



Weatherford®

**COMPACT TRIPLE COMBO
QUICKLOOK
LOG**

COMPANY

BILL BARRETT CORPORATION

WELL

CVR 5-63-32-1609CDH

FIELD

NE WATTENBERG

PROVINCE/COUNTY

WELD

COUNTRY/STATE

U.S.A. / COLORADO

LOCATION

SEC

TWP

RGE

Other Services
CMI

32

5N

63W

API Number

05-123-37086

Permit Number

Permanent Datum G.L., Elevation 4578 feet

Log Measured From KB

Drilling Measured From K.B.

Elevations:

feet

KB

4601.00

DF

4600.00

GL

4578.00

Date

2-JUL-2013

Run Number

ONE

Service Order

3535479

Depth Driller

11400.00

Depth Logger

11378.00

First Reading

11346.00

Last Reading

7205.00

Casing Driller

7199.00

Casing Logger

7205.00

Bit Size

6.125

Hole Fluid Type

WATER

Density / Viscosity

8.80

gl/c3

28.00

CP

PH / Fluid Loss

8.90

120.00

ml/30Min

Sample Source

FLOW LINE

Rm @ Measured Temp

4.15 @ 74.0

ohm-m

Rmf @ Measured Temp

3.32 @ 74.0

ohm-m

Rmc @ Measured Temp

4.98 @ 74.0

ohm-m

Source Rmf / Rmc

CALC

CALC

Rm @ BHT

1.38 @228.0

ohm-m

Time Since Circulation

0 HOURS

Max Recorded Temp

228.00

deg F

Equipment / Base

18063

CASPER

Recorded By

W. HANKS

Witnessed By

R. SCHULTZ

BOREHOLE RECORD

Last Edited: 03-JUL-2013 06:45

Bit Size inches	Depth From feet	Depth To feet
6.125	7199.00	11400.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
INTERMED	7.000	0.00	7199.00	26.00

REMARKS

SOFTWARE VERSION USED: 13.04.8723
TOOLS CONVEYED VIA DRILL PIPE/CML WELL SHUTTLE

LATITUDE: 40.35525 N
LONGITUDE: 104.46865 W

TRIPLE COMBO/IMAGE LOGS RECORDED USING A 200V MEMORY LOGGING SYSTEM.
200V EXTENDED BATTERIES USED.

ALL DEPTHS RECORDED WITH WEATHERFORD ADVANTAGE DEPTH SYSTEM IN CONJUNCTION WITH RIG EDR SYSTEM.
ALL DEPTHS CORRECTED TO DRILLER'S STRAP DEPTH

ALL DEPTHS CORRECTED TO DRILLER CORRAL DEPTH.

T.D. NOT REACHED DUE TO HOLE CONDITIONS. DEEPEST DEPTH REACHED WAS 11378 FEET.

CALIPERS AUTOMATICALLY CLOSED FROM 10460 FEET TO 10600 FEET DUE TO INDUCTION READING METAL IN HOLE AT 10660 FEET.

DENSITY AND NEUTRON READINGS THROUGH THIS INTERVAL ARE AFFECTED DUE TO POOR SIDEWALLING.

METAL IN HOLE AT 1660 FEET IS LIKELY ONE OR MORE CMI PADS RIPPED OFF OF TOOL DUE TO HOLE CONDIONS.

HARDWARE USED:

MAI: TWO HALF INCH STANDOFFS
MIE: OVERBODY CENTRALIZER BASKET
MPD: 4 INCH PROFILE PLATE

ANNULAR HOLE VOLUME WITH 4.5 INCH PRODUCTION CASING FROM T.D. TO CASING: 890 CUBIC FEET

HOLE VOLUME FROM T.D. TO CASING: 450 CUBIC FEET

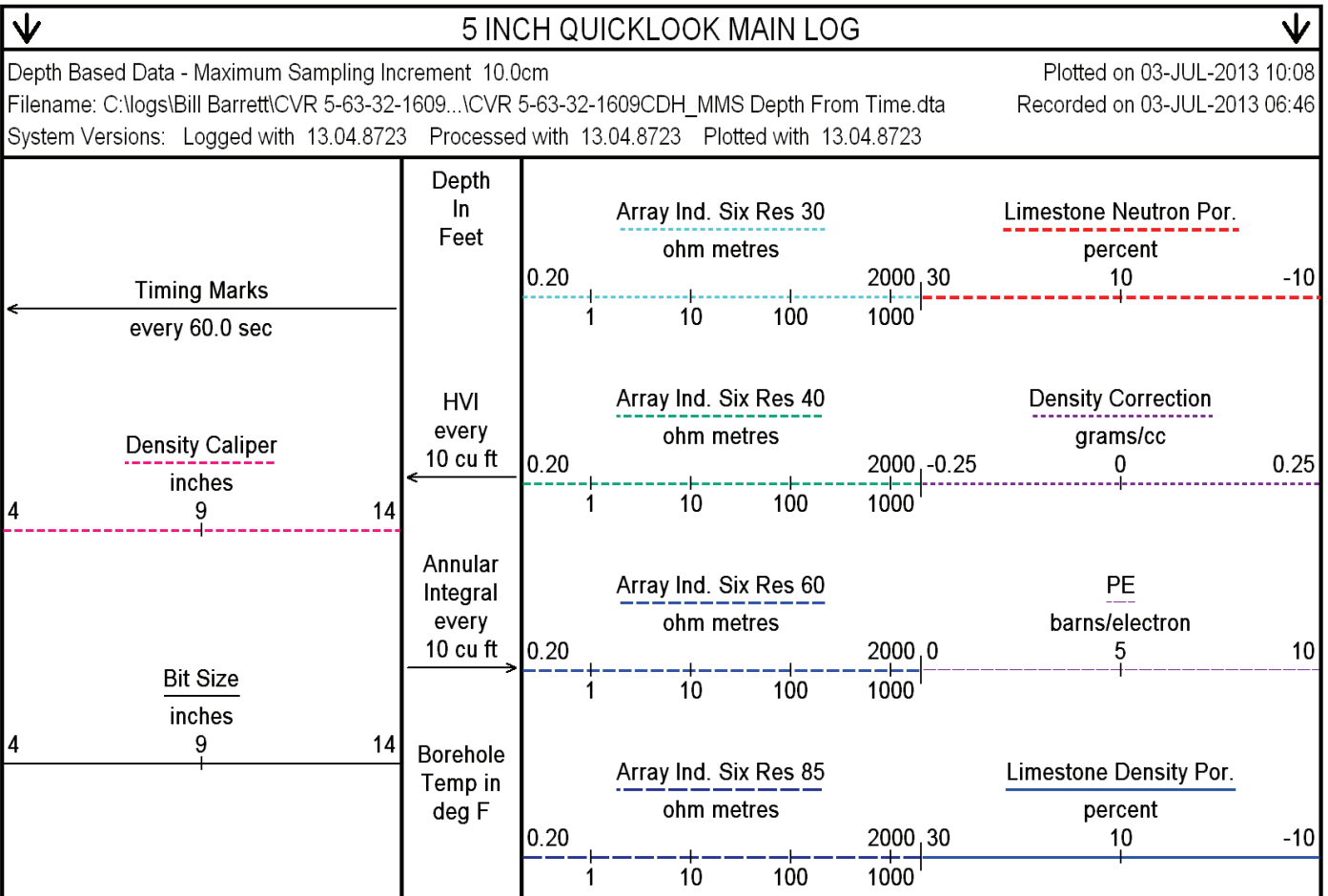
HOLE VOLUME CALCULATIONS WILL BE LESS THAN ACTUAL DUE TO CLOSED CALIPERS FROM 10460 FEET TO 10600 FEET.

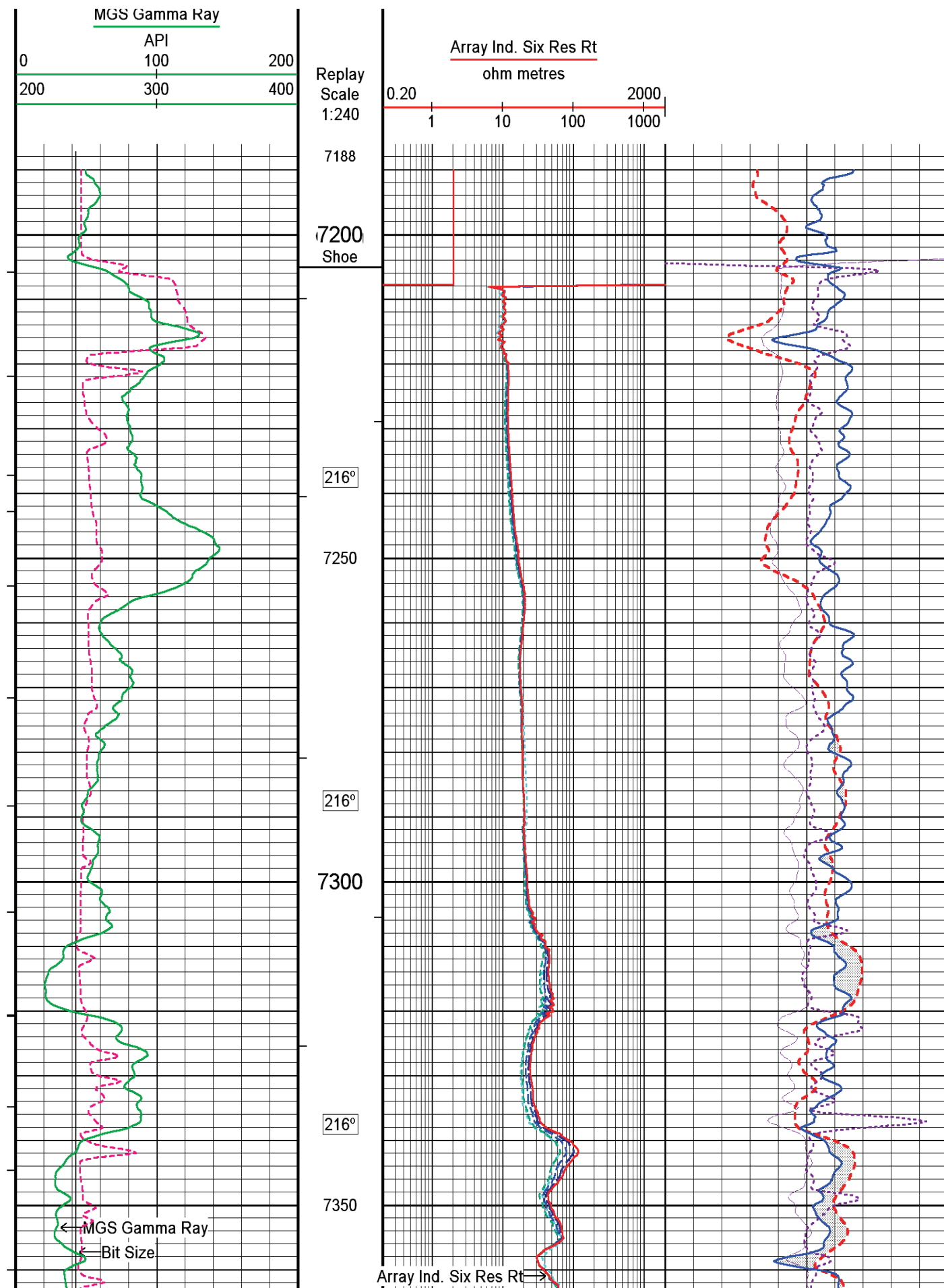
TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT DATA QUALITY

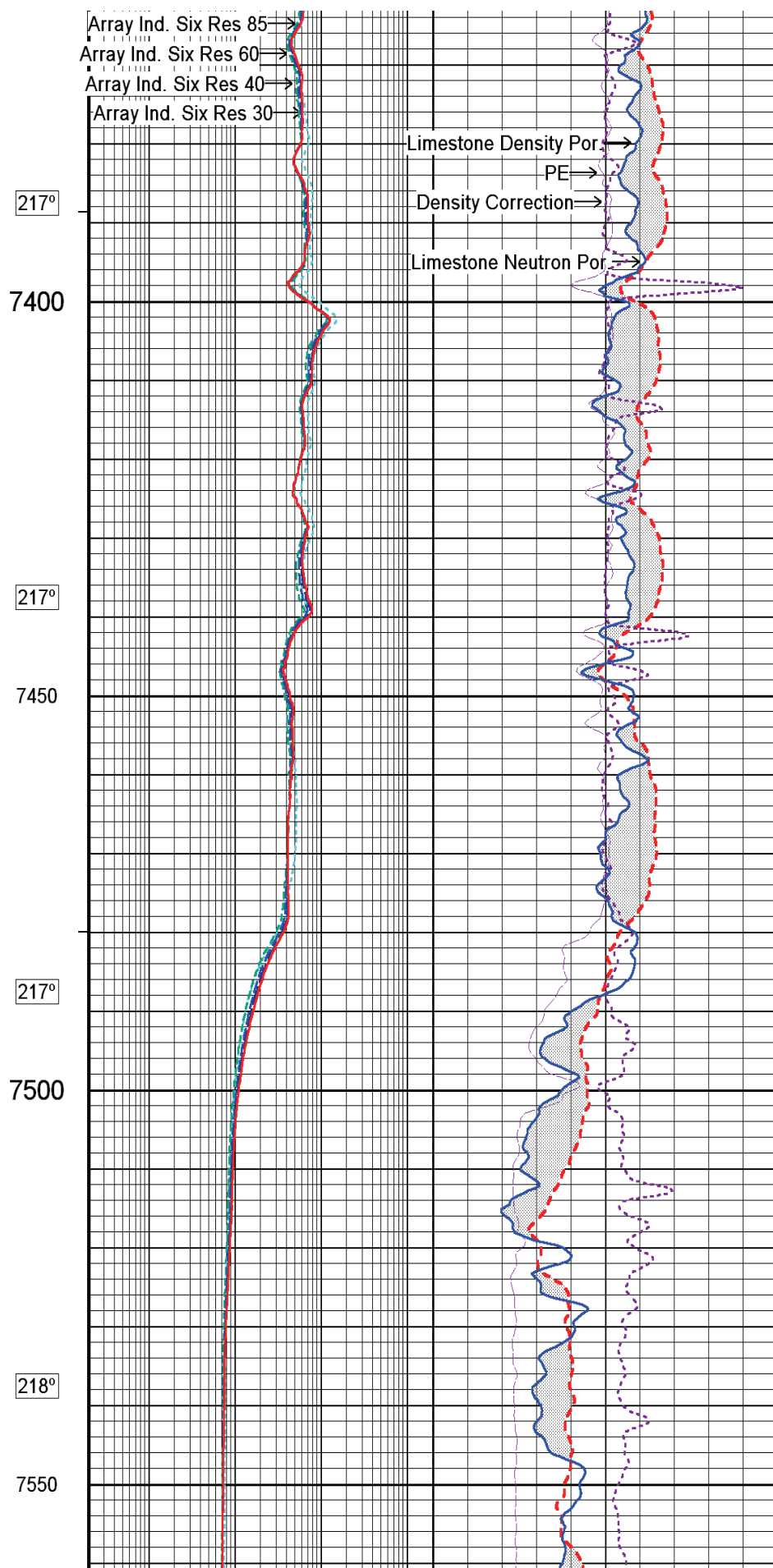
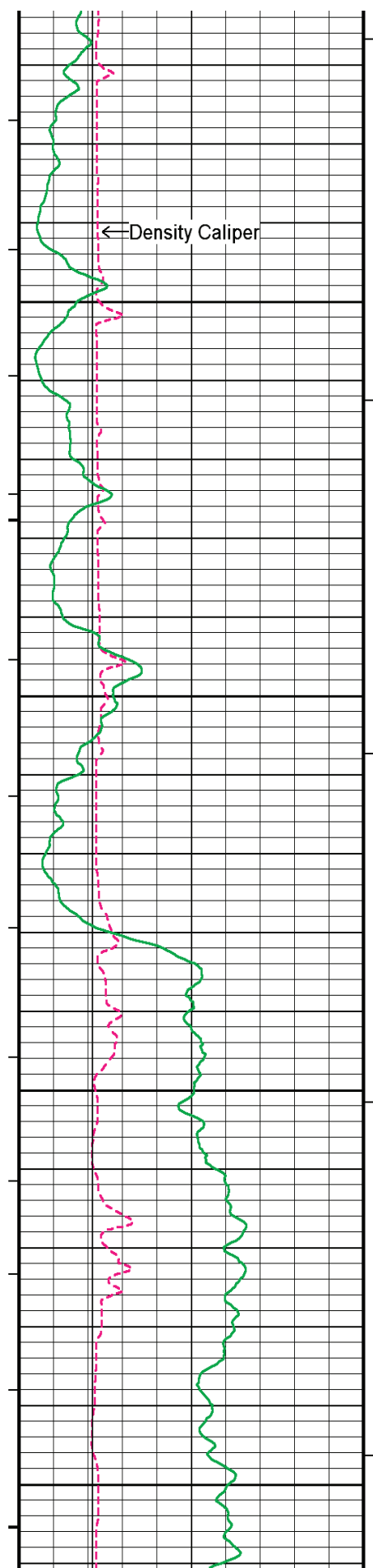
RIG: NABORS M37

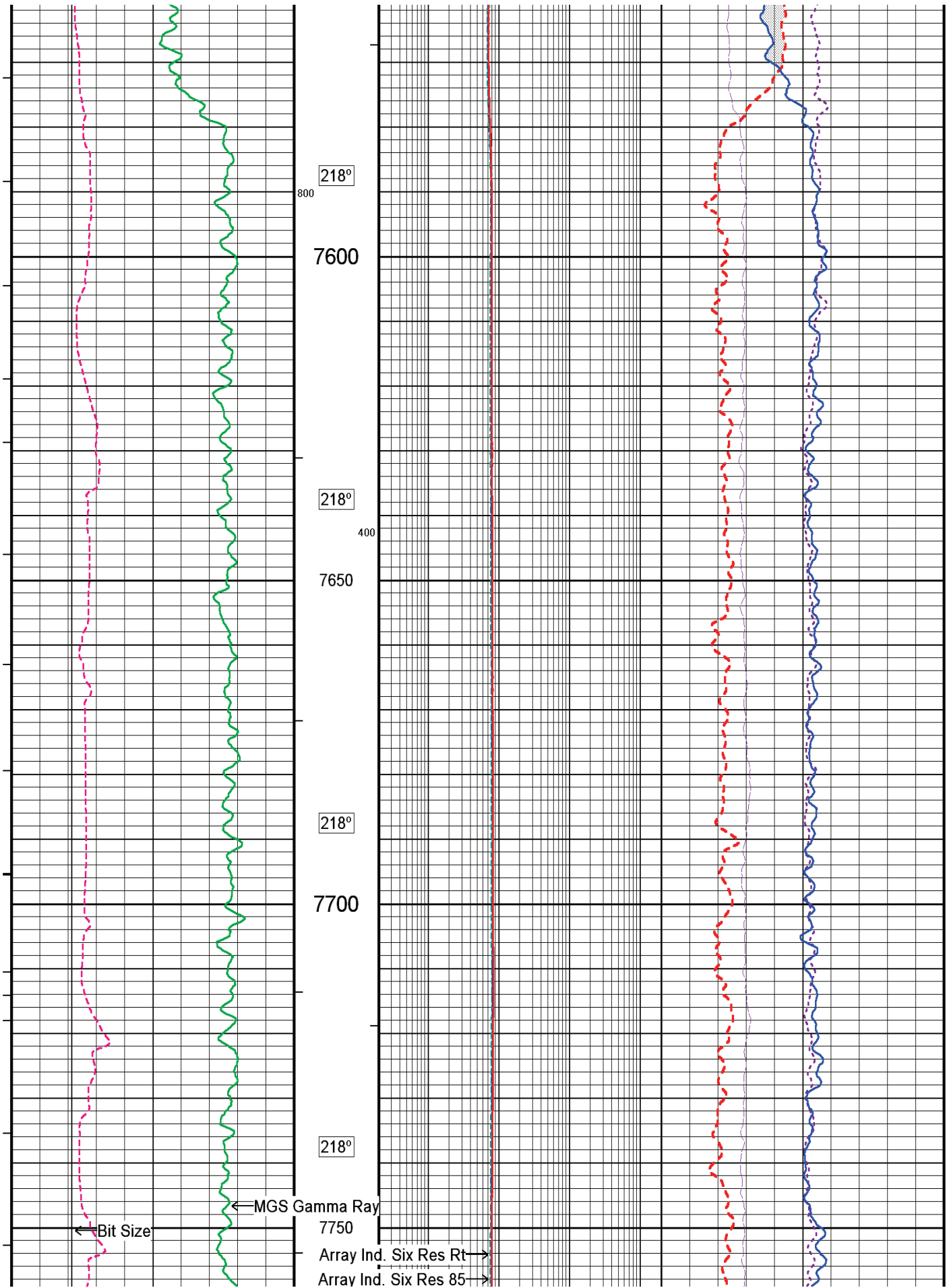
SERVICE ORDER #3535479

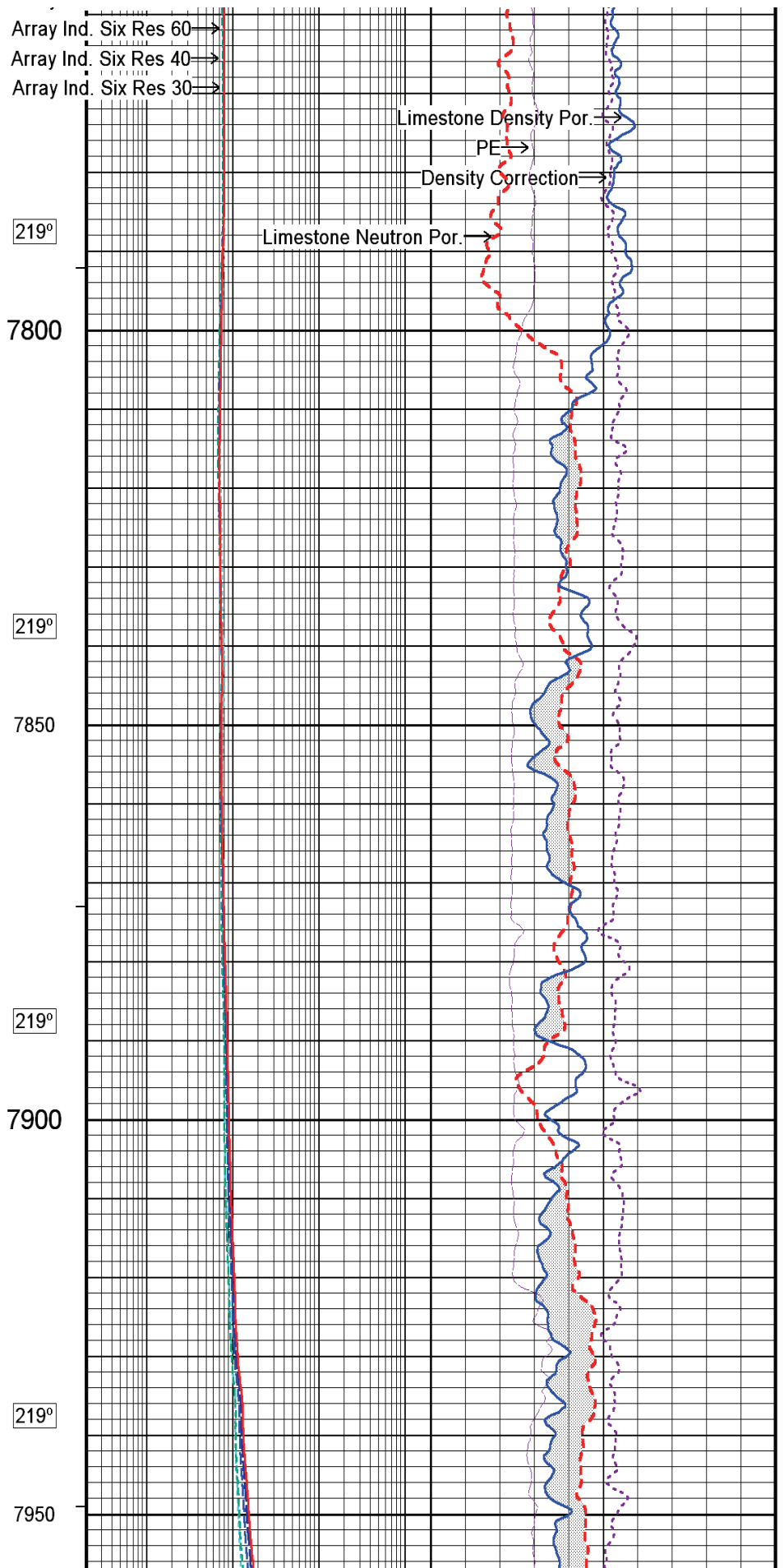
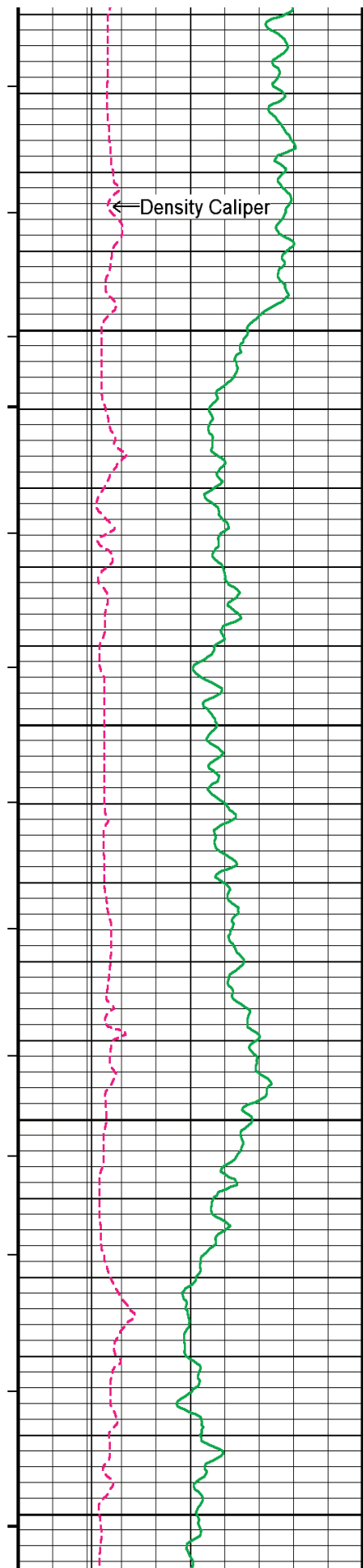
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

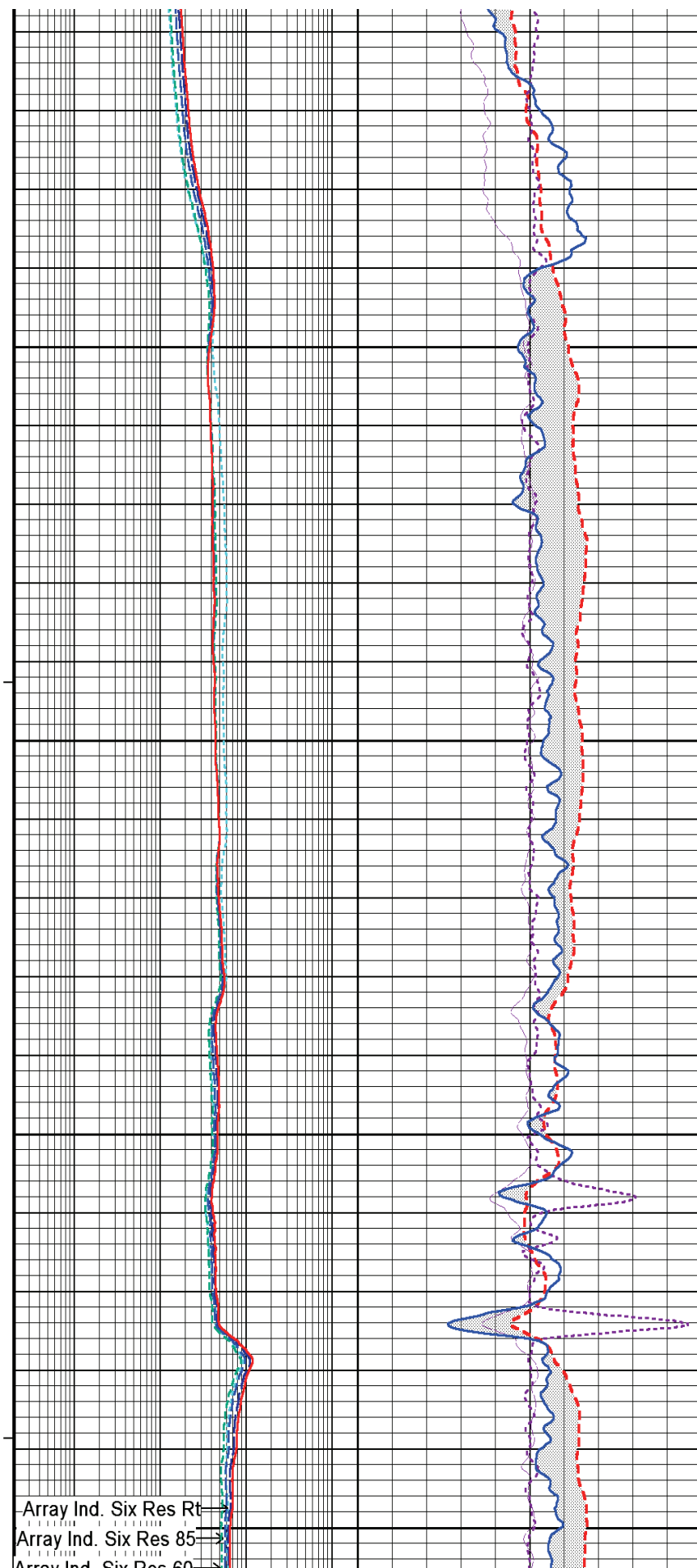
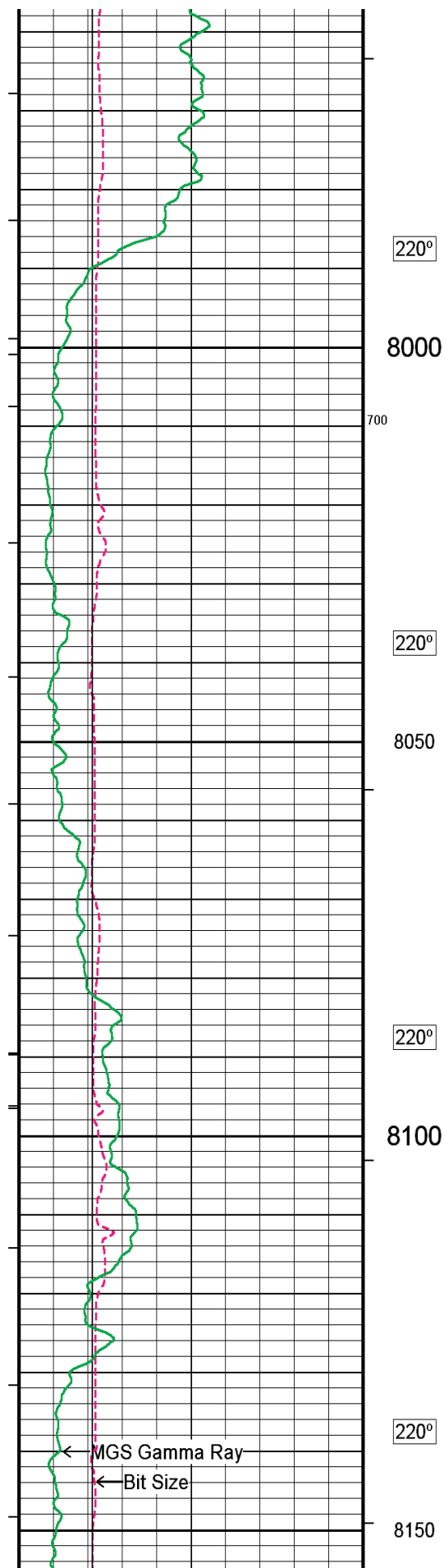


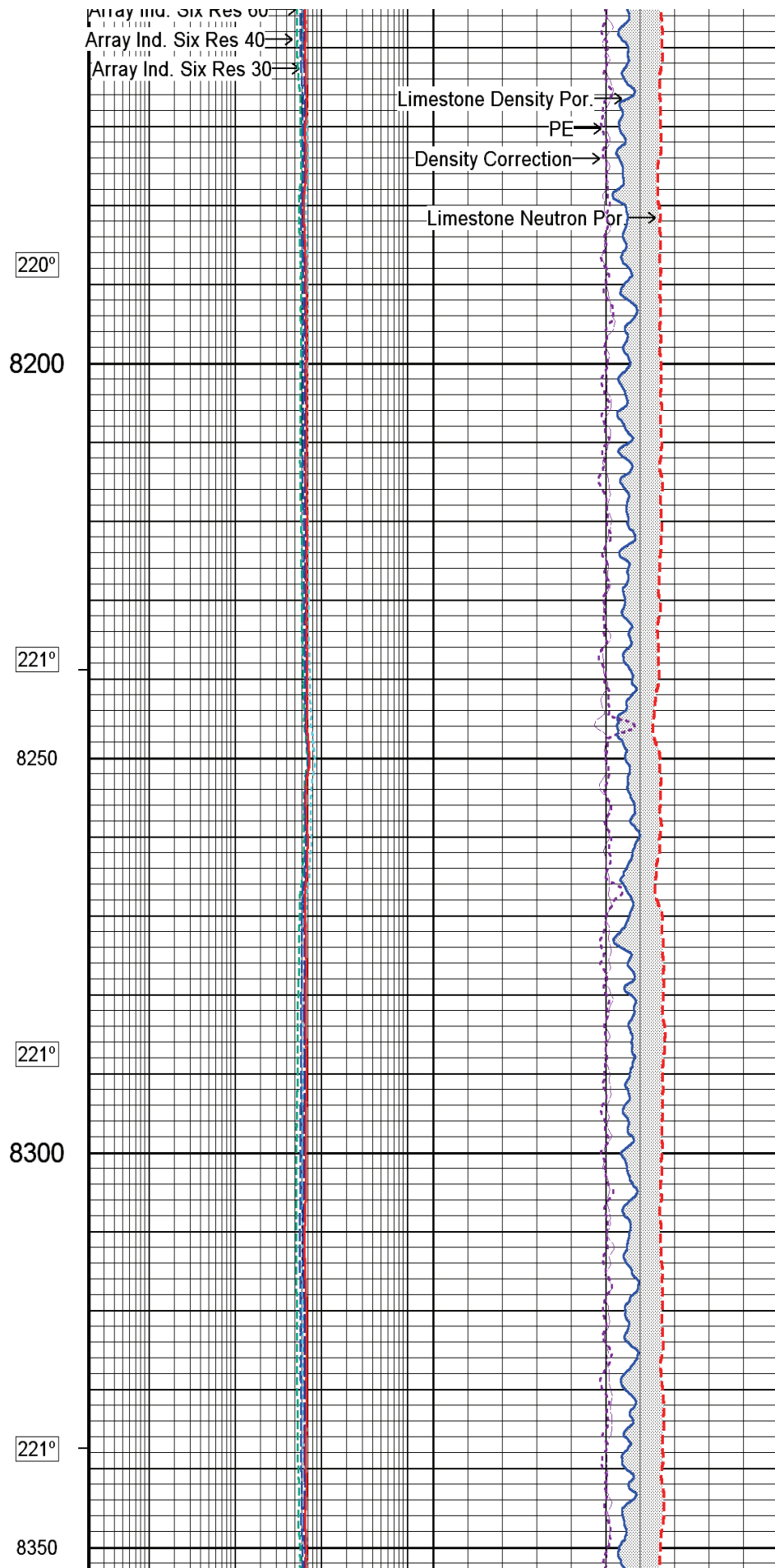
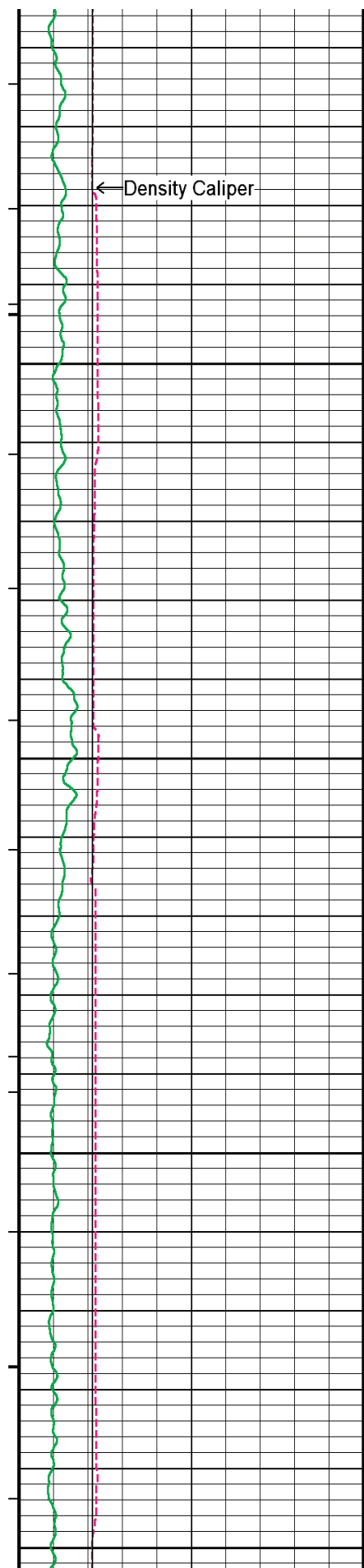


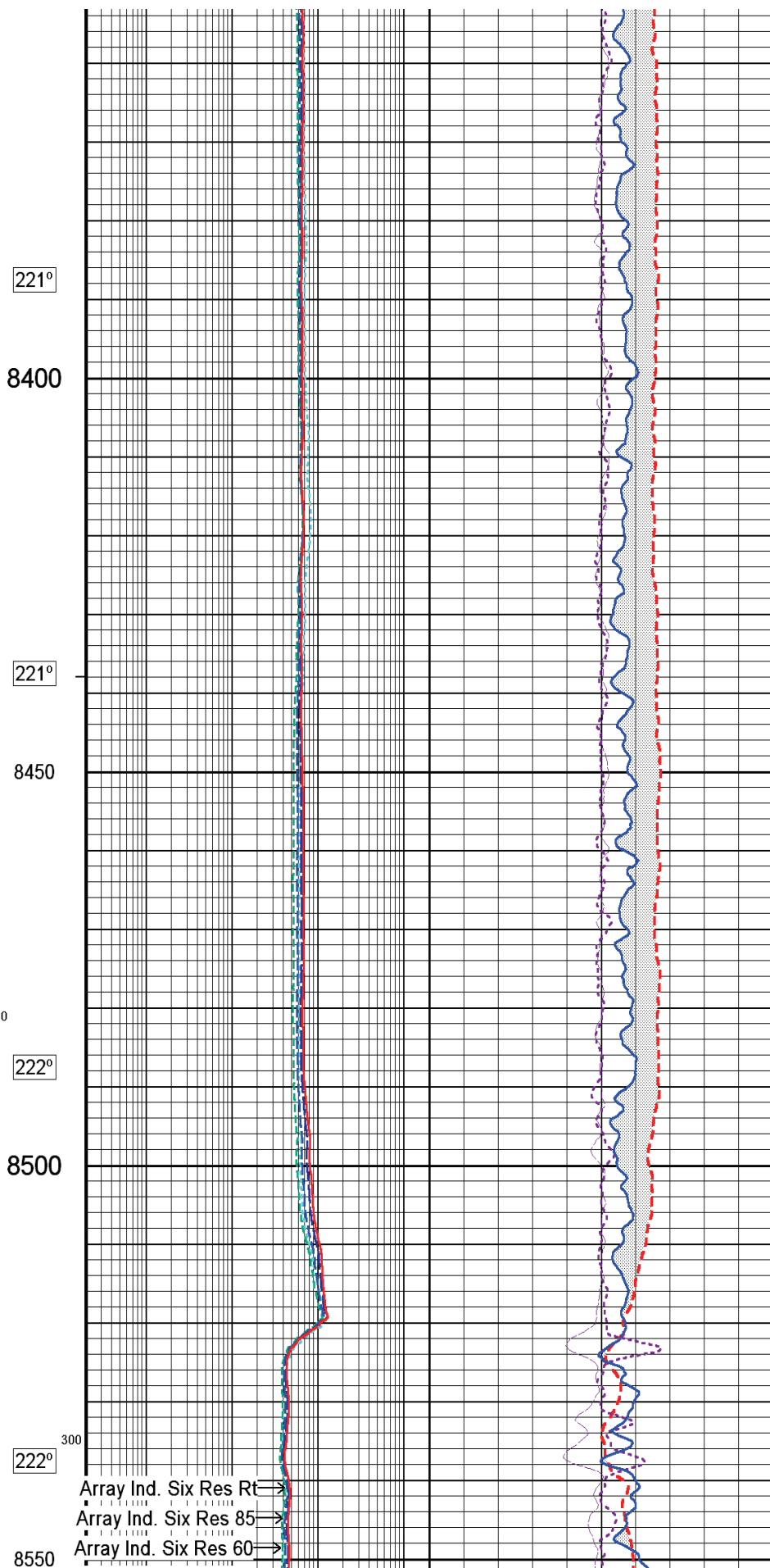
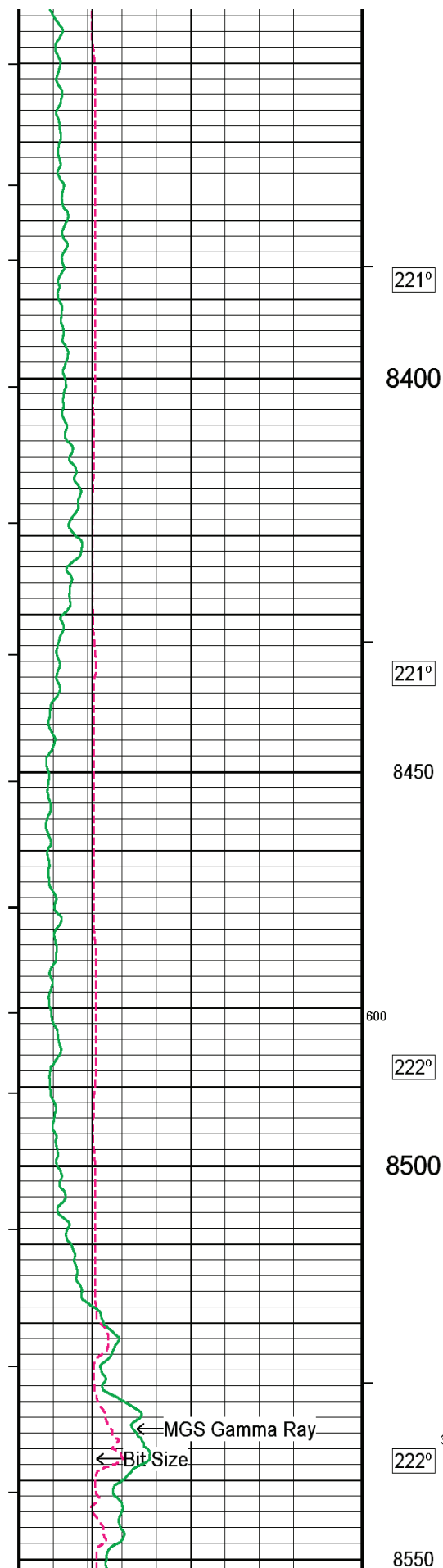


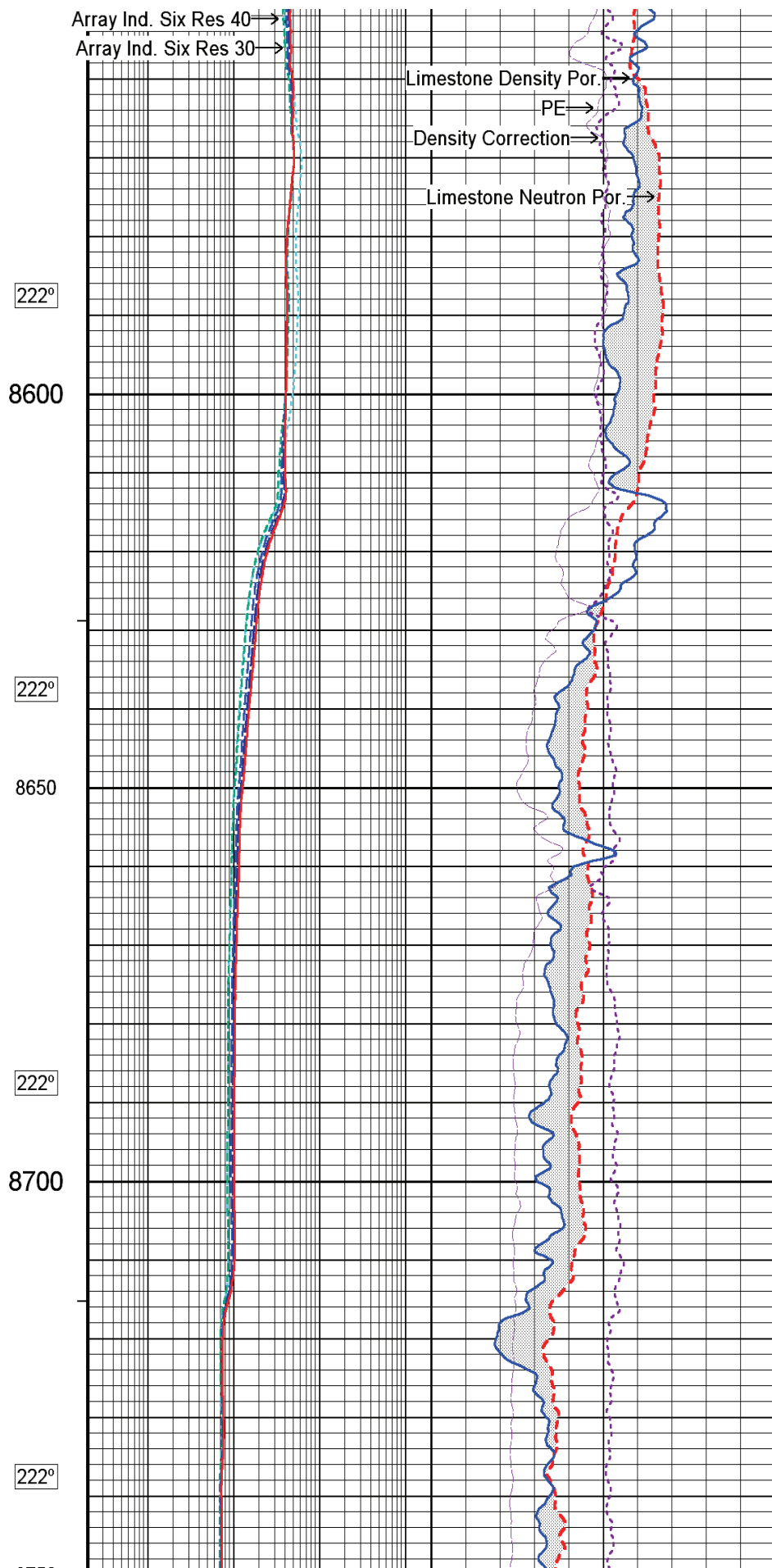
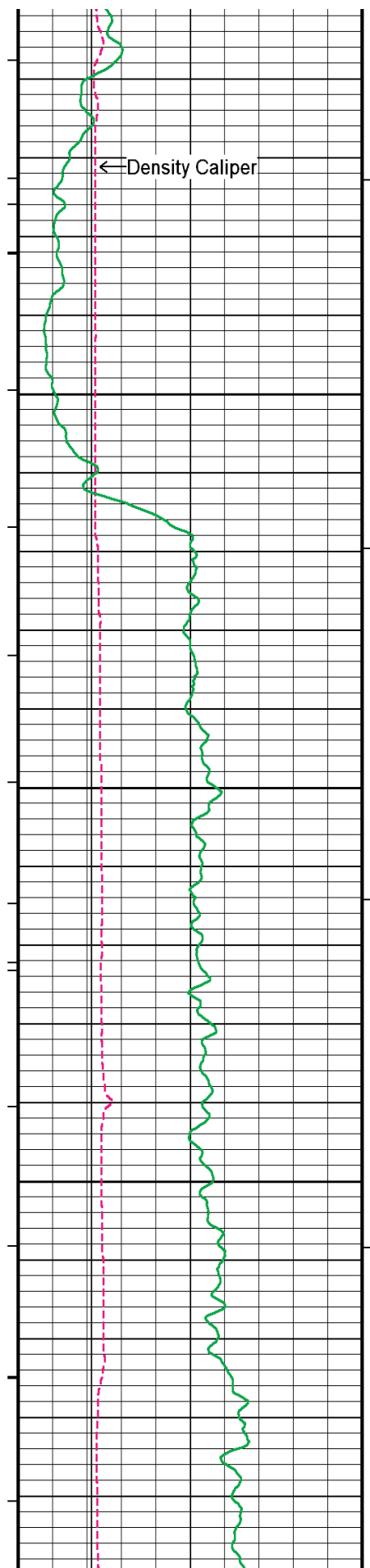


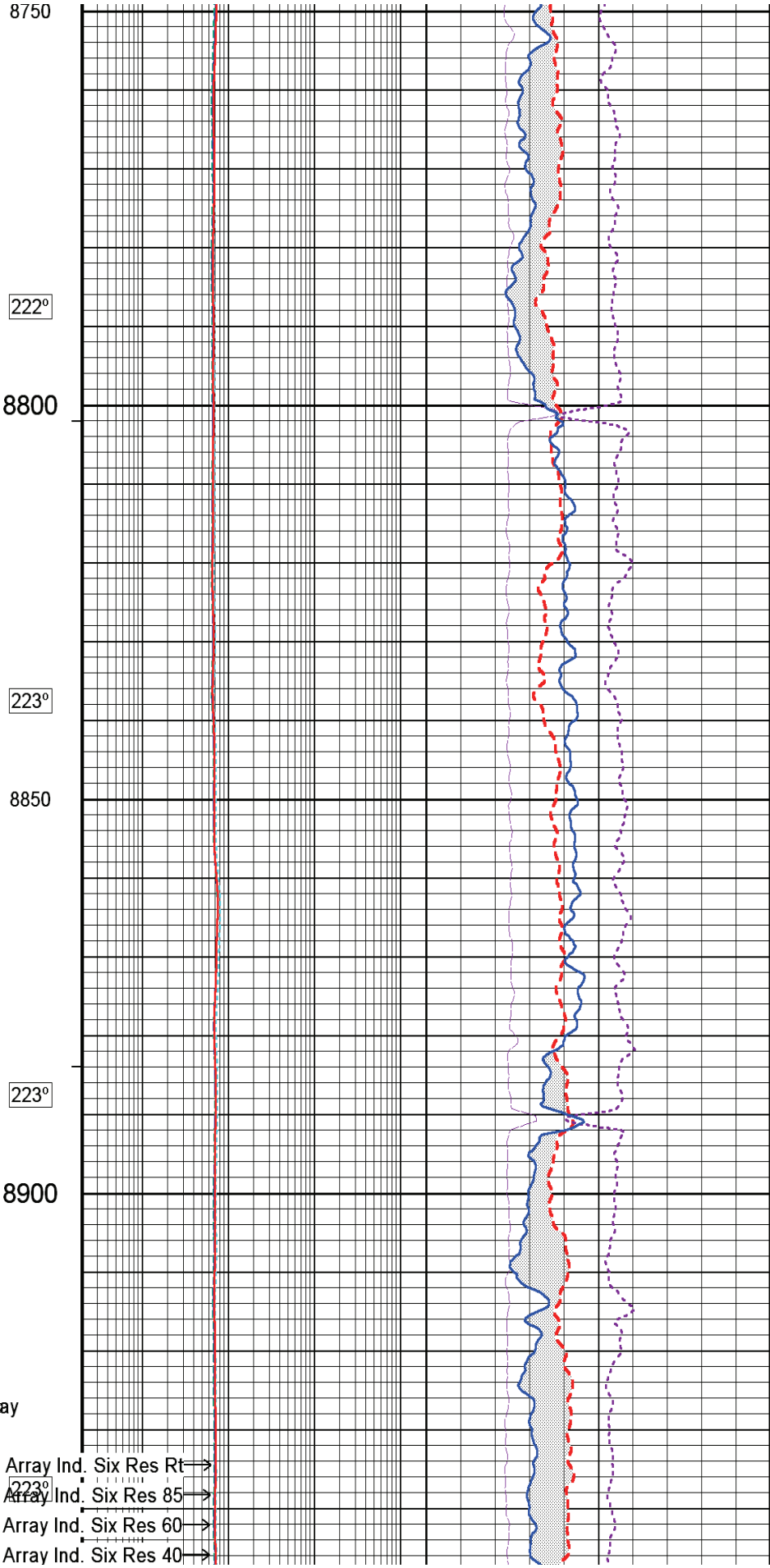
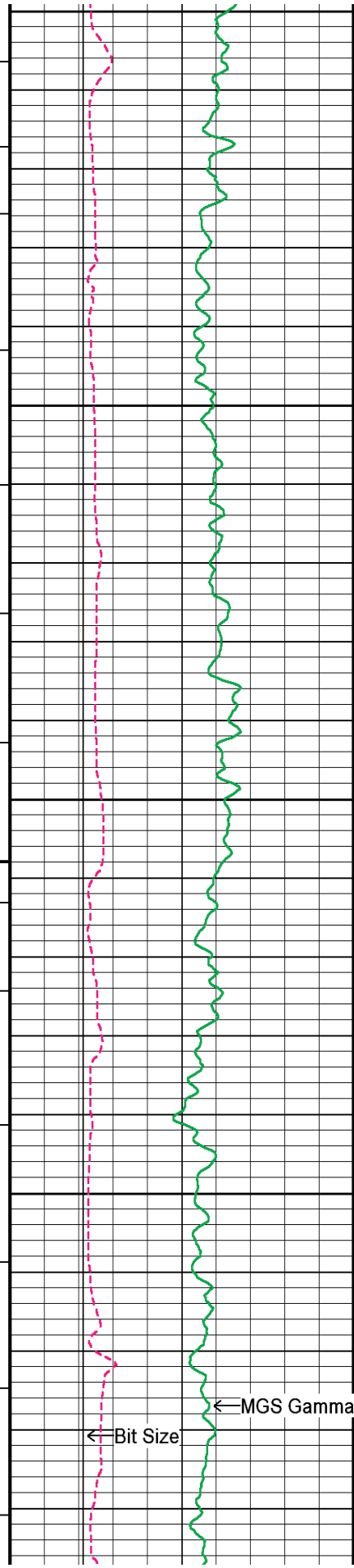




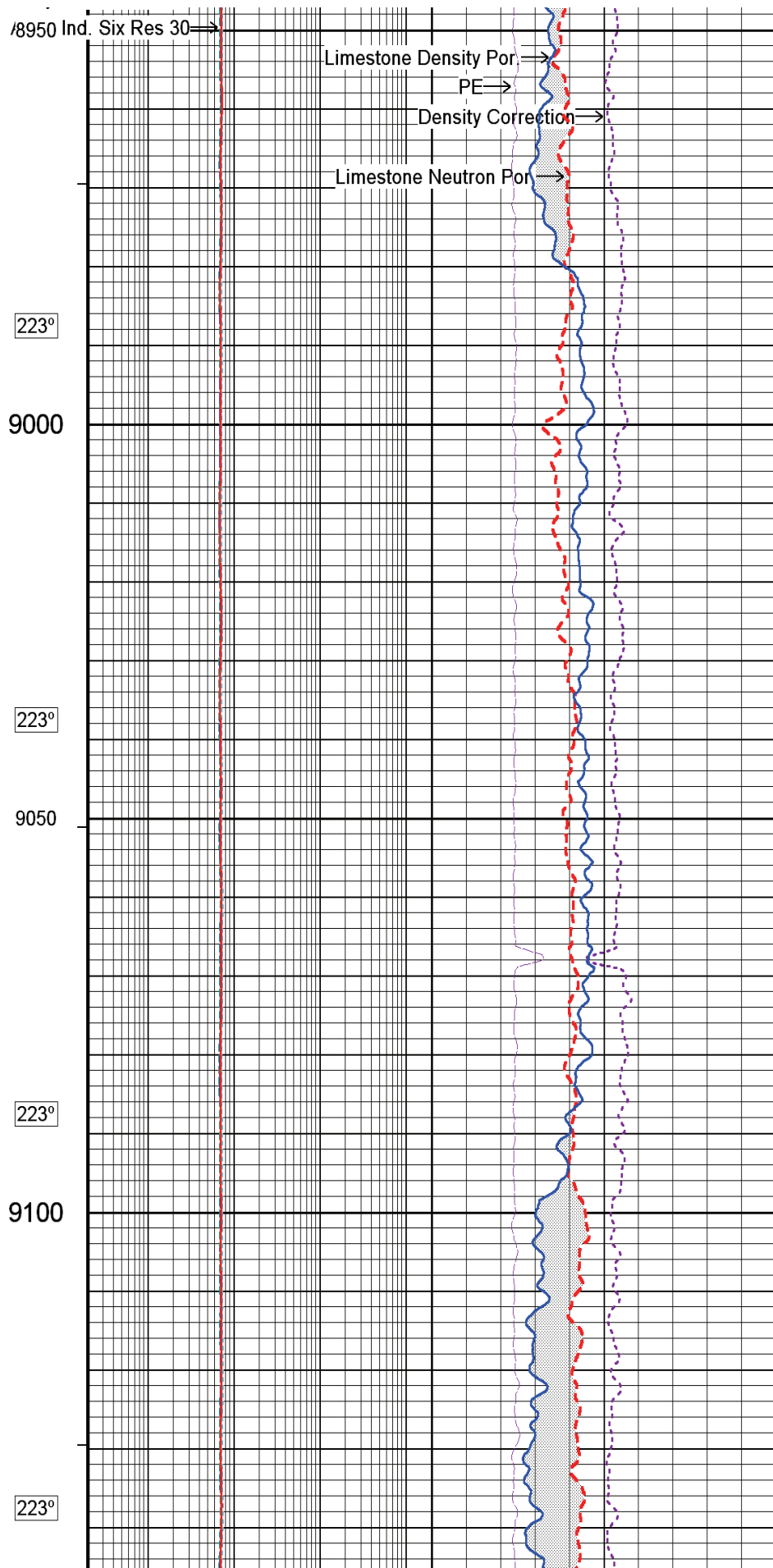
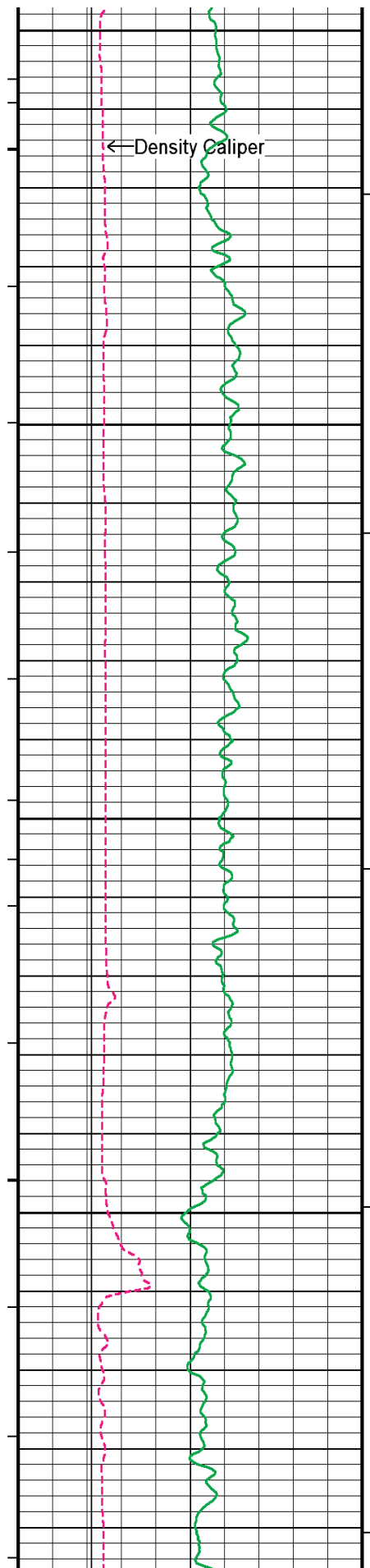


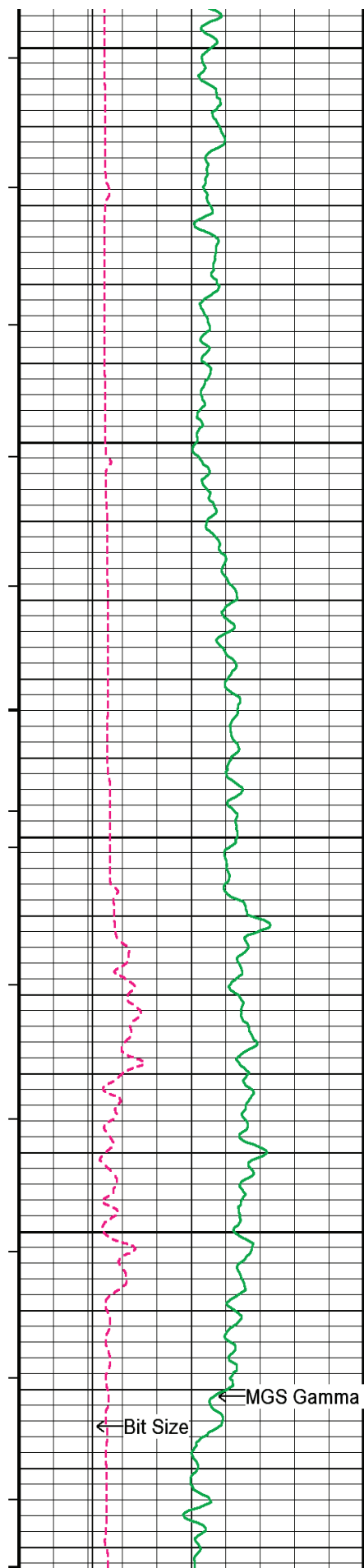






Array Ind. Six Res Rt
Array Ind. Six Res 85
Array Ind. Six Res 60
Array Ind. Six Res 40





9150

223°

9200

223°

9250

223°

9300

← Bit Size

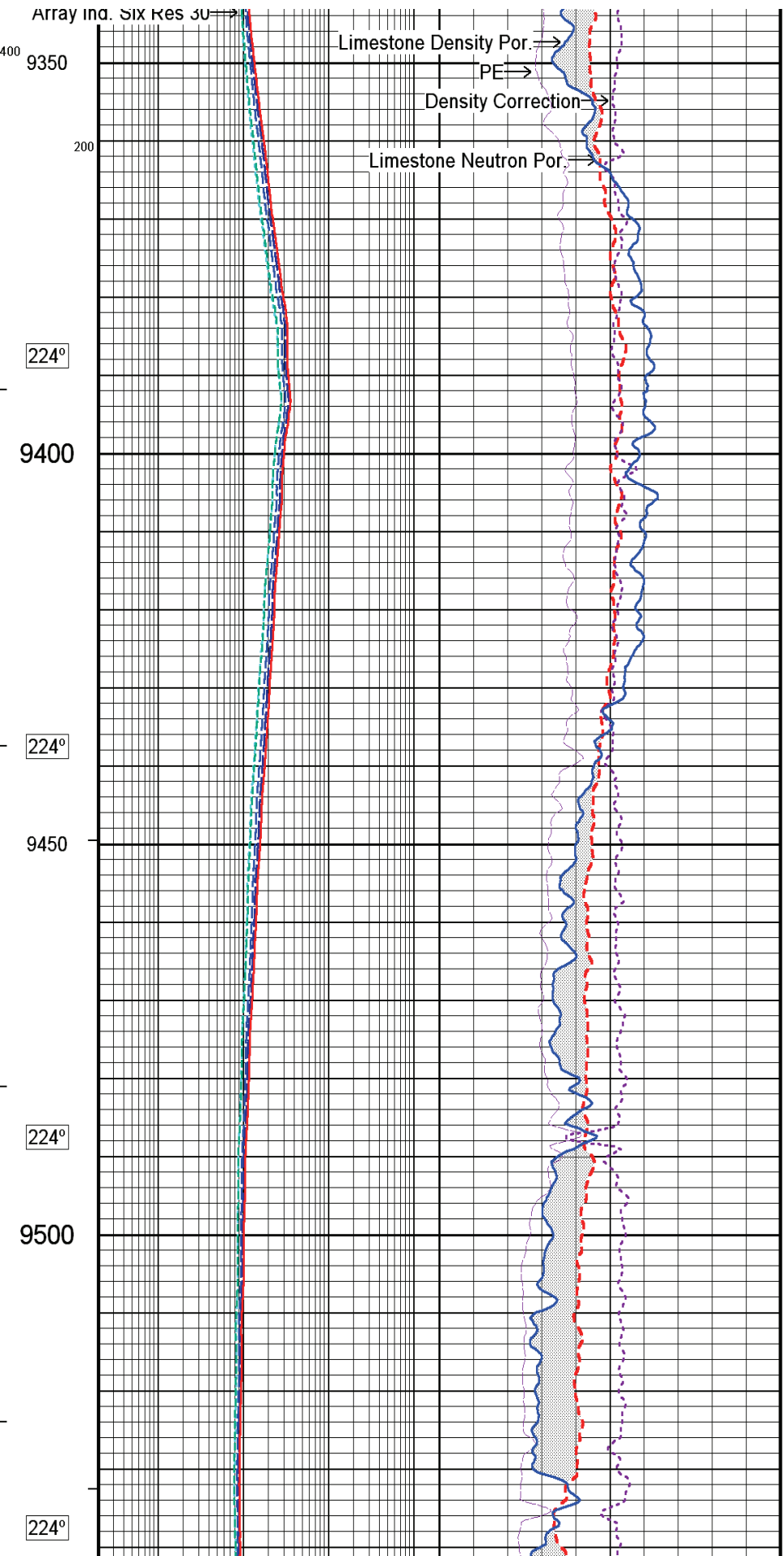
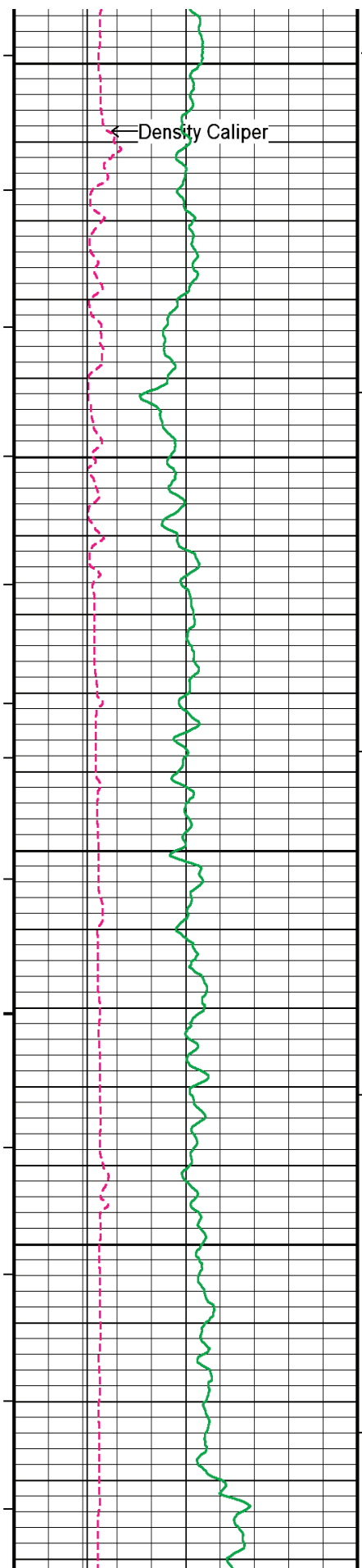
← MGS Gamma Ray

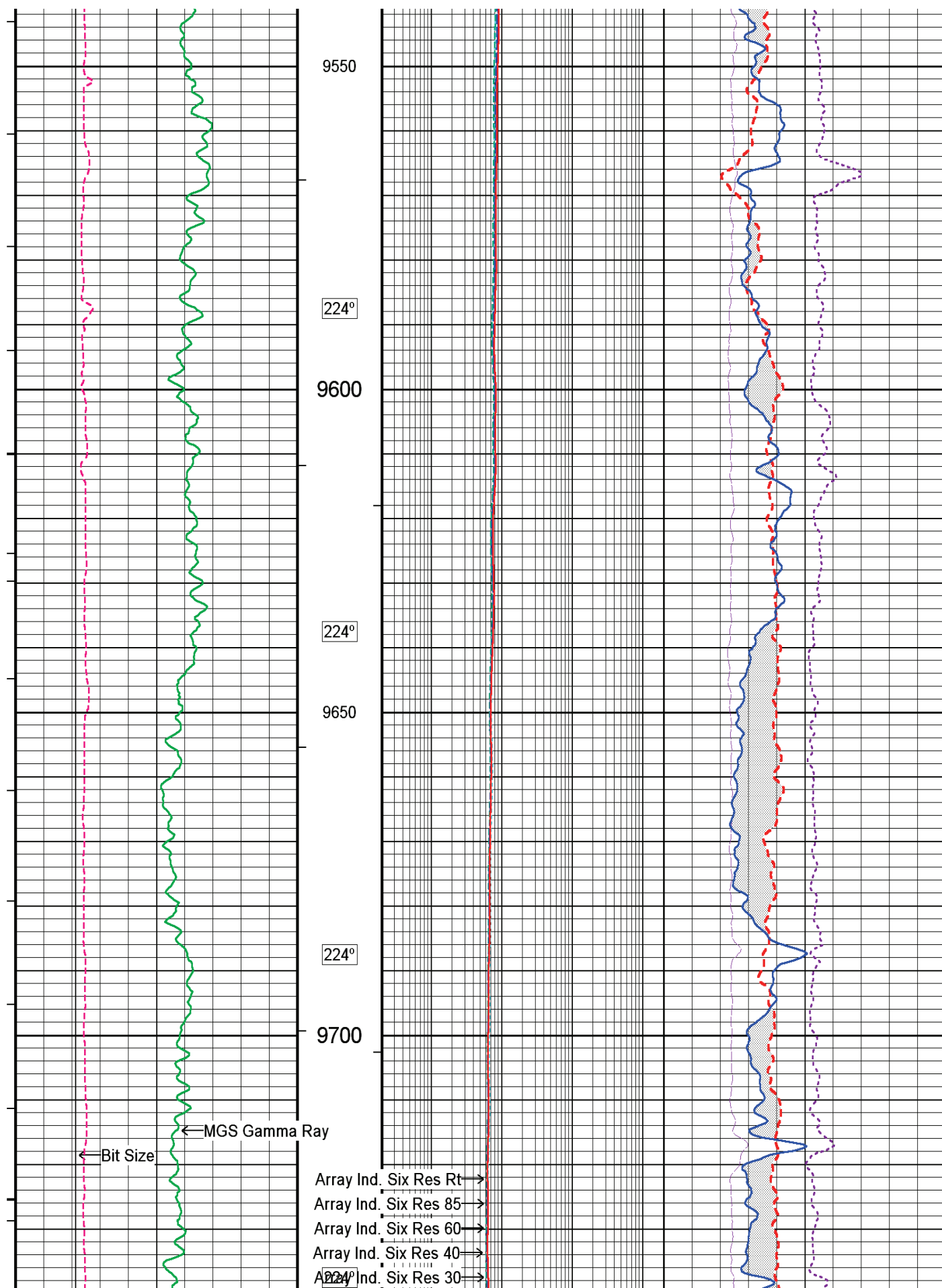
Array Ind. Six Res Rt →

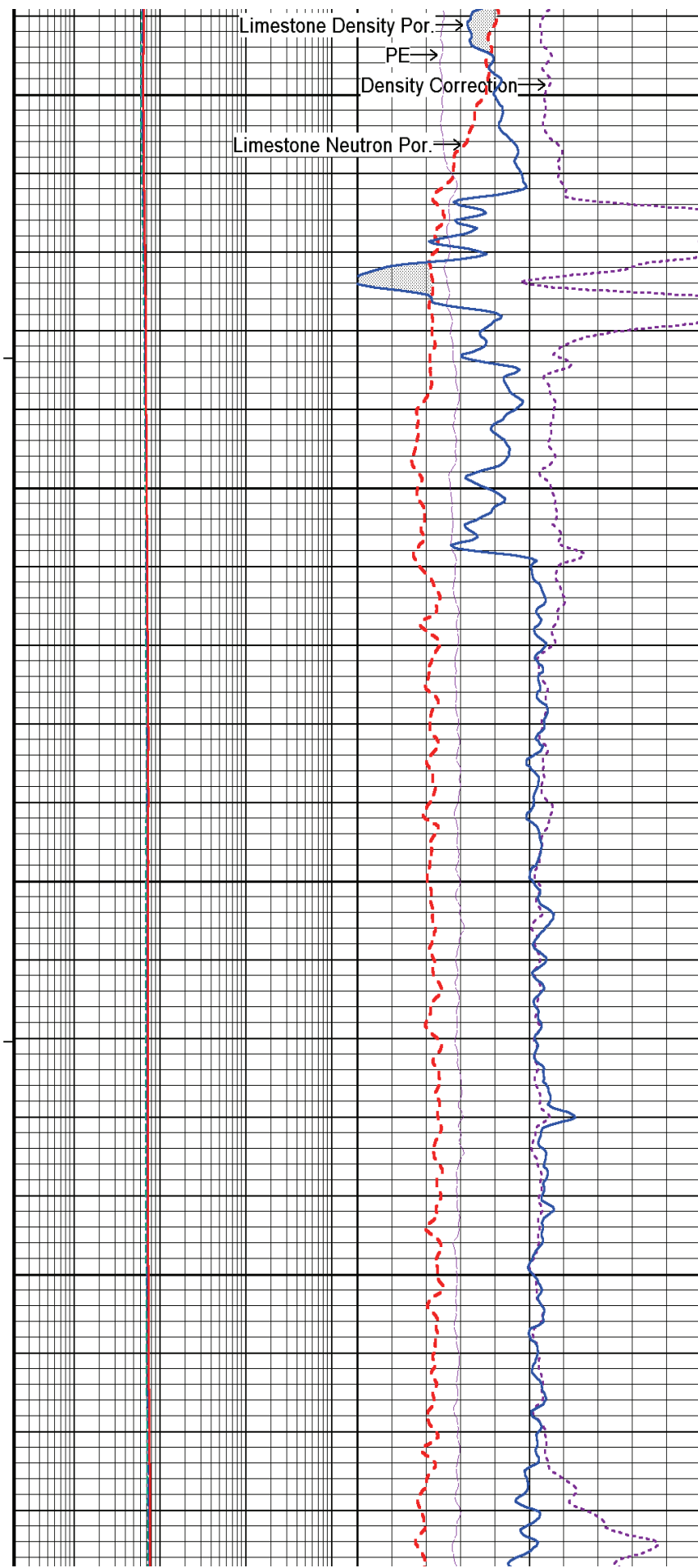
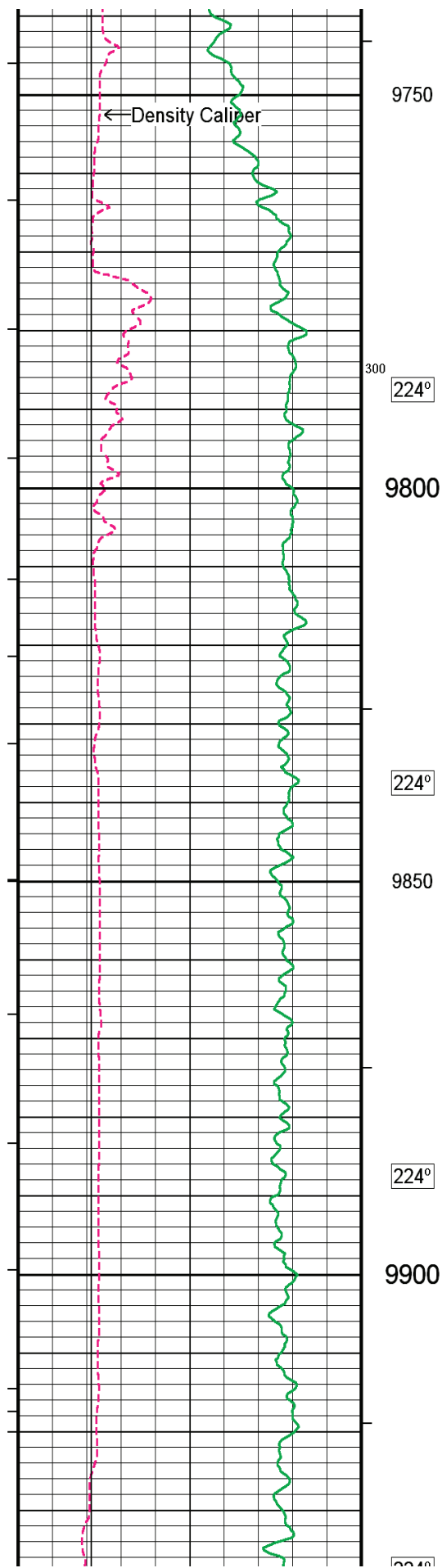
Array Ind. Six Res 85 →

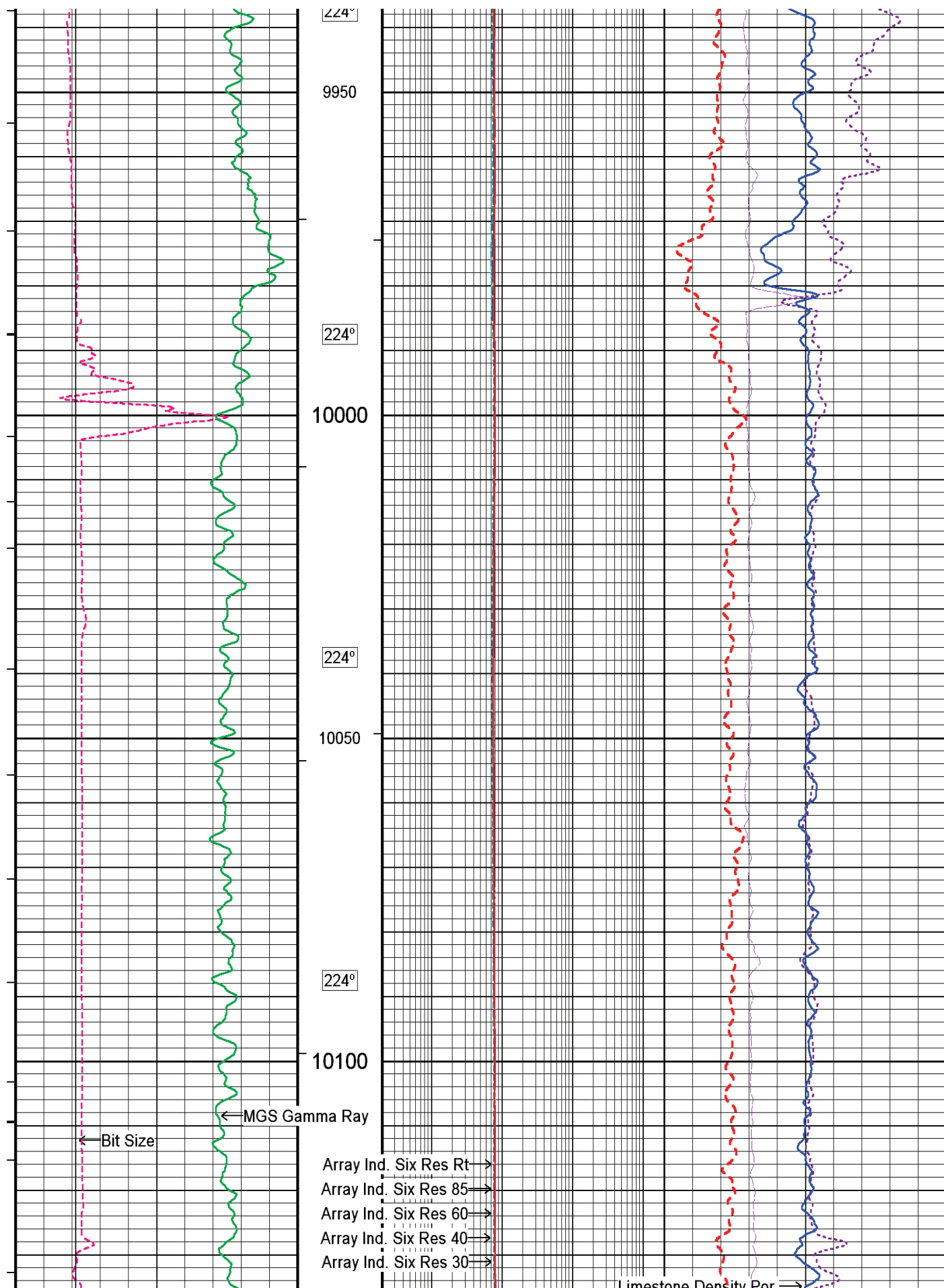
Array Ind. Six Res 60 →

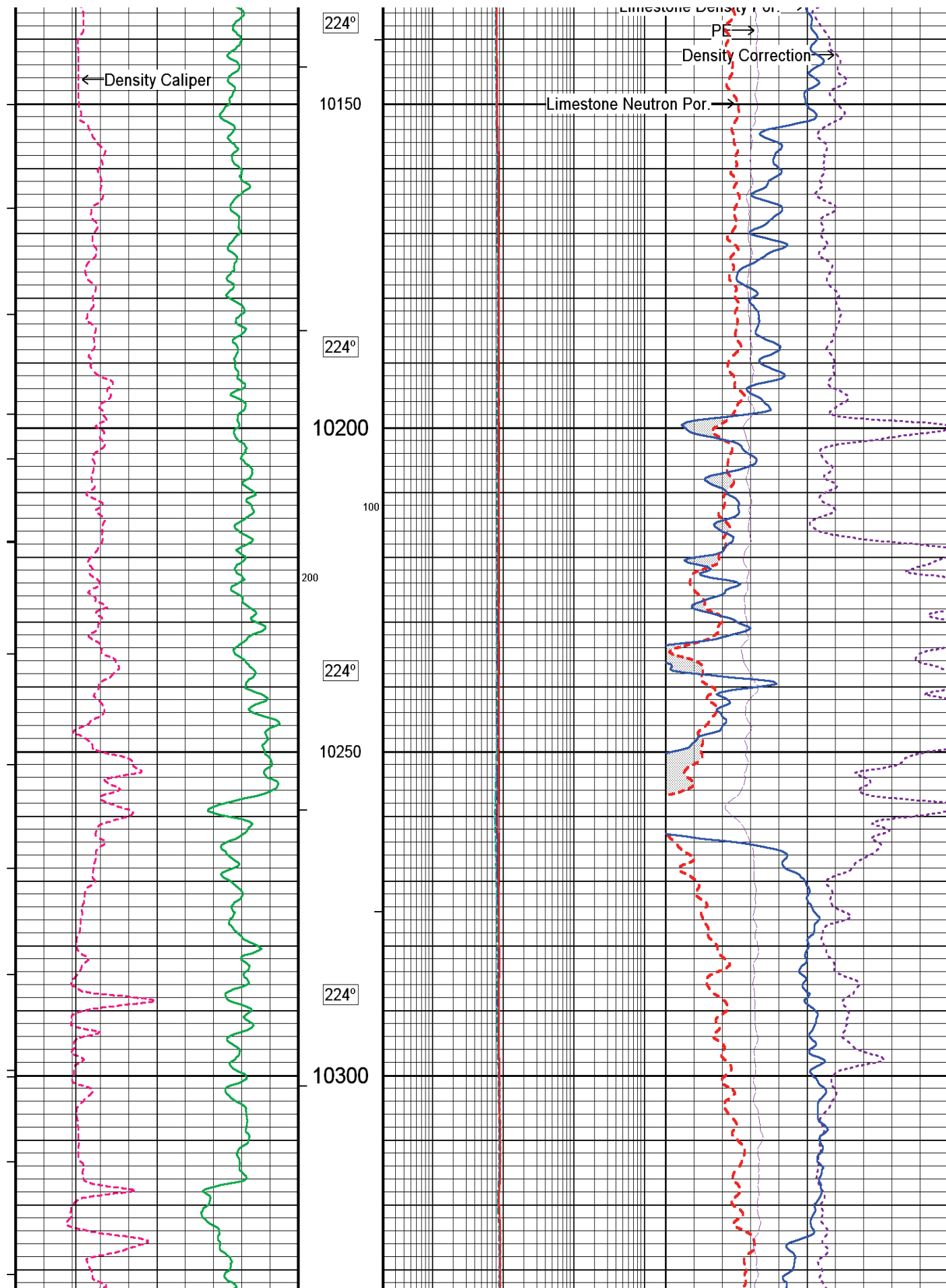
Array Ind. Six Res 40 →

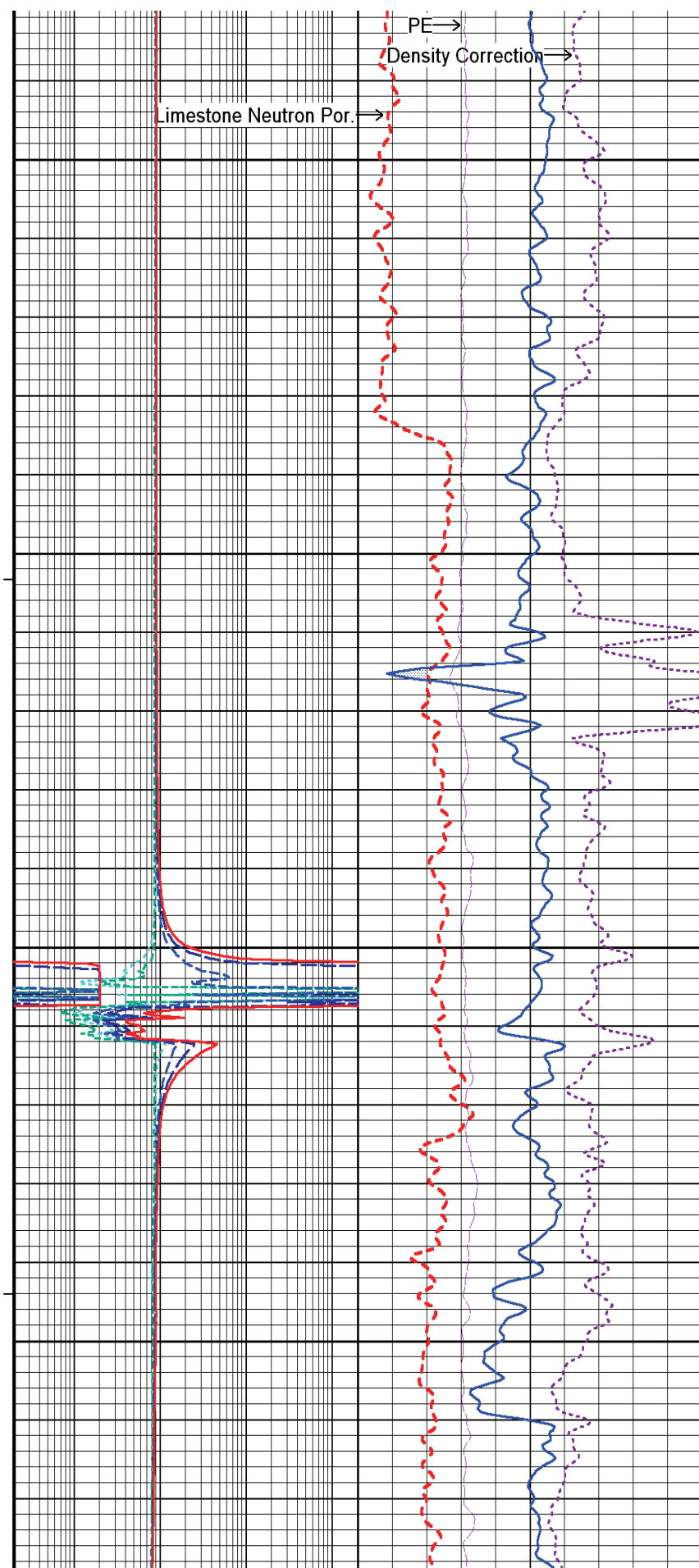
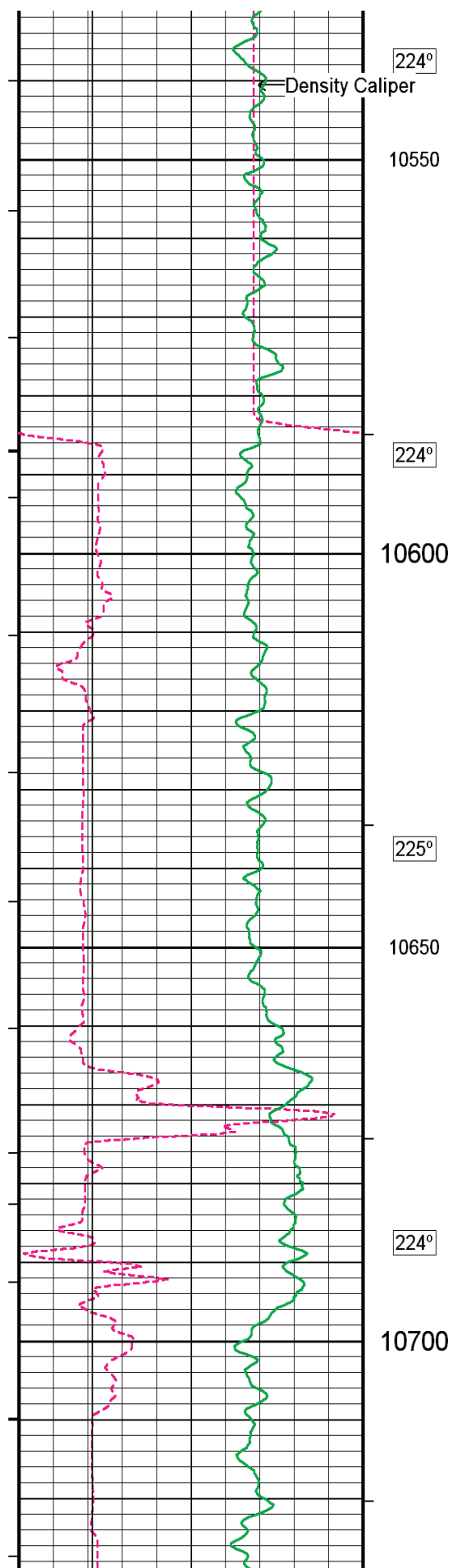


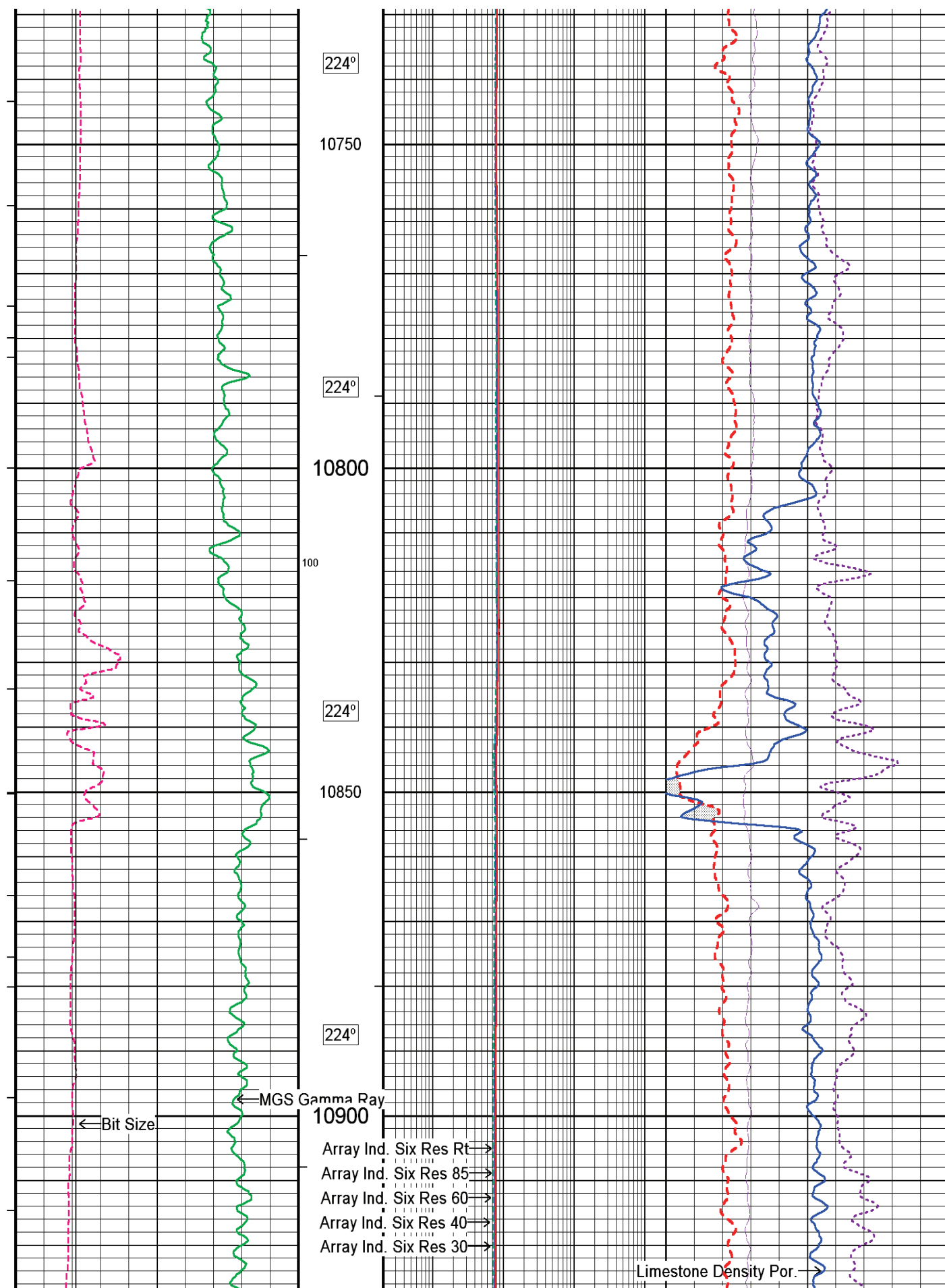


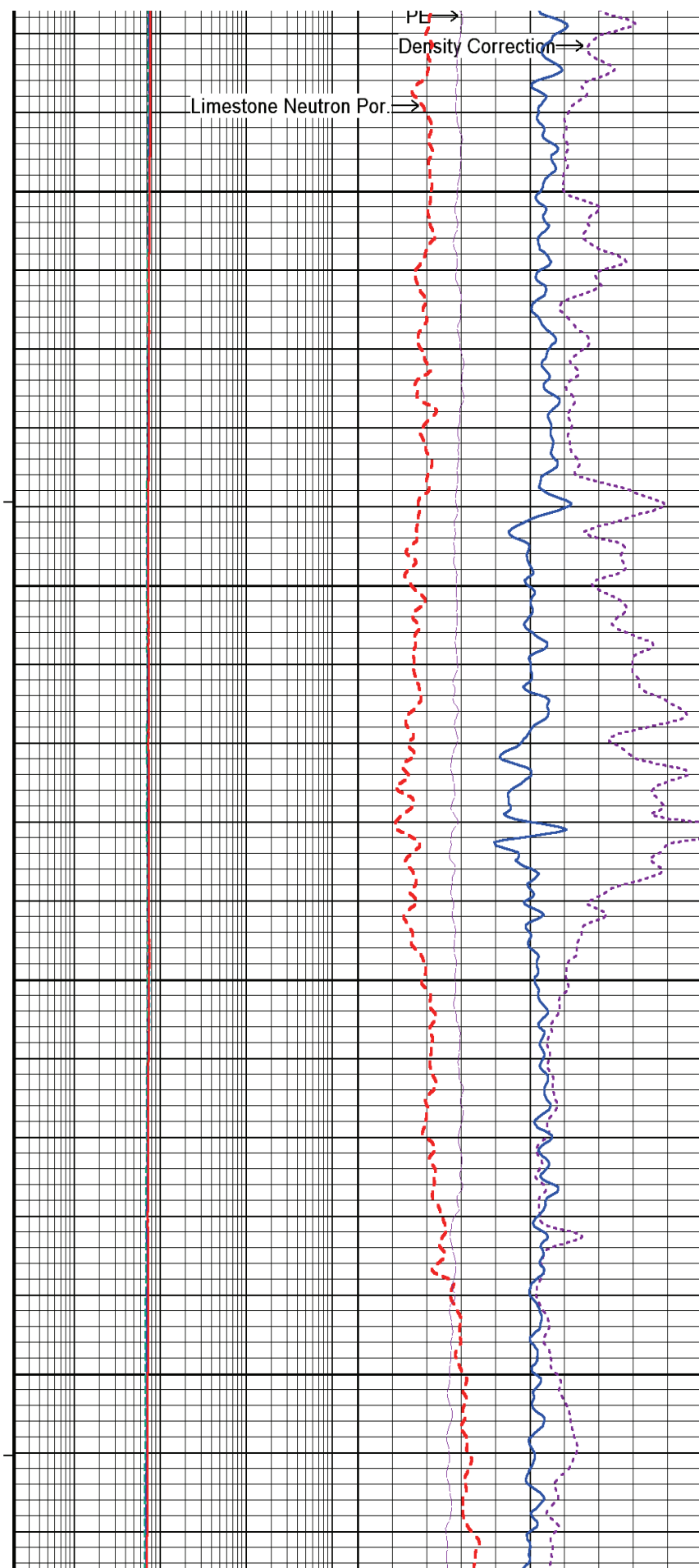
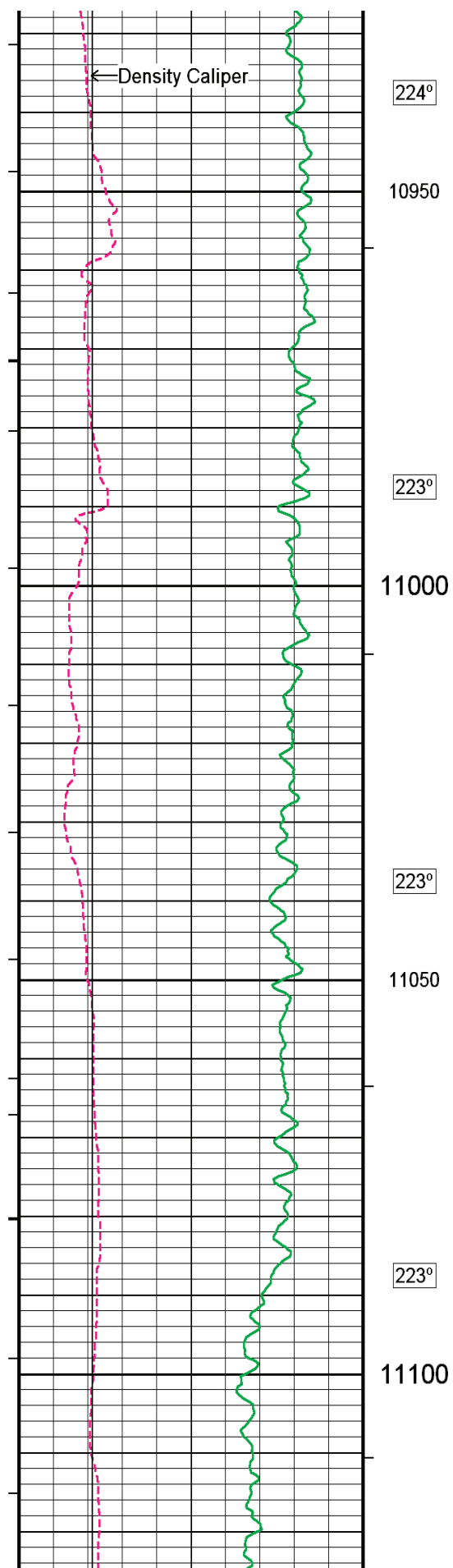


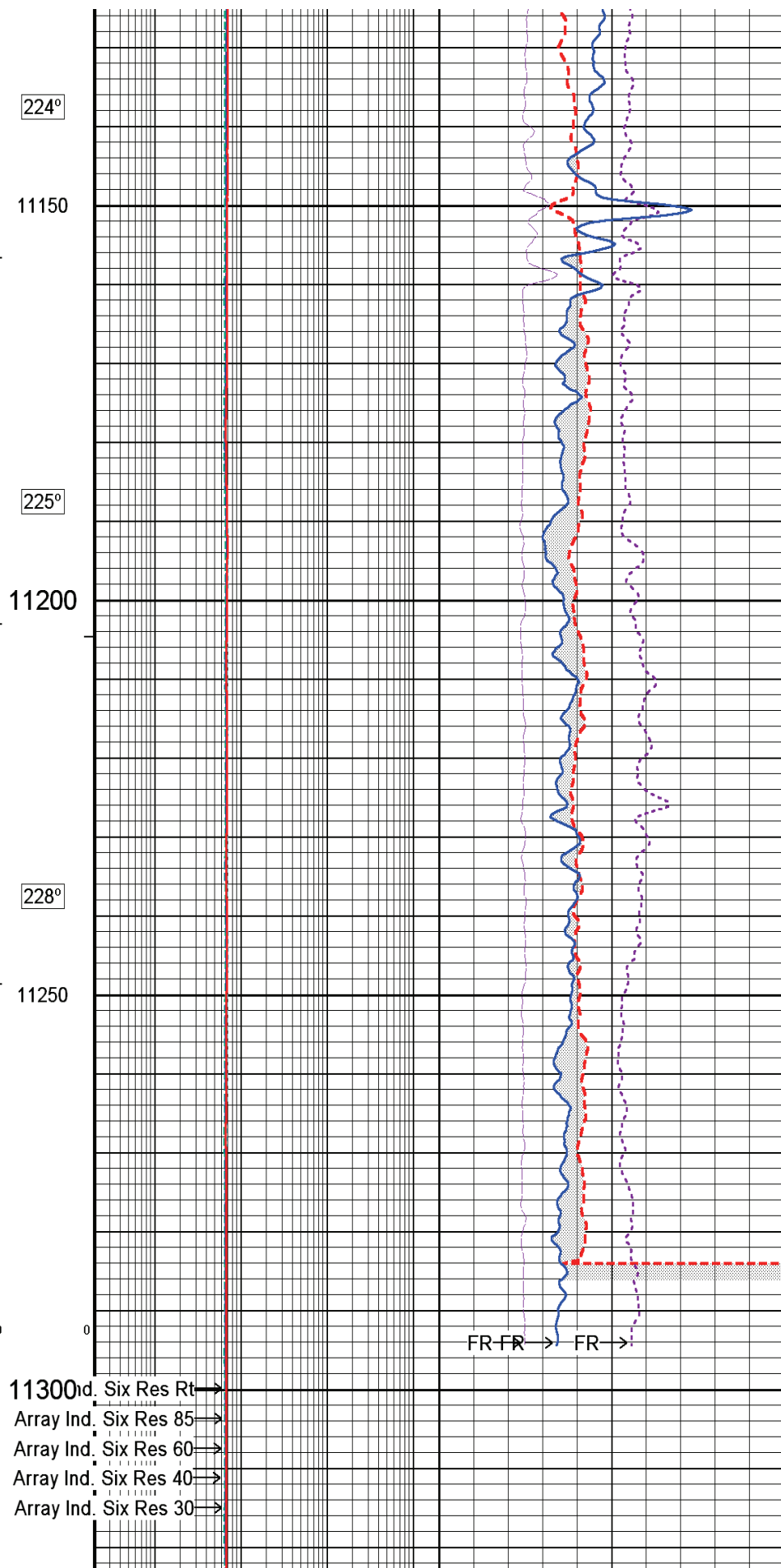
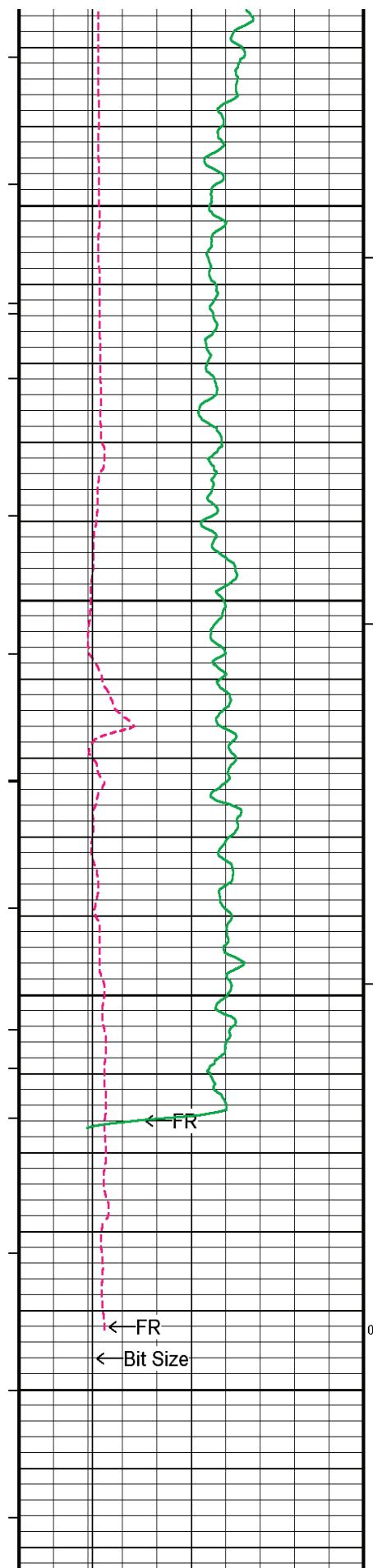


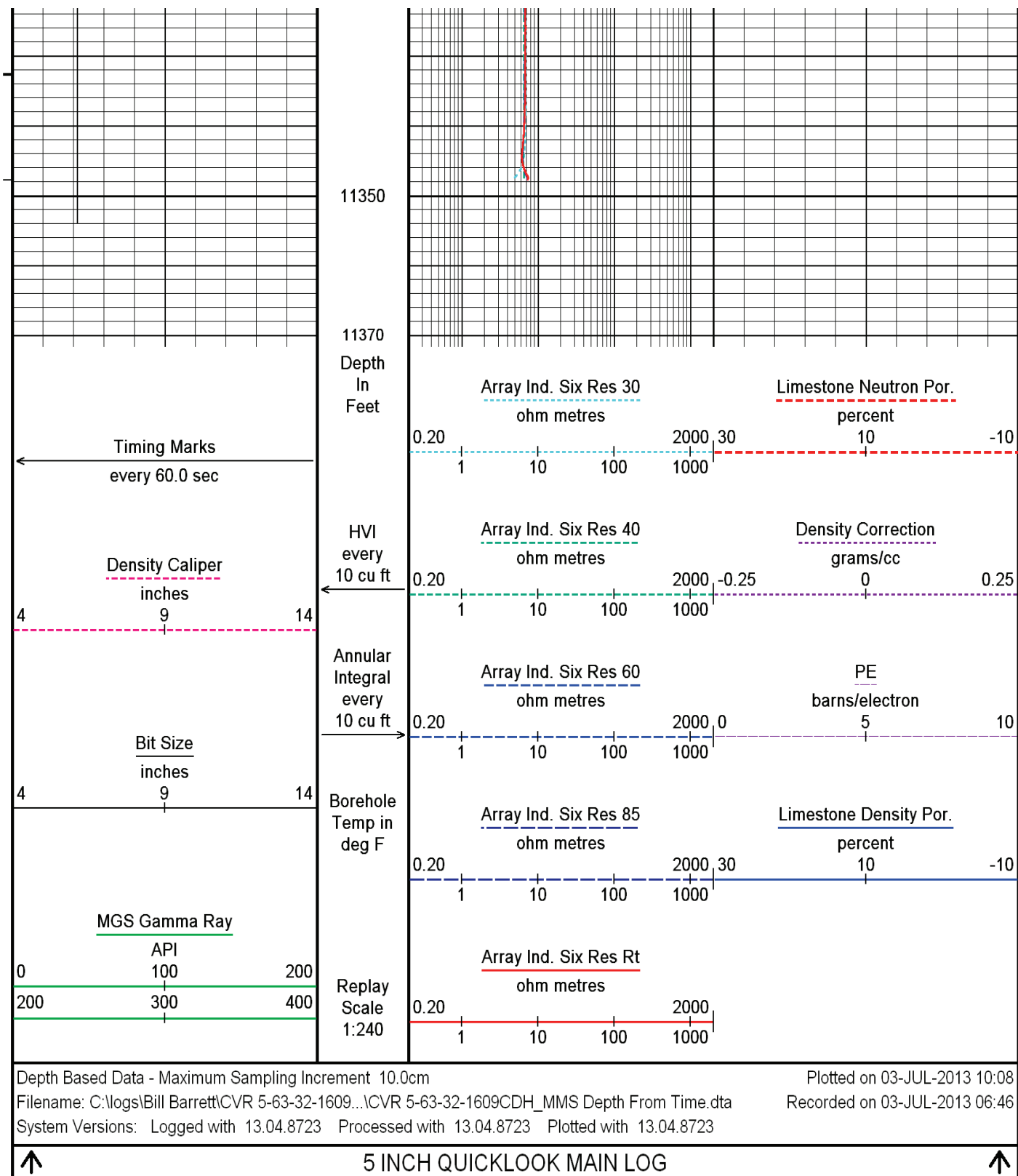












BEFORE SURVEY CALIBRATION

C:\logs\Bill Barrett\CVR 5-63-32-1609CDH\CVR 5-63-32-1609CDH_MMS Depth From Time.dta

General Constants All 000

Last Edited on 03-JUL-2013,06:45

General Parameters

Mud Resistivity

4.150

ohm-metres

Mud Resistivity Temperature

75.000

degrees F

Real Time Temperature	10.000	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	None	

Rwa Parameters	
Porosity used	Base Density Porosity
Resistivity used	Array Ind. Six Res Rt
RWA Constant A	0.610
RWA Constant M	2.150

Down-hole Tension Calibration SMS 0

Field Calibration on 16-AUG-2012 17:34

Reading No	Measured	
1	15060.53	0.00
2	17539.73	1400.00

Strain Gauge Constants MMS-F.A 215

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	

MMS Parameters MMS-F.A 215

Last Edited on 02-JUL-2013 09:41

Logging Parameters		
Firmware Version	2v40	
Caliper Open On	MAI	
Caliper Open Delay		minutes
Caliper Closed On	Unknown	
Caliper Closed Delay	N/A	minutes
Sample Rate	1.00	seconds
Use Deep Sleep	Yes	
Delay Deep Sleep	No	
Deep Sleep Wake Time	360.0	minutes
Deep Sleep Wake on Temperature	No	
Deep Sleep Wake Temperature	N/A	degrees C
Deep Sleep Wake on Pressure	No	
Deep Sleep Wake Pressure	N/A	psi
MMI Pad Pressure	8.0	

Release Parameters		
Pulse Duration Base Level	10.0	seconds
Pulse Duration Transition Time	5.0	seconds
Pulse Duration Status Pulse From	10.0	seconds
Pulse Duration Caliper Close From	35.0	seconds
Pulse Duration Caliper Open From	50.0	seconds

Pulse Duration Caliper Open From	30.0	seconds
Pulse Duration Release Pulse From	70.0	seconds
Pulse Duration Release Pulse To	100.0	seconds
Pulse Release Duration	30.0	seconds
Pulse Discriminator Pressure Band	194.0	seconds
Pulse Pressure Discriminator	436.0	seconds
Use Negative Pulsing	No	
Good Status Reply Open Hole	65535.0	seconds
Good Status Reply Cased Hole	10.0	seconds
Bad Status Reply	25.0	seconds
Status Pulse To	15.0	seconds
Caliper Close To		seconds
Caliper Open To	55.0	seconds
Configuration		
MMS,MGS,MDN,MPD,MPD,MIM,MIE,MAI		
High Resolution Temperature Calibration MGS-C.J 149		
	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00
High Resolution Temperature Constants MGS-C.J 149		
Pre-filter Length		11
SP Calibration MGS-C.J 149		
	Measured	Calibrated (mV)
Reference 1	1.0	1.0
Reference 2	0.0	0.0
Gamma Calibration MGS-C.J 149		
	Measured	Calibrated (API)
Background	158	111
Calibrator (Gross)	920	645
Calibrator (Net)	762	534
Gamma Constants MGS-C.J 149		
Gamma Calibrator Number		GRCC225
Mud Density	1.01	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm
Neutron Calibration MDN-B.J 430		
Base Calibration		Base Calibration on 05-JUN-2013 13:49 Field Check on 02-JUL-2013 07:01
	Measured	Calibrated (cps)
	Near Far	Near Far
	2862 89	3714 110
Ratio	32.243	33.764
Field Calibrator at Base		Calibrated (cps)
		2357 3422
Ratio		0.689
Field Check		Calibrated (cps)
		2389 3484
Ratio		0.686
Neutron Constants MDN-B.J 430		
		Last Edited on 02-JUL-2013,07:29

Neutron Source Id	P31131B			
Neutron Jig Number	NJ6630			
Epithermal Neutron	No			
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	None			
Formation Pressure	N/A	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			
Navigation Constants MIE-A.J 244		Last Edited on 02-FEB-2013,11:00		
Magnetic Declination	0.00	degrees	East	
Magnetometer Parameters MIE-A.J 244				
Date Of Last Magnetometer Calibration	17-FEB-2013,09:11			
	X Magnetometer	Y Magnetometer	Z Magnetometer	
Slope	-1.000000	-1.009208	-0.995641	
Offset	0.019588	-0.022814	0.004710	
Magnetometer Constants MIE-A.J 244		Last Edited on		
Magnetometer Calibrator Number	000			
Accelerometer Parameters MIE-A.J 244				
Date Of Last Accelerometer Calibration	13-FEB-2013,14:31			
	X Accelerometer	Y Accelerometer	Z Accelerometer	
Slope	-1.103572	-1.107641	-1.103778	
Offset	-0.006989	0.006286	-0.003996	
Accelerometer Constants MIE-A.J 244		Last Edited on 30-JUL-2012,10:15		
Accelerometer Calibrator Number	000			
Accelerometer Temperature Characterisation				
X Accelerometer				
Serial Number	1016			
Calibration Date	12-Apr-2011			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.93698e-005	-7.60293e-010	6.54727e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.59257e-004	6.13375e-007	-3.90888e-010
Y Accelerometer				
Serial Number	973			
Calibration Date	19-Jan-2011			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.95276e-005	-1.88058e-008	2.74122e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.75268e-004	3.53140e-007	7.52116e-010
Z Accelerometer				
Serial Number	1032			
Calibration Date	18-Apr-2011			
	B0	B1	B2	B3

Bias(g)	DV 0.00000e+000	DI -1.14960e-005	DZ 3.94288e-009	DJ 8.97135e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.88058e-004	2.44833e-007	8.38007e-010
Caliper Calibration MIE-A.J 244			Base Calibration on 13-JUN-2013 15:24 Field Calibration on 02-JUL-2013 06:39	
Base Calibration				
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)	
1	27350	28200	5.97	
2	37755	38735	7.96	
3	47218	48635	9.86	
4	59410	60317	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	25968	26634	24191	25855 5.97
2	34941	34740	32281	34645 7.96
3	42691	43484	41136	42534 9.86
4	53375	52670	50845	53010 11.92
5	0	0	0	0 0.00
Field Calibration				
	Measured Pads 1-5 Caliper(in)	Measured Pads 3-7 Caliper(in)	Actual Caliper(in)	
	5.89	5.90	5.97	
	Measured Pad 2 Caliper(in)	Measured Pad 4 Caliper(in)	Measured Pad 6 Caliper(in)	Measured Pad 8 Caliper(in) Actual Caliper(in)
	2.99	2.96	2.95	2.98 5.97
Caliper Constants MIE-A.J 244			Last Edited on 28-OCT-2012,00:31	
Caliper Difference for BRKT		0.120	inches	
Imager Pad Check MIE-A.J 244			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 244			Last Edited on 09-NOV-2012,10:10	
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		
High Resolution Temperature Calibration MAI-B.J 376			Field Calibration on 02-JUL-2013,06:42	
	Measured	Calibrated(Deg F)		
Lower	20.00	20.00		
Upper	50.00	50.00		
High Resolution Temperature Constants MAI-B.J 376			Last Edited on 02-JUL-2013,06:42	
Pre-filter Length		11		

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	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	15.3	3946.5	14.2	3943.7
2	31.2	3583.5	30.9	3582.6
3	30.0	3102.4	29.9	3101.7
4	20.5	2123.9	20.5	2123.8
Deep	19.0	2052.2	18.9	2051.8
Medium	43.3	4061.5	43.2	4060.7
Shallow	45.7	5259.1	45.2	5257.8

Array Temperature 77.9 60.1 Deg F

Induction Constants MAI-B.J 376

Last Edited on 02-JUL-2013,09:50

Induction Model	RtAP-WBM		
Caliper for Borehole Corr.	Bit Size		
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.	MCG 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	

Base Calibration on 05-JUN-2013 14:33
Field Calibration on 02-JUL-2013 06:48

Field Calibration	Measured Caliper (in)	Actual Caliper (in)
	5.88	5.97

Base Calibration on 05-JUN-2013 15:03
Field Check on 02-JUL-2013 06:52

Field Check	1182.2	1261.5
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Field Check	214.4	1057.6
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Last Edited on 02-JUL-2013,07:29

[illegible]

0.00
0.00

0.00
0.00

DOWNHOLE EQUIPMENT

C:\logs\Bill Barrett\CVR 5-63-32-1609CDH\CVR 5-63-32-1609CDH_MMS Depth From Time.dta

Shuttle Running Tool 3.5")
SRT-A.A 59 LG: 6.62 ft WT: 37.5 lb OD: 2.52 in

400v ext tube linker
MLK-A 2 LG: 14.23 ft WT: 30.9 lb OD: 2.24 in

200v std tube linker
MLK-A 1 LG: 8.53 ft WT: 30.9 lb OD: 2.24 in

MML Tube Linker
MLK-A 4 LG: 4.40 ft WT: 30.9 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 66 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MBS-F.A 200v Compact Battery Sub
MBS-F.A 120 LG: 10.22 ft WT: 81.6 lb OD: 2.24 in

Compact Memory Sub F.A
MMS-F.A 215 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.
MTI-B.A 53 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

Compact Short Gamma
MGS-C.J 149 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator
MCL-B.J 67 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-E.A Compact Knuckle Joint
SKJ-E.A 410 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

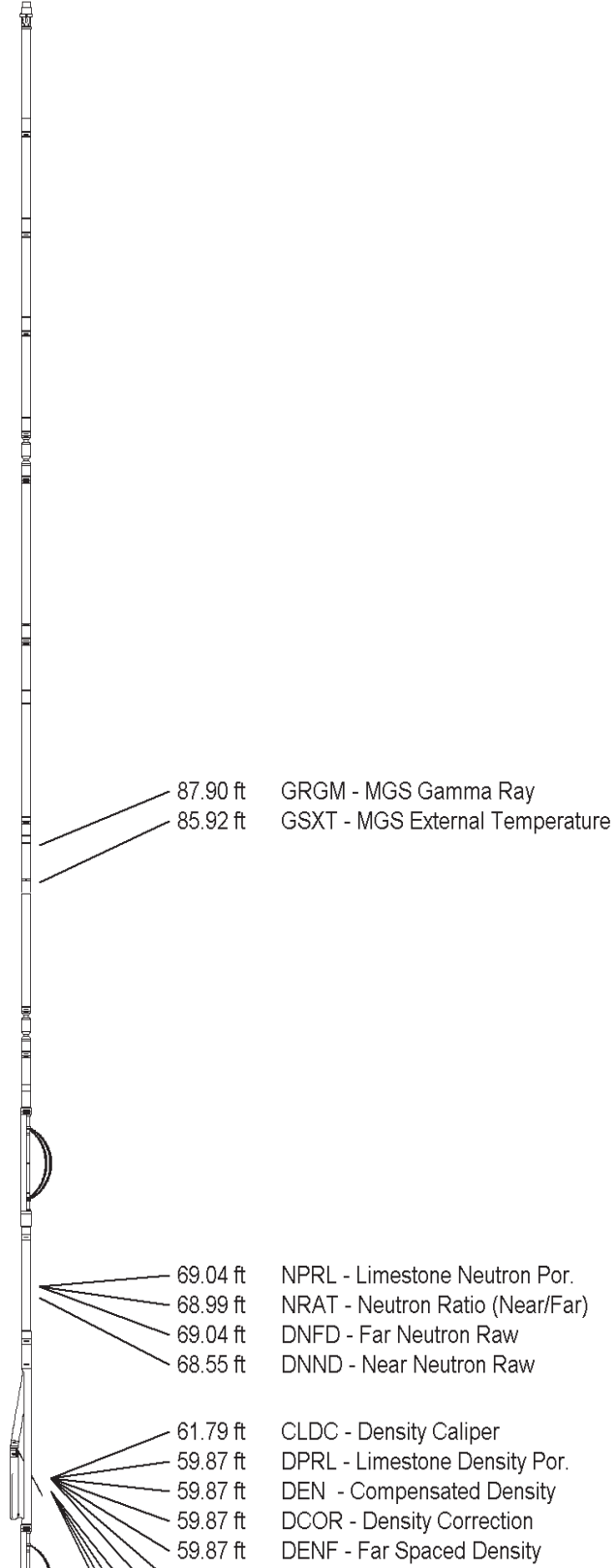
SHA-J.B Compact Swivel Head Adaptor
SHA-J.B 597 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 702 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron
MDN-B.J 430 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-C.J 378 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 654 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in



SHA-J.B Compact Swivel Head Adaptor
SHA-J.B 506 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 614 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-E.B Compact Inline Standoff sub
MIS-E.B 693 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 612 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 709 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact MMI Memory Section
MIM-A.J 244 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

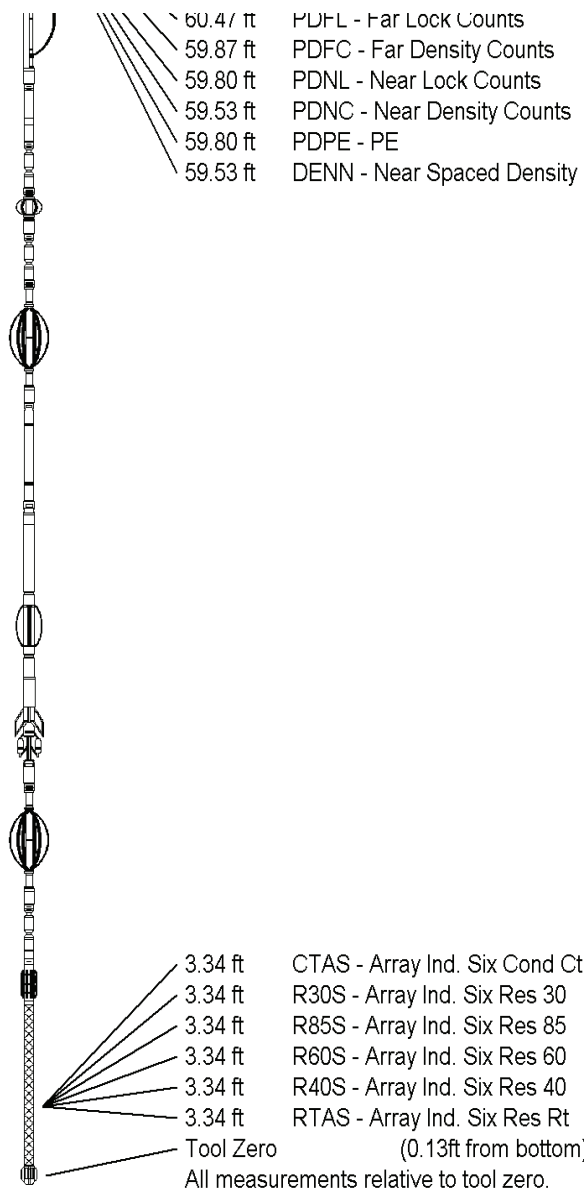
Compact MMI Electrode Section
MIE-A.J 244 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 700 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 610 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Induction
MAI-B.J 376 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 141.73 ft Weight: 941.4 lb



COMPANY	BILL BARRETT CORPORATION
WELL	CVR 5-63-32-1609CDH
FIELD	NE WATTENBERG
PROVINCE/COUNTY	WELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	4601.00	feet	First Reading	11346.00	feet
Elevation Drill Floor	4600.00	feet	Depth Driller	11400.00	feet
Elevation Ground Level	4578.00	feet	Depth Logger	11378.00	feet



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