



Baker Atlas

CEMENT VOLUME LOG
FOR 244.5 MM CASING
AND 311.0 MM BOREHOLE

FILE NO:	COMPANY	NALCOR ENERGY INC.
API NO:	WELL	NALCOR ET AL FINNEGAN #1
	FIELD	FINNEGAN
	PROVINCE	NEWFOUNDLAND AND LABRADOR
Ver. 3.87	LOCATION:	OTHER SERVICES XMAC-GR-3CAL STAR-GR-3CAL HDIL-GR-XCAL DZDL-CN-GR-XCAL RCI / RCOR / VSP
LICENSE: 2010-12B-04	LAT 49.92 N LONG 63.33 W	ELEVATIONS: KB 125.00 M DF GL 118.75 M
PERMANENT DATUM LOG MEASURED FROM DRILL MEAS. FROM	G.L. ELEVATION 118.75 M K.B. 6.25 M ABOVE P.D. KELLY BUSHING	

DATE	TRIP		
RUN	1	1	
SERVICE ORDER	CA208041		
DEPTH DRILLER	2285.0 M		
DEPTH LOGGER	2280.9 M		
BOTTOM LOGGED INTERVAL	2280.9 M		
TOP LOGGED INTERVAL	570.0 M		
CASING DRILLER	339.7 MM	570.0 M	
CASING LOGGER	570.0 M		
BIT SIZE	311.0 MM		
TYPE OF FLUID IN HOLE	GELCHEM		
DENSITY	1290.0 G/L	78.0 S	
PH	9.0	5.6 ML	
SOURCE OF SAMPLE	TOOL MEASURED		
RM AT MEAS. TEMP.	0.701 OHMM	45.6 DEGC	
RMF AT MEAS. TEMP.	0.595 OHMM	45.6 DEGC	
RMC AT MEAS. TEMP.	0.841 OHMM	45.6 DEGC	
SOURCE OF RMF	CALCULATED	CALCULATED	
RM AT BHT	0.605 OHMM	54.9 DEGC	
TIME SINCE CIRCULATION	13.3 HOURS		
MAX. RECORDED TEMP.	54.9 DEGC		
EQUIP. NO.	HL4291	OH NISKU	
RECORDED BY	S.CREWE		
WITNESSED BY	R.STRICKLAND/N.WATSON		

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
444.5 MM	0.0 M	570.0 M
311.0 MM	570.0 M	2285.0 M

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
339.7 MM	81.1 KG/M	K-55	0.0 M	570.0 M
244.5 MM				

REMARKS

RUN 1 TRIP 1 : TIME STOPPED CIRCULATION: 02-NOV-2010 03:00 AM

SAMPLE MEASURED: RM 1.078 @ 8.3 DEG
RMF 0.916 @ 8.3 DEG
RMC 2.278 @ 8.3 DEG
CABLEHEAD THERMOMETER READINGS: 54 DEG

HOLE VOLUMES OBTAINED FROM 6-ARM STAR CALIPERS.
INTEGRATED BOREHOLE VOLUME TICS EVERY: 0.1, 1.0 & 10.0 M3.
INTEGRATED CEMENT VOLUME TICS EVERY: 0.1, 1.0, & 10.0 M3.

RIG: STONEHAM 11

CREW:
S.CREWE, B.BARSS, M.BAHAR, J.HENNESSEY, K.HASIUK, J.WOODS, J.JEWEL, R.PERRY

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWIVEL	3944XB	73682	FREE
1	1	DHPA	4430XB	10152148	FREE
1	1	TMA	3981XB	152403	FREE
1	1	COMM	3514XB	150740	FREE
1	1	WTS DGR/SU	1329XB	370830	FREE
1	1	ACOUSTIC EL	1677EA	10149056	CENTRALIZED
1	1	XMAC RX MDR	1678MB	10039363	CENTRALIZED
1	1	XMAC ISO	1678PB	10148319	FREE
1	1	XMAC TX ELC	1678BA	370862	CENTRALIZED
1	1	XMAC TX ELC	1678FA	10051497	CENTRALIZED
1	1	WTS DBL KNJ	3939XA	168289	FREE
1	1	ORIT	4401XB	10119993	FREE
1	1	STAR II PS	1022PA	10569170	FREE
1	1	F/ GOM	1036EA	10103726	FREE
1	1	STAR MANDRE	4236MA	10433029	6-PAD DEVICE

INSTRUMENT CONFIGURATION

Source File: /dat1a/pass/nalcor_run1/m980g"nal_r2-tdg

CABLEHEAD

Diameter : 8.6 cm
Length : 167.6 cm
Weight : 10.9 kg
Series : CABL338
Mnemonic : CBLH

SWIVEL

Diameter : 8.6 cm
Length : 101.6 cm
Weight : 30.0 kg
Series : 3944XB

DOWNHOLE POWER ADAPTER

Diameter : 9.2 cm
Length : 160.5 cm
Weight : 39.1 kg
Series : 4430XB
Mnemonic : DHPA

TTRM SUB

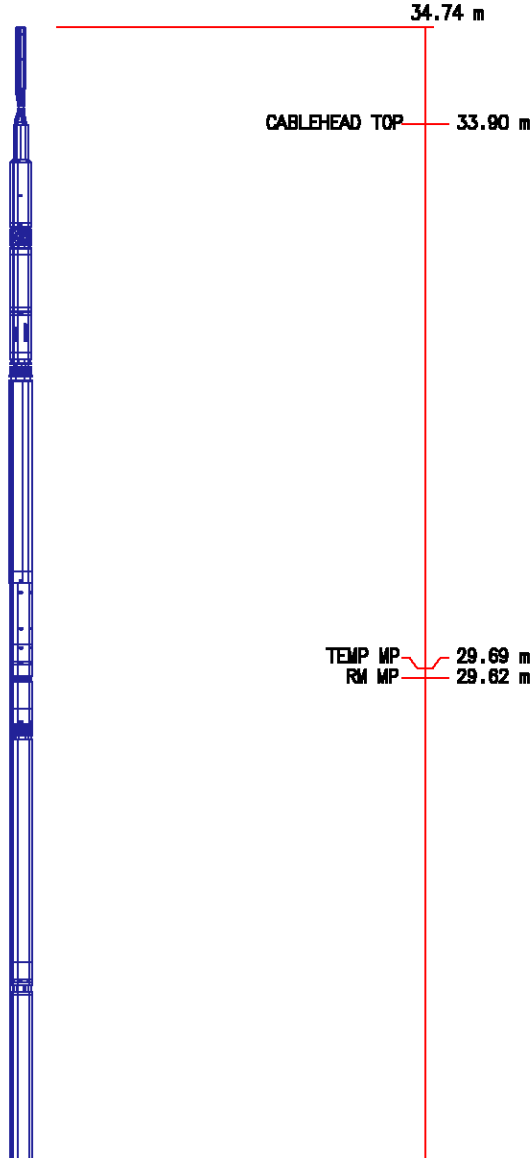
Diameter : 9.2 cm
Length : 116.8 cm
Weight : 28.2 kg
Series : 3981XA
Mnemonic : TTRM

WTS COMMON REMOTE

Diameter : 9.2 cm
Length : 194.0 cm
Weight : 57.3 kg
Series : 3514XB
Mnemonic : WTS

DIGITAL SPECTRALOG

Diameter : 9.2 cm
Length : 222.8 cm
Weight : 59.1 kg
Series : 1329XA
Mnemonic : DOL



Mnemonic : DSL

GR MP — 25.59 m

ARRAY ACOUSTILOG ELECTRONICS, 8 CHANNEL

Diameter : 8.6 cm
Length : 238.3 cm
Weight : 46.4 kg
Series : 1677EA
Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG

Diameter : 9.8 cm
Length : 332.4 cm
Weight : 101.8 kg
Series : 1678MB
Mnemonic : XMAC

R8 — 21.07 m
R7 — 20.92 m
R6 — 20.77 m
R5 — 20.62 m
R4 — 20.46 m
R3 — 20.31 m
R2 — 20.16 m
R1 — 20.01 m

SHEAR WAVE ACOUSTILOG

Diameter : 9.2 cm
Length : 152.4 cm
Weight : 61.4 kg
Series : 1678PB
Mnemonic : XMAC

MULTI-POLE ARRAY ACOUSTIC

Diameter : 9.8 cm
Length : 241.3 cm
Weight : 77.3 kg
Series : 1678BA
Mnemonic : XMAC

MONOPOLE T2 — 17.42 m
QUADRUPOLE T5 — 17.42 m

X-DIPOLE T3 — 16.88 m
Y-DIPOLE T4 — 16.88 m

MONOPOLE T1 — 16.35 m

MULTI-POLE ARRAY ACOUSTIC

Diameter : 8.6 cm
Length : 131.6 cm
Weight : 28.4 kg
Series : 1678FA
Mnemonic : MAC

KNUCKLE JOINT (DOUBLE)

Diameter : 8.6 cm
Length : 141.8 cm
Weight : 40.9 kg
Series : 3939XA
Mnemonic : KNJT

DIGITAL ORIENTATION

Diameter : 8.6 cm
Length : 329.4 cm
Weight : 50.0 kg
Series : 4401XB
Mnemonic : ORIT

C6PC IMAGER POWER SUPPLY

Diameter : 9.2 cm
Length : 276.9 cm
Weight : 52.7 kg
Series : 1022PA
Mnemonic : C6PC

C6PC IMAGER ELECTRONICS

Diameter : 9.2 cm
Length : 276.9 cm
Weight : 42.7 kg
Series : 1036EA
Mnemonic : C6PC

C6PC IMAGER MANDREL

Diameter : 13.3 cm
Length : 381.0 cm
Weight : 126.4 kg
Series : 4236MA
Mnemonic : C6PC

BULL PLUG 3 3/8

TOTAL LENGTH: 34.74 m
TOTAL WEIGHT: 859.5 kg
MAX DIAMETER: 13.3 cm

ORIENT MP 9.43 m

PAD MP 1.09 m

0.00 m

BOREHOLE PROFILE ORIENTED TO TRUE NORTH

ECLIPS 6.1i Aug 06, 2010
Patches: 1

Wed Nov 3 03:14:28 2010

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.50

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/pass/nalcor_run1/m8741B1601.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1710.914 m BOTTOM DEPTH: 2289.000 m

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
MULTI-ARM (6) CALIPER PROCESSING	CALC. METHOD	CHAD (SPLINE FIT)		"	"
BIT SIZE	BIT SIZE	311.000	mm	"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/pass/nalcor_run1/m874IB1602.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 558.622 m BOTTOM DEPTH: 1848.993 m

SYMMETRIC FILTER

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

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (m)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	244.500	mm	TOP	BOTTOM
MULTI-ARM (6) CALIPER PROCESSING	CALC. METHOD	CHAD (SPLINE FIT)		"	"
BIT SIZE	BIT SIZE	311.000	mm	"	"

CURVE DESCRIPTION REPORT

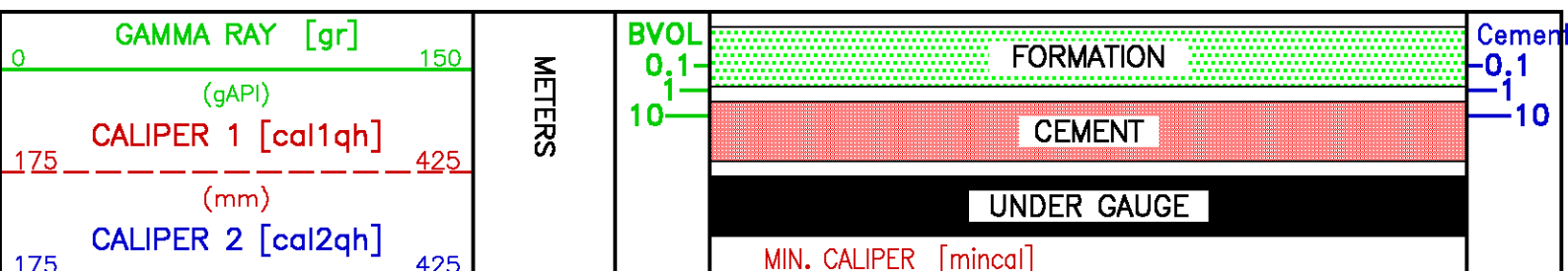
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Nov 2 16:48:02 2010	BIT SIZE
F1:BVOL	Nov 2 16:48:02 2010	BOREHOLE VOLUME
F1:CAL1QH	Nov 2 16:48:02 2010	DIAMETER FROM PAD 1 AND ITS OPPOSITE
F1:CAL2QH	Nov 2 16:48:02 2010	DIAMETER FROM PAD 2 AND ITS OPPOSITE
F1:CAL3QH	Nov 2 16:48:02 2010	DIAMETER FROM PAD 3 AND ITS OPPOSITE
F1:CHT	Nov 2 16:48:02 2010	CABLE HEAD TENSION
F1:CVOL	Nov 2 16:48:02 2010	CEMENT VOLUME
F1:GR	Nov 2 16:48:02 2010	GAMMA RAY
F1:TEN	Nov 2 16:48:02 2010	DIFFERENTIAL TENSION

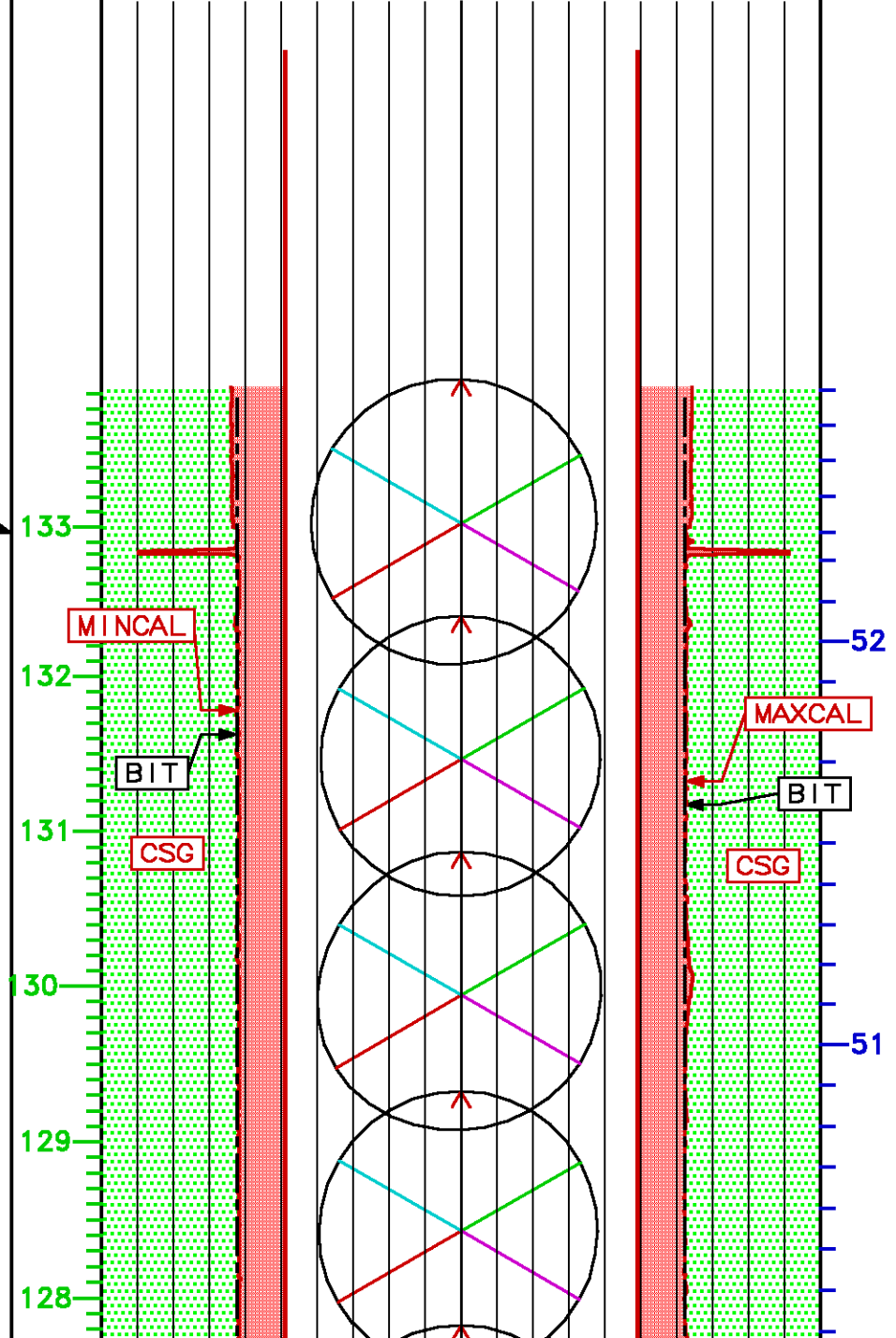
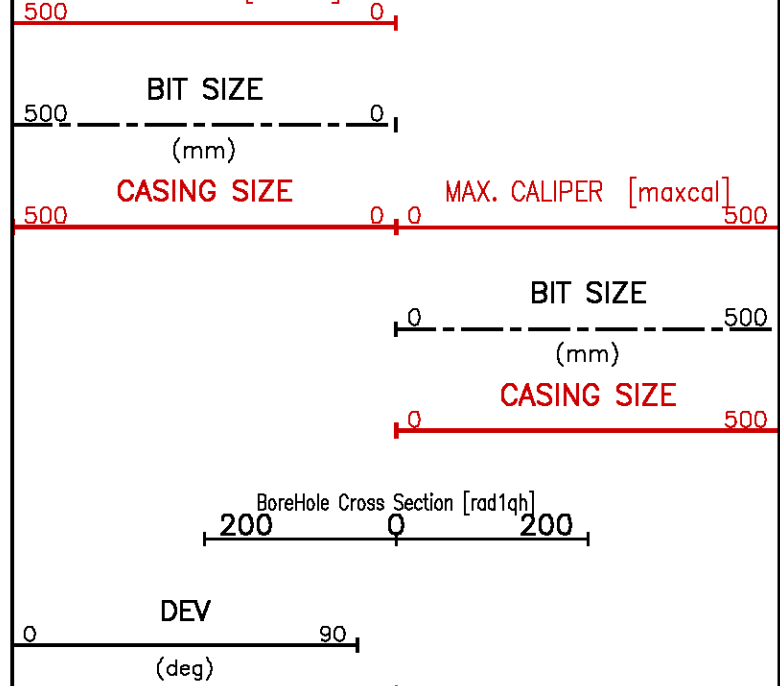
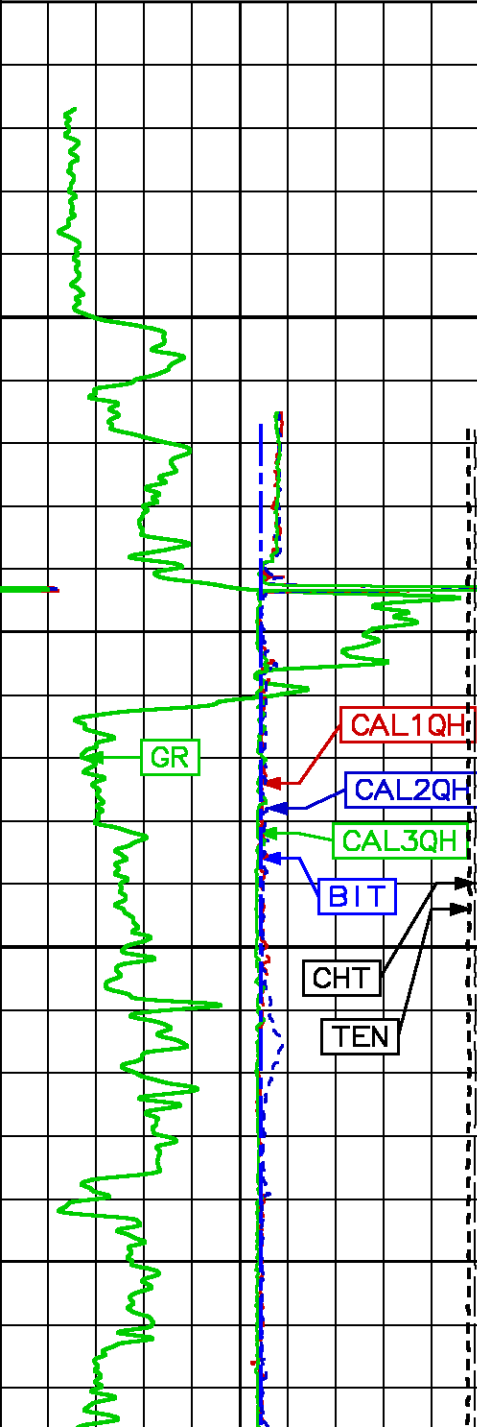
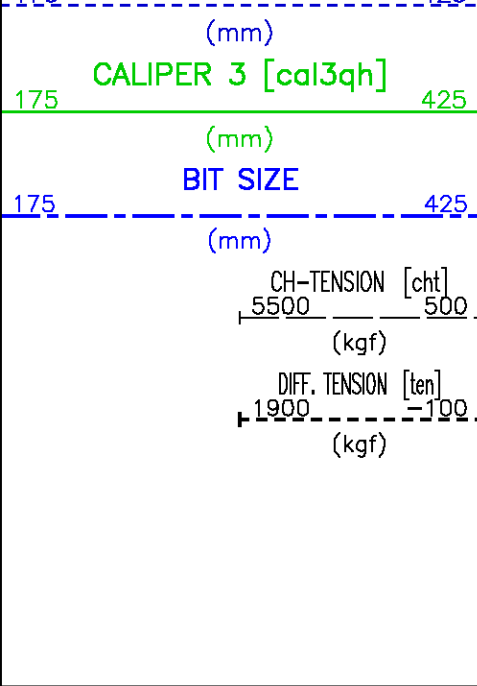
CURVE MEASURE POINT OFFSET

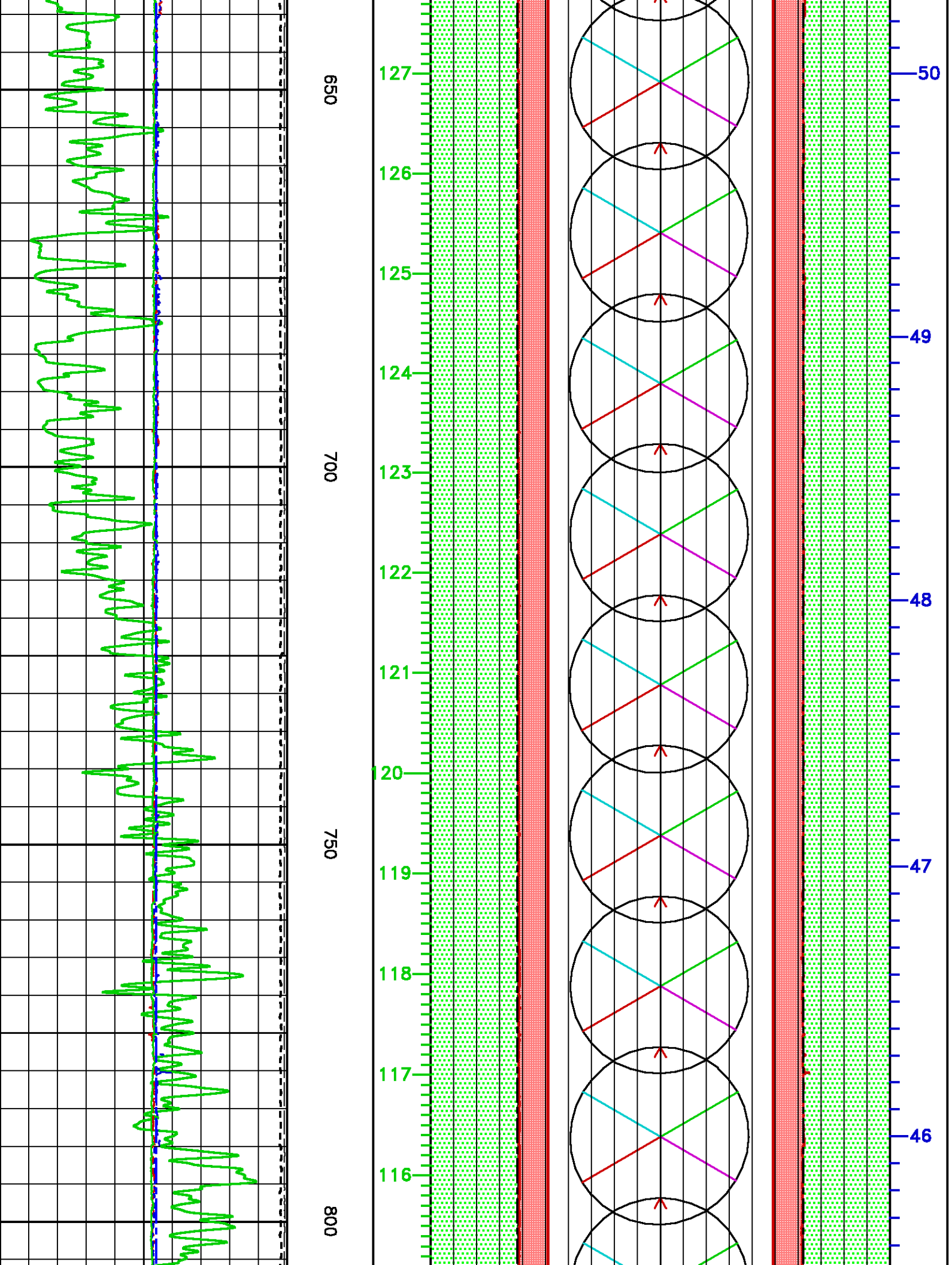
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CAL1QH	0.99	CAL3QH	0.99	GR	25.49		

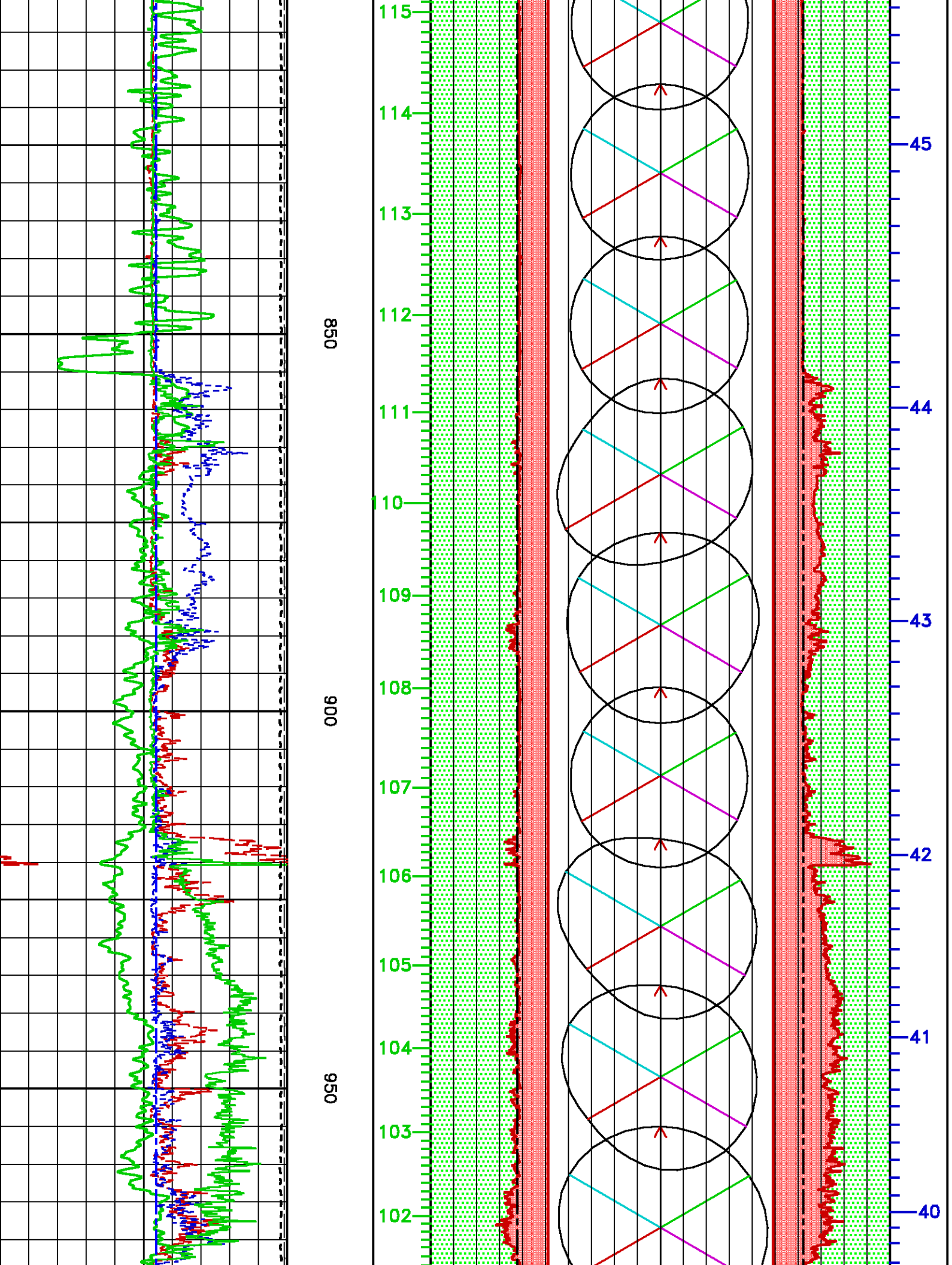
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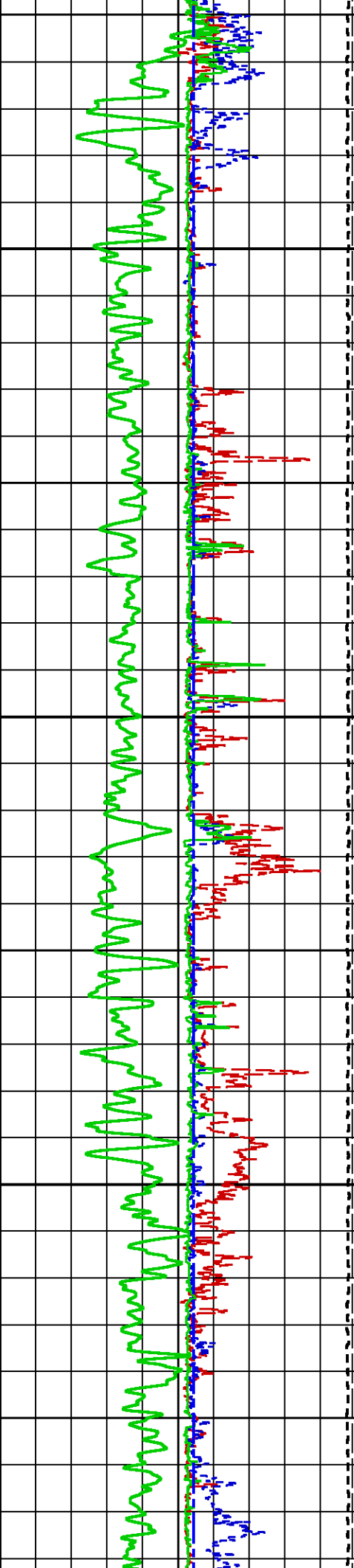
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 Created On : Nov 2 13:02:15 2010
 Company : NALCOR ENERGY
 Well : NALCOR ET AL FINNEGAN 31
 Field : FINNEGAN
 File Interval : 529.285 - 2289.05 Meters
 Oct : m874IB16







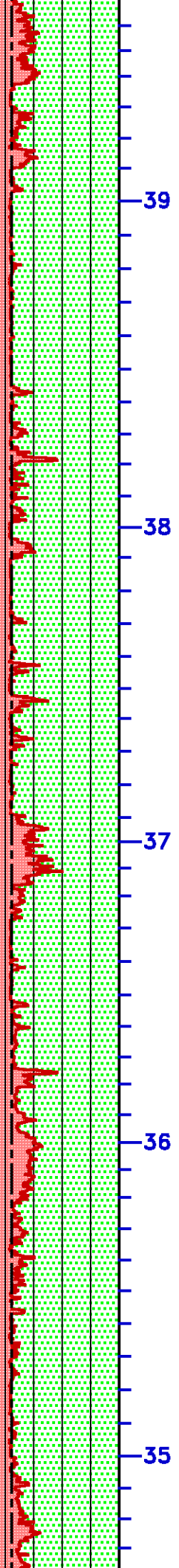
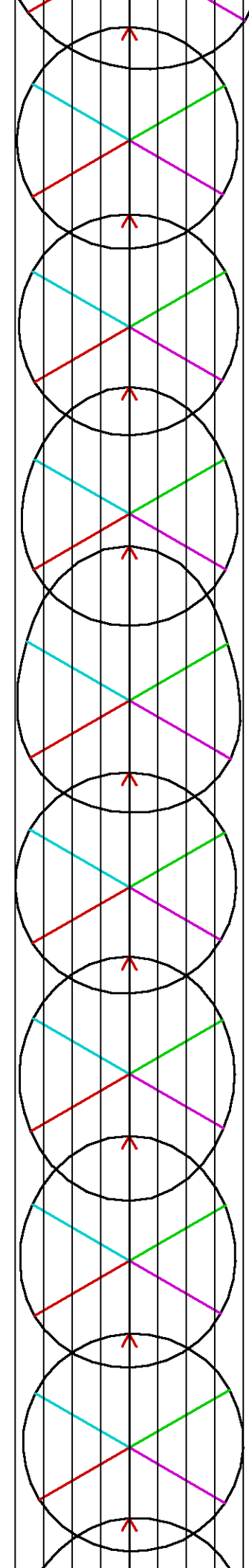
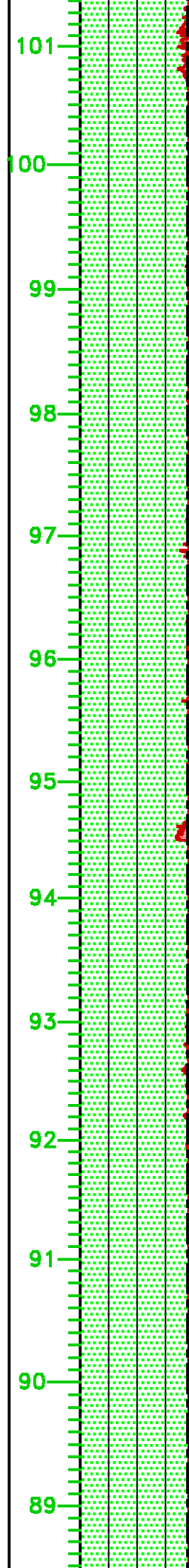




1000

1050

1100



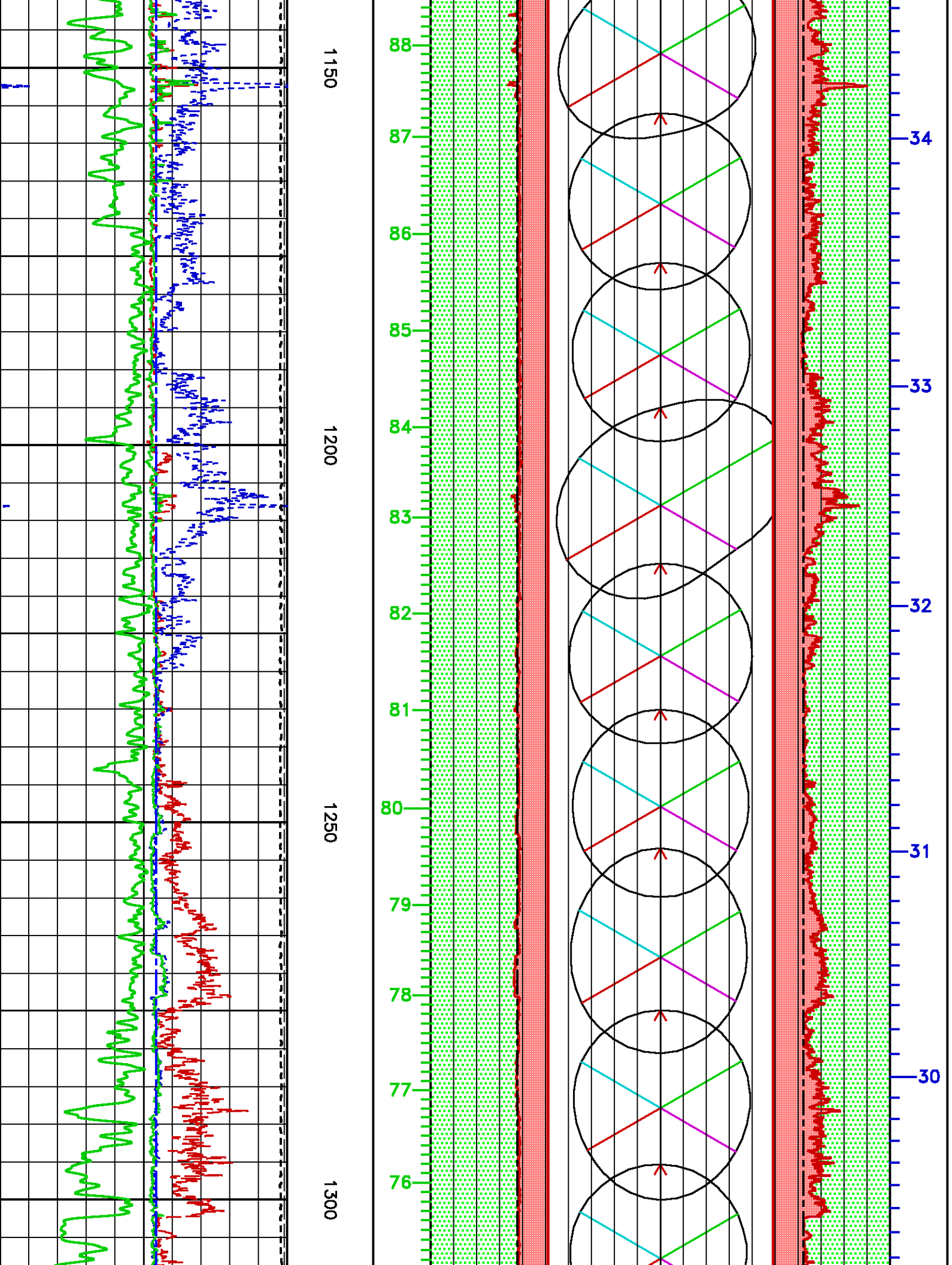
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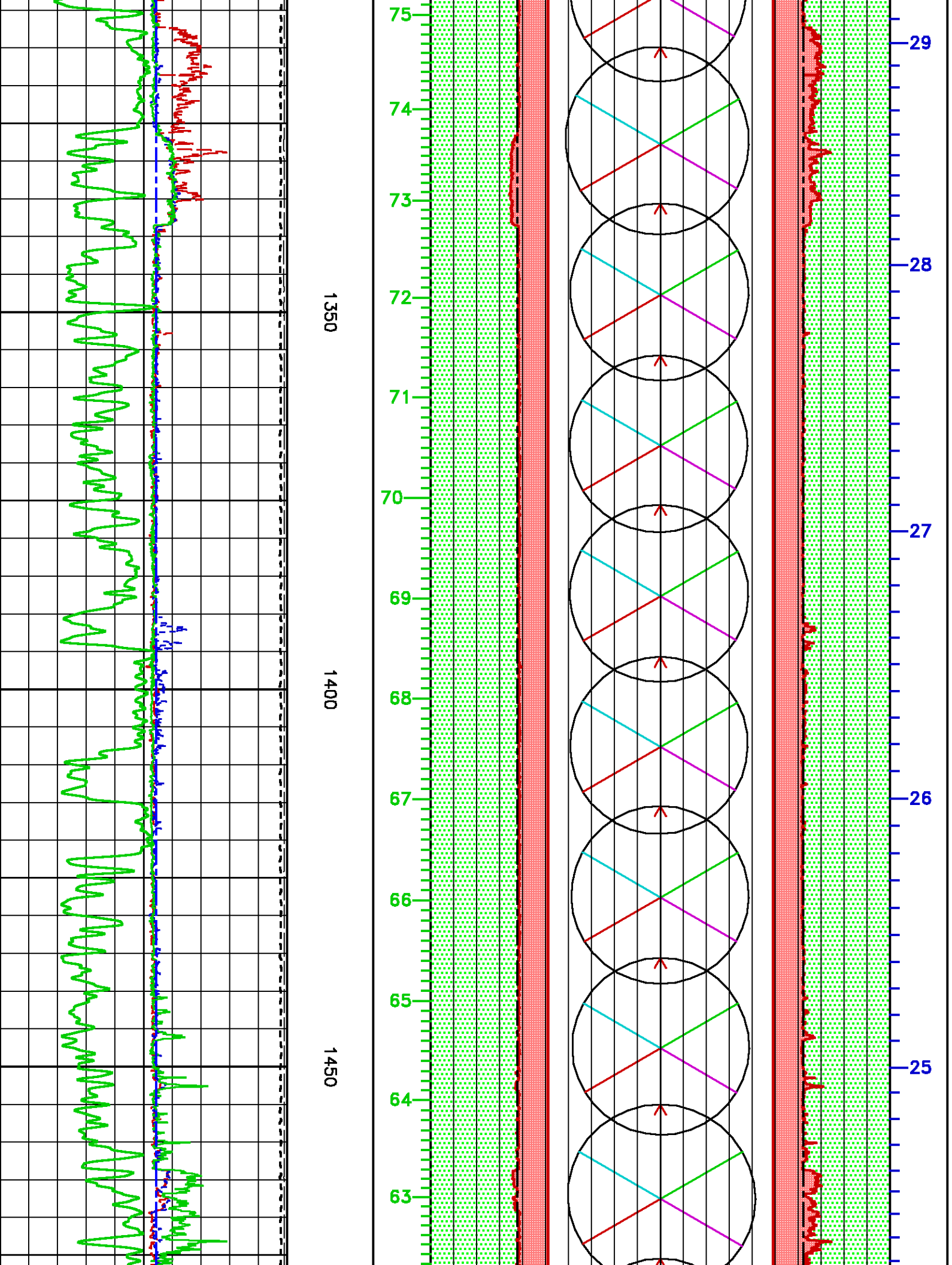
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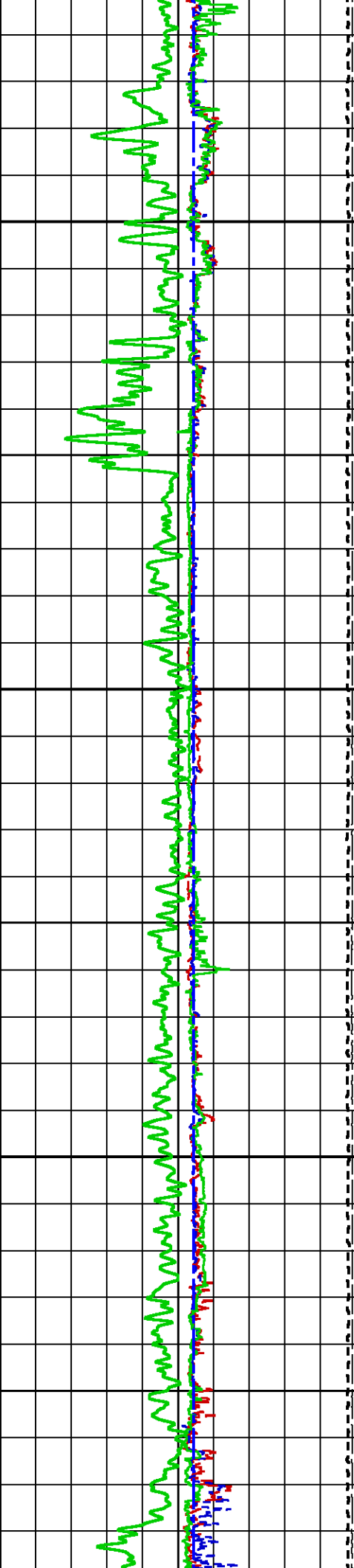
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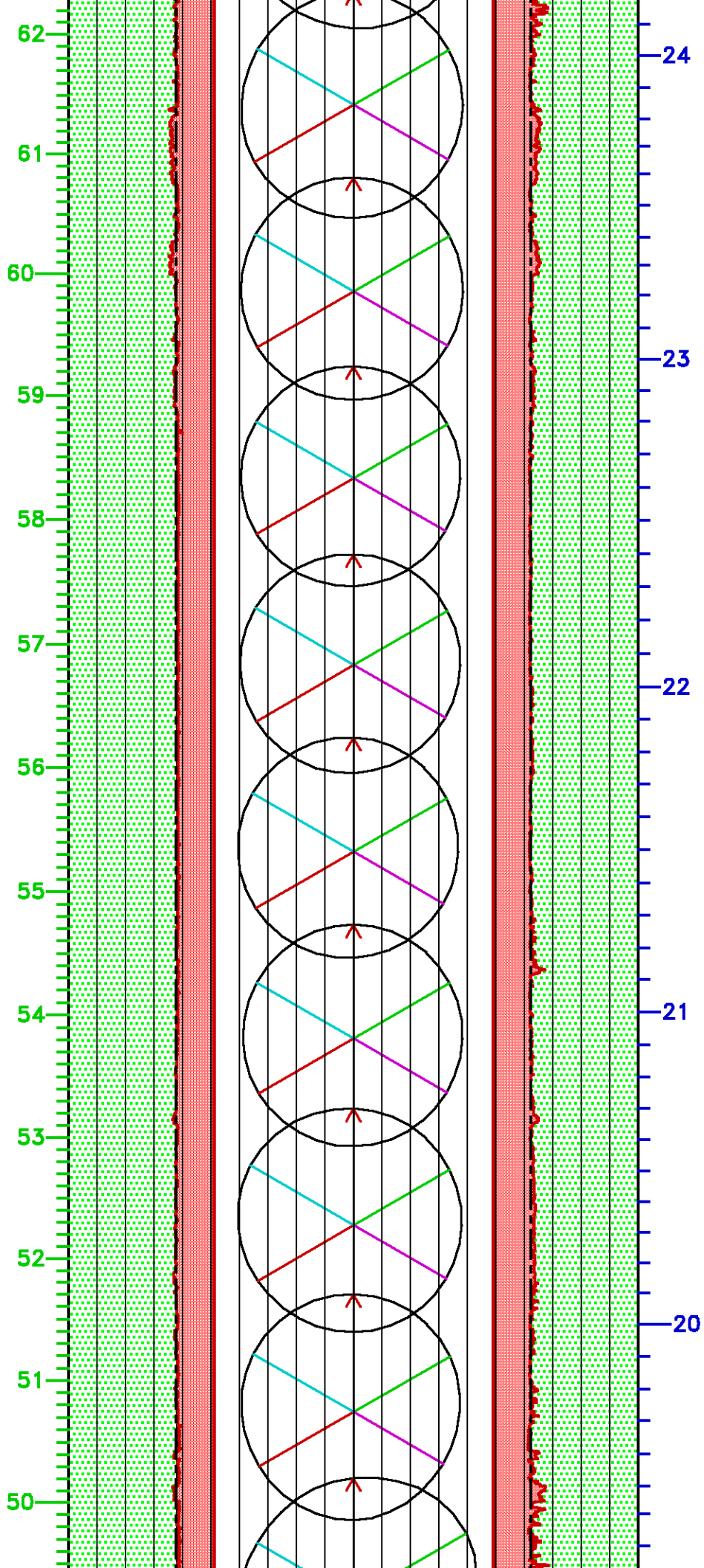




1500

1550

1600



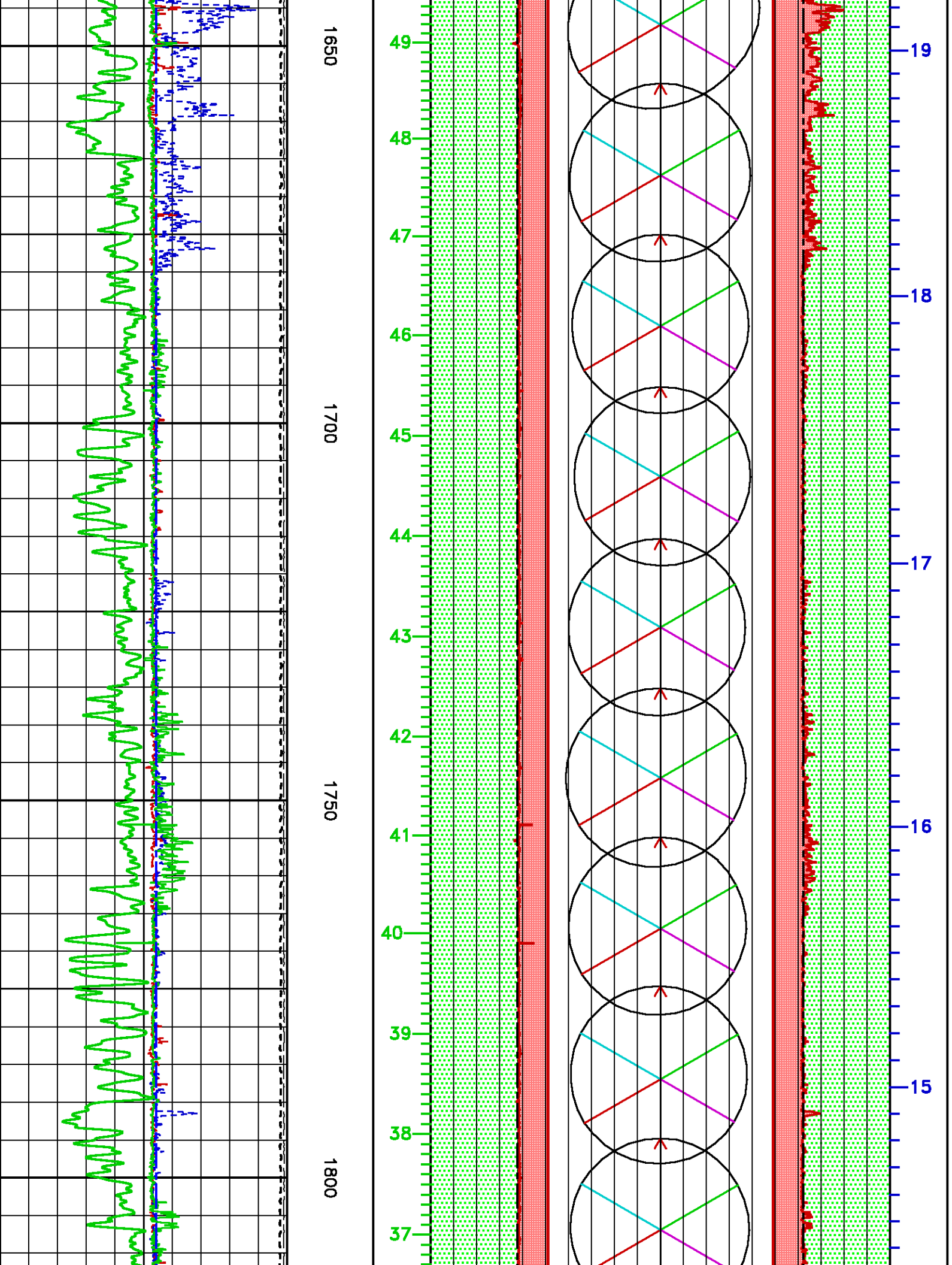
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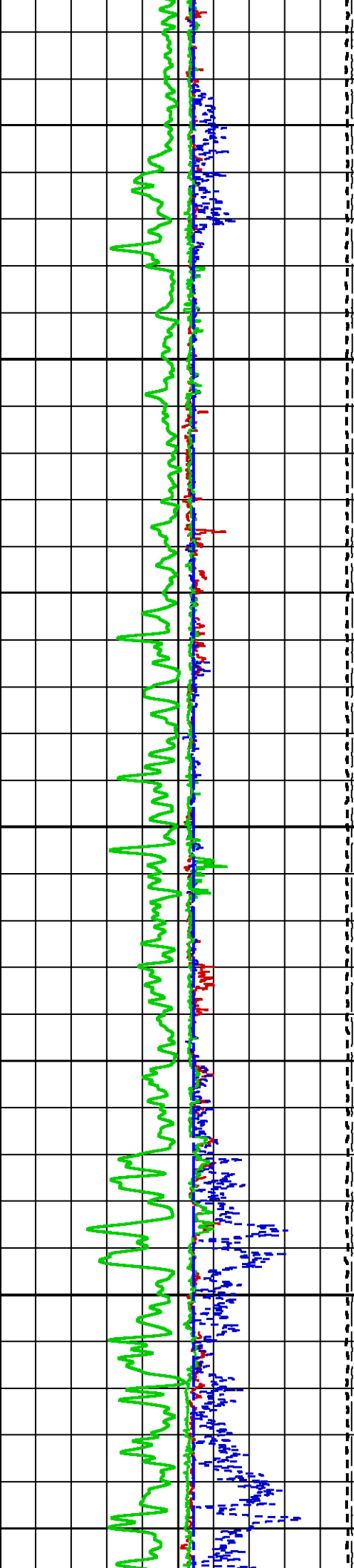
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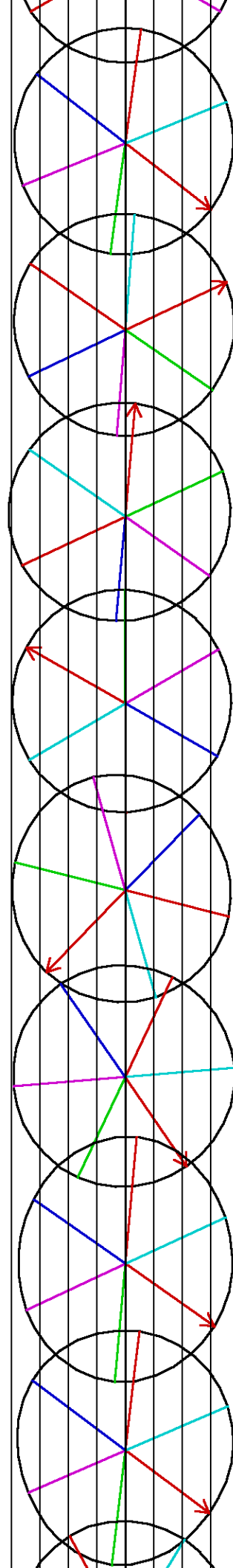


1850

1900

1950

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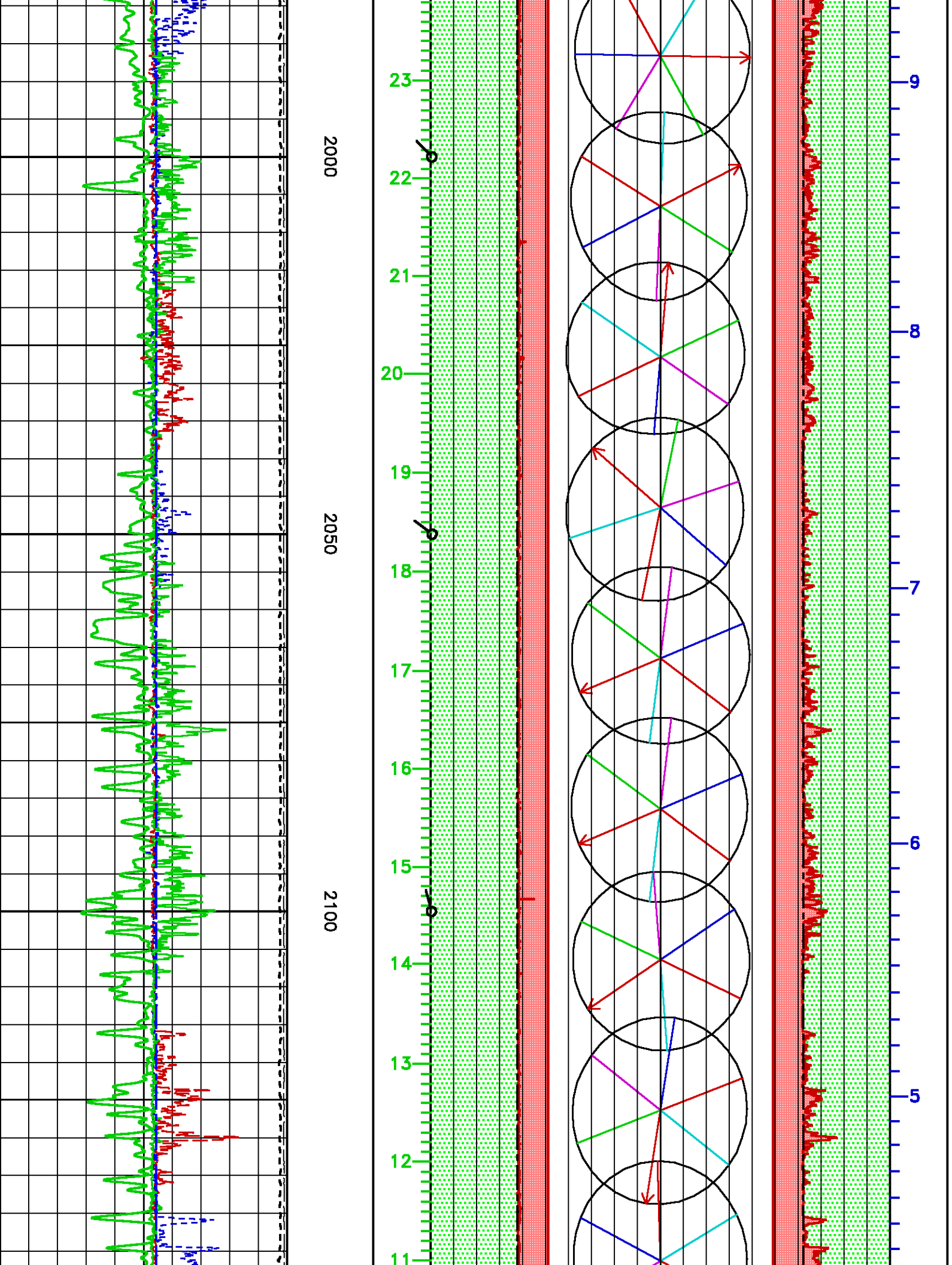
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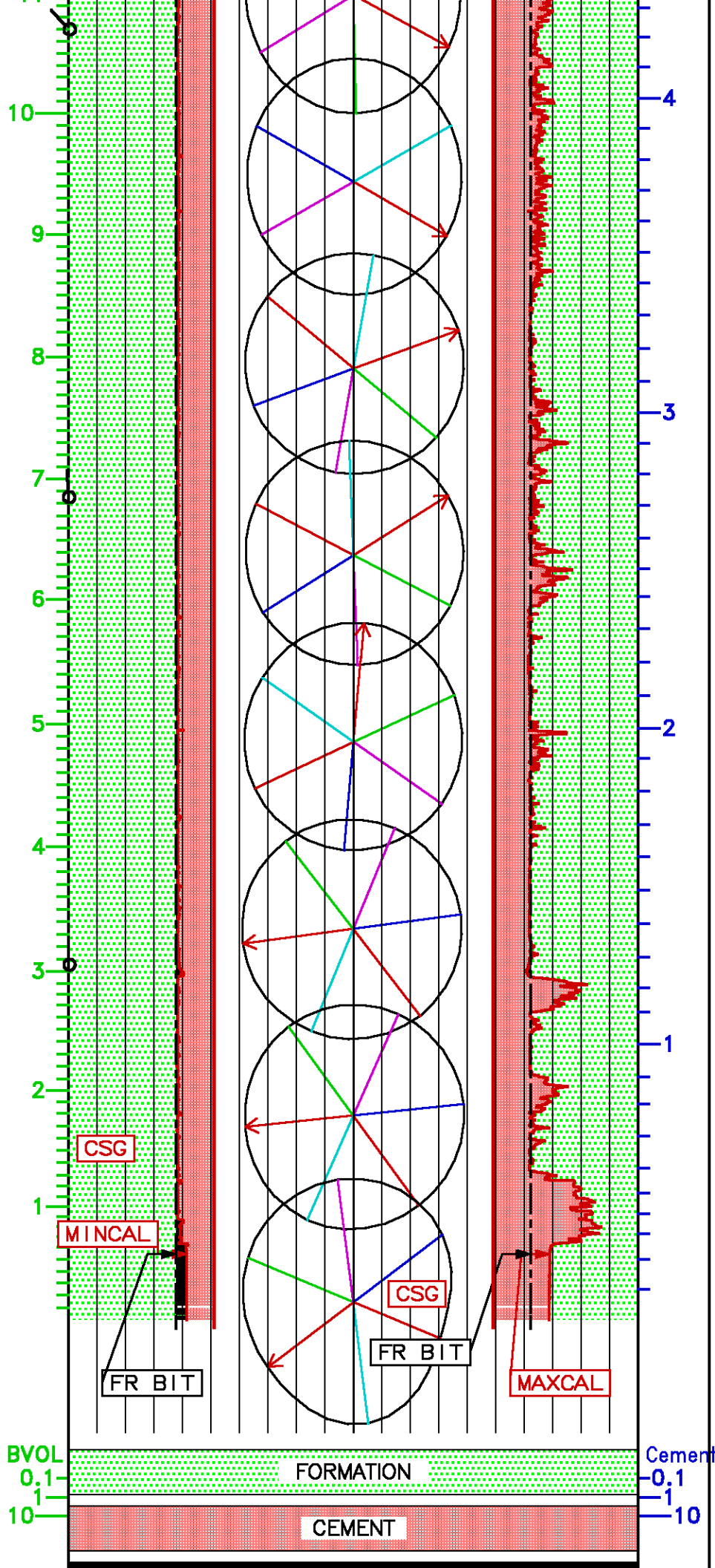
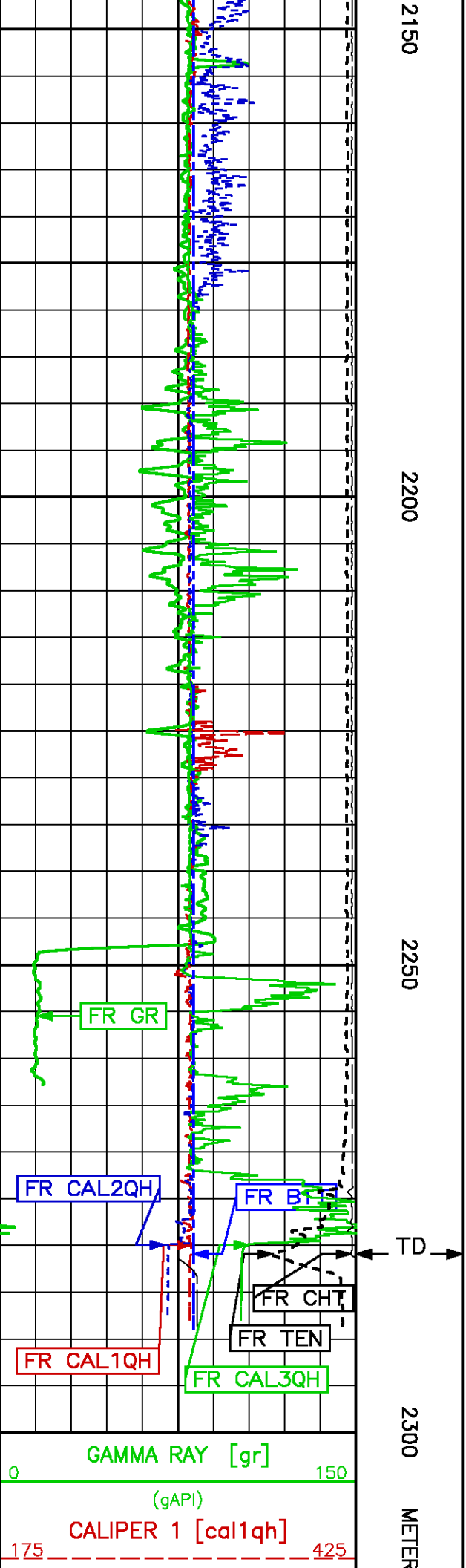
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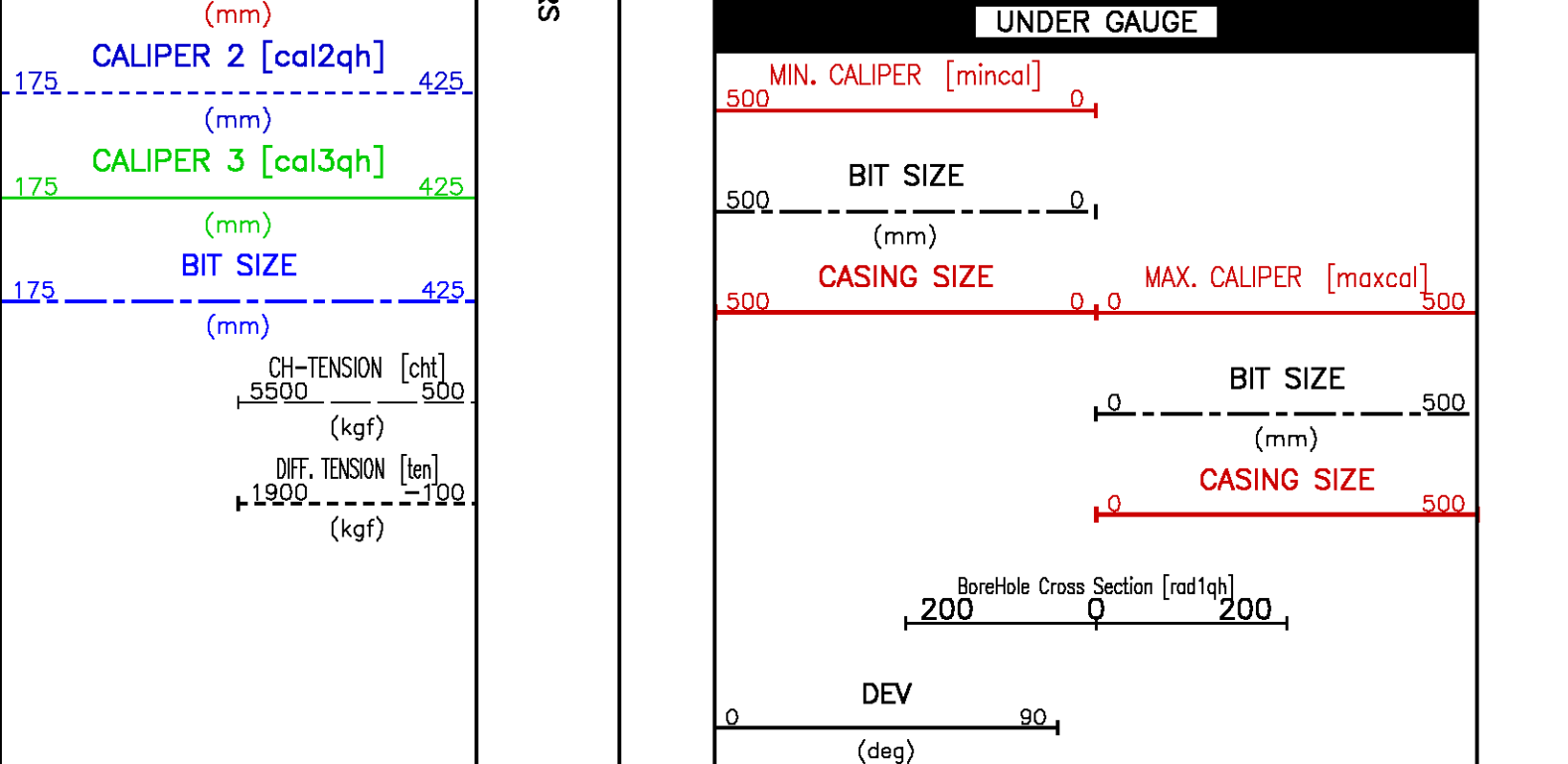
12

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CALIBRATION / VERIFICATION SUMMARY

Source File: /data/pass/nalcor_run1/r1t1_cals.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 370830

DATE/TIME PERFORMED: Wed Oct 6 11:15:46 2010

UNIT #: 3885TF 004291

CALB JIG #: 4702NK DA-549

	BACKGROUND	CALBRTR ON	CR DIFF	MULT	BACKGROUND	CALBRTR ON	CALBRTR
	(cts/s)	(cts/s)	(cts/s)		(gAPI)	(gAPI)	(gAPI)
GR	323.76	1232.13	908.4	0.165	53.46	203.46	150
			830.0 960.0				

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 370830

DATE/TIME PERFORMED: Wed Oct 6 11:23:02 2010

UNIT #: 3885TF 004291

VERI JIG #: 4702NK DA-549

	BACKGROUND	CALBRTR ON	MULT	BACKGROUND	CALBRTR ON	DIFF.
	(cts/s)	(cts/s)		(gAPI)	(gAPI)	(gAPI)
GR	323.58	1229.64	0.165	53.43	203.05	149.62
						140.00 160.00

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 370830 DATE/TIME PERFORMED: Tue Nov 2 09:15:17 2010 DAYS SINCE CAL: 26

UNIT #: 3885TF 004291 VERI JIG #: 4702NK DA-549

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	103.00	1024.82	0.165	17.01	169.23	152.22
						139.62 159.62

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 370830 DATE/TIME PERFORMED: Tue Nov 2 19:26:42 2010 DAYS SINCE CAL: 27

UNIT #: 3885TF 004291 VERI JIG #: 4702NK DA-549

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	102.07	996.33	0.165	16.85	164.52	147.67
						142.22 162.22

STARCAL PRIMARY CALIBRATION SUMMARY

TOOL #: 4236MA 10433029 DATE/TIME PERFORMED: Wed Oct 6 08:11:16 2010

UNIT #: 3885TF 004291

	SMALL RING (raw)	LARGE RING (raw)	MULT (mm/raw)	ADD (mm)	SMALL RING (mm)	LARGE RING (mm)
RADIUS 1	1129.1	2459.7	0.0518	43.1298	101.600	170.500
RADIUS 2	1098.6	2435.3	0.0515	44.9699	101.600	170.500
RADIUS 3	1180.7	2502.4	0.0521	40.0558	101.600	170.500
RADIUS 4	1157.2	2478.0	0.0522	41.2329	101.600	170.500
RADIUS 5	1173.8	2473.1	0.0530	39.3544	101.600	170.500
RADIUS 6	1125.5	2469.7	0.0513	43.9122	101.600	170.500
CALIPER 1					203.200	341.000
CALIPER 2					203.200	341.000
CALIPER 3					203.200	341.000

SMALL RING LARGE RING

PAD FORCE %

DC MOTOR V

STARCAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: DATE/TIME PERFORMED: DAYS SINCE CAL:

UNIT #:

	I.D. (row)	MULT	ADD	I.D. (mm pct V)	CASING SIZE (mm)
RADIUS 1	<input type="text" value="1793.2"/>	<input type="text" value="0.05178"/>	<input type="text" value="43.12984"/>	<input type="text" value="135.987"/>	
RADIUS 2	<input type="text" value="1777.3"/>	<input type="text" value="0.05155"/>	<input type="text" value="44.96989"/>	<input type="text" value="136.585"/>	
RADIUS 3	<input type="text" value="2229.0"/>	<input type="text" value="0.05213"/>	<input type="text" value="40.05578"/>	<input type="text" value="156.247"/>	
RADIUS 4	<input type="text" value="2680.4"/>	<input type="text" value="0.05217"/>	<input type="text" value="41.23292"/>	<input type="text" value="181.058"/>	
RADIUS 5	<input type="text" value="2679.9"/>	<input type="text" value="0.05303"/>	<input type="text" value="39.35439"/>	<input type="text" value="181.465"/>	
RADIUS 6	<input type="text" value="2141.1"/>	<input type="text" value="0.05126"/>	<input type="text" value="43.91223"/>	<input type="text" value="153.657"/>	
CALIPER 1				<input type="text" value="317.045"/>	<input type="text" value="320.400"/>
CALIPER 2				<input type="text" value="318.050"/>	
CALIPER 3				<input type="text" value="309.903"/>	
PAD FORCE				<input type="text" value="5.062"/>	
DC MOTOR V				<input type="text" value="1.9"/>	

STARCAL AFTER LOG VERIFICATION SUMMARY

TOOL #: DATE/TIME PERFORMED: DAYS SINCE CAL:

UNIT #:

	I.D. (row)	MULT	ADD	I.D. (mm pct V)	CASING SIZE (mm)
RADIUS 1	<input type="text" value="2311.8"/>	<input type="text" value="0.05178"/>	<input type="text" value="43.12984"/>	<input type="text" value="162.839"/>	
RADIUS 2	<input type="text" value="2146.0"/>	<input type="text" value="0.05155"/>	<input type="text" value="44.96989"/>	<input type="text" value="155.587"/>	
RADIUS 3	<input type="text" value="2209.5"/>	<input type="text" value="0.05213"/>	<input type="text" value="40.05578"/>	<input type="text" value="155.229"/>	
RADIUS 4	<input type="text" value="2248.5"/>	<input type="text" value="0.05217"/>	<input type="text" value="41.23292"/>	<input type="text" value="158.528"/>	

RADIUS 5 2360.8 0.05303 39.35439 164.545

RADIUS 6 2358.1 0.05126 43.91223 164.781

CALIPER 1 321.367 320.400
304.345 329.745

CALIPER 2 320.132
305.350 330.750

CALIPER 3 320.010
297.203 322.603

PAD FORCE 9.205

DC MOTOR V 1.3



Baker Atlas



COMPANY NALCOR ENERGY INC.
WELL NALCOR ET AL FINNEGAN #1
FIELD FINNEGAN
PROVINCE NEWFOUNDLAND AND LABRADOR

FILE NO:

API NO:

LOCATION:

ELEVATIONS:

KB 125.00 M

DF

GL 118.75 M

LICENSE:

2010-128-04

LAT 49.92 N LONG 63.33 W

DATE 02-NOV-2010