					HOLE VOLUME LOG				
COMPANY WELL FIELD PROVINCE/COUNTY COUNTRY/STATE LOCATION					WHITING OIL AND GAS CORP RAZOR 11E-0202B REDTAIL WELD USA/COLORADO SHL: 2321' FNL & 822' FWL (SWNW)				
SEC 11	TWP 10N	RGE 58W	Other Services MICRO-IMAGER SPECTRAL GAMMA RAY ARRAY INDUCTION			PHOTO DENSITY DUAL SPACED NEUTRON			
Latitude	Longitude		API Number			Permanent Datum GL, Elevation 5002 feet Log Measured From KB Drilling Measured From KB@17 feet			
05-123-38531			Elevations:			feet KB 5019.00 DF 5019.00 GL 5002.00			
Date			01-MAR-2014						
Run Number			ONE						
Service Order			6551-80824109						
Depth Driller			12996.00			feet			
Depth Logger			12996.00			feet			
First Reading			12967.00			feet			
Last Reading			6400.00			feet			
Casing Driller			6425.00			feet			
Casing Logger			6420.00			feet			
Bit Size			6.000			inches			
Hole Fluid Type			WBM						
Density / Viscosity			9.50 lb/USg			43.00 SEC/QT			
PH / Fluid Loss			9.00						
Sample Source			FLOWLINE						
Rm @ Measured Temp			1.55 @ 60.5			ohm-m			
Rmf @ Measured Temp			1.24 @ 60.5			ohm-m			
Rmc @ Measured Temp			1.86 @ 60.5			ohm-m			
Source Rmf / Rmc			CALC/CALC						
Rm @ BHT			0.436 @225.0			ohm-m			
Time Since Circulation			8 HOURS						
Max Recorded Temp			225.00			deg F			
Equipment / Base			18063			CASPER			
Recorded By			C CULLEN			K SALLER			
Witnessed By			B MILLER						

BOREHOLE RECORD					Last Edited: 02-MAR-2014 06:01
Bit Size inches		Depth From feet		Depth To feet	
6.000		6425.00		12996.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
INTERMED	7.000	0.00	6425.00	29.00	

REMARKS
SOFTWARE VERSION USED: 13.08.2113 TOOLS CONVEYED VIA CML WELL SHUTTLE. TRIPLE COMBO - IMAGER - SPECTRAL GAMMA RAY WAS LOGGED IN A SINGLE RUN USING A 200V MEMORY CONVEYANCE SYSTEM. HARDWARE USED: SEE TOOL DIAGRAM. LAT: 40.854189 LONG: -103.839389

CUSTOMER'S SCALES USED AND INTERVALS LOGGED.

ALL DEPTHS RECORDED WITH WEATHERFORD DEPTHLOG DEPTH SYSTEM IN CONJUNCTION WITH PASON (RIGS) EDR SYSTEM.
ALL DEPTHS CORRECTED TO DRILLER'S STRAP DEPTH.

4.5 INCH PRODUCTION CASING USED TO CALCULATE ANNULAR HOLE VOLUME.

ANNULAR HOLE VOLUME FROM TD TO SURFACE CASING: 1330CUBIC FEET

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 610 CUBIC FEET

BOREHOLE SIZE AND RUGOSITY WILL AFFECT DATA QUALITY.

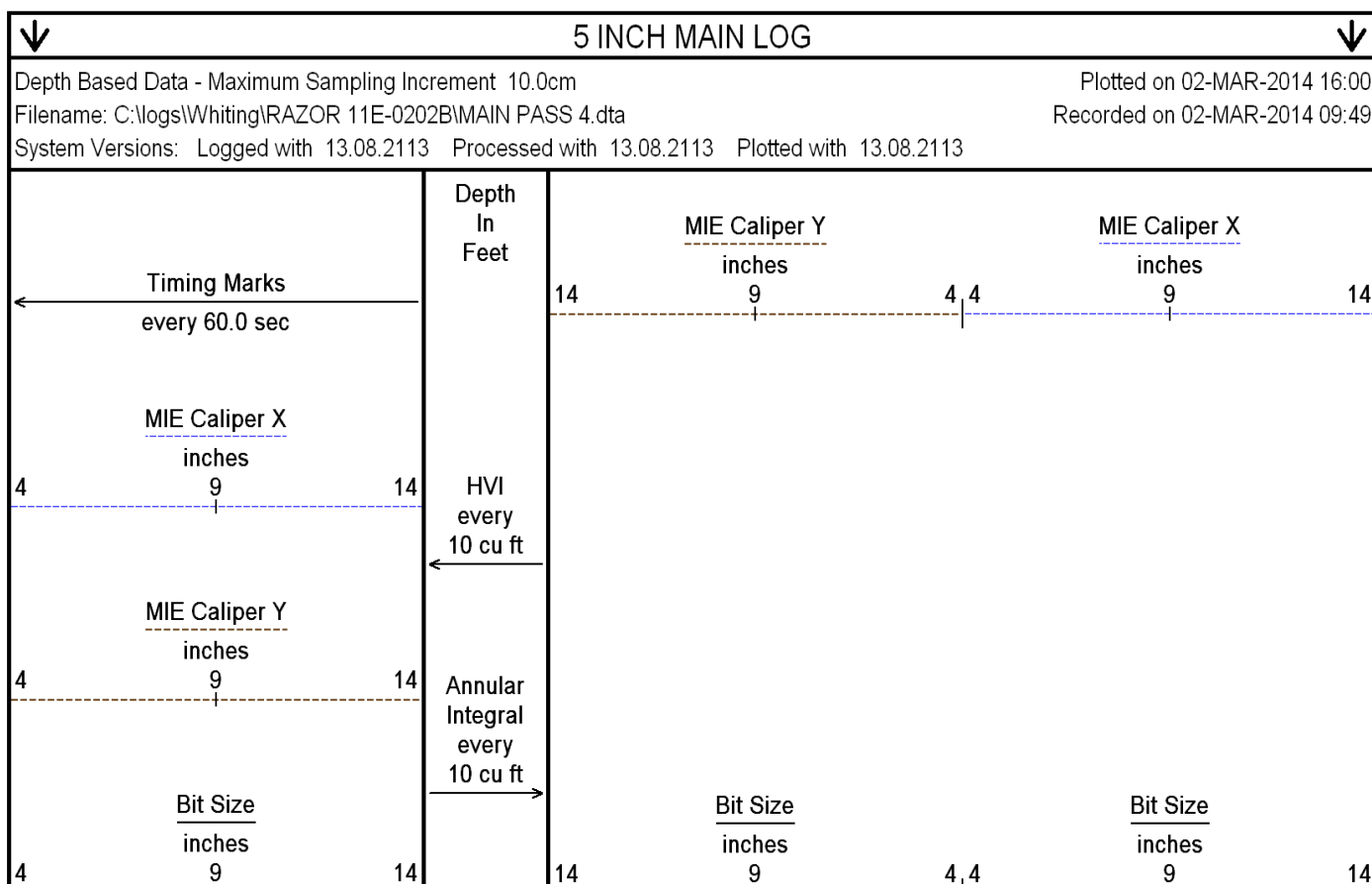
TIGHT PULLS WILL AFFECT DATA QUALITY.

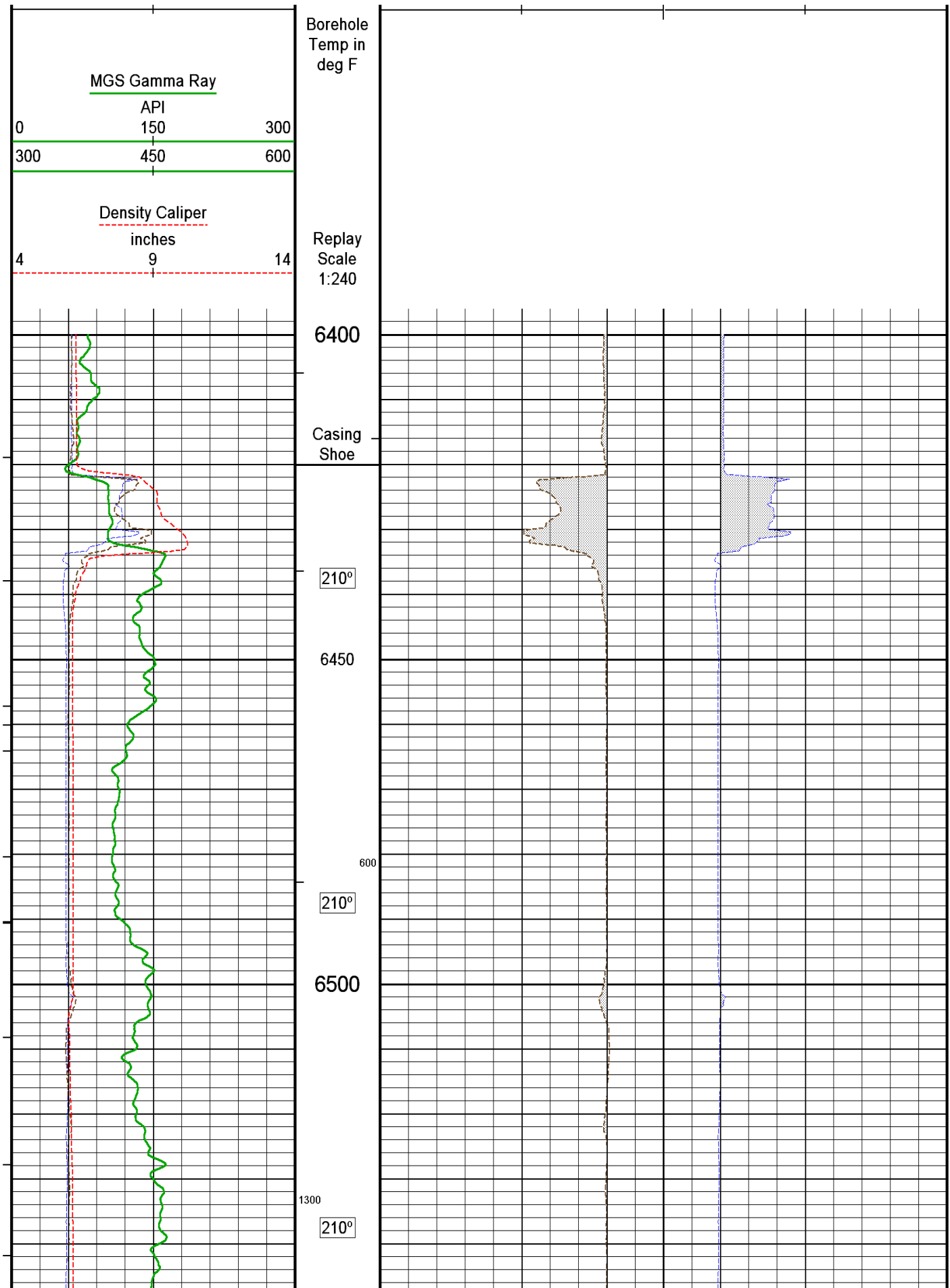
OPERATOR(S): J GERDES, D SMITH

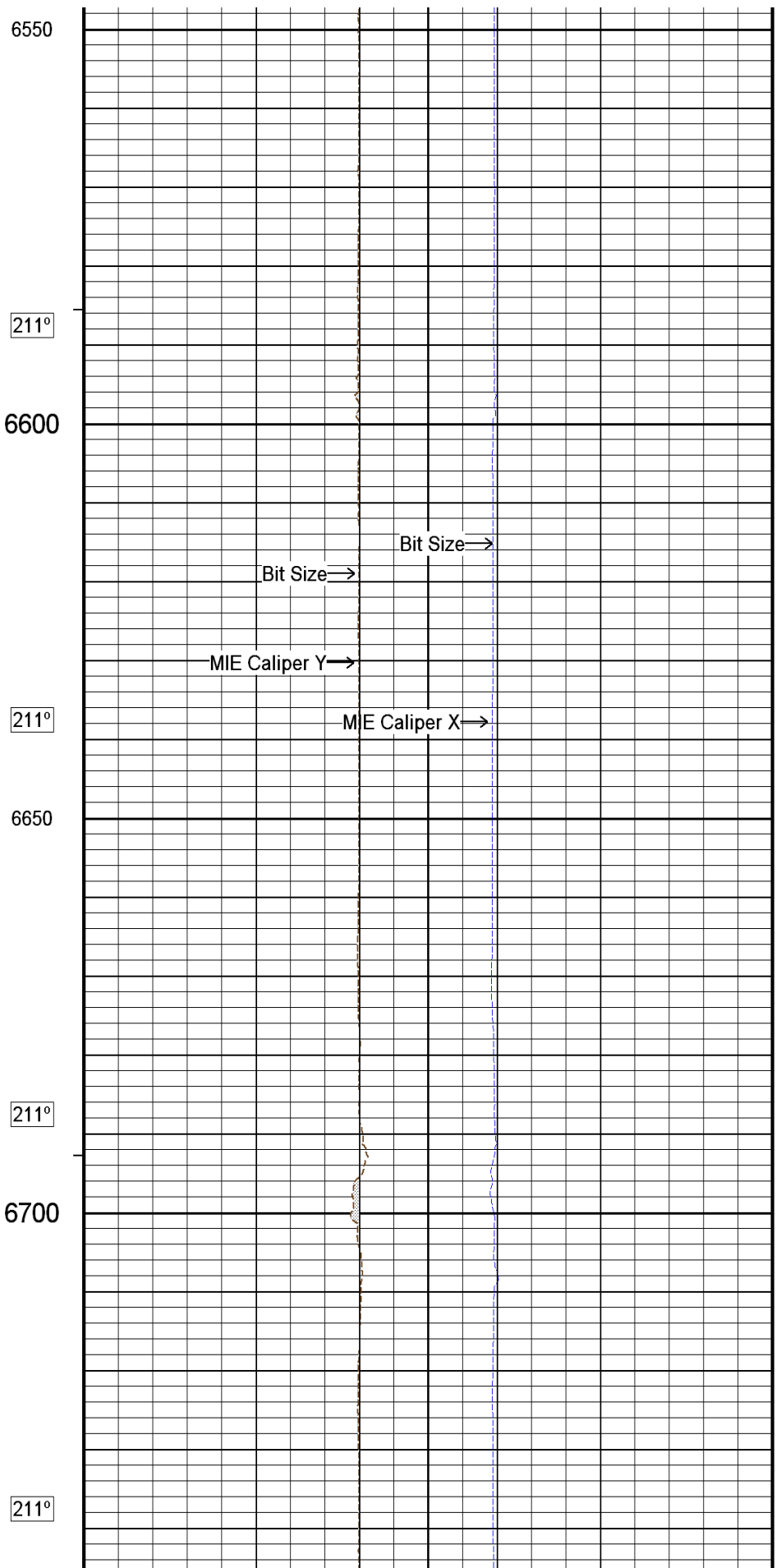
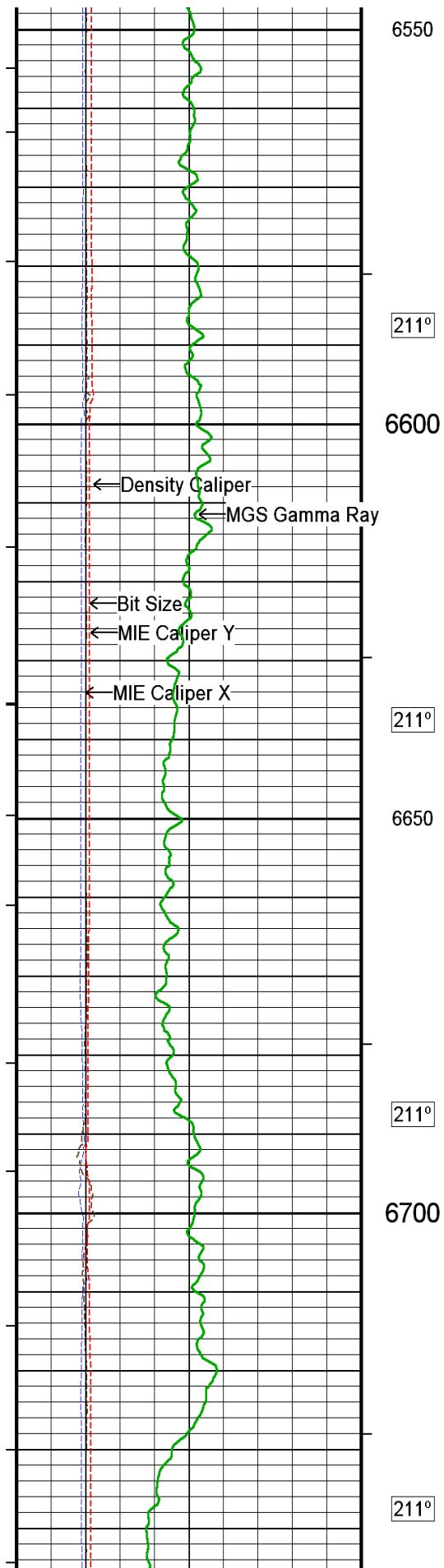
RIG: CADE 23

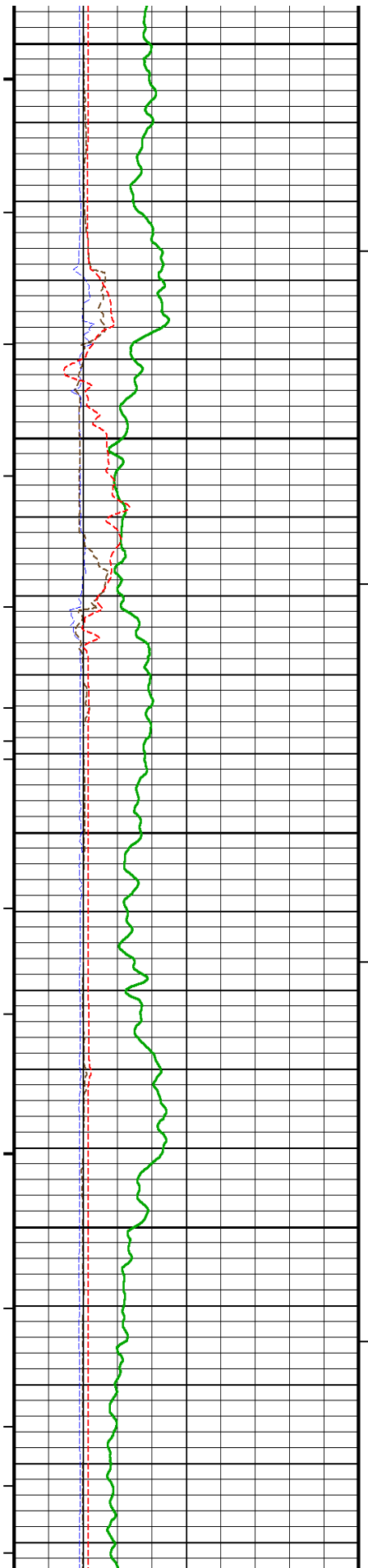
SERVICE ORDER #6551-80824109

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.









6750

212°

6800

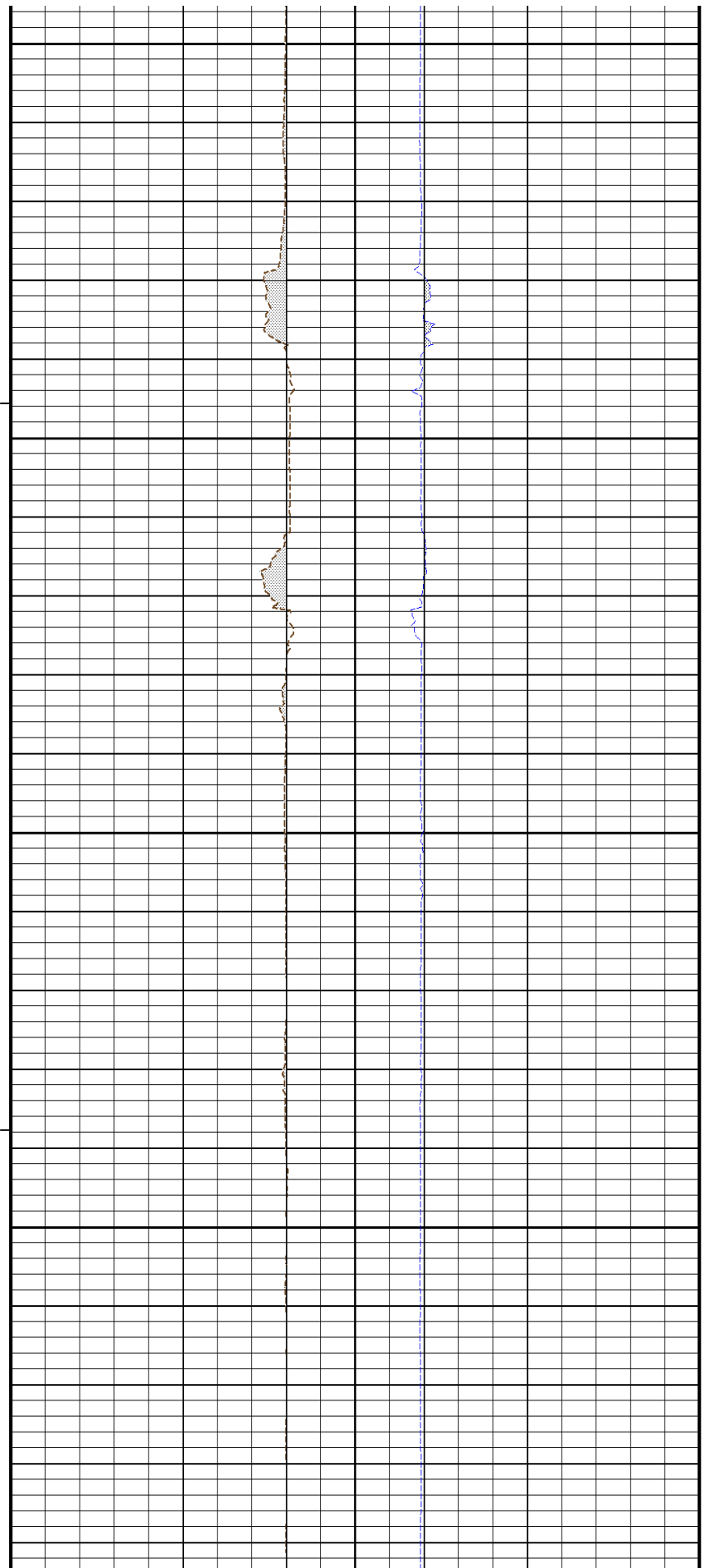
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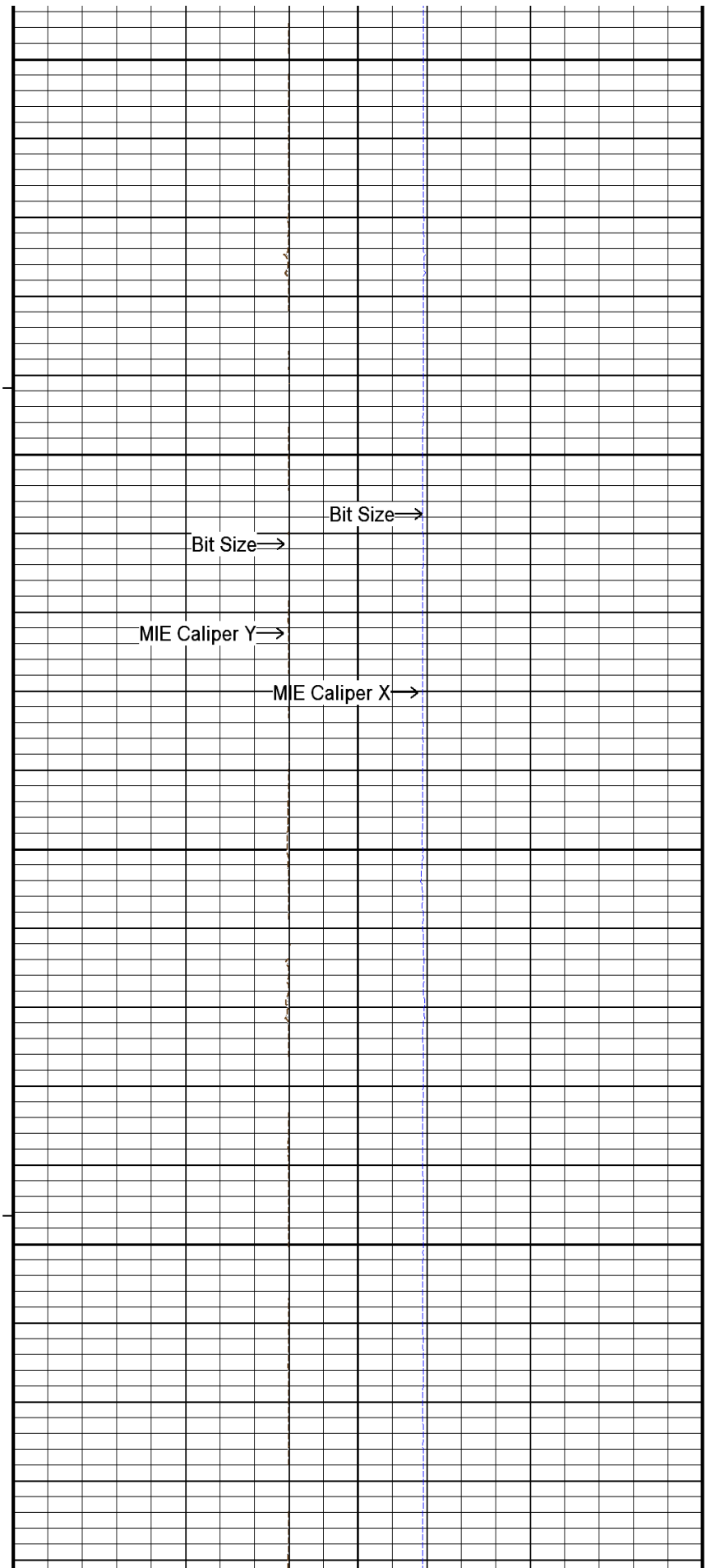
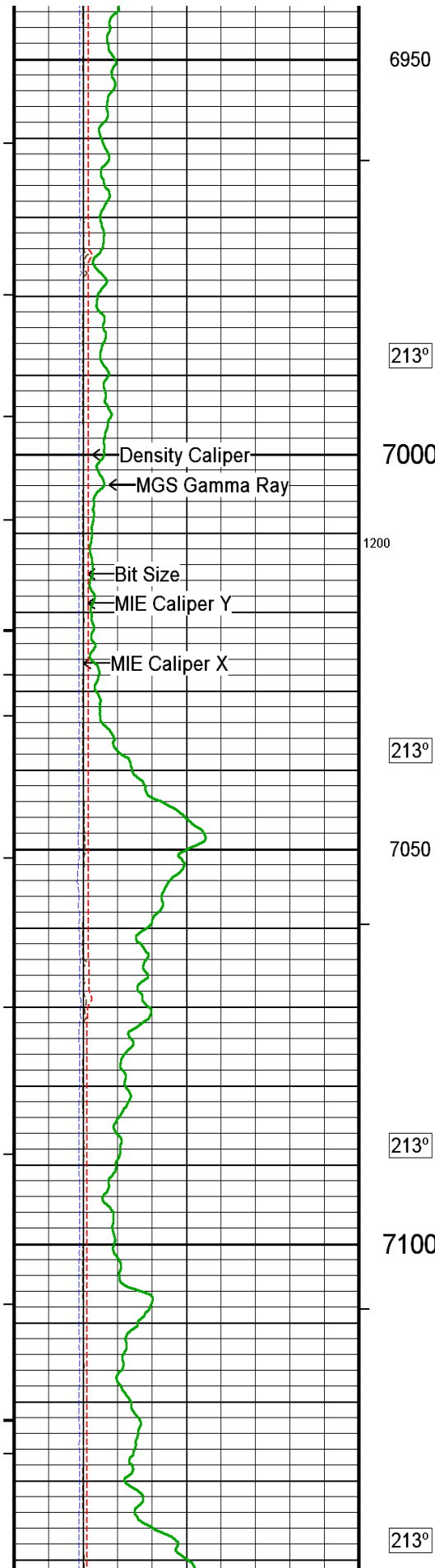
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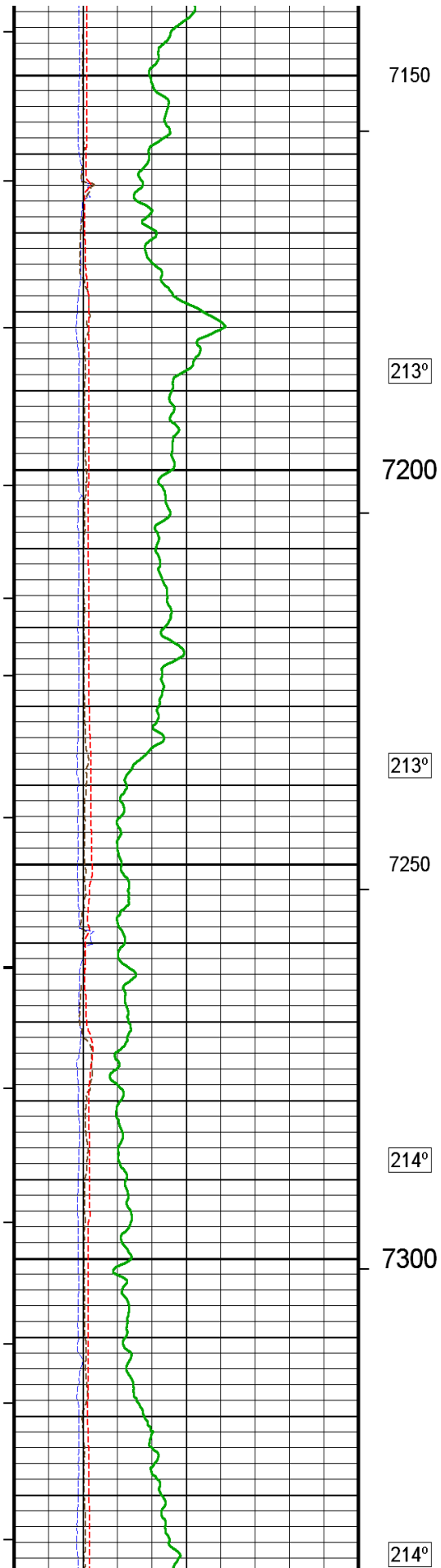
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6900

213°







7150

213°

7200

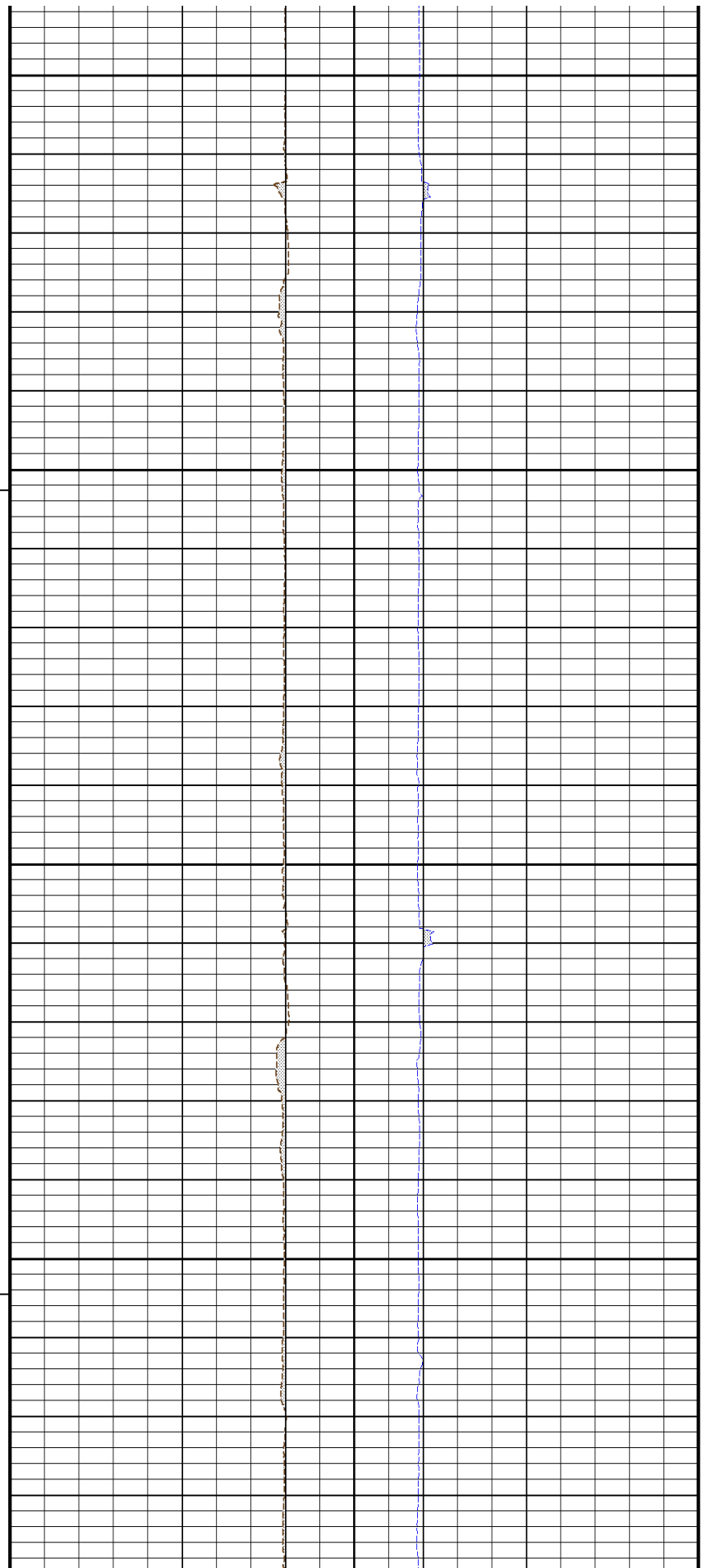
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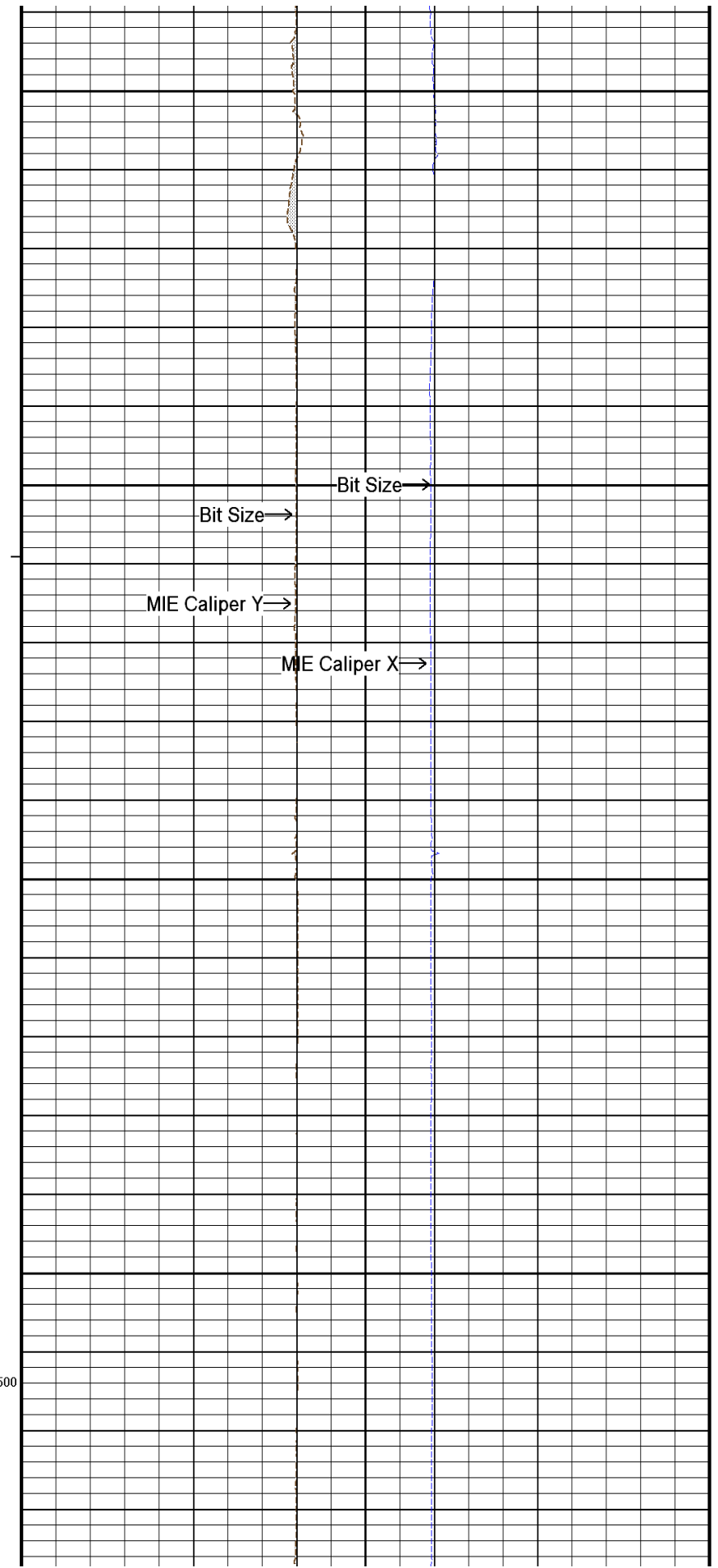
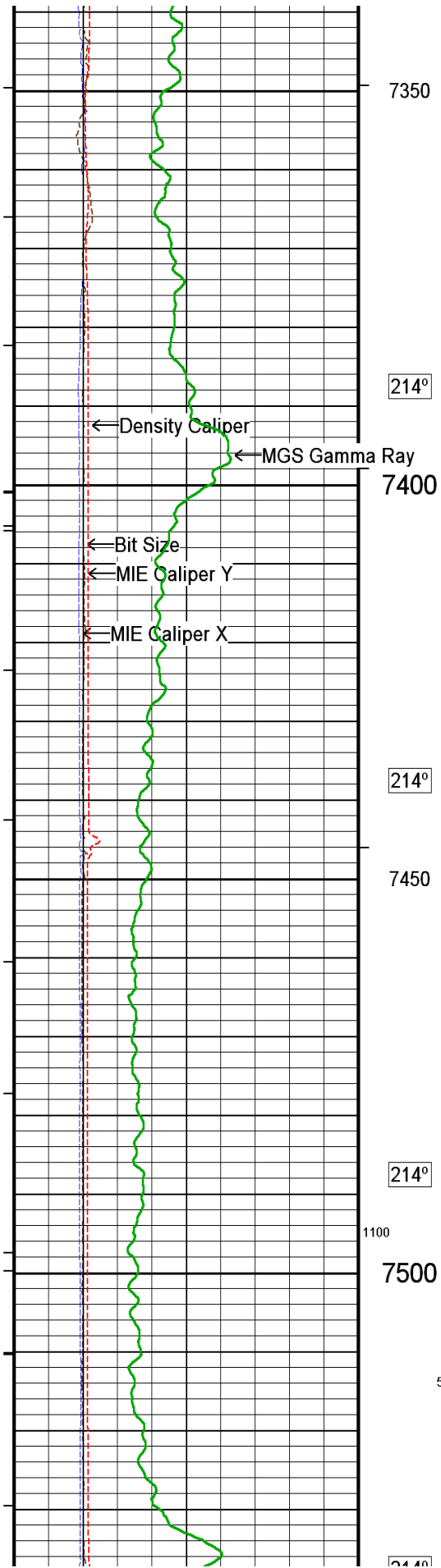
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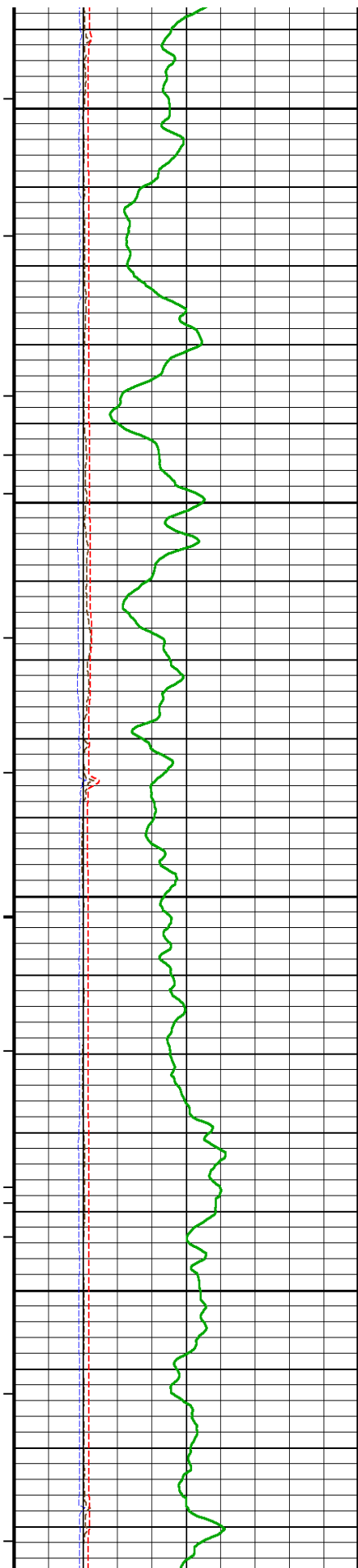
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7300

214°







214°

7550

214°

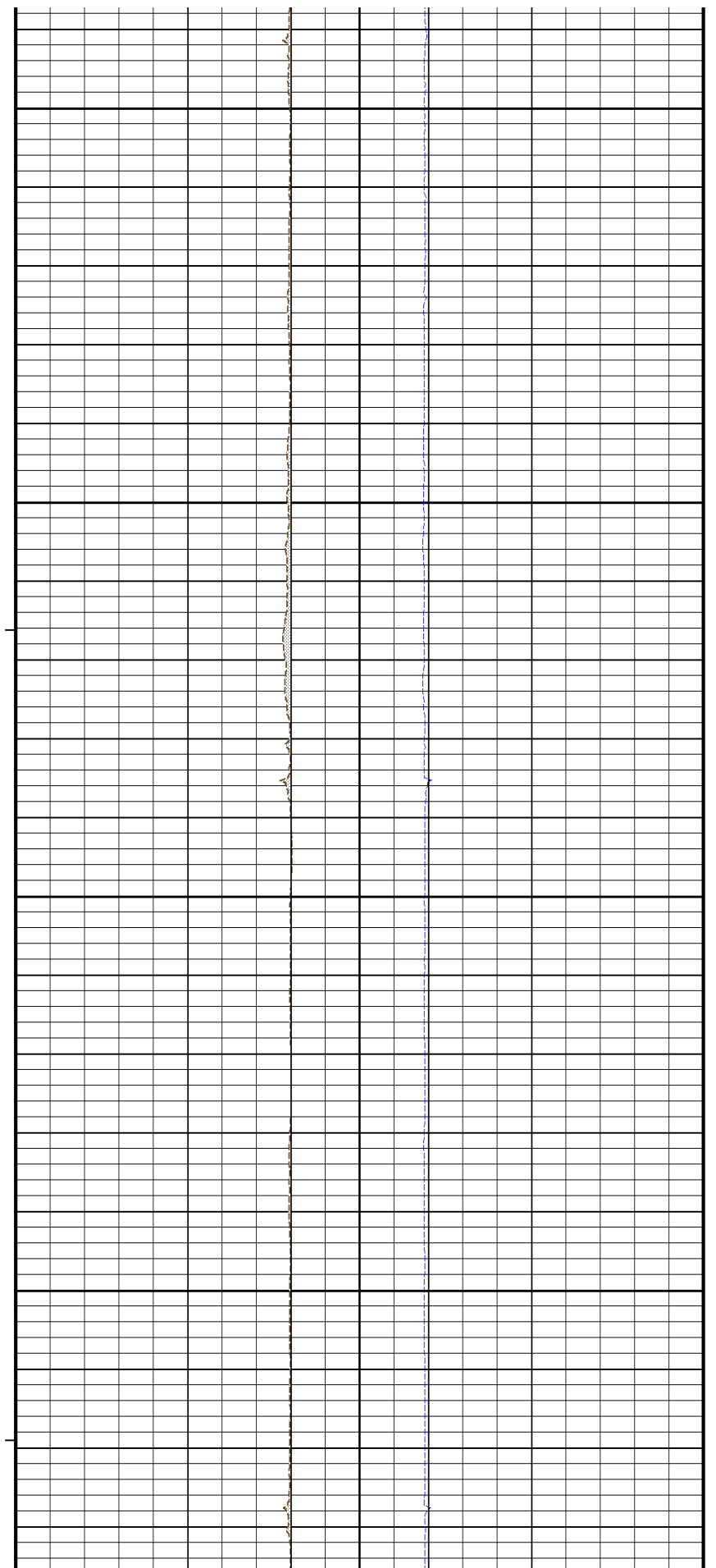
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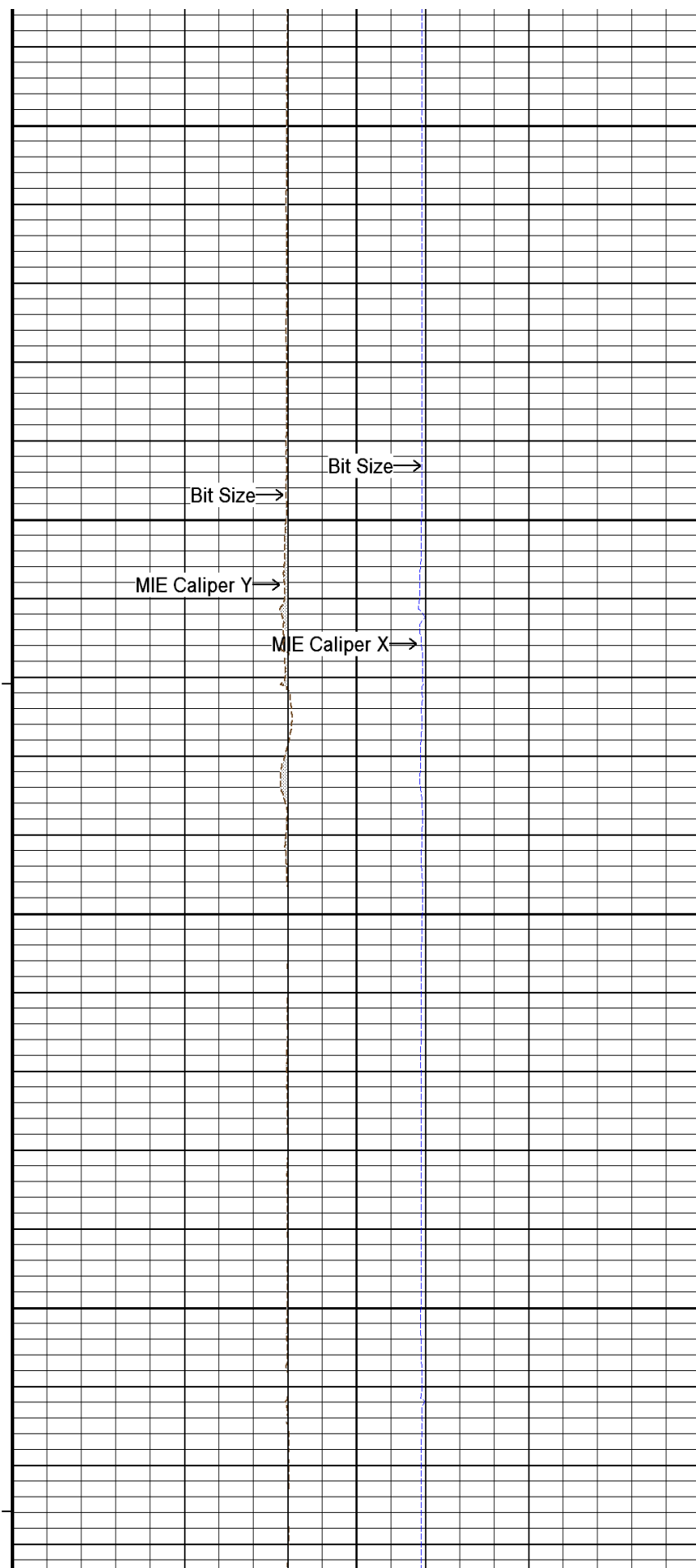
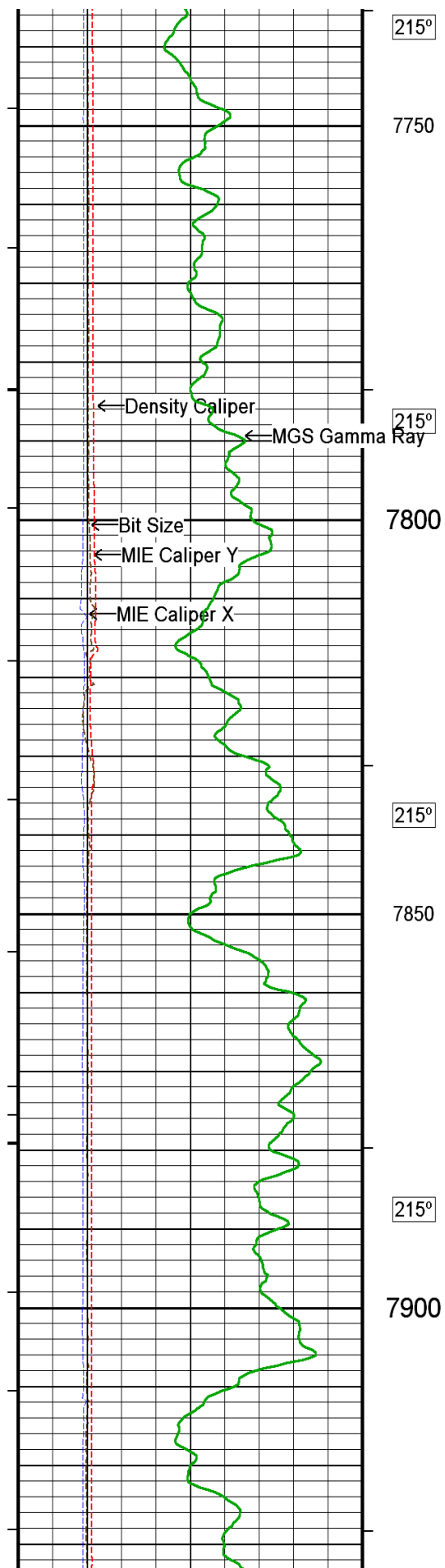
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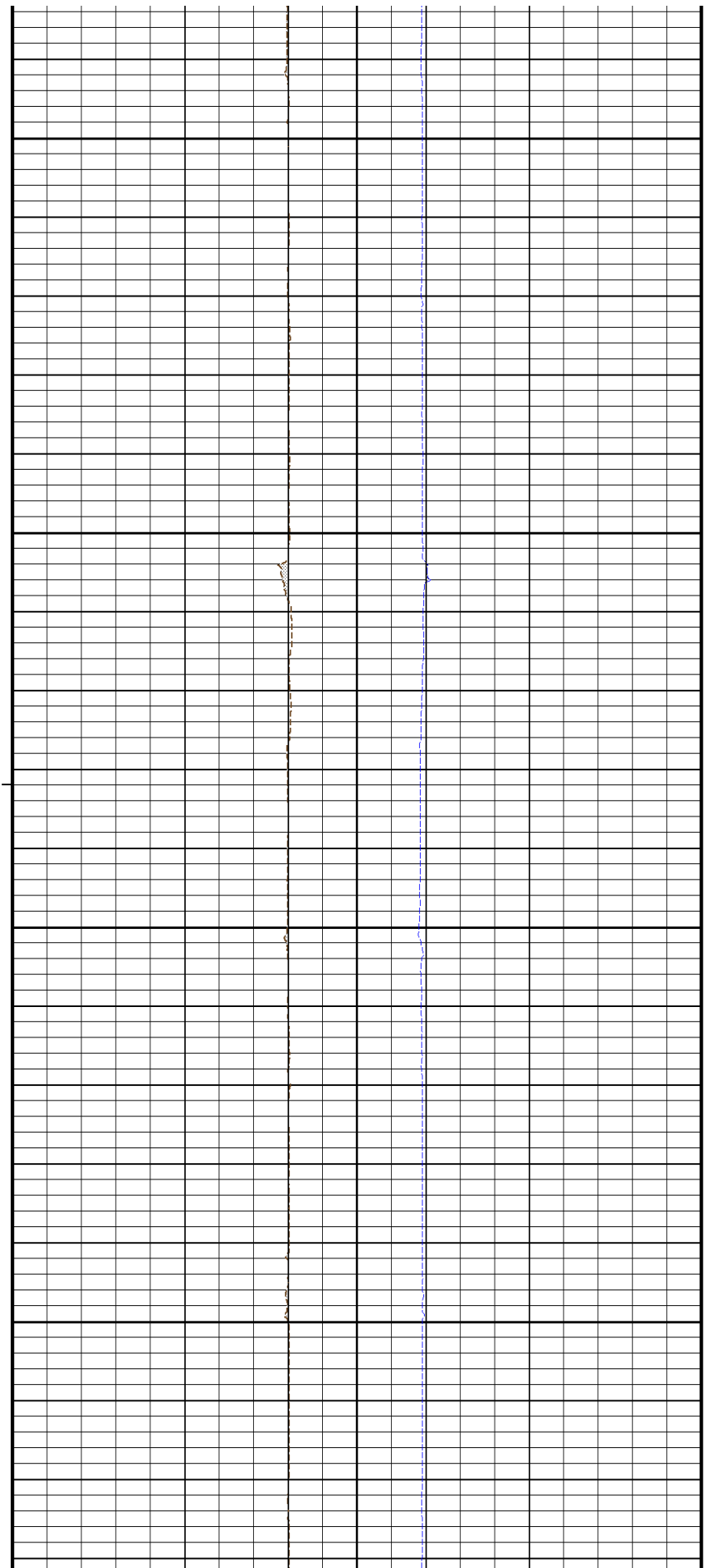
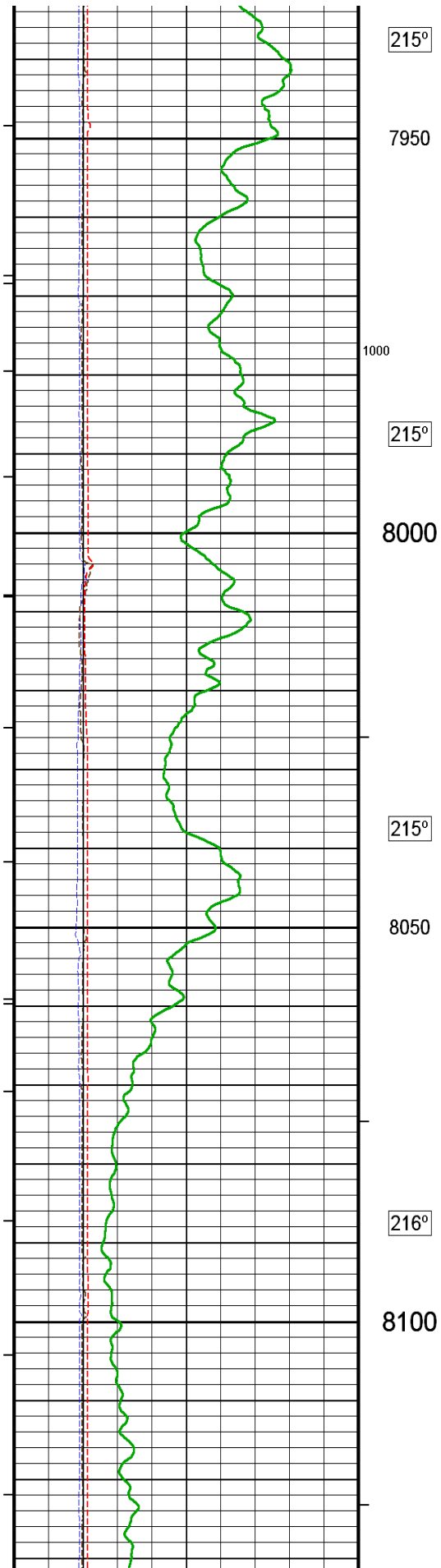
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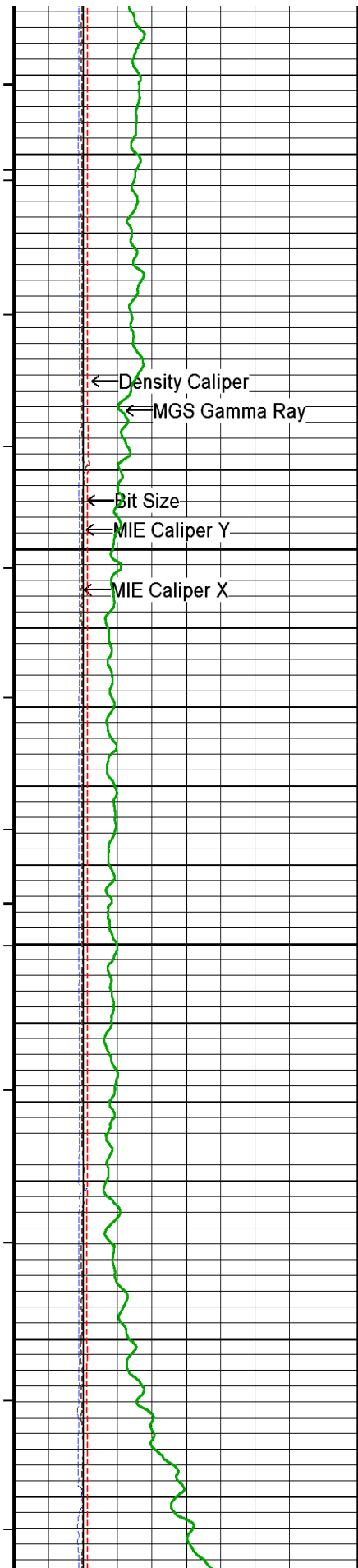
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7700









216°

8150

216°

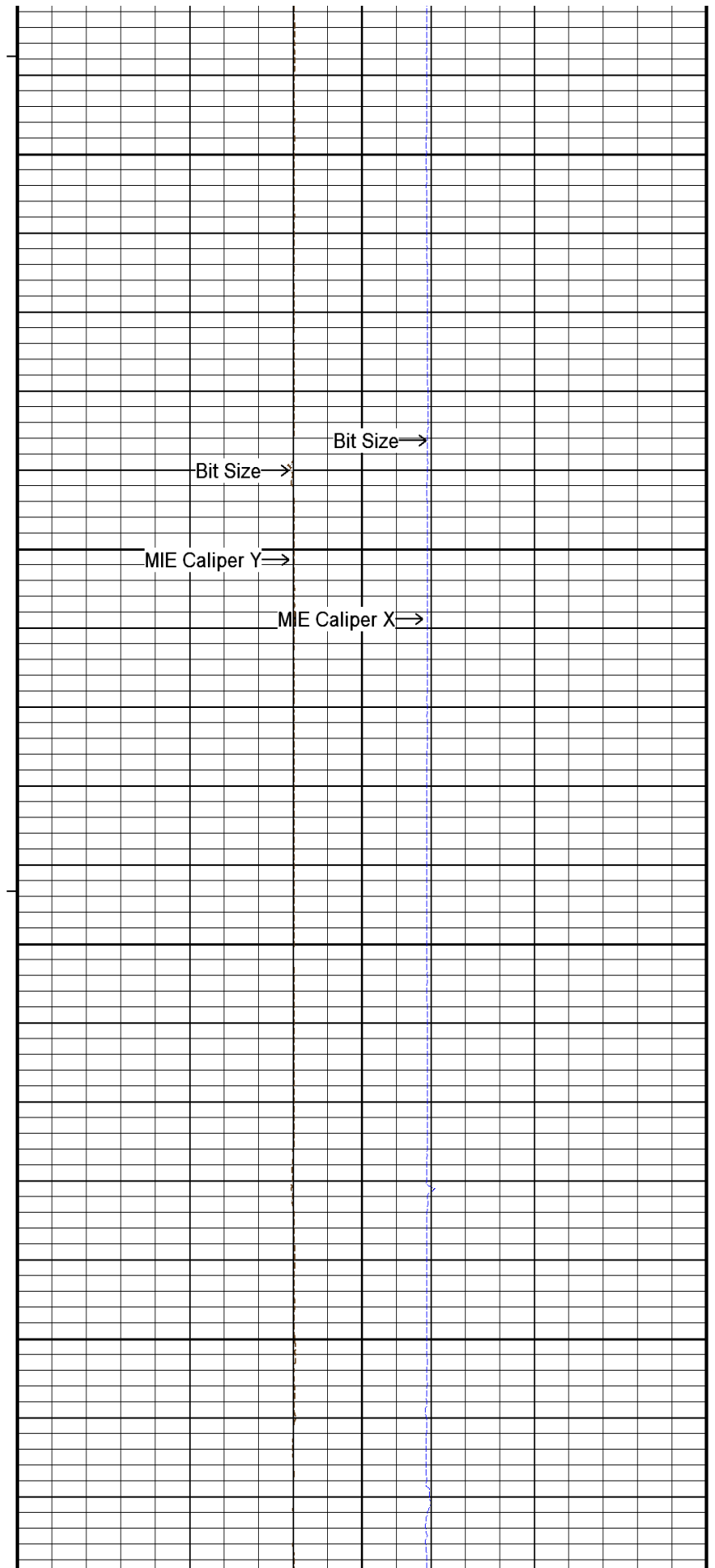
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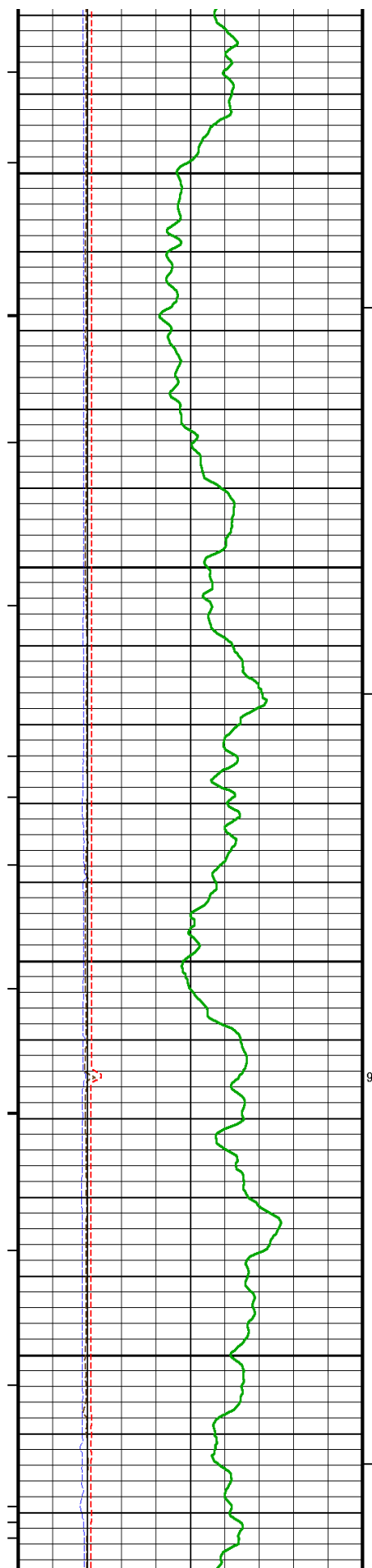
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216°

8300





216°

8350

216°

8400

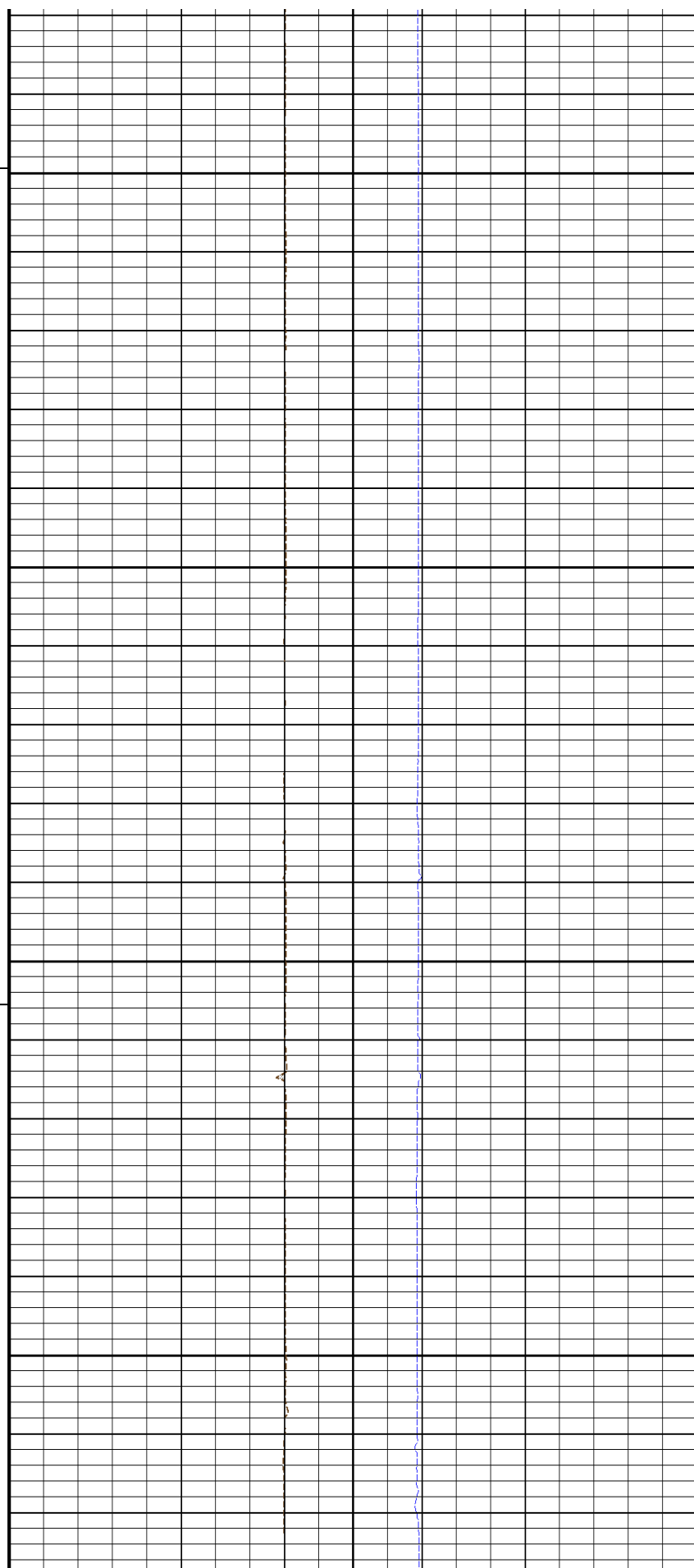
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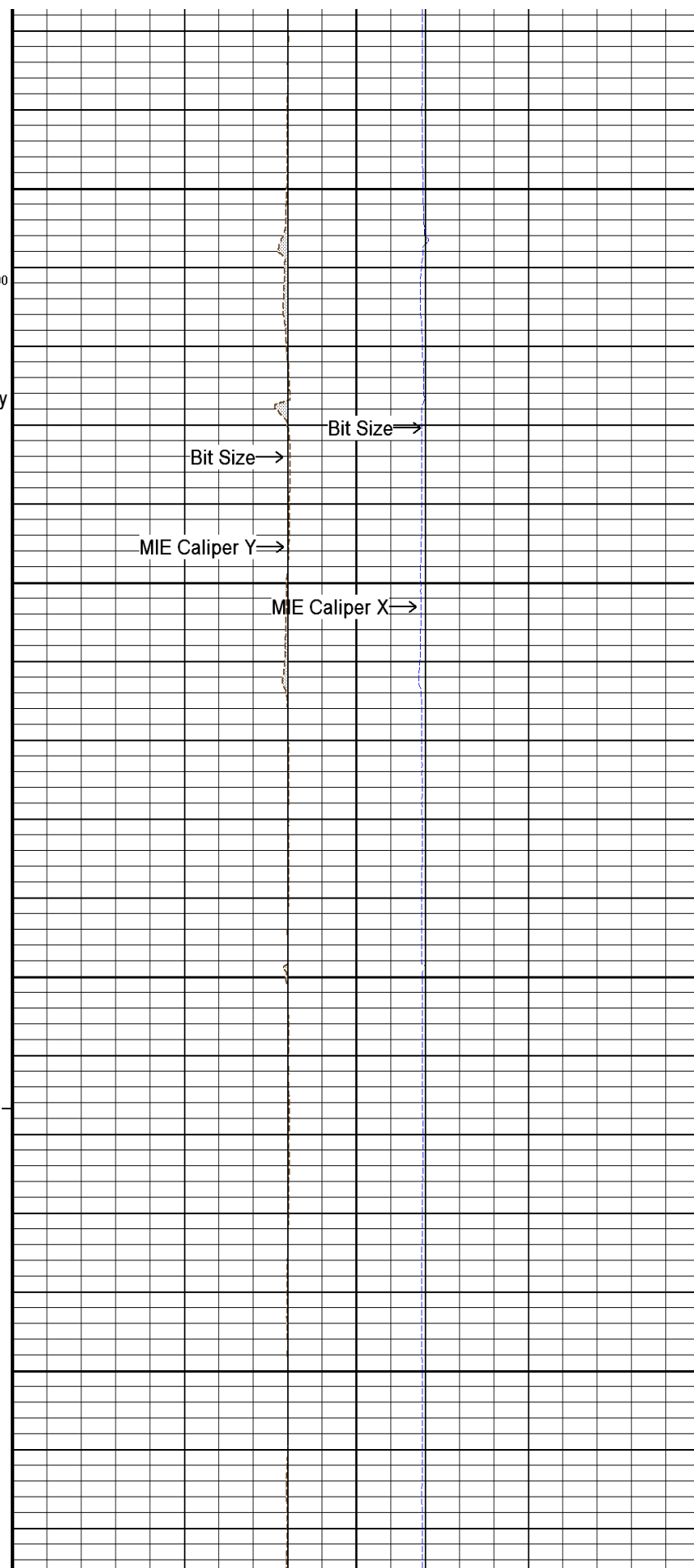
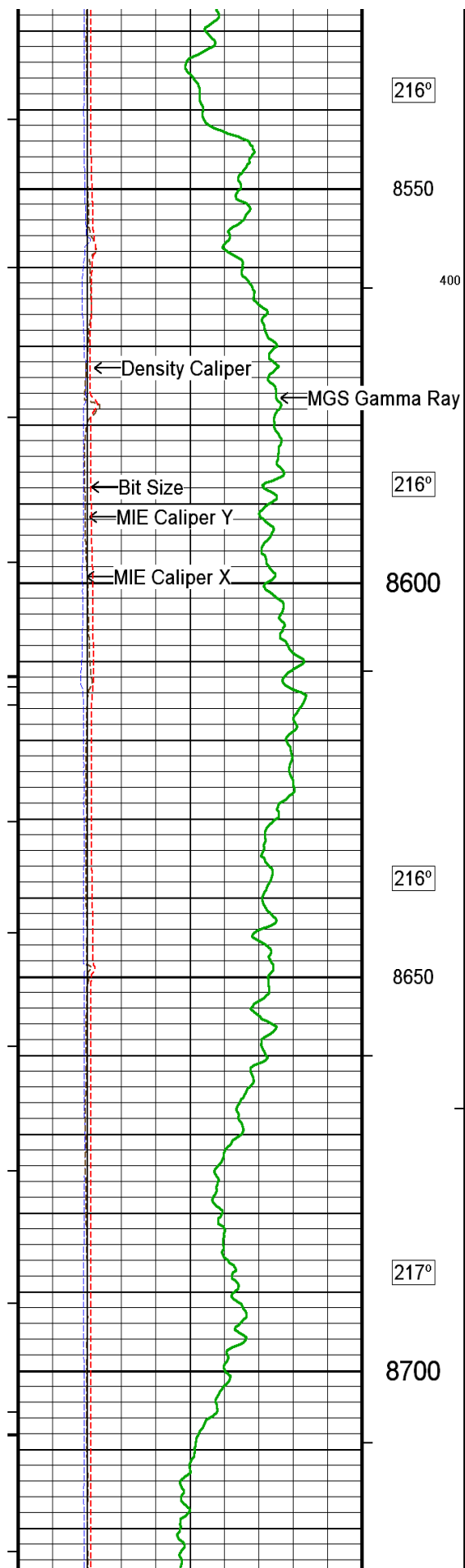
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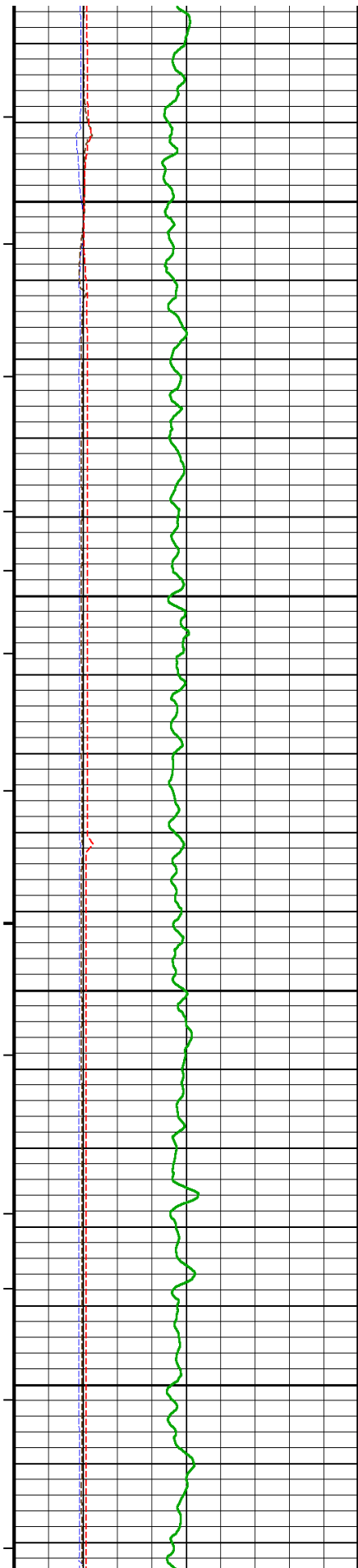
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216°

8500







217°

8750

217°

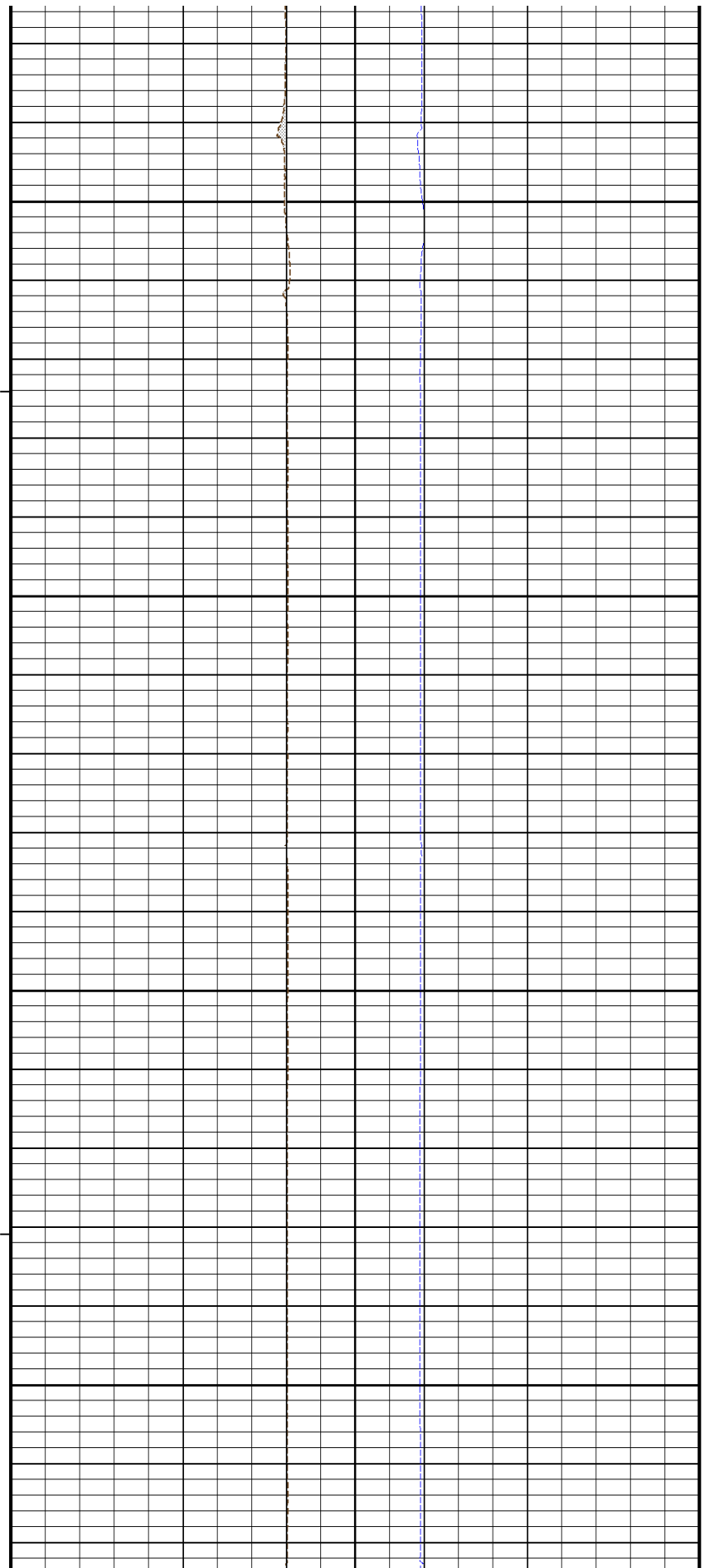
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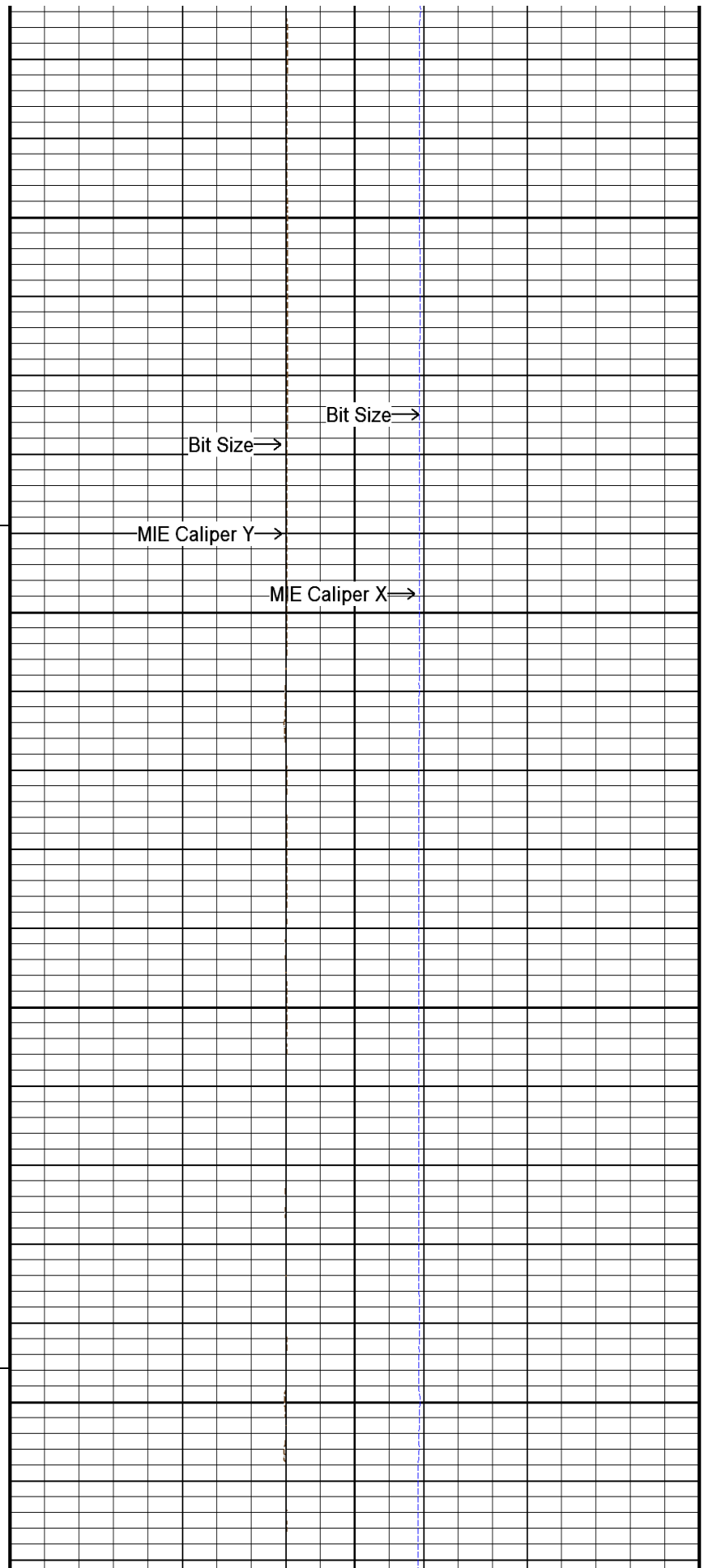
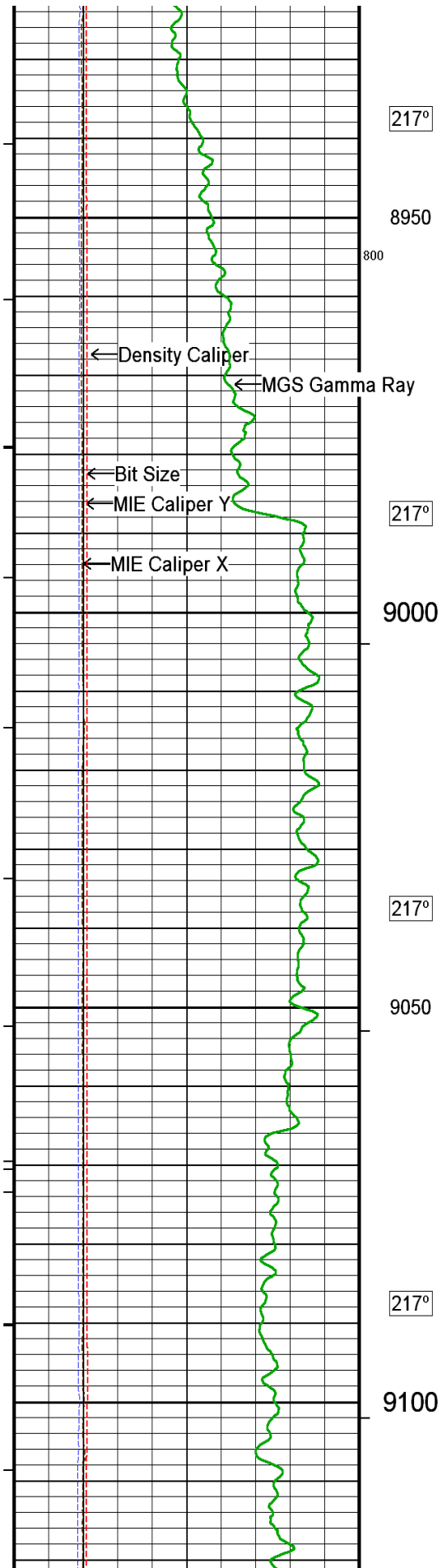
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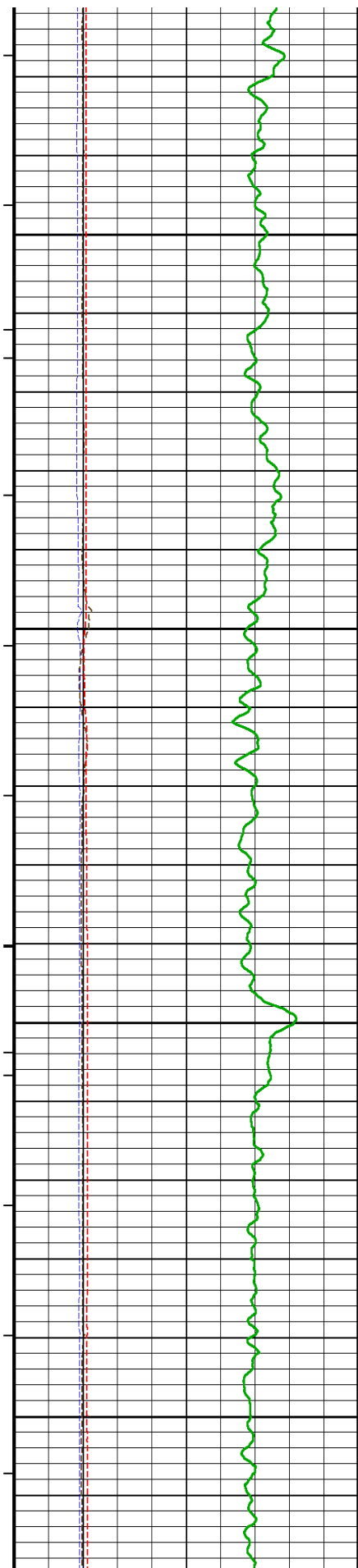
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217°

8900







217°

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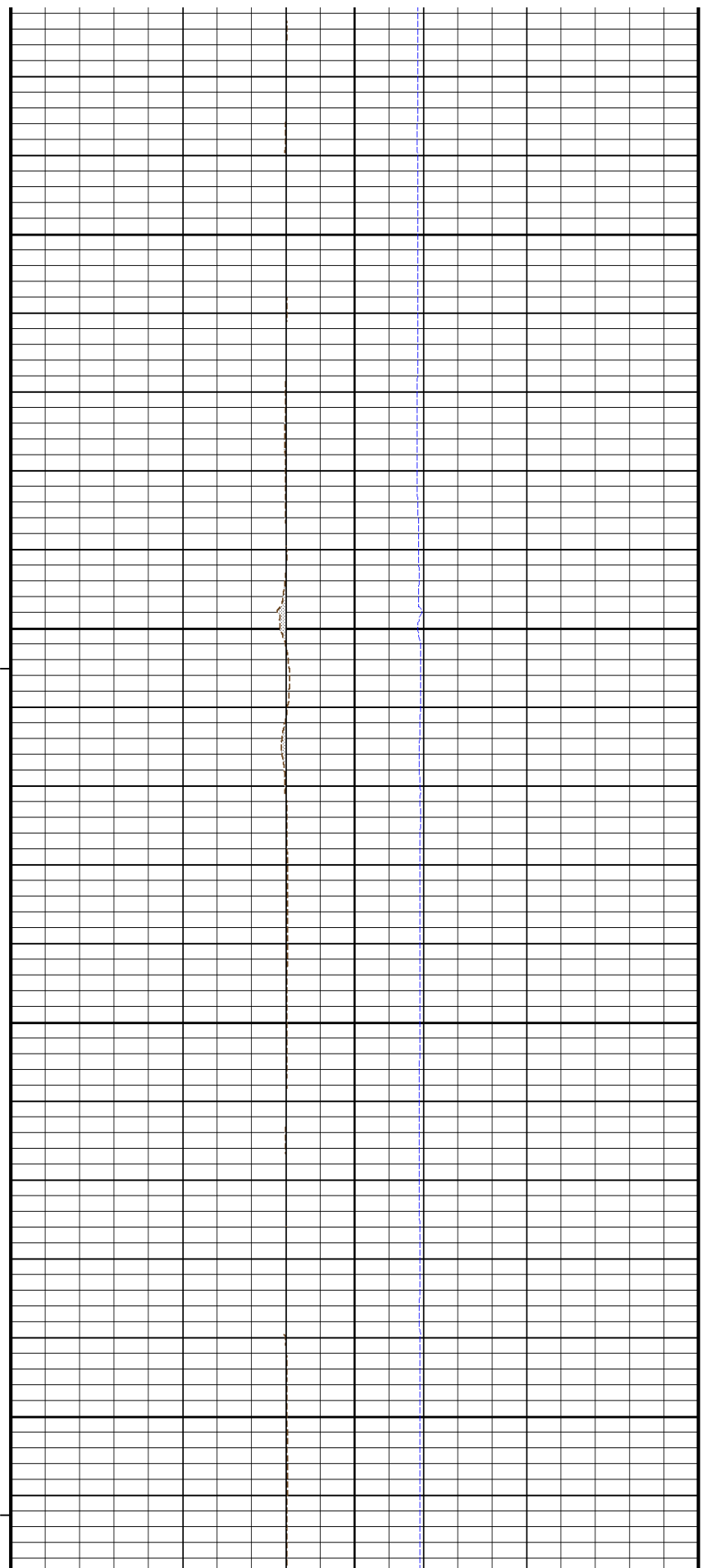
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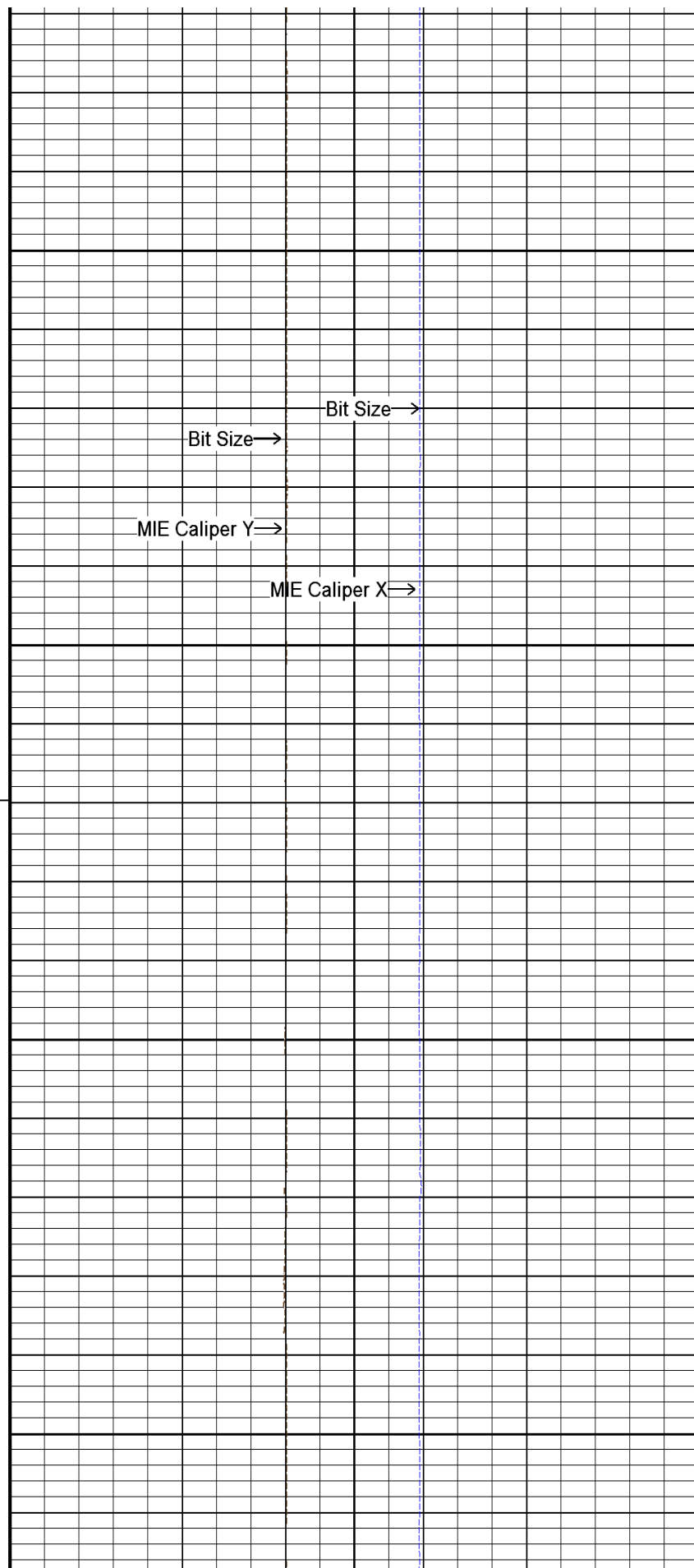
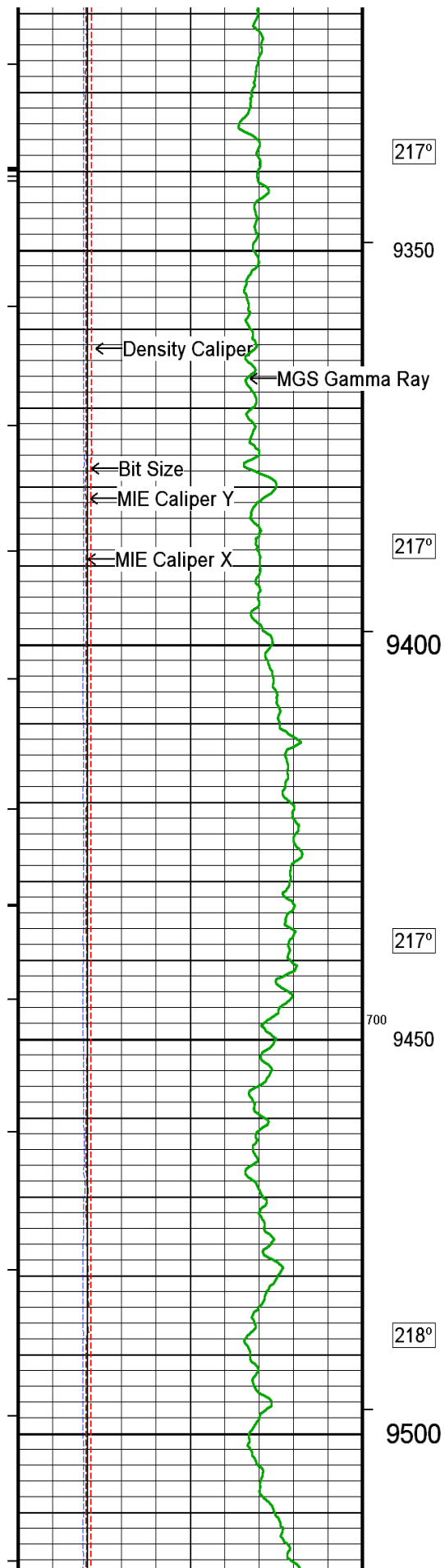
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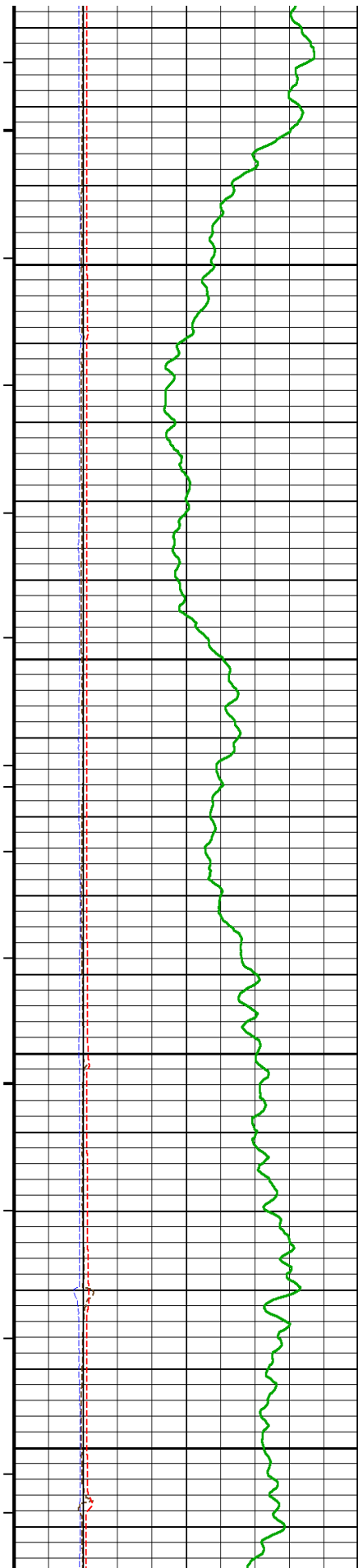
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217°

9300







217°

9550

218°

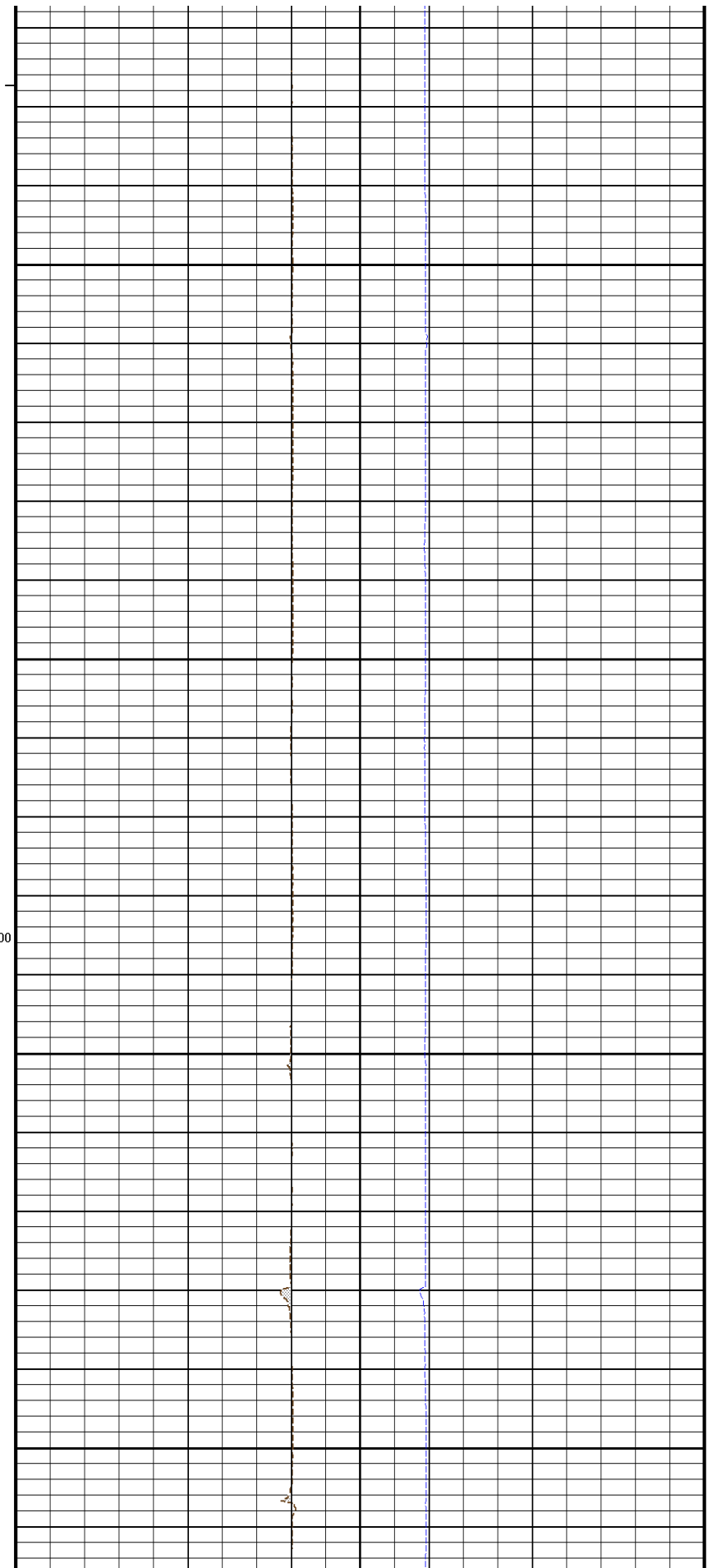
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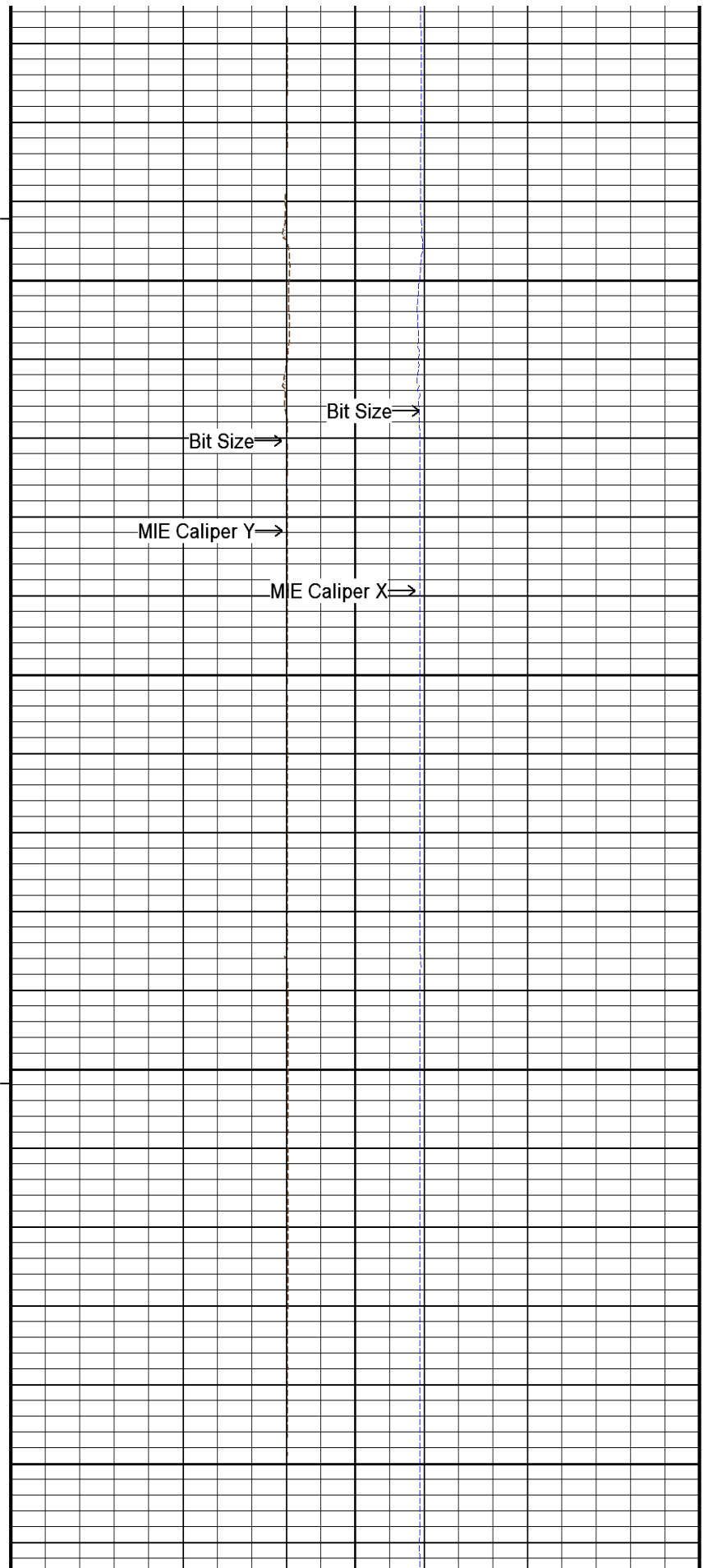
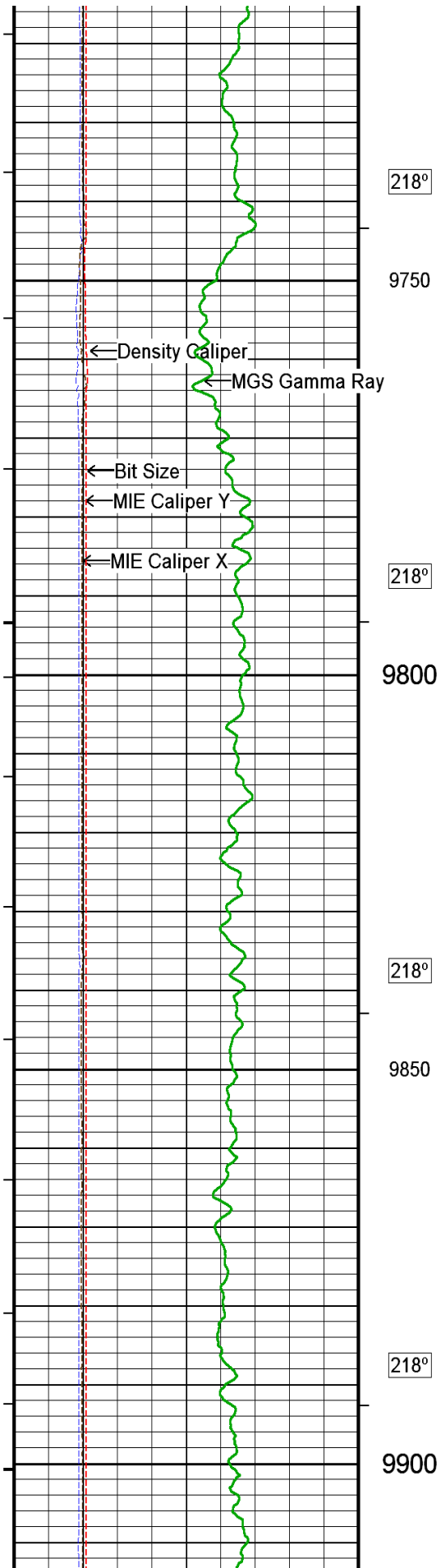
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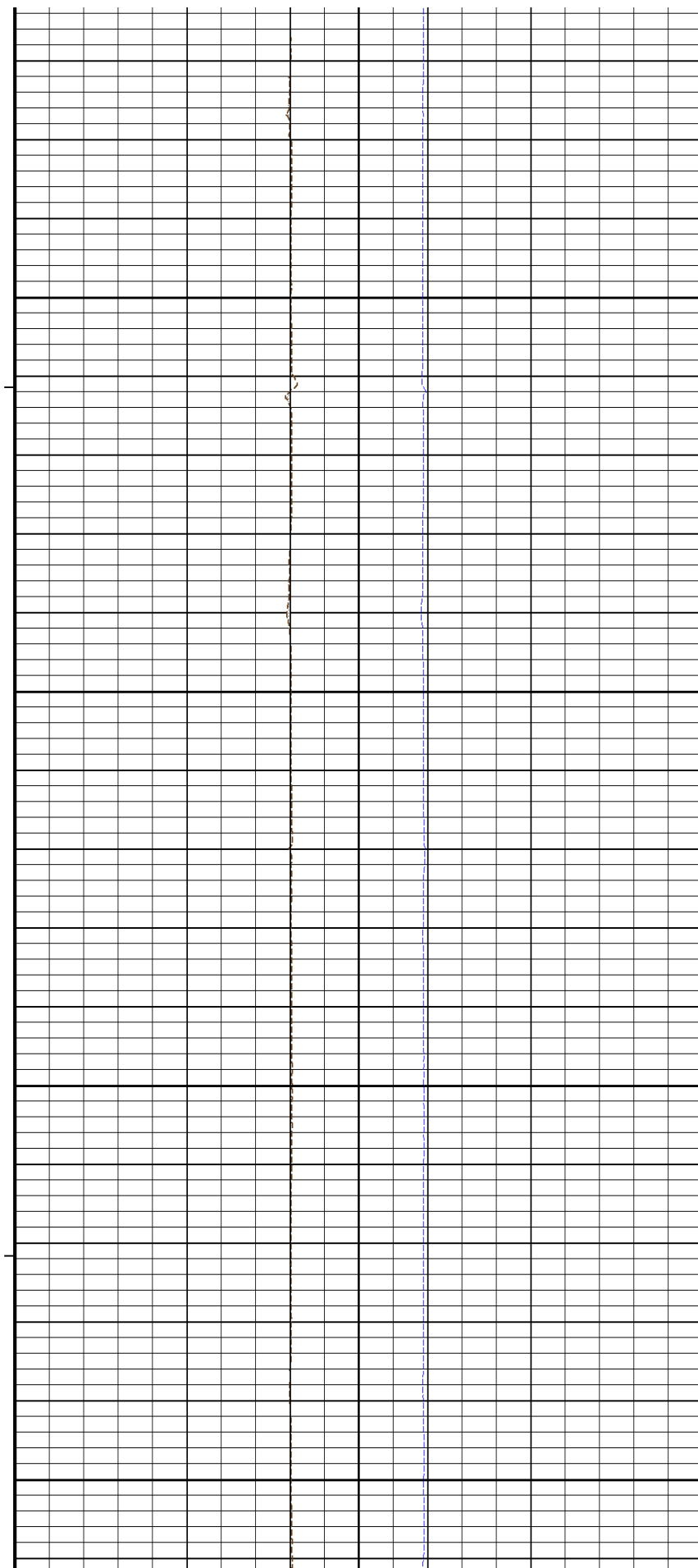
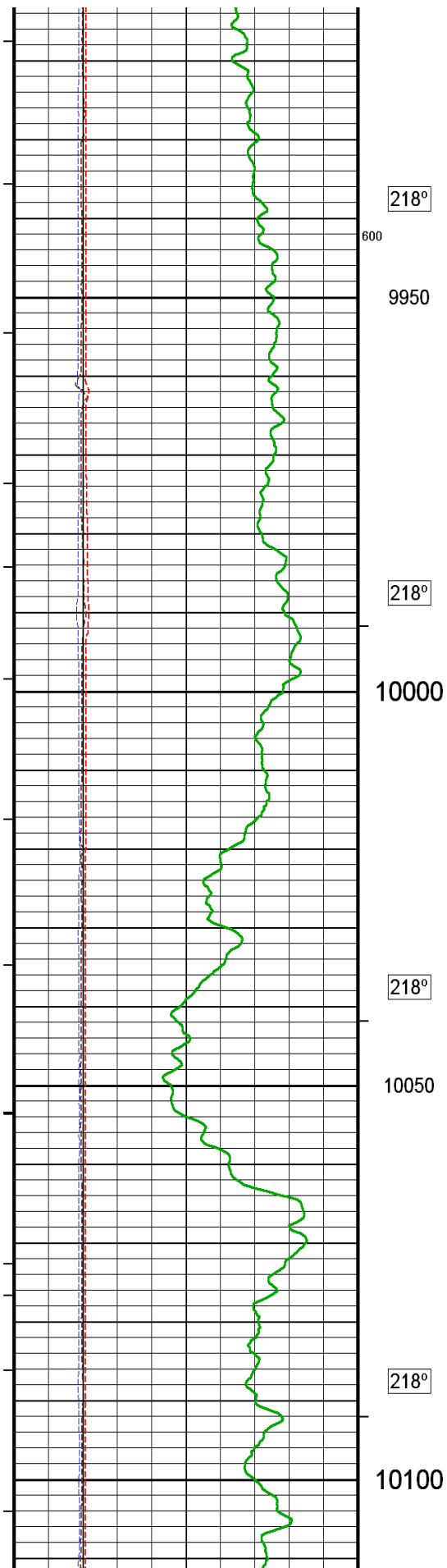
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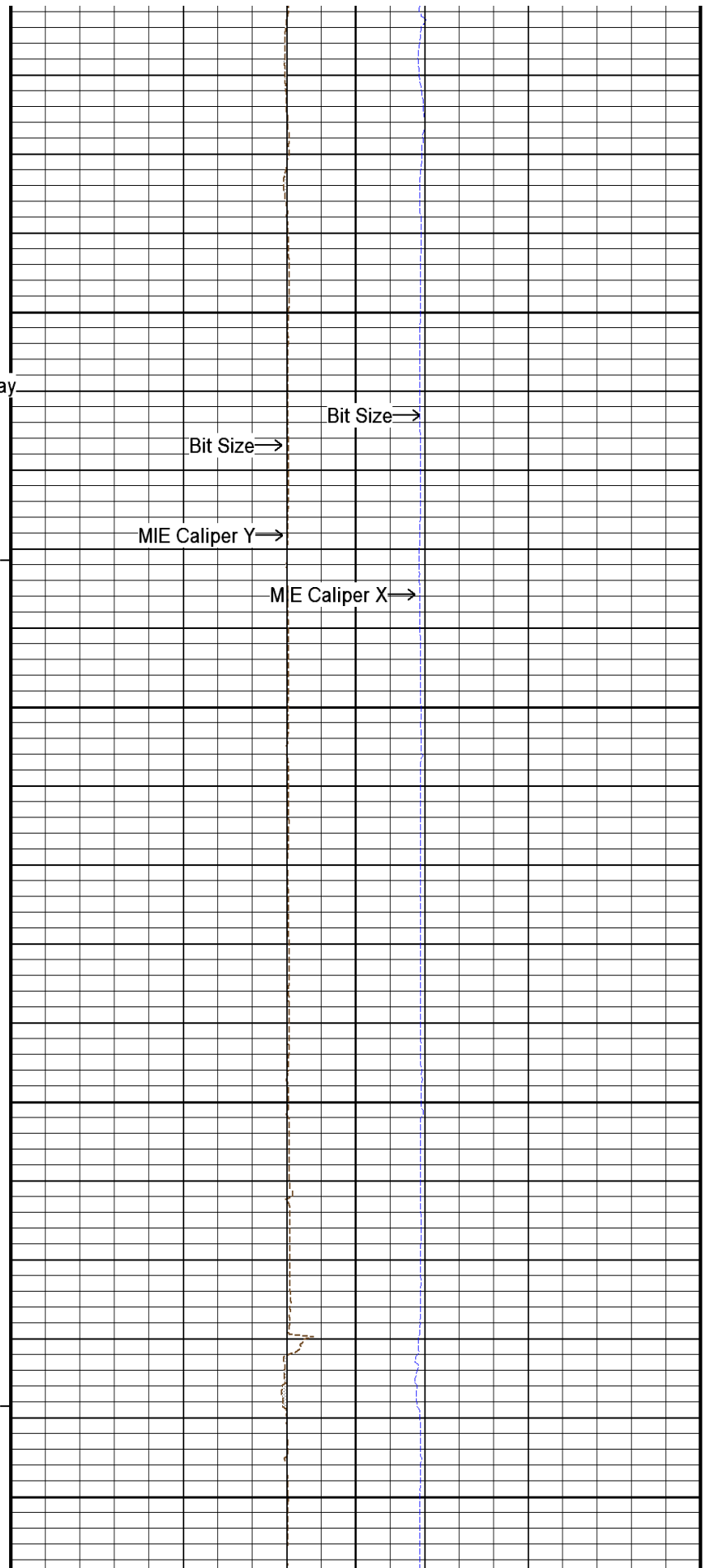
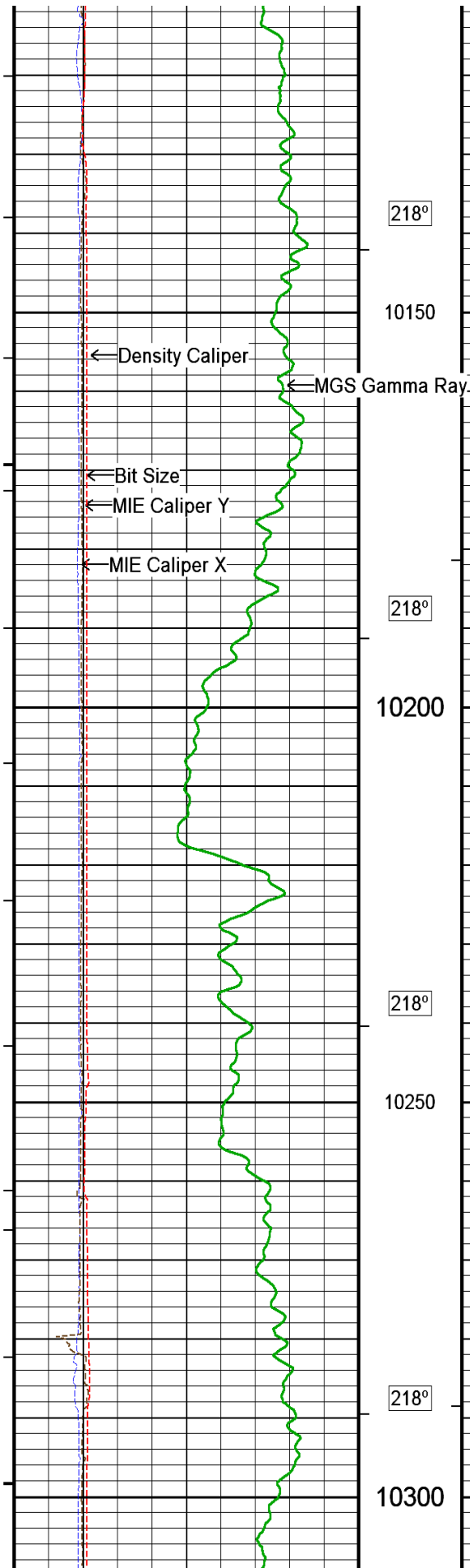
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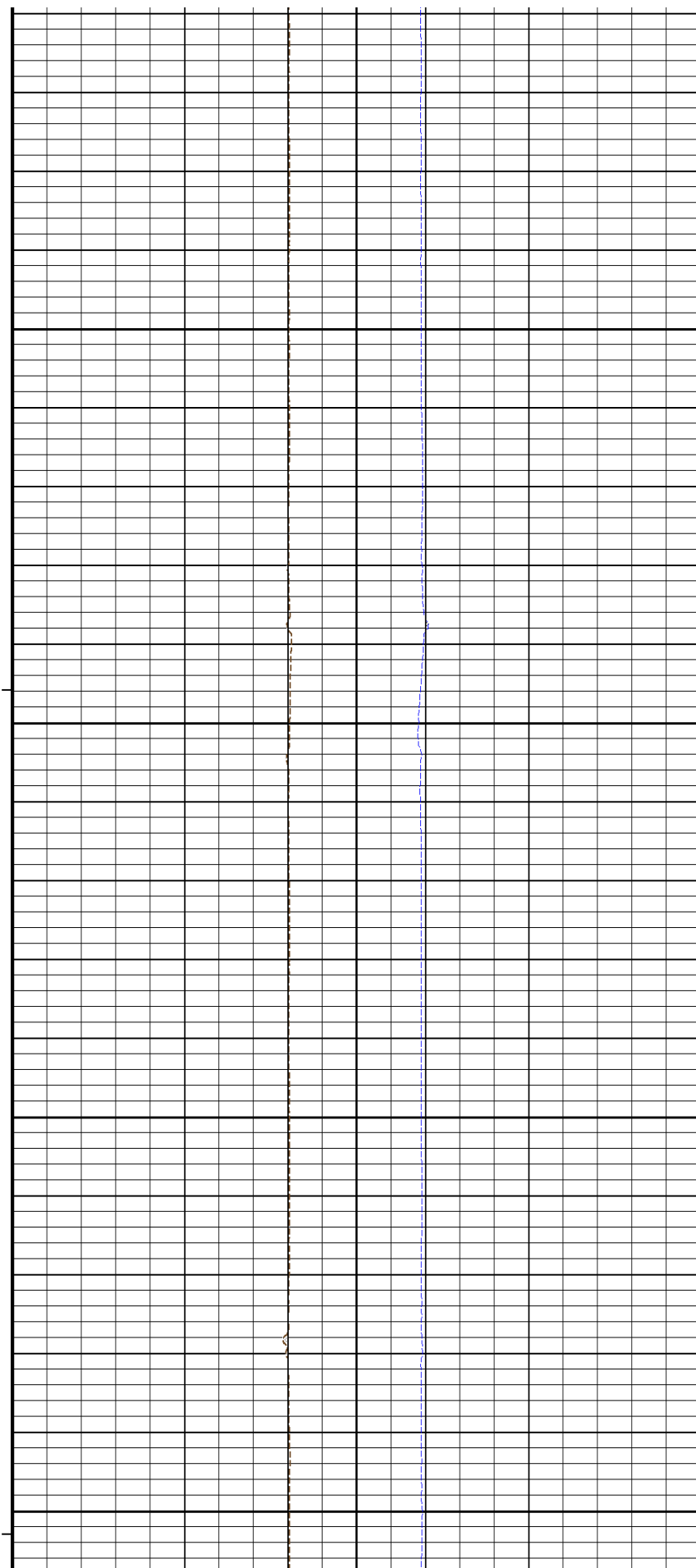
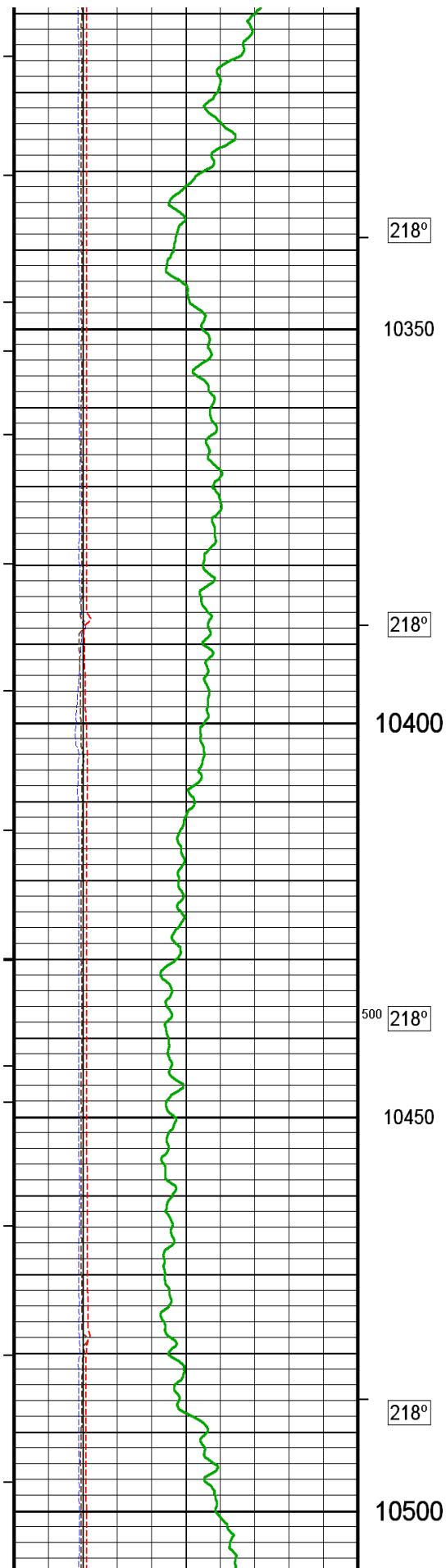
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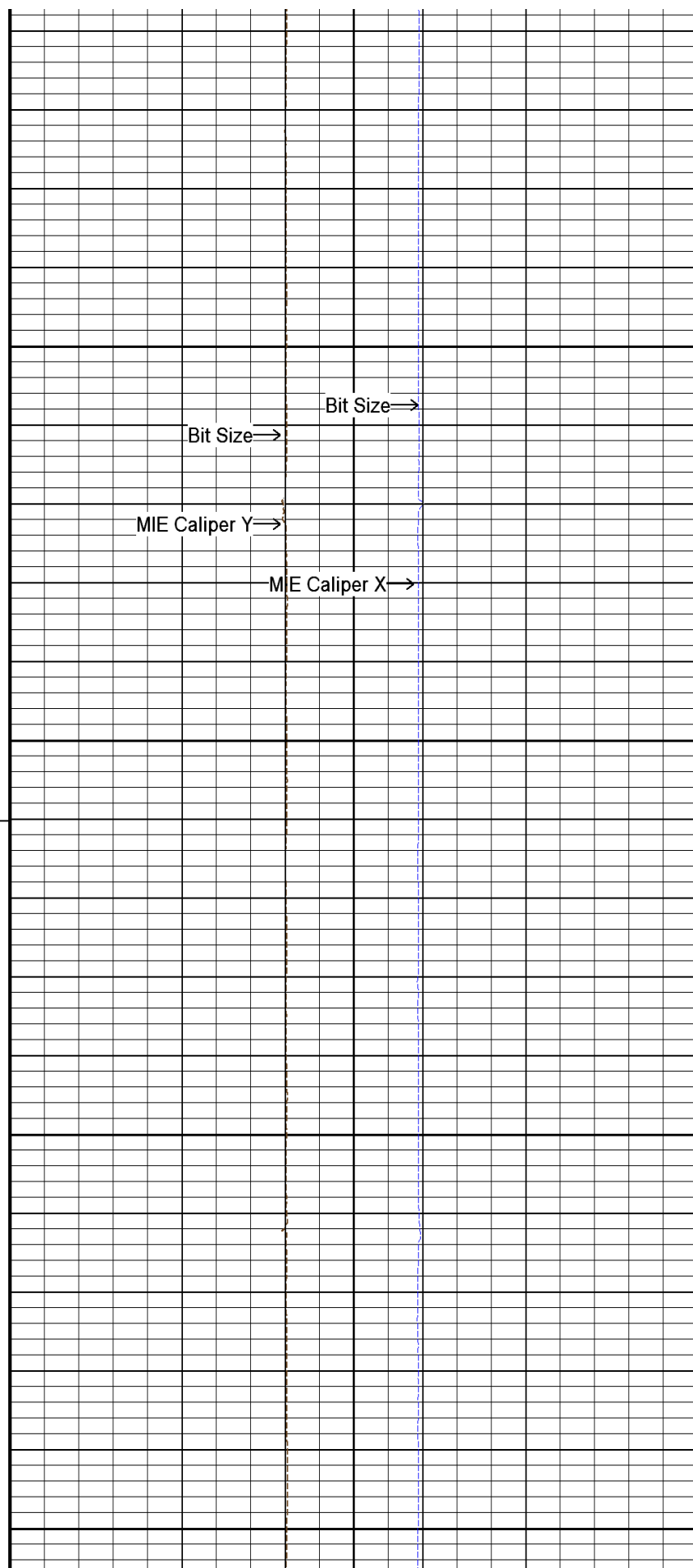
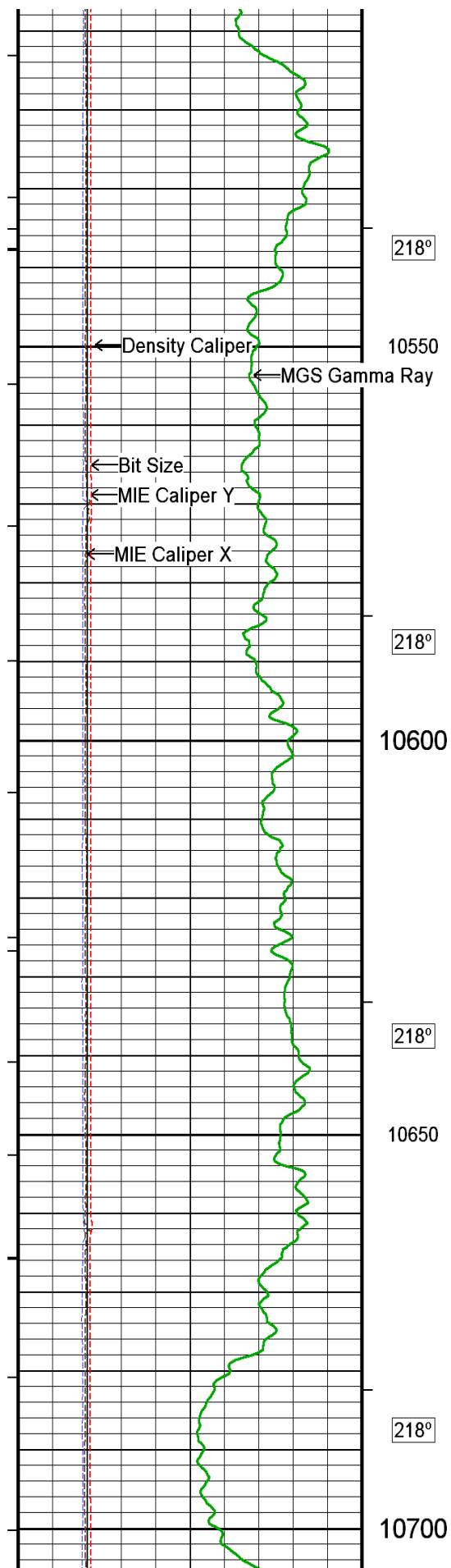


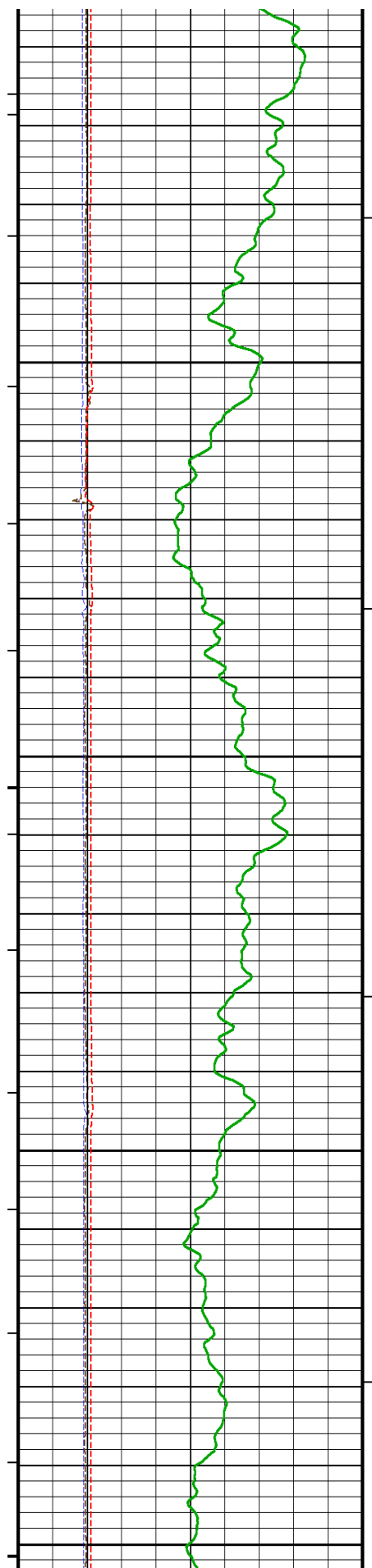












218°

10750

218°

10800

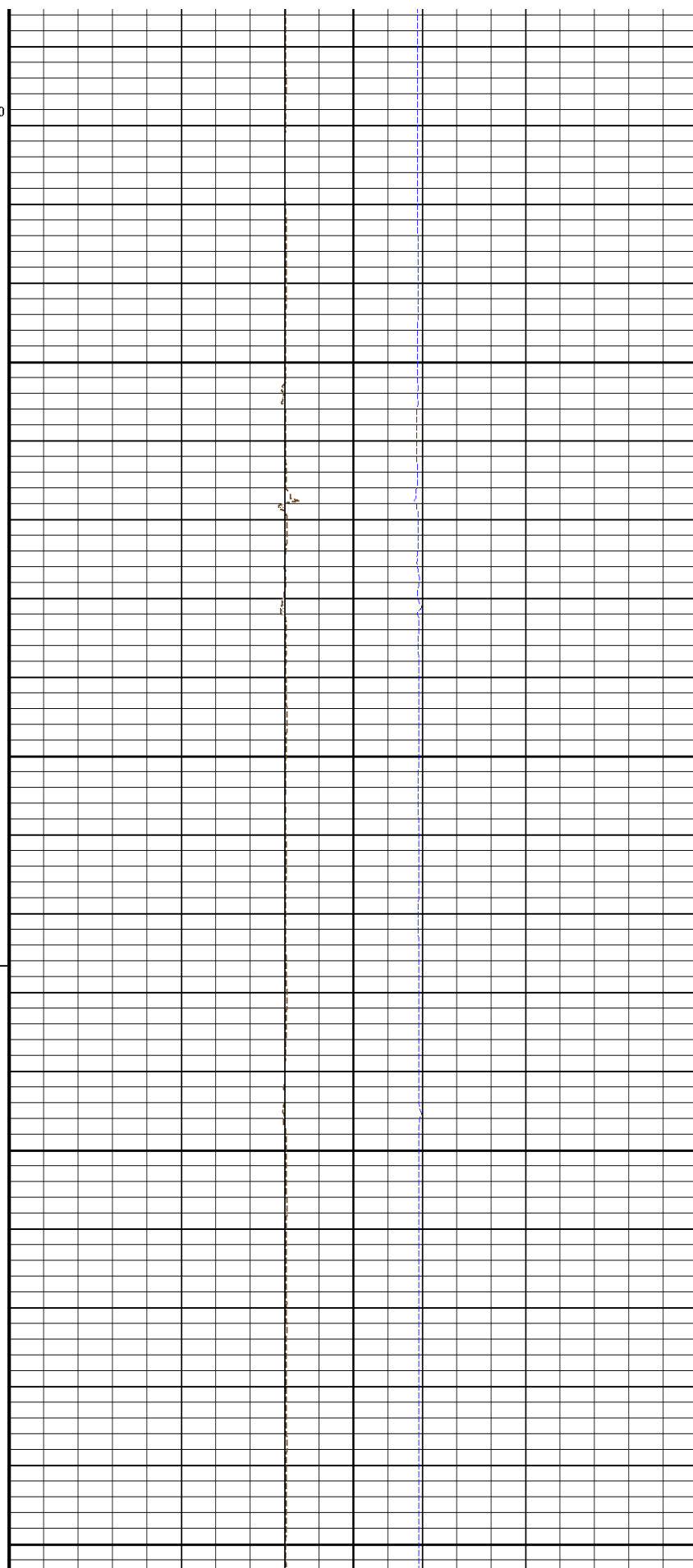
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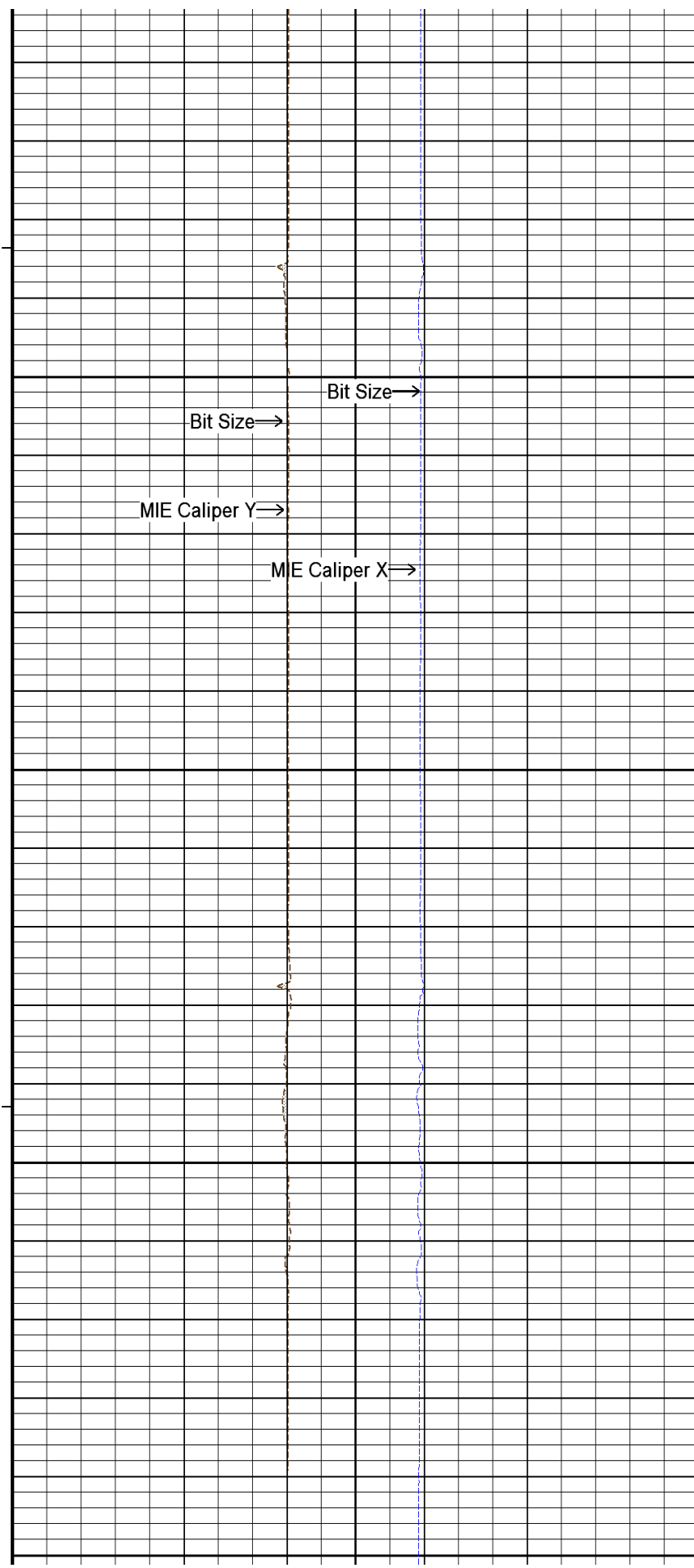
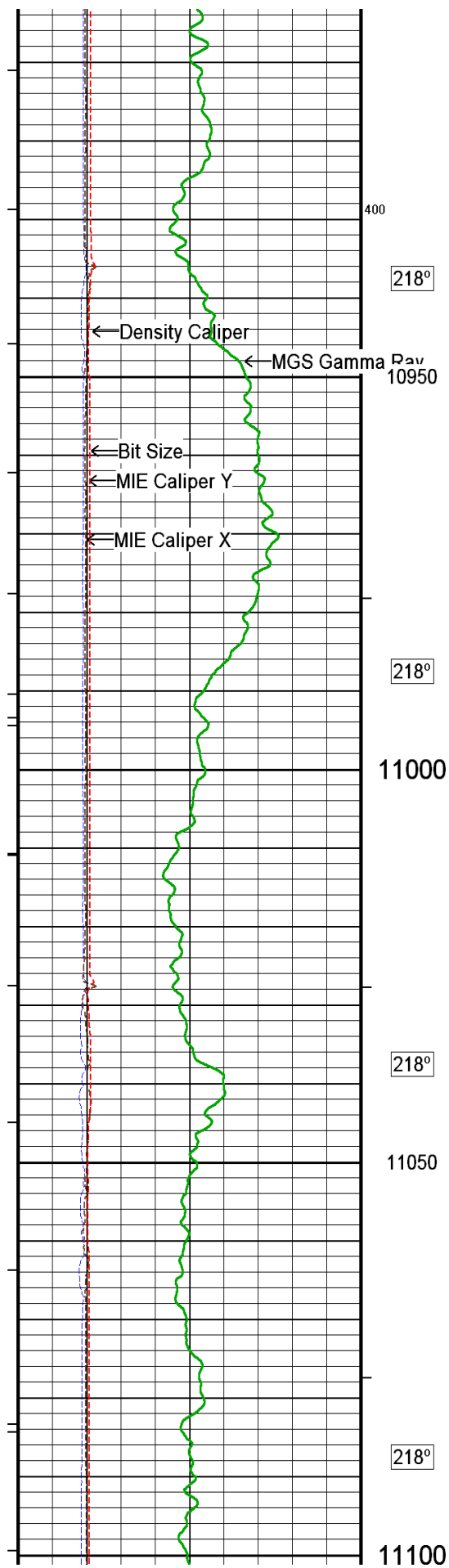
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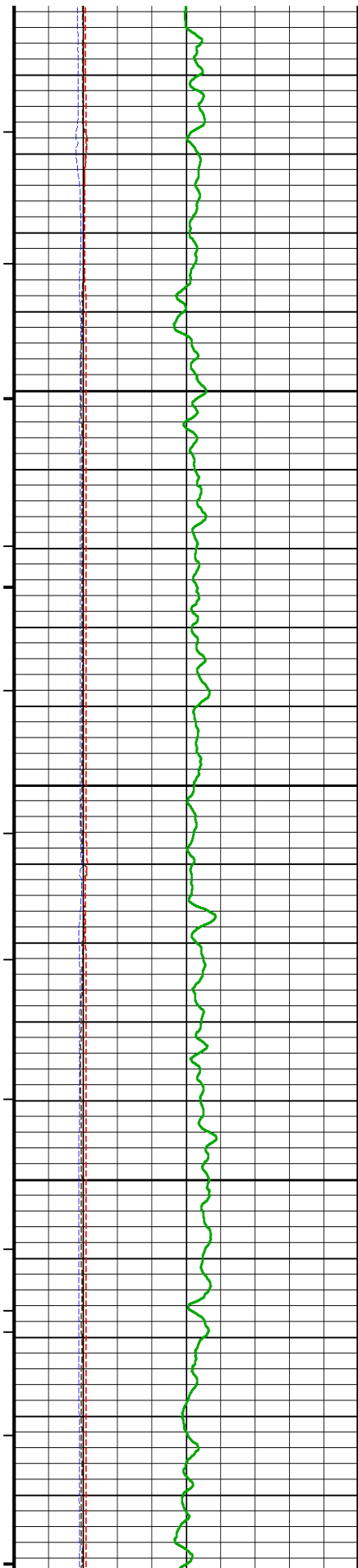
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10900

200







218°

11150

218°

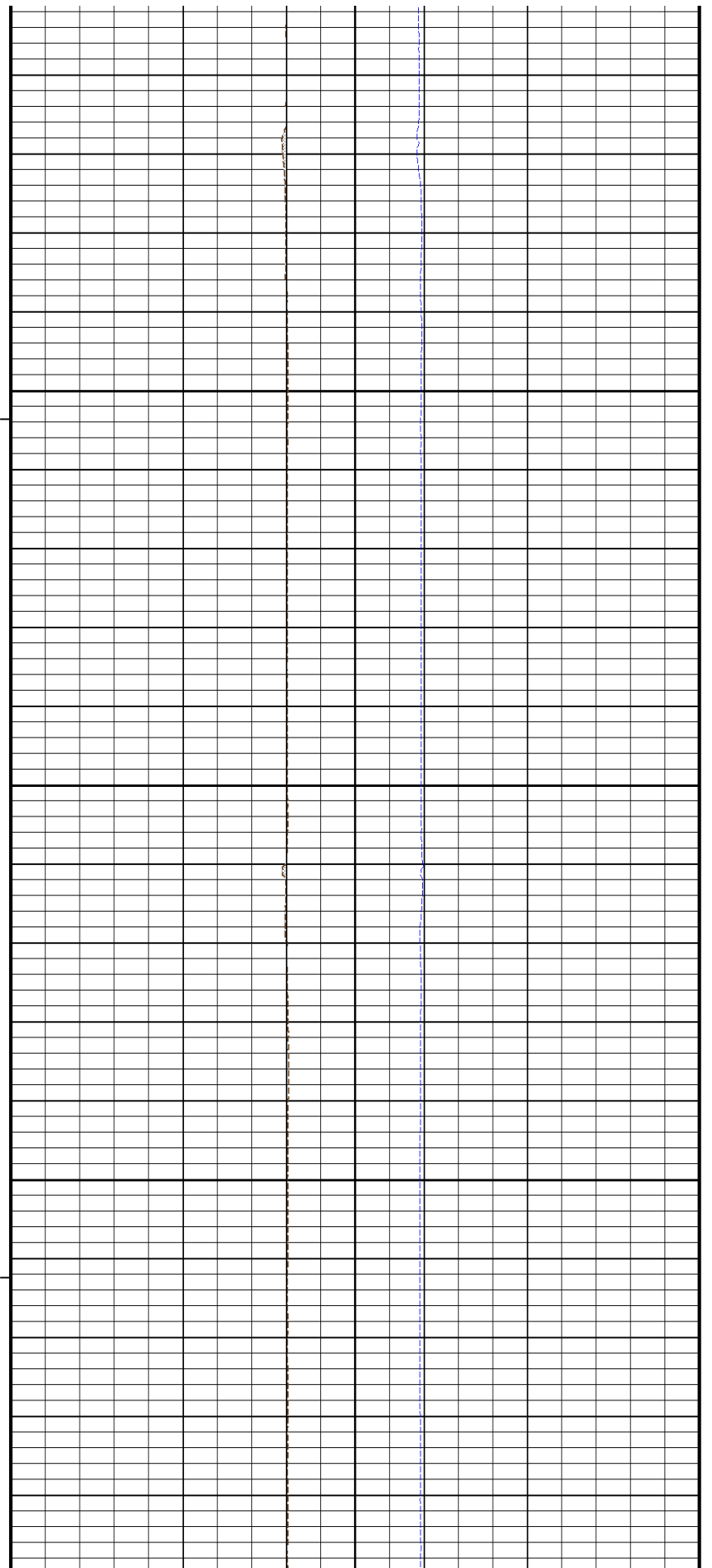
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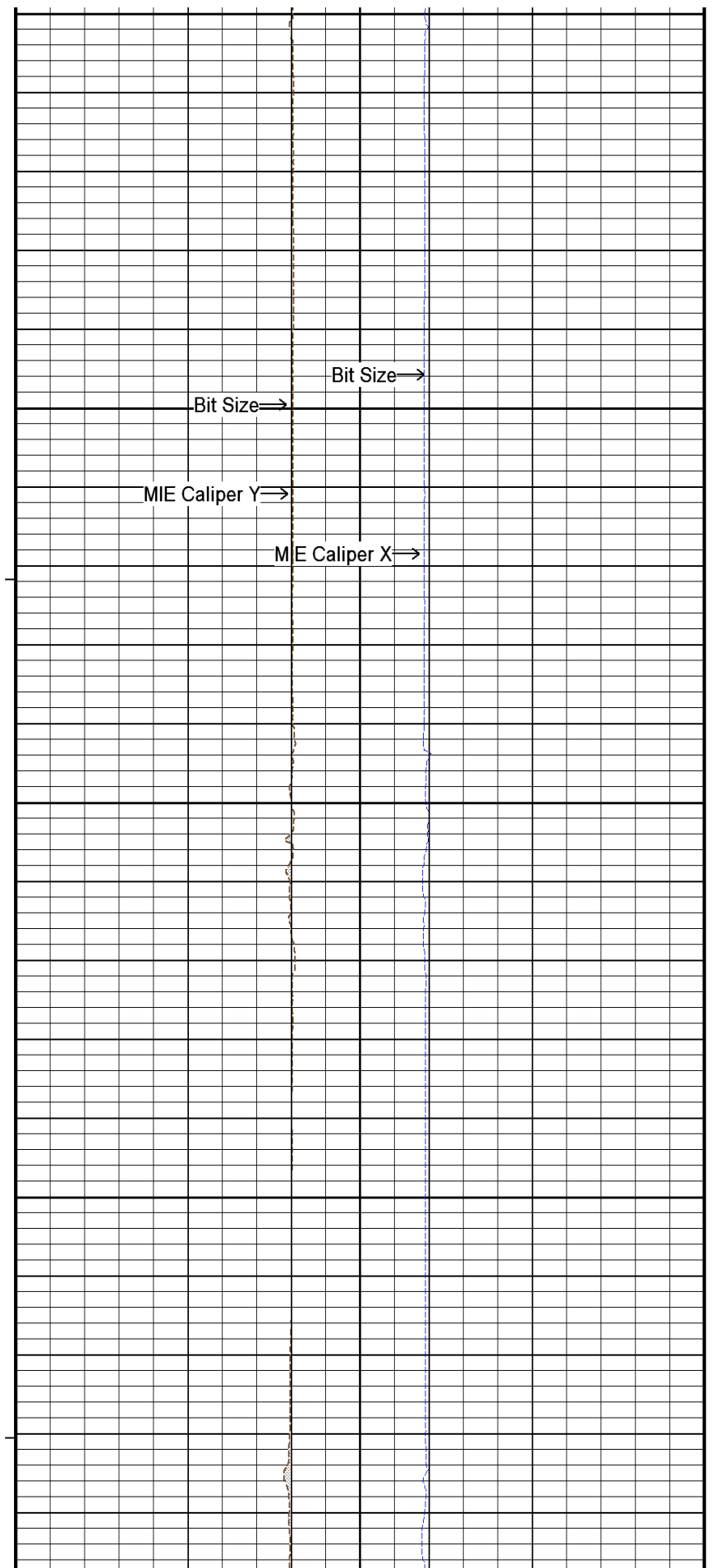
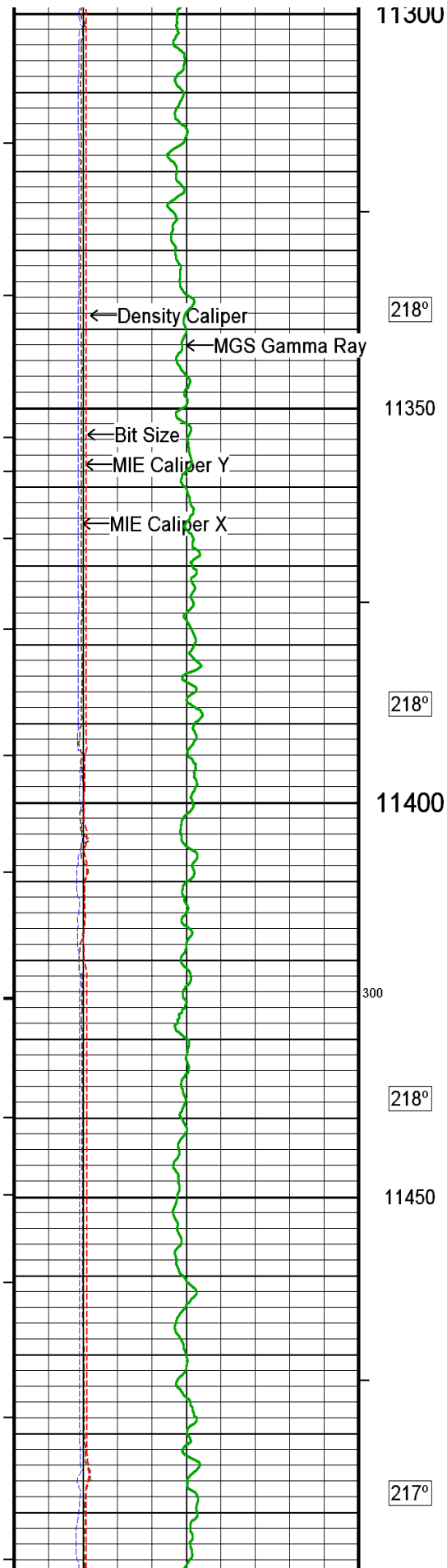
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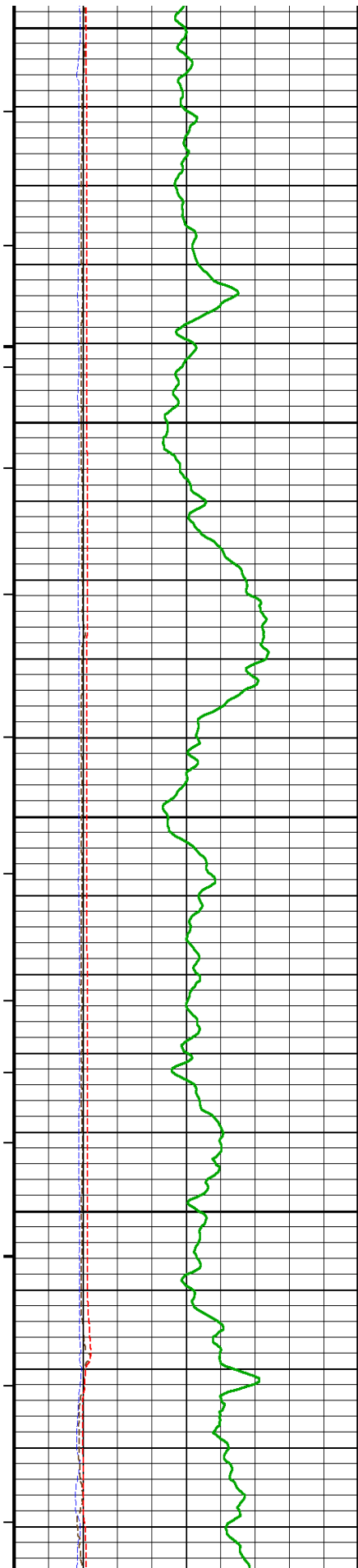
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11300







11500

218°

11550

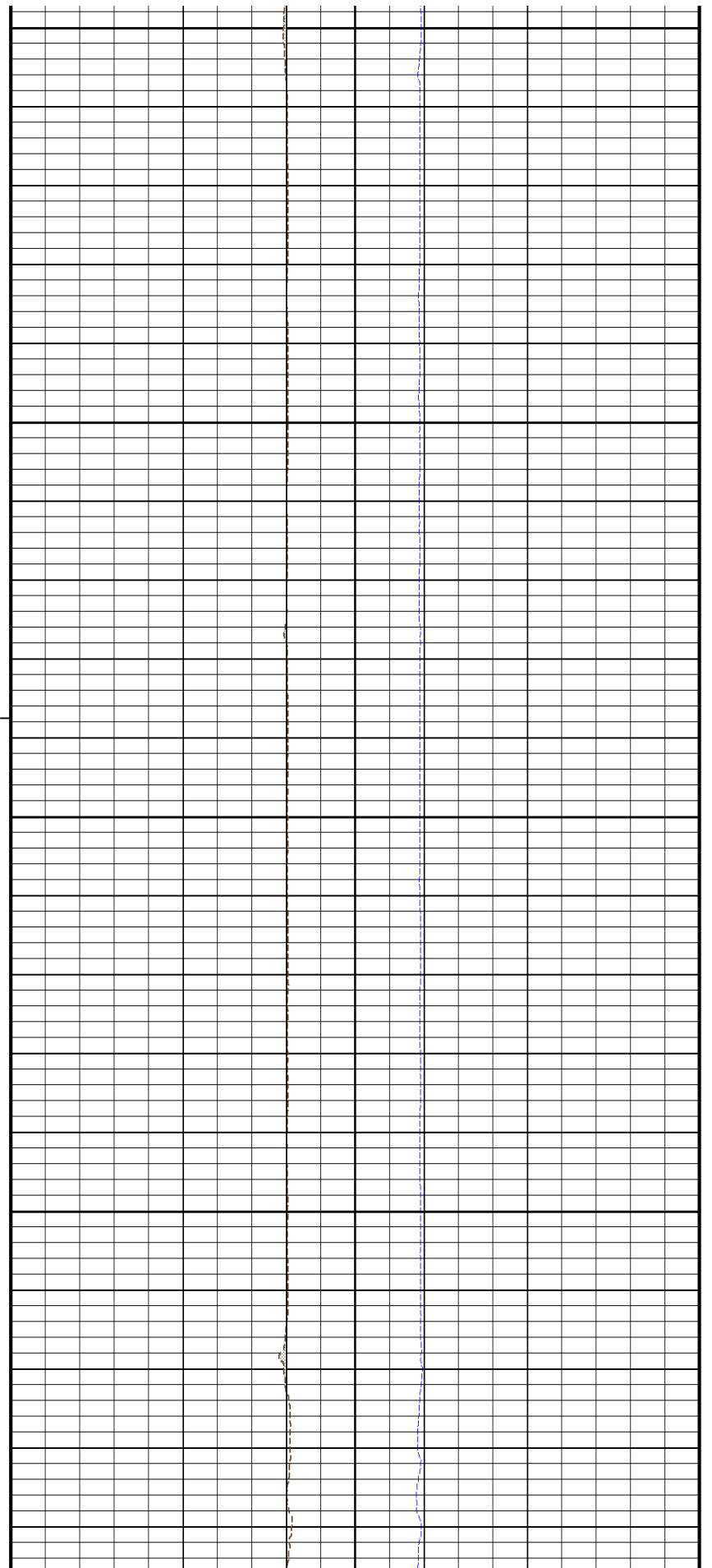
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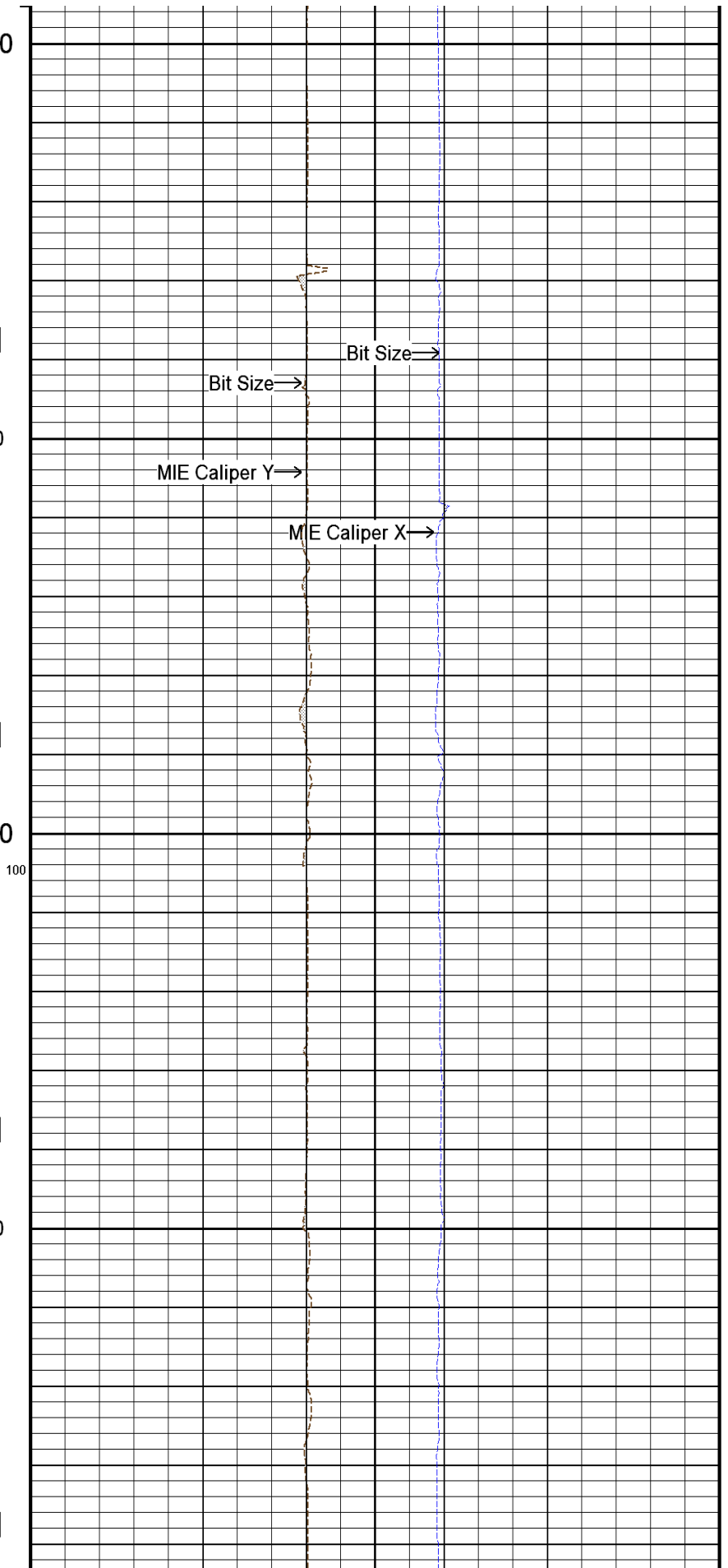
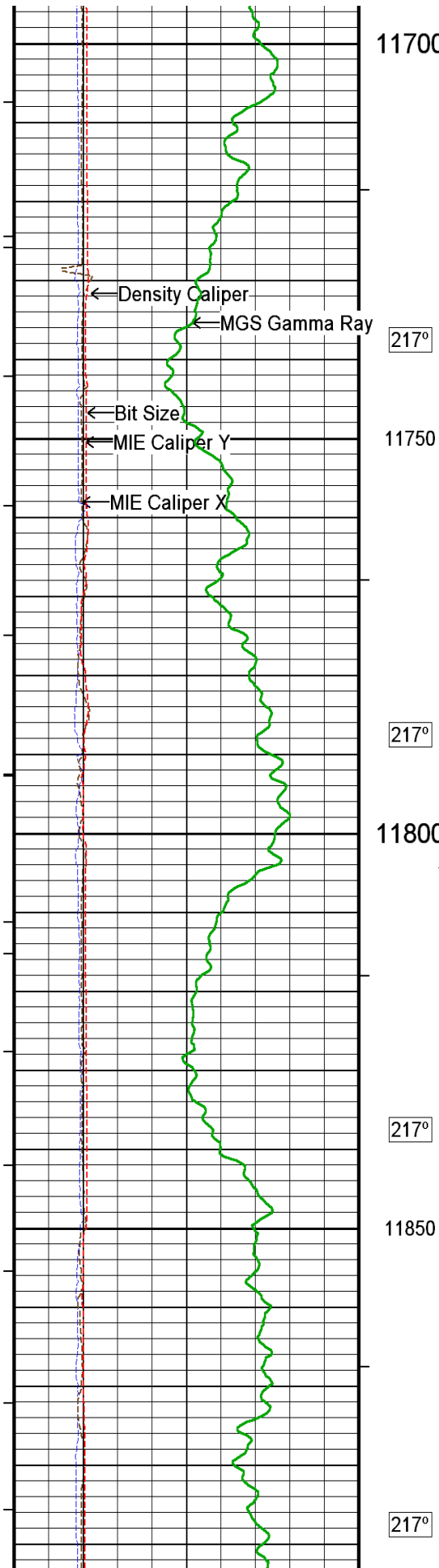
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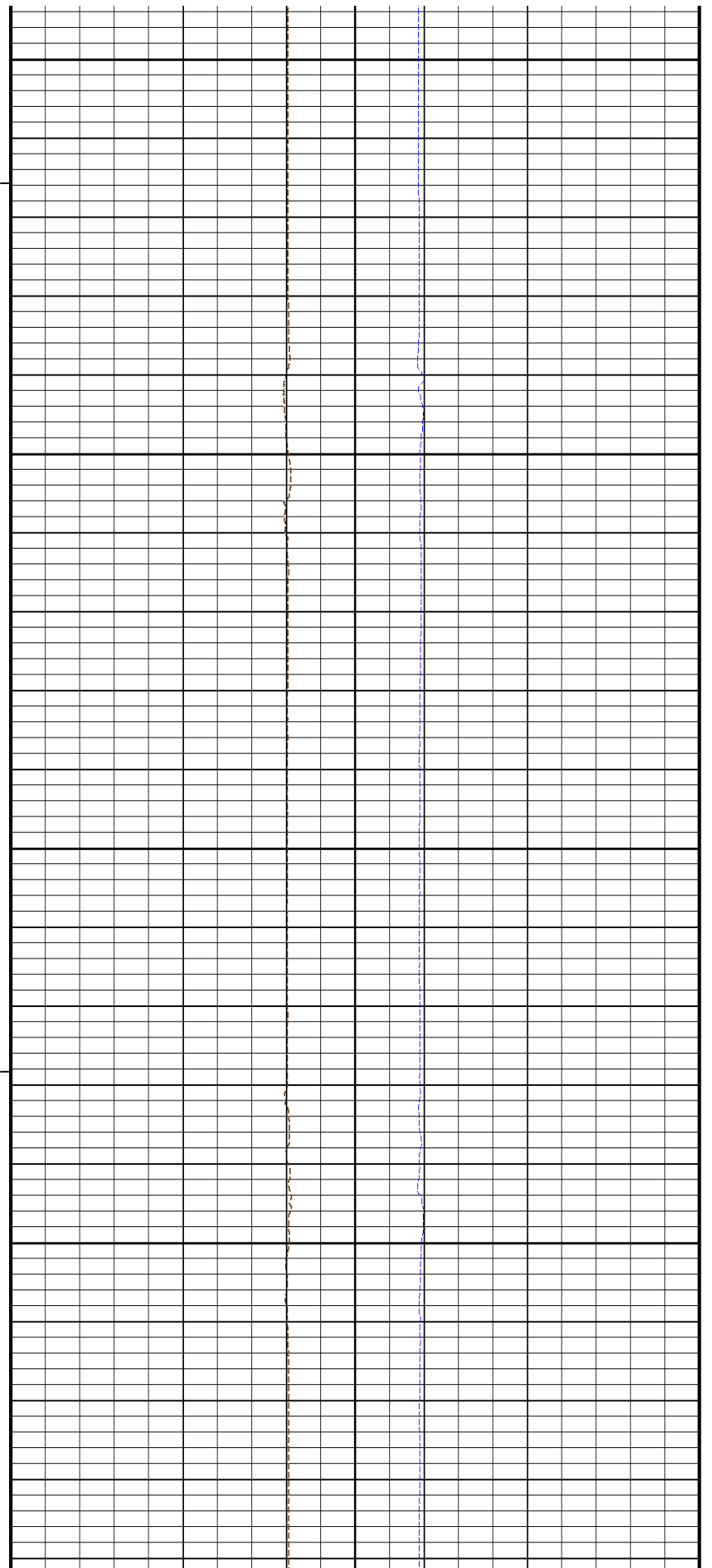
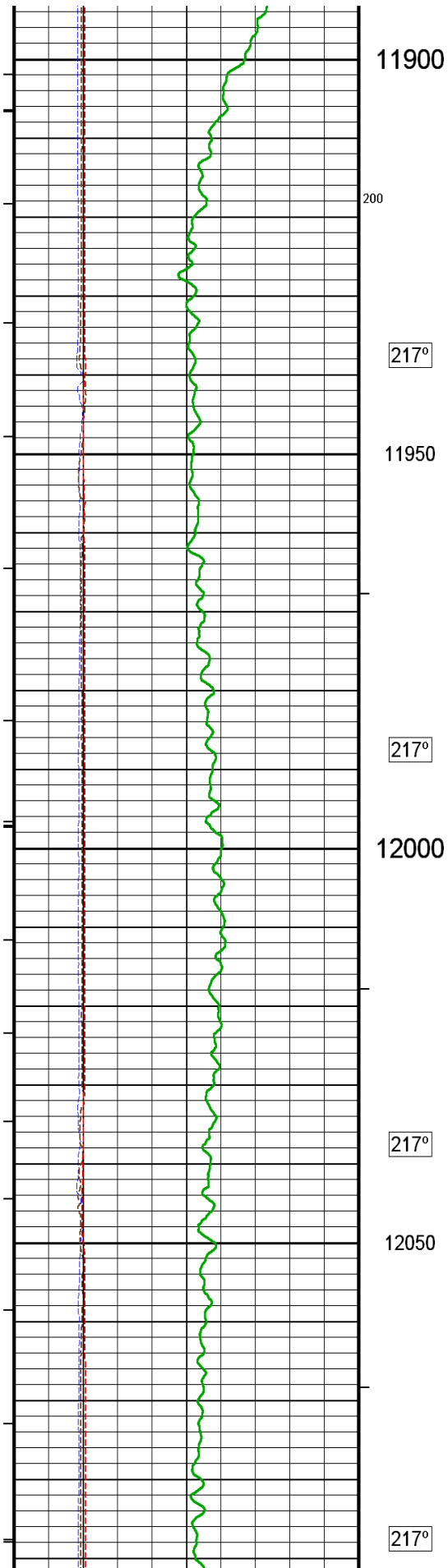
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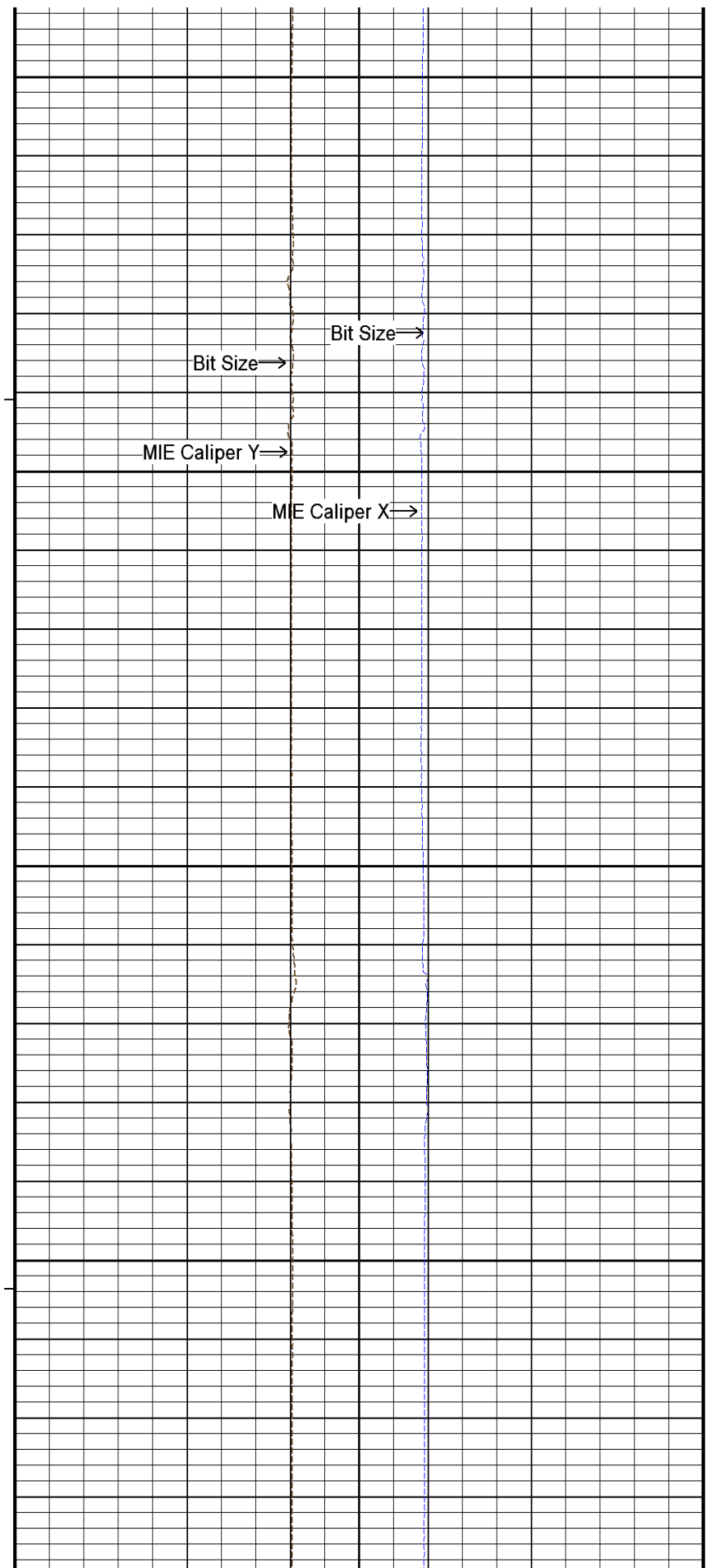
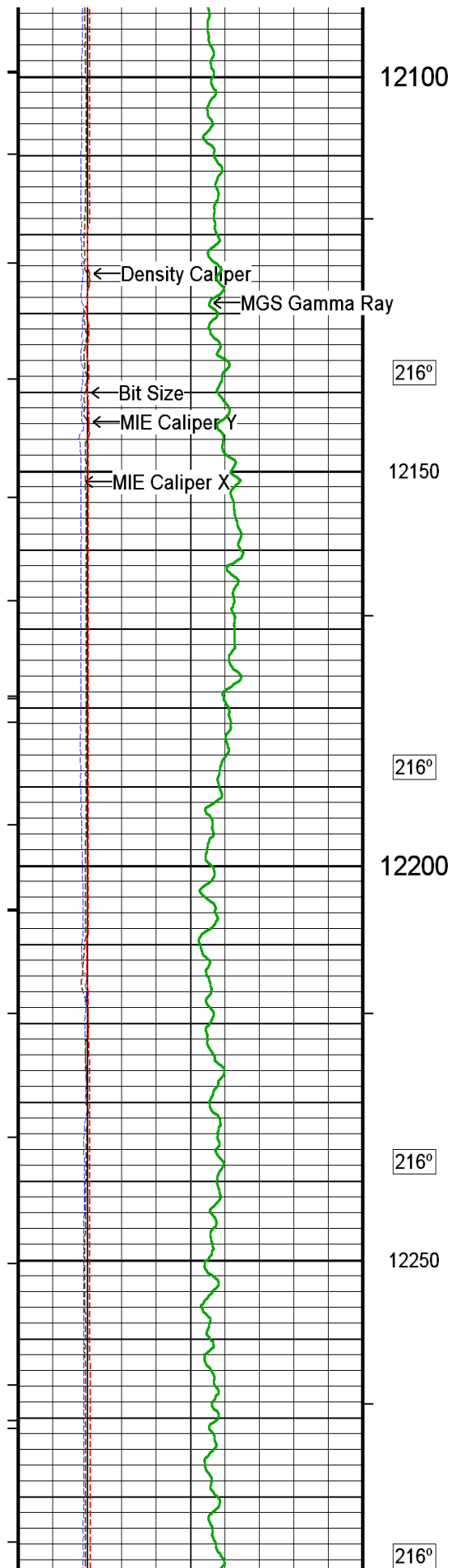
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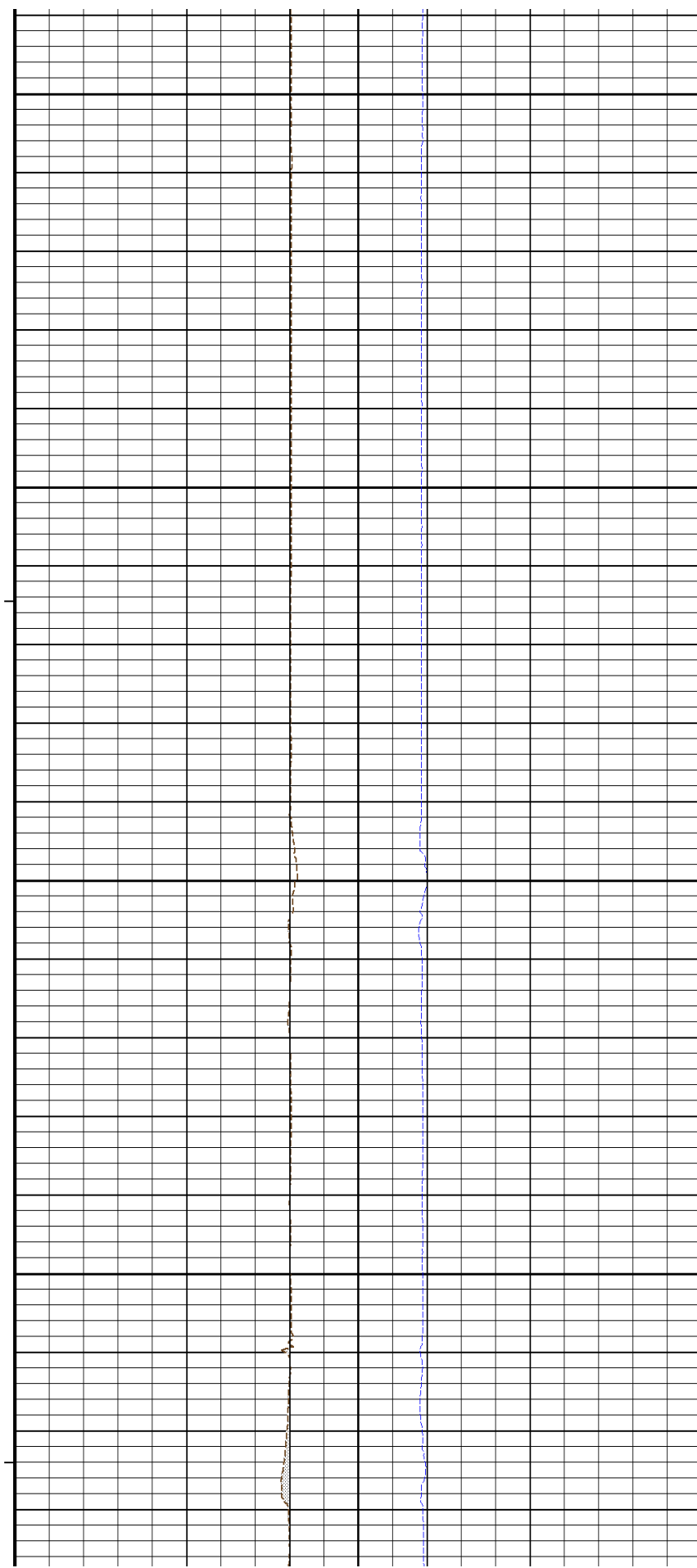
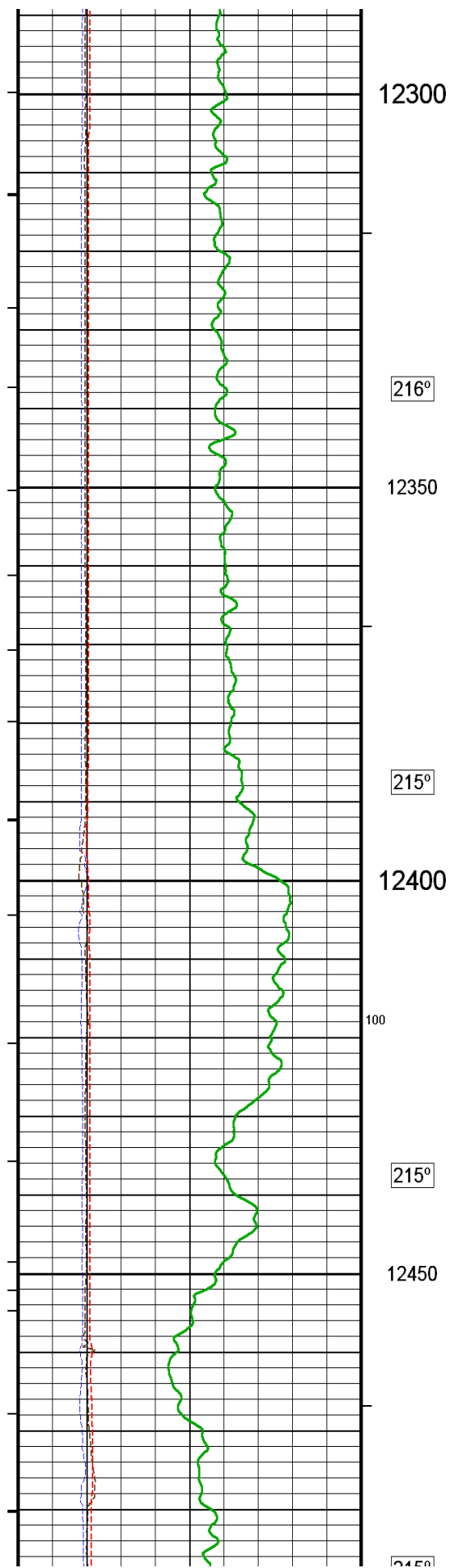
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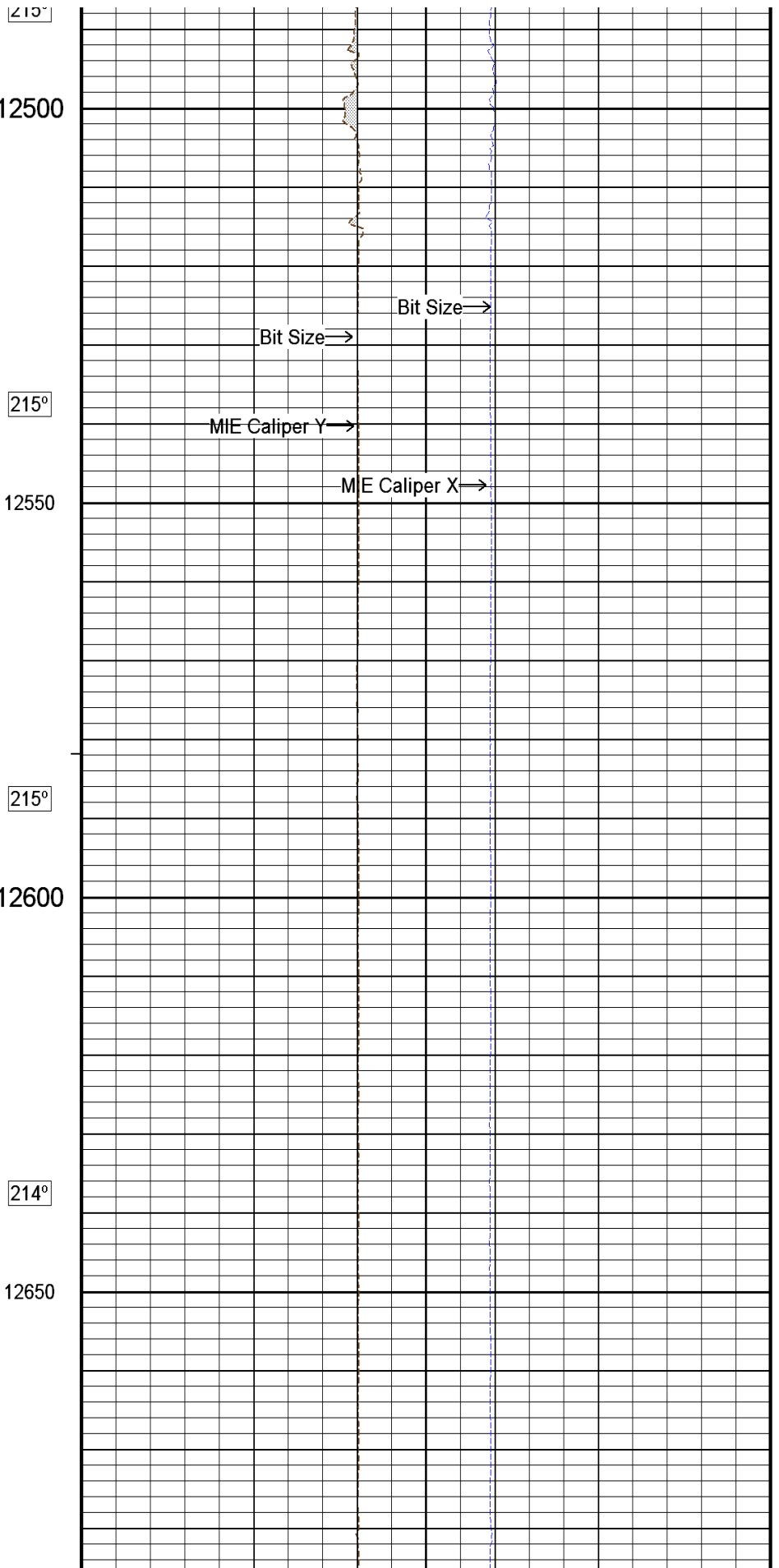
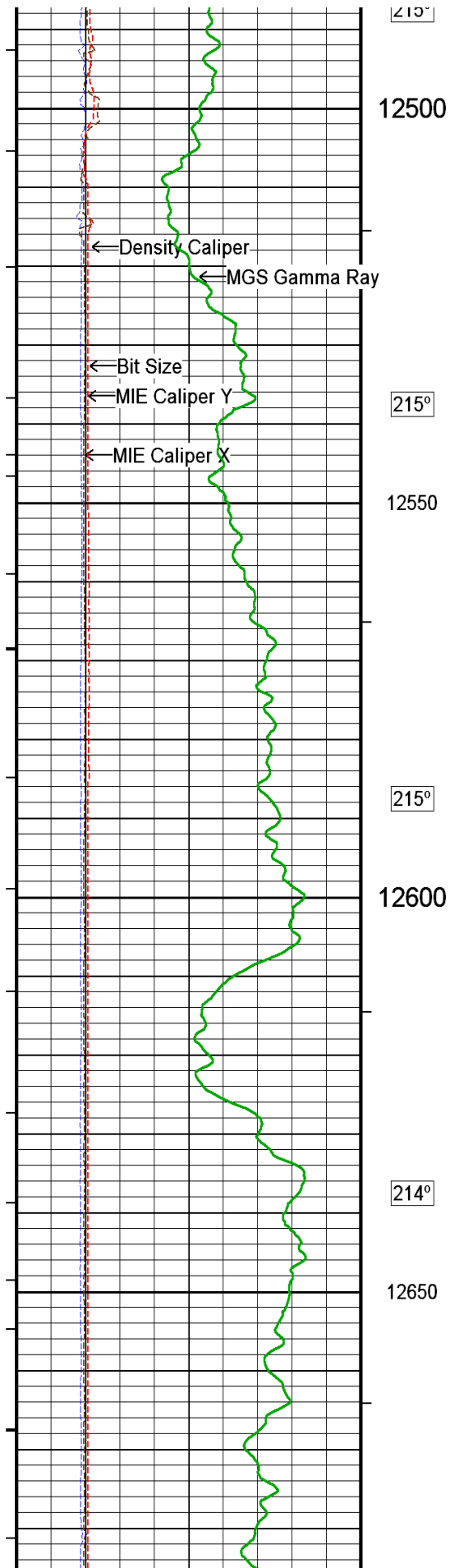


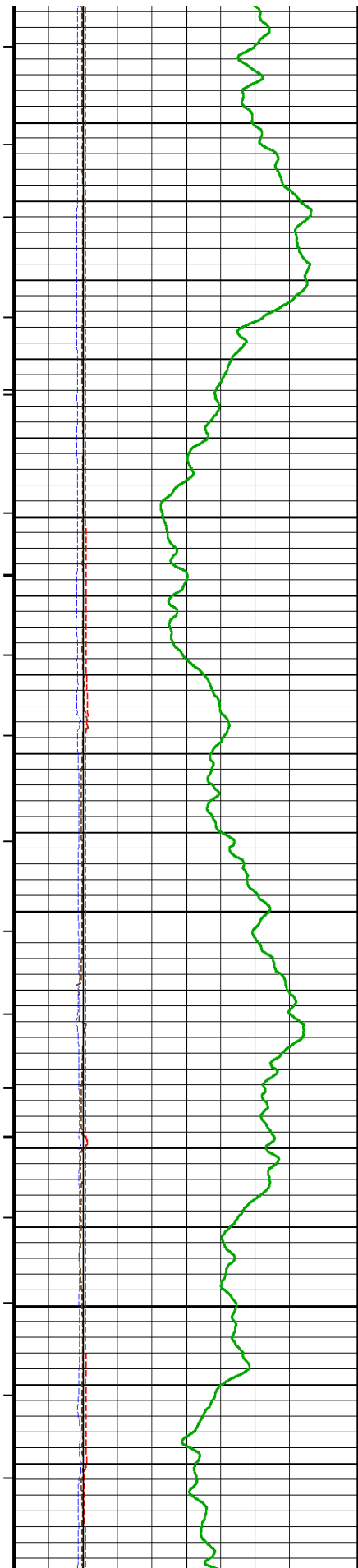












215°

12700

215°

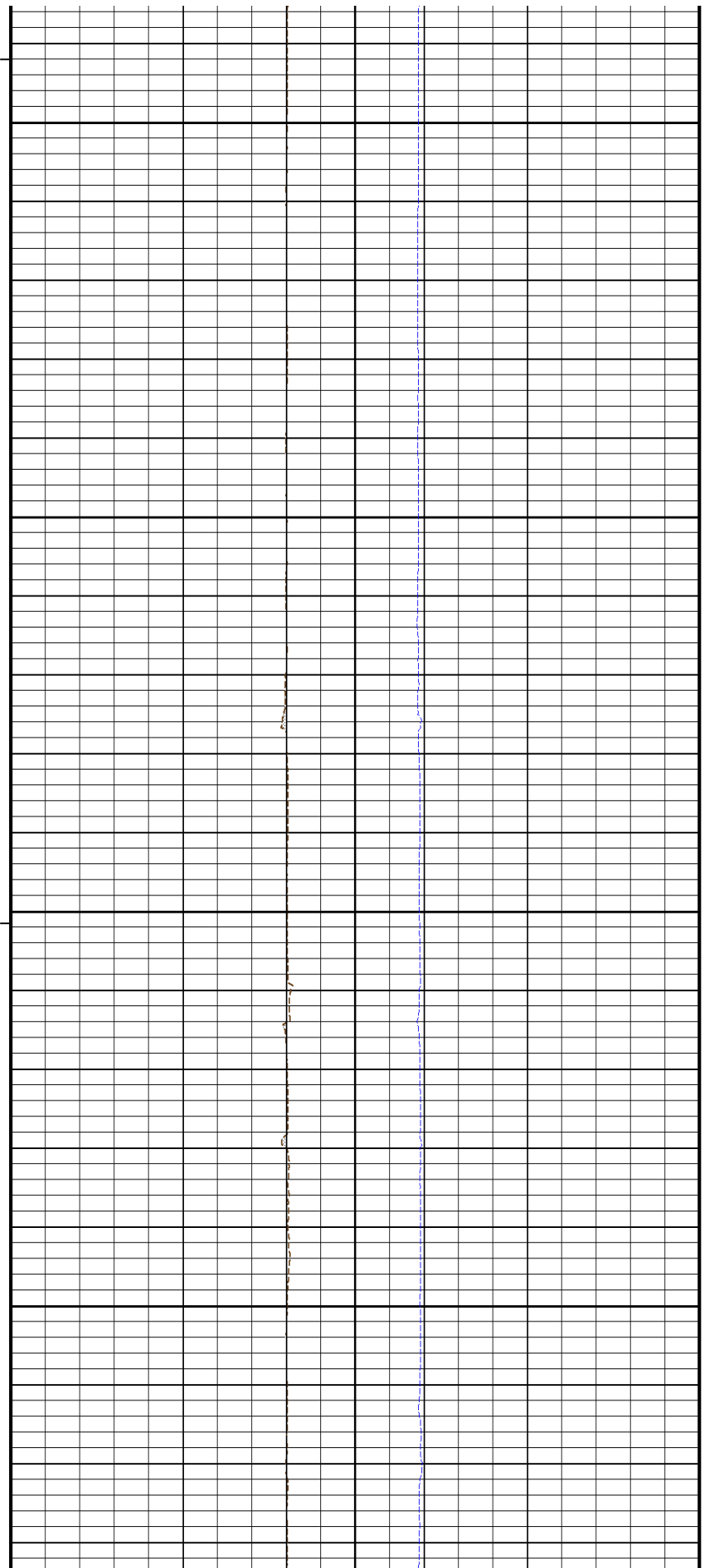
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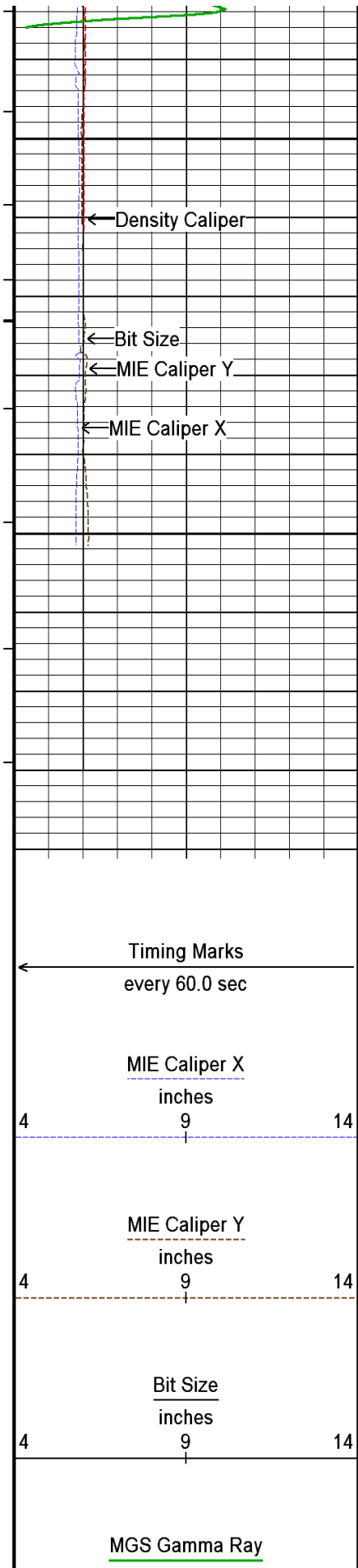
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12800

225°

12850





12900

0

12950

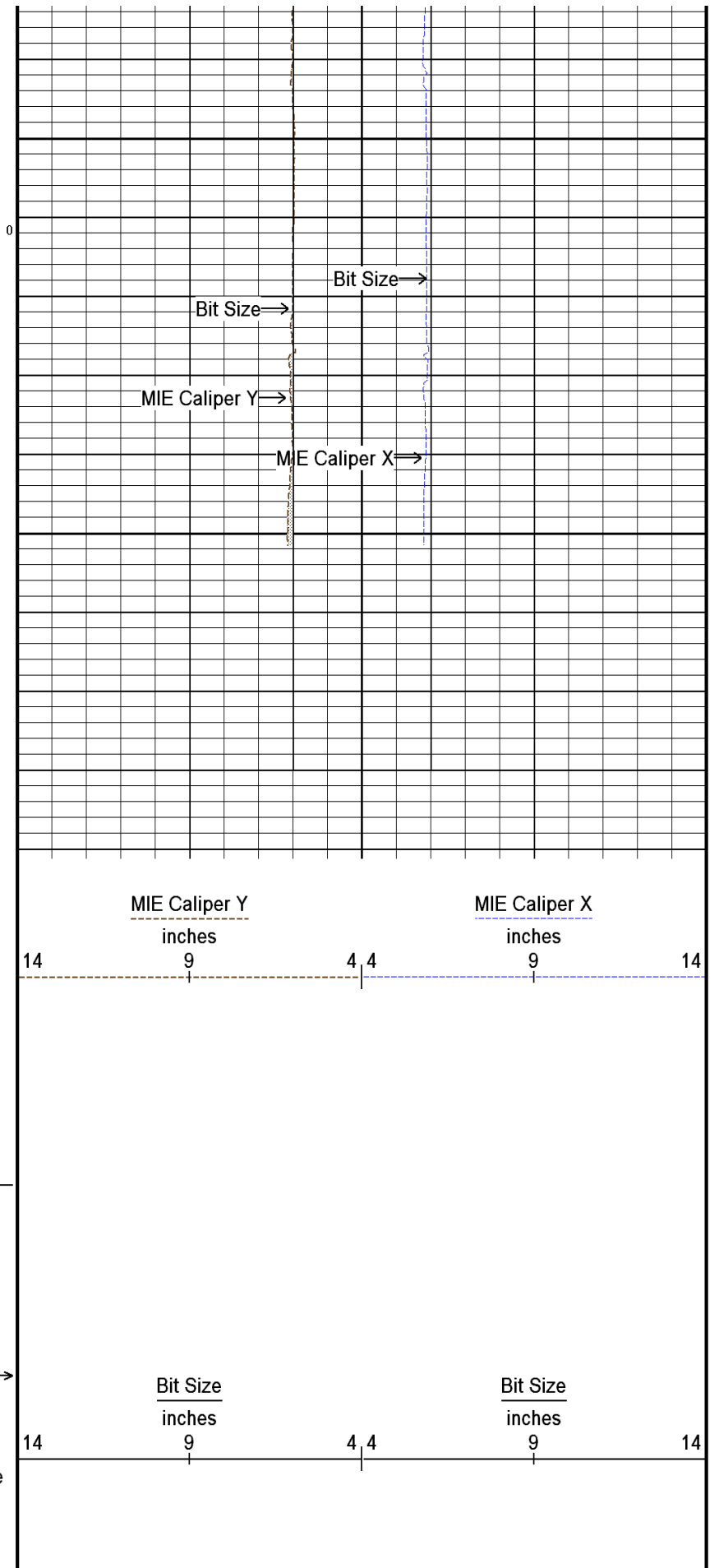
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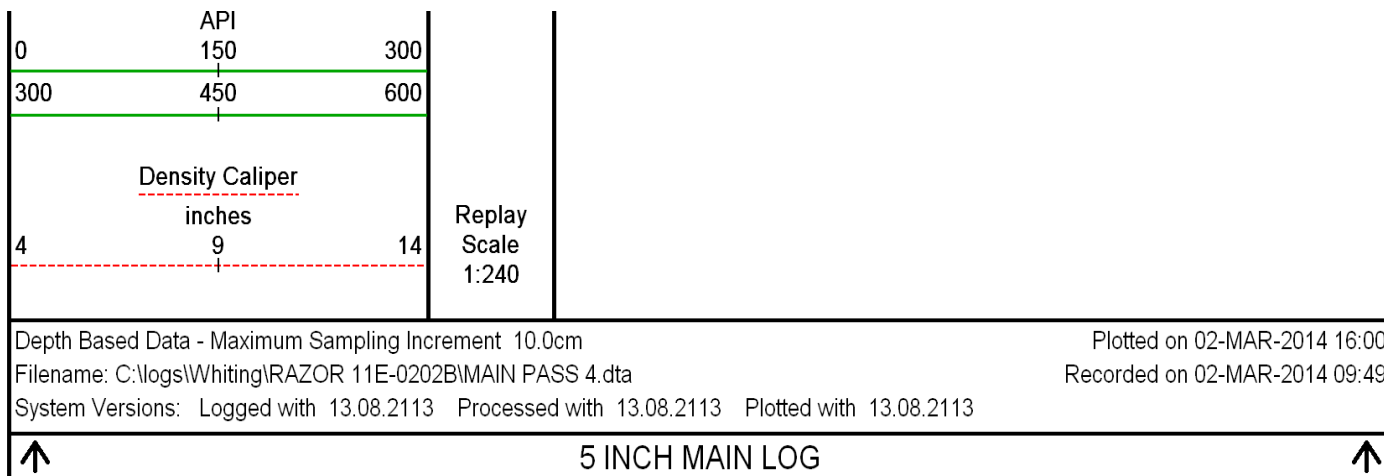
Depth
In
Feet

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Borehole
Temp in
deg F





BEFORE SURVEY CALIBRATION									
C:\logs\Whiting\RAZOR 11E-0202B\MAIN PASS 4.dta									
General Constants All 000					Last Edited on 02-MAR-2014, 14:20				
General Parameters									
Mud Resistivity	1.550				ohm-metres				
Mud Resistivity Temperature	60.500				degrees F				
Water Level	0.000				feet				
Borehole Fluid Processing	Wet Hole								
Hole/Annular Volume and Differential Caliper Parameters									
HVOL Method	Single Caliper								
HVOL Caliper 1	Density Caliper								
HVOL Caliper 2	N/A								
Annular Volume Diameter	4.500				inches				
Caliper for Differential Caliper	Density Caliper								
Rwa Parameters									
Porosity used	Base Density Porosity								
Resistivity used	Array Ind. Four Res Rt								
RWA Constant A	0.610								
RWA Constant M	2.150								
SW/APOR Tool Source	0.000								
Strain Gauge Constants MMS-F.A 248					Last Edited on				
Atmospheric Pressure	14.70				psi				
Serial Number	0								
Calibration Date	000000000000								
Base Check Date									
Dead Weight Serial Number	0								
Dead Weight Gravitational Correction	1.0								
Temperature	75.0		150.0		250.0		350.0		degrees F
Pressure psia	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	
0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
4000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
6000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
8000.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
10000.0	0.000		0.000		0.000		0.000		
Gamma Calibration MGS-D.A 220					Field Calibration on 28-FEB-2014 18:14				
	Measured		Calibrated (API)						
Background	122		86						

Calibrator (Gross)	876	620	
Calibrator (Net)	755	534	
Gamma Constants MGS-D.A 220			Last Edited on 02-MAR-2014,05:57
Gamma Calibrator Number	GRCC225		
Mud Density	1.13	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl		kppm	
K Mud Type	Chloride		
K Mud Concentration	0.00	%	
High Resolution Temperature Constants MGS-D.A 220			Last Edited on
Pre-filter Length	11		
Neutron Calibration MDN-B.J 430			Base Calibration on 23-FEB-2014 14:54 Field Check on 28-FEB-2014 17:24
Base Calibration			
	Measured		Calibrated (cps)
	Near	Far	Near Far
	2895	87	3714 110
Ratio	33.086		33.764
Field Calibrator at Base			
			Calibrated (cps)
			2347 3511
Ratio			0.668
Field Check			
			Calibrated (cps)
			2354 3525
Ratio			0.668
Neutron Constants MDN-B.J 430			Last Edited on 02-MAR-2014,05:58
Neutron Source Id	P31131B		
Neutron Jig Number	NJ6630		
Epithermal Neutron			
Caliper Source for Processing	Density Caliper		
Stand-off	0.00	inches	
Mud Density	1.00	gm/cc	
Limestone Sigma	7.10	cu	
Sandstone Sigma	7.00	cu	
Dolomite Sigma	4.70	cu	
Formation Pressure Source	Constant Value		
Formation Pressure	0.00	kpsi	
Temperature Source	Constant Value		
Temperature	68.00	degrees F	
Mud Salinity	0.00	kppm	
Salinity Correction	Not Applied		
Formation Fluid Salinity Source	None		
Formation Fluid Salinity	N/A	kppm	
Barite Mud Correction	Not Applied		
Magnetometer Parameters MIE-A.J 241			
Date Of Last Magnetometer Calibration	10-FEB-2014,13:55		
	X Magnetometer	Y Magnetometer	Z Magnetometer
Slope	-1.000000	-0.998919	-0.993681
Offset	-0.005406	-0.018443	-0.000425
Magnetometer Constants MIE-A.J 241			Last Edited on
Magnetometer Calibrator Number	000		
Accelerometer Parameters MIE-A.J 241			

Accelerometer Parameters MIE-A.J 241

Date Of Last Accelerometer Calibration	5-FEB-2014,12:22		
	X Accelerometer	Y Accelerometer	Z Accelerometer
Slope	-1.111493	-1.110645	-1.094119
Offset	-0.003998	0.009385	-0.004954

Accelerometer Constants MIE-A.J 241

Last Edited on 25-FEB-2014,10:14

Accelerometer Calibrator Number		000			
Accelerometer Temperature Characterisation					
X Accelerometer					
Serial Number		922			
Calibration Date		14-Nov-2010			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	1.98626e-005	-2.34772e-009	1.61466e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.59314e-004	4.64734e-007	5.67183e-010	
Y Accelerometer					
Serial Number		970			
Calibration Date		19-Jan-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	-4.23329e-006	-2.08894e-008	1.84400e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.61643e-004	3.45088e-007	8.15526e-010	
Z Accelerometer					
Serial Number		1076			
Calibration Date		05-May-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	-5.18602e-006	1.72429e-008	7.30746e-011	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.93462e-004	2.41183e-007	1.26400e-009	

Imager Pad Check MIE-A.J 241

Field Check on

Pad 1	Pad Not Tested	Pad 5	Pad Not Tested
Pad 2	Pad Not Tested	Pad 6	Pad Not Tested
Pad 3	Pad Not Tested	Pad 7	Pad Not Tested
Pad 4	Pad Not Tested	Pad 8	Pad Not Tested

Compact Micro Imager Constants MIE-A.J 241

Last Edited on 25-FEB-2014,10:14

Sonde Configuration	Imager Mode	
Arm-Pad Kit	Normal Pads (12.25 in)	
Arm-Pad Kit Serial Number		
Centre Pad 1 Rotational Offset	0.00	degrees
Image/Borehole Ovality Reference	Azimuth of Pad 1	
Non Active Buttons	Omit	
Search Angle	0.00	degrees
Correlation Interval	3.28	feet
Correlation Step	1.64	feet
Current Offset	0.0000	mAmp
Squasher Start	0.0500	mAmp
Image Processing	Enabled	

Caliper Calibration MIE-A.J 241

Base Calibration on 25-FEB-2014 10:20

Field Calibration on 25-FEB-2014 10:22


Base Calibration			
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)
1	26070	29343	5.97
2	36275	39676	7.96
3	46245	49623	9.86
4	56215	59570	11.86

4	58242	61303	11.92		
5	0	0	0.00		
Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	25543	25154	24646	25780	5.97
2	34553	33729	33057	34113	7.96
3	42990	42045	41215	42349	9.86
4	53114	51787	51257	52364	11.92
5	0	0	0	0	0.00
Field Calibration					
	Measured	Measured	Actual		
	Pads 1-5 Caliper(in)	Pads 3-7 Caliper(in)	Caliper(in)		
	7.97	7.99	7.96		
	Measured	Measured	Measured	Measured	Actual
	Pad 2 Caliper(in)	Pad 4 Caliper(in)	Pad 6 Caliper(in)	Pad 8 Caliper(in)	Caliper(in)
	3.97	3.97	3.99	4.00	7.96
Caliper Constants MIE-A.J 241					
Last Edited on 25-FEB-2014,10:14					
Caliper Difference for BRKT		0.120	inches		
Navigation Constants MIE-A.J 241					
Last Edited on					
Magnetic Declination		0.00	degrees	East	
Induction Calibration MAI-B.J 376					
Base Calibration on 29-JAN-2014,13:18					
Field Check on 28-FEB-2014 17:33					
Base Calibration					
Test Loop Calibration		Measured	Calibrated (mmho/m)		
Channel	Low	High	Low	High	
1	16.4	461.5	9.3	966.2	
2	5.9	377.0	7.6	821.4	
3	3.1	255.4	5.2	566.0	
4	1.7	130.3	2.6	279.2	
Array Temperature		73.8	Deg F		
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	13.1	3940.5	12.0	3938.4	
2	30.6	3580.3	30.3	3579.0	
3	29.7	3099.9	29.5	3098.7	
4	20.4	2122.6	20.3	2121.6	
Deep	18.7	2050.6	18.6	2049.5	
Medium	43.1	4058.3	43.0	4057.2	
Shallow	44.8	5254.3	44.4	5252.7	
Array Temperature		44.1	29.5	Deg F	
Induction Constants MAI-B.J 376					
Last Edited on 02-MAR-2014,06:01					
Induction Model		RtAP-WBM			
Caliper for Borehole Corr.		Density Caliper			
Hole Size for Borehole Correction		N/A	inches		
Tool Centred		No			
Stand-off Type		Fins			
Stand-off		0.50	inches		
Number of Fins on Stand-off		6.0000			
Stand-off Fin Angle		60.00	degrees		
Stand-off Fin Width		0.5000	inches		
Borehole Corr. Rm Source		Temperature Corr			
Temp. for Rm Corr.		MGS External Temperature			
Squasher Start		0.0020	mhos/metre		
Squasher Offset		N/A	mhos/metre		

Borehole Normalisation				
DRM1	0.0000	DRC1	0.0000	
DRM2	0.0000	DRC2	0.0000	
MRM1	0.0000	MRC1	0.0000	
MRM2	0.0000	MRC2	0.0000	
SRM1	0.0000	SRC1	0.0000	
SRM2	0.0000	SRC2	0.0000	
Calibration Site Corrections				
Channel 1		0.00	mmhos/metre	
Channel 2		0.00	mmhos/metre	
Channel 3		0.00	mmhos/metre	
Channel 4		0.00	mmhos/metre	
Apparent Porosity and Water Saturation Constants				
Archie Constant (A)		1.00		
Cementation Exponent (M)		2.00		
Saturation Exponent (N)		2.00		
Saturation of Water for Apor		100.00	percent	
Resistivity of Water for Apor and Sw		0.05	ohm-m	
Resistivity of Mud Filtrate for Sw		0.00	ohm-m	
Source for Rt		0.00		
Source for Rxo		0.00		
High Resolution Temperature Calibration MAI-B.J 376				
				Field Calibration on 01-FEB-2014, 12:48
	Measured	Calibrated(Deg F)		
Lower	0.00	0.00		
Upper	50.00	50.00		
High Resolution Temperature Constants MAI-B.J 376				
				Last Edited on 01-FEB-2014, 12:48
Pre-filter Length		11		
Caliper Calibration MPD-C.A 280				
				Base Calibration on 23-FEB-2014 15:15
				Field Calibration on 28-FEB-2014 17:30
Base Calibration				
Reading No	Measured	Calibrator Size (in)		
1	16617	4.01		
2	24813	5.97		
3	33200	7.96		
4	41377	9.86		
5	50608	11.92		
6	N/A	N/A		
Field Calibration				
	Measured Caliper (in)	Actual Caliper (in)		
	5.89	5.97		
Photo Density Calibration MPD-C.A 280				
				Base Calibration on 23-FEB-2014 16:44
				Field Check on 28-FEB-2014 17:28
Density Calibration				
Base Calibration				
	Near	Measured Far	Near	Calibrated (sdu) Far
Background	1330	1358		
Reference 1	55743	27432	59443	30683
Reference 2	22692	2559	25113	2508
Field Check at Base				
	1330.5	1357.5		
Field Check				
	1337.9	1365.3		
RF Calibration				

PE Calibration		Measured		Calibrated	
Base Calibration	WS	WH	Ratio	Ratio	
Background	242	1189			
Reference 1	22204	55526	0.404	0.372	
Reference 2	6159	22539	0.277	0.268	
Field Check at Base					
	241.8	1189.3			
Field Check					
	241.3	1196.2			
Density Constants MPD-C.A 280				Last Edited on 28-FEB-2014,17:03	
Density Source Id	P21136B				
Nylon Calibrator Number	652				
Aluminium Calibrator Number	659				
Density Shoe Profile	4 inch				
Caliper Source for Processing	Density Caliper				
PE Correction to Density	Not Applied				
Mud Density	1.00		gm/cc		
Mud Density Z/A Multiplier	1.11				
Mud Filtrate Density	1.00		gm/cc		
Dry Hole Mud Filtrate Density	1.00		gm/cc		
DNCT	0.00		gm/cc		
CRCT	0.00		gm/cc		
Density Z/A Correction	Hybrid				
Matrix Density (gm/cc)	Depth (ft)				
2.71	0.00				
0.00	0.00				
0.00	0.00				
0.00	0.00				
0.00	0.00				
0.00	0.00				
0.00	0.00				
0.00	0.00				
Spectral Gamma Calibration SGS-E.J 135					
				Base Calibration on 13-FEB-2014 13:52	
				Field Calibration on 13-FEB-2014 13:30	
Base Calibration					
Potassium Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	135.5	48.4	5.5	2.1	2.8
Calibrator (Gross)	269.1	137.7	32.3	3.4	3.2
Calibrator (Net)	133.6	89.3	26.8	1.4	0.4
	K %	U ppm	Th ppm		
Concentrations	5.9	0.0	0.0		
Uranium Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	135.5	48.4	5.5	2.1	2.8
Calibrator (Gross)	583.7	209.5	19.2	12.7	6.3
Calibrator (Net)	448.2	161.1	13.7	10.6	3.5
	K %	U ppm	Th ppm		
Concentrations	0.0	16.6	0.0		
Thorium Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	135.5	48.4	5.5	2.1	2.8
Calibrator (Gross)	448.6	167.7	13.9	7.6	18.0
Calibrator (Net)	313.1	119.3	8.4	5.5	15.2

Concentrations	K % 0.0	U ppm 0.0	Th ppm 44.7		
Mixture Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	135.5	48.4	5.5	2.1	2.8
Calibrator (Gross)	923.7	381.5	50.0	16.4	20.7
Calibrator (Net)	788.2	333.1	44.4	14.3	18.0
Field Calibration					
Gamma Ray					
	Measured		Calibrated (API)		
Background	202		40		
Calibrator (Gross)	1400		280		
Calibrator (Net)	1198		240		
Mixture Calibrator					
	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	135.5	48.4	5.5	2.1	2.8
Calibrator (Gross)	923.7	381.5	50.0	16.4	20.7
Calibrator (Net)	788.2	333.1	44.4	14.3	18.0
Spectral Gamma Constants				SGS-E.J 135	
				Last Edited on 02-MAR-2014,06:00	
Background Calibrator Number	440				
Mixture Calibrator Number	450				
Potassium Calibrator Number	500				
Uranium Calibrator Number	506				
Thorium Calibrator Number	503				
Mud Density	1.13		gm/cc		
Caliper Source for Processing	Density Caliper				
Tool Position	Eccentred				
Concentration of KCl			kppm		
K Mud Type	Chloride				
K Mud Concentration	0.00		%		

DOWNHOLE EQUIPMENT	
C:\logs\Whiting\RAZOR 11E-0202B\MAIN PASS 4.dta	
Shuttle Running Tool 3.5" (SRT A)	
SRT-A 8 LG: 6.47 ft WT: 37.5 lb OD: 2.520 in	
SKJ-D.A Compact Knuckle Joint	
SKJ-D.A 106 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in	
MIS-E.B Compact Inline Standoff sub	
MIS-E.B 693 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in	
Compact Linker	
MLK-A 1 LG: 8.52 ft WT: 30.9 lb OD: 2.205 in	
Compact Linker	
MLK-A 2 LG: 14.23 ft WT: 30.9 lb OD: 2.205 in	
SKJ-D.A Compact Knuckle Joint	
SKJ-D.A 217 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in	
MBS-F.A 200v Compact Battery Sub	

MBS-F.A 120 LG: 17.06 ft WT: 123.5 lb OD: 2.205 in

Compact Memory Sub F.A

MMS-F.A 248 LG: 5.20 ft WT: 37.5 lb OD: 2.244 in

Compact Tool Isolator sub.

MTI-B.A 64 LG: 1.54 ft WT: 13.2 lb OD: 2.244 in

Compact Short Gamma

MGS-D.A 220 LG: 3.41 ft WT: 24.3 lb OD: 2.244 in

Compact Collar Locator

MCL-C.A 128 LG: 3.17 ft WT: 26.5 lb OD: 2.244 in

SKJ-E.B Compact Knuckle Joint

SKJ-E.B 610 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

SHA-J.B Compact Swivel Head Adaptor

SHA-J.B 682 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 811 LG: 5.70 ft WT: 33.1 lb OD: 2.205 in

Compact Neutron

MDN-B.J 430 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-C.A 280 LG: 9.59 ft WT: 90.4 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 654 LG: 5.70 ft WT: 33.1 lb OD: 2.205 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 316 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

SKJ-E.A Compact Knuckle Joint

SKJ-E.A 410 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-E.B Compact Inline Standoff sub

MIS-E.B 662 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

SKJ-E.B Compact Knuckle Joint

SKJ-E.B 603 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 709 LG: 5.70 ft WT: 33.1 lb OD: 2.205 in

Compact MMI Memory Section

MIM-A.J 244 LG: 4.65 ft WT: 26.5 lb OD: 2.244 in

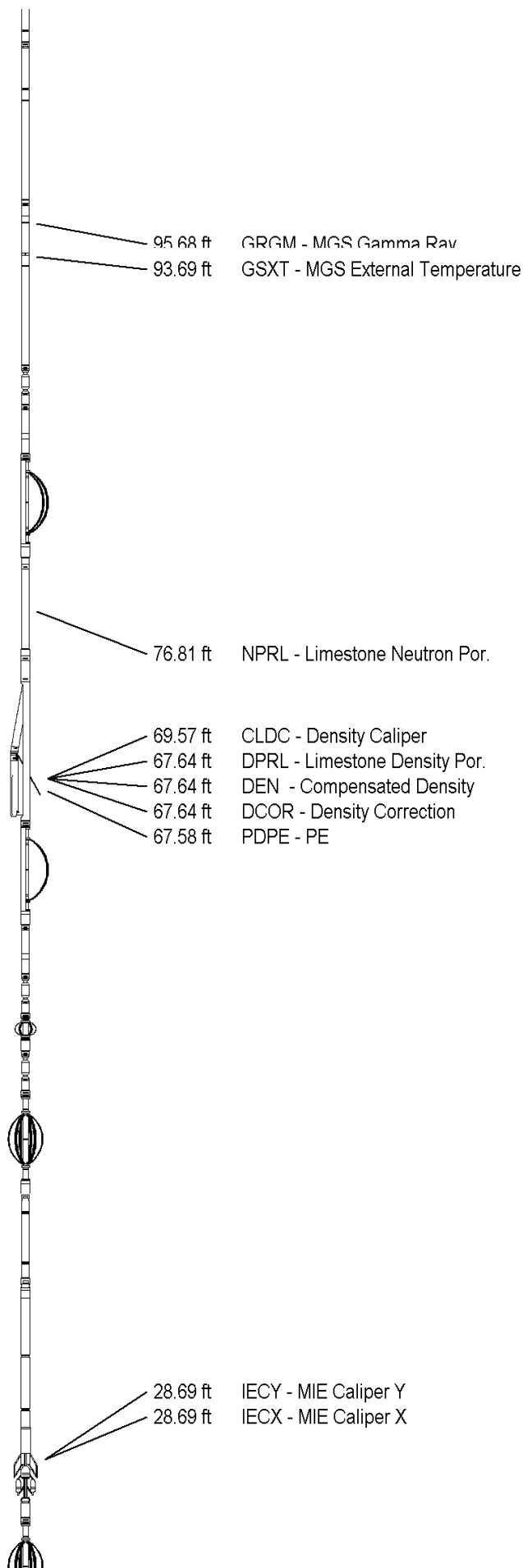
Compact MMI Electrode Section

MIE-A.J 241 LG: 13.96 ft WT: 99.2 lb OD: 4.094 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 700 LG: 5.70 ft WT: 33.1 lb OD: 2.205 in

SKJ-E.B Compact Knuckle Joint



SKJ-E.B 537 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

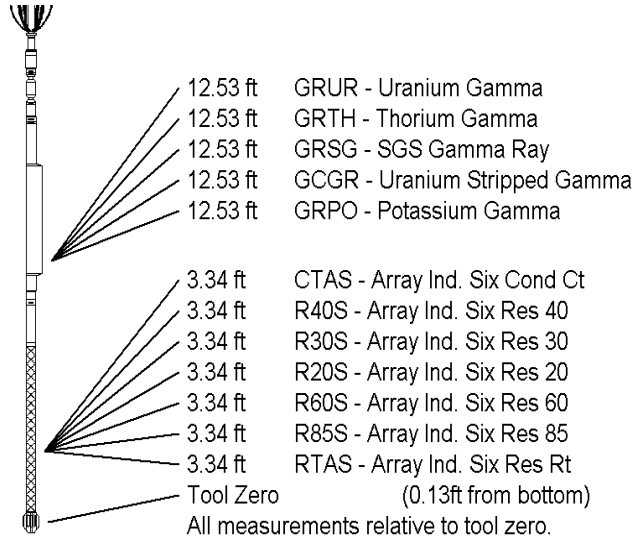
Spectral Gamma Ray Sub

SGS-E.J 135 LG: 7.78 ft WT: 105.8 lb OD: 3.543 in

Compact Induction

MAI-B.J 376 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 156.08 ft Weight: 1097.9 lb



COMPANY	WHITING OIL AND GAS CORP
WELL	RAZOR 11E-0202B
FIELD	REDTAIL
PROVINCE/COUNTY	WELD
COUNTRY/STATE	USA/COLORADO

Elevation Kelly Bushing	5019.00	feet	First Reading	12967.00	feet
Elevation Drill Floor	5019.00	feet	Depth Driller	12996.00	feet
Elevation Ground Level	5002.00	feet	Depth Logger	12996.00	feet



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