BAKER HUGHES

HIGH DEFINITION INDUCTION LOG ™
GAMMA RAY LOG
CALIPER LOG

FILE NO:	
API NO:	
COMPANY	HUSKY OIL OPERATIONS LIMITED
WELL	LITTLE BEAR N-9
FIELD	SLATER RIVER
PROVINCE	NORTHWEST TERRITORIES

Ver. 3.87
UID: 300N096500126300
LICENSE: 463

LOCATION:
SURF LOC: LAT 64° 58' 55.2N LONG 126° 31' 20.2
BH LOC. LSD:
LAT 64° 58' 55.2"N LONG 126° 31' 20.2"

OTHER SERVICES
ZDL-CN-GR-CAL
CYL, XMAC-GR, CBL
FLEX-DSL, MREX
EI-CBIL-GR

PERMANENT DATUM G.L. ELEVATION 253.5 M
LOG MEASURED FROM K.B. 5.3 M ABOVE P.D.
DRILL MEAS. FROM KELLY BUSHING

ELEVATIONS:
KB 258.8 M
DF
GL 253.5 M

DATE		13-FEB-2012		
RUN	TRIP	1	1	
SERVICE ORDER		CA212310		
DEPTH DRILLER		1888.0 M		
DEPTH LOGGER		1888.0 M		
BOTTOM LOGGED INTERVAL		1884.0 M		
TOP LOGGED INTERVAL		638.5 M		
CASING DRILLER		244.5 MM	@ 639.0 M	@
CASING LOGGER		638.5 M		
BIT SIZE		222.0 MM		
TYPE OF FLUID IN HOLE		INVERT		
DENSITY	VISCOSITY	1280.0 G/L	38.0 S	
PH	FLUID LOSS	N/A	N/A	
SOURCE OF SAMPLE		NO SAMPLE		
RM AT MEAS. TEMP.		NA	@ NA	@
RMF AT MEAS. TEMP.		NA	@ NA	@
RMC AT MEAS. TEMP.		NA	@ NA	@
SOURCE OF RMF	RMC	NO SAMPLE	NO SAMPLE	
RM AT BHT		NA	@ NA	@
TIME SINCE CIRCULATION		11.5 HOURS		
MAX. RECORDED TEMP.		68.8 DEGC		
EQUIP. NO.	LOCATION	Z008672	CANADA OPEN	
RECORDED BY		J.COLLIER/I.ZALESKIKH		
WITNESSED BY		H.PAPENHOVEN		

BOREHOLE RECORD

BIT SIZE	FROM	TO
311.0 MM	0.0 M	639.0 M
222.0 MM	639.0 M	1888.0 M

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
244.5 MM	53.6 KG/M	J-55	0.0 M	639.0 M

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 12-FEB-2012 05:30 PM

GR AND CN SPIKES IN INITIAL MAIN PASS, RELOG AREAS AND COPY CURVES TO MAIN PASS
1490 - 1500M
1602 - 1610M
1035 - 1050M

BOREHOLE AND TEMPERATURE CORRECTIONS HAVE BEEN APPLIED TO HDIL DATA.
HDIL RECORDED WITH AND CORRECTED TO 38.0 MM STANDOFF.

CALIPER PRESENTED WITH HDIL TO ASSIST WITH THE QC OF THE DATA.

RIG: NABORS 23

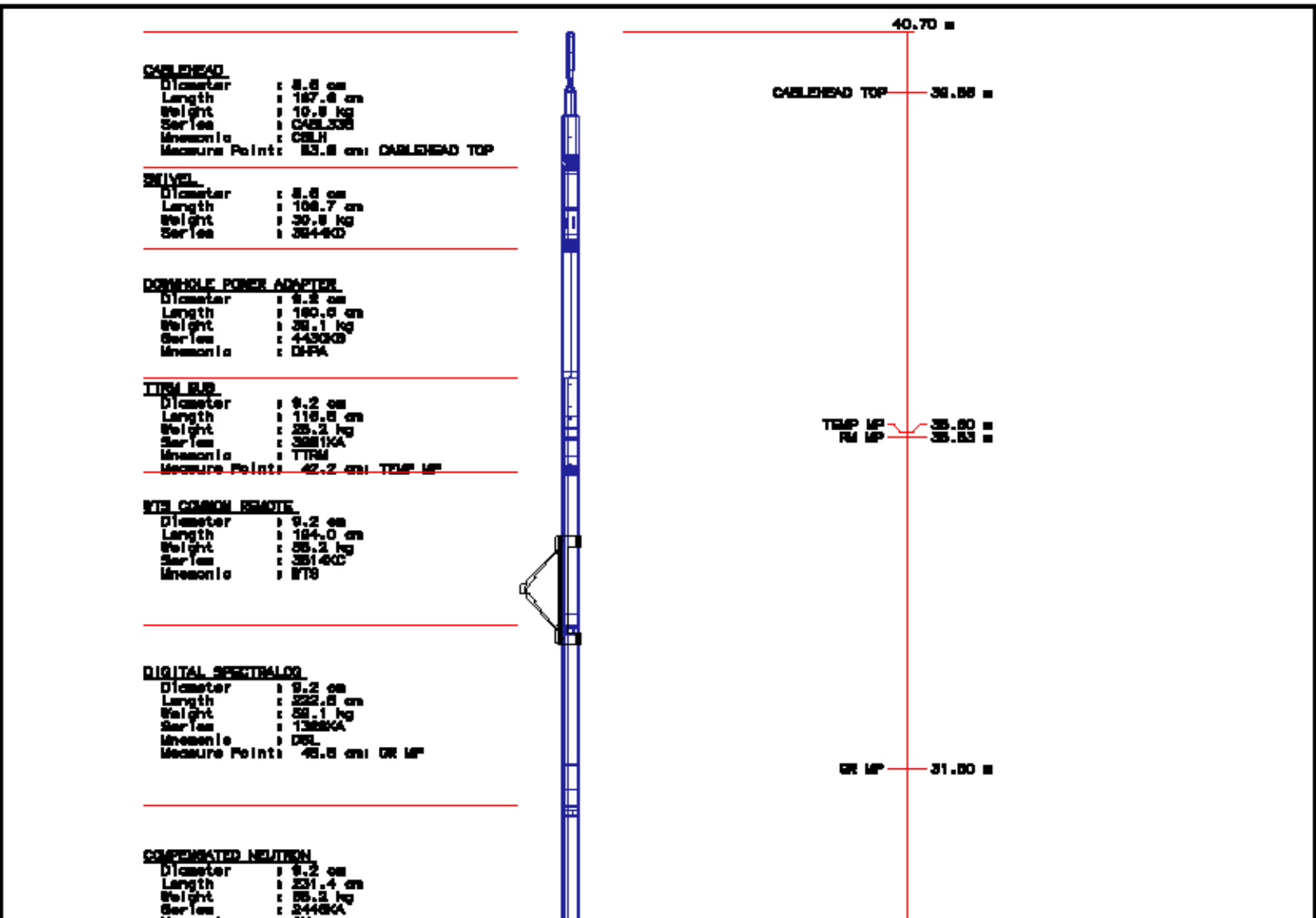
CREW: J.COLLIER, I.ZALESKIKH, D.KIRWAN, D.SCHNEIDER, N.MCDERMID, J.VANDER HONING

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XD	11648158	FREE
1	1	DHPA	4430XB	12088588	FREE
1	1	TTRM SUB	3981XA	Z173348	FREE
1	1	COMM	3514XC	12079085	FREE
1	1	MTS DGR/SLI	1329XB	11756874	FREE
1	1	CN	2449GA	12088584	DECENTRALIZED
1	1	ZDEN	2254XA	168004	PAD DEVICE
1	1	MTS DBL KNJ	3939XA	10293200	FREE
1	1	ORIT	4401XB	12081717	FREE
1	1	ACOUSTIC EL	1677EA	12045929	CENTRALIZED
1	1	XMAC RX MDR	1678MC	12002062	CENTRALIZED
1	1	XMAC ISO	1678PB	12093102	FREE
1	1	XMAC TX ELC	1678BA	12093106	CENTRALIZED
1	1	XMAC TX ELC	1678EA	12111386	CENTRALIZED
1	1	HDIL ELCNS	1515EA	12032417	STANDOFF
1	1	HDIL MANDRL	1515MA	11997986	STANDOFF
1	1	CENTRALIZER	4341XA	Z173361	FREE

INSTRUMENT CONFIGURATION

Source File: /dcrl1a/husky_CA212510/run1-tdg



Mnemonic : CN
Measure Point: 80.3 cm: LSN MP
Measure Point: 85.2 cm: SSN MP

Z-DENSILOG
Diameter : 12.4 cm
Length : 341.8 cm
Weight : 183.6 kg
Series : 2234XA
Mnemonic : ZDL
Measure Point: 87.3 cm: CAL MP
Measure Point: 76.4 cm: LSD MP
Measure Point: 43.2 cm: SSD MP

KNUCKLE JOINT (DOUBLE)
Diameter : 8.6 cm
Length : 141.6 cm
Weight : 40.8 kg
Series : 3838XA
Mnemonic : KNJT

DIGITAL ORIENTATION
Diameter : 8.6 cm
Length : 328.4 cm
Weight : 80.0 kg
Series : 4401XB
Mnemonic : ORIT
Measure Point: 0.0 cm: ORIENT MP

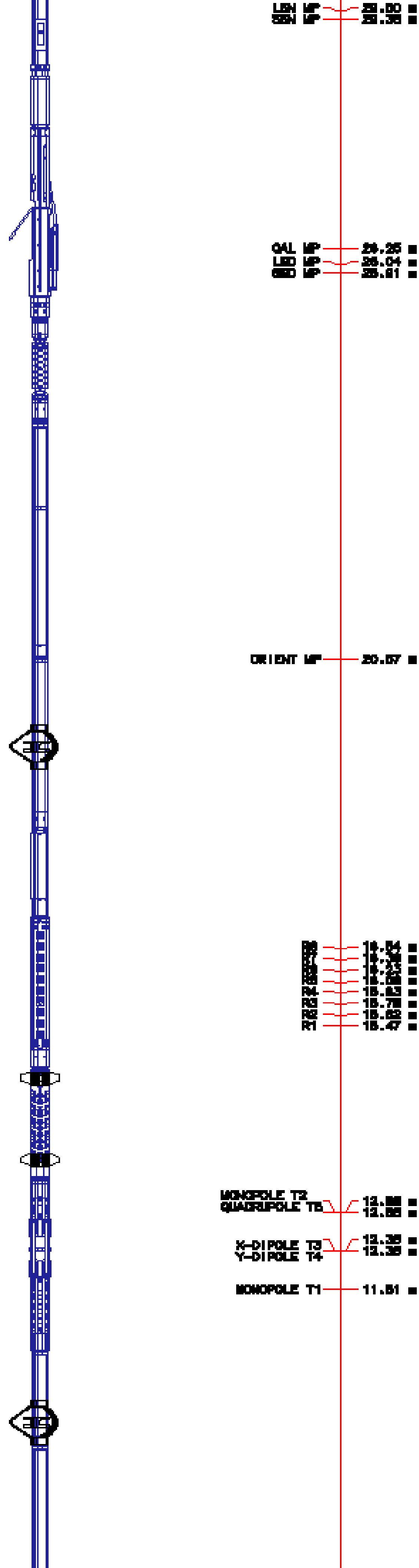
ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL
Diameter : 8.6 cm
Length : 236.3 cm
Weight : 46.4 kg
Series : 1677EA
Mnemonic : XMAD

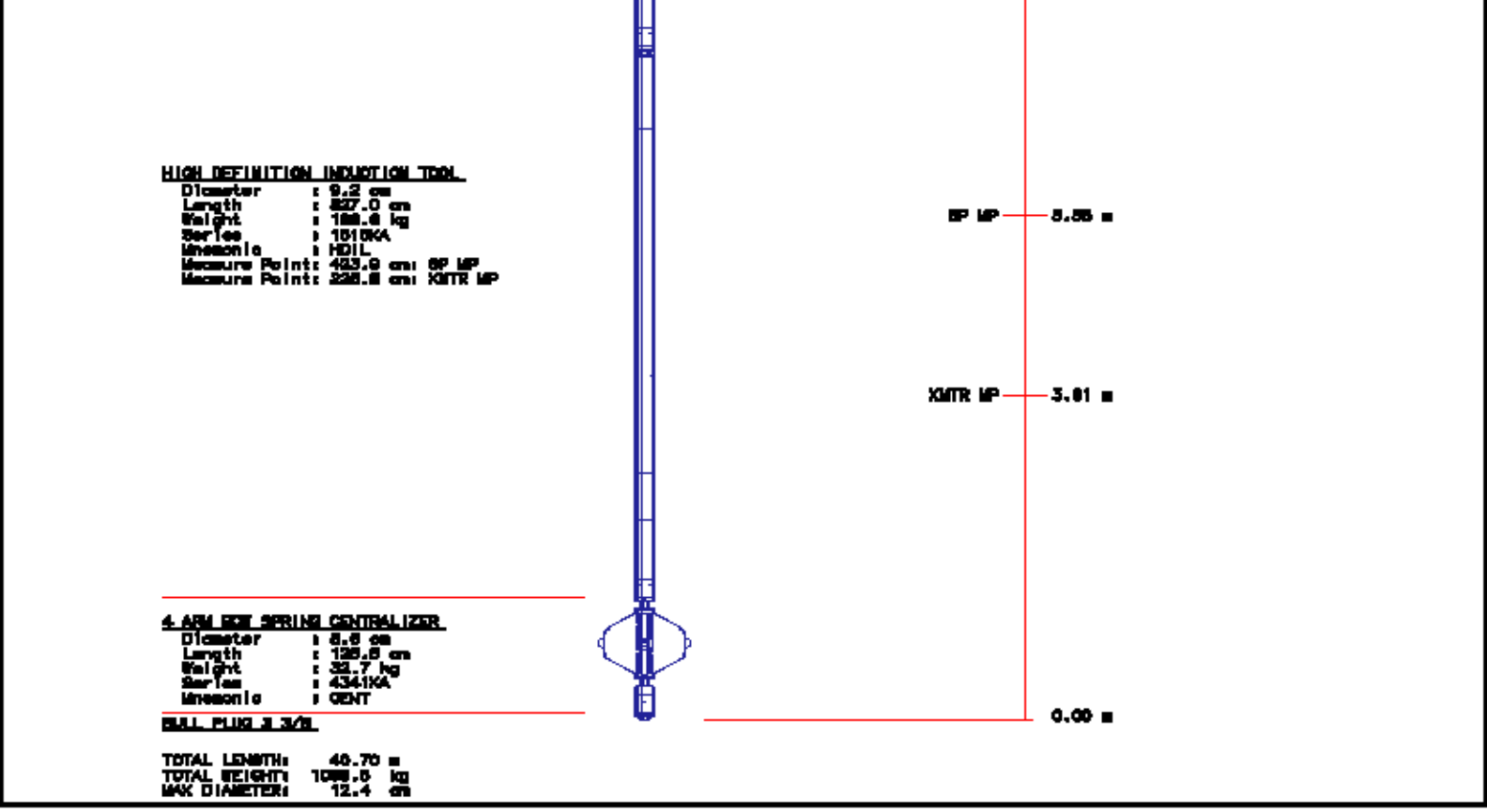
CROSS MULTIPOLE ARRAY ACOUSTILOG
Diameter : 9.8 cm
Length : 332.4 cm
Weight : 101.6 kg
Series : 1678MC
Mnemonic : XMF1
Measure Point: 167.6 cm: R8
Measure Point: 152.4 cm: R7
Measure Point: 137.2 cm: R6
Measure Point: 121.9 cm: R5
Measure Point: 106.7 cm: R4
Measure Point: 91.4 cm: R3
Measure Point: 76.2 cm: R2
Measure Point: 61.0 cm: R1

SHEAR WAVE ACOUSTILOG
Diameter : 9.2 cm
Length : 152.4 cm
Weight : 91.4 kg
Series : 1678PB
Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC
Diameter : 9.8 cm
Length : 241.3 cm
Weight : 77.3 kg
Series : 1678MA
Mnemonic : XMAD
Measure Point: 188.6 cm: QUADRUPOLE T5
Measure Point: 188.6 cm: MONOPOLE T2
Measure Point: 142.2 cm: Y-DIPOLE T4
Measure Point: 142.2 cm: X-DIPOLE T3
Measure Point: 86.8 cm: MONOPOLE T1

MULTI-POLE ARRAY ACOUSTIC
Diameter : 8.6 cm
Length : 131.6 cm
Weight : 28.4 kg
Series : 1678FA
Mnemonic : MAC





MAIN LOG - UPPER PRESENTATION

ECLIPS 6.1l Aug 06, 2010
Updates: 1 Patches: 1

Mon Feb 13 12:48:31 2012

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/husky_CA212310/w77evh_xc03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 614.553 m BOTTOM DEPTH: 1872.139 m

SYMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	TOP	BOTTOM
BIT SIZE	BIT SIZE	222.000	mm	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	222.000	mm	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	OIL BASE MUD		"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RCTEMP		''	''
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	38.10	mm	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

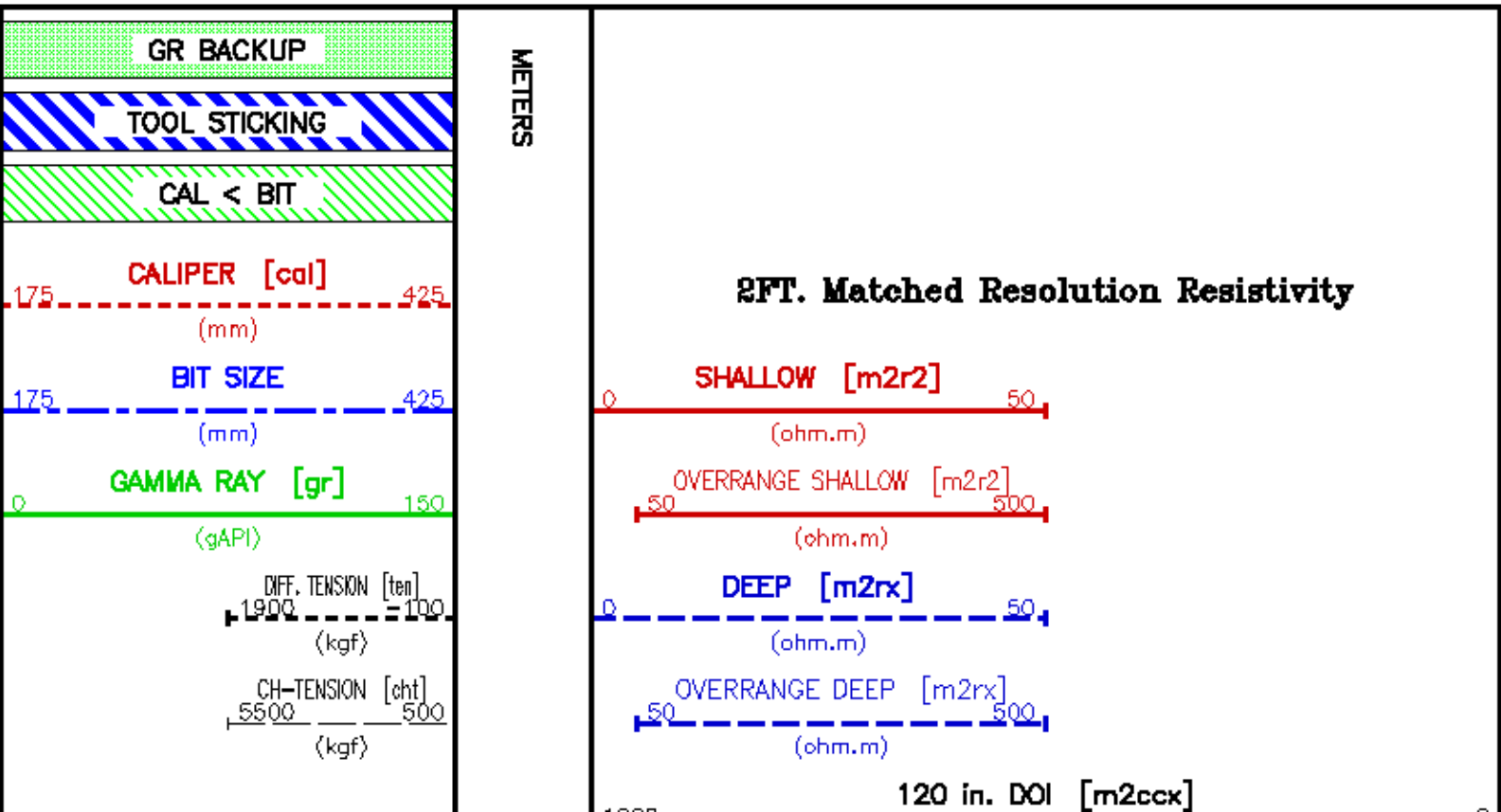
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Feb 13 04:51:11 2012	BIT SIZE
F1:BVOL	Feb 13 04:51:11 2012	BOREHOLE VOLUME
F1:CAL	Feb 13 04:51:11 2012	CALIPER
F1:CHT	Feb 13 04:51:11 2012	CABLE HEAD TENSION
F1:GR	Feb 13 04:51:11 2012	GAMMA RAY
F1:M2CCX	Feb 13 04:51:11 2012	HDIL 2-FOOT RESOLUTION COMPRESSED CONDUCTIVITY, 120-INCH DOI
F1:M2R2	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2RX	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:MARK	Feb 13 04:51:11 2012	MINUTE MARK
F1:TEN	Feb 13 04:51:11 2012	DIFFERENTIAL TENSION
F1:WTBH	Feb 13 04:51:11 2012	TEMPERATURE OF BOREHOLE

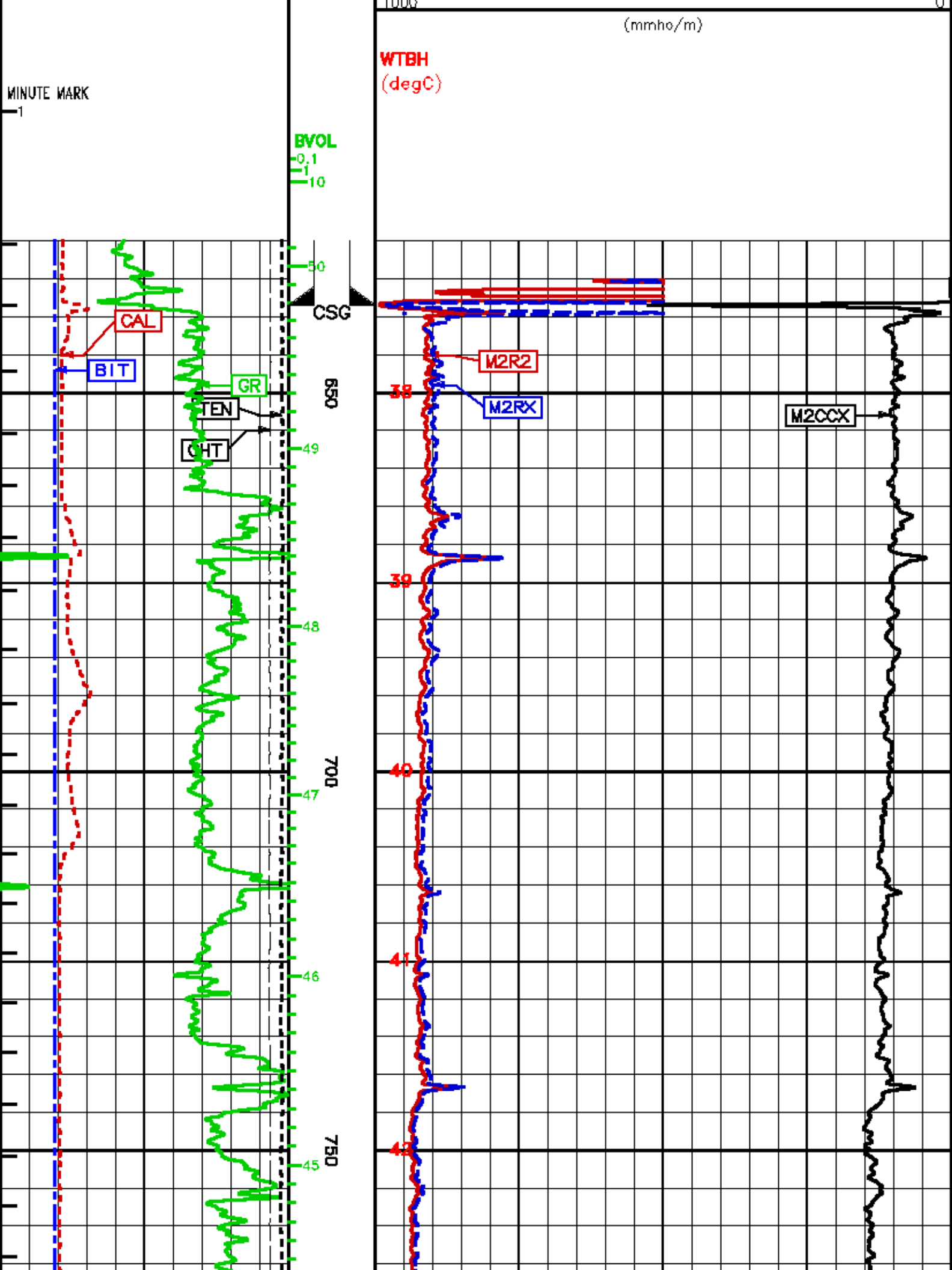
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	CHT	0.00	M2CCX	3.66	M2RX	3.66
CAL	26.06	GR	31.39	M2R2	3.66	TEN	0.00

Presentation : epuz/dat1a/husky_CA212310/hdil_upper.pdf [1:600 Scale]
Plot Interval : 830 - 1870.94 Meters

Data File 1 : F1 : epuz/dat1a/husky_CA212310/r191_main.xdf
Created On : Feb 13 04:51:11 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR N-9
Field : SLATER RIVER
File Interval : 579.196 - 1870.96 Meters
Dct : m77erh_x

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BVOL
0.1
1
10
WTBH
(degC)
(mmho/m)
CAL
BIT
GR
TEN
CHT
CSG
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M2RX
M2CCX
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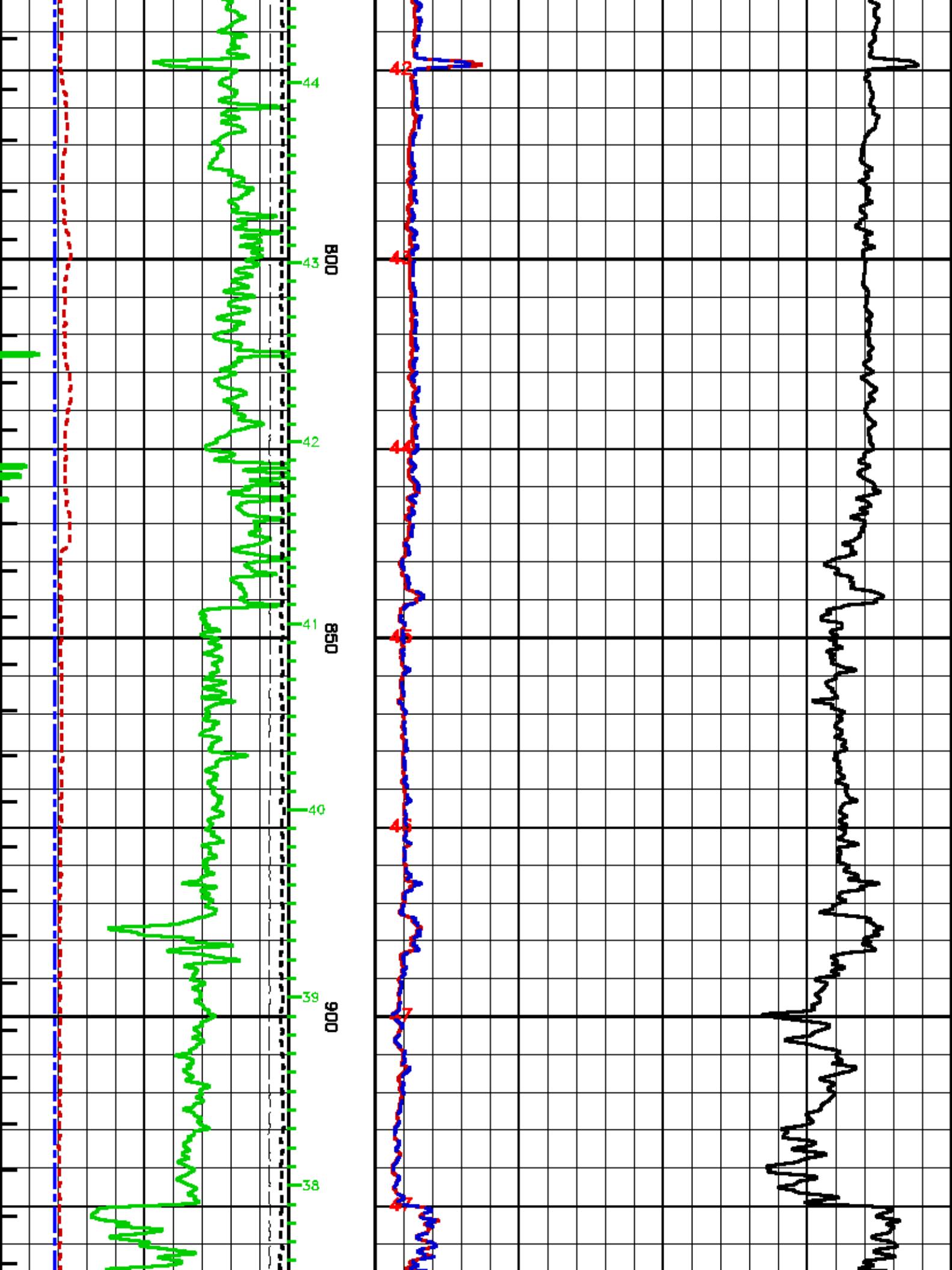
750
38
39
40
41
42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39
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850
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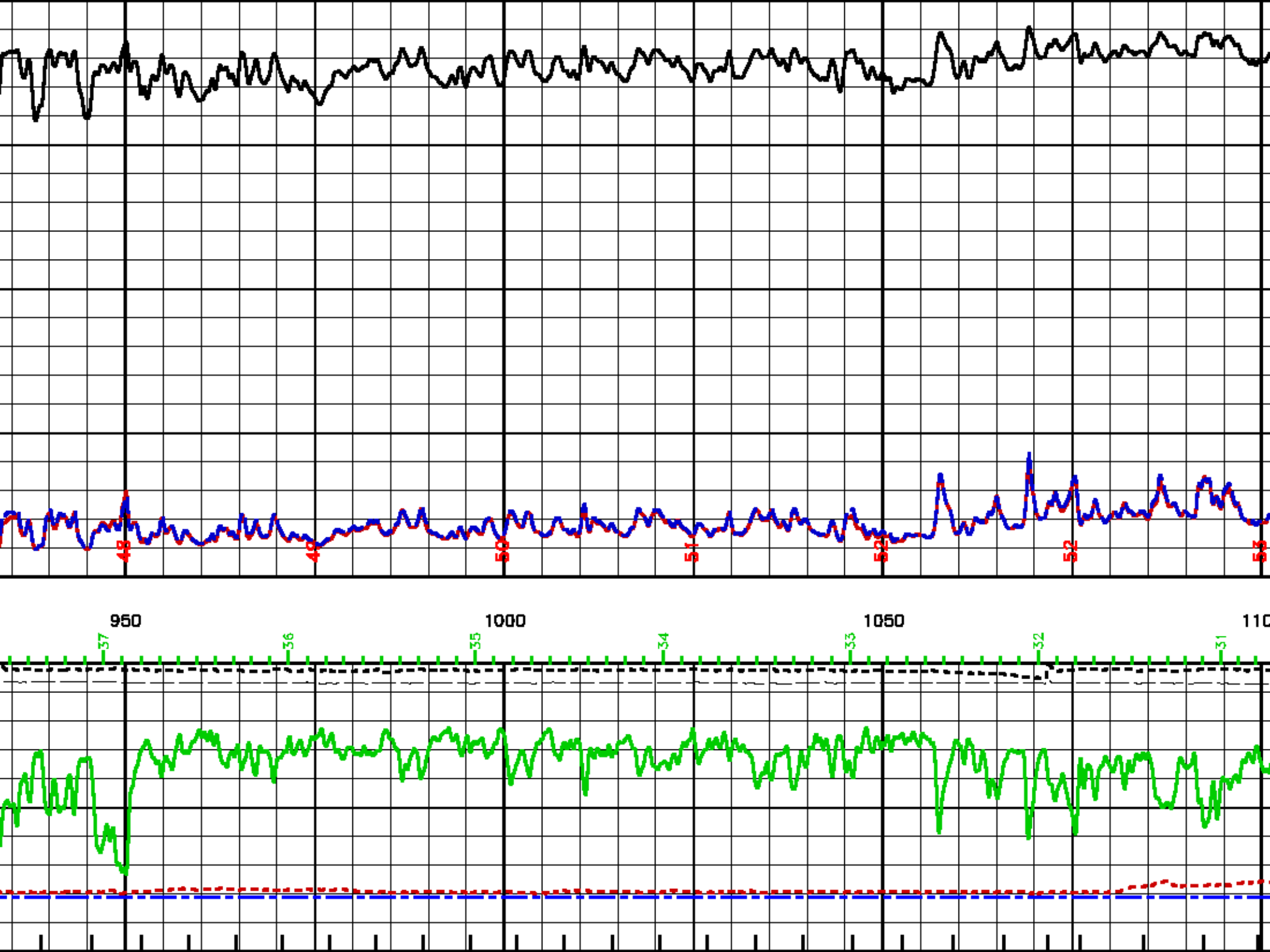
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1000
1050
110
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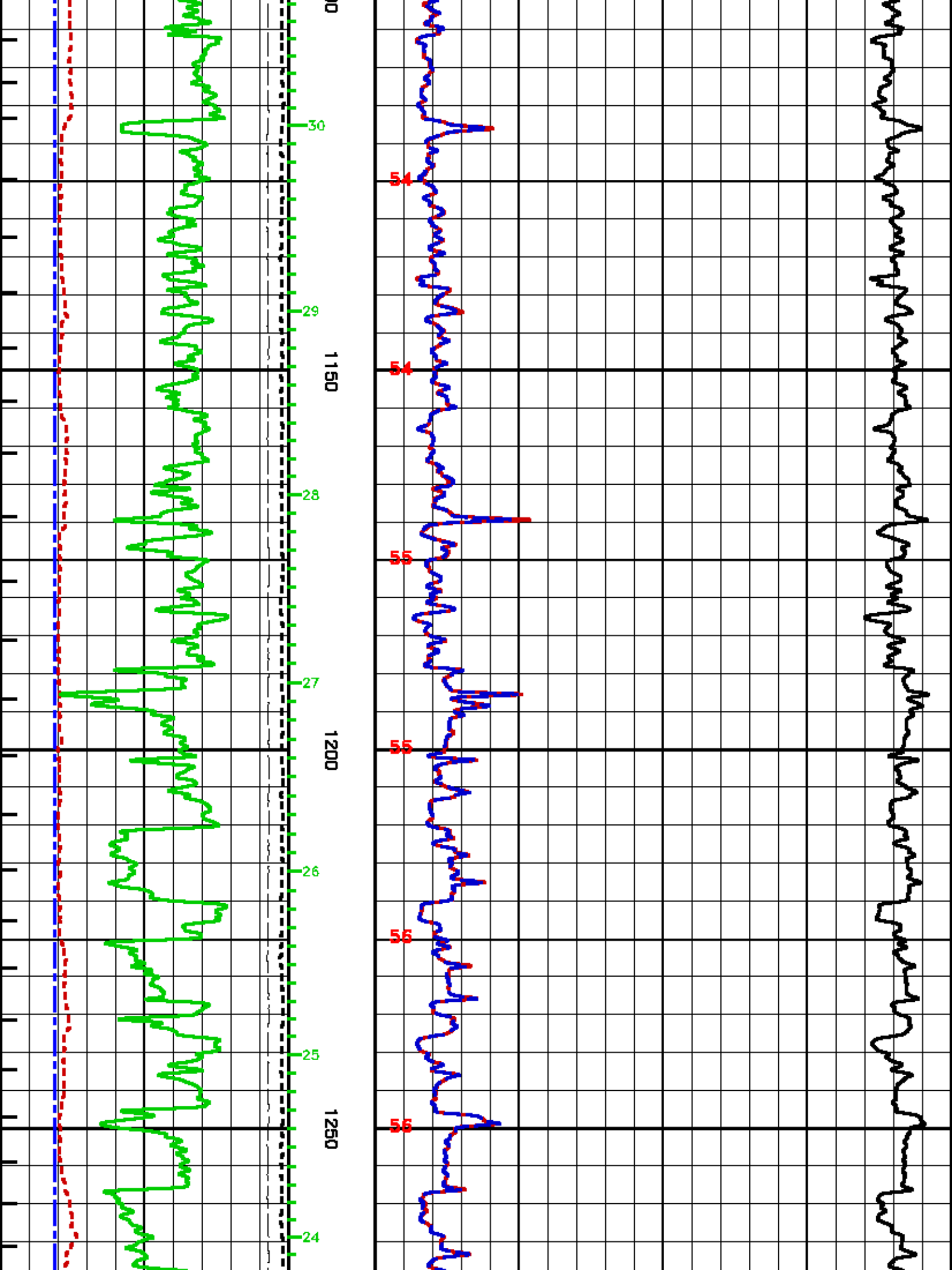
53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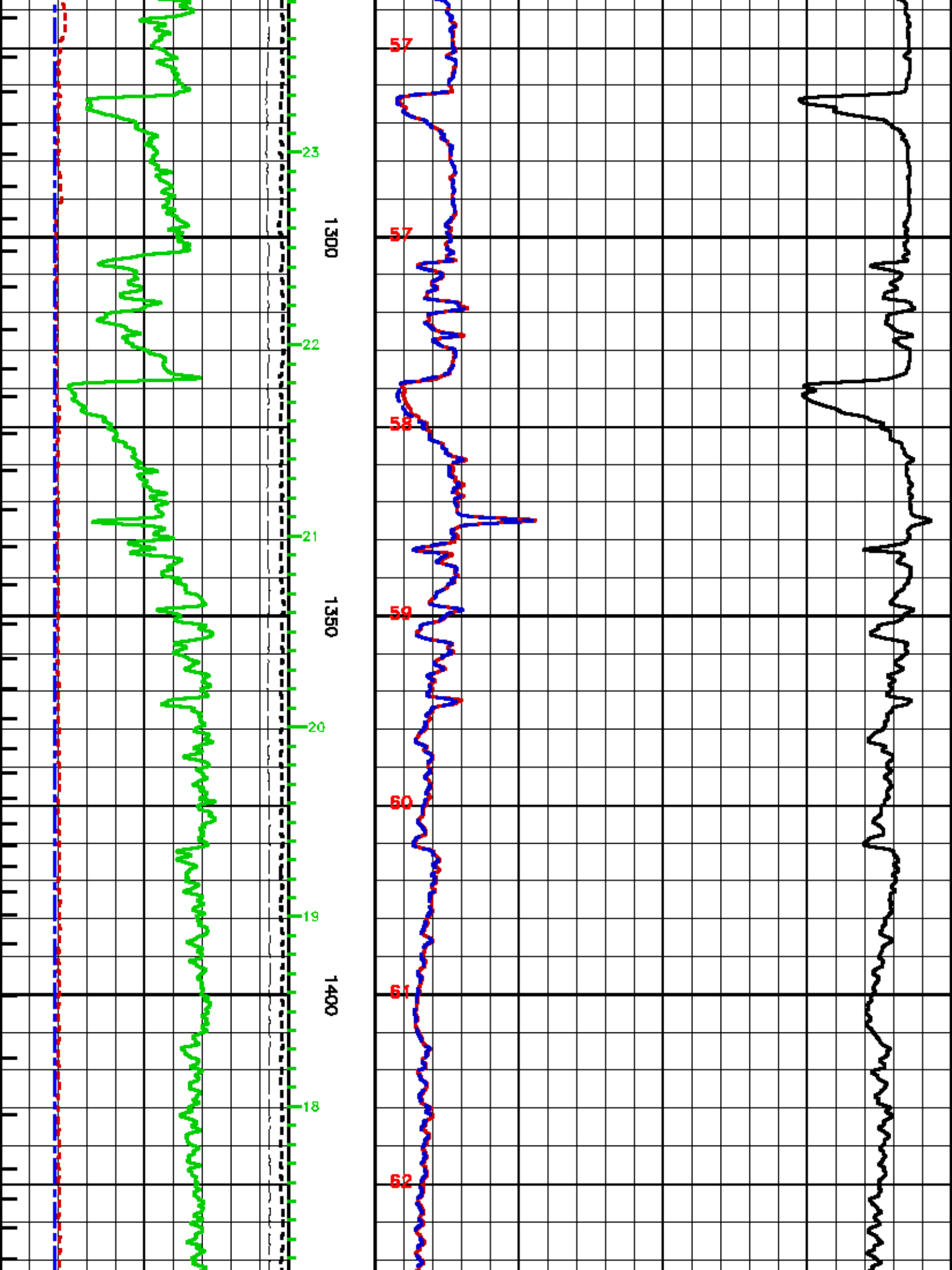
1150
28
27
1200
26
25
1250
24
54
54
55
55
56
56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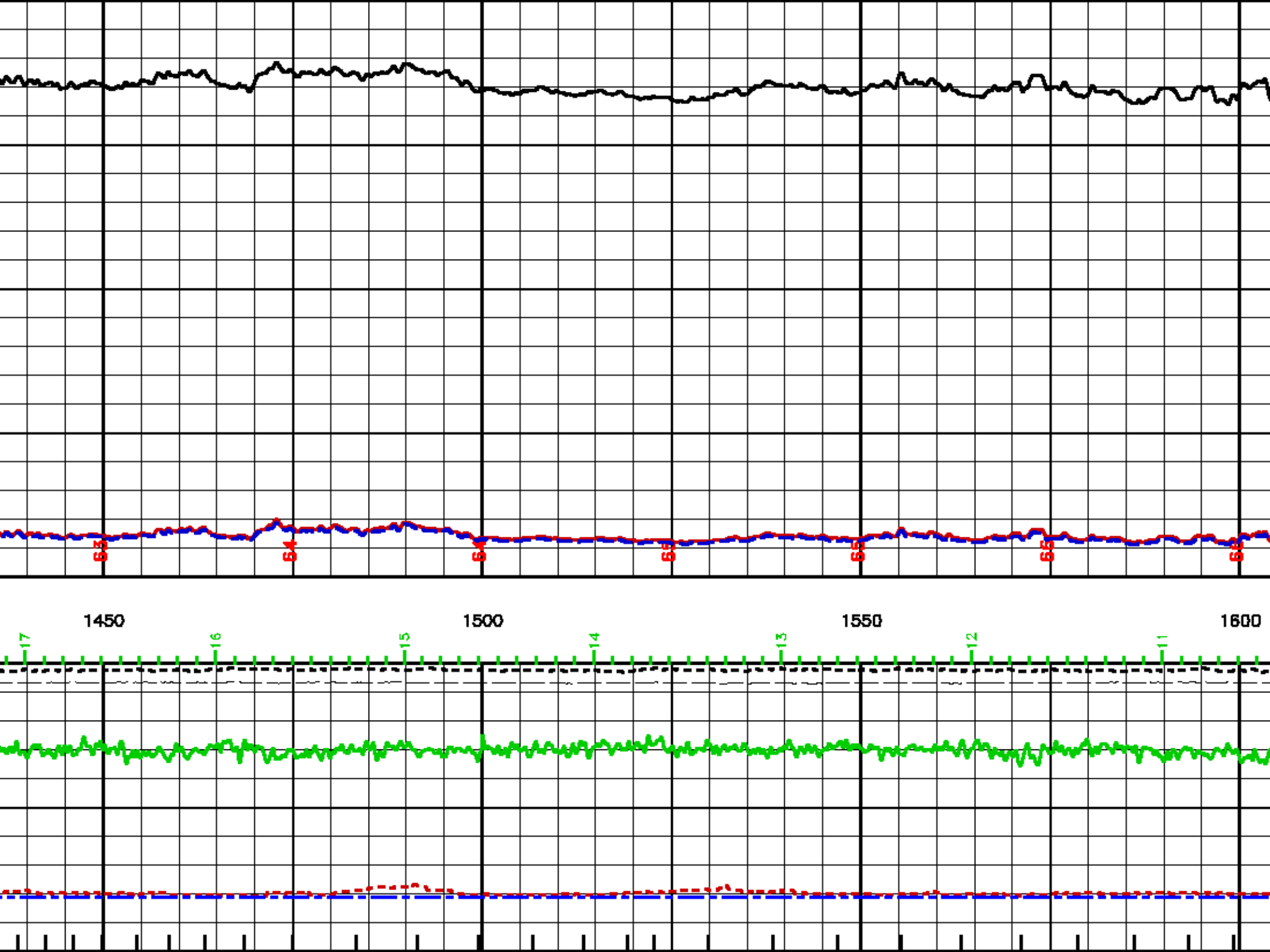
62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1550
1600
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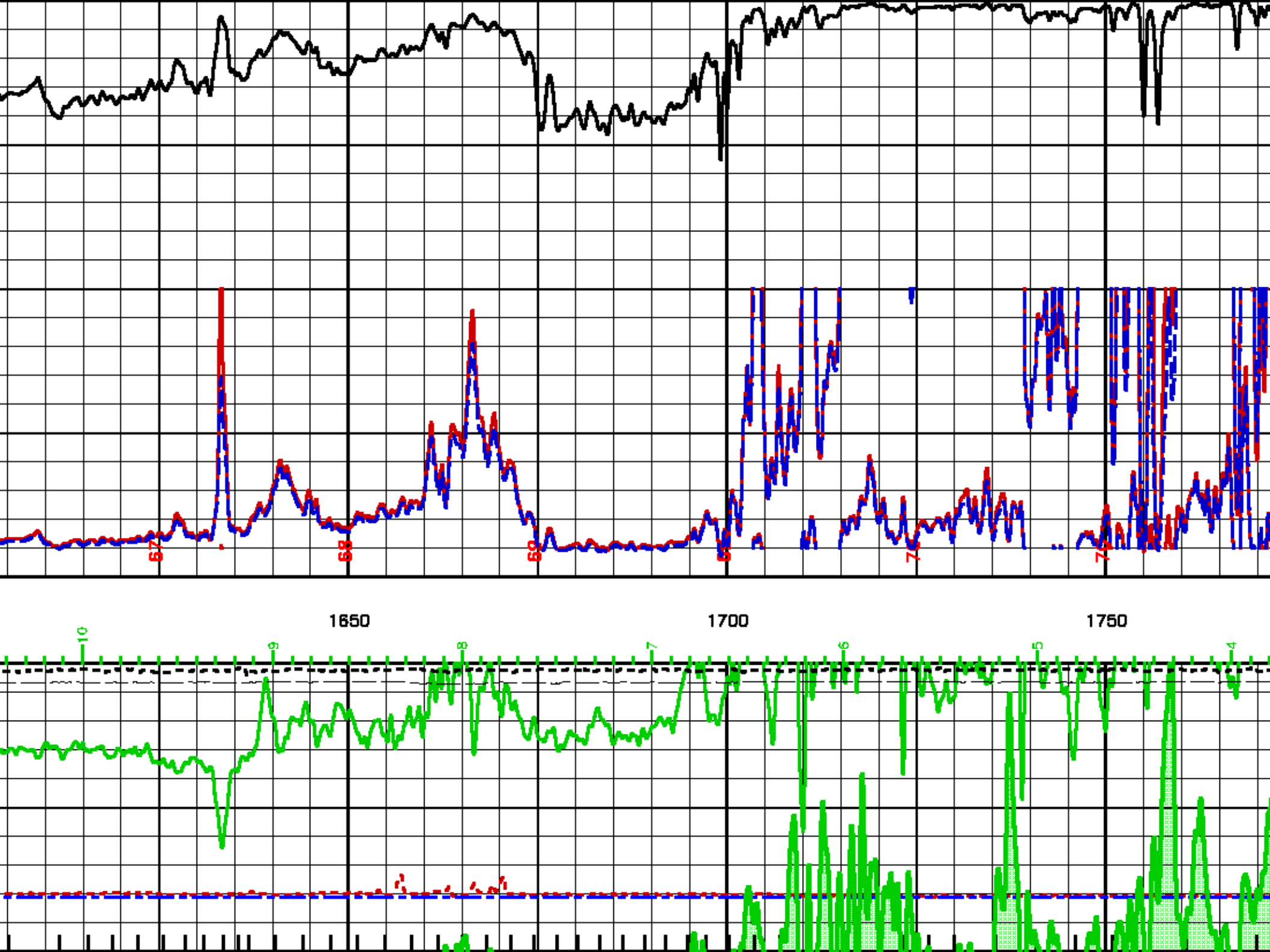
16
15
14
13
12
11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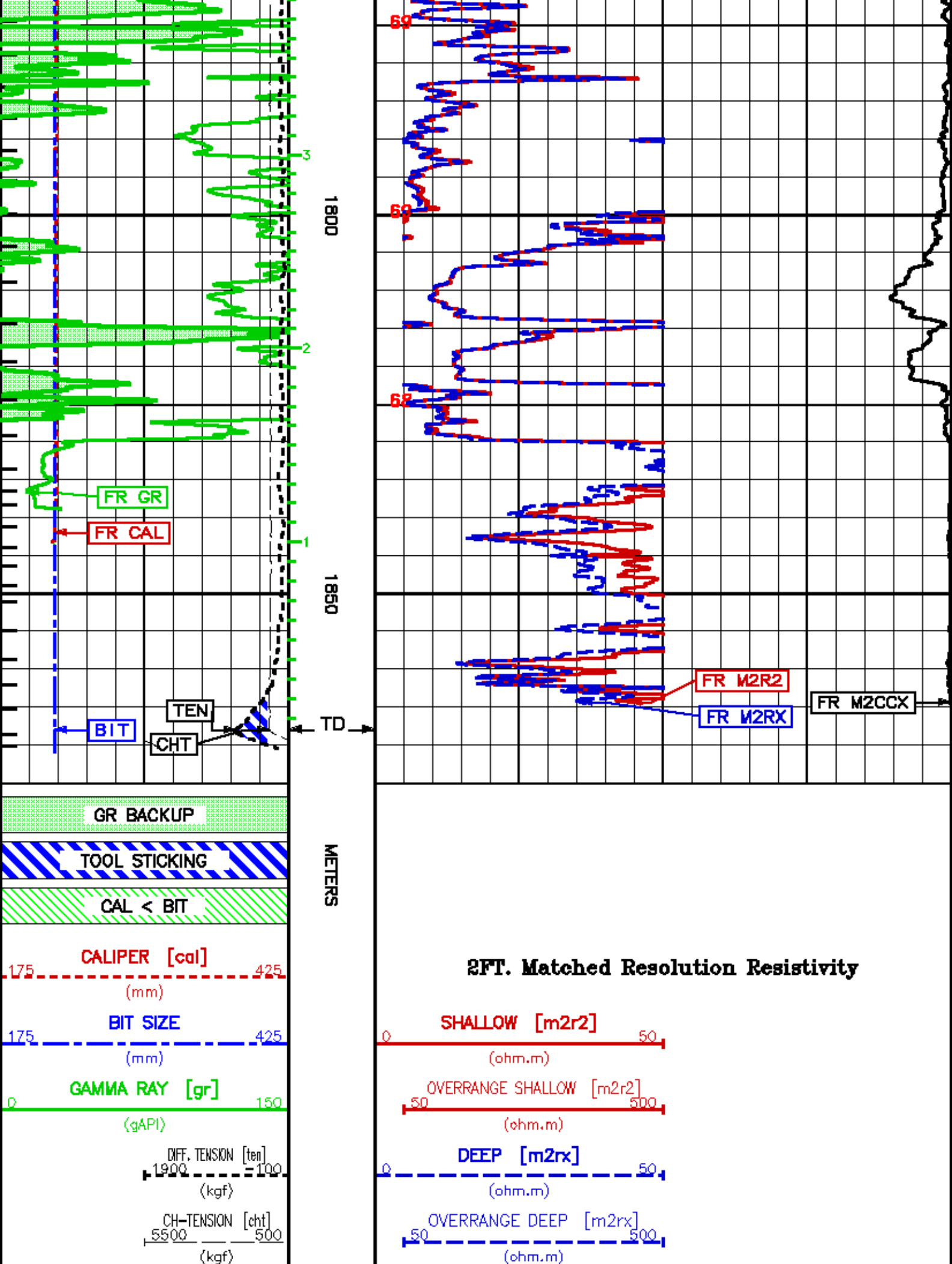
1800
1850
METERS
FR GR
FR CAL
BIT
TEN
CHT
TD
FR M2R2
FR M2RX
FR M2CCX
GR BACKUP
TOOL STICKING
CAL < BIT
CALIPER [cal]
175
425
(mm)
BIT SIZE
175
425
(mm)
GAMMA RAY [gr]
0
150
(gAPI)
DIFF. TENSION [ten]
1900
100
(kgf)
CH-TENSION [cht]
5500
500
(kgf)
2FT. Matched Resolution Resistivity
SHALLOW [m2r2]
0
50
(ohm.m)
OVERRANGE SHALLOW [m2r2]
50
500
(ohm.m)
DEEP [m2rx]
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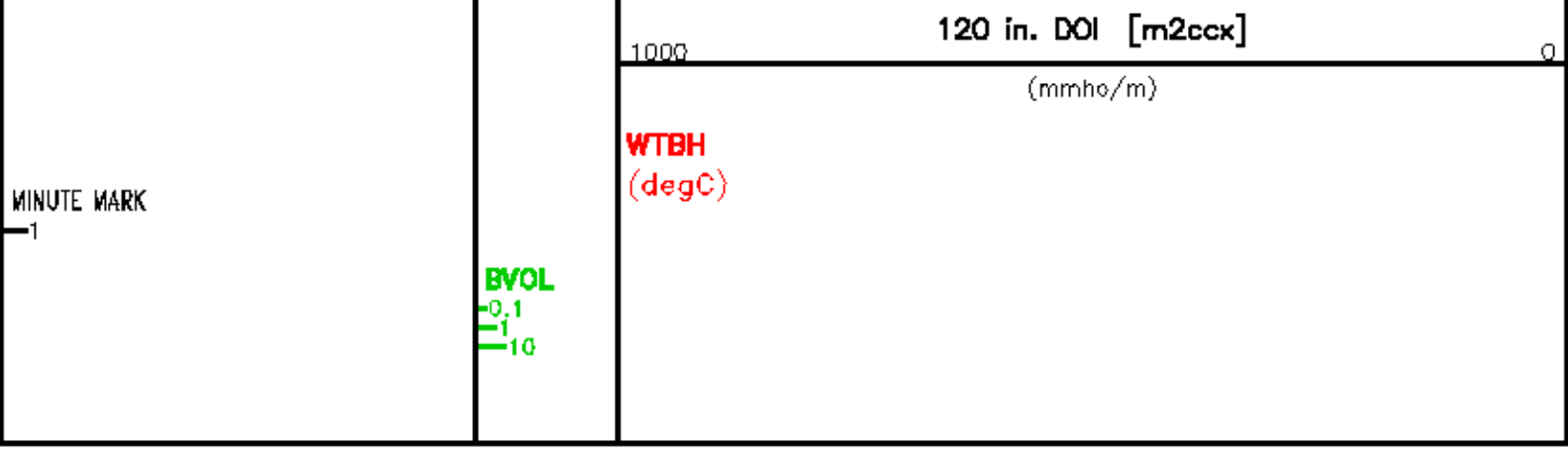
(ohm.m)
OVERRANGE DEEP [m2rx]
50
500
(ohm.m)



MAIN LOG

ECLIPS 6.1I Aug 06, 2010
Updates: 1 Patches: 1

Mon Feb 13 12:46:47 2012

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /data1a/husky_CA212310/m77evh_xc03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 614.553 m BOTTOM DEPTH: 1872.139 m

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	177.800	mm	TOP	BOTTOM
BIT SIZE	BIT SIZE	222.000	mm	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	222.000	mm	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	OIL BASE MUD		"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	38.10	mm	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION

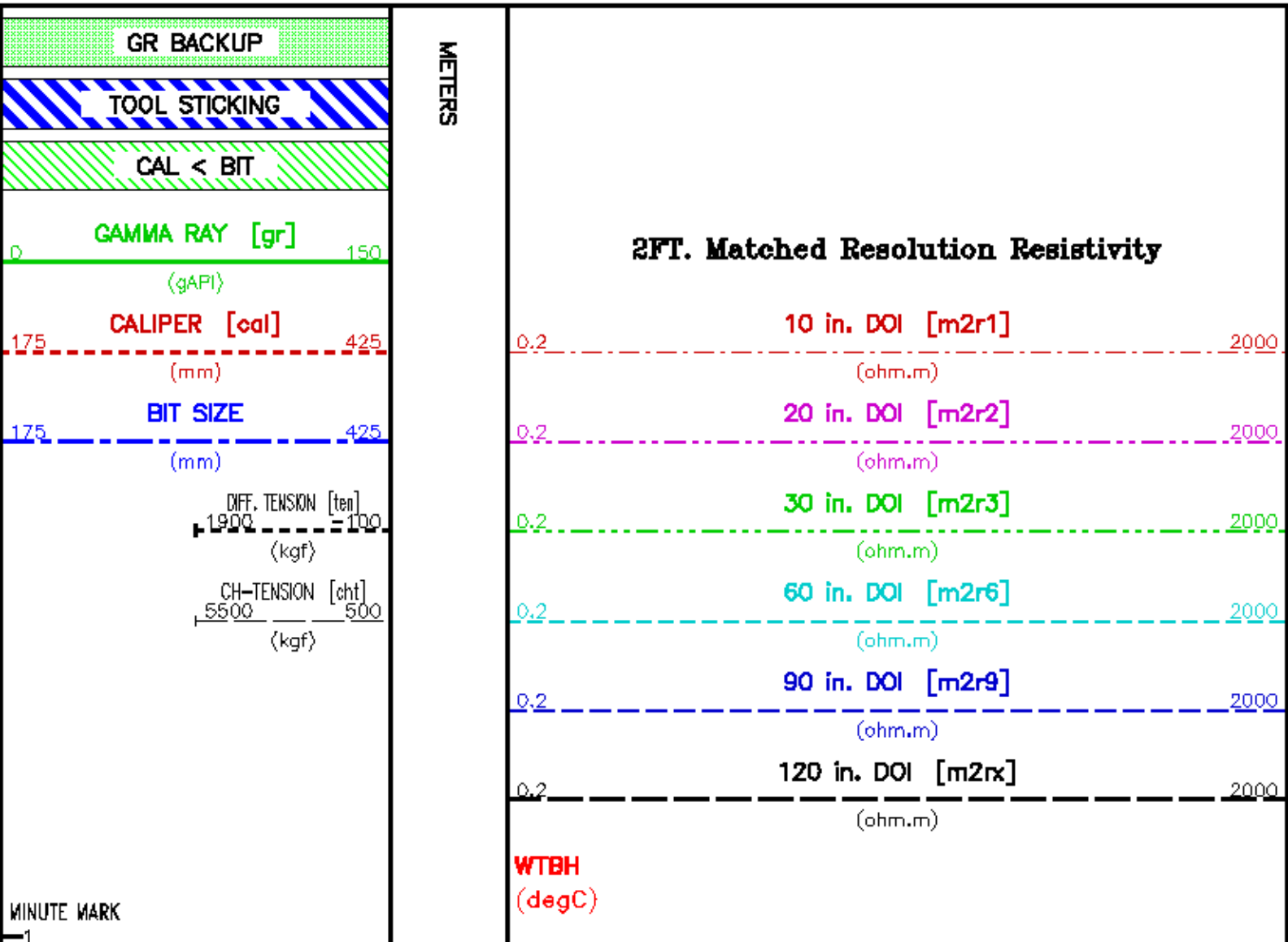
F1:BIT	Feb 13 04:51:11 2012	BIT SIZE
F1:BVOL	Feb 13 04:51:11 2012	BOREHOLE VOLUME
F1:CAL	Feb 13 04:51:11 2012	CALIPER
F1:CHT	Feb 13 04:51:11 2012	CABLE HEAD TENSION
F1:GR	Feb 13 04:51:11 2012	GAMMA RAY
F1:M2R1	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Feb 13 04:51:11 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:MARK	Feb 13 04:51:11 2012	MINUTE MARK
F1:TEN	Feb 13 04:51:11 2012	DIFFERENTIAL TENSION
F1:WTBH	Feb 13 04:51:11 2012	TEMPERATURE OF BOREHOLE

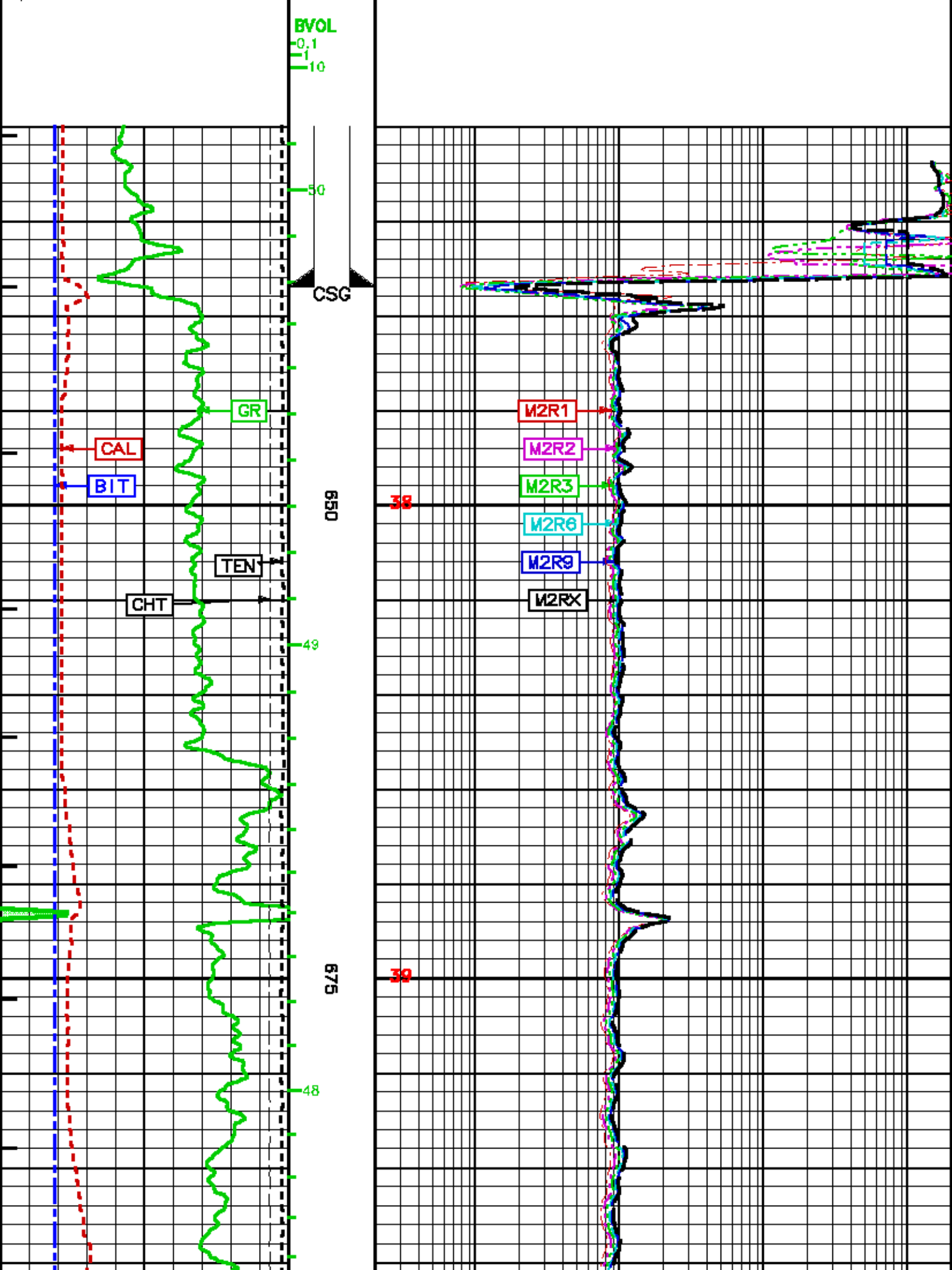
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	GR	31.39	M2R3	3.66	M2RX	3.66
CAL	26.06	M2R1	3.66	M2R6	3.66	TEN	0.00
CHT	0.00	M2R2	3.66	M2R9	3.66		

Presentation : epuc:/dat1a/husky_CA212310/hdll_main.pdf [1:240 Scale]
Plot Interval : 830 - 1670.94 Meters

Data File 1 : F1 : epuc:/dat1a/husky_CA212310/r111_main.xtf
Created On : Feb 13 04:51:11 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR N-9
Field : SLATER RIVER
File Interval : 579.196 - 1670.96 Meters
Dct : m77erh_x

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CSG
GR
CAL
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M2R6
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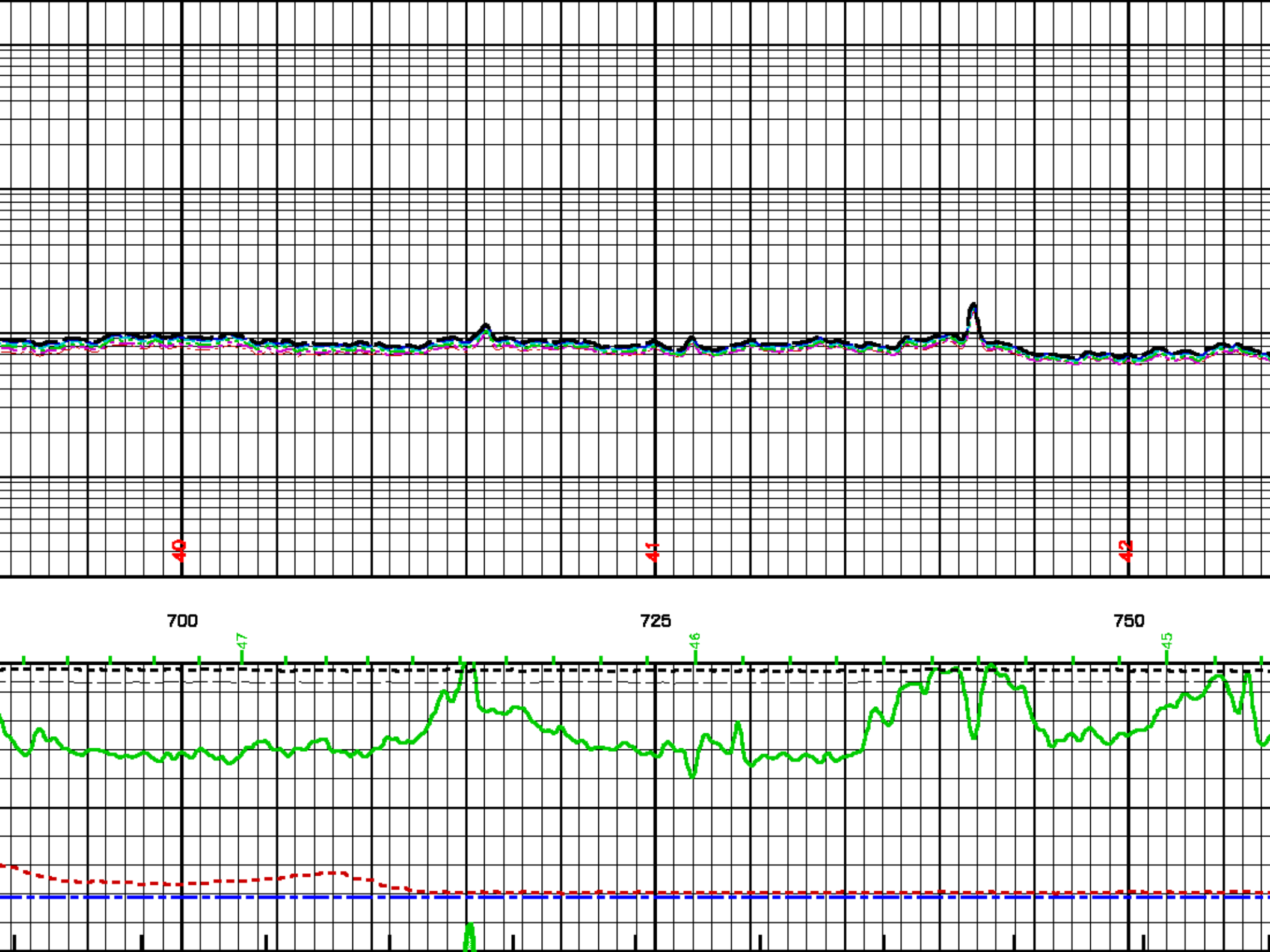
M2RX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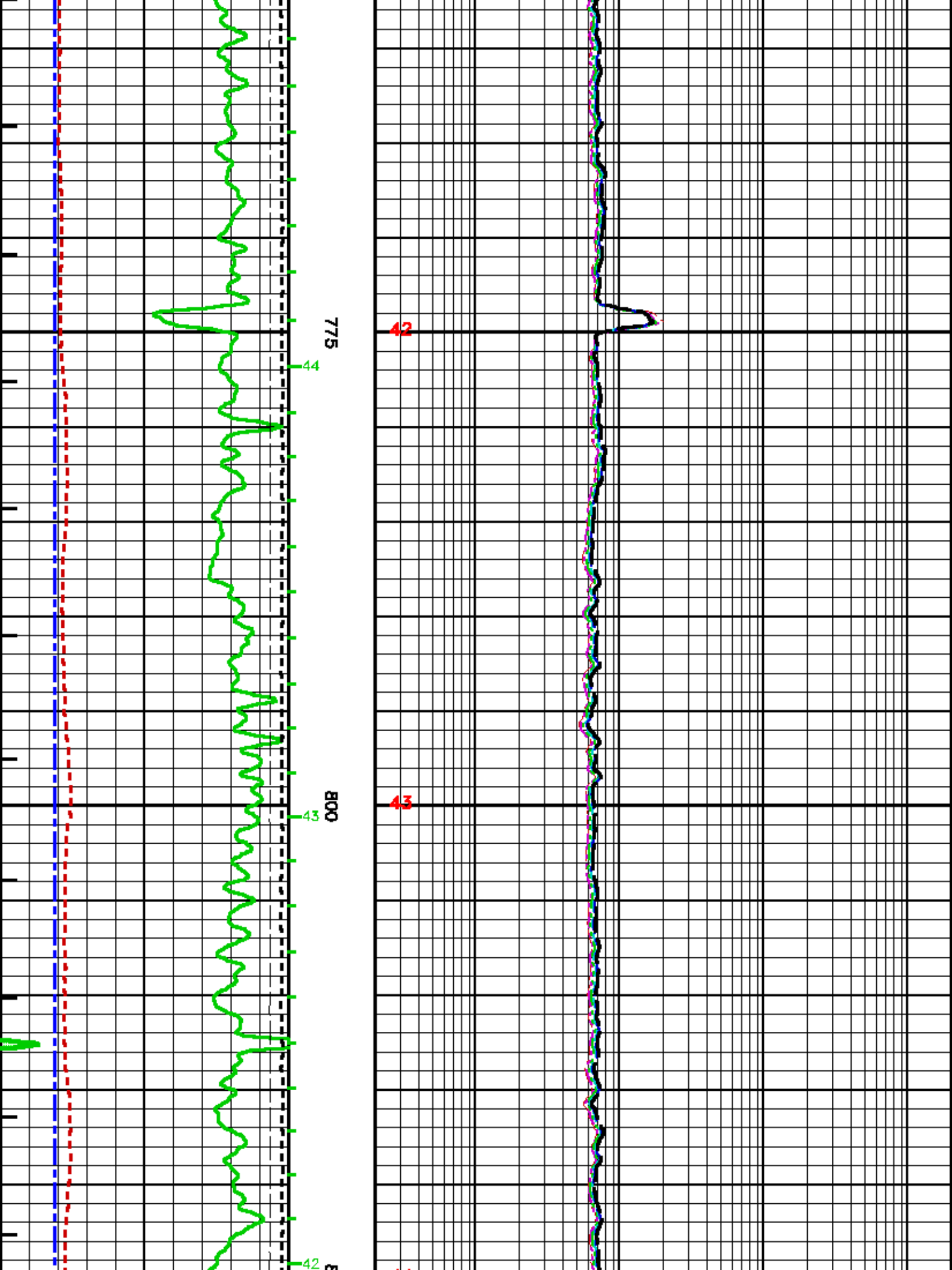
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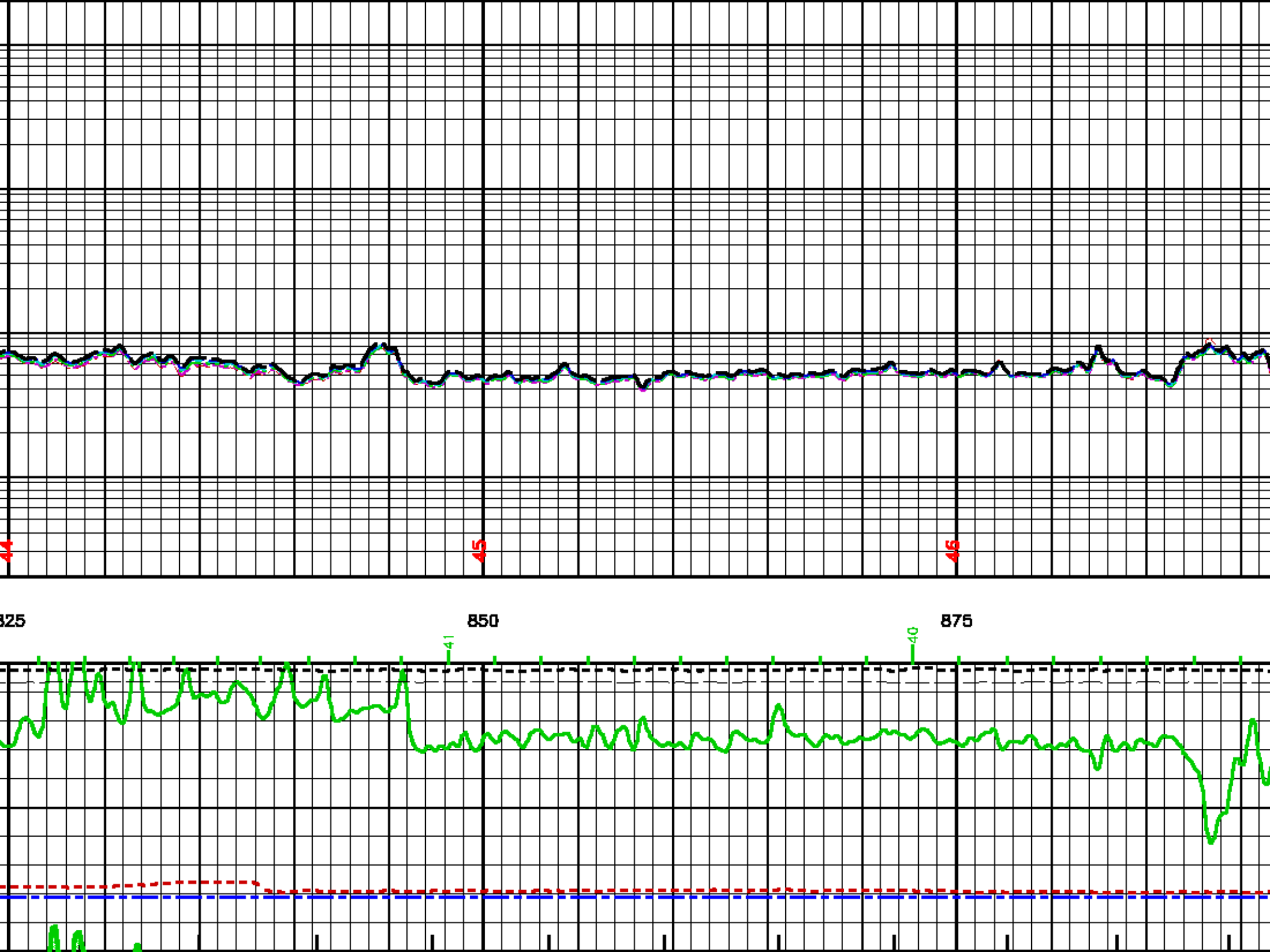
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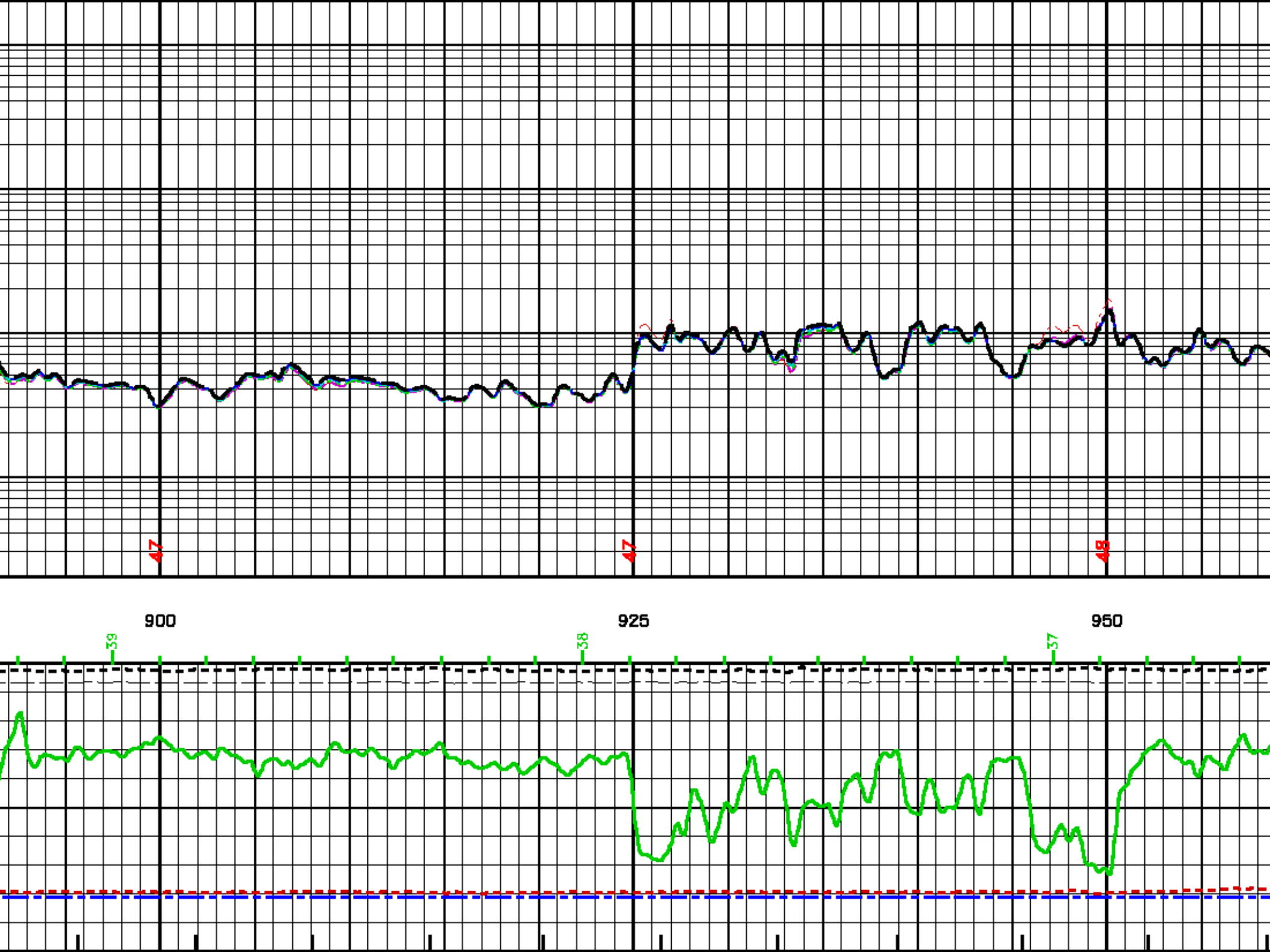
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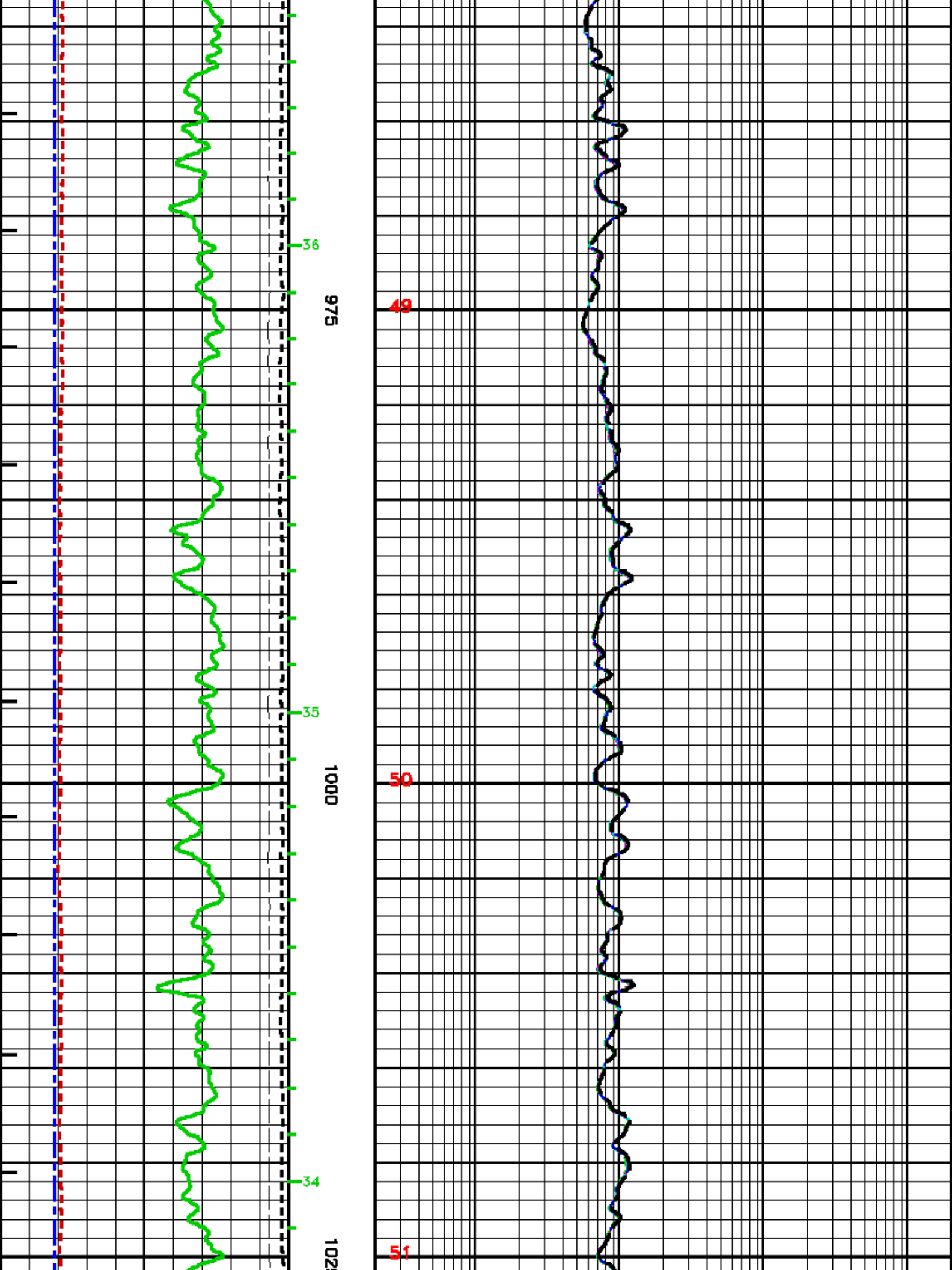
37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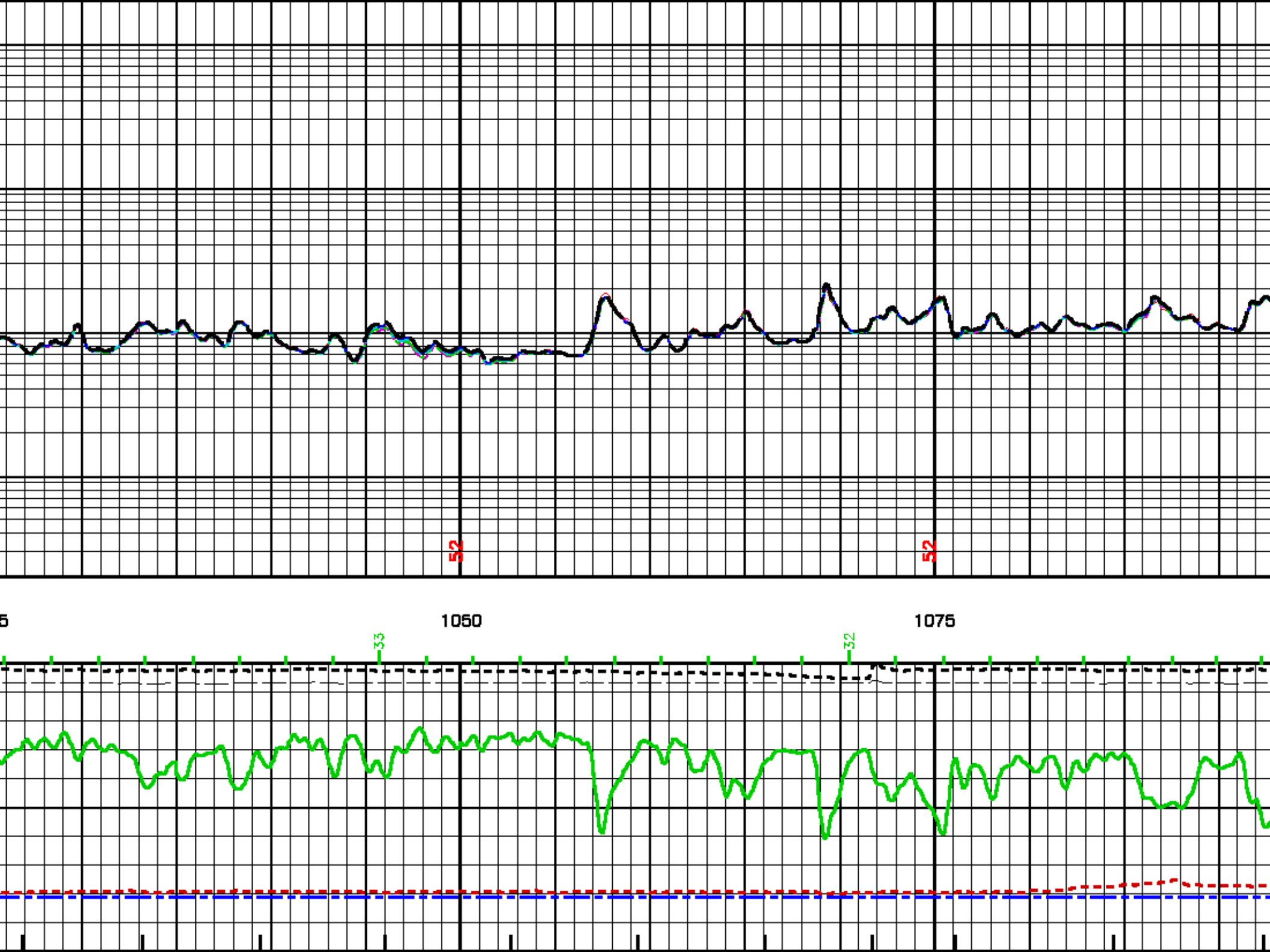
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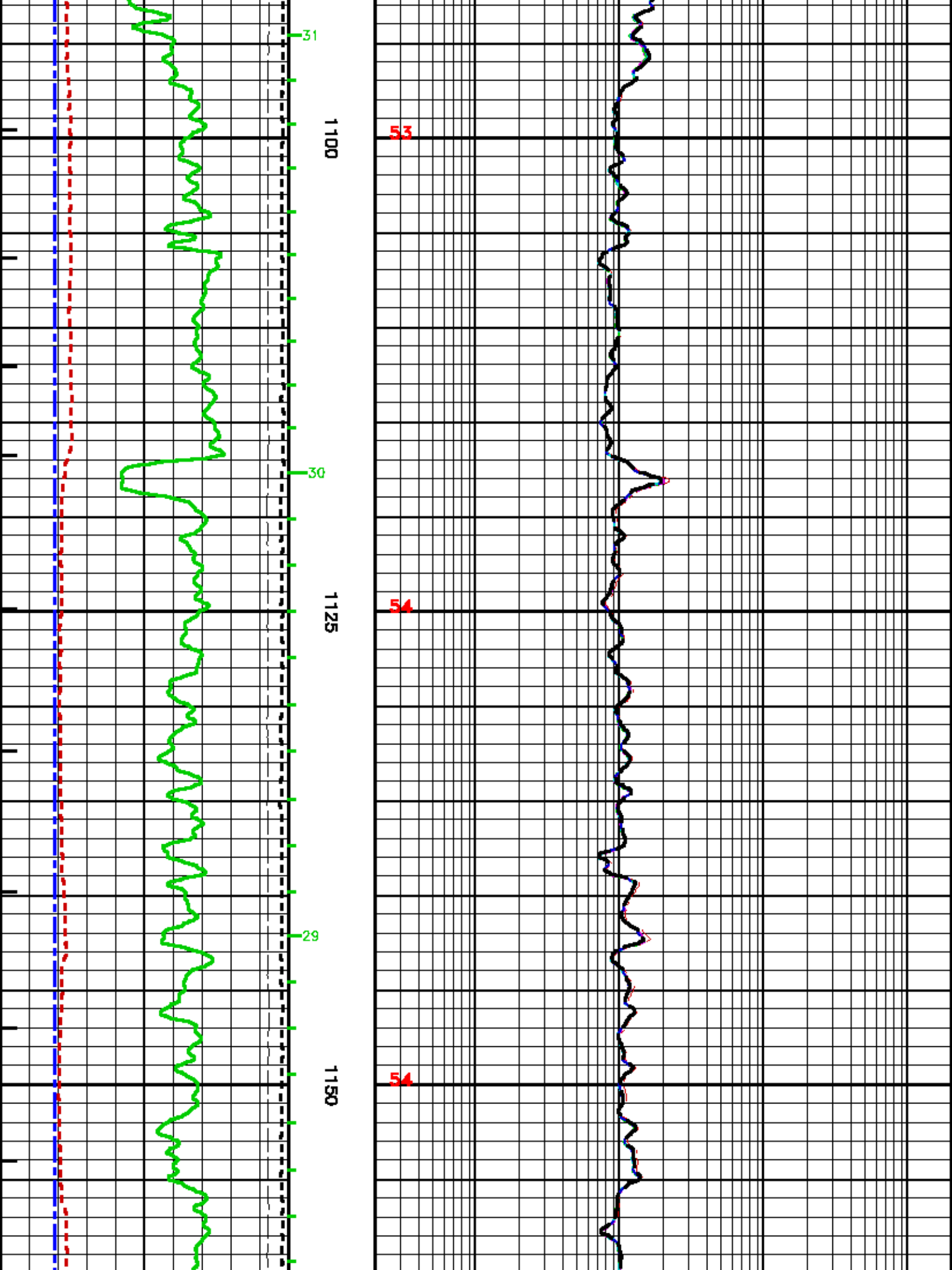
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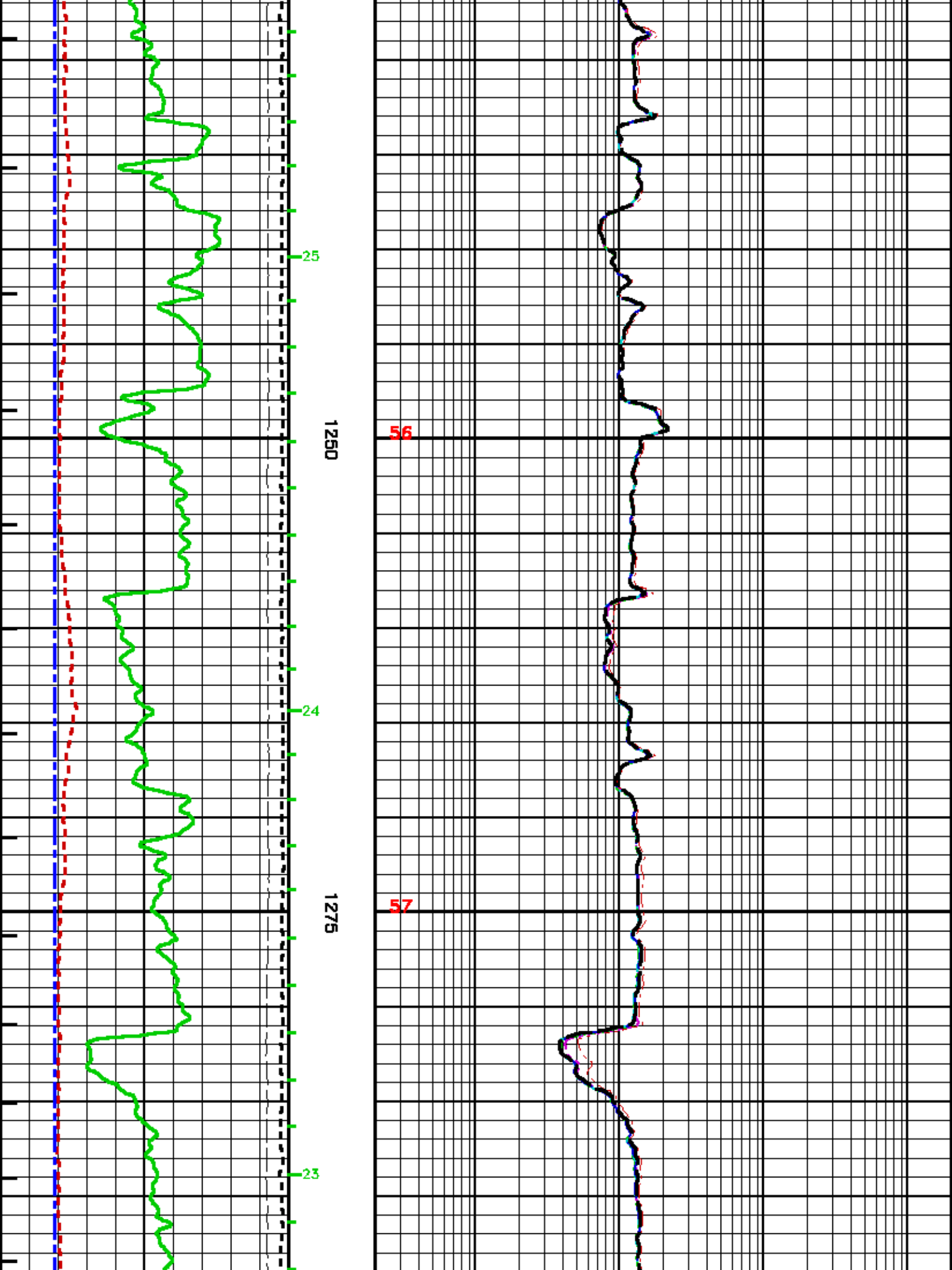
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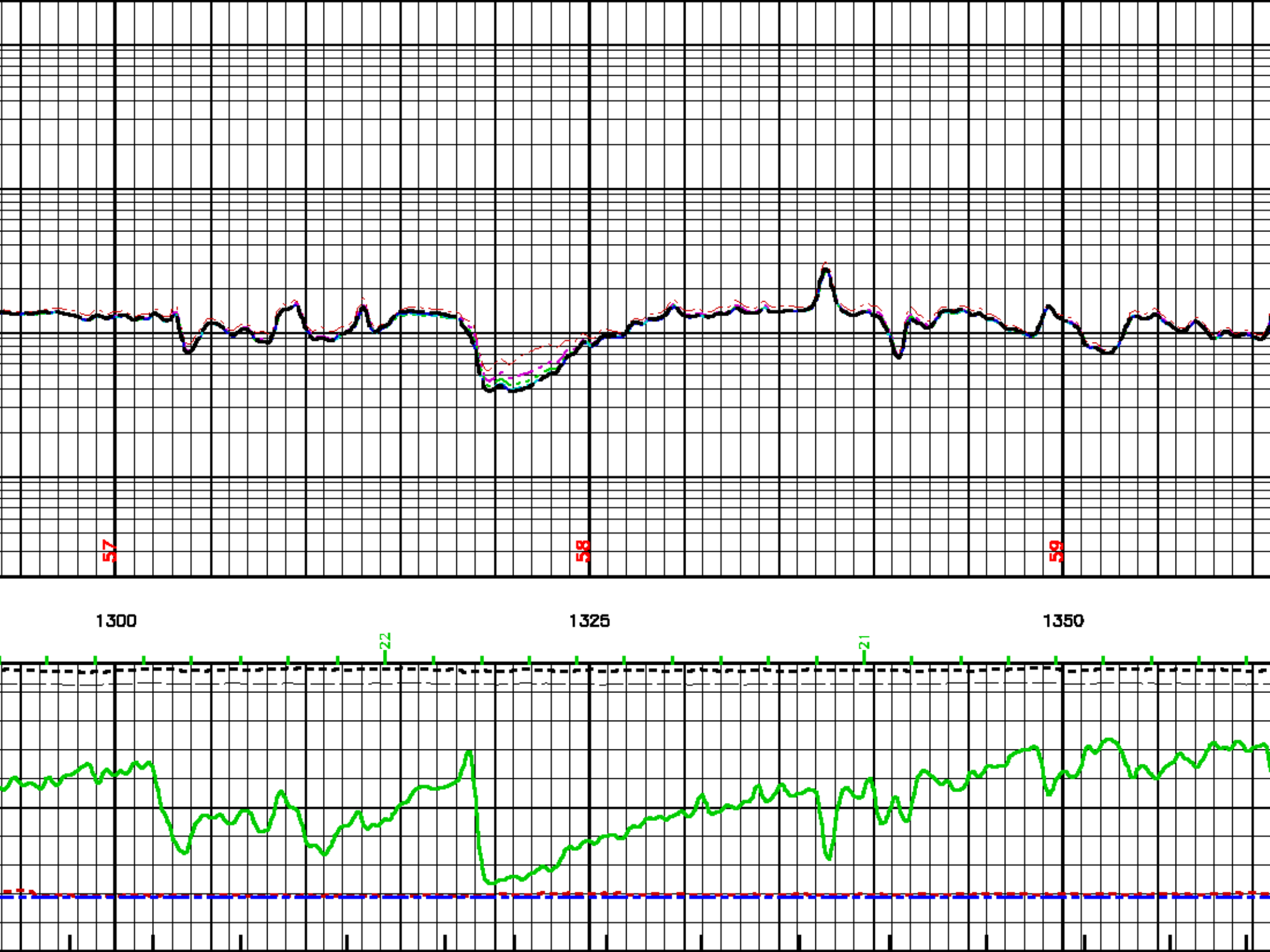
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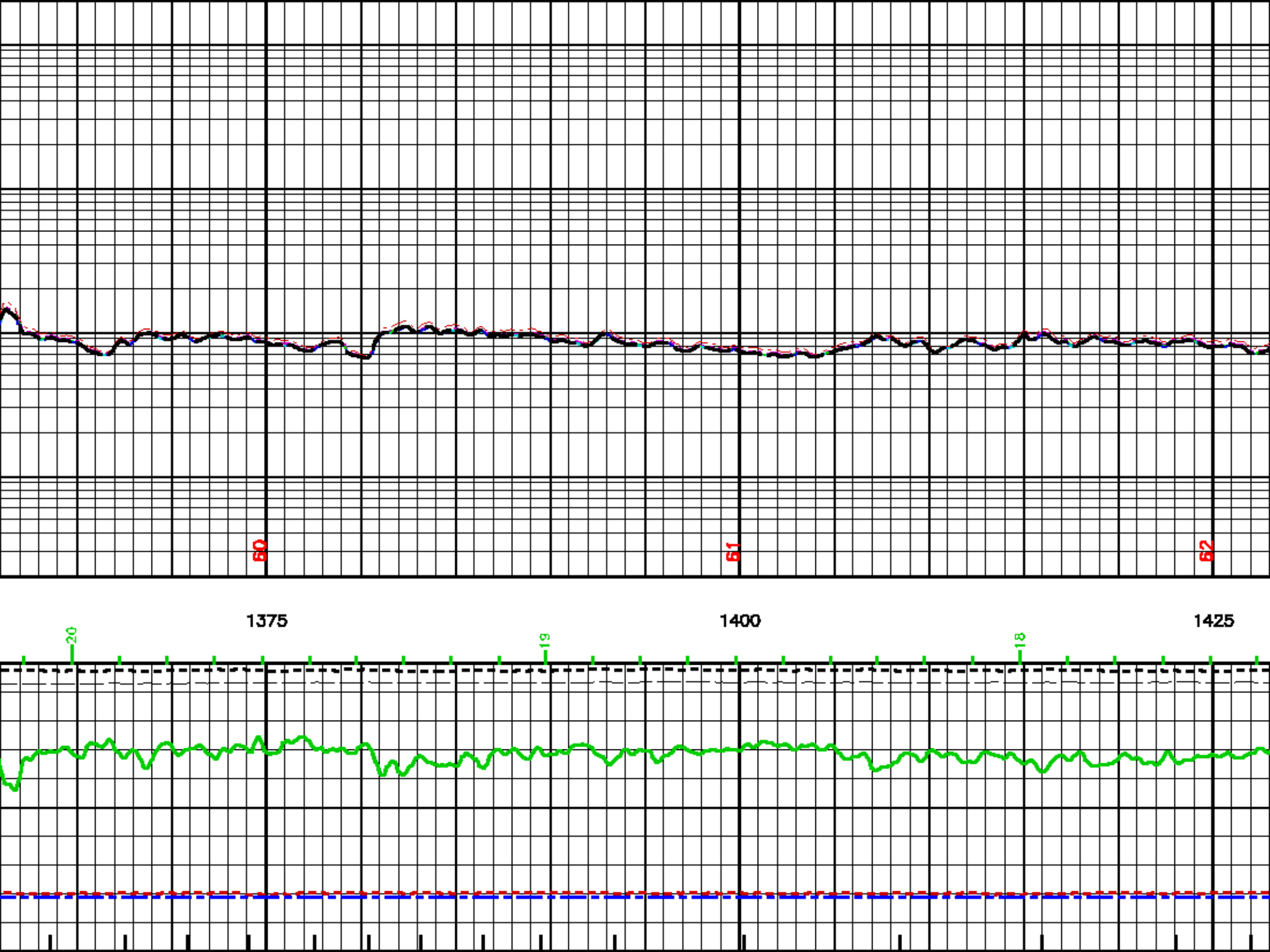
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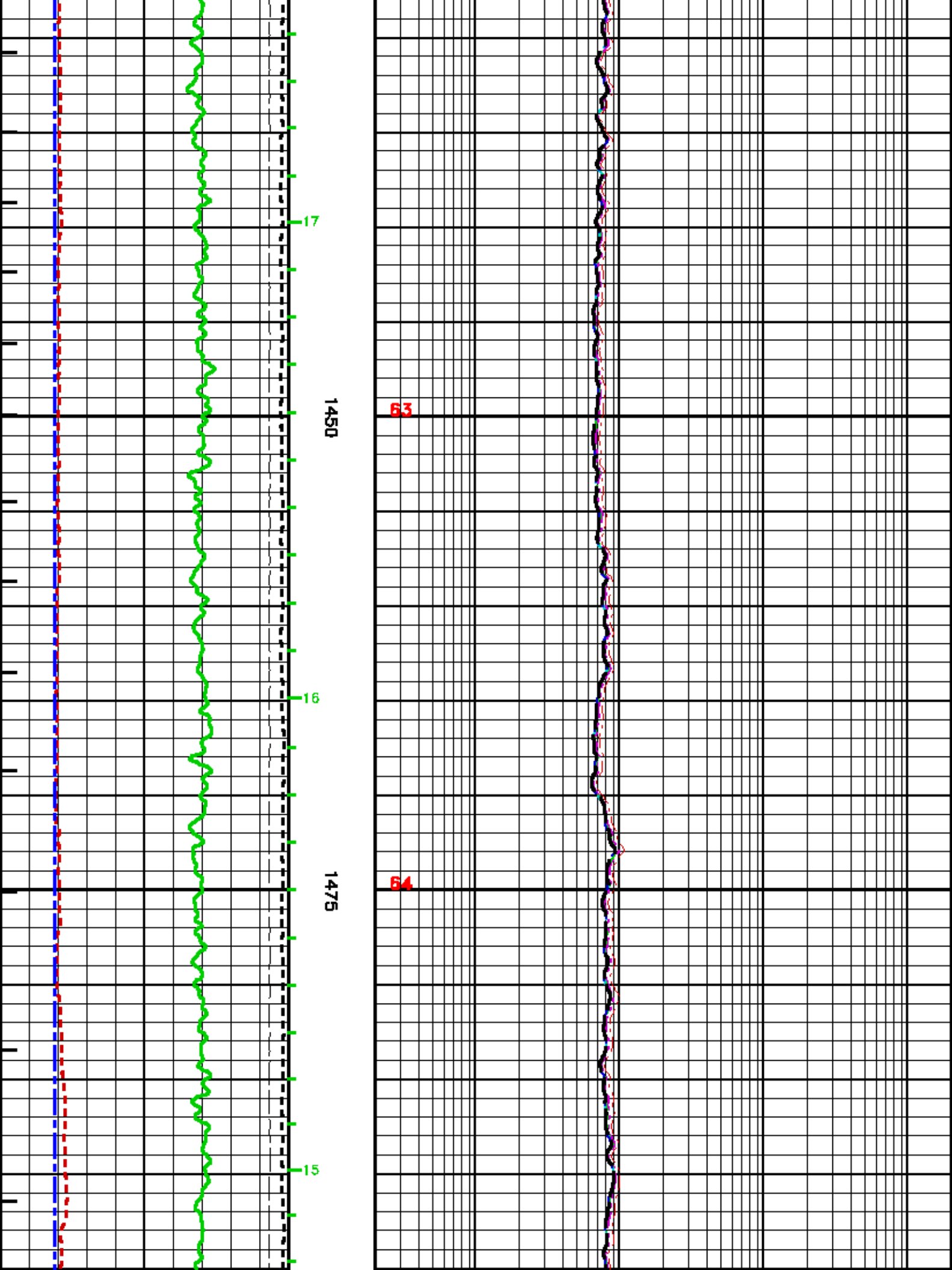
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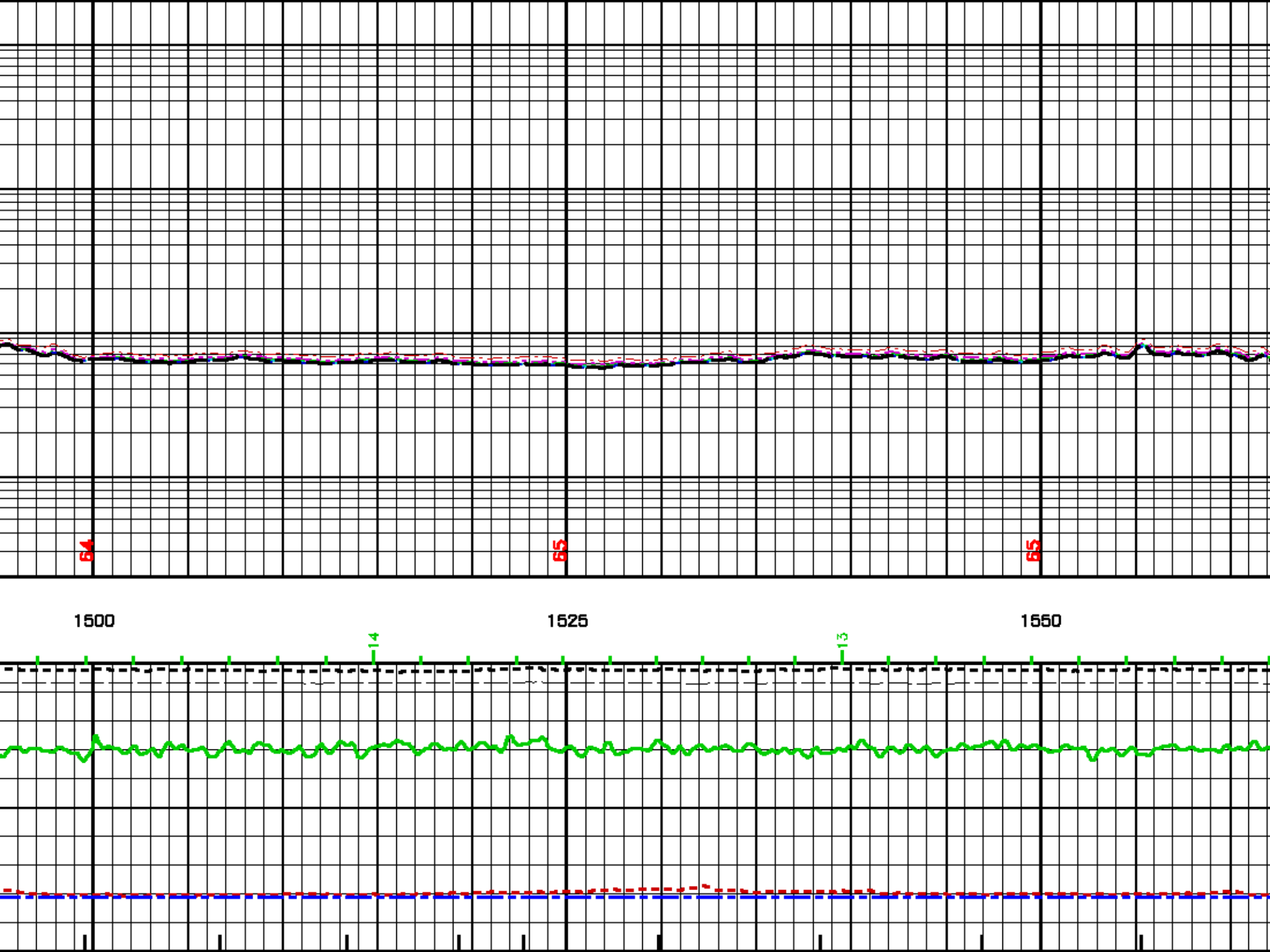
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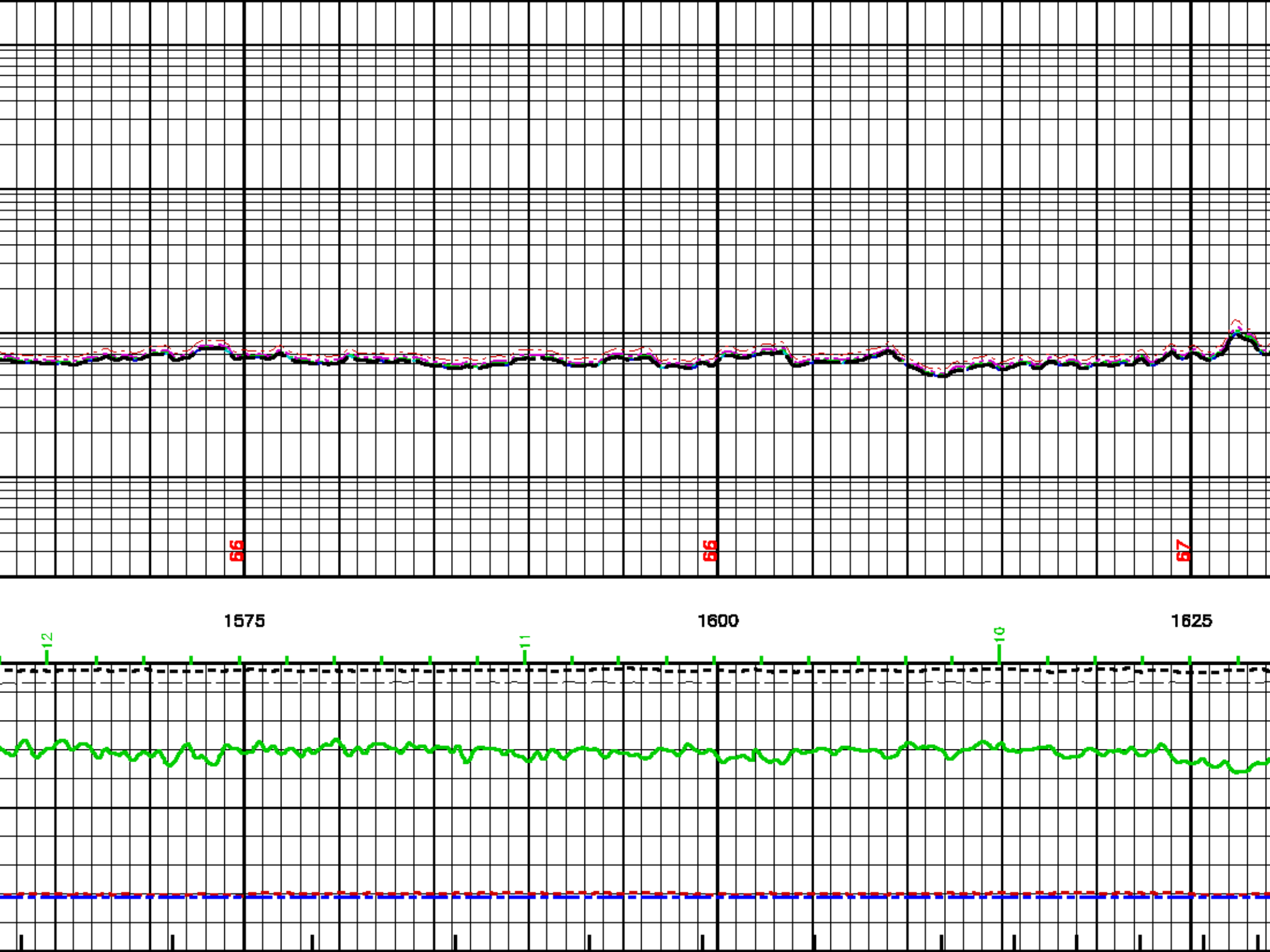
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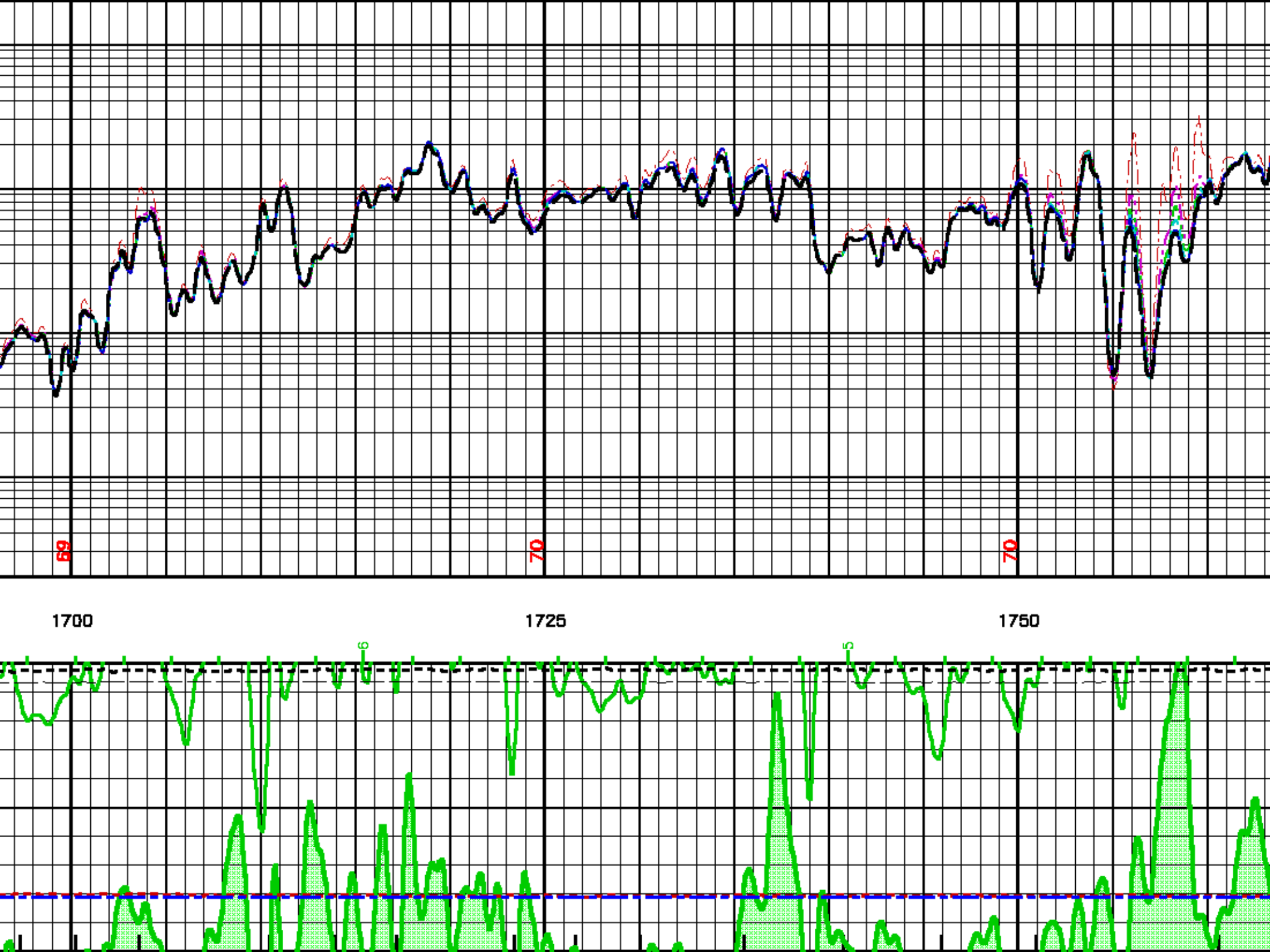
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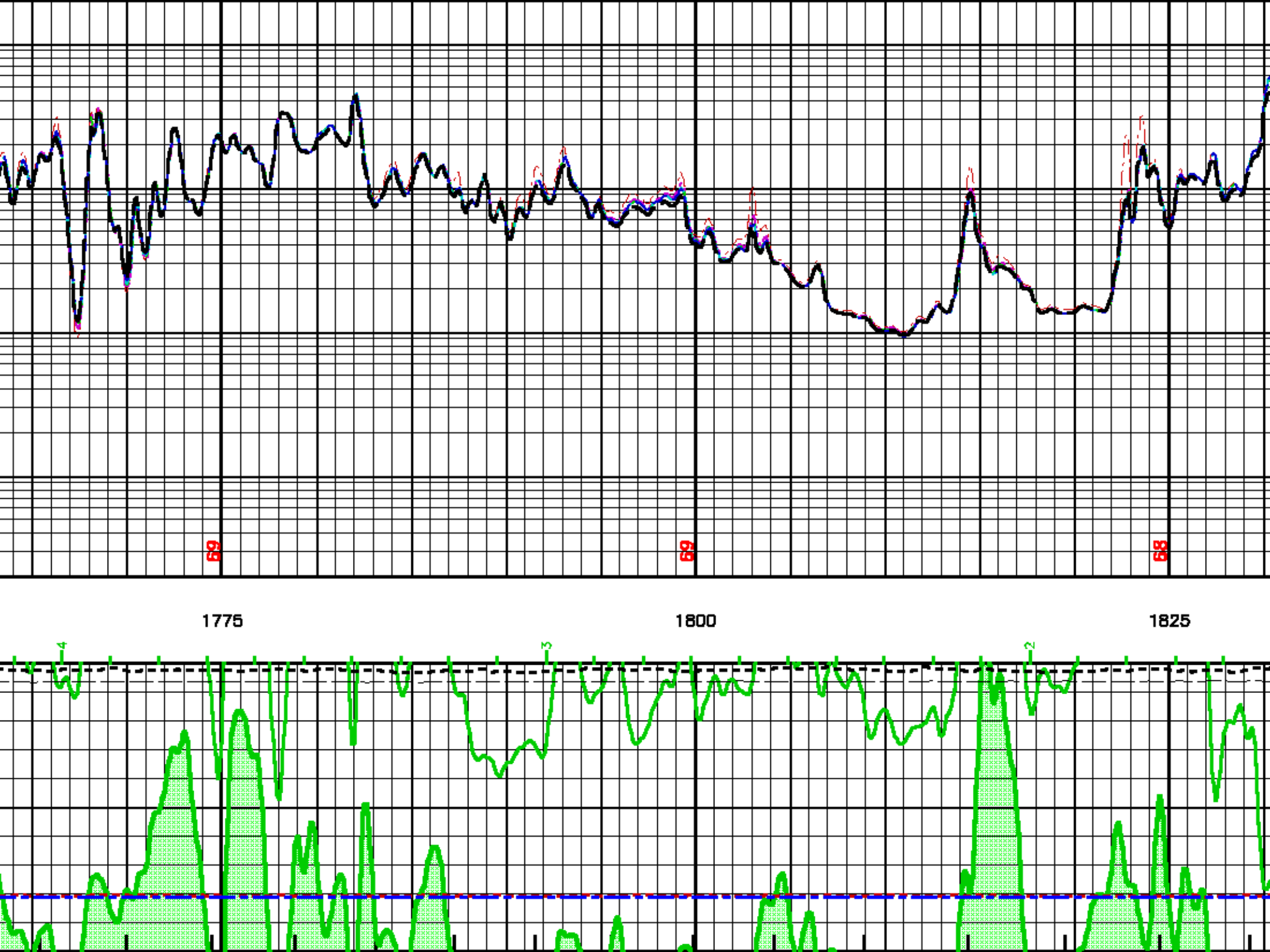
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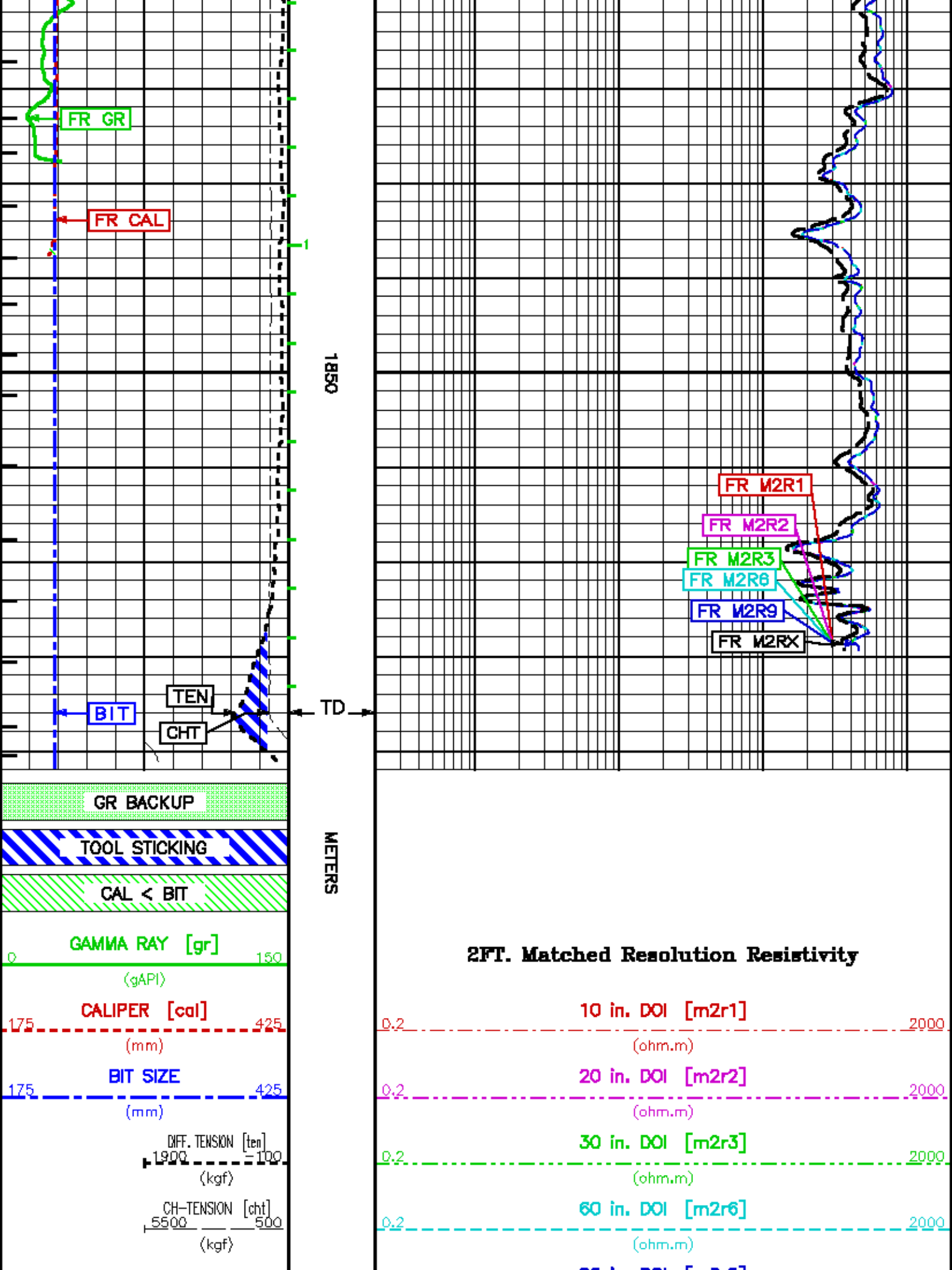
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FR M2R1
FR M2R2
FR M2R3
FR M2R6
FR M2R9
FR M2RX
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CHT
TD
GR BACKUP
TOOL STICKING
CAL < BIT
METERS
GAMMA RAY [gr]
0
150
(gAPI)
CALIPER [cal]
175
425
(mm)
BIT SIZE
175
425
(mm)
DIFF. TENSION [ten]
1900
-100
(kgf)
CH-TENSION [cht]
5500
500
(kgf)
2FT. Matched Resolution Resistivity
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2000
(ohm.m)
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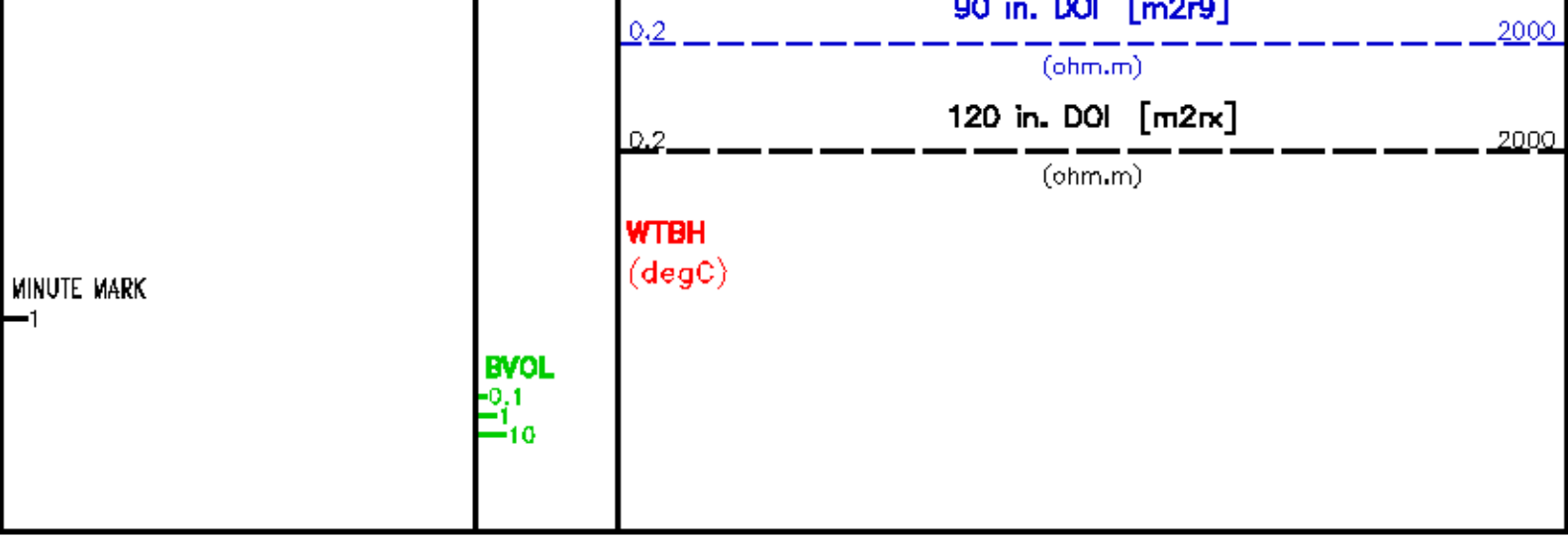


REPEAT LOG

ECLIPS 6.1I Aug 06, 2010
Updates: 1 Patches: 1

Mon Feb 13 05:23:11 2012

Perplt /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.51

PARAMETER AND FILTER SUMMARY REPORT

File: /data/husky_CA212310/m77evh_xc02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1641.754 m BOTTOM DEPTH: 1872.062 m

SYMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
BIT SIZE	BIT SIZE	222.000	mm	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	222.000	mm	"	"
BH MUD RESISTIVITY SOURCE	Rmud SOURCE (HDIL)	OIL BASE MUD		"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m) TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	36.10	mm	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

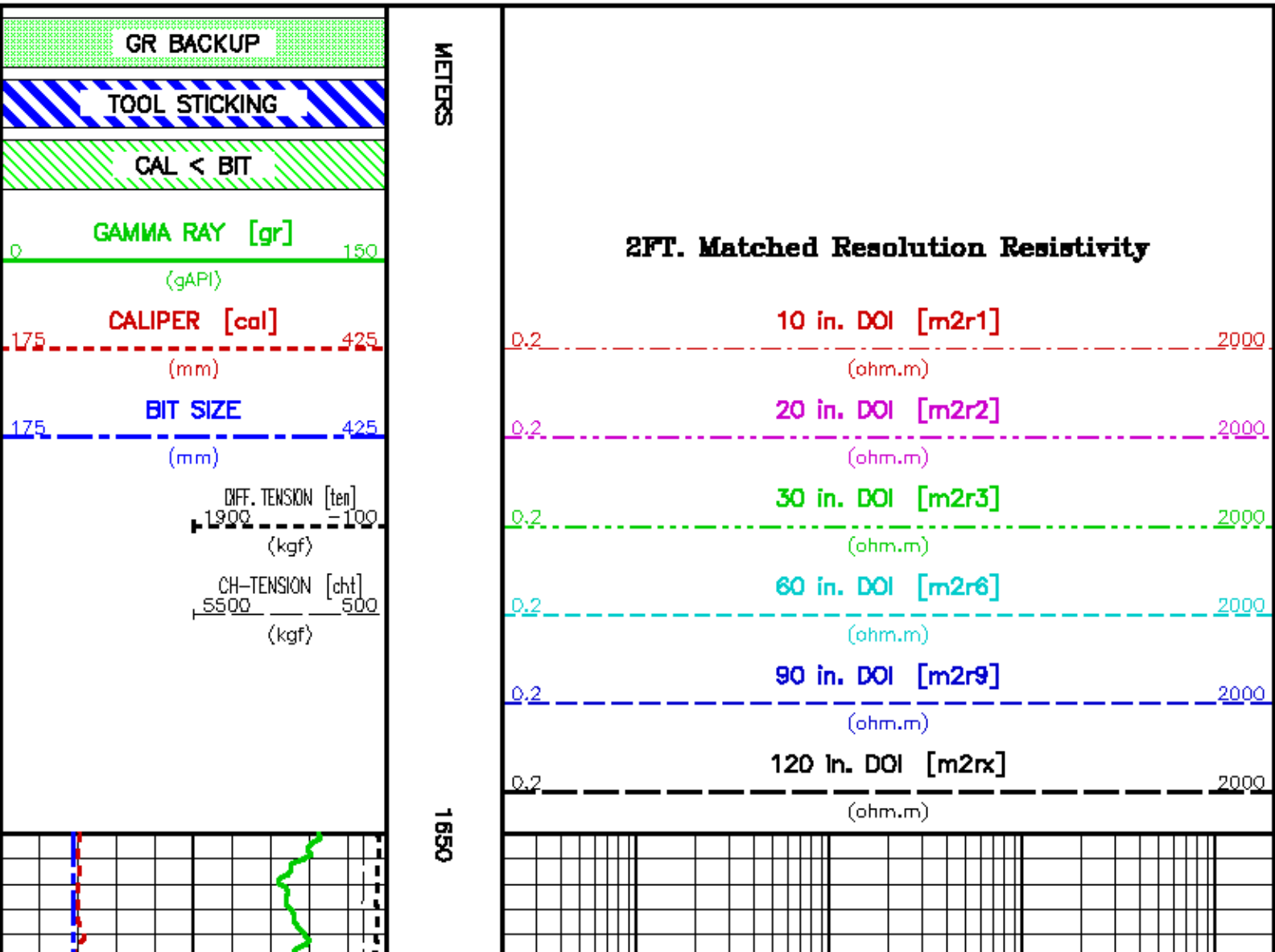
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Feb 13 04:06:43 2012	BIT SIZE
F1:CAL	Feb 13 04:06:43 2012	CALIPER
F1:CHT	Feb 13 04:06:43 2012	CABLE HEAD TENSION
F1:GR	Feb 13 04:06:43 2012	GAMMA RAY
F1:M2R1	Feb 13 04:06:43 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Feb 13 04:06:43 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Feb 13 04:06:43 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Feb 13 04:06:43 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Feb 13 04:06:43 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Feb 13 04:06:43 2012	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:TEN	Feb 13 04:06:43 2012	DIFFERENTIAL TENSION

CURVE MEASURE POINT OFFSET

CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)	CURVE	OFFSET (m)
BIT	0.00	GR	31.39	M2R3	3.66	M2RX	3.66
CAL	26.06	M2R1	3.66	M2R6	3.66	TEN	0.00
CHT	0.00	M2R2	3.66	M2R9	3.66		

Presentation : epuaz/dat1a/husky_CA212310/hdll_rpt.pdf [1:240 Scale]
Plot Interval : 1650 - 1870.94 Meters

Data File 1 : F1 : epuaz/dat1a/husky_CA212310/r1f1_rpt.xtf
Created On : Feb 13 04:06:43 2012
Company : HUSKY OIL OPERATIONS LIMITED
Well : LITTLE BEAR N-9
Field : SLATER RIVER
File Interval : 1606.37 - 1870.98 Meters
Out : m77erh_x



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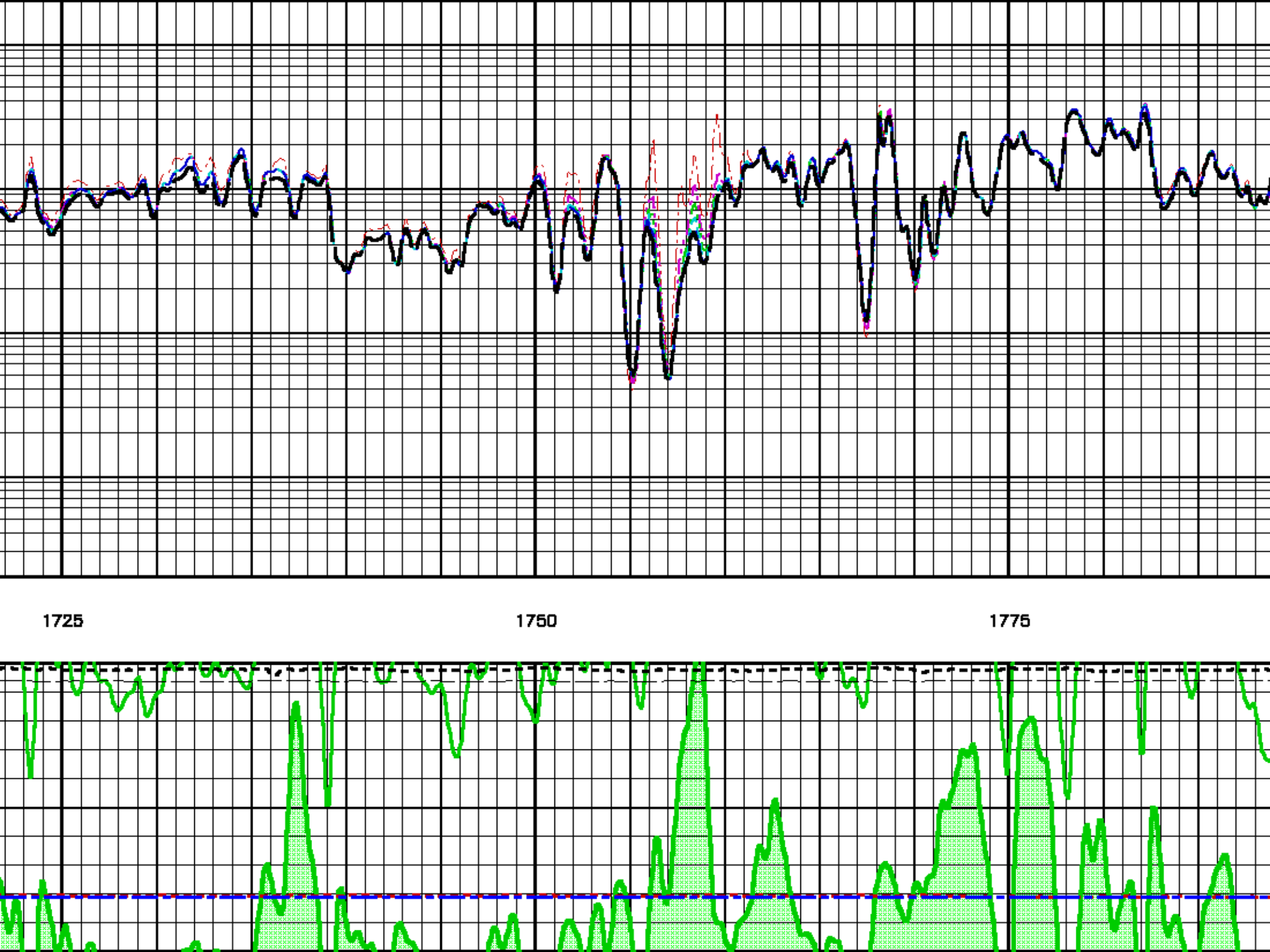
1700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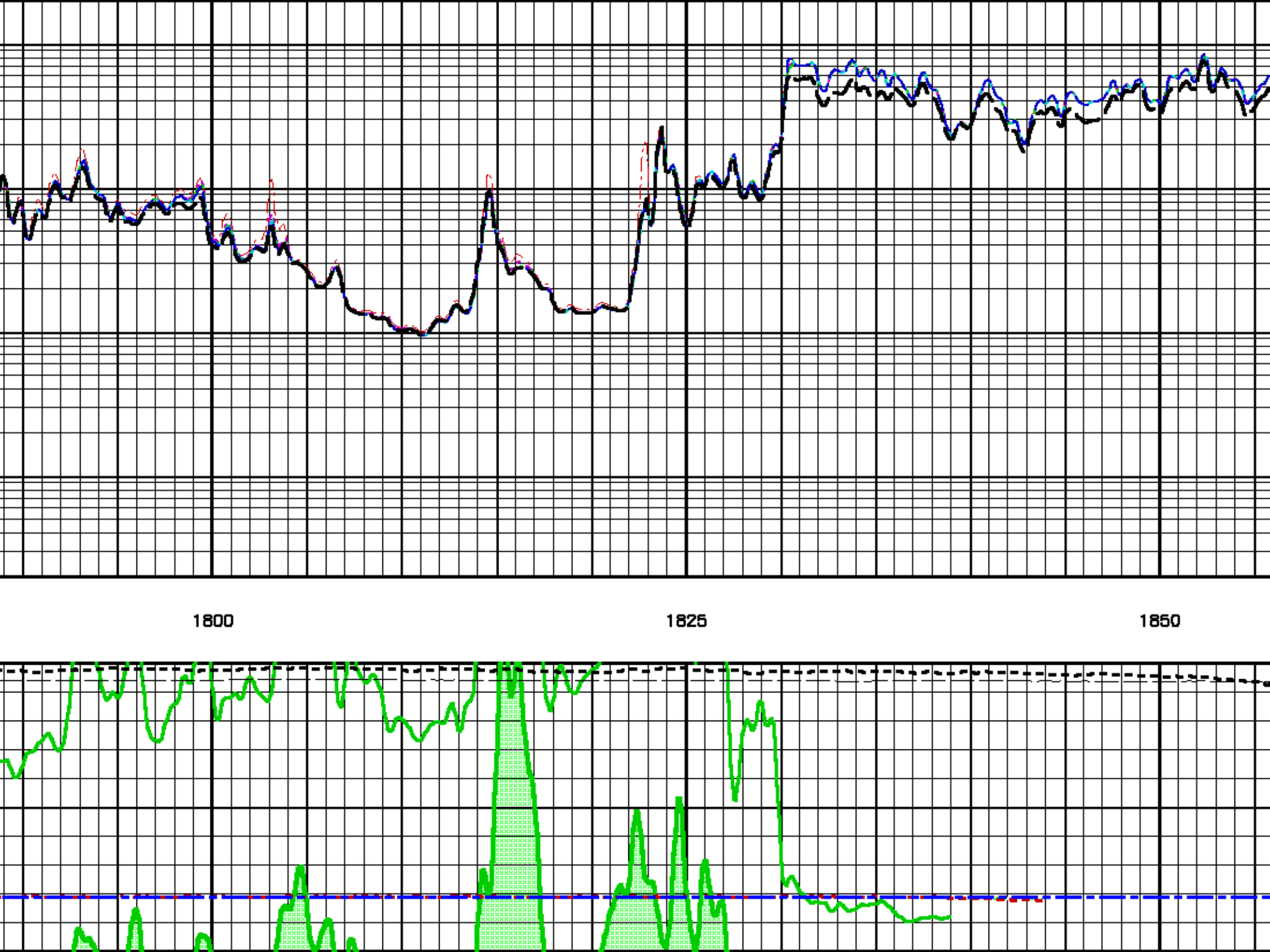
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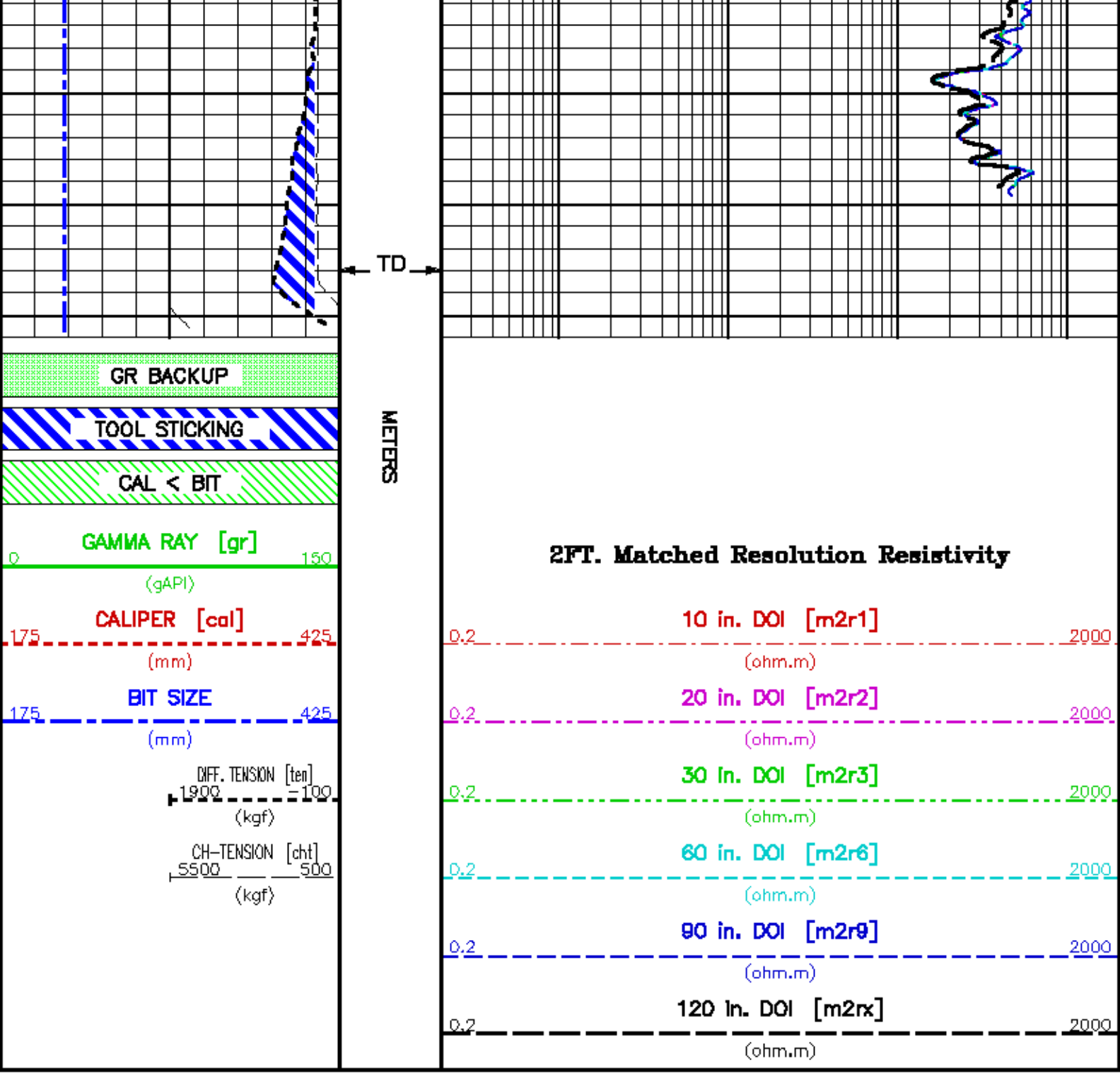

CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/husky_CA212310/m77erh_xc_cals.dp1

CHTEN PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 173348

DATE/TIME PERFORMED: Mon Feb 13 03:05:54 2012

UNIT #: 3854SA 008672

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (kgf)	Engr High (kgf)
CHT	2014.20	2119.20	22.89	-20989.31	-80.00	1010.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 11756674 DATE/TIME PERFORMED: Sat Feb 11 15:40:57 2012

UNIT #: 3854SA 008672 CALB JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	34.36	938.07	903.7 (830.0 960.0)	0.166	5.70	155.70	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 11756674 DATE/TIME PERFORMED: Sat Feb 11 15:55:48 2012

UNIT #: 3854SA 008672 VERI JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	33.04	928.56	0.166	5.48	154.12	148.64 (140.00 160.00)

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 11756674 DATE/TIME PERFORMED: Sat Feb 11 16:23:14 2012 DAYS SINCE CAL: 0

UNIT #: 3854SA 008672 VERI JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	36.04	928.44	0.166	5.98	154.11	148.12 (138.64 158.64)

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 11756674 DATE/TIME PERFORMED: Mon Feb 13 12:23:20 2012 DAYS SINCE CAL: 1

UNIT #: 3854SA 008672 VERI JIG #: 4702NK DA-554

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)

GR	181.31	1042.73	0.166	30.09	173.08	142.98 138.12 156.12

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 168004 DATE/TIME PERFORMED: Sat Jan 14 10:11:09 2012

UNIT #: 38545A 008672

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (mm)	LARGE RING (mm)
CALIPER	883.6	1429.6	0.18535	14.02653	177.800	279.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 168004 DATE/TIME PERFORMED: Mon Feb 13 03:36:21 2012 DAYS SINCE CAL: 29

UNIT #: 38545A 008672

	I.D.	MULT	ADD	I.D. (mm)
CALIPER	1162.0	0.18535	12.02664	227.401

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 168004 DATE/TIME PERFORMED: Mon Feb 13 08:52:36 2012 DAYS SINCE CAL: 29

UNIT #: 38545A 008672

	I.D.	MULT	ADD	I.D. (mm)
CALIPER	1159.2	0.18535	12.02664	226.882 214.701 240.101

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 11997966 DATE/TIME PERFORMED: Fri Jan 6 21:11:05 2012

UNIT #: 5753XB 10108816 GROND ID & DATE: Nisku 0802111

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil O R	-0.011 -0.200 0.200	0.001 -0.100 0.100	0.001 -0.100 0.100	-0.002 -0.100 0.100	-0.003 -0.100 0.100	-0.001 -0.100 0.100	-0.001 -0.100 0.100	-0.004 -0.100 0.100
Coil O Q	0.010	0.010	0.003	0.001	0.004	0.002	0.000	0.004

	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 R	0.005	-0.000	-0.001	0.001	0.000	-0.001	-0.002	-0.001
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 Q	-0.001	-0.001	-0.003	0.000	0.003	0.002	0.002	0.001
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 R	0.004	-0.003	-0.003	0.001	-0.002	0.003	0.005	0.005
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 Q	-0.010	-0.006	-0.003	-0.002	-0.004	-0.006	-0.003	-0.001
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 R	-0.005	0.001	0.001	0.004	0.001	-0.006	-0.003	0.003
	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 Q	-0.011	-0.010	-0.003	0.001	0.002	0.001	-0.002	-0.006
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 4 R	-0.036	-0.015	0.003	-0.007	-0.010	0.005	0.004	-0.004
	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 4 Q	0.008	0.024	0.003	0.001	0.005	-0.001	-0.003	0.003
	-1.000 1.000	-0.400 0.400	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 5 R	0.018	0.007	0.004	0.006	0.013	0.017	0.004	-0.017
	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 5 Q	-0.026	-0.014	-0.009	0.000	-0.011	0.003	0.018	0.012
	-2.000 2.000	-0.800 0.800	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 6 R	-0.002	0.008	0.001	-0.023	-0.012	0.001	-0.016	0.020
	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000
Coil 6 Q	-0.014	0.003	0.011	-0.004	0.019	0.012	-0.020	-0.012
	-5.000 5.000	-2.000 2.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	125.79	124.82	122.93	119.81	115.87	110.52	104.35	96.78
	100.00 150.00	100.00 150.00	98.00 150.00	96.00 140.00	92.00 140.00	87.00 130.00	82.00 120.00	76.00 110.00
Coil 0 P	7.282	22.941	38.408	53.907	69.440	85.030	100.514	116.029
	6.000 9.000	19.000 26.000	32.000 47.000	44.000 66.000	57.000 85.000	70.000 100.000	82.000 120.000	95.000 140.000
Coil 1 M	222.56	220.28	215.88	208.95	200.51	189.59	177.59	163.46
	180.00 270.00	180.00 270.00	170.00 260.00	170.00 250.00	160.00 250.00	150.00 230.00	150.00 220.00	140.00 200.00
Coil 1 P	7.616	23.965	40.047	56.077	71.982	87.861	103.483	119.054
	6.000 9.000	19.000 26.000	32.000 48.000	45.000 67.000	57.000 86.000	70.000 110.000	83.000 120.000	96.000 140.000
Coil 2 M	442.98	438.28	429.37	415.70	398.70	376.86	353.18	325.20
	360.00 540.00	360.00 540.00	350.00 530.00	340.00 510.00	330.00 500.00	310.00 470.00	300.00 440.00	270.00 410.00
Coil 2 P	7.818	24.524	40.933	57.301	73.557	89.787	105.825	121.802
	6.000 9.000	19.000 29.000	32.000 48.000	45.000 67.000	58.000 87.000	71.000 110.000	84.000 130.000	98.000 140.000
Coil 3 M	724.53	716.94	702.84	680.69	653.53	617.92	578.99	532.68
	590.00 880.00	580.00 870.00	570.00 850.00	550.00 830.00	530.00 800.00	500.00 760.00	470.00 710.00	440.00 650.00
Coil 3 P	7.802	24.560	41.046	57.503	73.847	90.159	106.274	122.329
	6.000 10.000	20.000 29.000	33.000 49.000	46.000 69.000	58.000 89.000	72.000 110.000	85.000 130.000	98.000 150.000
Coil 4 M	1153.9	1143.7	1124.3	1093.1	1054.5	1002.2	943.5	872.0
	900.0 1400.0	900.0 1300.0	900.0 1300.0	850.0 1300.0	800.0 1200.0	800.0 1200.0	750.0 1100.0	700.0 1000.0
Coil 4 P	7.766	24.456	40.926	57.397	73.873	90.370	106.784	123.186
	6.000 10.000	20.000 30.000	33.000 50.000	46.000 70.000	60.000 90.000	73.000 110.000	86.000 130.000	99.000 150.000
Coil 5 M	2333.3	2316.0	2281.8	2224.6	2151.4	2049.5	1931.0	1784.5
	1900.0 2800.0	1800.0 2800.0	1800.0 2700.0	1800.0 2800.0	1700.0 2500.0	1600.0 2400.0	1500.0 2200.0	1400.0 2100.0
Coil 5 P	7.961	25.034	41.910	58.895	75.945	93.112	110.227	127.395
	6.000 10.000	20.000 31.000	34.000 51.000	48.000 72.000	62.000 93.000	76.000 110.000	89.000 130.000	100.000 150.000
Coil 6 M	5975.6	5902.5	5764.9	5553.7	5298.2	4978.2	4629.3	4231.0
	4700.0 7100.0	4700.0 7000.0	4600.0 6900.0	4400.0 6600.0	4200.0 6400.0	4000.0 6000.0	3700.0 5600.0	3400.0 5100.0
Coil 6 P	8.382	26.531	44.329	61.986	79.503	96.871	113.998	131.013
	7.000 10.000	22.000 32.000	36.000 54.000	51.000 76.000	65.000 96.000	80.000 120.000	94.000 140.000	110.000 160.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	427 -200 800	-72 -500 200	-127 -600 100	-145 -600 50	-155 -500 20	-162 -500 20	-166 -500 20	-169 -500 20
Coil 0 Q	1368 -3000 6000	505 -1000 2000	284 -1000 1200	176 -500 900	106 -400 700	53 -400 600	8 -400 500	-30 -400 400
Coil 1 R	530 450 650	76 20 130	18 -30 80	-3 -50 40	-13 -55 30	-18 -60 20	-22 -60 10	-24 -60 10
Coil 1 Q	464 0 2500	228 0 900	148 0 600	106 0 450	81 0 350	62 0 300	48 0 250	36 0 250
Coil 2 R	177.6 140.0 230.0	27.0 0.0 51.0	8.1 -10.0 25.0	2.0 -15.0 15.0	-1.2 -16.0 10.0	-2.8 -16.0 7.0	-4.1 -16.0 5.0	-4.8 -16.0 3.0
Coil 2 Q	213.5 -200.0 1000.0	99.4 0.0 350.0	65.0 0.0 220.0	49.8 0.0 160.0	41.4 0.0 130.0	36.1 0.0 110.0	32.5 0.0 100.0	30.3 0.0 90.0
Coil 3 R	45.0 37.0 62.0	6.3 0.0 12.0	1.3 -3.0 6.0	-0.7 -4.0 4.0	-1.4 -5.0 2.0	-1.9 -5.0 1.0	-2.0 -6.0 1.0	-2.9 -6.0 1.0
Coil 3 Q	27.8 -140.0 280.0	18.1 -40.0 100.0	15.4 -20.0 70.0	15.0 -10.0 60.0	15.6 -10.0 50.0	16.8 -10.0 50.0	18.2 -10.0 50.0	19.5 -10.0 50.0
Coil 4 R	10.01 2.00 18.00	1.45 -3.00 6.00	-0.05 -3.50 3.00	-0.42 -3.90 2.00	-0.62 -4.20 2.00	-0.78 -4.50 2.00	-1.02 -4.70 2.00	-0.97 -5.00 2.00
Coil 4 Q	-11.32 -100.00 100.00	0.55 -30.00 50.00	4.17 -20.00 40.00	6.94 -10.00 40.00	9.58 -10.00 40.00	11.97 -10.00 45.00	14.38 -10.00 50.00	16.97 -10.00 60.00
Coil 5 R	1.98 -2.00 5.80	0.28 -3.20 2.40	-0.14 -4.50 3.10	-0.51 -4.70 3.20	-0.44 -4.80 3.20	-0.61 -5.00 3.30	-0.71 -5.20 3.40	-0.90 -5.40 3.50
Coil 5 Q	4.20 -60.00 70.00	3.96 -20.00 30.00	5.42 -20.00 30.00	7.28 -20.00 35.00	9.31 -20.00 45.00	11.43 -20.00 50.00	13.60 -20.00 60.00	15.73 -30.00 70.00
Coil 6 R	-1.35 -4.60 1.00	-0.14 -5.70 3.80	-0.15 -6.50 4.90	-0.47 -6.90 5.40	-0.50 -7.30 5.80	-0.54 -7.50 6.00	-0.70 -7.70 6.10	-0.60 -7.90 6.30
Coil 6 Q	-14.30 -30.00 30.00	-3.45 -20.00 25.00	0.38 -20.00 35.00	3.46 -30.00 50.00	6.21 -35.00 60.00	8.83 -40.00 70.00	11.03 -50.00 80.00	13.48 -60.00 100.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.996 0.900 1.100	0.995 0.900 1.100	0.992 0.900 1.100	0.993 0.900 1.100	0.992 0.900 1.100	0.991 0.900 1.100	0.990 0.900 1.100	0.991 0.900 1.100
Coil 0 P	0.192 -2.000 2.000	0.159 -2.000 2.000	0.228 -2.000 2.000	0.201 -2.000 2.000	0.184 -2.000 2.000	0.159 -2.000 2.000	0.163 -2.000 2.000	0.136 -2.000 2.000
Coil 1 M	0.992 0.900 1.100	0.992 0.900 1.100	0.989 0.900 1.100	0.989 0.900 1.100	0.988 0.900 1.100	0.987 0.900 1.100	0.987 0.900 1.100	0.987 0.900 1.100
Coil 1 P	0.117 -2.000 2.000	0.133 -2.000 2.000	0.211 -2.000 2.000	0.205 -2.000 2.000	0.189 -2.000 2.000	0.165 -2.000 2.000	0.127 -2.000 2.000	0.122 -2.000 2.000
Coil 2 M	0.992 0.900 1.100	0.989 0.900 1.100	0.989 0.900 1.100	0.989 0.900 1.100	0.988 0.900 1.100	0.988 0.900 1.100	0.989 0.900 1.100	0.988 0.900 1.100
Coil 2 P	0.156 -2.000 2.000	0.044 -2.000 2.000	0.014 -2.000 2.000	0.013 -2.000 2.000	0.009 -2.000 2.000	-0.007 -2.000 2.000	0.031 -2.000 2.000	0.009 -2.000 2.000
Coil 3 M	0.996 0.900 1.100	0.995 0.900 1.100	0.995 0.900 1.100	0.994 0.900 1.100	0.994 0.900 1.100	0.994 0.900 1.100	0.994 0.900 1.100	0.995 0.900 1.100
Coil 3 P	0.136 -2.000 2.000	0.012 -2.000 2.000	-0.016 -2.000 2.000	-0.040 -2.000 2.000	-0.079 -2.000 2.000	-0.135 -2.000 2.000	-0.153 -2.000 2.000	-0.172 -2.000 2.000
Coil 4 M	1.006 0.900 1.100	1.005 0.900 1.100	1.006 0.900 1.100	1.006 0.900 1.100	1.006 0.900 1.100	1.006 0.900 1.100	1.006 0.900 1.100	1.005 0.900 1.100
Coil 4 P	0.151 -2.000 2.000	0.012 -2.000 2.000	-0.030 -2.000 2.000	-0.050 -2.000 2.000	-0.039 -2.000 2.000	-0.065 -2.000 2.000	-0.048 -2.000 2.000	-0.118 -2.000 2.000
Coil 5 M	1.015 0.900 1.100	1.015 0.900 1.100	1.016 0.900 1.100	1.015 0.900 1.100	1.015 0.900 1.100	1.017 0.900 1.100	1.016 0.900 1.100	1.016 0.900 1.100
Coil 5 P	0.020 -2.000 2.000	0.211 -2.000 2.000	0.303 -2.000 2.000	0.398 -2.000 2.000	0.610 -2.000 2.000	0.662 -2.000 2.000	0.672 -2.000 2.000	0.782 -2.000 2.000

Coil 5 P	-0.020	-0.211	-0.303	-0.398	-0.310	-0.632	-0.672	-0.702
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 6 M	1.009	1.011	1.011	1.010	1.011	1.017	1.017	1.015
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 6 P	-0.047	-0.069	-0.207	-0.208	-0.354	-0.482	-0.472	-0.624
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000

PARMS	TCID 0	TCID 1	Cal Temp (degC)	T Factor
IDs	1.618	0.817	14.6	1.04

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1515MA 11997966 DATE/TIME PERFORMED: Mon Feb 13 04:00:43 2012 DAYS SINCE CAL: 37

UNIT #: 38545A 008672

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.005	0.002	0.004	-0.000	-0.002	-0.001	-0.002	-0.002
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 0 Q	0.006	0.008	0.005	0.003	0.003	0.002	-0.001	-0.002
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 R	0.002	0.005	0.004	0.002	-0.003	-0.003	-0.003	-0.003
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 1 Q	0.003	0.007	0.006	0.004	0.006	0.004	-0.003	-0.004
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 R	0.009	0.004	-0.002	0.001	-0.002	-0.001	0.004	0.006
	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 2 Q	-0.001	-0.001	0.003	0.002	-0.001	-0.005	-0.002	-0.003
	-1.000 1.000	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 R	0.008	0.005	0.003	0.005	0.001	-0.007	-0.003	0.001
	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 3 Q	-0.008	-0.005	-0.000	0.004	0.007	0.002	-0.002	-0.005
	-0.500 0.500	-0.200 0.200	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100	-0.100 0.100
Coil 4 R	-0.014	0.001	-0.003	-0.005	-0.006	0.001	-0.003	-0.005
	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 4 Q	0.003	0.006	0.005	0.001	0.001	0.000	-0.004	-0.000
	-1.000 1.000	-0.400 0.400	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200	-0.200 0.200
Coil 5 R	-0.012	0.003	0.007	0.001	0.002	0.006	0.001	-0.021
	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 5 Q	0.001	-0.003	0.010	0.001	-0.002	0.006	0.016	0.005
	-2.000 2.000	-0.800 0.800	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400	-0.400 0.400
Coil 6 R	-0.004	0.012	-0.008	-0.015	0.012	-0.012	0.001	0.003
	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000
Coil 6 Q	0.005	0.000	0.000	-0.011	-0.004	-0.010	0.001	-0.006
	-5.000 5.000	-2.000 2.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	126.91	125.93	124.11	121.04	117.18	112.00	105.75	98.31
	100.00 150.00	100.00 150.00	95.00 150.00	96.00 140.00	92.00 140.00	87.00 130.00	82.00 120.00	76.00 110.00
Coil 0 P	7.237	22.729	38.060	53.478	68.861	84.415	99.843	115.351
	6.000 9.000	19.000 26.000	32.000 47.000	44.000 66.000	57.000 85.000	70.000 100.000	82.000 120.000	95.000 140.000

Coil 1 M	223.51 180.00 270.00	221.22 180.00 270.00	216.99 170.00 260.00	210.22 170.00 250.00	201.91 160.00 250.00	191.17 160.00 230.00	179.27 150.00 220.00	165.16 140.00 200.00
Coil 1 P	7.572 6.000 9.000	23.729 19.000 28.000	39.671 32.000 48.000	55.586 45.000 67.000	71.392 57.000 86.000	87.158 70.000 110.000	102.731 83.000 120.000	118.272 96.000 140.000
Coil 2 M	443.32 360.00 540.00	438.58 360.00 540.00	429.93 350.00 530.00	416.57 340.00 510.00	399.88 330.00 500.00	378.83 310.00 470.00	355.24 300.00 440.00	327.08 270.00 410.00
Coil 2 P	7.796 6.000 9.000	24.389 19.000 29.000	40.741 32.000 48.000	57.080 45.000 67.000	73.277 58.000 87.000	89.504 71.000 110.000	105.514 84.000 130.000	121.622 96.000 140.000
Coil 3 M	725.93 590.00 880.00	718.60 580.00 870.00	704.81 570.00 850.00	683.38 550.00 830.00	656.31 530.00 800.00	622.25 500.00 760.00	583.31 470.00 710.00	537.34 440.00 650.00
Coil 3 P	7.780 6.000 10.000	24.396 20.000 29.000	40.787 33.000 49.000	57.186 46.000 69.000	73.452 58.000 89.000	89.720 72.000 110.000	105.822 85.000 130.000	121.896 98.000 150.000
Coil 4 M	1157.5 900.0 1400.0	1147.4 900.0 1300.0	1128.7 900.0 1300.0	1098.4 850.0 1300.0	1060.1 800.0 1200.0	1009.6 800.0 1200.0	951.4 750.0 1100.0	879.6 700.0 1000.0
Coil 4 P	7.721 6.000 10.000	24.268 20.000 30.000	40.605 33.000 50.000	57.013 46.000 70.000	73.364 60.000 90.000	89.826 73.000 110.000	106.181 86.000 130.000	122.630 99.000 150.000
Coil 5 M	2319.9 1900.0 2800.0	2303.3 1800.0 2800.0	2270.9 1800.0 2700.0	2215.9 1800.0 2600.0	2144.6 1700.0 2500.0	2046.9 1600.0 2400.0	1930.3 1500.0 2200.0	1785.2 1400.0 2100.0
Coil 5 P	7.890 6.000 10.000	24.779 20.000 31.000	41.527 34.000 51.000	58.402 48.000 72.000	75.292 62.000 93.000	92.395 76.000 110.000	109.413 89.000 130.000	126.583 100.000 150.000
Coil 6 M	6054.2 4700.0 7100.0	5981.9 4700.0 7000.0	5845.4 4600.0 6900.0	5637.6 4400.0 6800.0	5382.0 4200.0 6400.0	5066.3 4000.0 6000.0	4718.9 3700.0 5600.0	4317.8 3400.0 5100.0
Coil 6 P	8.225 7.000 10.000	26.044 22.000 32.000	43.536 36.000 54.000	60.951 51.000 76.000	78.152 65.000 96.000	95.326 80.000 120.000	112.207 94.000 140.000	129.085 110.000 160.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1515MA 11997966 DATE/TIME PERFORMED: Mon Feb 13 08:54:37 2012 DAYS SINCE CAL: 37

UNIT #: 38545A 008672

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.004 -0.085 0.075	0.001 -0.058 0.062	0.004 -0.026 0.034	-0.001 -0.030 0.030	-0.003 -0.032 0.026	-0.002 -0.031 0.029	-0.003 -0.032 0.026	-0.003 -0.032 0.026
Coil 0 Q	0.008 -0.034 0.048	0.008 -0.112 0.128	0.004 -0.025 0.035	0.003 -0.027 0.033	0.004 -0.027 0.033	0.002 -0.026 0.032	-0.000 -0.031 0.029	-0.002 -0.032 0.026
Coil 1 R	-0.000 -0.078 0.082	0.004 -0.045 0.055	0.002 -0.026 0.034	0.001 -0.028 0.032	-0.003 -0.033 0.027	-0.005 -0.033 0.027	-0.005 -0.033 0.027	-0.004 -0.033 0.027
Coil 1 Q	0.004 -0.397 0.403	0.006 -0.093 0.107	0.004 -0.024 0.036	0.005 -0.026 0.034	0.005 -0.024 0.036	0.003 -0.026 0.034	-0.002 -0.033 0.027	-0.002 -0.034 0.026
Coil 2 R	0.011 -0.081 0.079	0.004 -0.026 0.034	-0.001 -0.032 0.026	-0.001 -0.029 0.031	-0.001 -0.032 0.026	0.000 -0.031 0.029	0.003 -0.026 0.034	0.004 -0.024 0.036
Coil 2 Q	-0.004 -0.351 0.349	-0.004 -0.101 0.099	0.001 -0.027 0.033	0.004 -0.026 0.032	-0.002 -0.031 0.029	-0.004 -0.035 0.025	-0.004 -0.032 0.026	-0.003 -0.033 0.027
Coil 3 R	0.008 -0.032 0.048	0.006 -0.035 0.045	0.003 -0.037 0.043	0.004 -0.035 0.045	-0.001 -0.039 0.041	-0.007 -0.047 0.033	-0.007 -0.043 0.037	0.002 -0.039 0.041
Coil 3 Q	-0.007 -0.208 0.192	-0.010 -0.065 0.075	0.004 -0.040 0.040	0.003 -0.036 0.044	0.007 -0.033 0.047	0.002 -0.036 0.042	-0.006 -0.042 0.038	-0.007 -0.045 0.035
Coil 4 R	-0.009 -0.074 0.046	-0.001 -0.058 0.061	-0.002 -0.063 0.057	-0.001 -0.065 0.055	-0.008 -0.066 0.054	-0.001 -0.059 0.061	-0.002 -0.063 0.057	-0.002 -0.065 0.055
Coil 4 Q	-0.003 -0.297 0.303	0.003 -0.094 0.106	-0.004 -0.055 0.065	0.006 -0.059 0.061	-0.003 -0.059 0.061	-0.006 -0.060 0.060	-0.003 -0.064 0.058	0.001 -0.060 0.060
Coil 5 R	-0.006 -0.132 0.108	0.014 -0.117 0.123	0.002 -0.113 0.127	0.008 -0.119 0.121	-0.002 -0.118 0.122	0.018 -0.114 0.126	0.001 -0.119 0.121	-0.017 -0.141 0.099

Coil 5 Q	0.005 -0.599 0.601	-0.003 -0.253 0.247	0.001 -0.110 0.130	0.003 -0.119 0.121	-0.000 -0.122 0.118	0.006 -0.114 0.126	0.020 -0.104 0.136	0.007 -0.115 0.125
Coil 6 R	0.028 -0.304 0.296	0.017 -0.268 0.312	0.009 -0.305 0.292	-0.025 -0.315 0.285	-0.018 -0.268 0.312	0.005 -0.312 0.288	-0.012 -0.299 0.301	0.008 -0.297 0.303
Coil 6 Q	0.024 -1.495 1.505	0.010 -0.600 0.600	-0.013 -0.300 0.300	-0.006 -0.311 0.289	0.016 -0.304 0.296	0.009 -0.310 0.290	0.006 -0.299 0.301	-0.014 -0.306 0.294

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	126.80 124.36 129.45	125.78 123.41 128.45	123.91 121.63 126.59	120.78 118.62 123.48	116.74 114.63 119.52	111.44 109.76 114.24	105.09 103.63 107.88	97.54 96.34 100.27
Coil 0 P	7.261 4.237 10.237	22.818 18.729 25.729	38.187 35.060 41.060	53.661 50.478 56.478	69.106 65.861 71.861	84.655 81.415 87.415	100.093 96.843 102.843	115.597 112.351 118.351
Coil 1 M	223.35 219.04 227.96	221.02 216.79 225.64	216.66 212.65 221.33	209.77 206.02 214.43	201.13 197.57 205.95	190.42 187.34 194.99	178.12 175.69 182.86	163.91 161.65 168.46
Coil 1 P	7.595 4.572 10.572	23.817 20.729 26.729	39.808 36.671 42.671	55.772 52.586 58.586	71.604 68.392 74.392	87.371 84.158 90.158	102.991 99.731 105.731	118.506 115.272 121.272
Coil 2 M	443.05 434.45 452.19	438.21 429.61 447.35	429.31 421.33 438.53	415.79 408.24 424.90	398.38 391.58 407.67	377.08 371.25 386.41	352.83 346.13 362.34	324.72 320.54 333.62
Coil 2 P	7.816 4.798 10.798	24.469 21.369 27.369	40.881 37.741 43.741	57.253 54.060 60.060	73.503 70.277 76.277	89.717 86.504 92.504	105.795 102.514 108.514	121.824 118.622 124.622
Coil 3 M	725.47 711.41 740.44	717.99 704.23 732.97	703.84 690.71 718.90	682.04 669.71 697.05	653.94 643.19 668.44	619.26 609.80 634.69	579.40 571.64 594.98	532.94 526.60 548.09
Coil 3 P	7.798 4.780 10.780	24.470 21.396 27.396	40.905 37.787 43.787	57.340 54.186 60.186	73.647 70.452 76.452	89.893 86.720 92.720	106.041 102.822 108.822	122.016 118.898 124.898
Coil 4 M	1157.0 1134.4 1180.7	1146.5 1124.4 1170.3	1127.2 1106.2 1151.3	1096.5 1076.5 1120.4	1056.3 1038.9 1081.3	1004.8 988.4 1029.8	945.3 932.3 970.4	873.0 862.0 897.2
Coil 4 P	7.753 4.721 10.721	24.351 21.268 27.268	40.730 37.605 43.605	57.178 54.013 60.013	73.582 70.364 76.364	90.021 86.828 92.828	106.408 103.181 109.181	122.794 119.630 125.630
Coil 5 M	2320.5 2273.5 2366.3	2303.3 2257.2 2349.4	2269.6 2225.4 2316.3	2213.3 2171.5 2260.2	2138.8 2101.7 2187.5	2039.1 2005.9 2087.8	1919.6 1891.6 1965.9	1773.3 1749.5 1821.0
Coil 5 P	7.923 4.890 10.890	24.868 21.779 27.779	41.661 38.527 44.527	58.574 55.402 61.402	75.520 72.292 78.292	92.602 89.395 95.395	109.671 106.413 112.413	126.747 123.583 129.583
Coil 6 M	6052.1 5933.2 6175.3	5977.9 5862.2 6101.5	5838.9 5728.5 5962.3	5627.6 5524.9 5750.4	5362.9 5274.4 5489.7	5044.7 4965.0 5167.7	4691.4 4624.5 4813.3	4283.4 4231.4 4404.1
Coil 6 P	8.260 5.225 11.225	26.135 23.044 29.044	43.677 40.536 46.536	61.128 57.951 63.951	78.399 75.152 81.152	95.513 92.326 98.326	112.468 109.207 115.207	129.242 126.085 132.085

BAKER HUGHES

EOLIPS

COMPANY	HUSKY OIL OPERATIONS LIMITED
WELL	LITTLE BEAR N-9
FIELD	SLATER RIVER
PROVINCE	NORTHWEST TERRITORIES

FILE NO:

API NO:

LOCATION:

SURF LOC: LAT 64° 58' 55.2N LONG 126° 31' 20.2

BH LOC. LSD:

LAT 64° 58' 55.2"N LONG 126° 31' 20.2"

ELEVATIONS:

KB 258.8 M

DF

GL 253.5 M

UID:
300N086500126300

LICENSE:
483

DATE 13-FEB-2012