



CROSS-MULTIPOLE ARRAY ACOUSTIC LOG
CANADA RAY LOG
CALIPER LOG

FILE NO:	COMPANY	HUSKY OIL OPERATIONS LIMITED
API NO:	WELL	LITTLE BEAR H-64
	FIELD	SLATER RIVER
	PROVINCE	NORTHWEST TERRITORIES
Ver. 3.87	LOCATION:	OTHER SERVICES
UID:	SURF LOC:	ZXL-GR-CAL
300H4500126000	LAT 64 53' 28.5"N LONG 126 11' 20.3"W	H01L-GR-CAL, C/L
LICENSE:	BH LOC, LSD:	FLEX-DL, DSL
462	LAT 64 53' 28.5"N LONG 126 11' 20.3"W	EI-CBIL-GR, WREX
		DIRSUR, CBL
PERMANENT DATUM	G.L.	ELEVATIONS:
LOG MEASURED FROM	K.B.	KB 183.2 M
DRILL MEAS. FROM	5.2 M	DF
	KELLY BUSHING	GL 178.0 M

DATE	TRIP		
06-MAR-2012	1	1	
SERVICE ORDER	CA212311		
DEPTH DRILLER	1341.0 M		
DEPTH LOGGER	1340.2 M		
BOTTOM LOGGED INTERVAL	1324.4 M		
TOP LOGGED INTERVAL	510.0 M		
CASING DRILLER	244.5 MM	510.0 M	0
CASING LOGGER	510.0 M		
BIT SIZE	222.0 MM		
TYPE OF FLUID IN HOLE	INVERT		
DENSITY	1240.0 G/L	47.0 S	
PH	NA	NA	
SOURCE OF SAMPLE	NO SAMPLE		
RM AT MEAS. TEMP.	NA	0 NA	0
RM AT MEAS. TEMP.	NA	0 NA	0
RM AT MEAS. TEMP.	NA	0 NA	0
SOURCE OF RMF	NO SAMPLE	NO SAMPLE	
RM AT BHT	NA	0 NA	0
TIME SINCE CIRCULATION	8.0 HOURS		
MAX. RECORDED TEMP.	63.2 DEGC		
EQUIP. NO.	Z008672	OH CANADA	
RECORDED BY	J. COLLIER/D. DOUCETT		
WITNESSED BY	H. ARENBURG		

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD		
BIT SIZE	FROM	TO
311.0 MM	0.0 M	510.0 M
222.0 MM	510.0 M	1341.0 M

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
244.5 MM	53.6 KG/M	NA	0.0 M	510.0 M

REMARKS	
RUN 1 TRIP 1:	TIME STOPPED CIRCULATION: 06-MAR-2012 02:30 PM
	INTEGRATED TRANSIT TIME TICS EVERY: 1.0, 10.0, & 100.0 µSEC.
	RIG: NABORS 23
	CREW: J. COLLIER, D. DOUCETT, D. KIRMAN, D. SCHNEIDER, N. MCDERMID, P. ARENBURG

EQUIPMENT DATA			
RUN	TRIP	TOOL	POSITION
1	1	SWIVEL	FREE
1	1	CHPA	FREE
1	1	TRIP CLIP	FREE

1	1	1	ITRM SUB	3861XA	11760035	FREE
1	1	1	COMM	3514XB	12079085	FREE
1	1	1	WTS DGR/SU	1328XB	11756674	FREE
1	1	1	CN	2448A	12088884	DECENTRALIZED
1	1	1	ZDEN	2234XA	168004	PAD DEVICE
1	1	1	WTS DEL KNJ	3938XA	10293200	FREE
1	1	1	ORT	4401XB	Z166976	FREE
1	1	1	ACOUSTIC EL	1877EA	12045829	CENTRALIZED
1	1	1	XMAC RX WDR	1678MC	12002062	CENTRALIZED
1	1	1	XMAC ISO	1678PB	12083102	FREE
1	1	1	XMAC TX FLC	1678BA	12083108	CENTRALIZED
1	1	1	XMAC TX FLC	1878FA	12111386	CENTRALIZED
1	1	1	HDIL FLCNS	1515FA	12032417	STANDOFF
1	1	1	HDIL MANDRL	1515MA	11997986	STANDOFF
1	1	1	SMVEL	3844XD	11848158	FREE
1	1	1	DHFA	4430XB	12088588	FREE
1	1	1	TTRM SUB	3881XA	Z173348	FREE
1	1	1	COMM	3514XB	Z186132	FREE
1	1	1	WTS DGR/SU	1328XB	Z179402	FREE
1	1	1	CN	2448A	12088881	DECENTRALIZED
1	1	1	ZDEN	2234XA	Z172640	PAD DEVICE
1	1	1	WTS DEL KNJ	3938XA	167194	FREE
1	1	1	ORT	4401XB	12038483	FREE
1	1	1	ACOUSTIC EL	1877EA	11881883	CENTRALIZED
1	1	1	XMAC RX WDR	1678MC	12138263	CENTRALIZED
1	1	1	XMAC ISO	1678PB	11870838	FREE
1	1	1	XMAC TX FLC	1678BA	12103864	CENTRALIZED
1	1	1	XMAC TX FLC	1878FA	12111385	CENTRALIZED
1	1	1	HDIL FLCNS	1515FA	11998850	STANDOFF
1	1	1	HDIL MANDRL	1515MA	12022611	STANDOFF
1	1	1	CENTRALIZER	4341XA	Z173361	CENTRALIZED

INSTRUMENT CONFIGURATION

Source File: /data/husky_GA212311/run1-fdg

CABLEHEAD

Diameter : 8.6 cm
Length : 187.8 cm
Weight : 10.8 kg
Series : CABLE328
Invenio : CBLH
Measure Points : 83.8 cm: CABLEHEAD TOP

SMVEL

Diameter : 8.6 cm
Length : 188.7 cm
Weight : 30.8 kg
Series : 3844XD

DOWNHOLE POWER ADAPTER

Diameter : 9.2 cm
Length : 180.7 cm
Weight : 38.1 kg
Series : 4430XB
Invenio : DHFA

ITRM SUB

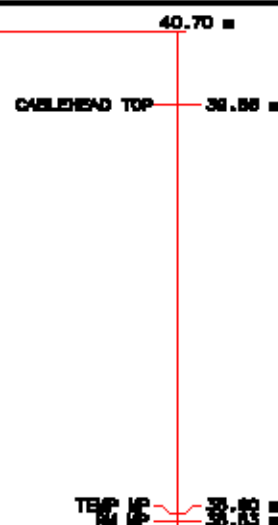
Diameter : 9.2 cm
Length : 116.8 cm
Weight : 38.2 kg
Series : 3881XA
Invenio : ITRM
Measure Points : 42.2 cm: TEMP MP

WTS COMMON REMOTE

Diameter : 9.2 cm
Length : 184.0 cm
Weight : 38.2 kg
Series : 3814XD
Invenio : WTS

DIGITAL SPECTRALOG

Diameter : 9.2 cm
Length : 222.8 cm
Weight : 58.1 kg
Series : 1328XA
Invenio : DEL
Measure Points : 49.8 cm: OR MP



COMPENSATED NEUTRON

Diameter : 9.2 cm
Length : 231.4 cm
Weight : 88.2 kg
Series : 2445KA
Inesonis : ON
Measure Points: 80.3 cm LSN MP
Measure Points: 85.2 cm SSN MP

LSN MP 28.80 m
SSN MP 28.35 m

Z-DETECTOR

Diameter : 18.4 cm
Length : 341.8 cm
Weight : 163.6 kg
Series : 2234KA
Inesonis : ZDL
Measure Points: 87.3 cm QAL MP
Measure Points: 79.4 cm LBD MP
Measure Points: 63.2 cm SSD MP

QAL MP 29.28 m
LBD MP 28.04 m
SSD MP 28.81 m

KNOBLE JOINT (DOUBLE)

Diameter : 8.8 cm
Length : 141.8 cm
Weight : 40.8 kg
Series : 3838KA
Inesonis : KJUT

DIGITAL ORIENTATION

Diameter : 8.8 cm
Length : 328.4 cm
Weight : 80.0 kg
Series : 4401KB
Inesonis : ORIT
Measure Points: 0.0 cm ORIENT MP

ORIENT MP 20.57 m

ARRAY ACQUITILOR ELECTRONICS, 8 CHANNEL

Diameter : 8.8 cm
Length : 338.3 cm
Weight : 48.4 kg
Series : 1877EA
Inesonis : KAMD

CROSS MULTIPOLE ARRAY ACQUITILOR

Diameter : 9.8 cm
Length : 332.4 cm
Weight : 101.8 kg
Series : 1878MD
Inesonis : KMP1
Measure Points: 157.6 cm R8
Measure Points: 152.4 cm R7
Measure Points: 137.2 cm R6
Measure Points: 181.8 cm R5
Measure Points: 108.7 cm R4
Measure Points: 81.4 cm R3
Measure Points: 79.2 cm R2
Measure Points: 81.0 cm R1

R8 16.15 m
R7 16.15 m
R6 16.15 m
R5 16.15 m
R4 16.15 m
R3 16.15 m
R2 16.15 m
R1 16.15 m

SHEAR SENSE ACQUITILOR

Diameter : 8.8 cm
Length : 182.4 cm
Weight : 81.4 kg
Series : 1878PB
Inesonis : KMAC

MULTI-POLE ARRAY ACQUITILOR

Diameter : 9.8 cm
Length : 341.3 cm
Weight : 77.3 kg
Series : 1878BA
Inesonis : KMAC
Measure Points: 188.8 cm QUADRUPOLE T5
Measure Points: 188.8 cm MONOPOLE T2
Measure Points: 142.2 cm Y-DIPOLE T4
Measure Points: 142.2 cm X-DIPOLE T3
Measure Points: 88.8 cm MONOPOLE T1

MONOPOLE T2 12.88 m
QUADRUPOLE T5 12.88 m

X-DIPOLE T3 12.36 m
Y-DIPOLE T4 12.36 m

MONOPOLE T1 11.82 m

MULTI-POLE ARRAY ACQUITILOR

Diameter : 8.8 cm
Length : 131.8 cm
Weight : 28.4 kg
Series : 1878PA
Inesonis : MAC

HIGH DEFINITION INDUCTION TOOL

Diameter : 9.3 cm
Length : 887.0 cm
Weight : 188.6 kg
Series : 1013KA
Inversion : HDIL
Measure Points: 433.9 cm: SP MP
Measure Points: 288.8 cm: KMTR MP

SP MP 5.58 m

KMTR MP 3.81 m

0.00 m

4 ARM BOW SPRING CENTRALIZER

Diameter : 8.6 cm
Length : 128.6 cm
Weight : 38.7 kg
Series : 4341KA
Inversion : CENT

BALL PLUG 3 3/8

TOTAL LENGTH: 40.70 m
TOTAL WEIGHT: 1100.6 kg
MAX DIAMETER: 12.4 cm

MAIN LOG - UPPER PRESENTATION

ECLIPS 6.11 Aug 06, 2010
Updates: 1 Patches: 1

Wed Mar 7 01:53:59 2012

Perpht /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /data/husky_CA212311/m77evh_xc03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 487.566 m BOTTOM DEPTH: 1340.929 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
TENSION	FILTER ()	medium (1)		TOP	BOTTOM
GR	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
DT24	FILTER ()	light (2)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	222.000	mm	TOP	BOTTOM

ACOUSTIC WAVEL CORRELATION

ACOUSTIC AVAL CORRELATION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		..	..
	RESET TAPERS			..	..
	TAPER - LEFT END	100	us/m	..	..
	TAPER - RIGHT END	420	us/m	TOP	498.272
		350	us/m	498.272	499.843
		500	us/m	499.843	501.472
		425	us/m	501.472	1284.046
		400	us/m	1284.046	1287.084
		325	us/m	1287.084	1319.555
		350	us/m	1319.555	BOTTOM
MONOPOLE SHEAR	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
	FORMATION TYPE	GENERIC (MEDIUM)		..	..
	GUIDE CURVE	DO NOT USE GUIDE		..	..
	RESET TAPERS			..	..
	TAPER - LEFT END	350	us/m	TOP	498.082
		300	us/m	498.082	498.748
		400	us/m	498.748	1107.843
		350	us/m	1107.843	1109.205
		400	us/m	1109.205	1115.454
		500	us/m	1115.454	1120.711
		600	us/m	1120.711	1154.735
		425	us/m	1154.735	1185.479
		375	us/m	1185.479	1261.148
		400	us/m	1261.148	1285.580
		350	us/m	1285.580	1288.837
		280	us/m	1288.837	BOTTOM
	TAPER - RIGHT END	1000	us/m	TOP	498.443
		800	us/m	498.443	621.106
		750	us/m	621.106	685.114
		650	us/m	685.114	699.592
		750	us/m	699.592	704.317
		700	us/m	704.317	798.185
		800	us/m	798.185	820.877
		700	us/m	820.877	828.545
		800	us/m	828.545	1102.538
		700	us/m	1102.538	1104.024
		800	us/m	1104.024	1107.300
		750	us/m	1107.300	1108.939
		600	us/m	1108.939	1115.301
		650	us/m	1115.301	1154.382
		800	us/m	1154.382	1185.880
		650	us/m	1185.880	1268.873
		800	us/m	1268.873	1284.808
		725	us/m	1284.808	1285.113
		700	us/m	1285.113	1288.294
		675	us/m	1288.294	1288.751
		600	us/m	1288.751	BOTTOM

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA T CURVE SELECTION	DT24 SOURCE	FIRST ARRIVAL DT24		TOP	BOTTOM

ACOUSTIC PICK CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA-T REJECTION RANGE	REJECTION DTmin	131	us/m	TOP	BOTTOM
	REJECTION DTmax	591	us/m	..	..
FIRST ARRIVAL PICK	SEARCH START OFFSET {sfan1*}	0	us	..	..
	SEARCH START OFFSET {sfan2*}	0	us	..	..
	SEARCH START OFFSET {sfan3*}	0	us	..	..
	SEARCH START OFFSET {sfan4*}	0	us	..	..
	SEARCH WINDOW LENGTH	1200	us	..	..
	THRESHOLD FACTOR	0.30		..	..
	THRESHOLD MINIMUM {sfan1*}	1.8	pot	..	..
	THRESHOLD MINIMUM {sfan2*}	1.8	pot	..	..
	THRESHOLD MINIMUM {sfan3*}	1.8	pet	..	..
	THRESHOLD MINIMUM {sfan4*}	1.8	pet	..	..
	E3 THRESHOLD	OFF		..	..

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - DELTA T	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	4000	Hz	..	..

WAVEFORM FILTER - FULLWAVE	HIGH FREQ CUTOFF	20000	Hz	''	''
	SURFACE WAVE FILTER	ON		''	''
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
FULL WAVE MONOPOLE TCC PARAMETERS	AGC WINDOW	8064	US	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	US	''	''

CURVE DESCRIPTION REPORT

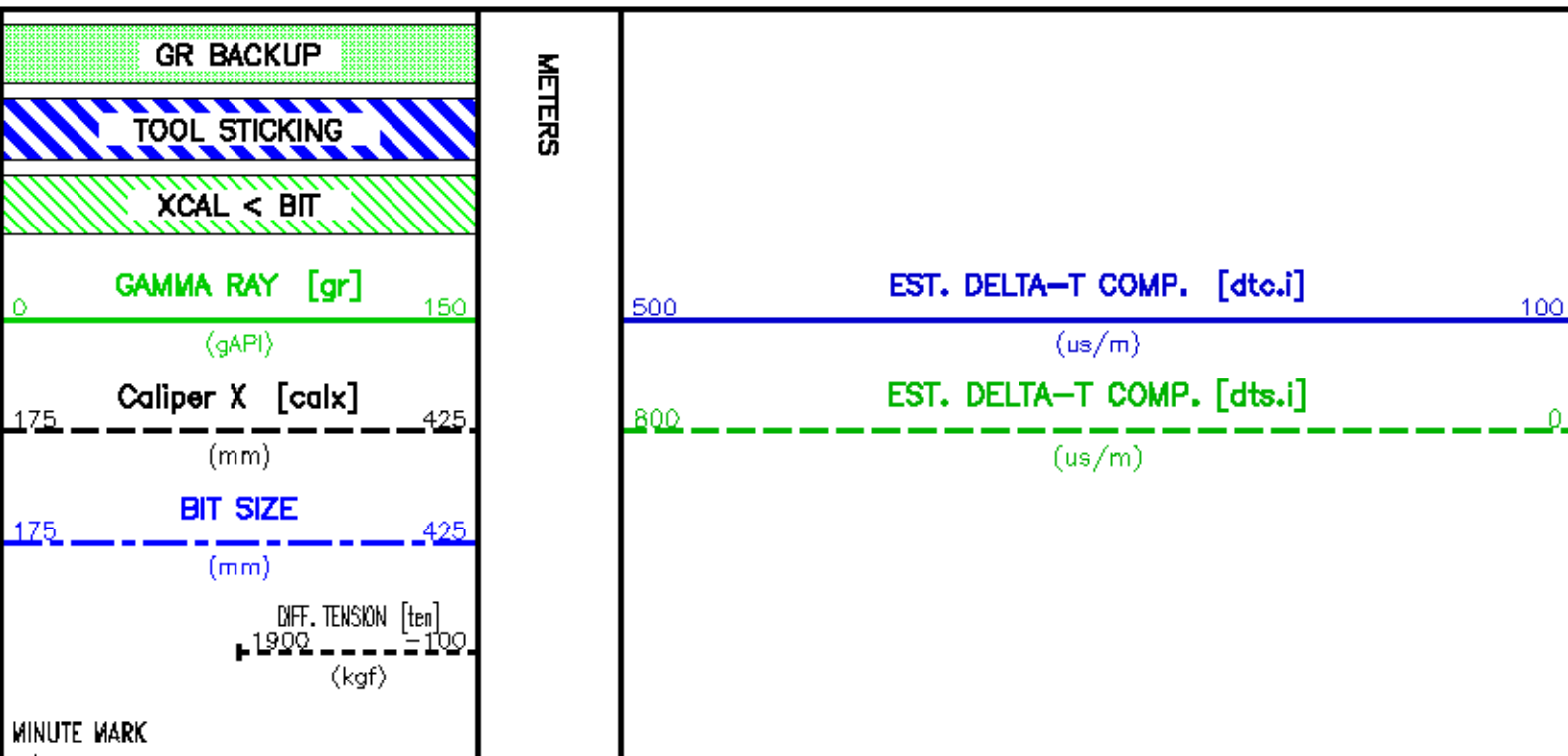
CURVE NAME	CREATION DATE	CURVE DESCRIPTION	
F1:BIT	Mar 8 22:18:03 2012	BIT SIZE	
F1:CALX	Mar 8 22:18:03 2012	CALIPER FROM X-AXIS OF XY CALIPER(S)	
F1:DTCQI	Mar 8 22:18:03 2012	COMPRESSIONAL WAVE SLOWNESS	
F1:DTSQI	Mar 8 22:18:03 2012	SHEAR WAVE SLOWNESS	
F1:GR	Mar 8 22:18:03 2012	GAMMA RAY	
F1:MMRK	Mar 8 22:18:03 2012	MINUTE MARK	
F1:TEN	Mar 8 22:18:03 2012	DIFFERENTIAL TENSION	
F1:TTQI	Mar 8 22:18:03 2012	INTEGRATED TRAVELTIME FROM ACOUSTIC SLOWNESS	

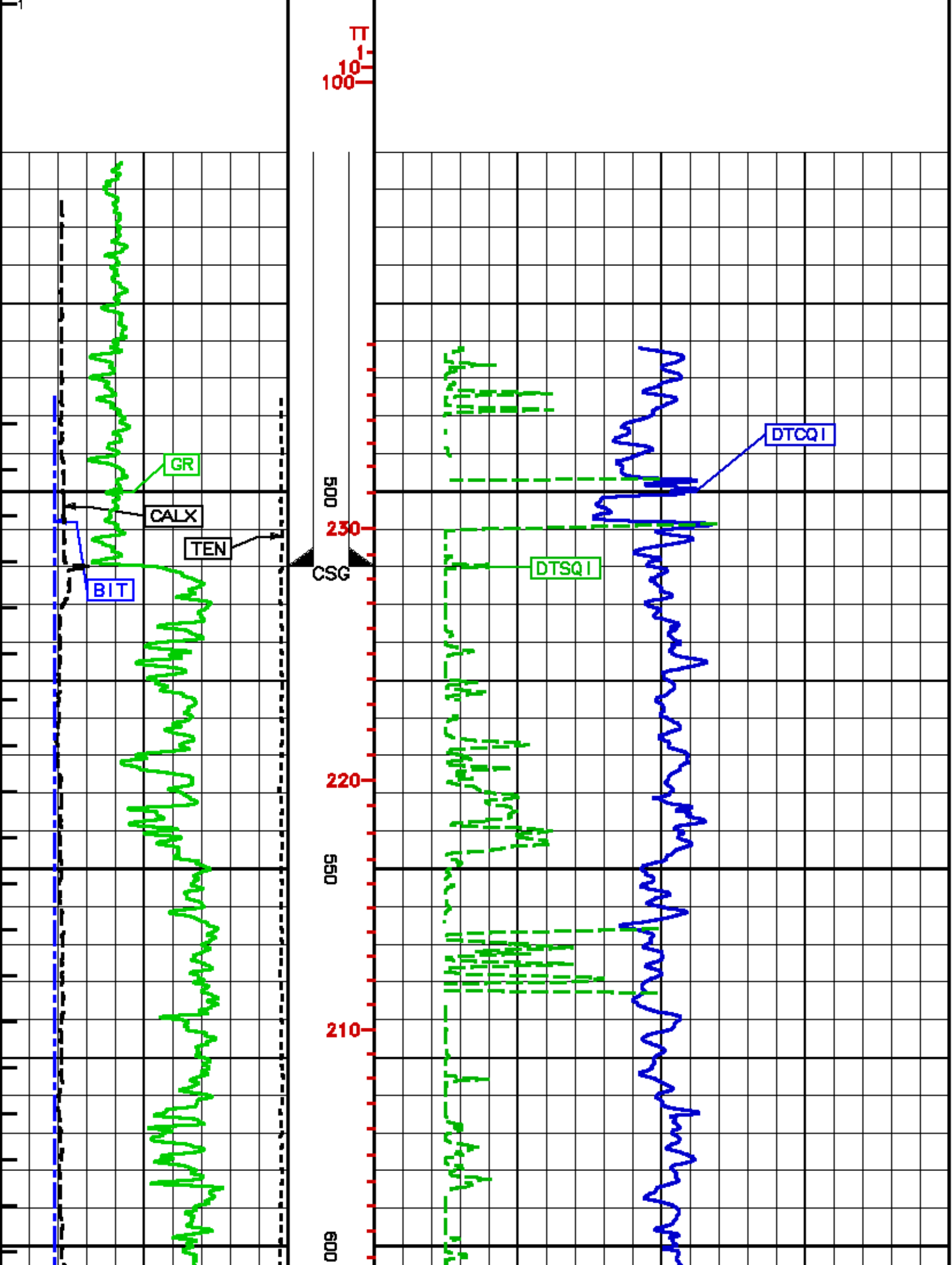
CURVE MEASURE POINT OFFSET

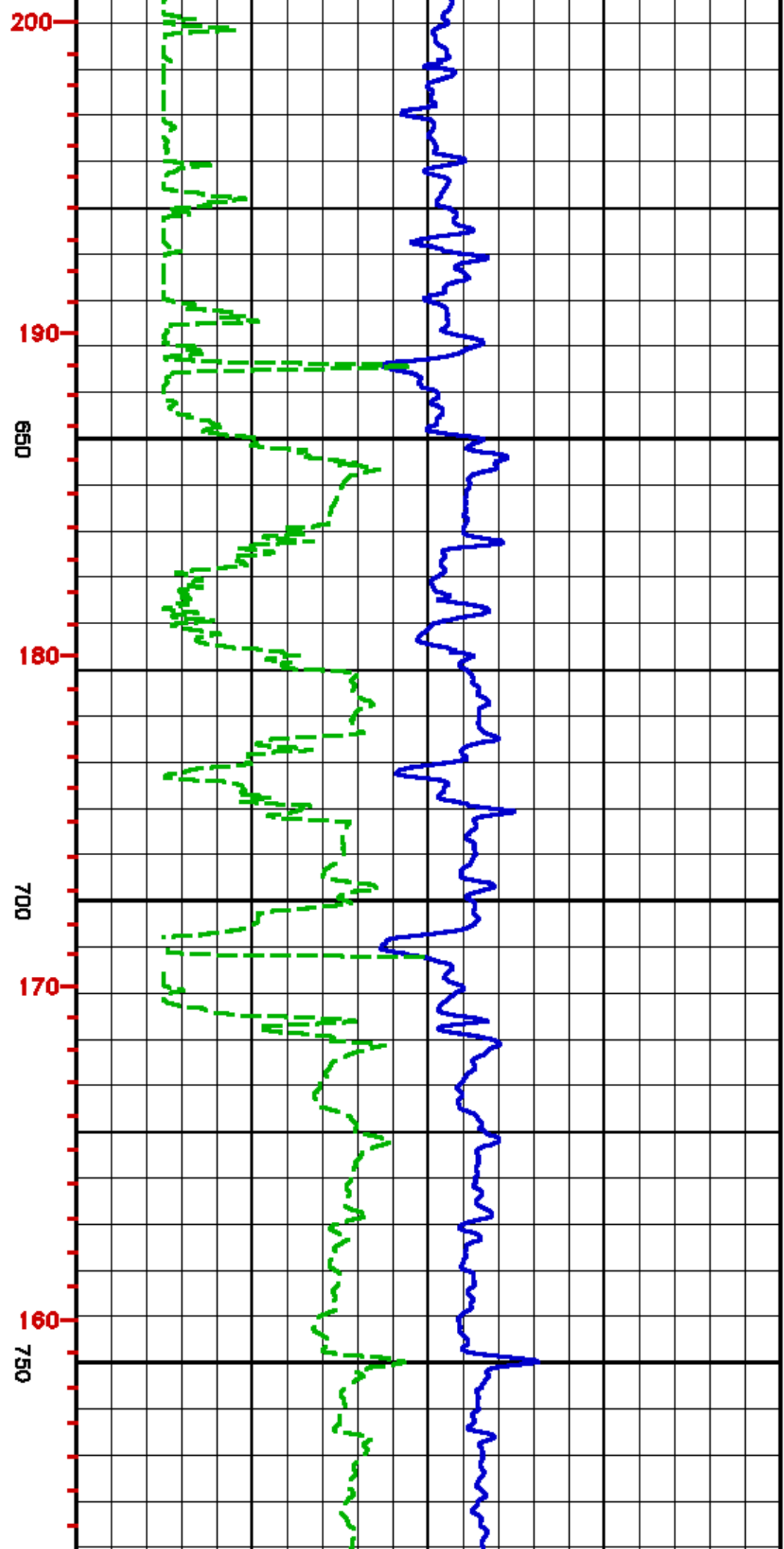
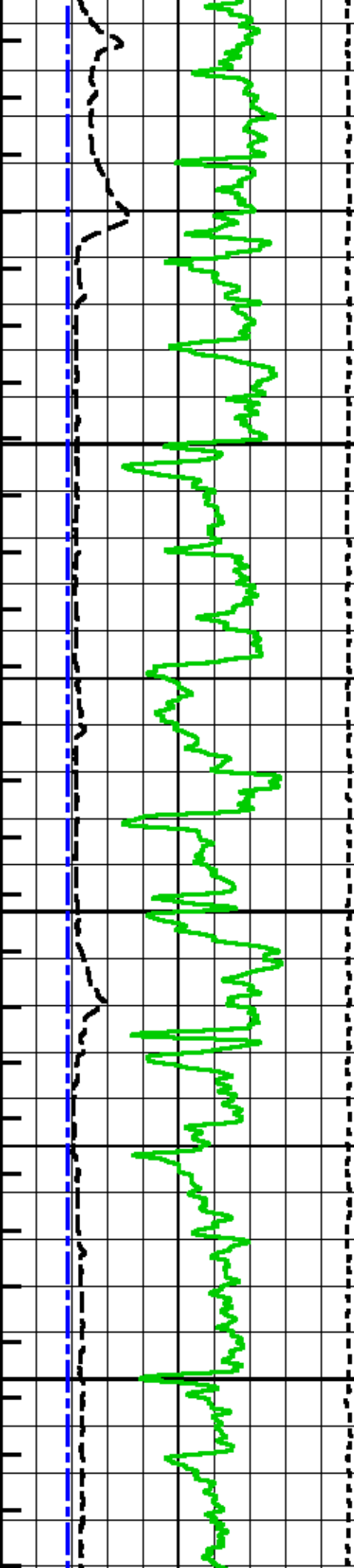
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	DTCQI	15.85	GR	31.38		
CALX	26.17	DTSQI	15.85	TEN	0.00		

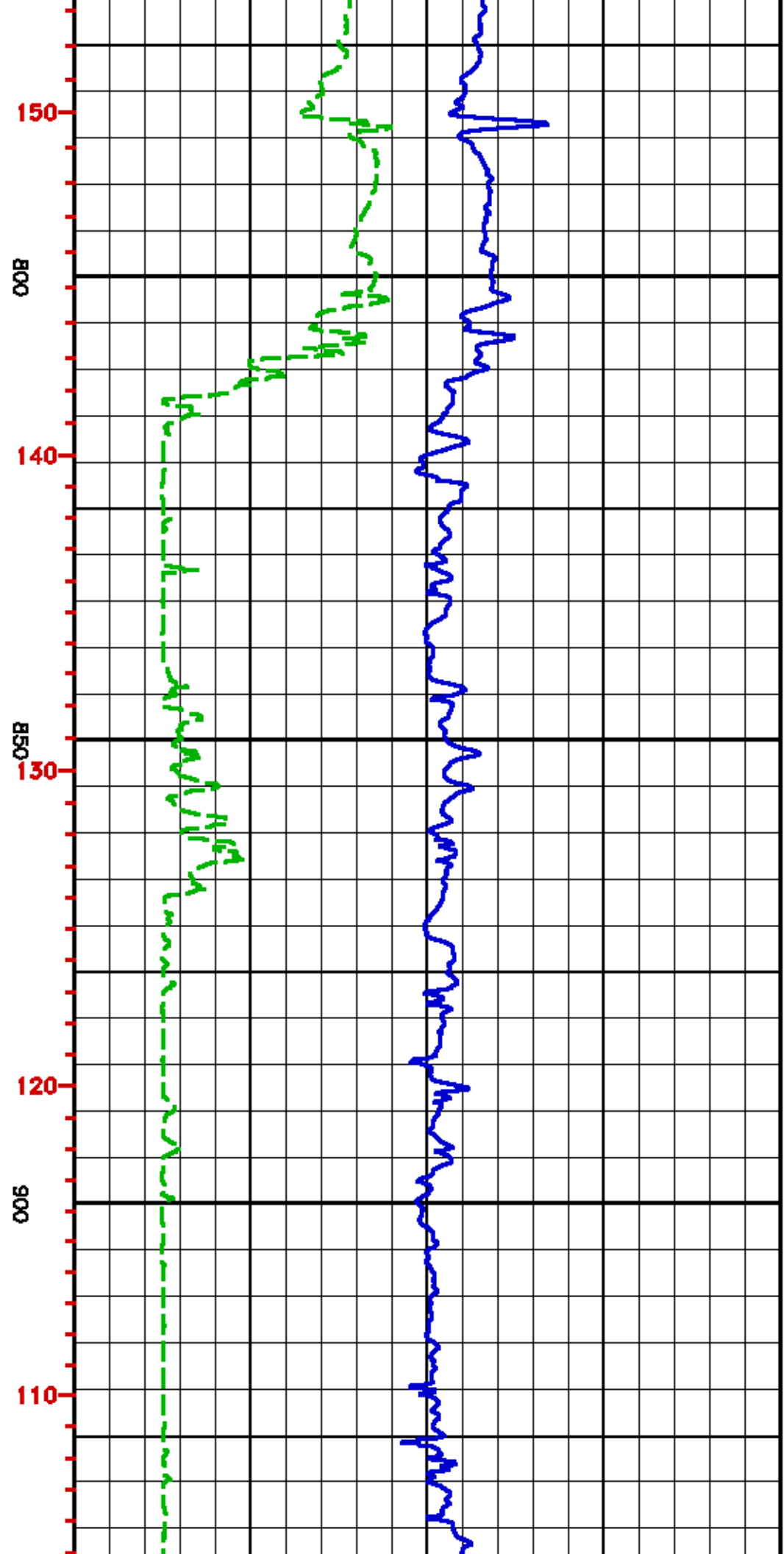
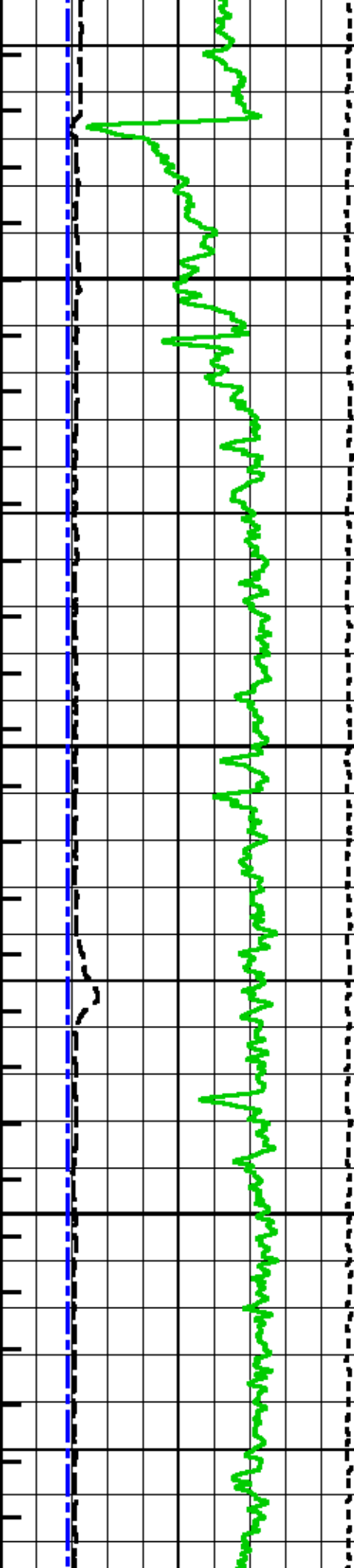
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Plot Interval : 458.514 - 1345 Meters

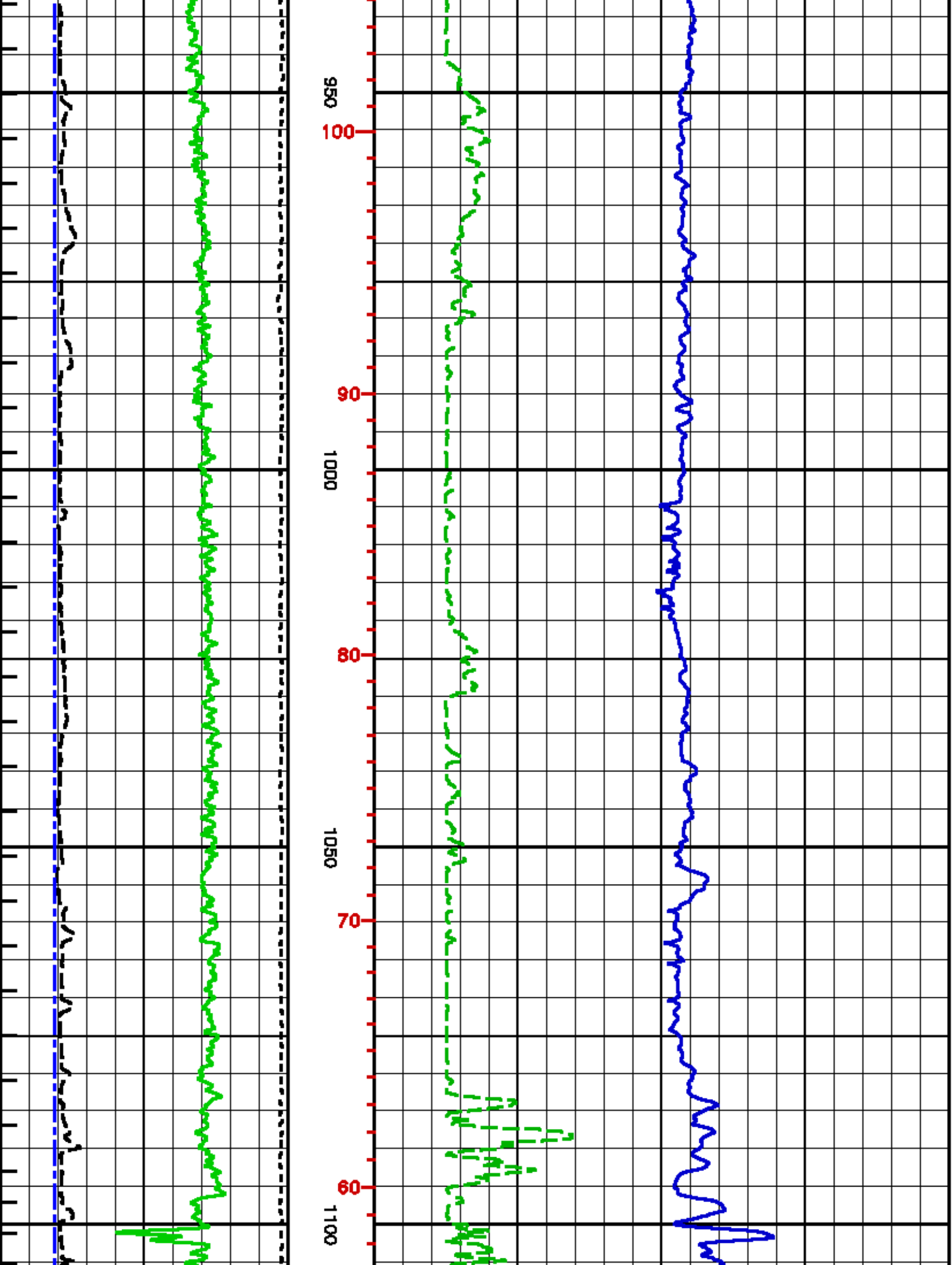
Data File 1 : F1 : epua\data/husky_CA212311/m77wrh_xc03.xtf
Created On : Mar 8 22:18:03 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR H-84
Field : SLATER RIVER
File Interval : 452.247 - 1340.93 Meters
Out : m77wrh_x

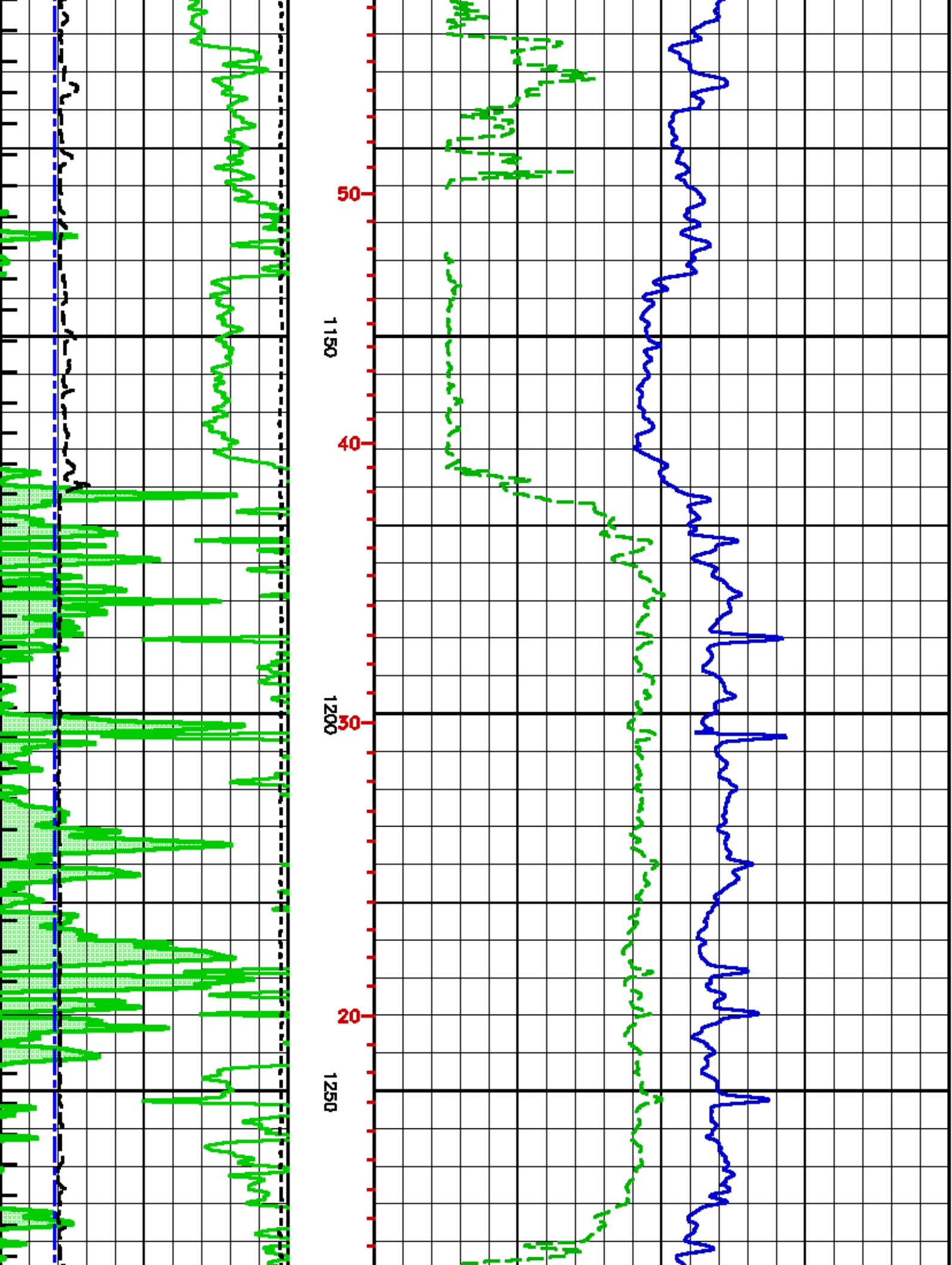


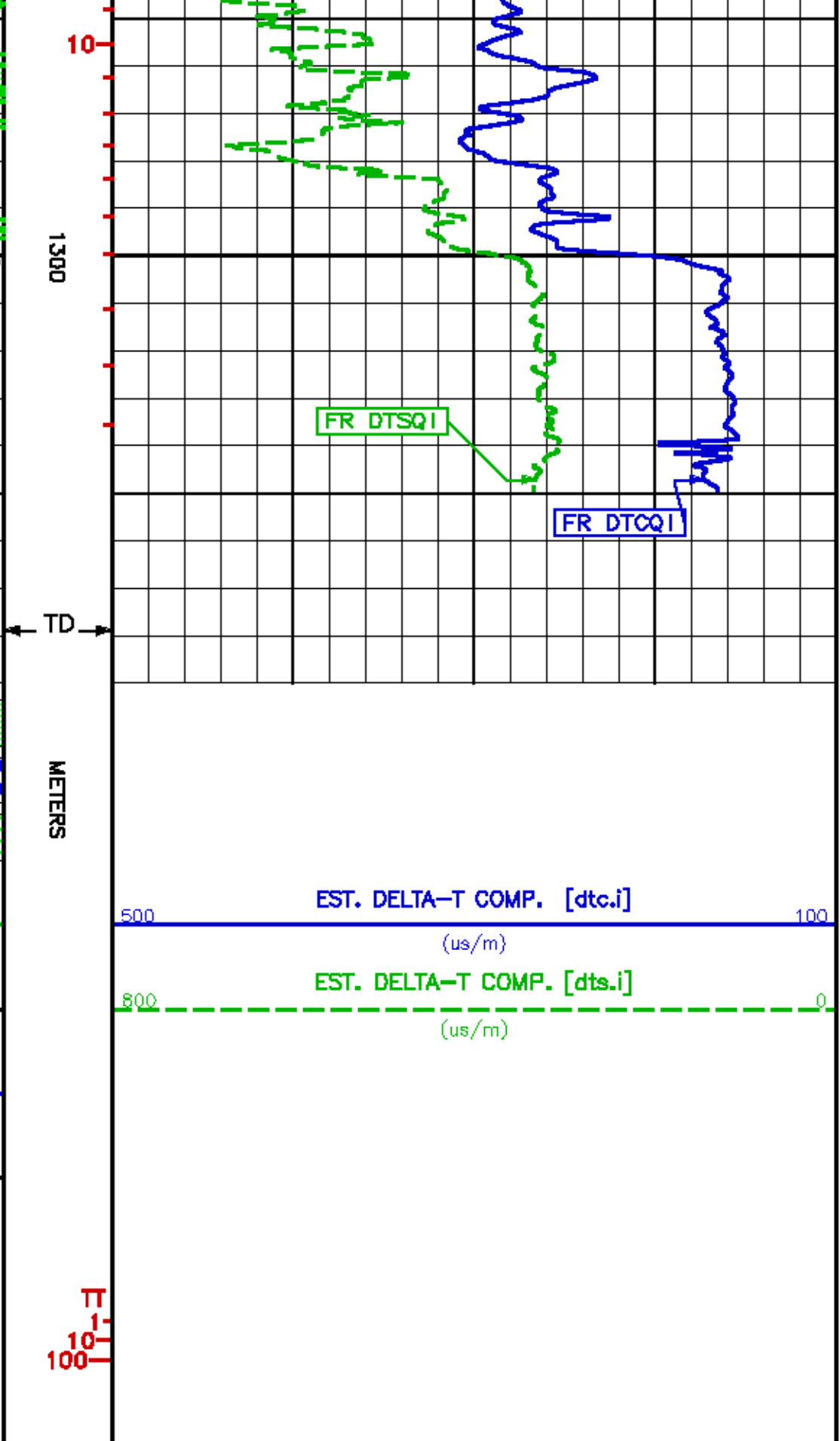
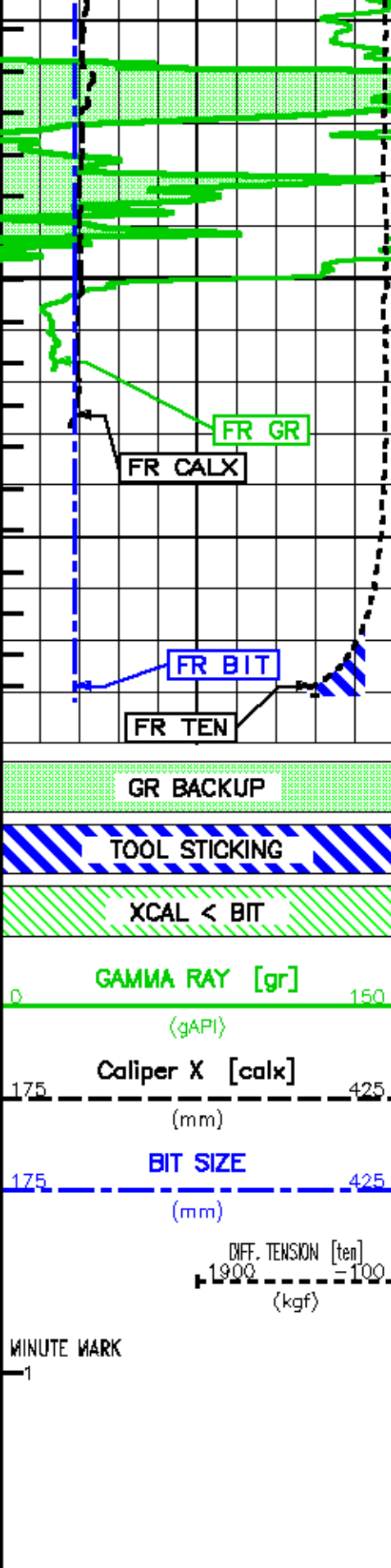












MAIN LOG

ECLIPS 6.11 Aug 06, 2010
Updates: 1 Patches: 1

Wed Mar 7 01:42:13 2012

Perpllt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /data/husky_CA212311/m77evh_xp03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 487.566 m BOTTOM DEPTH: 1340.829 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
TENSION	FILTER ()	medium (1)		TOP	BOTTOM
GR	FILTER ()	medium (1)		..	..
CALIPER	FILTER ()	medium (1)		..	..
DT24	FILTER ()	light (2)		..	..

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	222.000	mm	TOP	BOTTOM

ACOUSTIC AVAN CORRELATION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		..	..
	RESET TAPERS			..	..
	TAPER - LEFT END	100	us/m	..	..
	TAPER - RIGHT END	420	us/m	TOP	498.272
		350	us/m		498.643
		500	us/m		501.472
		425	us/m		1284.046
		400	us/m		1287.094
		325	us/m		1319.555
MONOPOLE SHEAR		350	us/m	1319.555	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
	FORMATION TYPE	GENERIC (MEDIUM)		..	..
	GUIDE CURVE	DO NOT USE GUIDE		..	..
	RESET TAPERS			..	..
	TAPER - LEFT END	350	us/m	TOP	496.062
		500	us/m		496.748
		400	us/m		1107.843
		350	us/m		1109.205
		400	us/m		1109.205
		500	us/m		1115.454
		600	us/m		1120.711
		425	us/m		1154.735
		375	us/m		1185.479
		400	us/m		1281.148
		350	us/m		1285.380
		280	us/m		1286.837
	TAPER - RIGHT END	1000	us/m	1286.837	BOTTOM
		800	us/m	TOP	496.443
		750	us/m		621.106
		650	us/m		685.114
		750	us/m		689.582
		700	us/m		704.317
		800	us/m		798.195
		700	us/m		920.877
		800	us/m		928.877
		700	us/m		928.345
		800	us/m		1102.538
		700	us/m		1102.538
		800	us/m		1104.024
		750	us/m		1107.300
		600	us/m		1108.939
		850	us/m		1115.301
		800	us/m		1154.382
		650	us/m		1185.860
		800	us/m		1289.873
		725	us/m		1284.808
		700	us/m		1285.113
		675	us/m		1286.294
		600	us/m		1286.751
					BOTTOM

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA T CURVE SELECTION	DT24 SOURCE	FIRST ARRIVAL DT24		TOP	BOTTOM
ACOUSTIC PICK CONTROL					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
DELTA-T REJECTION RANGE	REJECTION DTh/n	131	us/m	TOP	BOTTOM
	REJECTION DThax	591	us/m	..	..
FIRST ARRIVAL PICK	SEARCH START OFFSET {sfan1*}	0	us	..	..
	SEARCH START OFFSET {sfan2*}	0	us	..	..
	SEARCH START OFFSET {sfan3*}	0	us	..	..
	SEARCH START OFFSET {sfan4*}	0	us	..	..
	SEARCH WINDOW LENGTH	1200	us	..	..
	THRESHOLD FACTOR	0.30		..	..
	THRESHOLD MINIMUM {sfan1*}	1.8	pet	..	..
	THRESHOLD MINIMUM {sfan2*}	1.8	pet	..	..
	THRESHOLD MINIMUM {sfan3*}	1.8	pet	..	..
	THRESHOLD MINIMUM {sfan4*}	1.8	pet	..	..
	E3 THRESHOLD	OFF		..	..

ACOUSTIC QUALITY CONTROL					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CYCLE SKIP LIMIT	CYCLE SKIP LIMIT	100	us	TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - DELTA T	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	4000	Hz	..	..
	HIGH FREQ CUTOFF	20000	Hz	..	..
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		..	..
	LOW FREQ CUTOFF	2000	Hz	..	..
	HIGH FREQ CUTOFF	20000	Hz	..	..

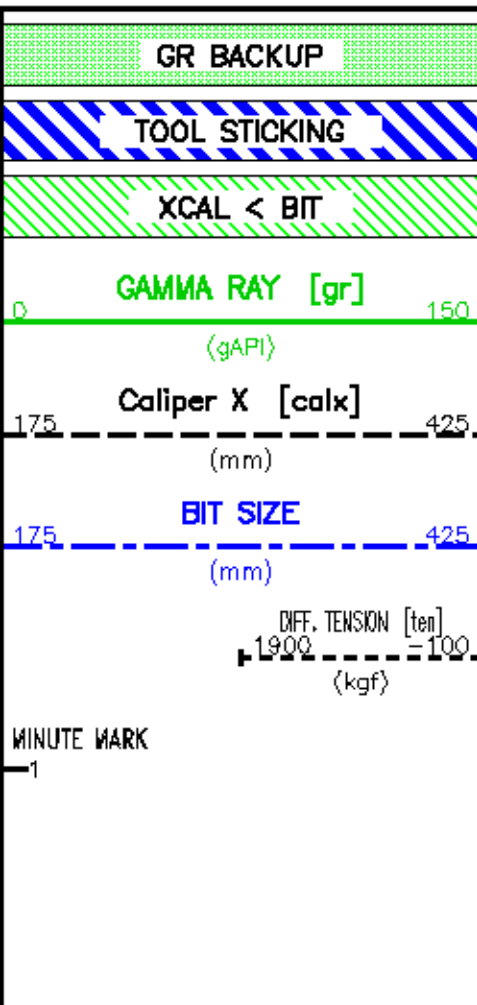
ACOUSTIC TCC CONTROL PARAMETERS					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		..	..
	SUBSET	1		..	..
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		..	..
	DSP FILTER	ON		..	..
FULL WAVE MONOPOLE TCC PARAMETERS	AGC WINDOW	8064	us	..	..
	SAMPLE PERIOD	24		..	..
	RX DELAY	0	us	..	..

CURVE DESCRIPTION REPORT			
CURVE NAME	CREATION DATE	CURVE DESCRIPTION	
F1:BIT	Mar 8 22:18:03 2012	BIT SIZE	
F1:CALX	Mar 8 22:18:03 2012	CALIPER FROM X-AXIS OF XY CALIPER(S)	
F1:DTCQI	Mar 8 22:18:03 2012	COMPRESSIONAL WAVE SLOWNESS	
F1:DTSQI	Mar 8 22:18:03 2012	SHEAR WAVE SLOWNESS	
F1:GR	Mar 8 22:18:03 2012	GAMMA RAY	
F1:MMRK	Mar 8 22:18:03 2012	MINUTE MARK	
F1:TEN	Mar 8 22:18:03 2012	DIFFERENTIAL TENSION	
F1:TTQI	Mar 8 22:18:03 2012	INTEGRATED TRAVELTIME FROM ACOUSTIC SLOWNESS	

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	DTCQI	15.85	GR	31.59		
CALX	26.17	DTSQI	15.85	TEN	0.00		

Presentation	: opuz:/data/husky_CA212311/mas_main100-500.pdf [1:240 Scale]
Plot Interval	: 500 - 1540.89 Meters
Data File 1	: F1 : opuz:/data/husky_CA212311/m77wrh_xo03.xtf
Created On	: Mar 8 22:18:03 2012
Company	: HUSKY OIL OPERATIONS LIMITED
Well	: LITTLE BEAR H-84

Field : DRYLE DECK IT 04
File Interval : SLATER RIVER
Out : 452.247 - 1340.95 Meters
Out : m77wrh_x



METERS

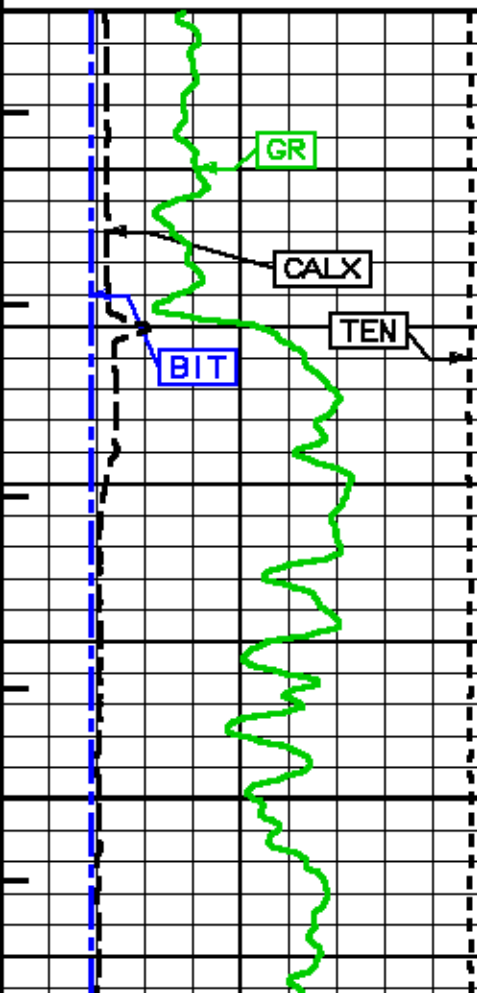
TT
10
100

500

230

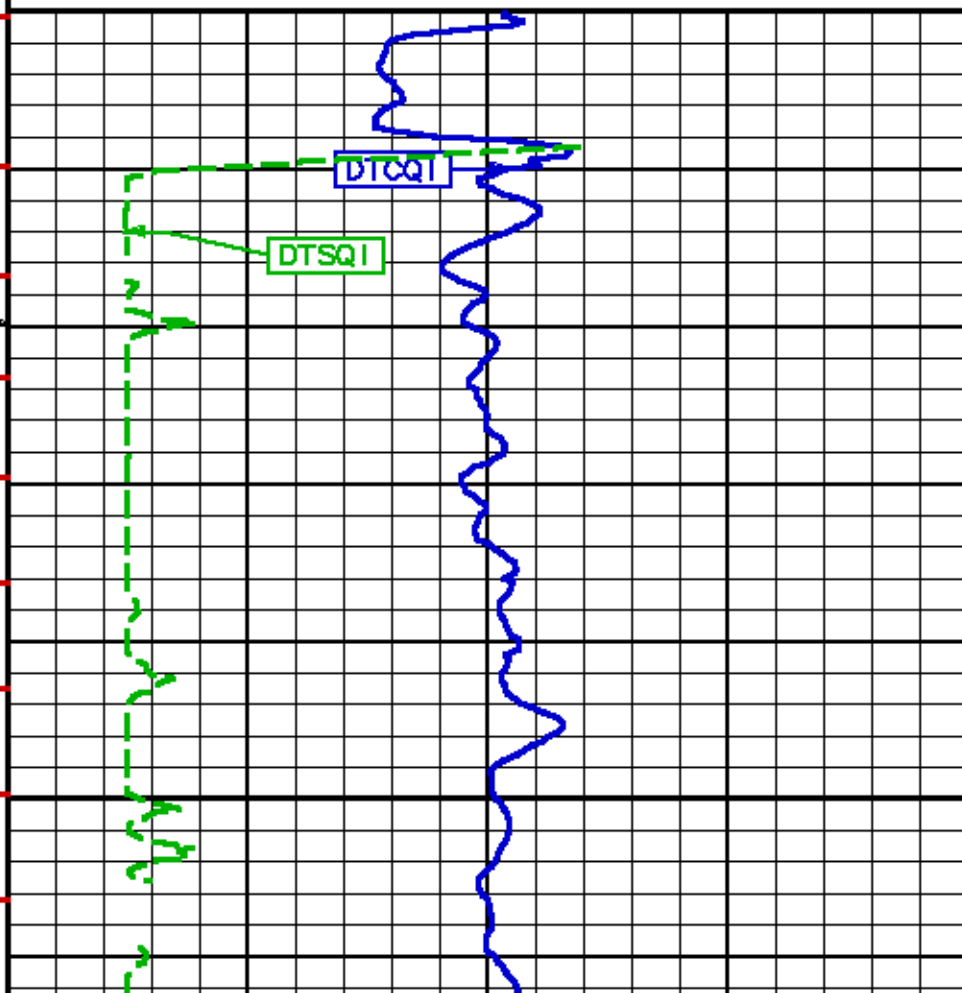
CSG

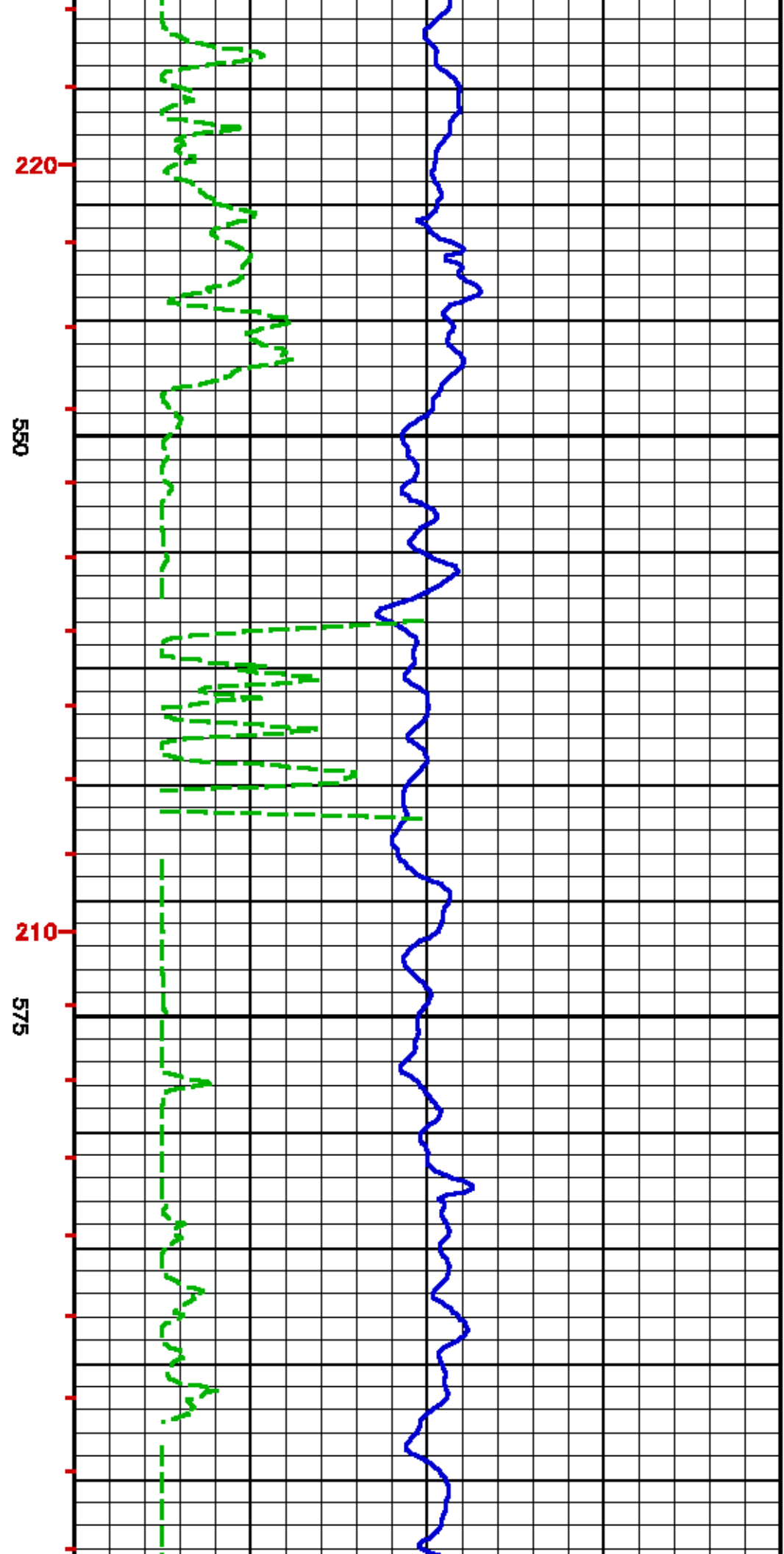
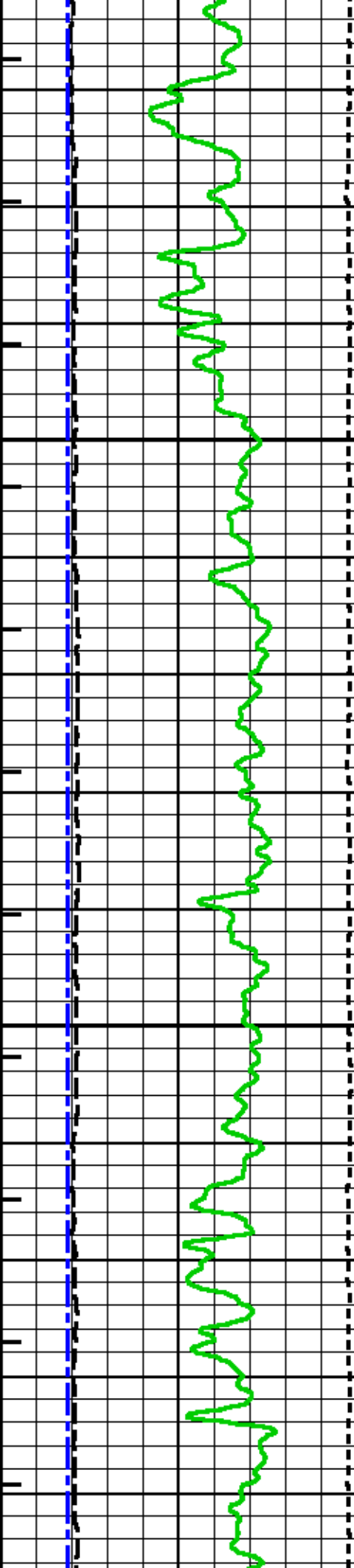
525

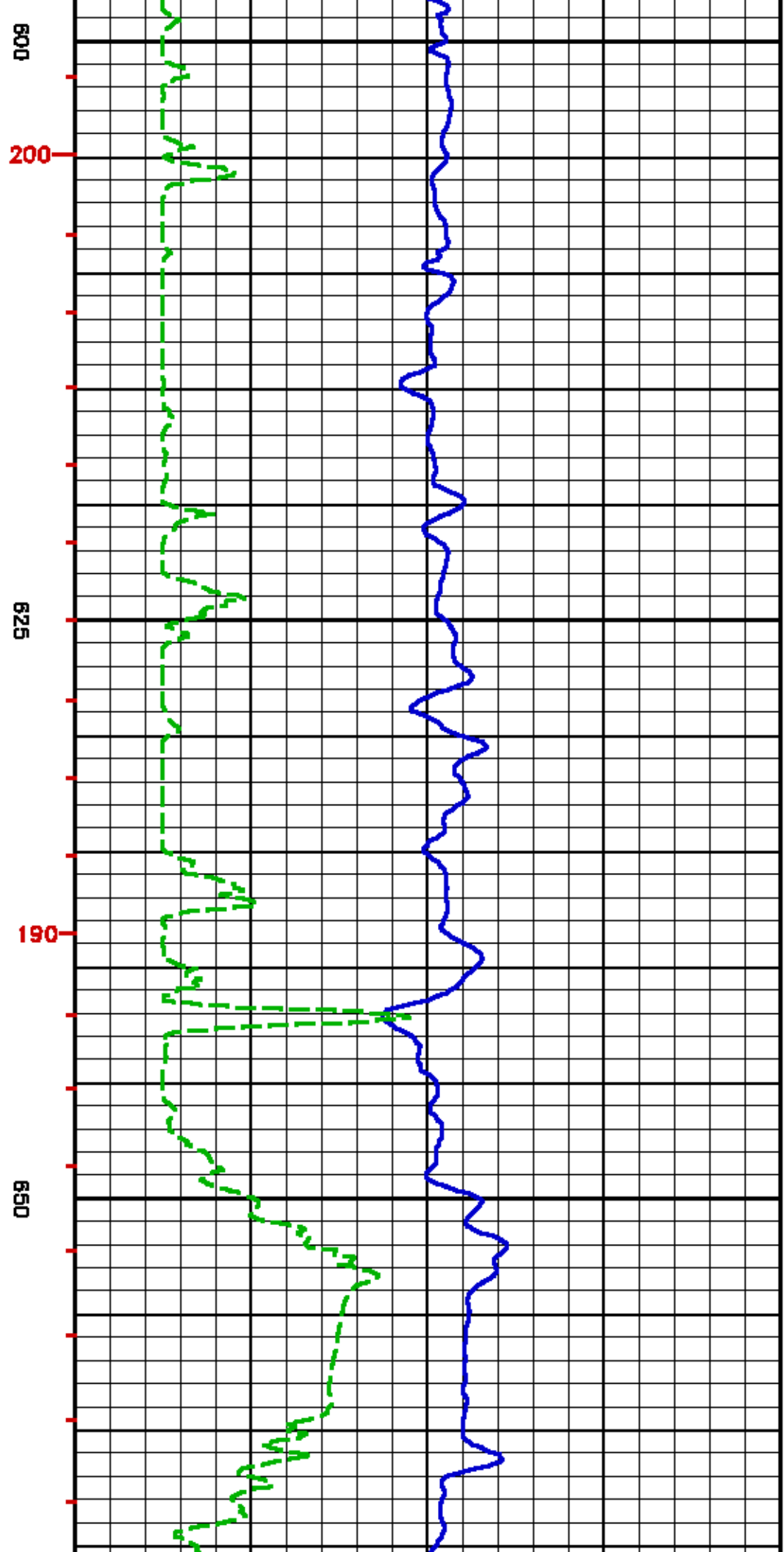
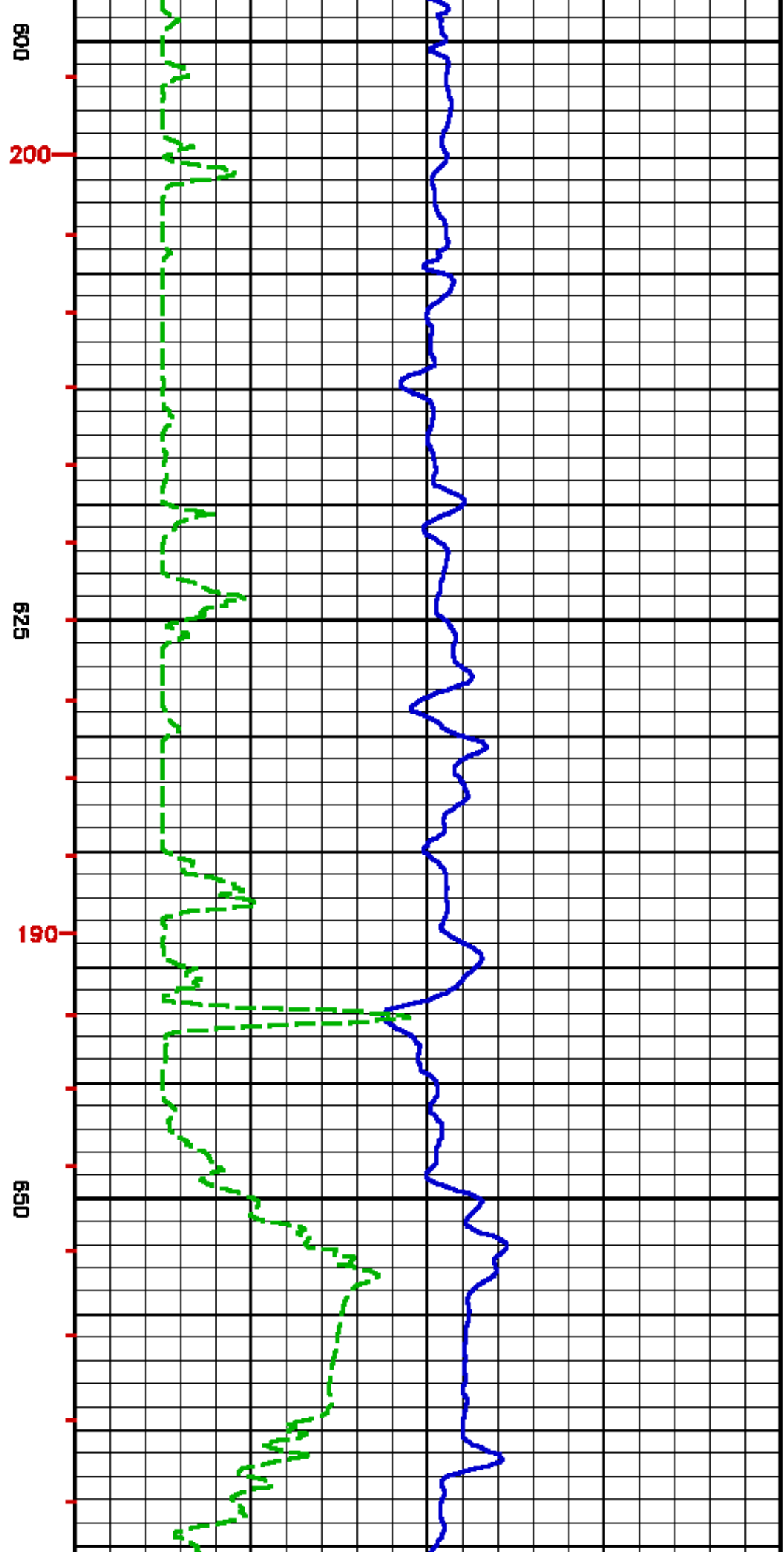
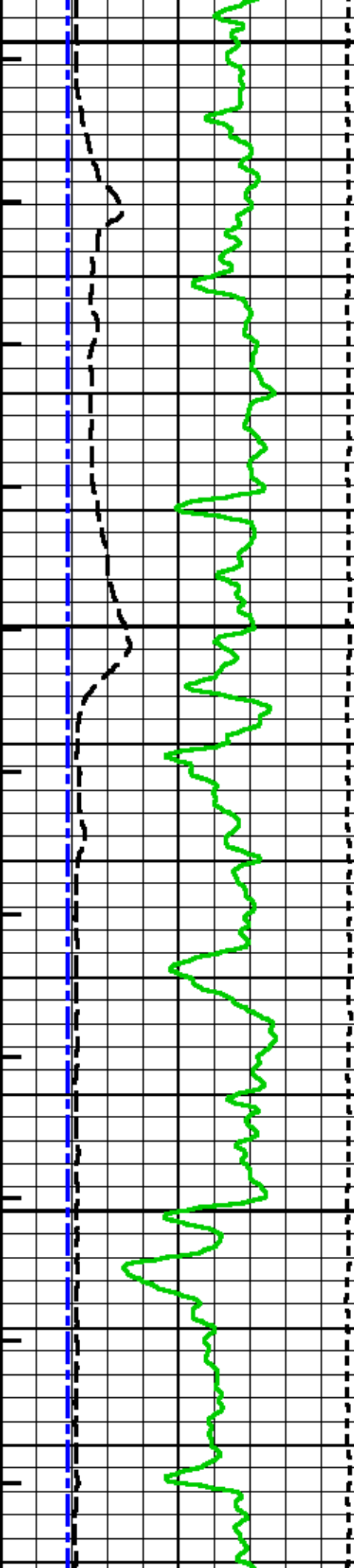


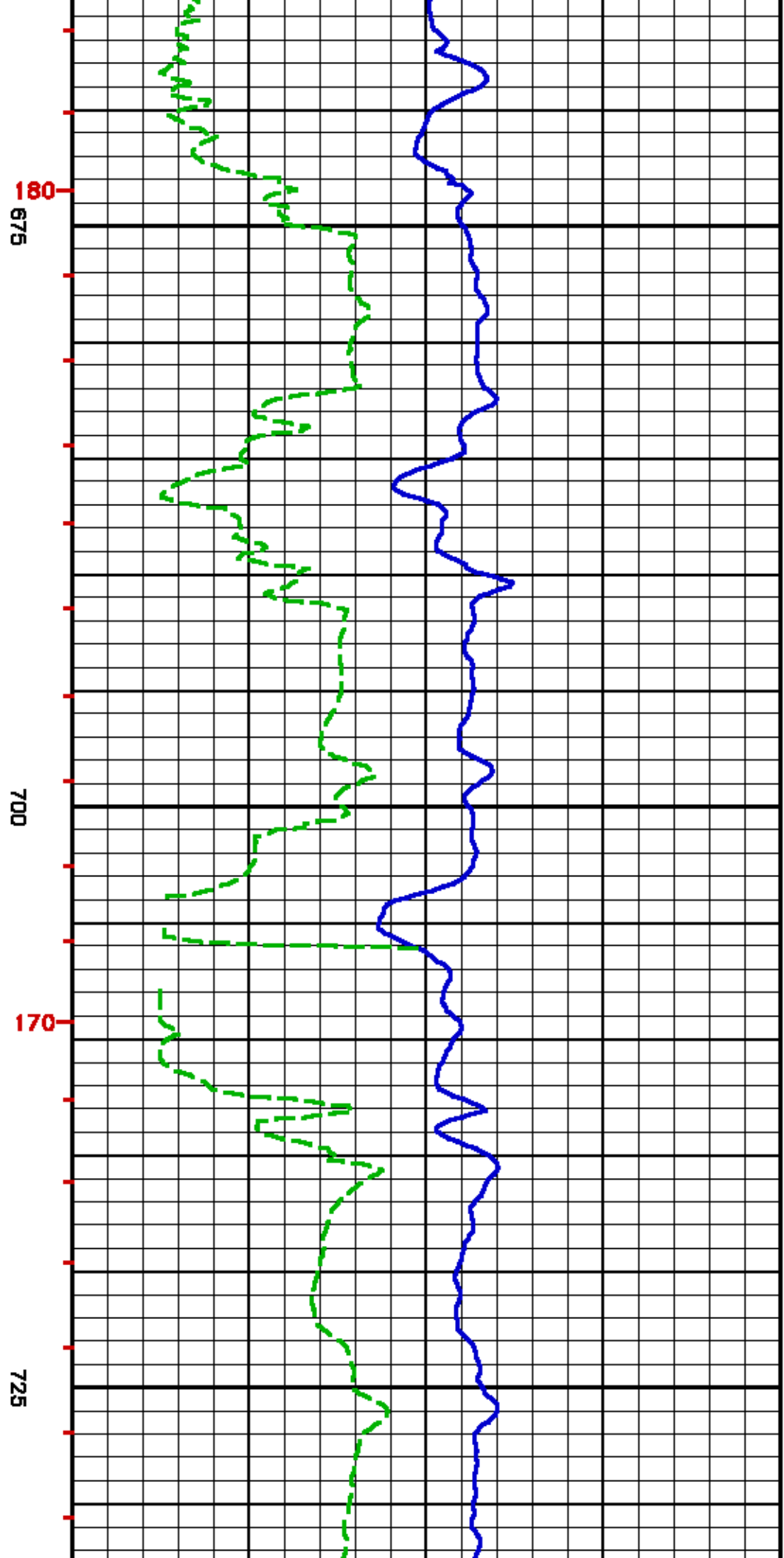
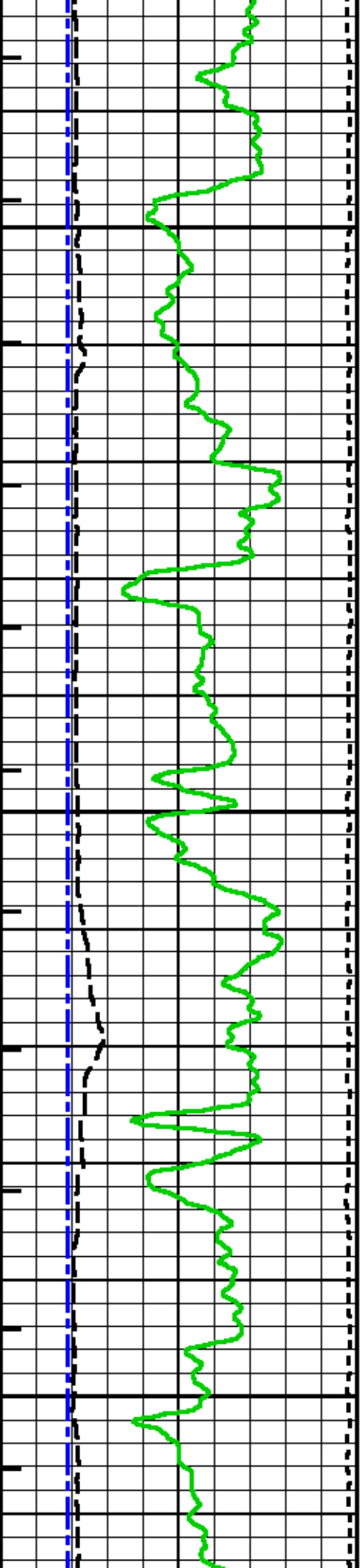
EST. DELTA-T COMP. [dte.i]
(us/m)
500 100

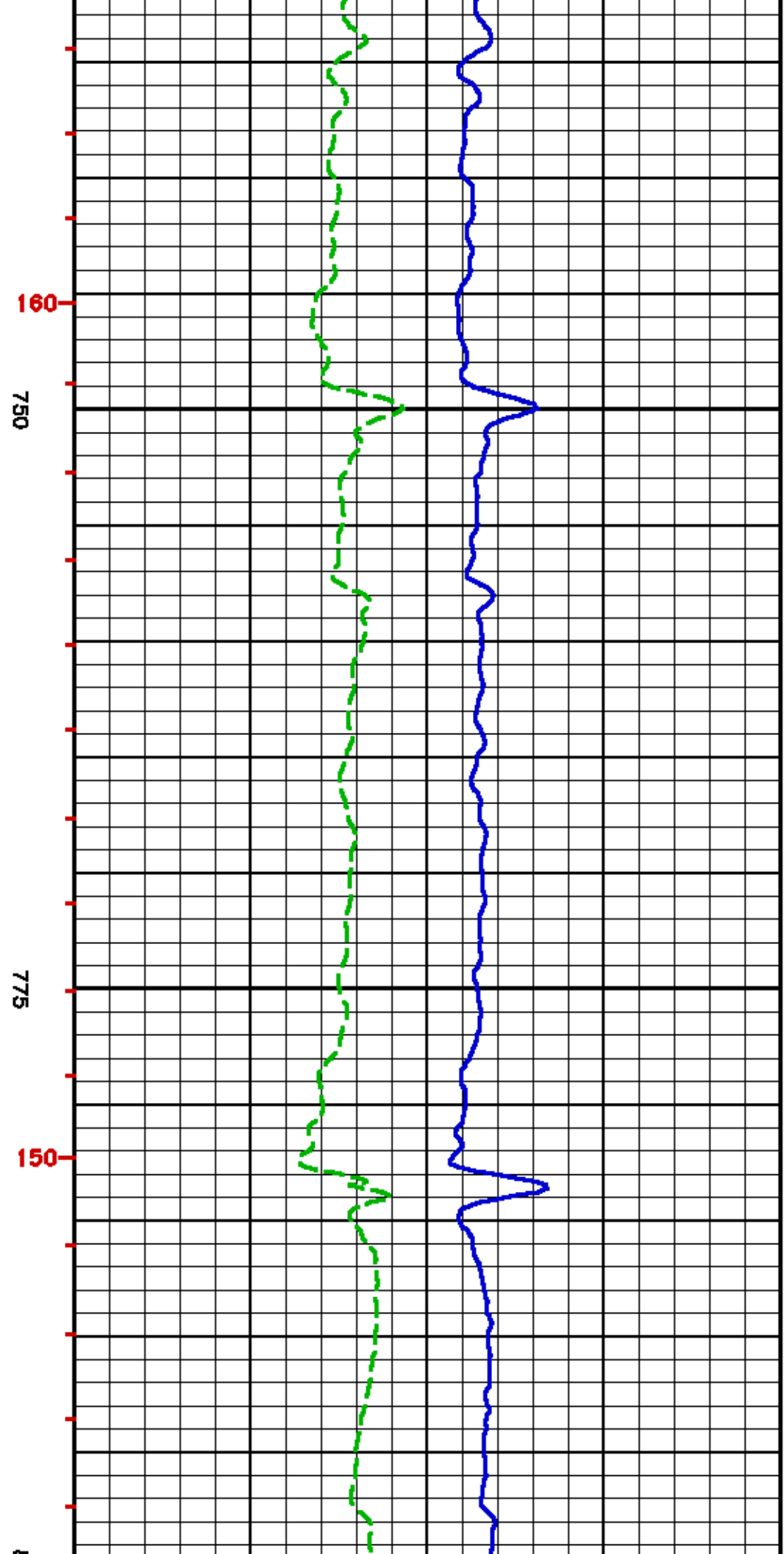
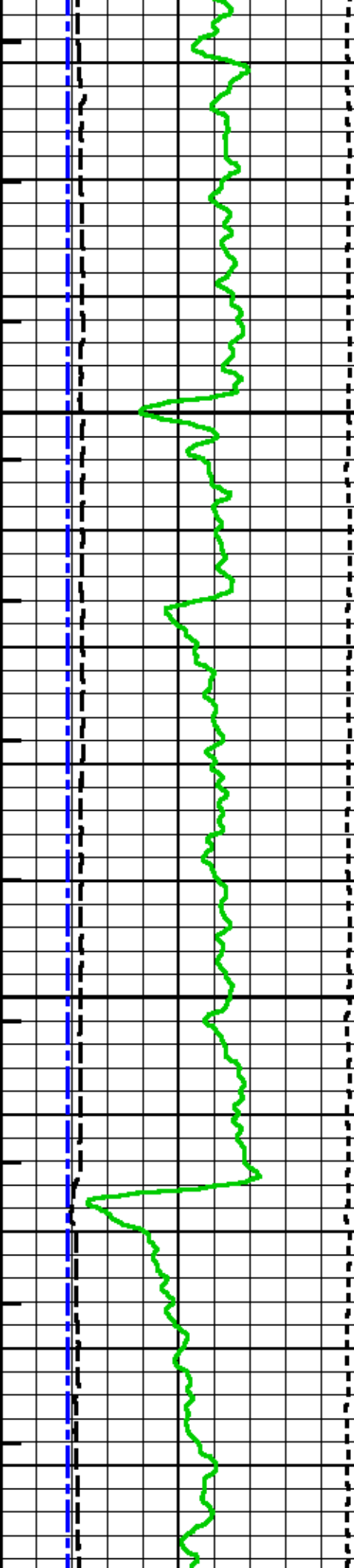
DELTA-T SHEAR [dts.i]
(us/m)
800 0

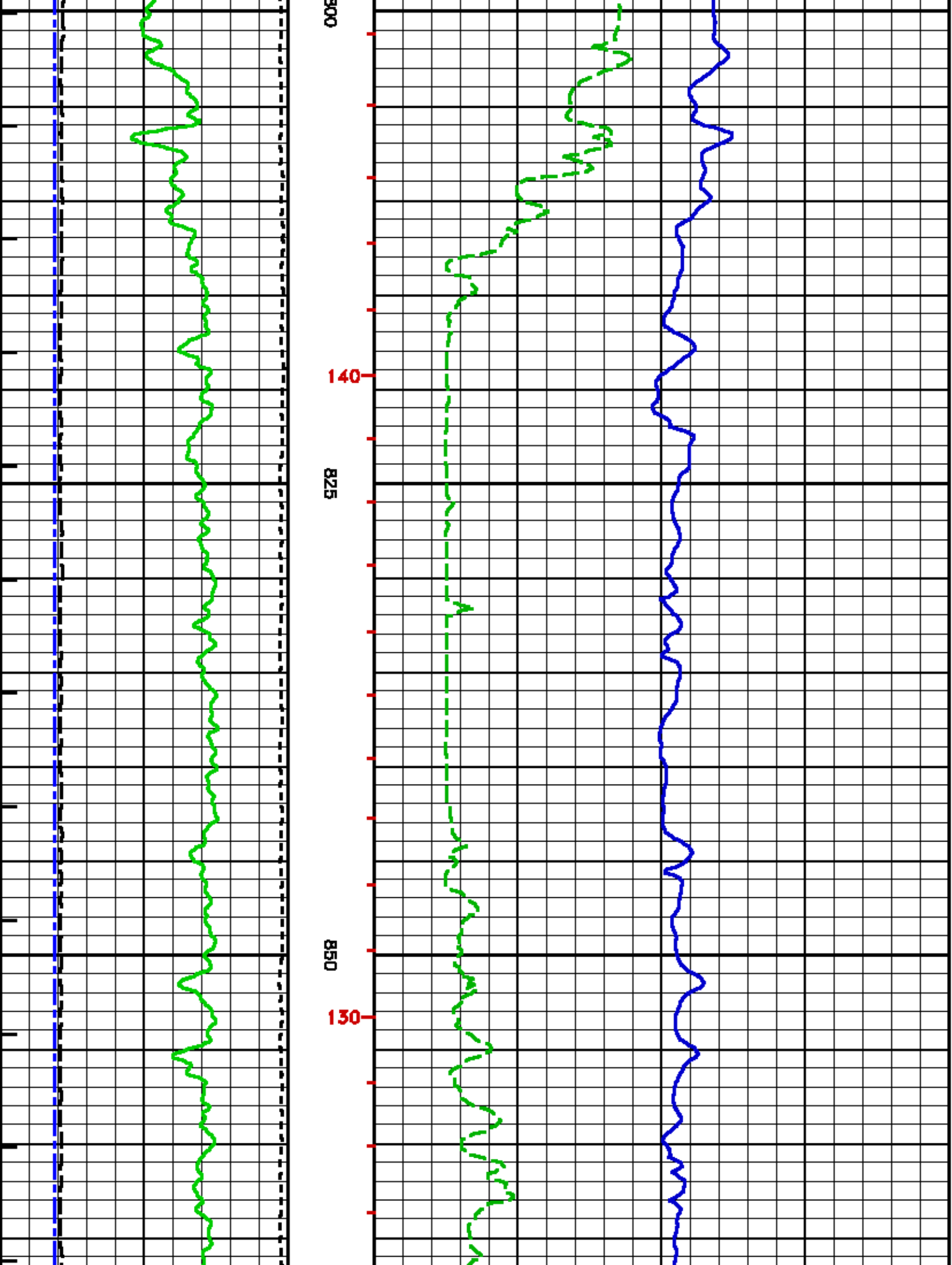


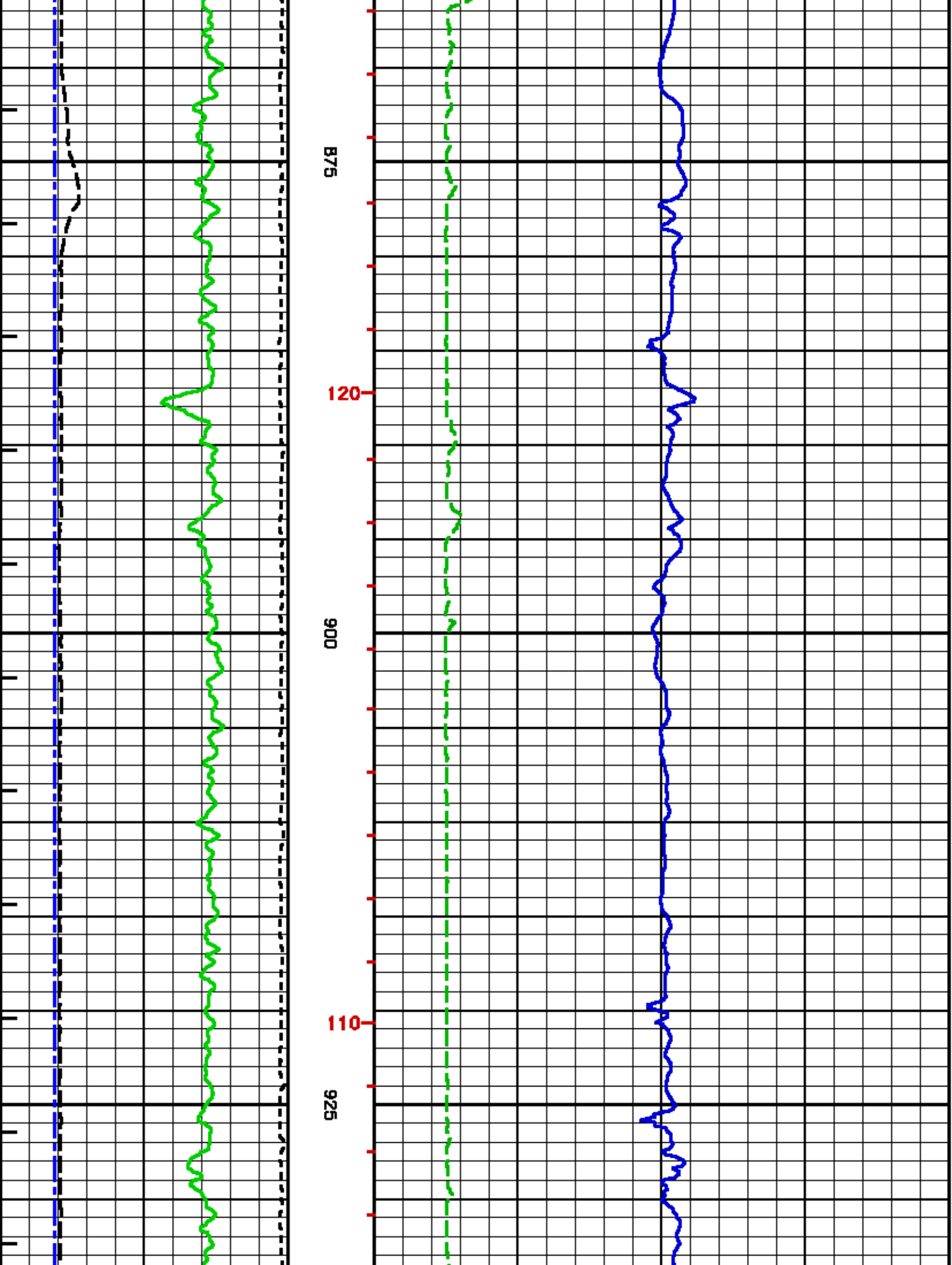


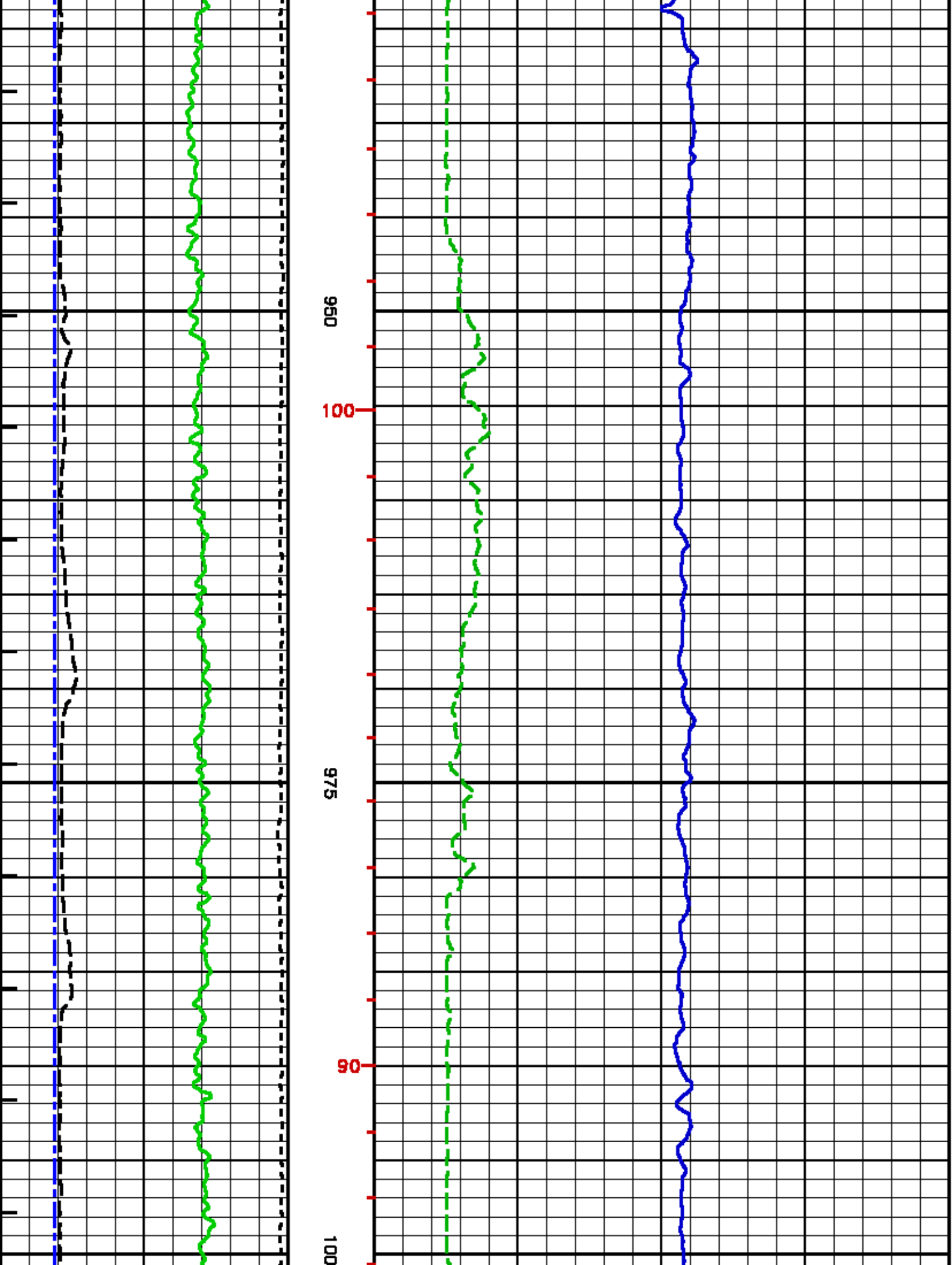


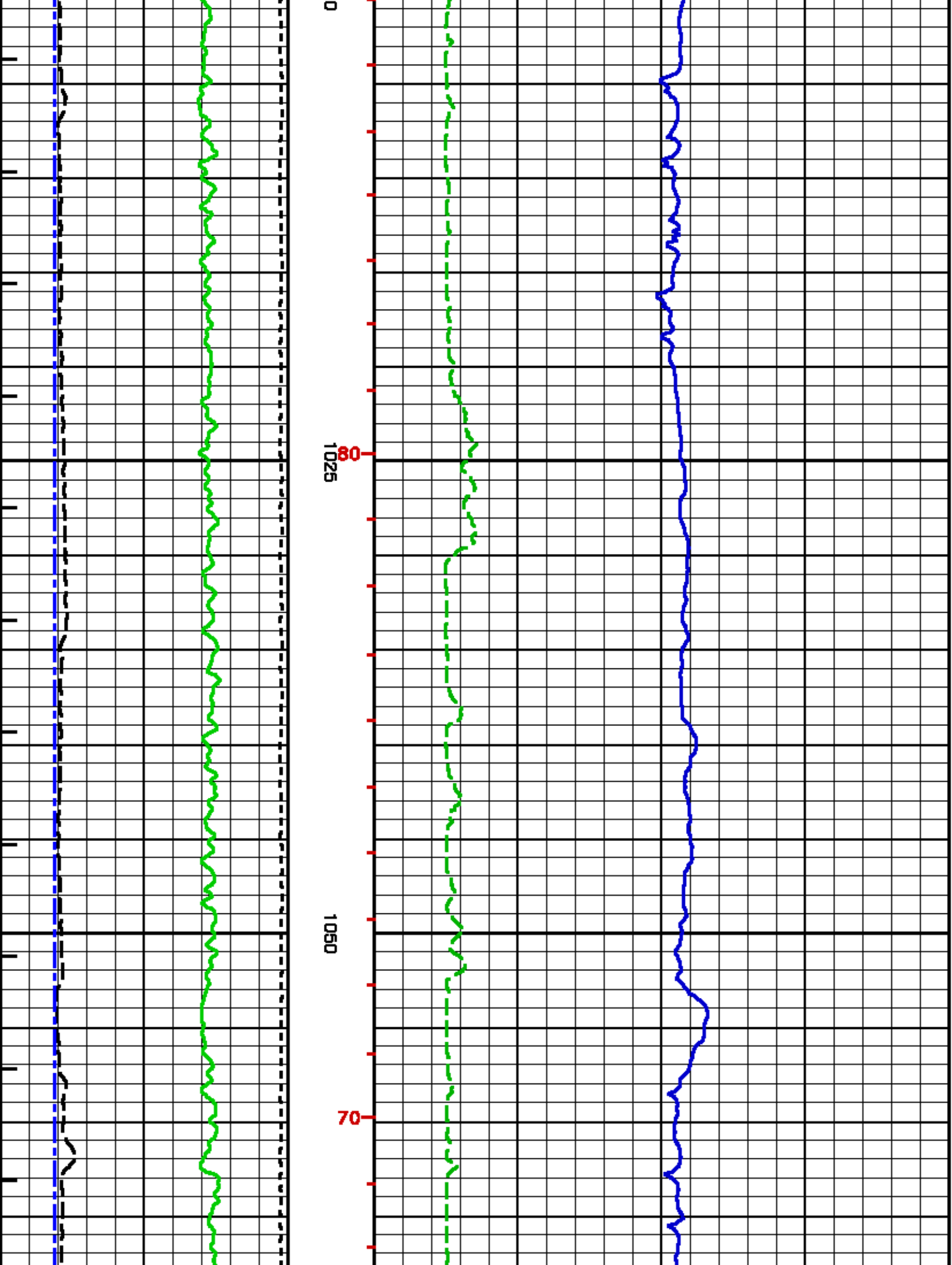


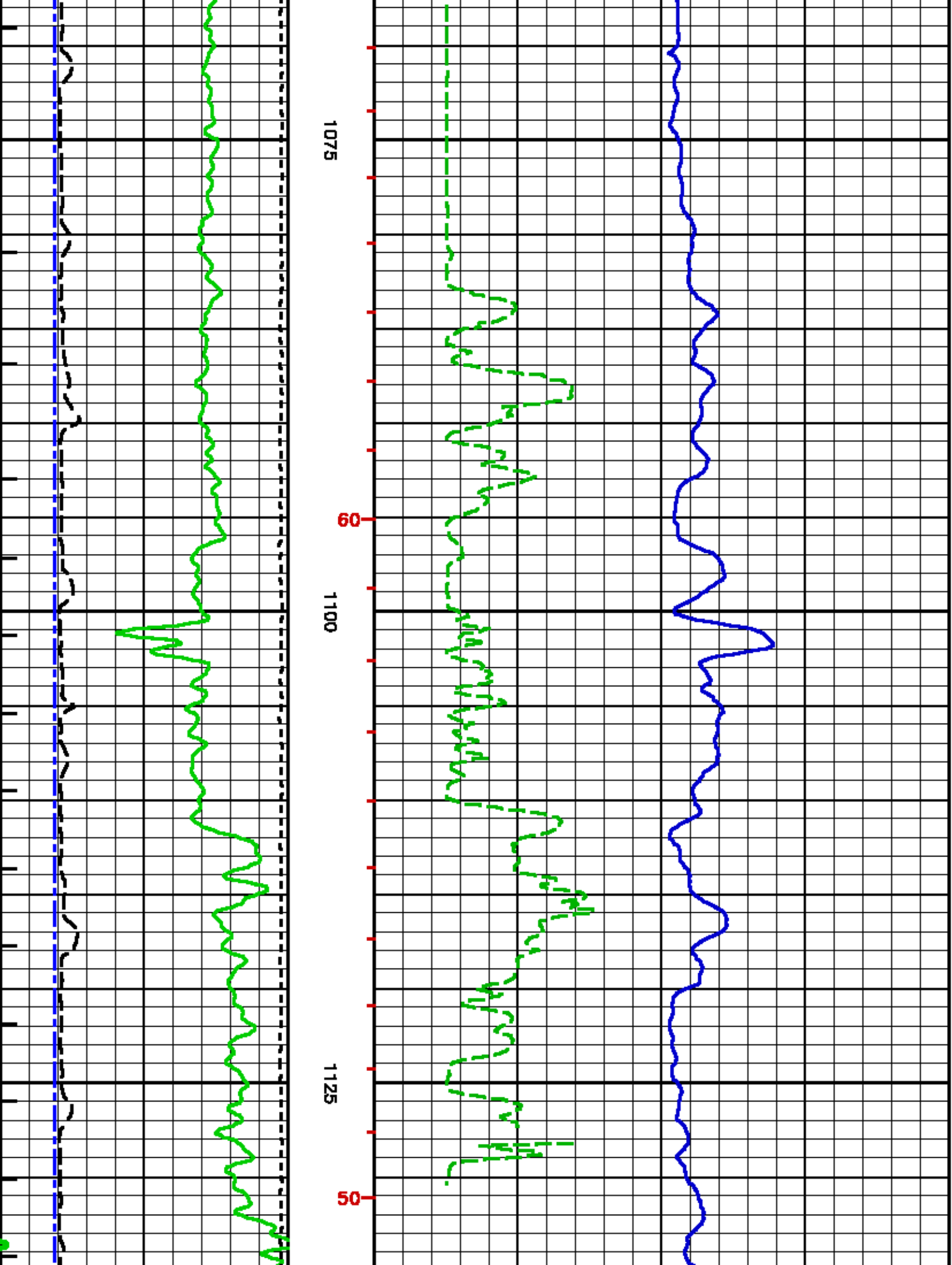


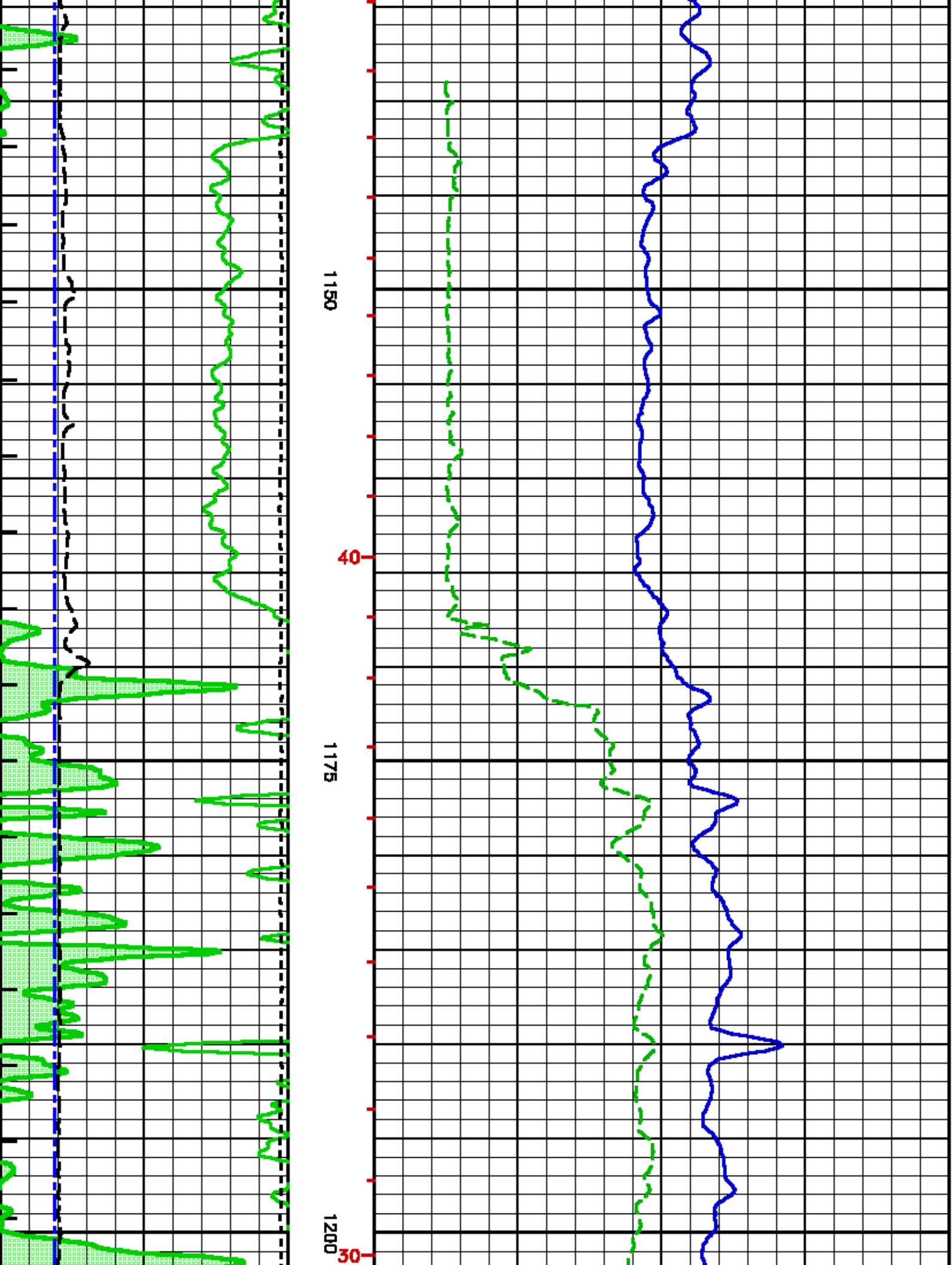


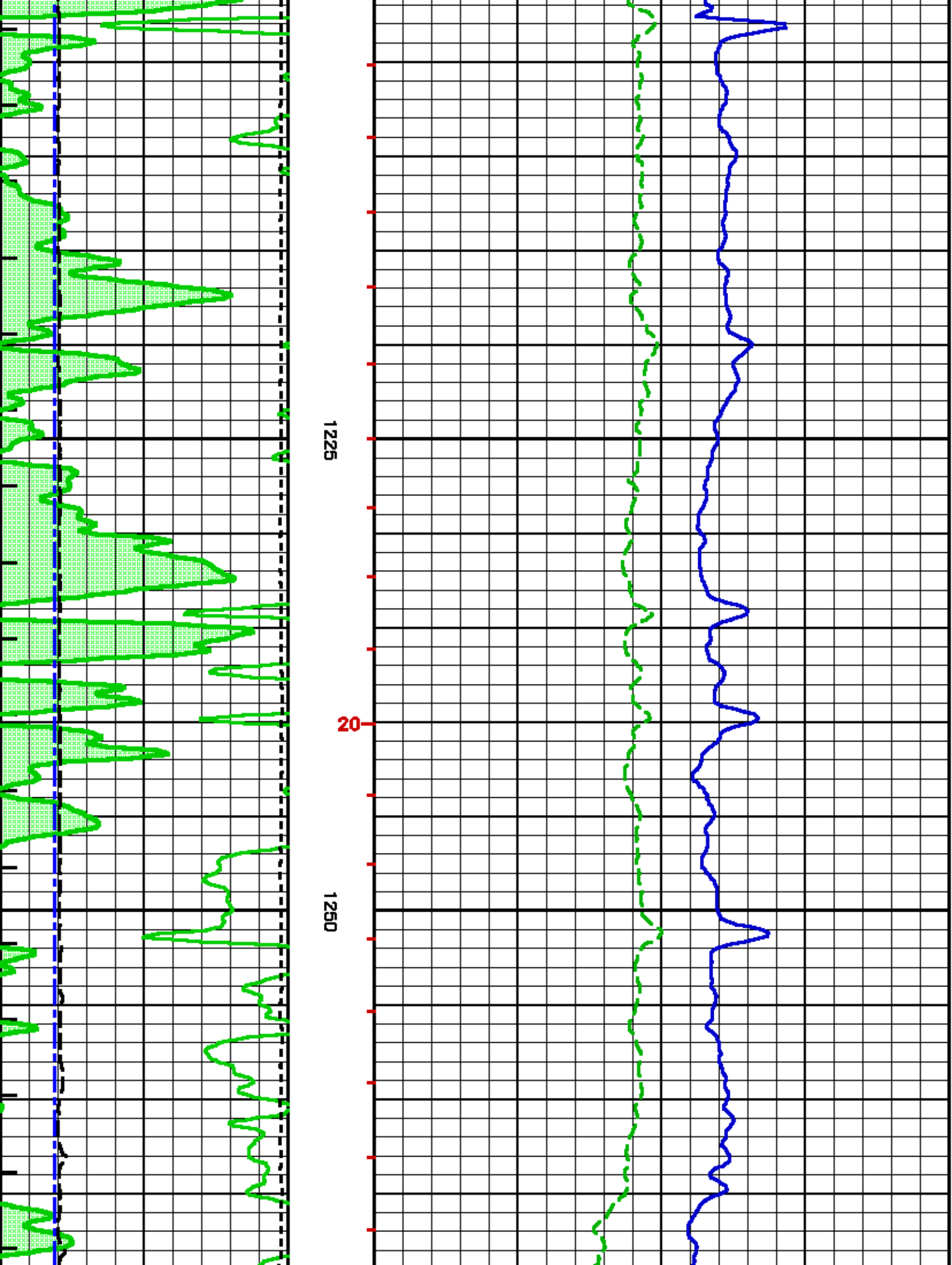


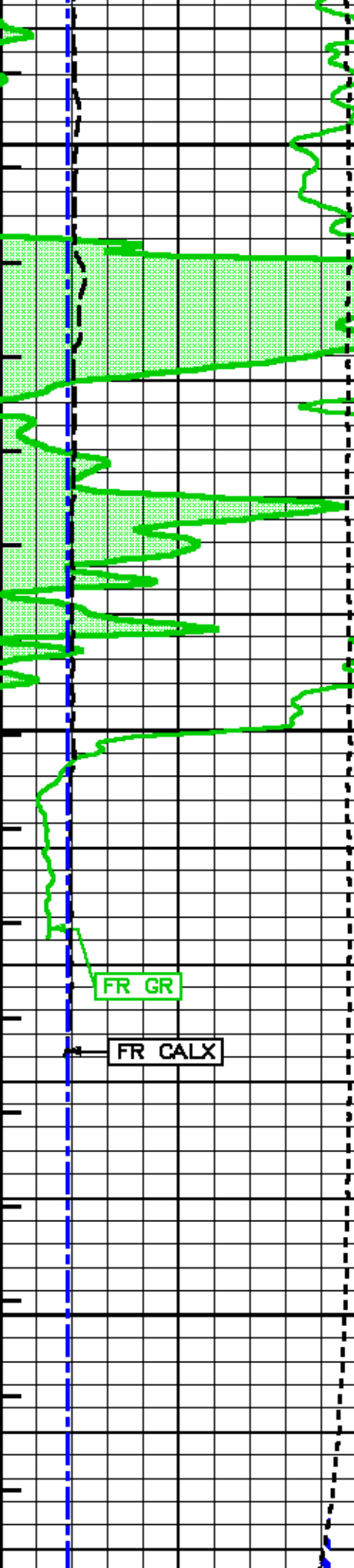












1275

10

1300

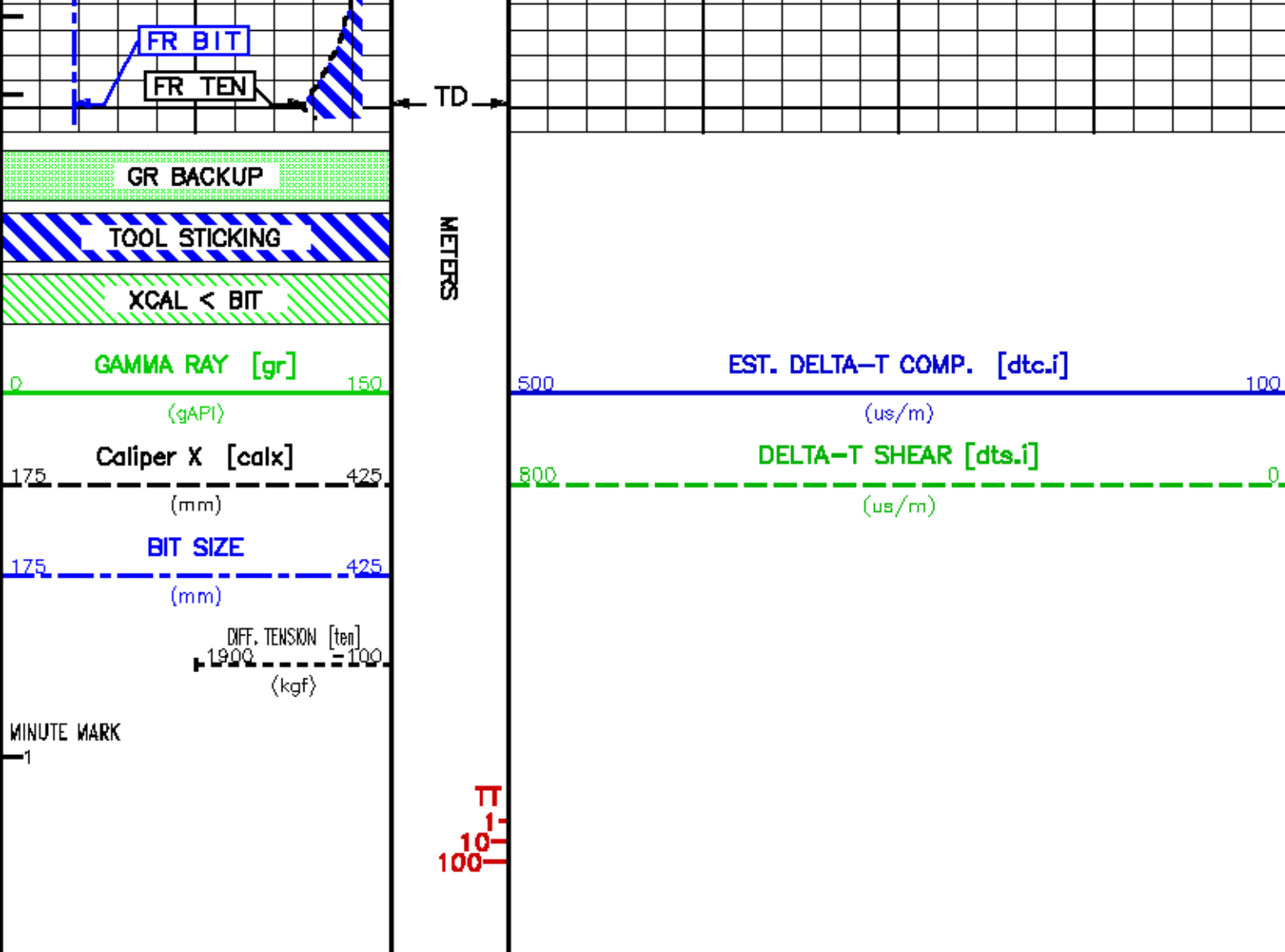
1325

FR GR

FR CALX

FR DTSQI

FR DTCQI



REPEAT LOG

ECLIPS 6.11 Aug 06, 2010
Updates: 1 Patches: 1

Tue Mar 6 23:42:09 2012

Perpl /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /data/husky_CA212311/m77evh_xc02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1212.608 m BOTTOM DEPTH: 1340.829 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	222.000	mm	TOP	BOTTOM

ACOUSTIC AVAN CORRELATION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	400	us/m	TOP	1280.541
		420	us/m	1280.541	1283.894
		400	us/m	1283.894	1298.219
		325	us/m	1298.219	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	SUBSET	1		TOP	1329.042
	SUBCYCLE LENGTH	50		''	''
	AGC	ON		''	''
GENERAL MONOPOLE TCC PARAMETERS	DSP FILTER	ON		''	''
	STACK LEVEL	2		''	''
FULL WAVE MONOPOLE TCC PARAMETERS	SAMPLE PERIOD	24		''	''
	RX DELAY	0	us	''	''
	AGC WINDOW	8064	us	''	''

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/husky_CA212511/m77evh_co03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 0.000 m BOTTOM DEPTH: 0.000 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CHT	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	222.000	mm	TOP	BOTTOM

ACOUSTIC AVAN CORRELATION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	425	us/m	TOP	1284.048
		400	us/m	1284.048	1287.094
		325	us/m	1287.094	1319.555
		350	us/m	1319.555	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	''	''
	HIGH FREQ CUTOFF	20000	Hz	''	''

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		''	''
	SUBSET	1		''	''
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		''	''
	DSP FILTER	ON		''	''
FULL WAVE MONOPOLE TCC PARAMETERS	AGC WINDOW	8064	US	''	''
	SAMPLE PERIOD	24		''	''
	RX DELAY	0	US	''	''

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Mar 8 21:45:08 2012	BIT SIZE
F1:CALX	Mar 8 21:45:08 2012	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CHT	Mar 8 21:45:08 2012	CABLE HEAD TENSION
F1:DTCQI	Mar 8 21:45:08 2012	COMPRESSIONAL WAVE SLOWNESS
F1:GR	Mar 8 21:45:08 2012	GAMMA RAY
F1:MMRK	Mar 8 21:45:08 2012	MINUTE MARK
F1:TEN	Mar 8 21:45:08 2012	DIFFERENTIAL TENSION

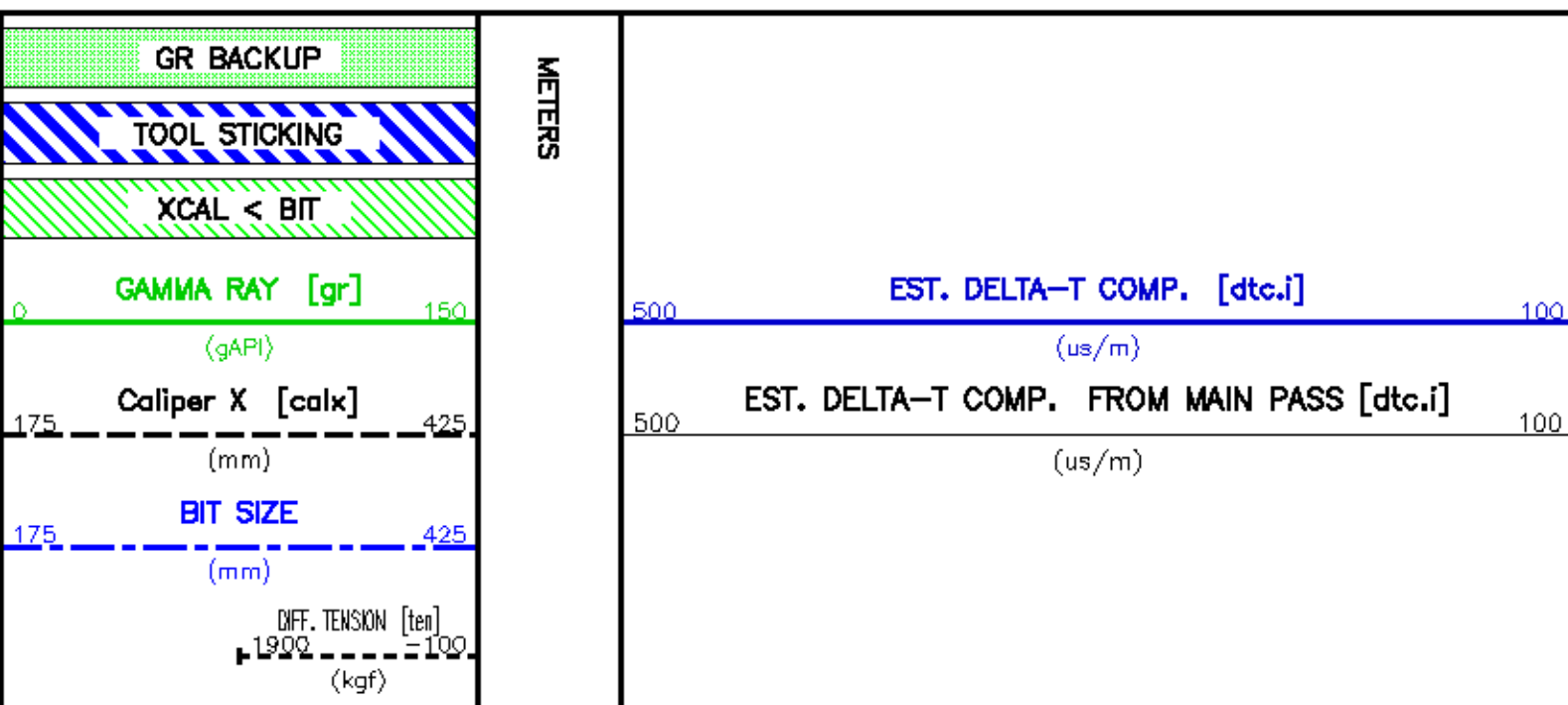
CURVE MEASURE POINT OFFSET

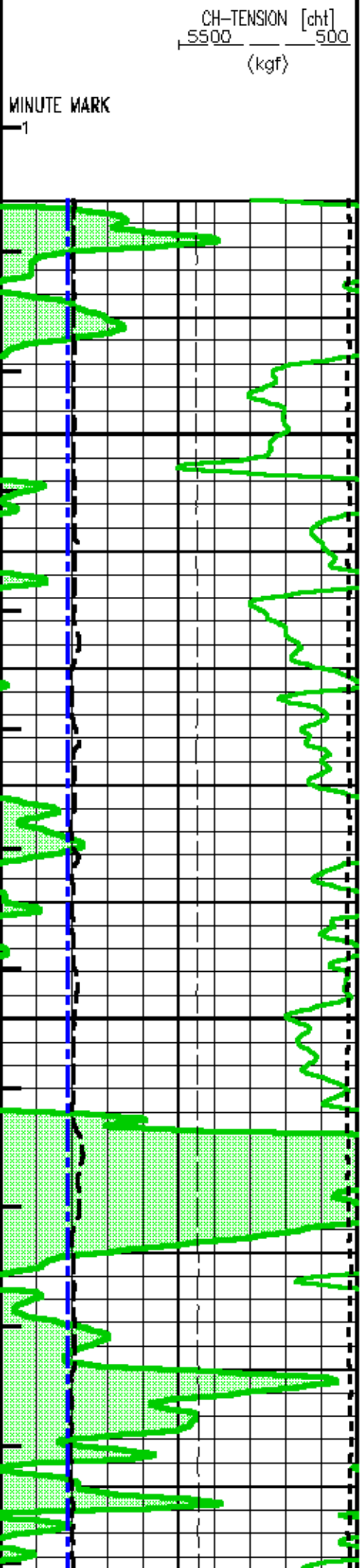
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CHT	0.00	GR	31.38		
CALX	26.17	DTCQI	15.85	TEN	0.00		

Presentation : epuas/dat1a/husky_CA212311/main_rpt100-500.pdf [1:240 Scale]
Plot Interval : 1240 - 1340.88 Meters

Data File 1 : F1 : epuas/dat1a/husky_CA212311/m77wrh_xe02.xtf
Created On : Mar 8 21:45:08 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR H-84
Field : SLATER RIVER
File Interval : 1177.28 - 1340.93 Meters
Oct : m77wrh_x

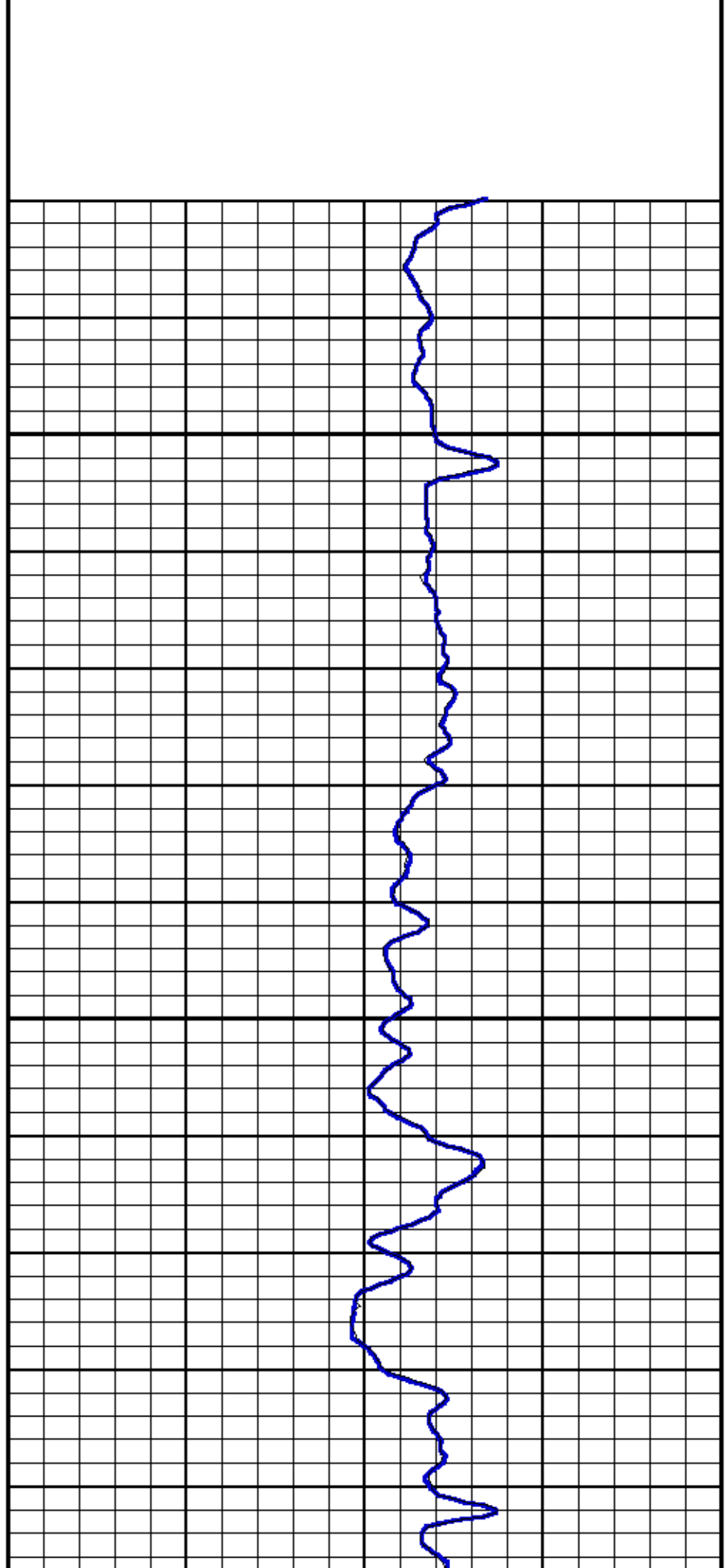
Data File 2 : F2 : epuas/dat1a/husky_CA212311/main_rpt.xtf
Created On : Mar 8 22:18:03 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR H-84
Field : SLATER RIVER
File Interval : 1238.93 - 1340.93 Meters
Oct : m77wrh_x

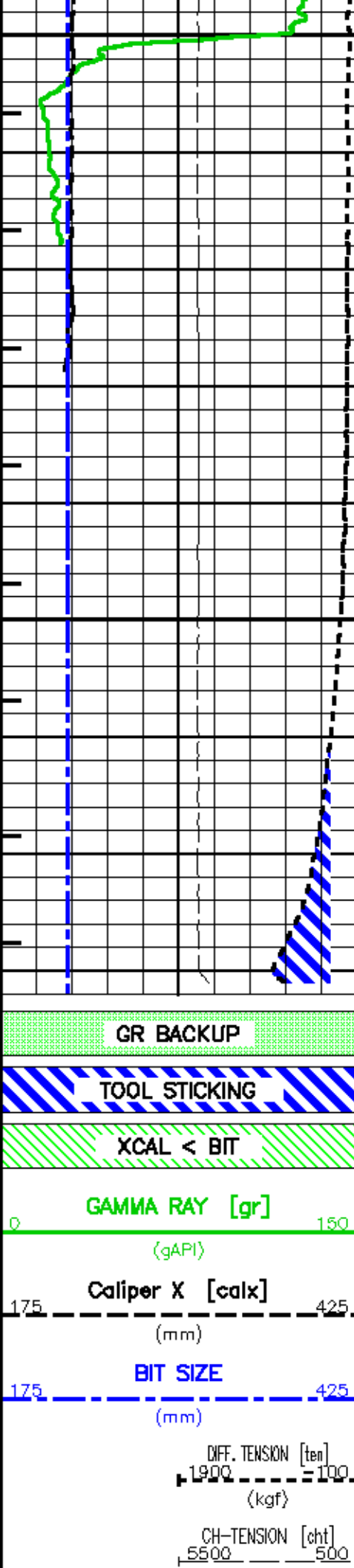




1250

1276

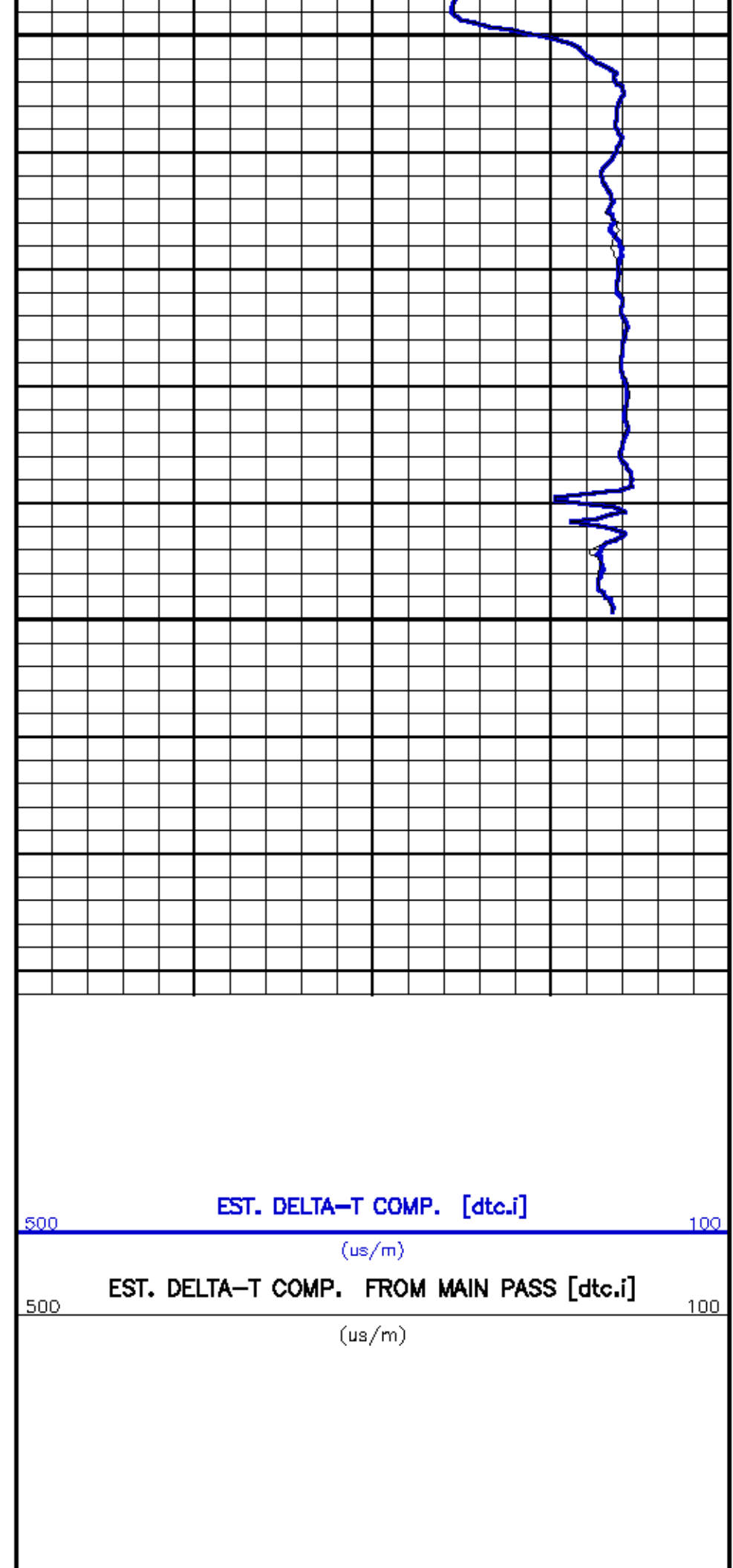




1300

1325

METERS



(kgf)

MINUTE MARK

1

QUALITY CONTROL PRESENTATION

ECLIPS 6.11 Aug 06, 2010

Wed Mar 7 01:33:26 2012

Updates: 1 Patches: 1

Perflit /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /data/husky_CA212311/m77evh_xc03.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 487.566 m BOTTOM DEPTH: 1340.829 m

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
	FILTER (.i)	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
BIT SIZE	BIT SIZE	222.000	mm	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (acbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (acbh*)	222.000	mm	''	''

ACOUSTIC AVAN CORRELATION

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
MONOPOLE COMPRESSIONAL	FORMATION TYPE	GENERIC (MEDIUM)		TOP	BOTTOM
	CORRELATION METHOD	NTH ROOT		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	100	us/m	''	''
	TAPER - RIGHT END	420	us/m	TOP	498.272
		350	us/m	498.272	498.843
		500	us/m	498.843	501.472
		425	us/m	501.472	1284.046
		400	us/m	1284.046	1287.094
		325	us/m	1287.094	1319.555
MONOPOLE SHEAR		350	us/m	1319.555	BOTTOM
	FLOOR (UNIV. OPTION)	0.050		TOP	BOTTOM
	FORMATION TYPE	GENERIC (MEDIUM)		''	''
	GUIDE CURVE	DO NOT USE GUIDE		''	''
	RESET TAPERS			''	''
	TAPER - LEFT END	350	us/m	TOP	498.062
		500	us/m	498.062	498.748
		400	us/m	498.748	1107.843
		350	us/m	1107.843	1109.205
		400	us/m	1109.205	1115.454
		500	us/m	1115.454	1120.711
		600	us/m	1120.711	1154.735
		425	us/m	1154.735	1185.479
		375	us/m	1185.479	1281.148
		400	us/m	1281.148	1285.380
		350	us/m	1285.380	1286.637
		280	us/m	1286.637	BOTTOM
		100	us/m	TOP	498.148

		1000	US/M	TOP	496.443	621.106
		800	US/M		496.443	621.106
		750	US/M		621.106	685.114
		650	US/M		685.114	689.582
		730	US/M		689.582	704.317
		700	US/M		704.317	798.185
		800	US/M		798.185	920.877
		700	US/M		920.877	928.345
		800	US/M		928.345	1102.538
		700	US/M		1102.538	1104.024
		800	US/M		1104.024	1107.300
		750	US/M		1107.300	1108.939
		800	US/M		1108.939	1115.301
		850	US/M		1115.301	1154.382
		800	US/M		1154.382	1165.860
		850	US/M		1165.860	1289.873
		800	US/M		1289.873	1284.808
		725	US/M		1284.808	1285.113
		700	US/M		1285.113	1286.294
		875	US/M		1286.294	1286.751
		800	US/M		1286.751	BOTTOM

ACOUSTIC POROSITY

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACOUSTIC POROSITY	DTfluid	623.38	us/m	TOP	BOTTOM

ACOUSTIC QUALITY CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
ACOUSTIC DIFF TEN LIMIT	DIFF TENSION LIMIT	227	kgf	TOP	BOTTOM

ACOUSTIC WAVEFORM FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
WAVEFORM FILTER - FULLWAVE	SURFACE WAVE FILTER	ON		TOP	BOTTOM
	LOW FREQ CUTOFF	2000	Hz	" "	" "
	HIGH FREQ CUTOFF	20000	Hz	" "	" "

ACOUSTIC TCC CONTROL PARAMETERS

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
GENERAL TCC PARAMETERS	AGC	ON		TOP	BOTTOM
	SUBCYCLE LENGTH	50		" "	" "
	SUBSET	1		" "	" "
GENERAL MONOPOLE TCC PARAMETERS	STACK LEVEL	2		" "	" "
	DSP FILTER	ON		" "	" "
FULL WAVE MONOPOLE TCC PARAMETERS	ACG WINDOW	8064	us	" "	" "
	SAMPLE PERIOD	24		" "	" "
	RX DELAY	0	us	" "	" "

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION	
F1:BIT	Mar 6 22:18:03 2012	BIT SIZE	
F1:CAL	Mar 6 22:18:03 2012	CALIPER	
F1:CDTCRQI	Mar 6 22:18:03 2012	COMBINED CORRELATION FOR MONOPOLE COMPRESSIONAL RCVR ARRAY	
F1:DTCQI	Mar 6 22:18:03 2012	COMPRESSIONAL WAVE SLOWNESS	
F1:DTCRQI	Mar 6 22:18:03 2012	COMPRESSIONAL WAVE SLOWNESS FROM RECEIVER ARRAY	
F1:DTSQI	Mar 6 22:18:03 2012	SHEAR WAVE SLOWNESS	
F1:GR	Mar 6 22:18:03 2012	GAMMA RAY	
F1:PKSMRQI	Mar 6 22:18:03 2012	PEAKS FROM MONOPOLE COMPRESSIONAL CORRELOGRAM (8 WAVE) RCVR	
F1:TEN	Mar 6 22:18:03 2012	DIFFERENTIAL TENSION	
F1:TFWV01	Mar 6 22:18:03 2012	ACOUSTIC MULTIPLEXED WAVEFORM	
F1:TTFEQI	Mar 6 22:18:03 2012	TRAVELTIME ESTIMATE FAR TRANSMITTER	

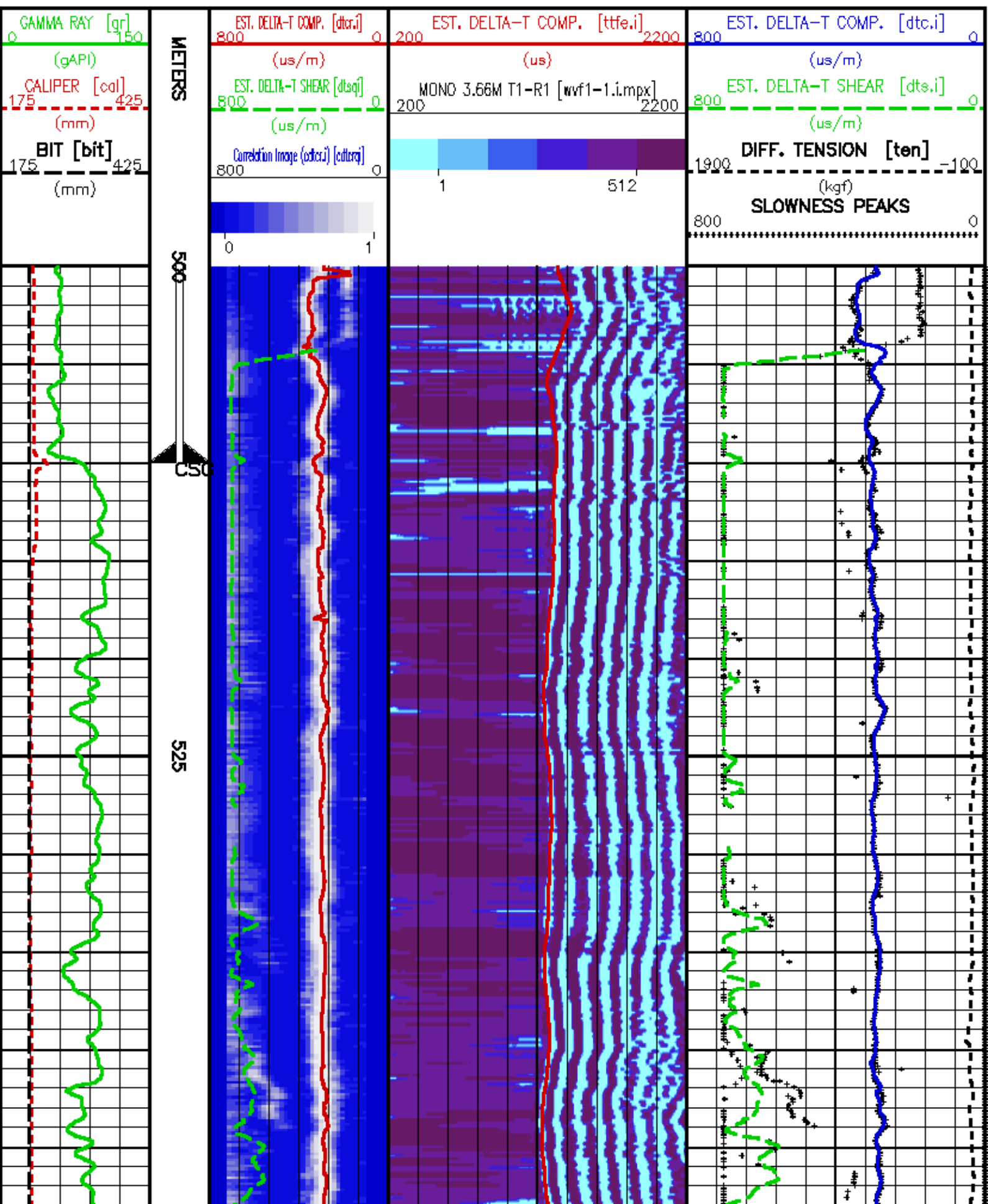
CURVE MEASURE POINT OFFSET

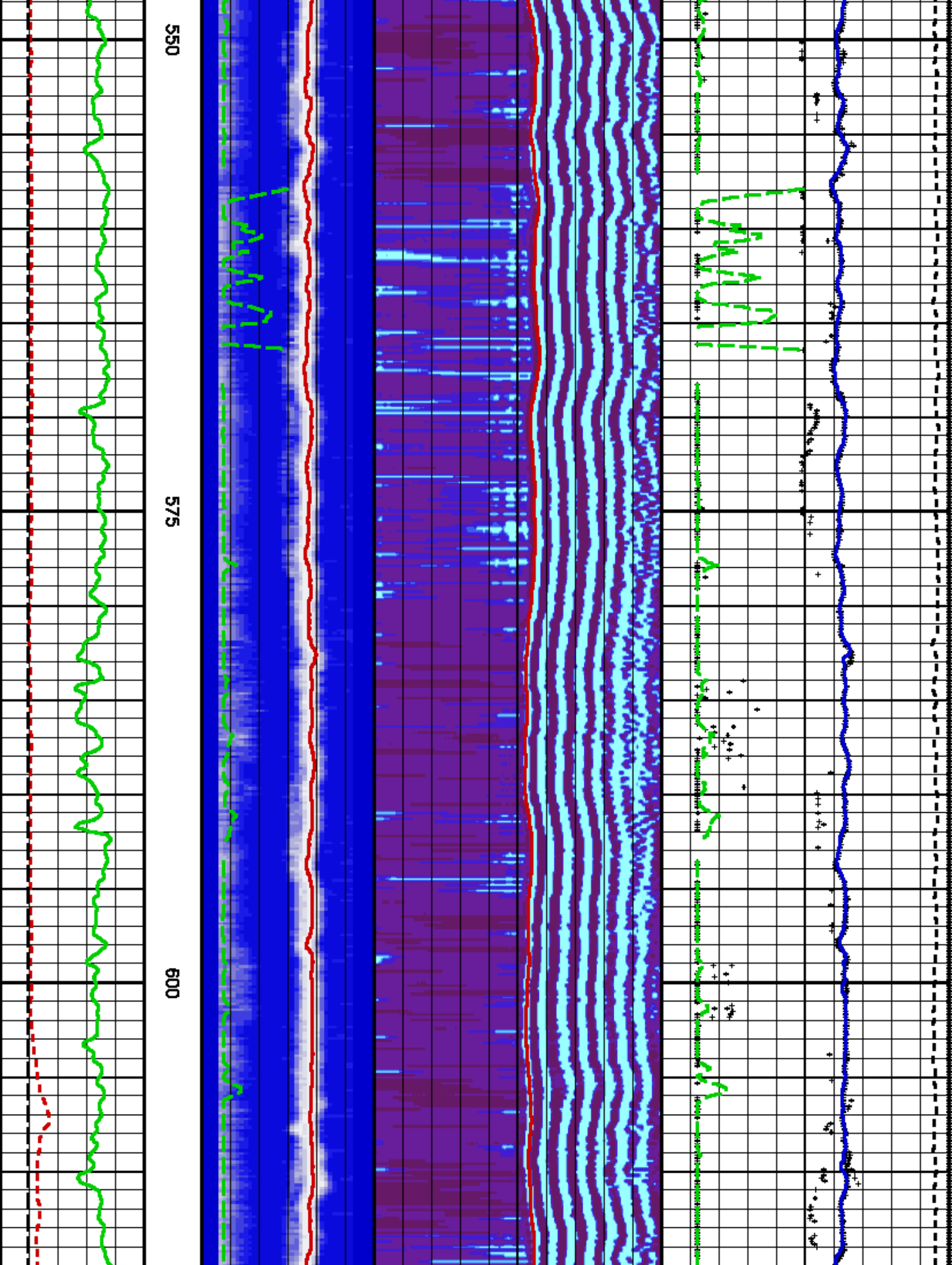
CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	DTCRQI	15.85	PKSMRQI	15.85		
CAL	26.06	DTSQI	15.85	TEN	0.00		
DTCQI	15.85	GR	31.39	TTFEQI	15.85		

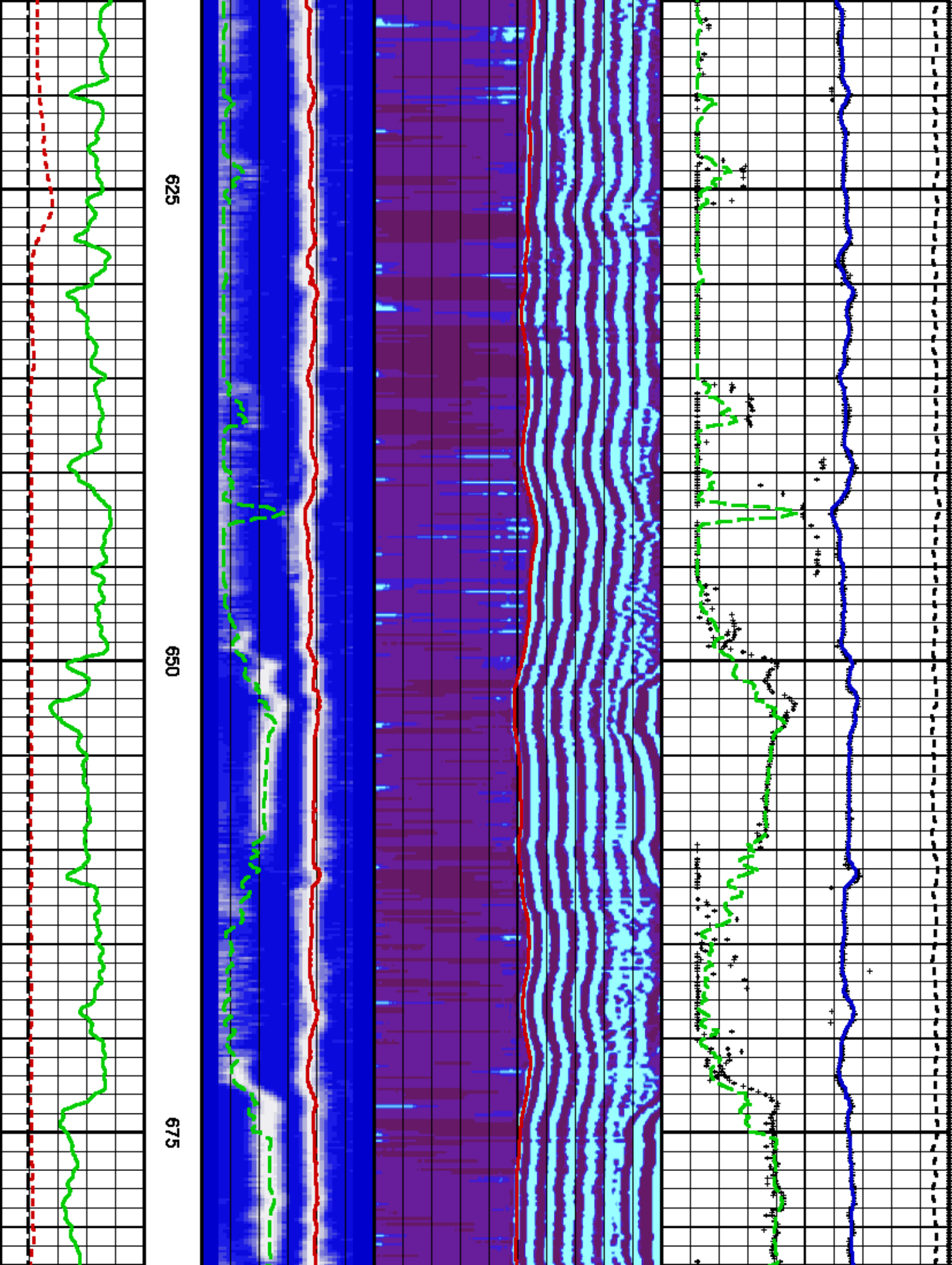
Presentation : opuz\data\husky_CA212311\smas_mono_dip_qs.pdf [1:240 Scale]
Plot Interval : 500 - 1340.88 Meters

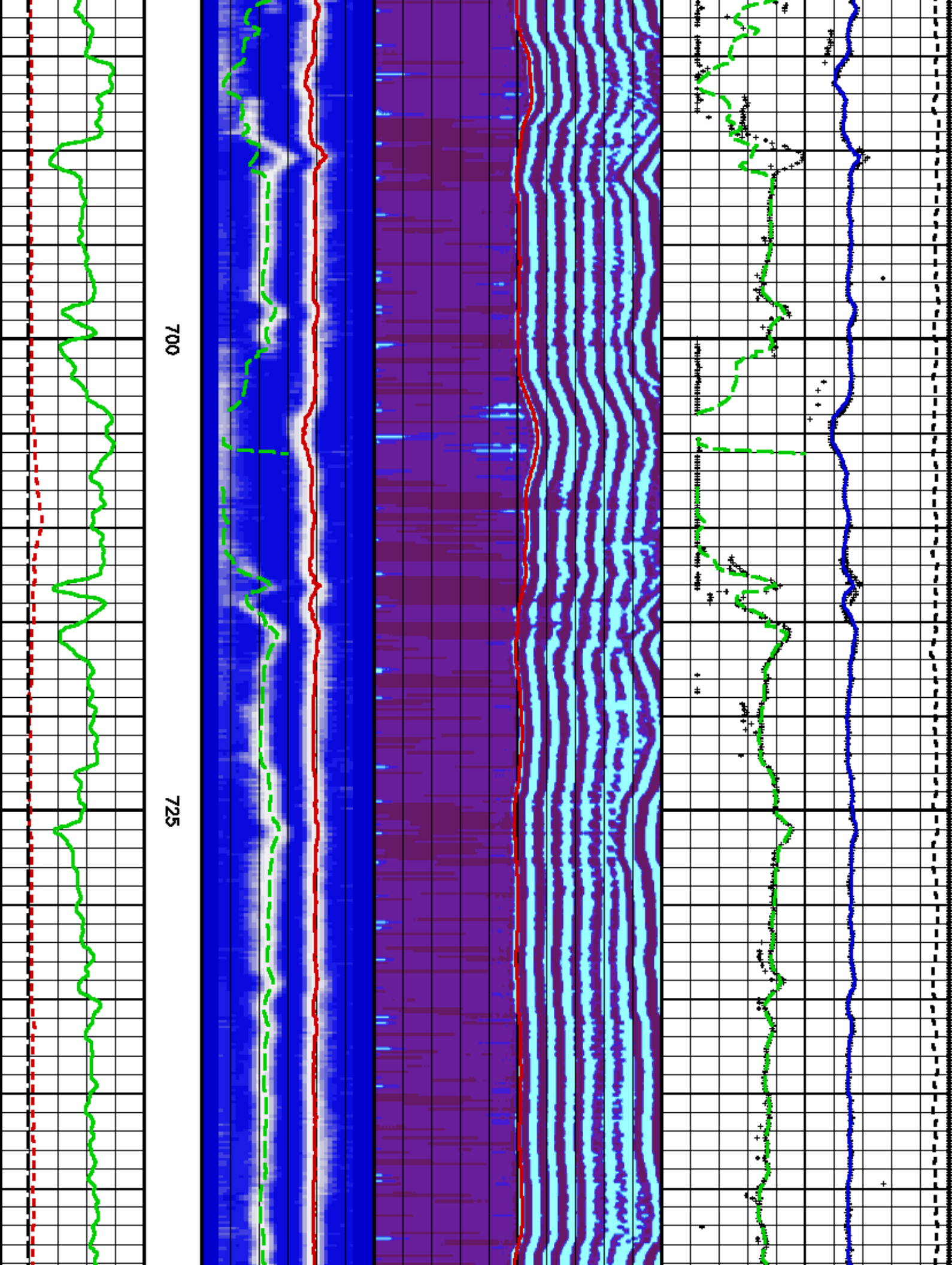
Data File 1 : F1 : opuz\data\husky_CA212311\m77wh_xe03.xtf

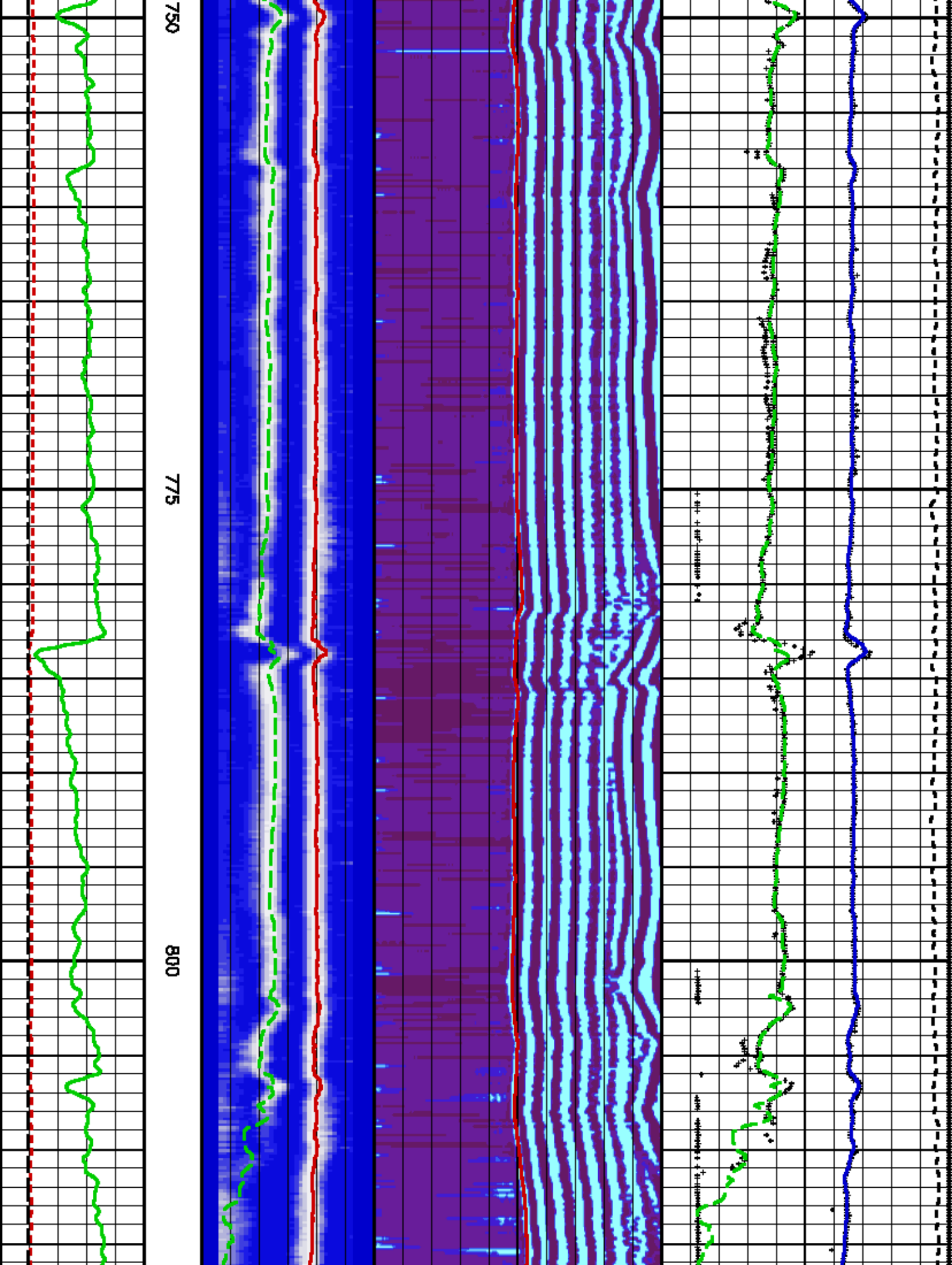
Created On : Mar 6 22:18:03 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR H-84
Field : SLATER RIVER
File Interval : 452.247 - 1340.93 Meters
Out : m77wh.x

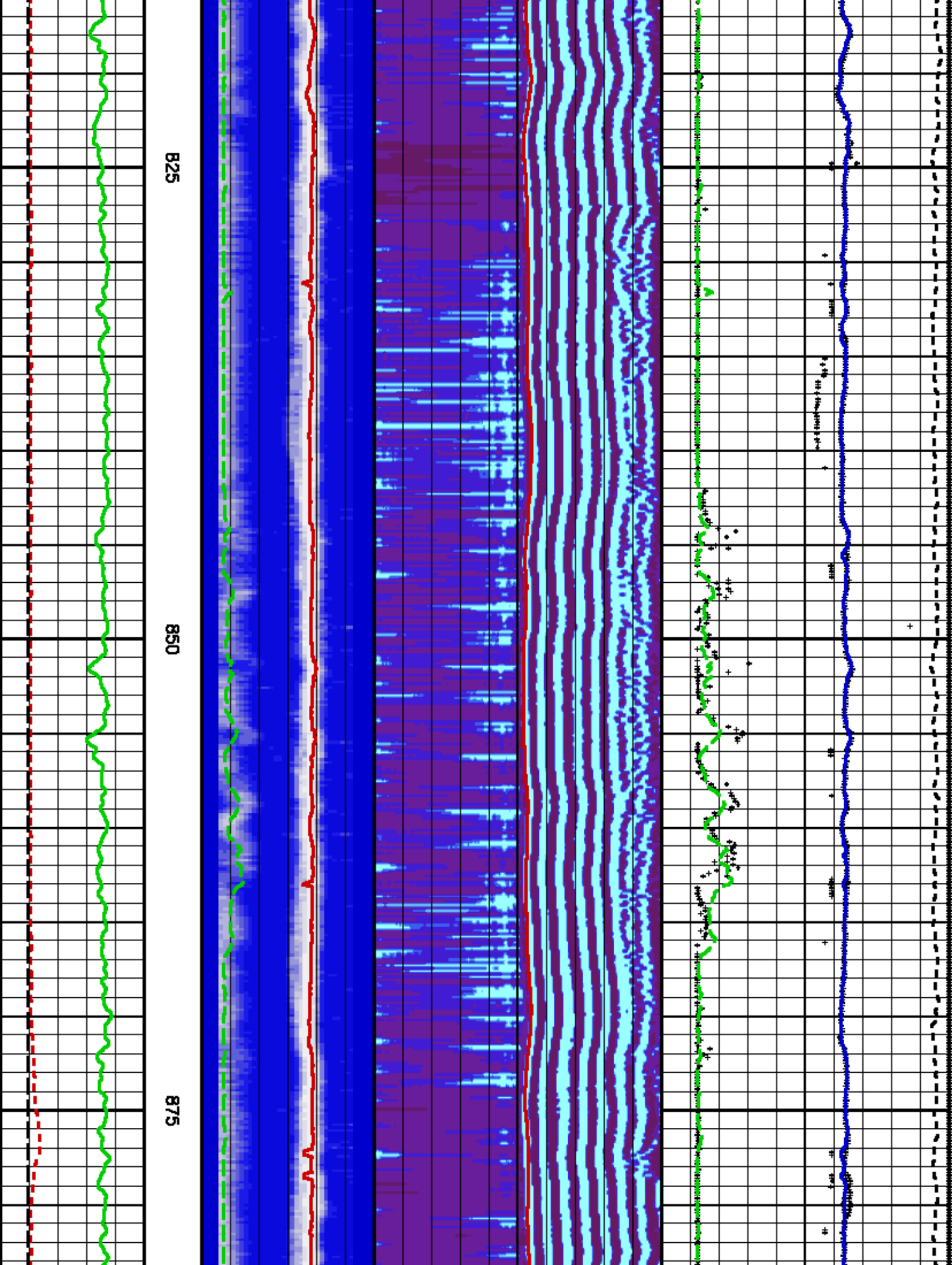


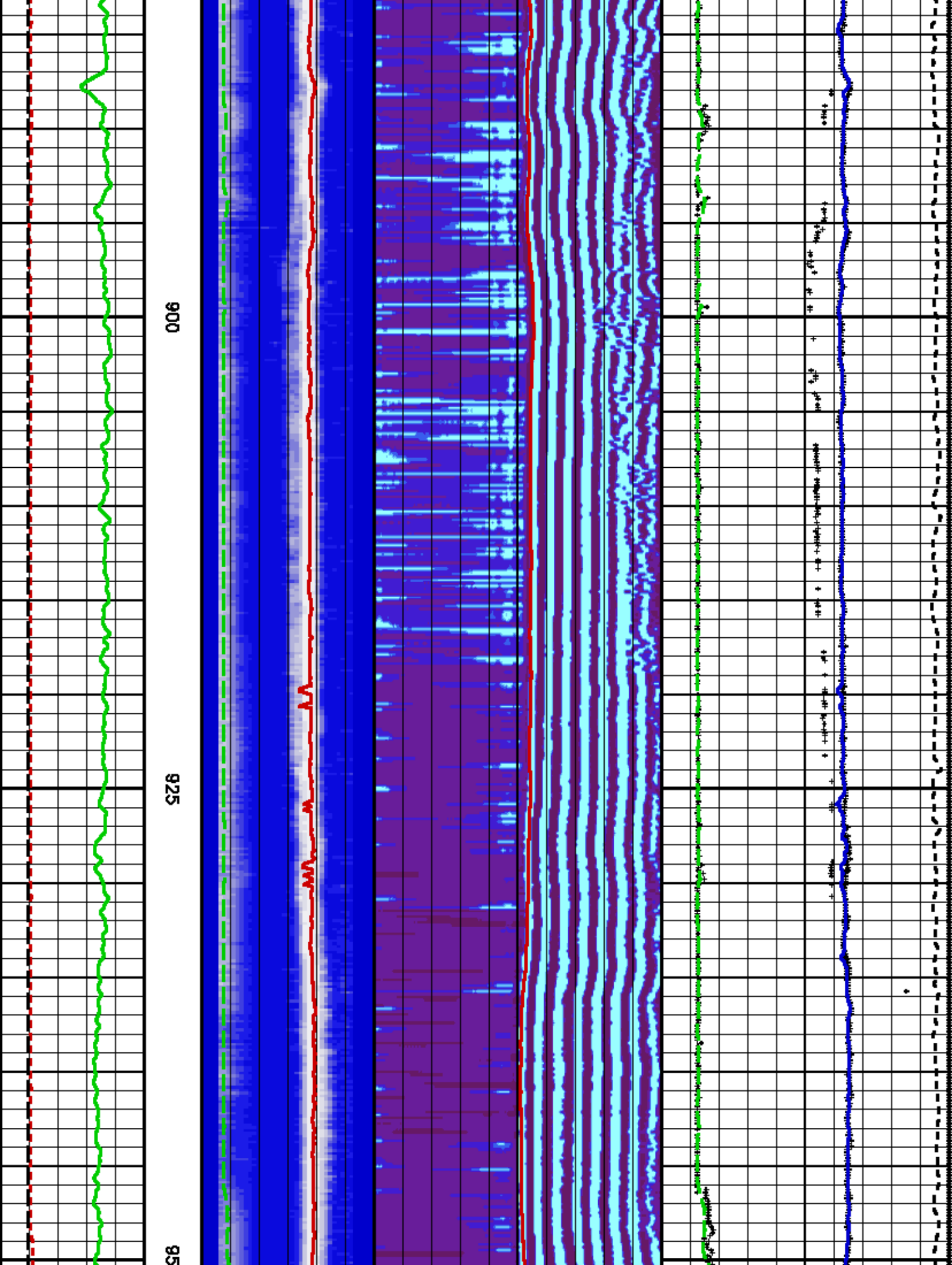


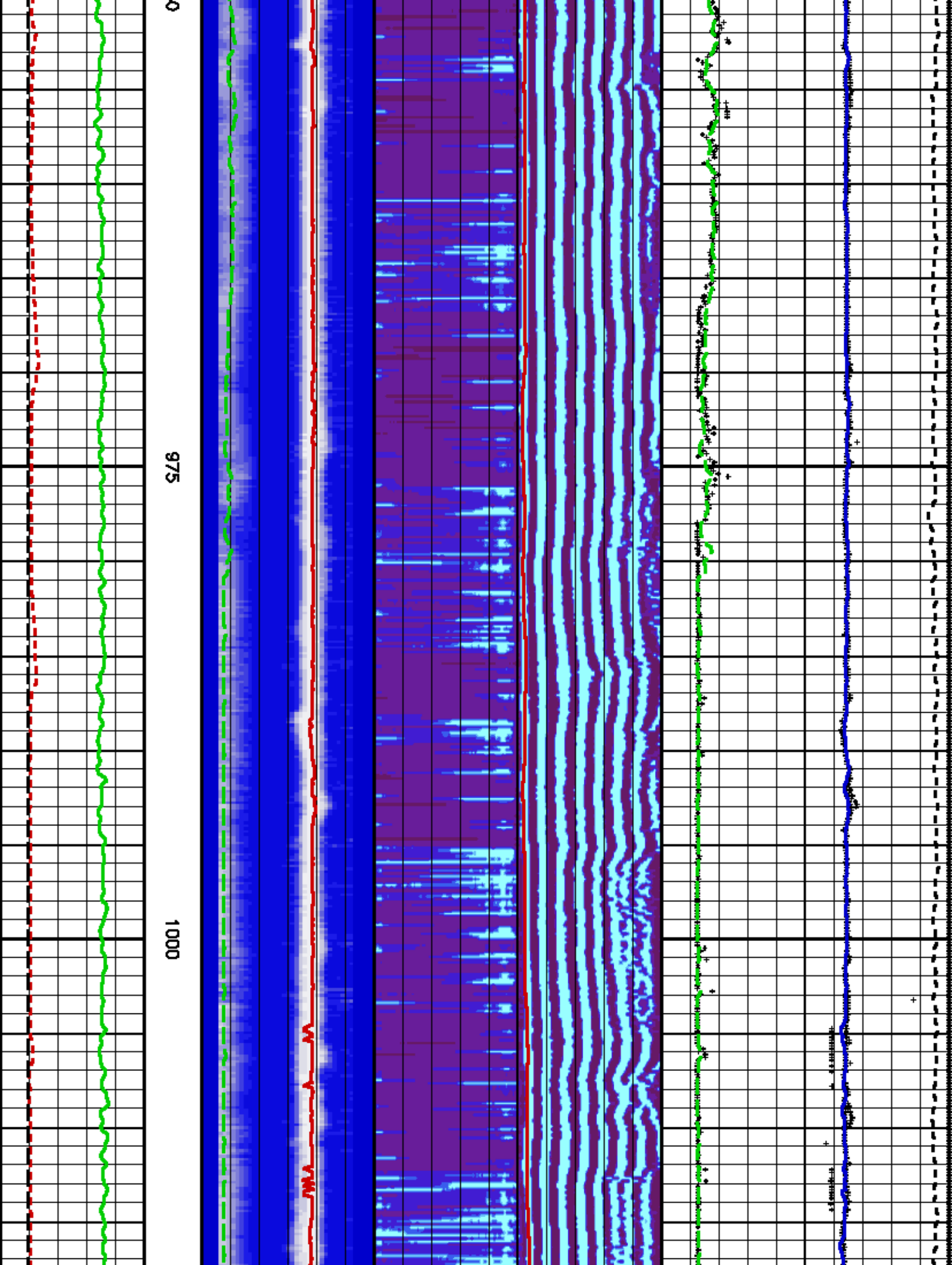


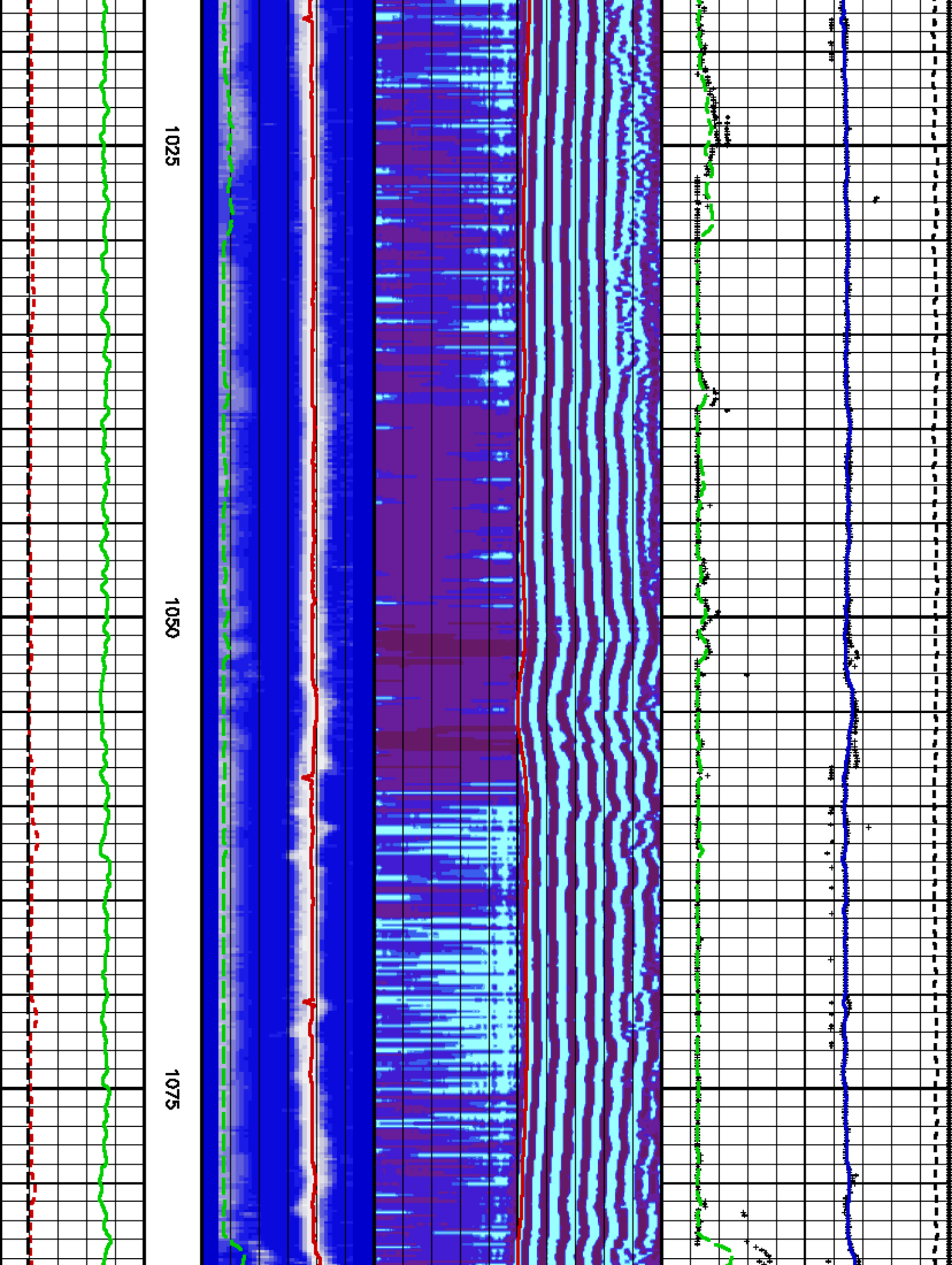


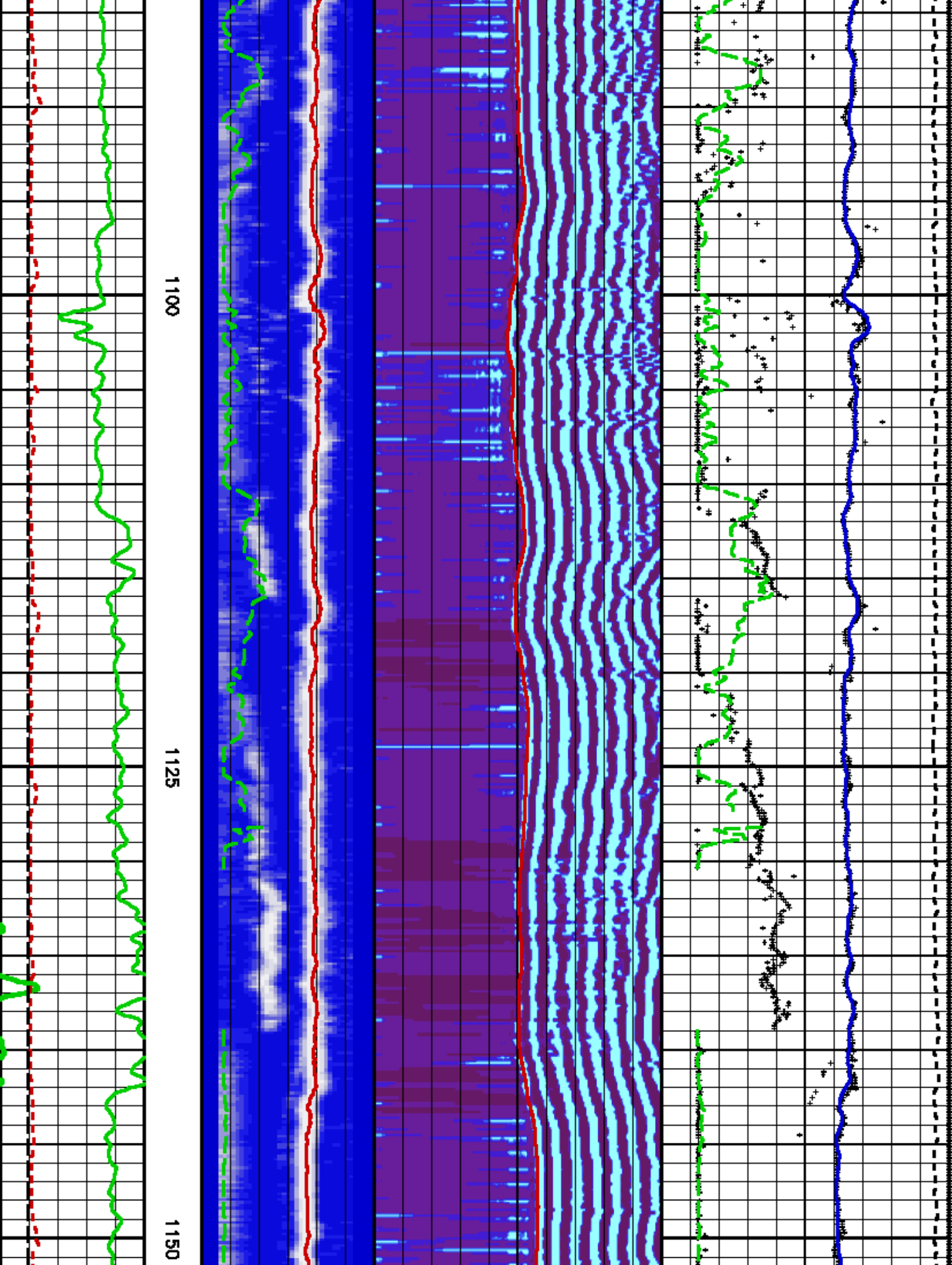


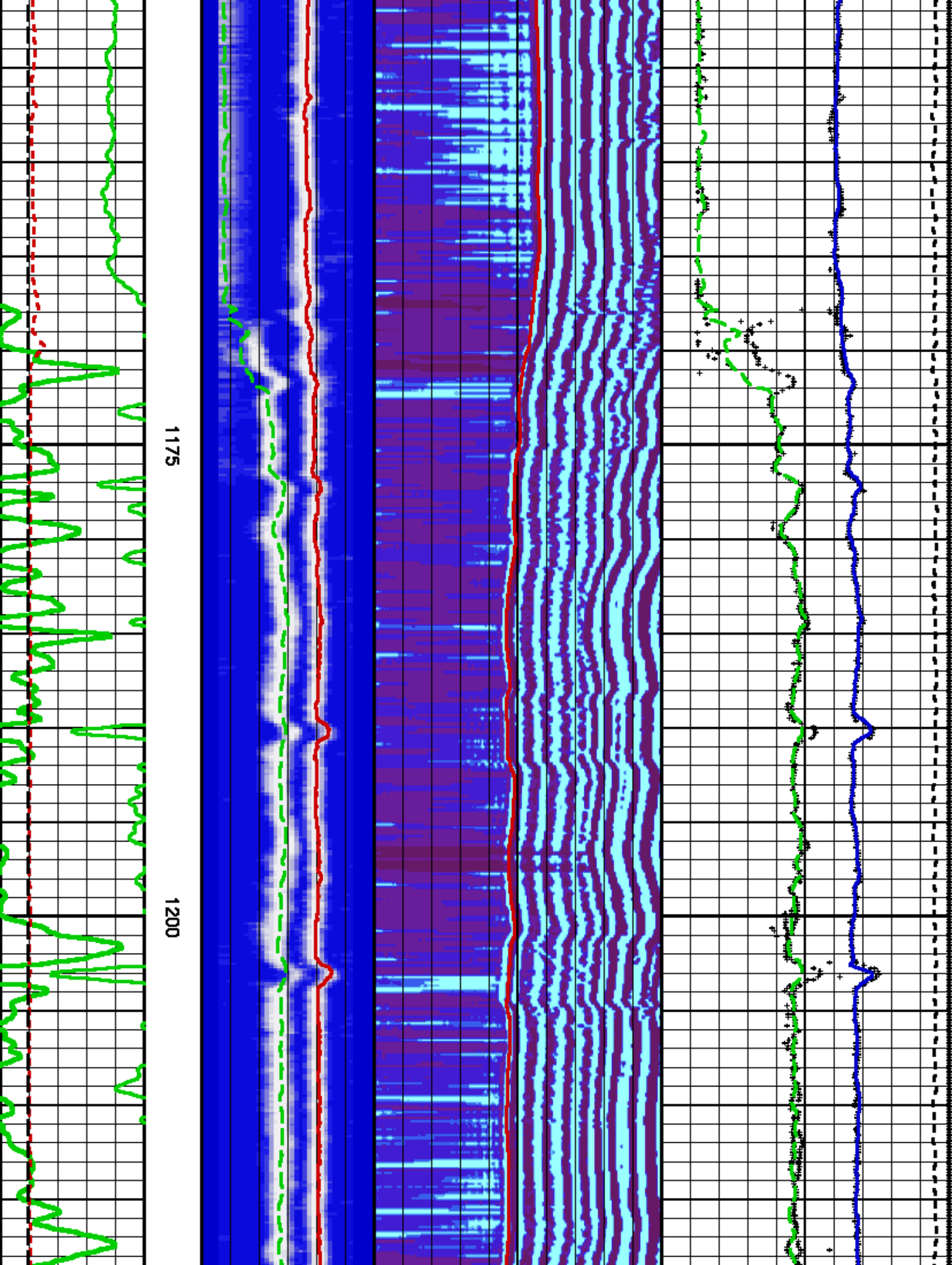


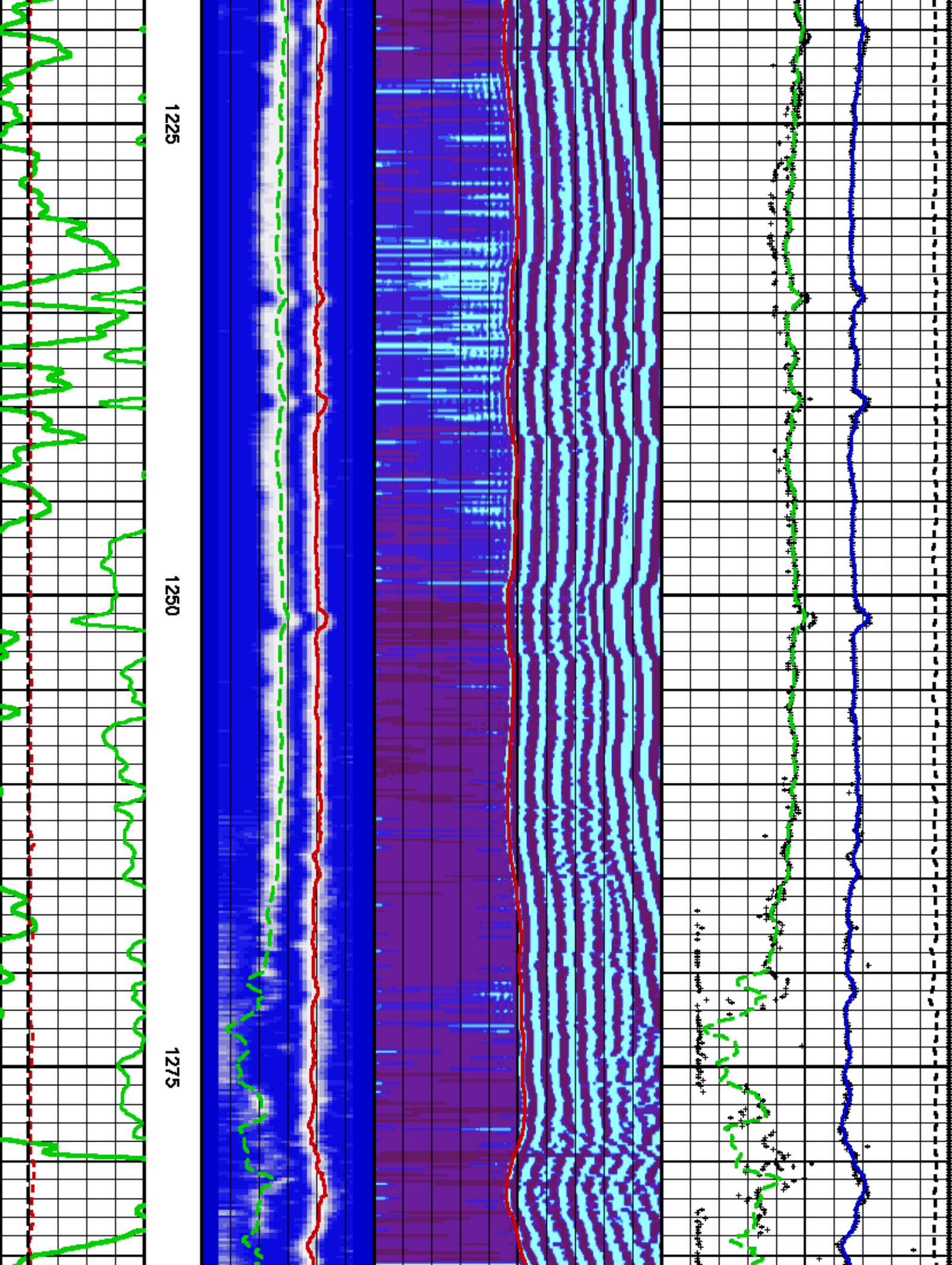


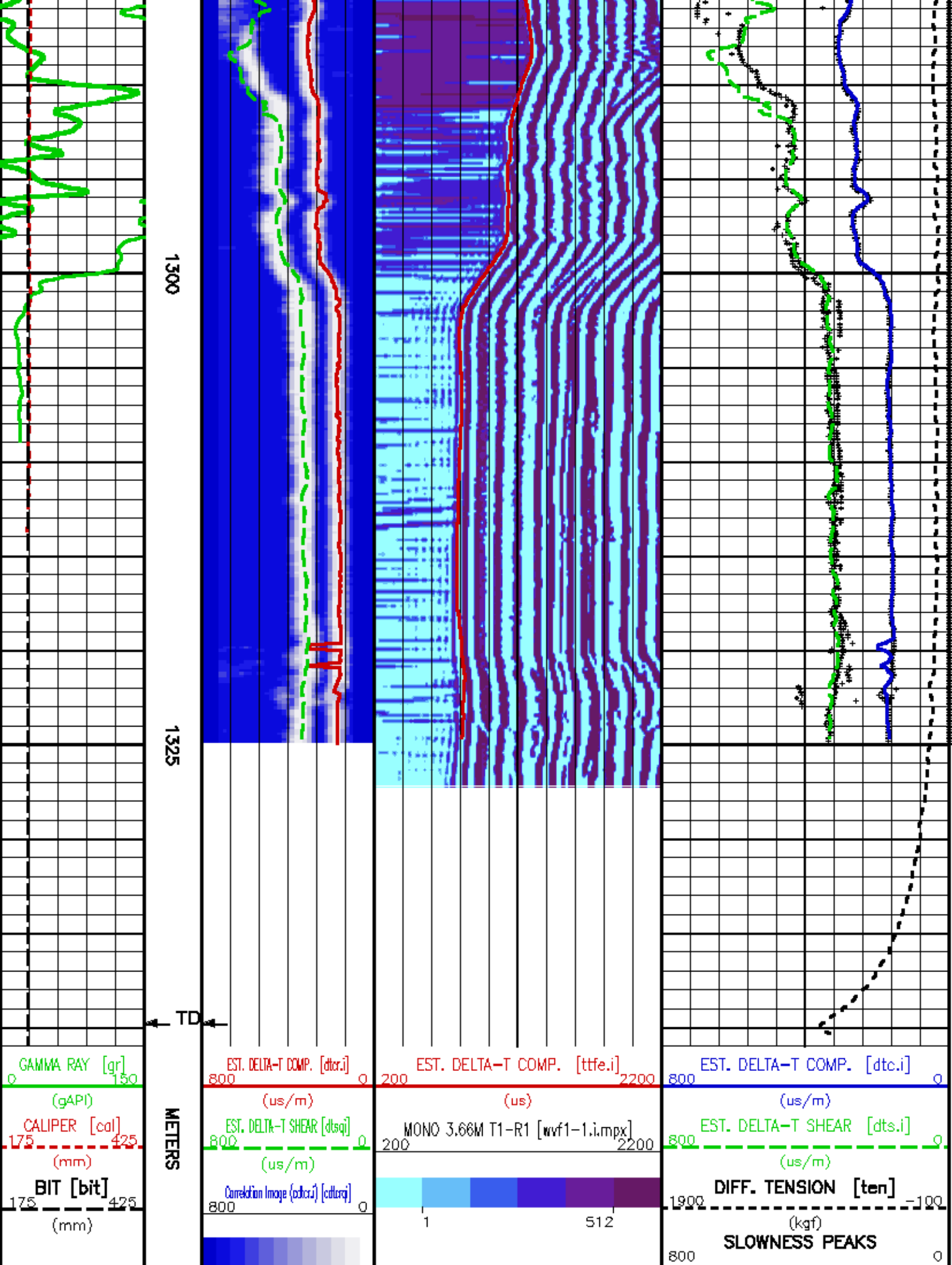












CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/humky_CA212311/m77erb_xc.jp2

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 11756674

DATE/TIME PERFORMED: Mon Feb 27 20:16:08 2012

UNIT #: 5753XB 10108816

CALB JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	GR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	147.84	1025.36	877.5 830.0 960.0	0.171	25.27	175.27	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 11756674

DATE/TIME PERFORMED: Mon Feb 27 20:21:47 2012

UNIT #: 5753XB 10108816

VERI JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	147.64	1027.87	0.171	25.24	175.70	150.46 140.00 160.00

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 11756674

DATE/TIME PERFORMED: Mon Mar 5 17:29:14 2012

DAYS SINCE CAL: 6

UNIT #: 3854SA 008672

VERI JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	44.80	951.49	0.171	7.66	162.65	154.99 140.48 160.48

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 11756674

DATE/TIME PERFORMED: Wed Mar 7 02:34:48 2012

DAYS SINCE CAL: 8

UNIT #: 3854SA 008672

VERI JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	59.27	927.44	0.171	10.13	158.54	148.40
						144.99 164.99

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 168004

DATE/TIME PERFORMED: Sat Feb 25 11:34:06 2012

UNIT #: 5753XB 10108816

	SMALL RING (mm)	LARGE RING (mm)	MULT	ADD	SMALL RING (mm)	LARGE RING (mm)
CALIPER	882.0	1550.0	0.19461	3.35328	175.000	305.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 168004

DATE/TIME PERFORMED: Tue Mar 6 21:09:56 2012

DAYS SINCE CAL: 10

UNIT #: 3854SA 008672

	I.D. (mm)	MULT	ADD	I.D. (mm)
CALIPER	1155.6	0.19461	3.35328	228.246

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 168004

DATE/TIME PERFORMED: Wed Mar 7 01:02:41 2012

DAYS SINCE CAL: 10

UNIT #: 3854SA 008672

	I.D. (mm)	MULT	ADD	I.D. (mm)
CALIPER	1154.4	0.19461	3.35328	228.012
				215.546 240.946

XMACE_OR PRIMARY CALIBRATION SUMMARY

TOOL #: 167BMC 12002062

DATE/TIME PERFORMED: Mon Feb 27 14:26:16 2012

UNIT #: 5753XB 10108816

ORIENTATION #: 4401XB 166976

DEV (deg)	QA (mG)	MEAS RB (deg)	RB OFFSET (deg)	ROTATED RB (deg)

ORIT TBM CHECK

89.7

999.1

358.2

990.0 1010.0

357.5

2.5

XMAC-F1 ORIENT

324.3

324.3

0.0



COMPANY
WELL
FIELD
PROVINCE

HUSKY OIL OPERATIONS LIMITED
LITTLE BEAR H-64
SLATER RIVER
NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

SURF LOC:
LAT 64 53' 28.5"N LONG 126 11' 20.3"W
BH LOC. LSD:
LAT 64 53' 28.5"N LONG 126 11' 20.3"W

ELEVATIONS:

KB 183.2 M

DF

GL 178.0 M

DATE

06-MAR-2012

UID:

300H64500126000

LICENSE:

462

