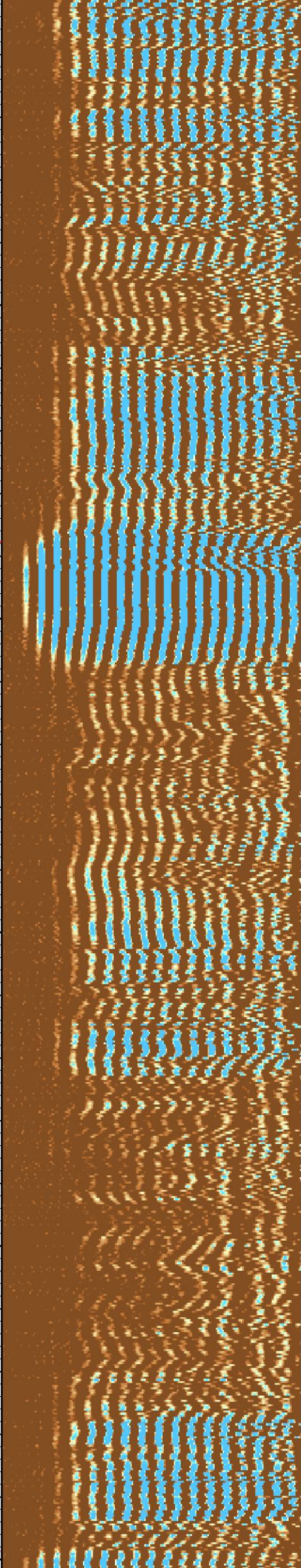
5800

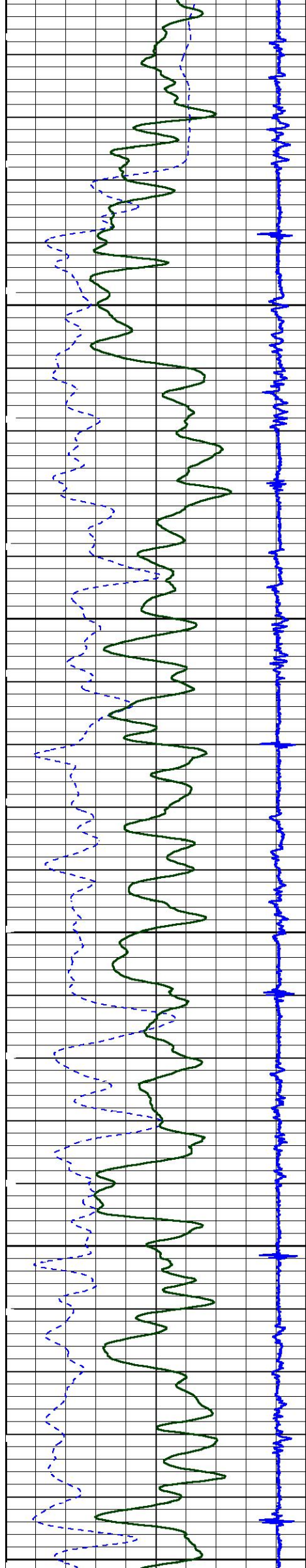


182.16

184.48

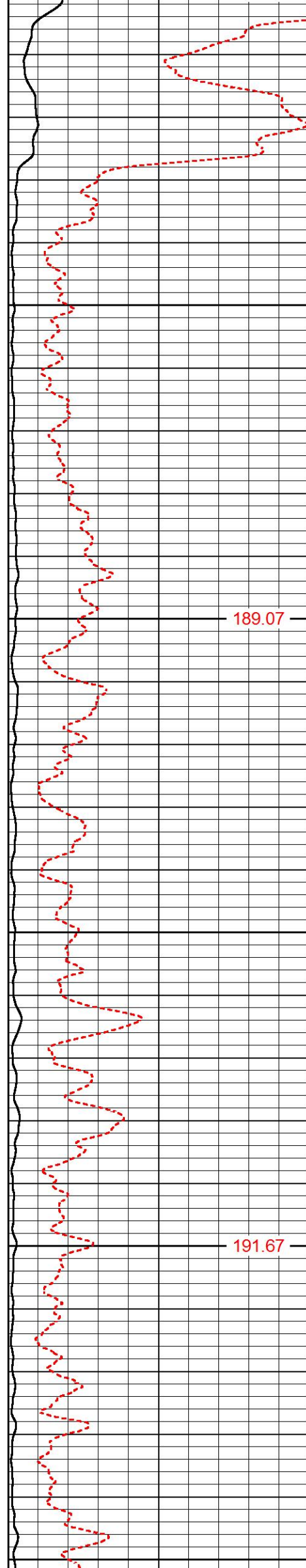
186.52





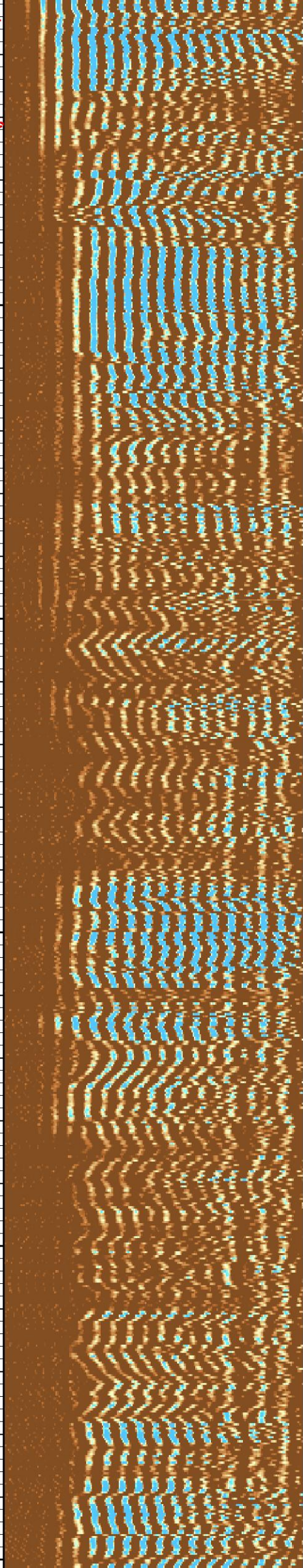
5900

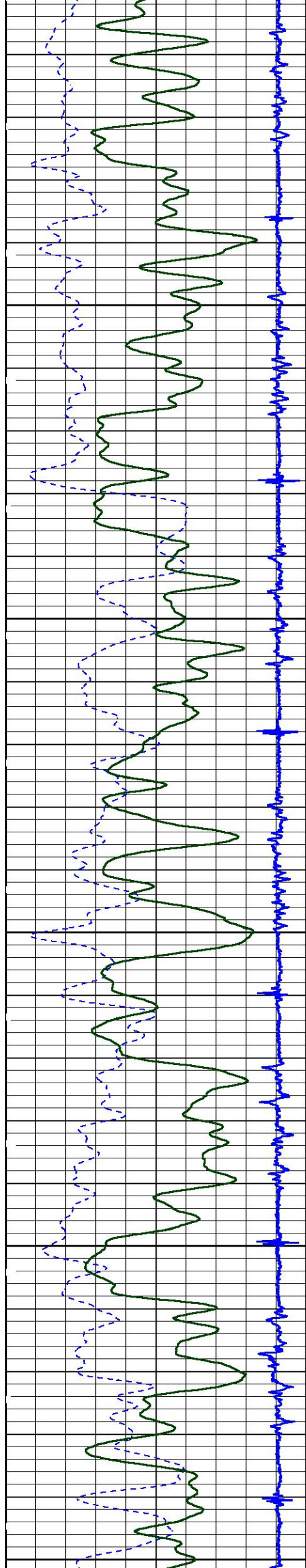
6000



189.07

191.67

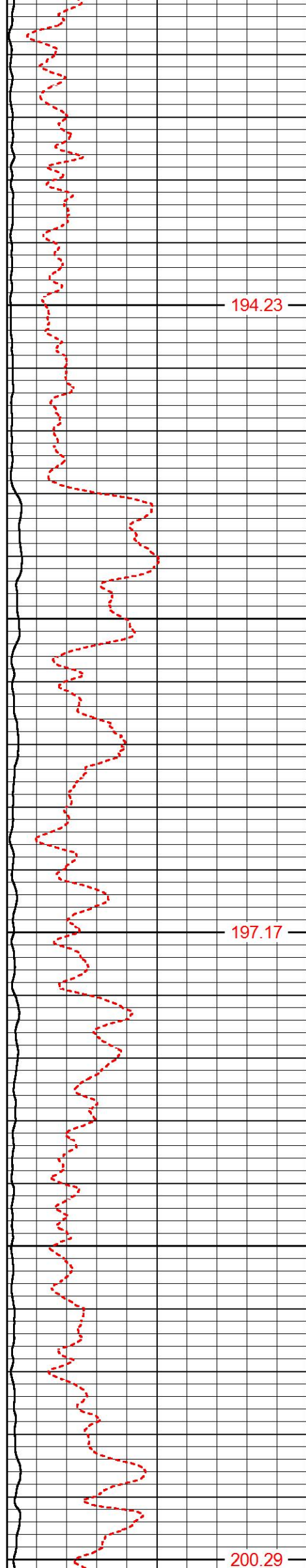




6100

6200

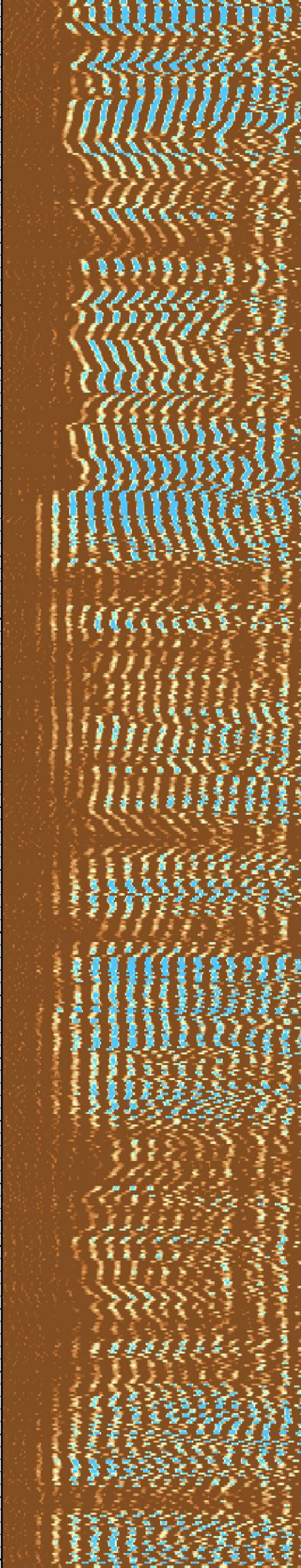
6300

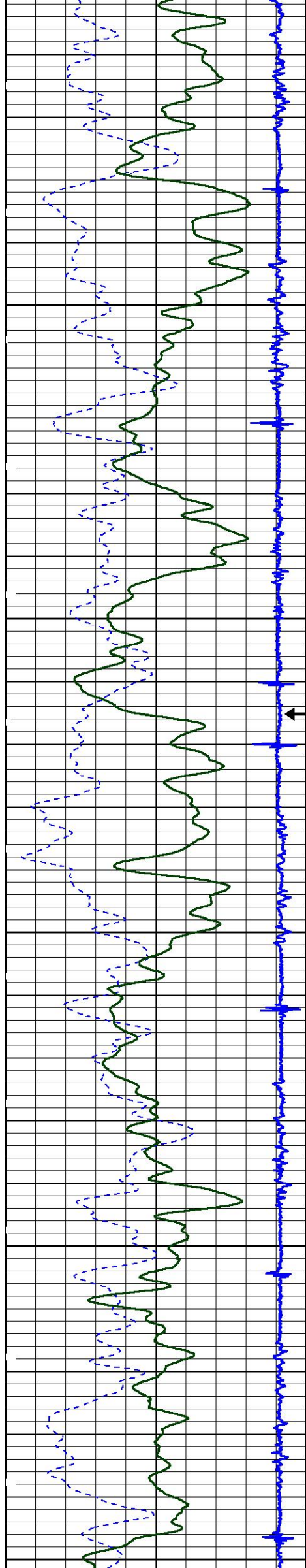


194.23

197.17

200.29

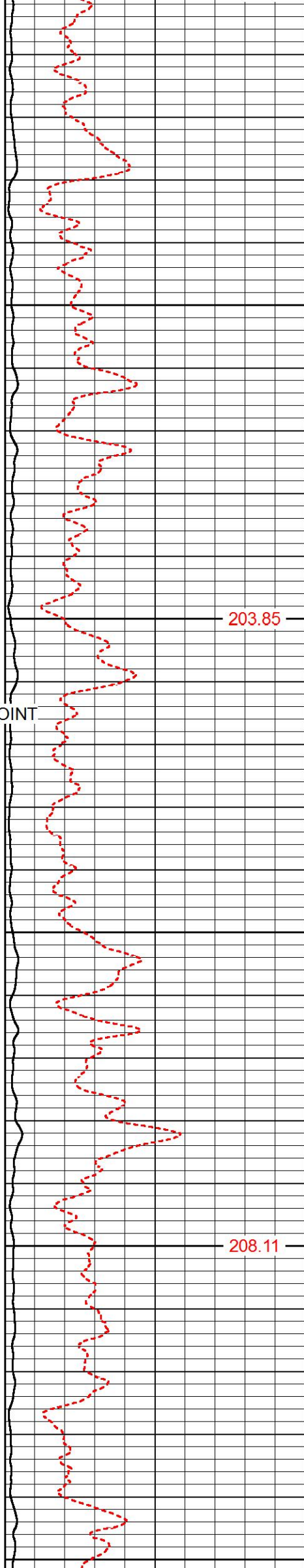




6400

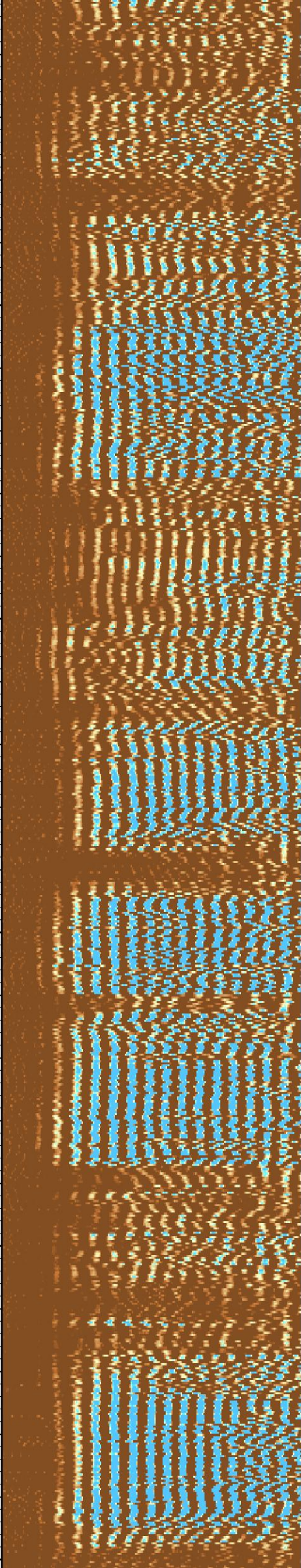
← SHORT JOINT

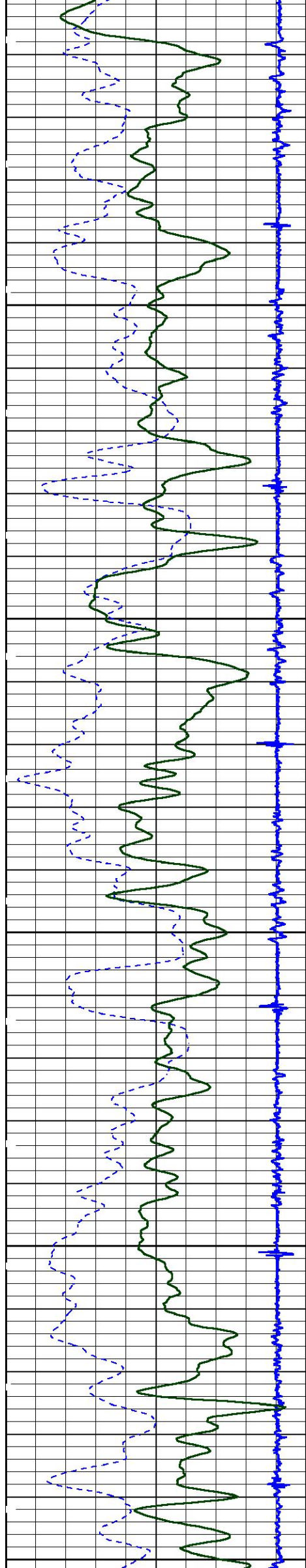
6500



203.85

208.11

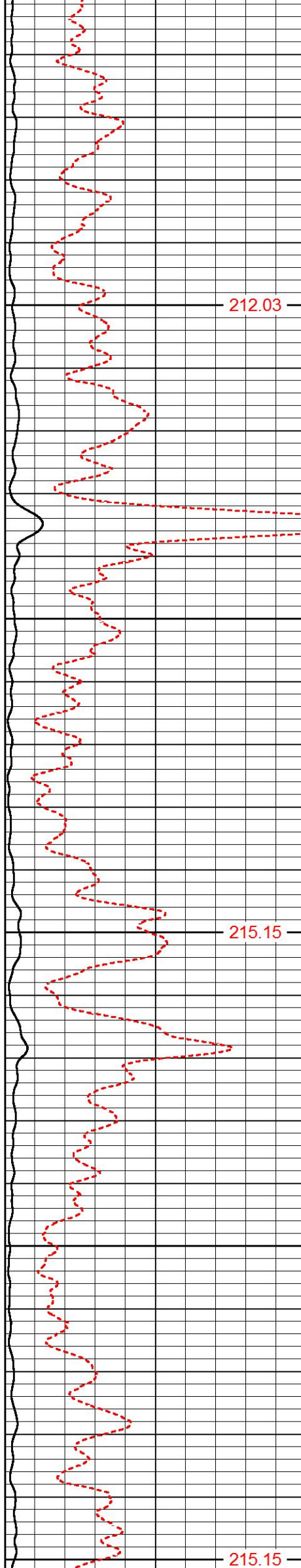




6600

6700

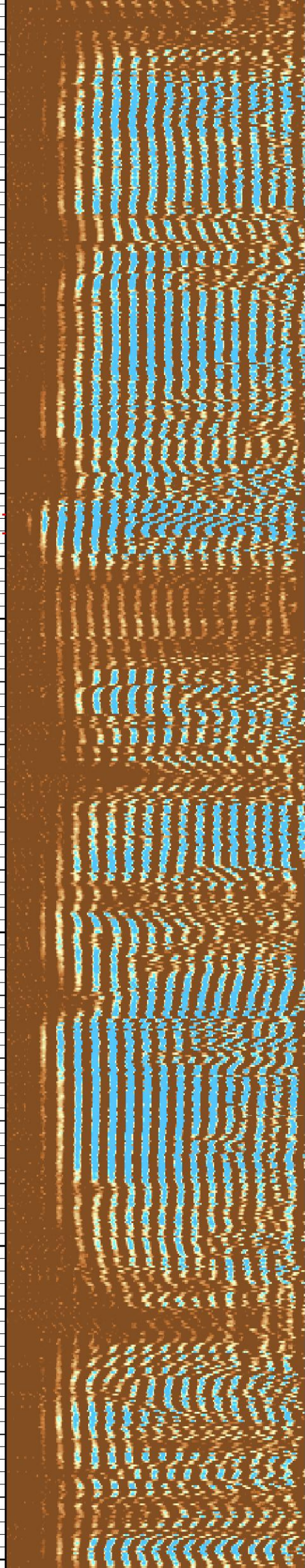
6800

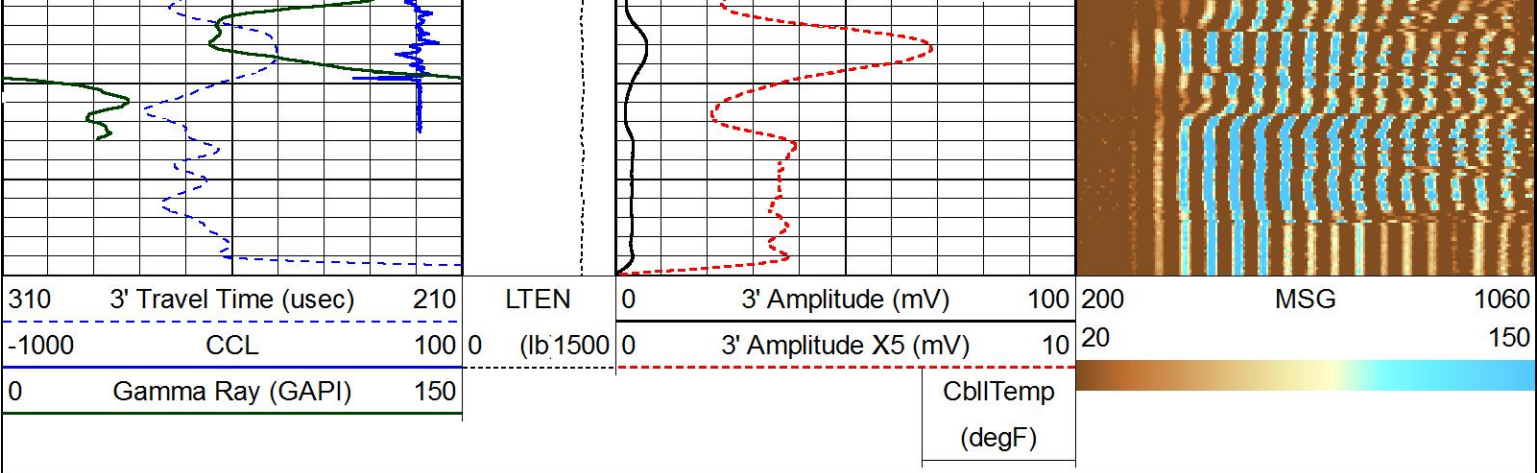


212.03

215.15

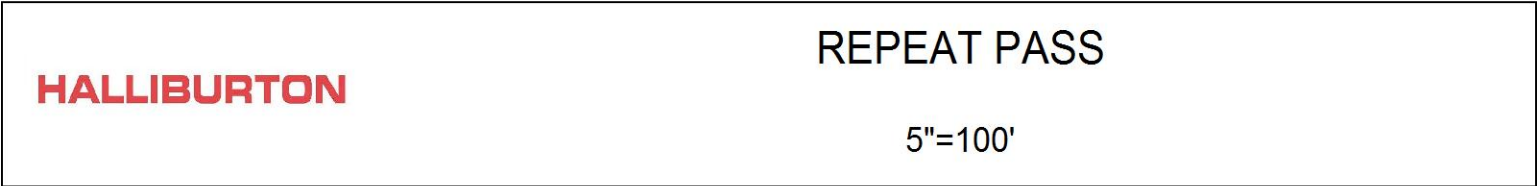
215.15





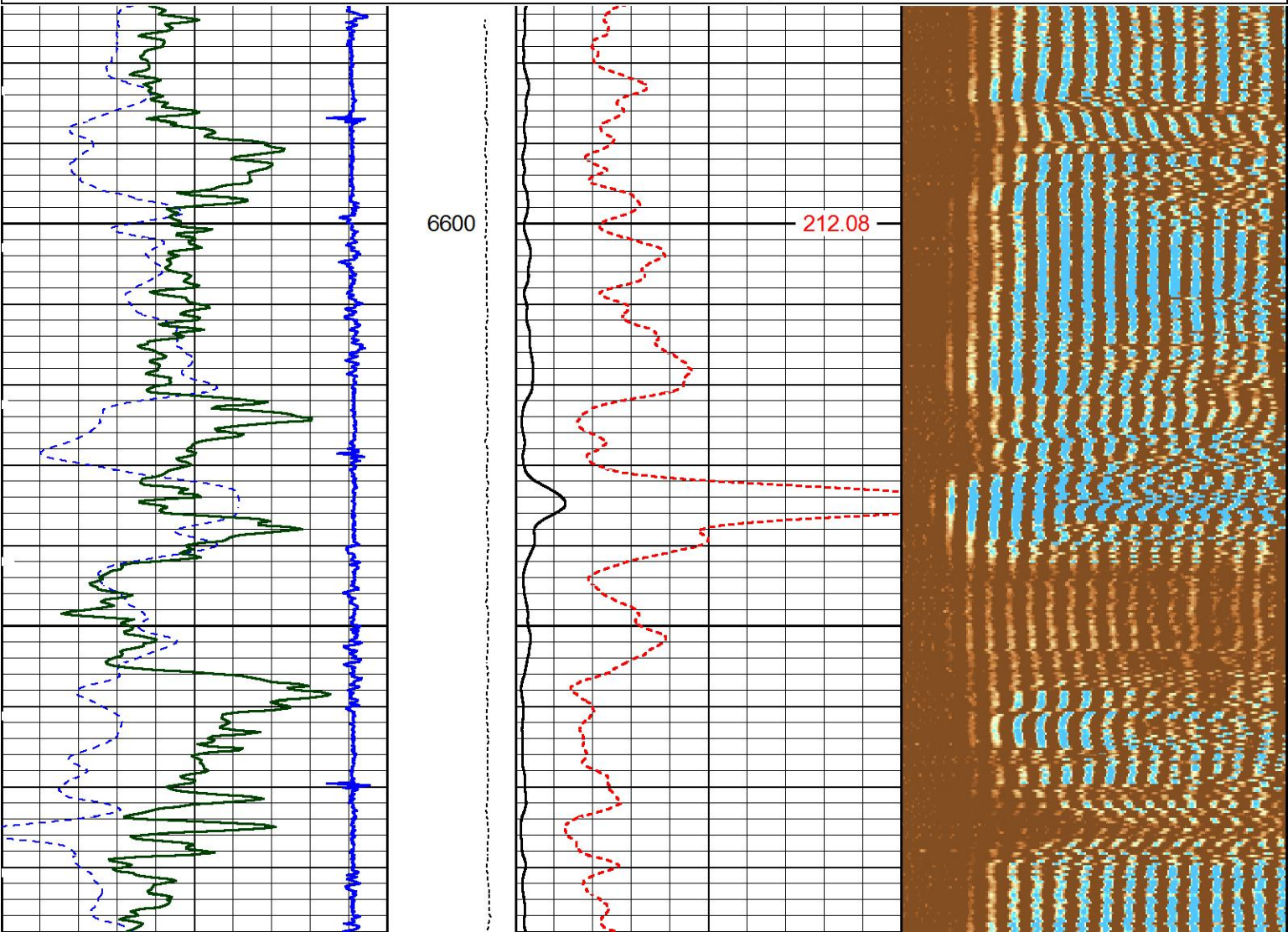
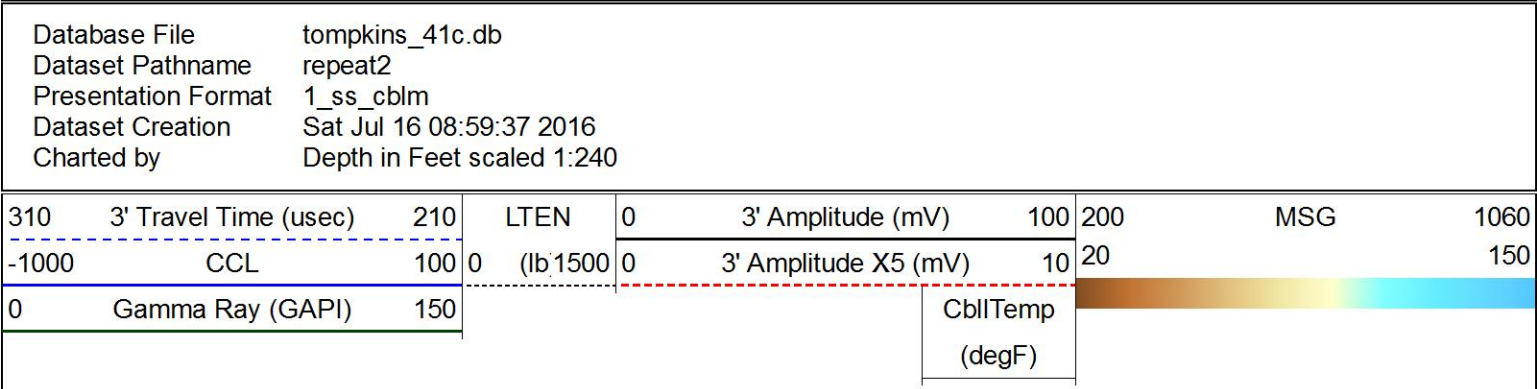
MAIN LOG

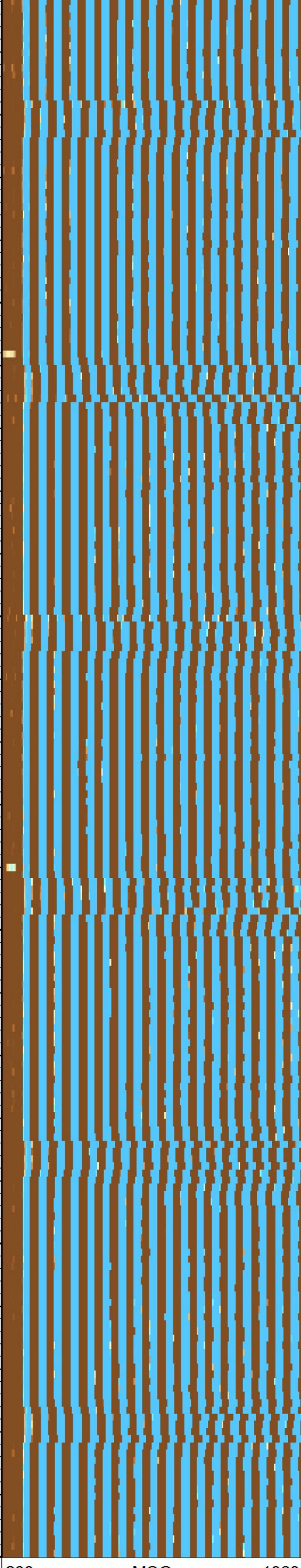
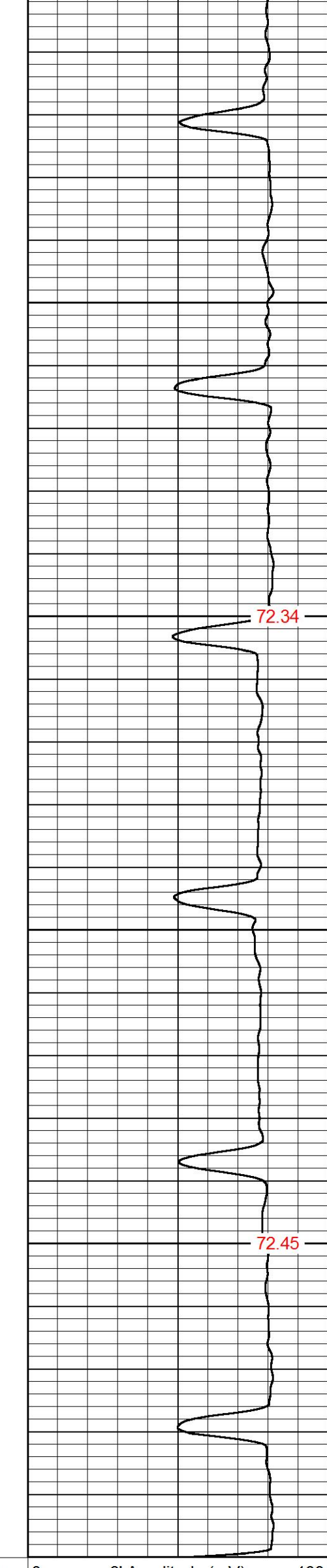
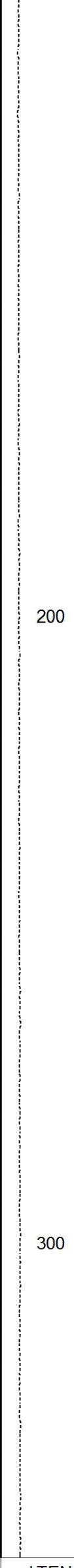
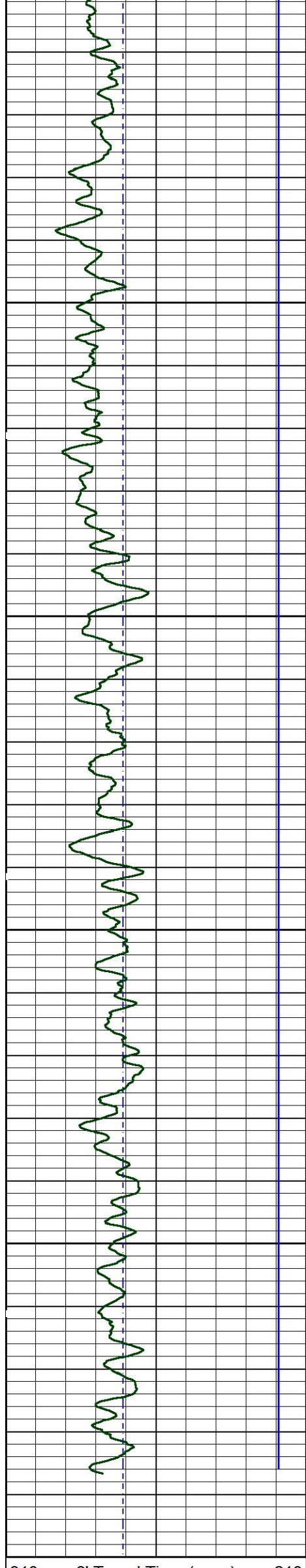
5"=100'



REPEAT PASS

5"=100'





310	3' Travel Time (usec)	210	LIEN	0	3' Amplitude (mV)	100	200	MSG	1060
-1000	CCL	100	0	(lb' 1500	0	3' Amplitude X5 (mV)	10	20	150
0	Gamma Ray (GAPI)	150					CbllTemp (degF)		

HALLIBURTON

FREE PIPE PASS

$$5'' = 100'$$

Calibration Report

Database File	tompkins_41c.db
Dataset Pathname	repeat2
Dataset Creation	Sat Jul 16 08:59:37 2016

Reservoir Monitor Tool | Calibration Report

Serial-Model: 11680605-A

Shop Calibration Performed: Wed Jul 13 15:33:10 2016

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	95.00	80.00	15.00	+/-15.00	V
ITCR2	3142	3250	-108	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0246	5.58	<6.00
Fe	207	206 +/-2	0.0940	-----	-----
NGAIN = 0.994		NZOFF = 0.6			

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0388	5.12	<6.50
Fe	209	208 +/-2	0.0914	-----	-----
FGAIN = 0.992		FZOFF = 0.3			

Flask Temperature 73.0 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.44	0.45	-0.01	+/-0.02	
LIR2	1.36	1.36	0.00	+/-0.05	
TCCR2	5240	5000	240	+/-1000	cps
ITCR2	3133	3200	-67	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	95.00	80.00	15.00	+/-15.00	V
FCAP	10378	10000	378	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.94	0.95	-0.01		
N/F Incl Norm	0.62	0.61	0.01		

RNF	1.06	1.07	-0.01	+/-0.12	
RINC	1.61	1.64	-0.03	+/-0.18	
SGFN	24.09	24.00	0.09	+/-0.50	cu
SGFF	22.90	22.85	0.05	+/-0.50	cu
FSIN	24969	24000	969	+/-2000	cps
FCAP	10530	10000	530	+/-1000	cps
NFTR	0.83			<5.00	
FFTR	0.89			<5.00	
NBKG	133			<500	cps
FBKG	102			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.44	0.40	0.04	+/-0.10	usec


Calibration Software Modules					
HRMTI Module	2015.5.4.0				
RMTI Module	2015.5.15.1				
Log Data Acquisition Software Modules					
HRMTI Module	2015.5.4.0				
RMTI Module	2015.5.15.1				

Cement Bond Log Shop Calibration Report	
Serial-Model:	11794522-A
Calibration Performed:	Sat Jul 16 07:44:50 2016

Free Pipe Calibration		
TT	Measured	Units
Amplitude	246.9	usec
Log Base Line	425.9	mV
	8.2	mV
Calibration References and Gain		
Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.194	

Gamma Ray Calibration Report	
Type / Serial:	002 / 12105787

SHOP CALIBRATION		Wed Jul 13 14:17:13 2016			
Background	Counts/Sec.	Gain	Offset	Jig	Units
Calibrator	27.9				cps
	197.3				cps
		1.4165			GAPI/cps
PRIMARY VERIFICATION					
Background	39.6				cps
Calibrator	280.8				cps
Difference				241.2	GAPI
BEFORE SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI
AFTER SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
CCL	34.87					
GR	32.61		TTTCU-002 (12105787) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
			XHU-003 (12461938) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
			CENT-CASTM-CENT (00002) CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	22.89					
TT3FT AMP3FT WVF5FT	20.64 20.64 19.68		HCB LM-A (11794522) Halliburton HCBLM Tool	9.38	2.75	116.00
WVF3FT	16.16					
			CENT-CASTM-CENT (00003) CAST M INLINE CENTRALIZER	2.16	3.13	25.00
RmtTFGT RmtTNGT	8.25 7.75					
			RMTI-A (11680605) Halliburton RMTI Tool	14.00	2.13	77.00
LLMTEN RmtFP5V RmtNFwvMcsPr RmtCommFWar	0.00 0.00 0.00 0.00					

Dataset:
tompkins_41c.db: field/well/run1/main1

Total length:
38.44 ft

Total weight:
351.00 lb

O.D.:
3.13 in

Company	URSA OPERATING CO., LLC.		
Well	TOMPKINS 41C-08-07-95		
Field	PARACHUTE		
County	GARFIELD	State	CO
HALLIBURTON	CEMENT BOND LOG FIELD COPY		