

FILE NO: 1261	COMPANY WILLIAMS PRODUCTION RMT	OTHER SERVICES BHP
API NO: 05045184260000	WELL GM 943-1D	
	FIELD GRAND VALLEY	
	COUNTY GARFIELD	STATE CO
Ver. 3.87 RIG: CYCLONE 30	LOCATION: SHL: 1754' FNL 1913' FEL BHL: 1544' FSL 1137' FEL SEC 1 TWP 7S RGE 96W	
PERMANENT DATUM LOG MEASURED FROM DRILL MEAS. FROM	GL 5308 FT KB 23 FT ABOVE P.D. KB	ELEVATIONS: KB 5331 FT DF 5330 FT GL 5308 FT

DATE	28-Jun-2009	
RUN	TRIP	1
SERVICE ORDER	573319	
DEPTH DRILLER	5191 FT	
DEPTH LOGGER	5190 FT	
BOTTOM LOGGED INTERVAL	5187 FT	
TOP LOGGED INTERVAL	0 FT	
CASING DRILLER	10.75 IN	1035 FT
CASING LOGGER	1030 FT	
BIT SIZE	9.875 IN	
TYPE OF FLUID IN HOLE	LSND	
DENSITY	10.6 LB/G	94 S
PH	9.4	5.2 C3
SOURCE OF SAMPLE	MUD PIT	
RM AT MEAS. TEMP.	.219 OHMM	120 DEGF
RMF AT MEAS. TEMP.	.164 OHMM	118 DEGF
RMC AT MEAS. TEMP.	.274 OHMM	115 DEGF
SOURCE OF RMF	MEASURED	MEASURED
RM AT BHT	.252 OHMM	150 DEGF
TIME SINCE CIRCULATION	5 HOURS	
MAX. RECORDED TEMP.	150 DEGF	
EQUIP. NO.	HL-6741	VERNAL
RECORDED BY	DONALDSON	
WITNESSED BY	TOMERS	

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
9.875 IN	1035 FT	5191 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
10.75 IN	32 LB/F		0 FT	1035 FT

REMARKS	
RUN 1 TRIP 1 :	<ul style="list-style-type: none"> * ZDL MATRIX: 2.68 * CN MATRIX: SANDSONE * TOOL RAN DE-CENTRALIZED * ZDL MAY BE AFFECTED BY BOREHOLE RUGOSITY * RIG: CYCLONE 30 * THANK YOU FOR CHOOSING BAKER ATLAS * CREW: HOWERTON/WICHERS

EQUIPMENT DATA					
RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	SWVAL	3950XA	10407978	FREE
1	1	TTMA	3980XA	10090453	FREE
1	1	TELEMETRY	3518EB	10110604	FREE
1	1	GR	3518EG	10139870	FREE
1	1	CN	2436XA	10411083	DE-CENTRALIZED
1	1	ZDL	2223XA	10090864	PAD DEVICE
1	1	KNUCKLE	3930XA	10163289	FREE
1	1	KNUCKLE	3930XA	10139400	FREE
1	1	HDIL	1530XA	10120519	STAND-OFF

MAIN LOG 2"/100FT SCALE

ECLIPS 6.0i Feb 21, 2008
Updates: 1

Mon Jun 29 17:36:06 2009

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

File: /data1a/1261/k970a01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 926.500 ft BOTTOM DEPTH: 5197.676 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
BIT SIZE	BIT SIZE	9.875	in	TOP	BOTTOM
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE DESCRIPTION REPORT

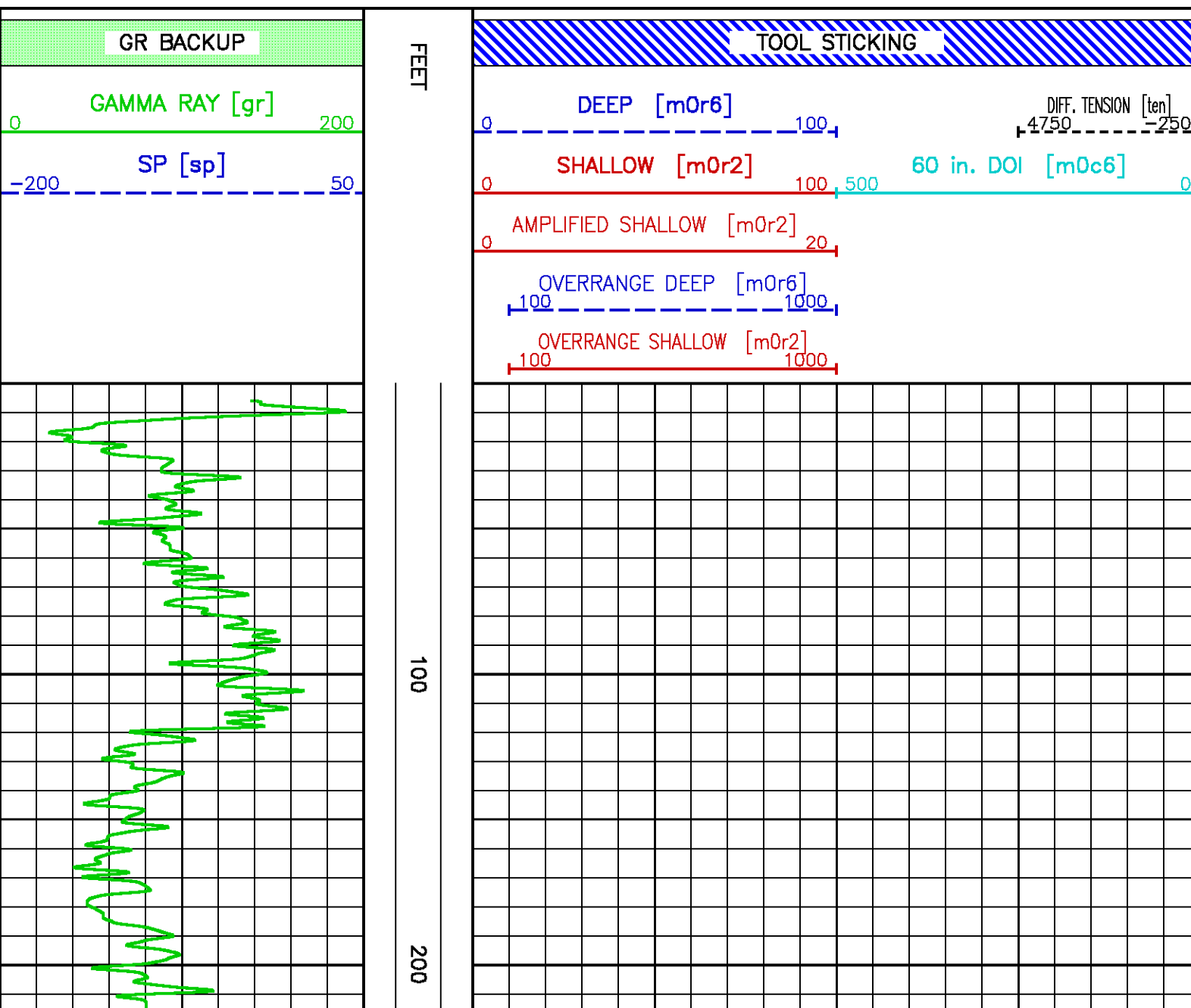
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:GR	GR	Jun 29 16:11:35 2009	GAMMA RAY
F1:MOC6	MOC6	Jun 29 16:11:35 2009	HDIL FOCUSSED CONDUCTIVITY - 60" INVESTIGATION
F1:MOR2	MOR2A	Jun 29 16:11:35 2009	TRUE FOCUSED RESISTIVITY FOR HDIL - DOI 20 INCH
F1:MOR6	MOR6L	Jun 29 16:11:35 2009	TRUE FOCUSED RESISTIVITY FOR HDIL - DOI 60 INCH
F1:SP	SP	Jun 29 16:11:35 2009	SPONTANEOUS POTENTIAL
F1:TEN	TEN	Jun 29 16:11:35 2009	DIFFERENTIAL TENSION

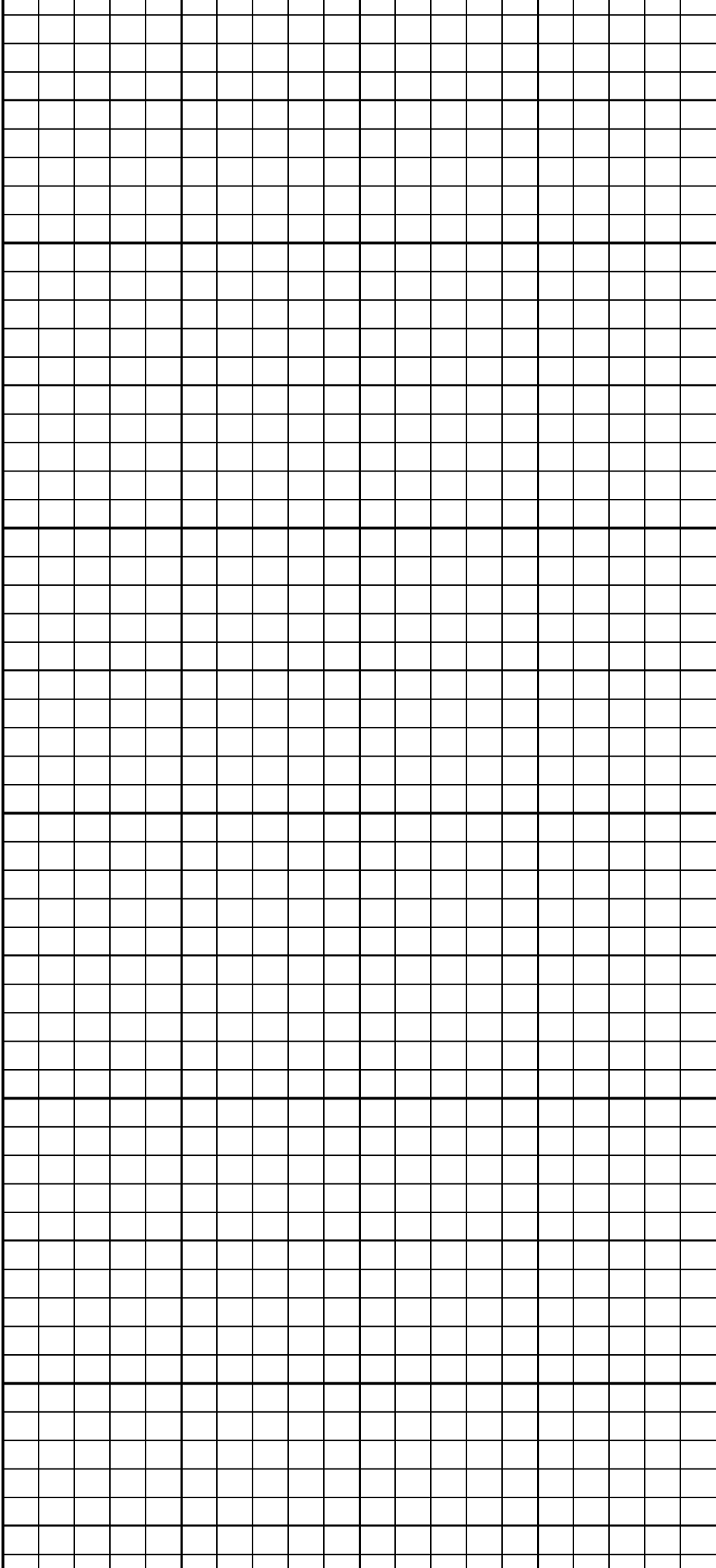
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	35.00	MOR2	2.75	SP	1.25		
MOC6	2.75	MOR6	2.75	TEN	0.00		

Presentation : mfg1:/dat1a/1261/2IN.pdf [2"/100' Scale]
 Plot Interval : 911.75 - 5197 Feet

Data File 1 : F1 : mfg1:/dat1a/1261/k970a01_MAIN.xtf
 Created On : Jun 29 16:11:35 2009
 Company : WILLIAMS PRODUCTION RMT
 Well : GM 943-1D
 Field : GRAND VALLEY
 File Interval : 0 - 5203 Feet
 Oct : k970a





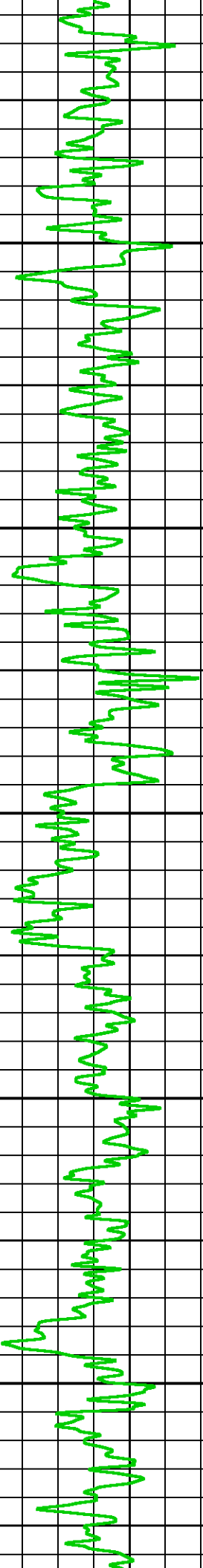
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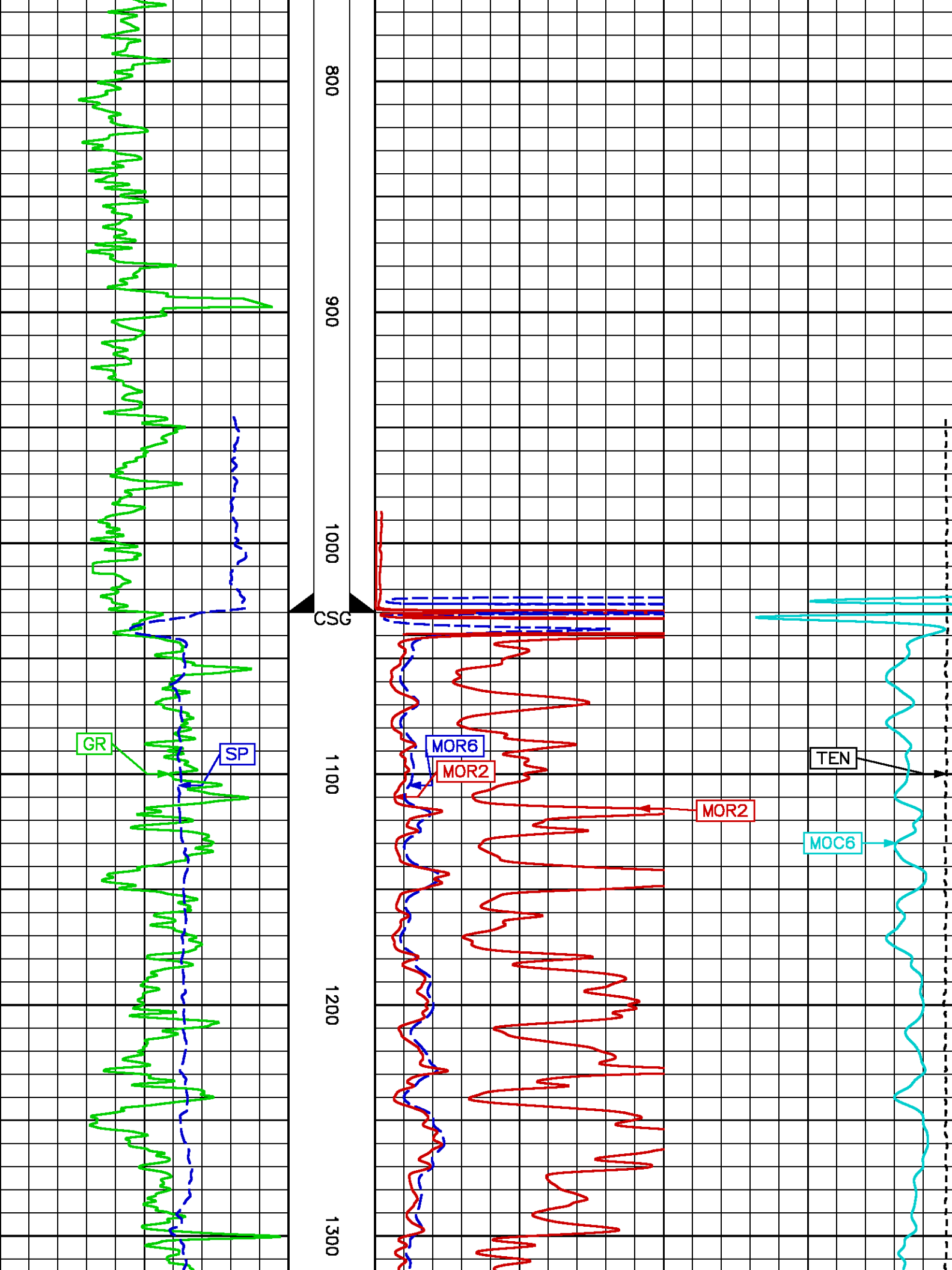
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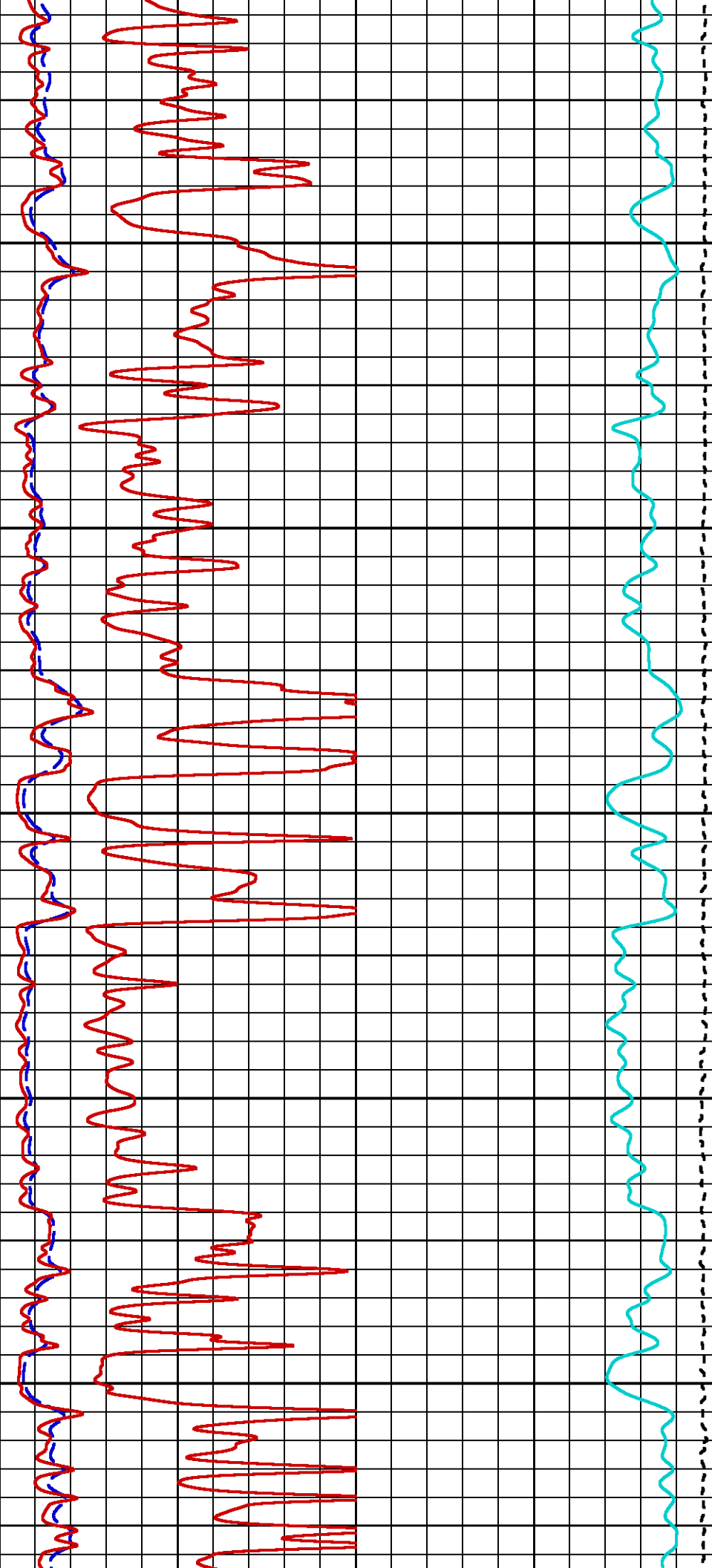
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700







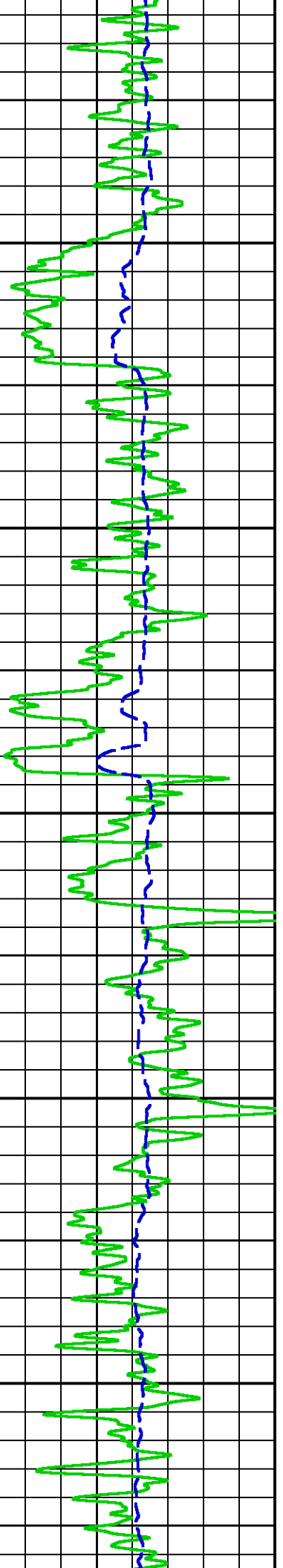
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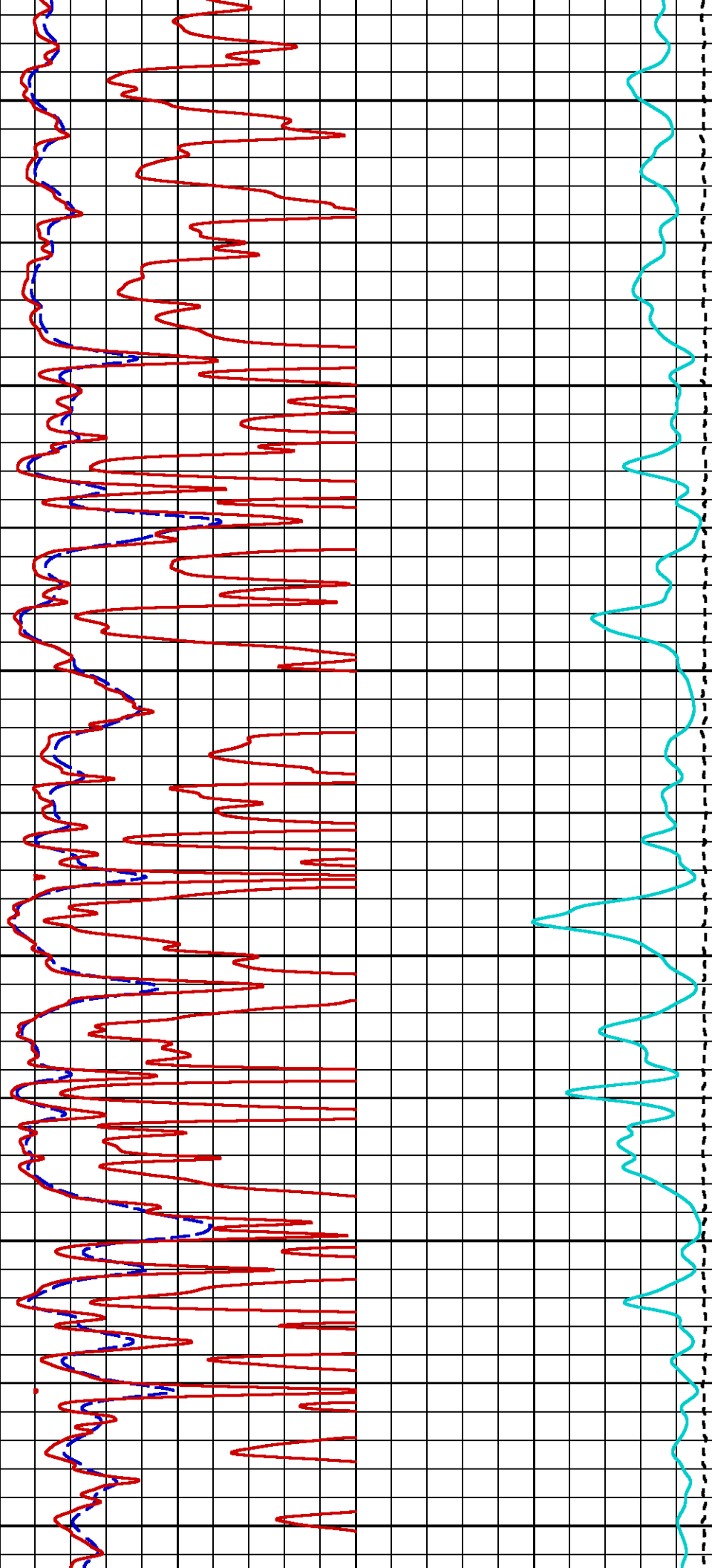
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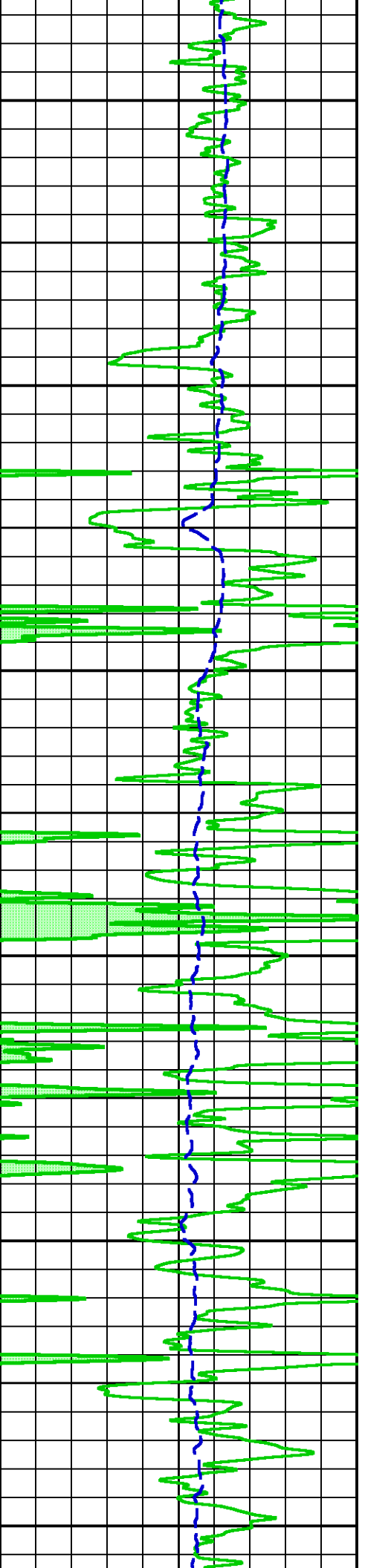
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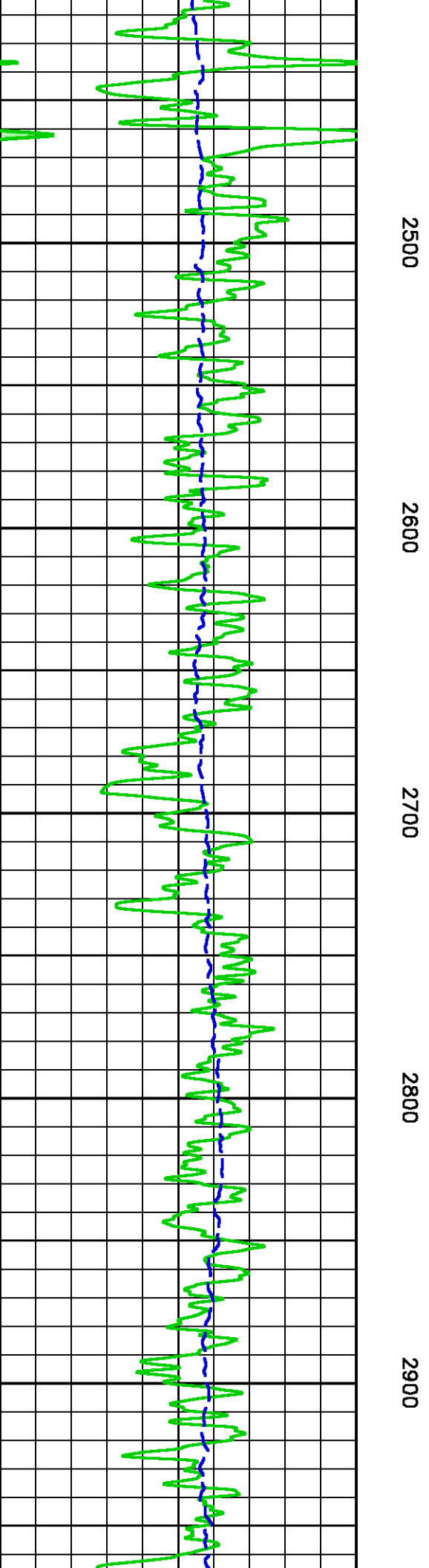
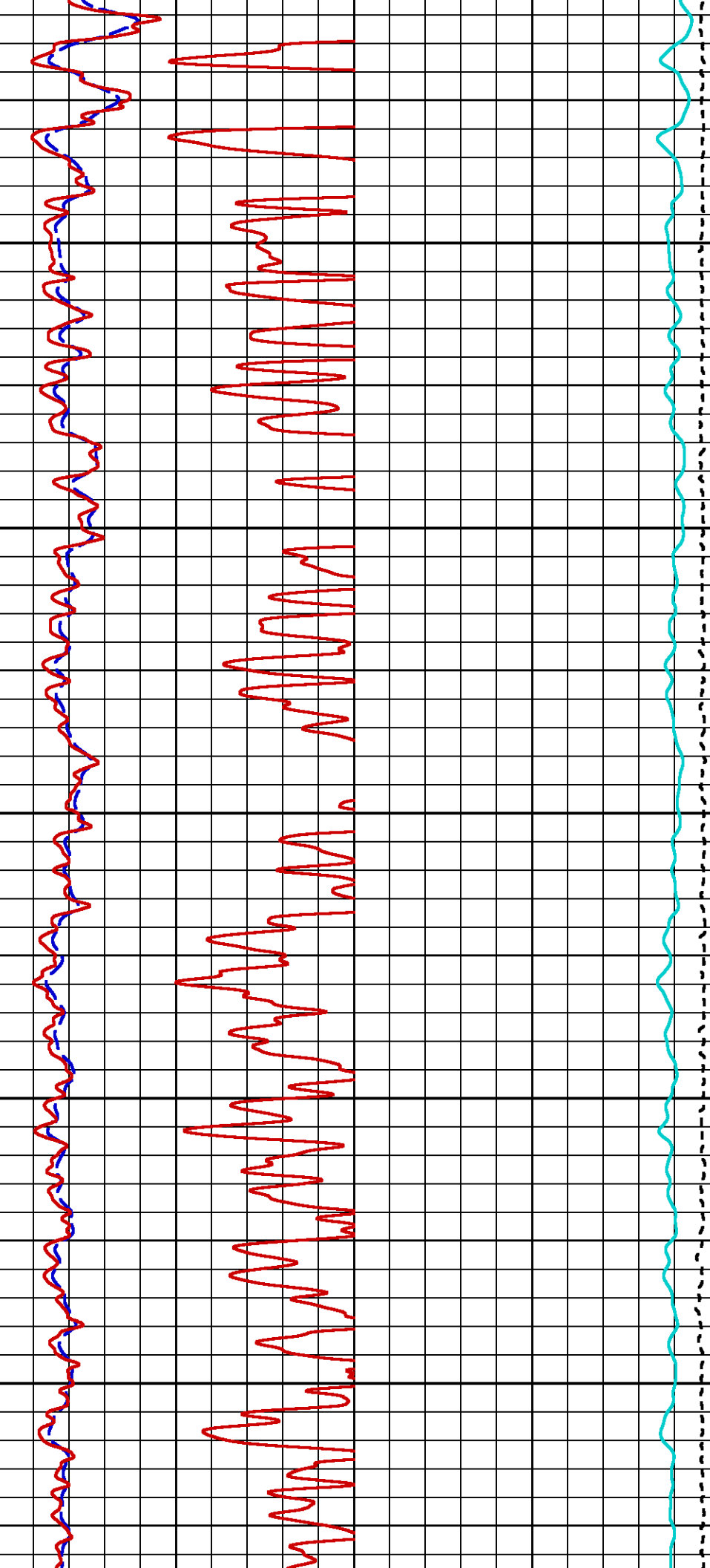
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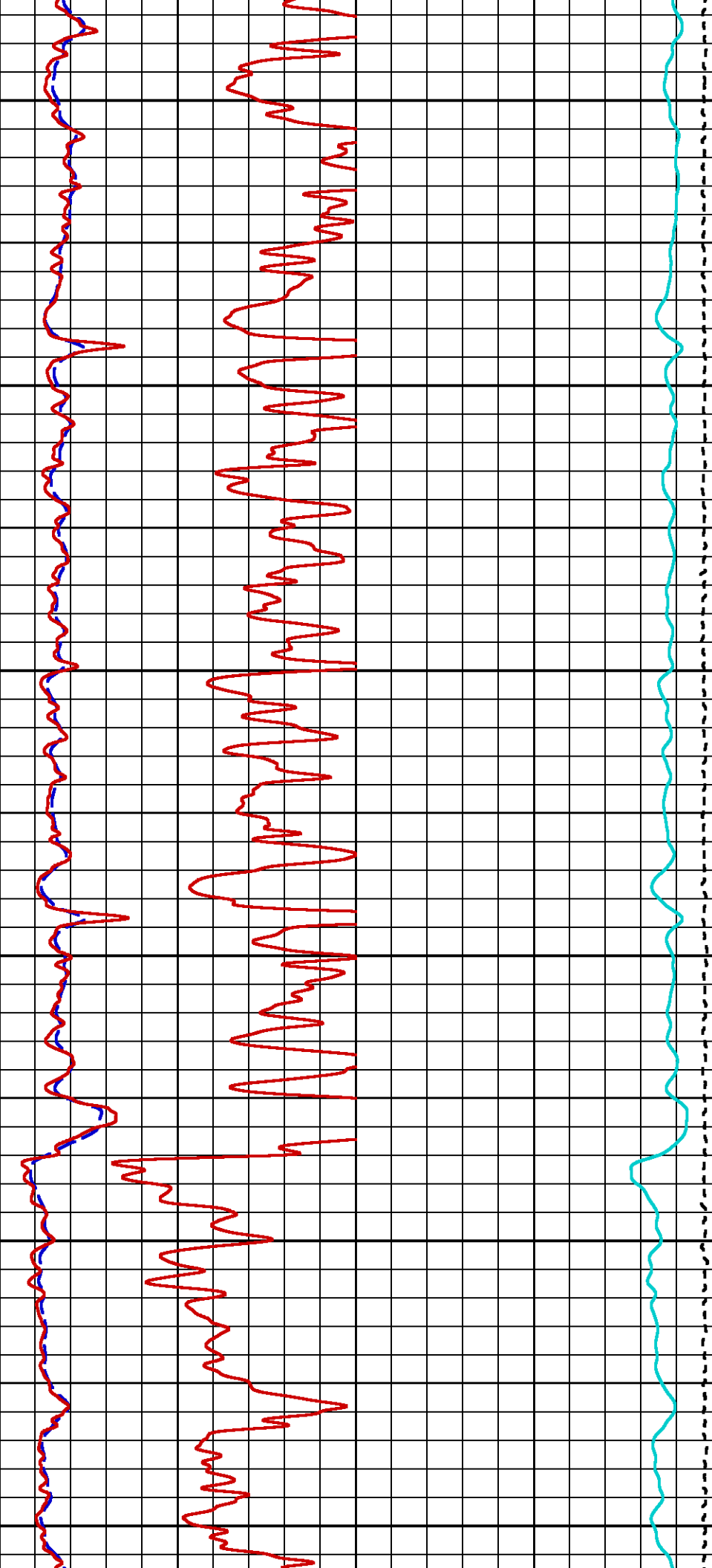




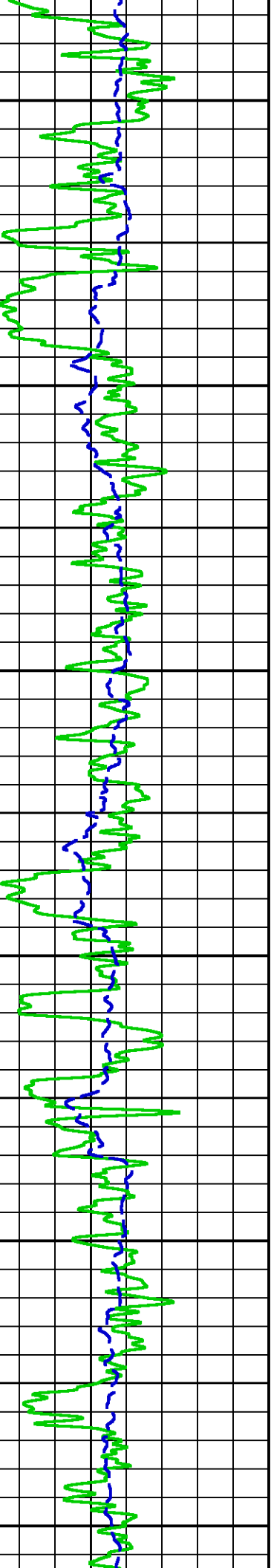
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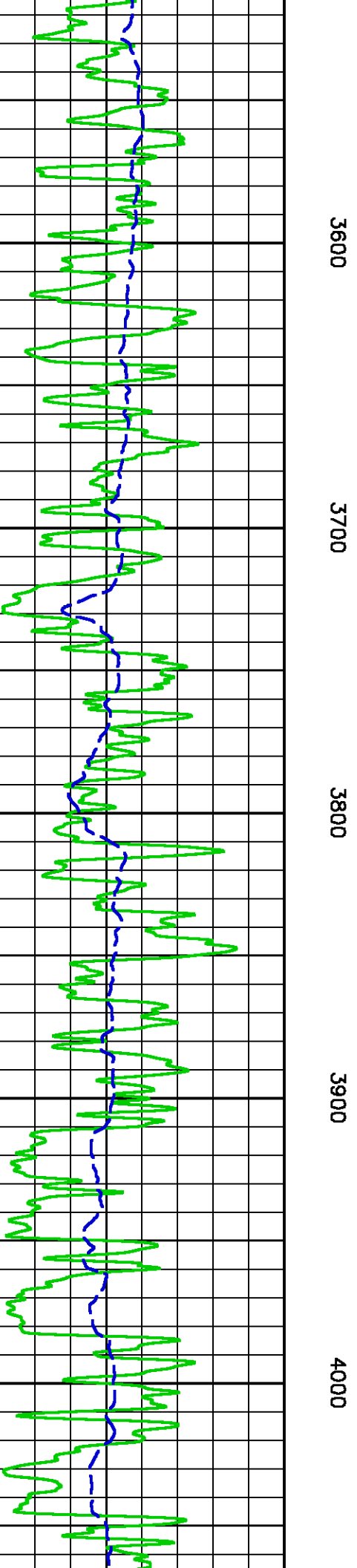
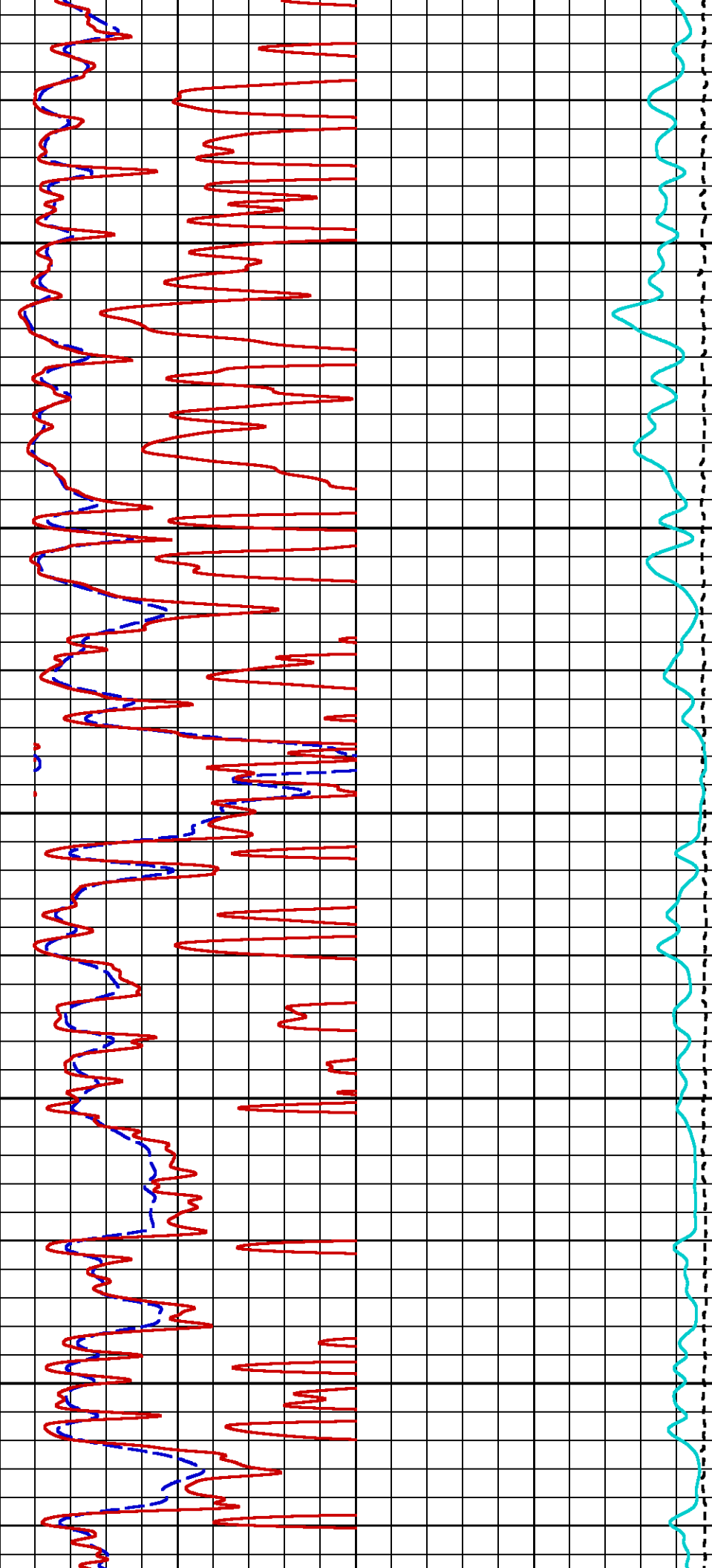


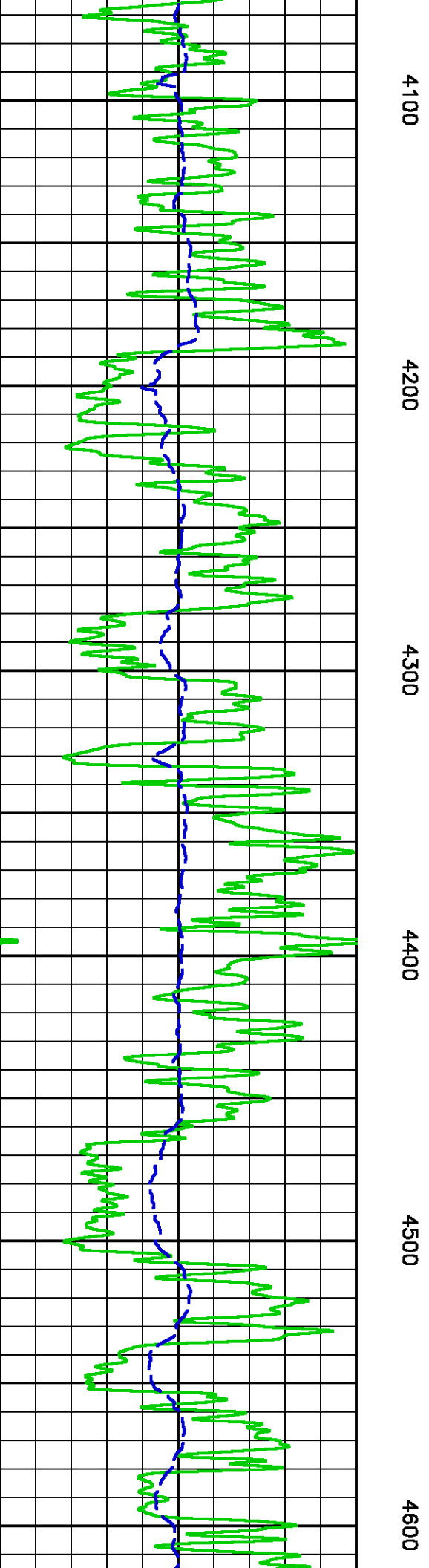
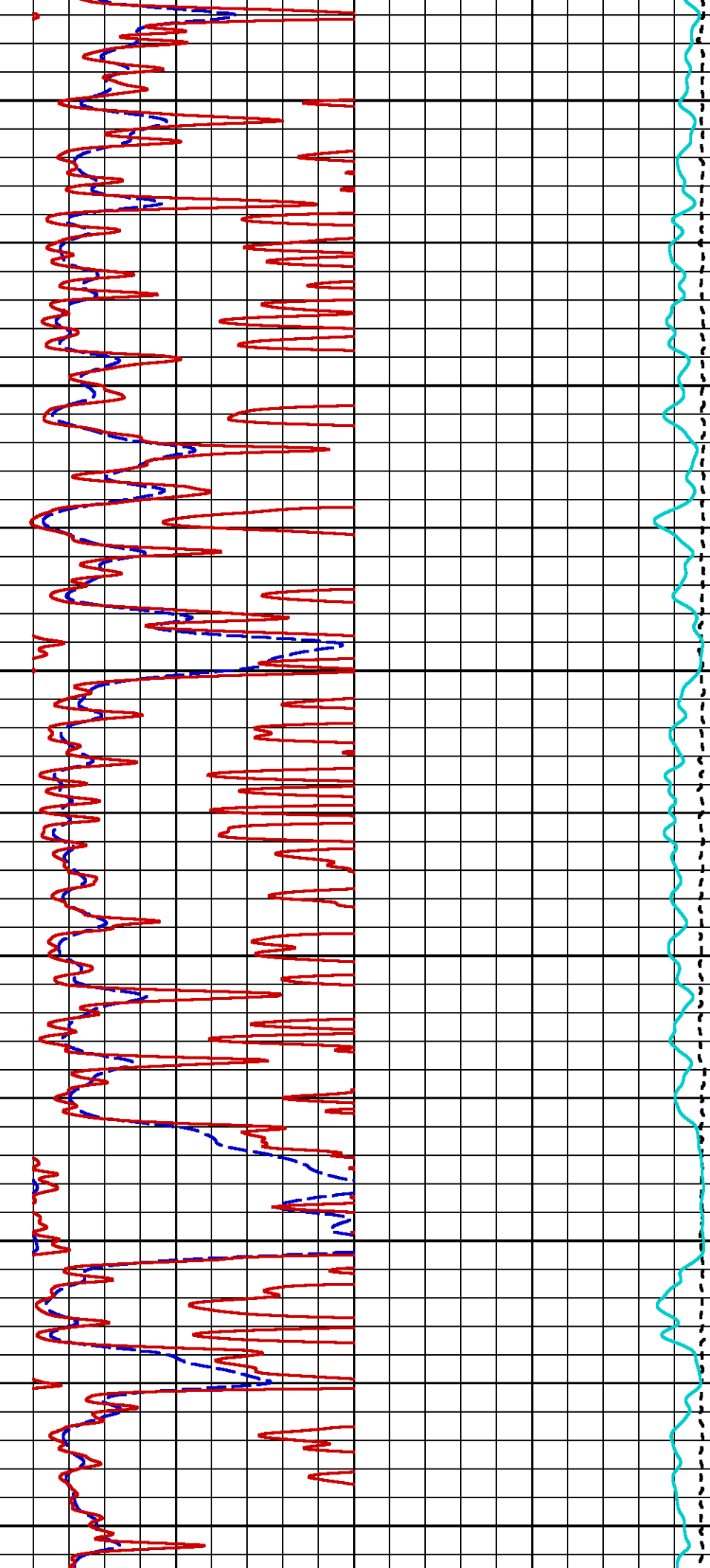


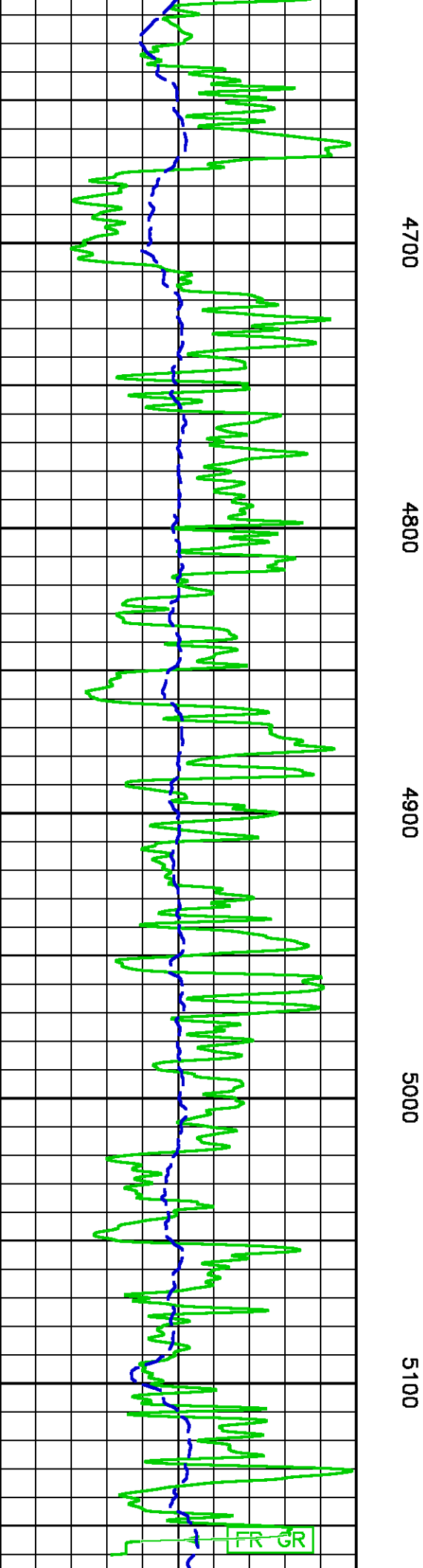
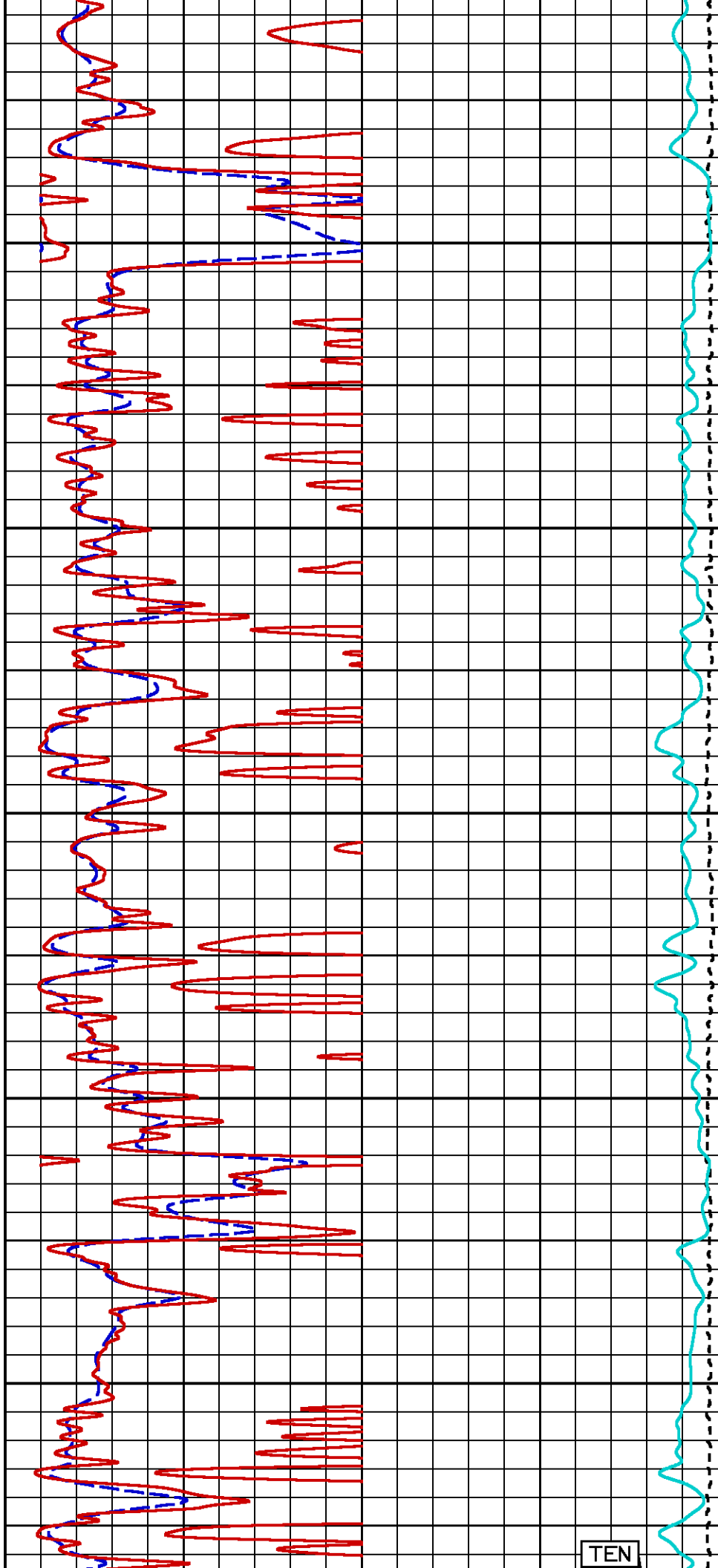


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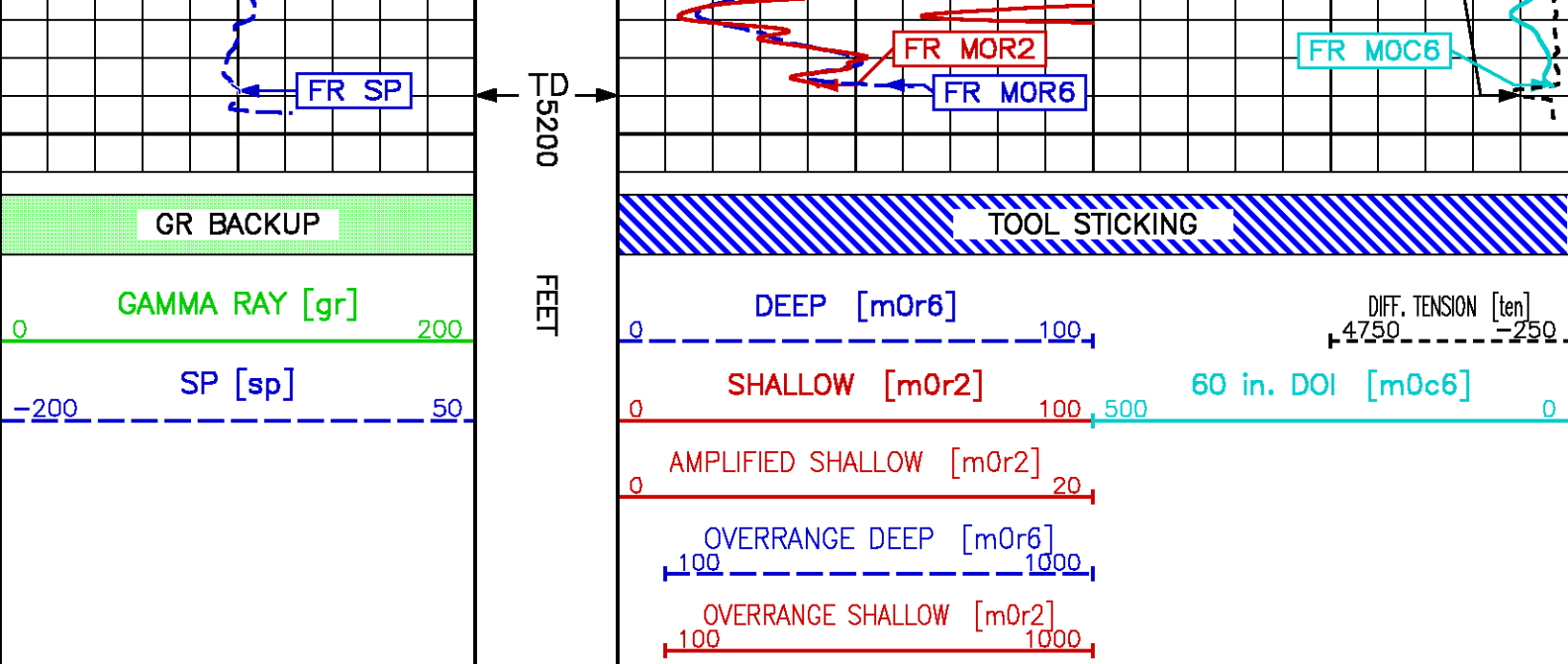








FR GR



MAIN LOG 5"/100FT SCALE

ECLIPS 6.0i Feb 21, 2008
Updates: 1

Mon Jun 29 17:38:03 2009

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

File: /data/1261/k970a01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 926.500 ft BOTTOM DEPTH: 5197.676 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	7.000	In	TOP	BOTTOM
	CASING THICKNESS	0.000	In	"	"
BIT SIZE	BIT SIZE	9.875	In	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	In	"	"
	FIXED DIAMETER (mbh*)	7.875	In	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"

BOREHOLE TEMP from GRADIENT	MUD SAMPLE RES	1.000	ohm.m	''	''
	Known BH REF TEMP	77.0	degF	''	''
	at BH REF DEPTH	0.0	ft	''	''
	with TEMP GRADIENT	1.200	0.01 degF/ft	''	''

ACCELERATION PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	10000	ppm	''	''
	BOREHOLE CORRECTION	ON		''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	7.875	In	''	''

ZDL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''

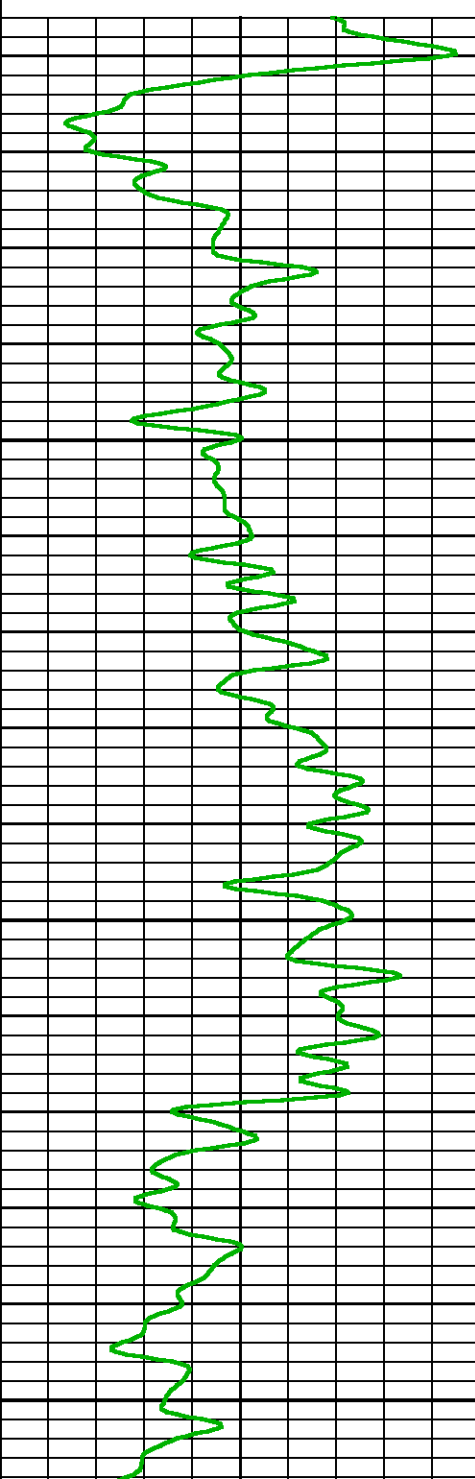
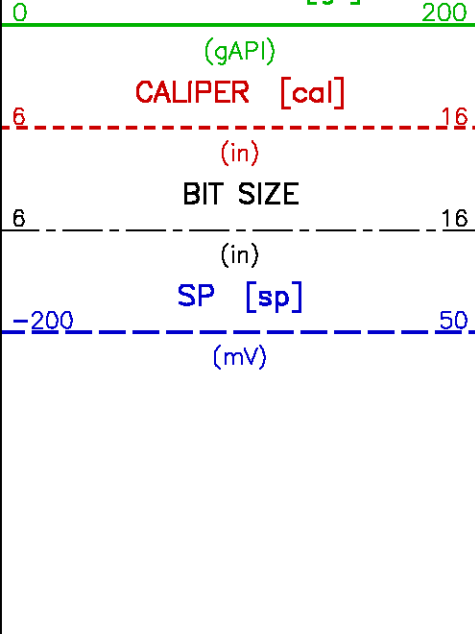
HDIL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	MUD CONDUCTIVITY		''	''
	STANDOFF	1.50	In	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT			
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jun 29 16:11:35 2009	BIT SIZE
F1:BVOL	BVOL	Jun 29 16:11:35 2009	BOREHOLE VOLUME
F1:CAL	CAL	Jun 29 16:11:35 2009	CALIPER
F1:CNCF	CNCF	Jun 29 16:11:35 2009	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Jun 29 16:11:35 2009	CEMENT VOLUME
F1:GR	GR	Jun 29 16:11:35 2009	GAMMA RAY
F1:M2R1	M2R1	Jun 29 16:11:35 2009	VERT RESOLUTION MATCHED (2 FT) RES - DOI 10 INCH
F1:M2R6	M2R6	Jun 29 16:11:35 2009	VERT RESOLUTION MATCHED (2 FT) RES - DOI 60 INCH
F1:M2R9	M2R9	Jun 29 16:11:35 2009	VERT RESOLUTION MATCHED (2 FT) RES - DOI 90 INCH
F1:PE	PE	Jun 29 16:11:35 2009	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	PORZ	Jun 29 16:11:35 2009	POROSITY FOR SELECTABLE MATRIX
F1:SP	SP	Jun 29 16:11:35 2009	SPONTANEOUS POTENTIAL
F1:TEN	TEN	Jun 29 16:11:35 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Jun 29 16:11:35 2009	DENSITY CORRECTION

CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

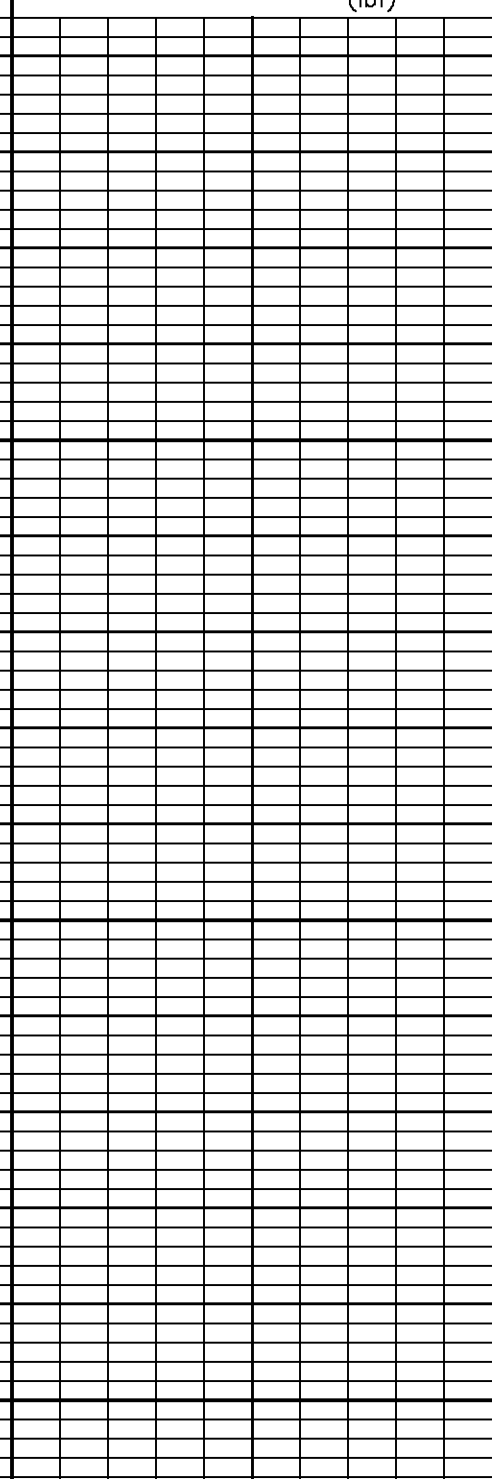
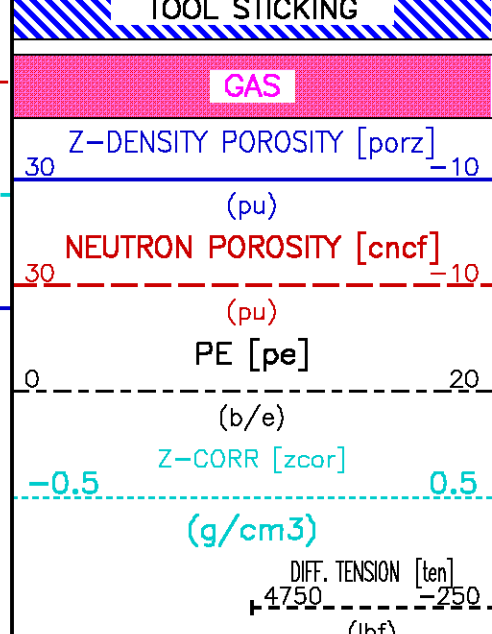
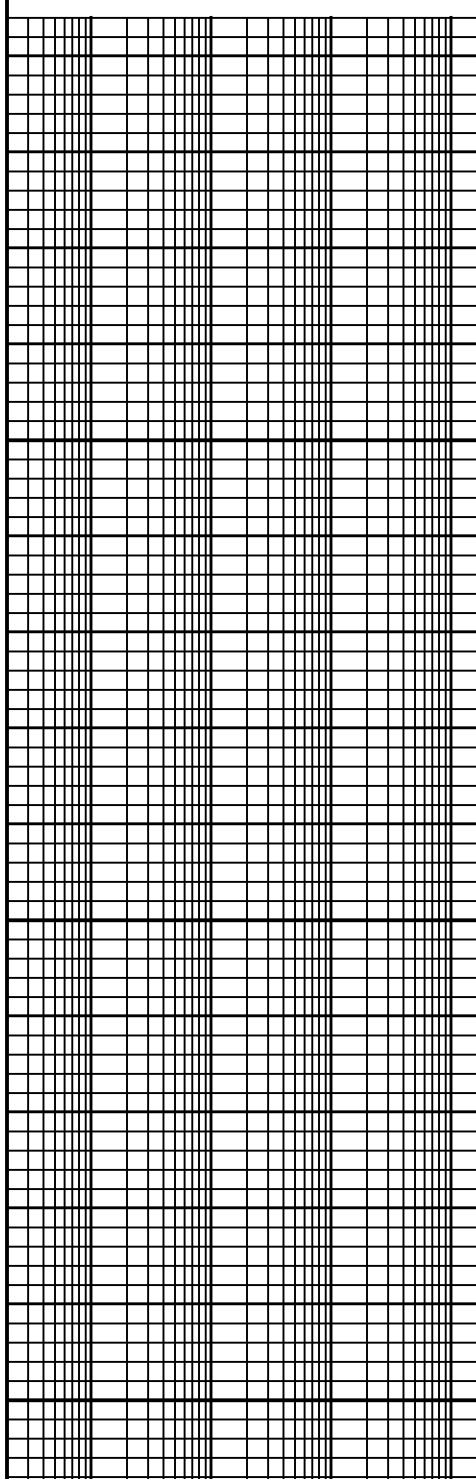
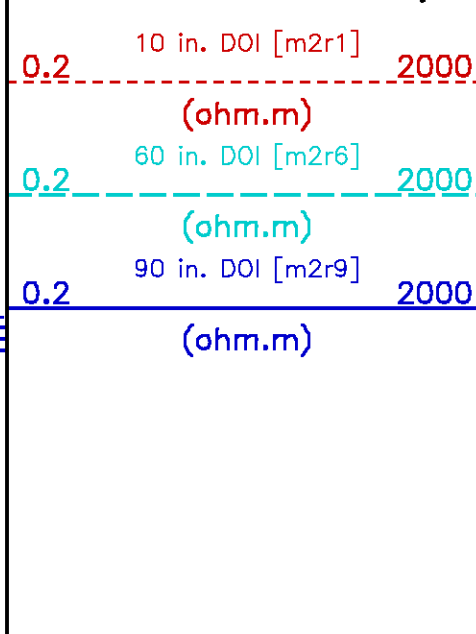
Presentation	: mfg1:/dat1a/1261/MAIN.pdf [5"/100' Scale]
Plot Interval	: 902.25 - 5201.75 Feet
Data File 1	: F1 : mfg1:/dat1a/1261/k970a01_MAIN.xtf
Created On	: Jun 29 16:11:35 2009
Company	: WILLIAMS PRODUCTION RMT
Well	: GM 943-1D
Field	: GRAND VALLEY
File Interval	: 0 - 5203 Feet
Oct	: k970a

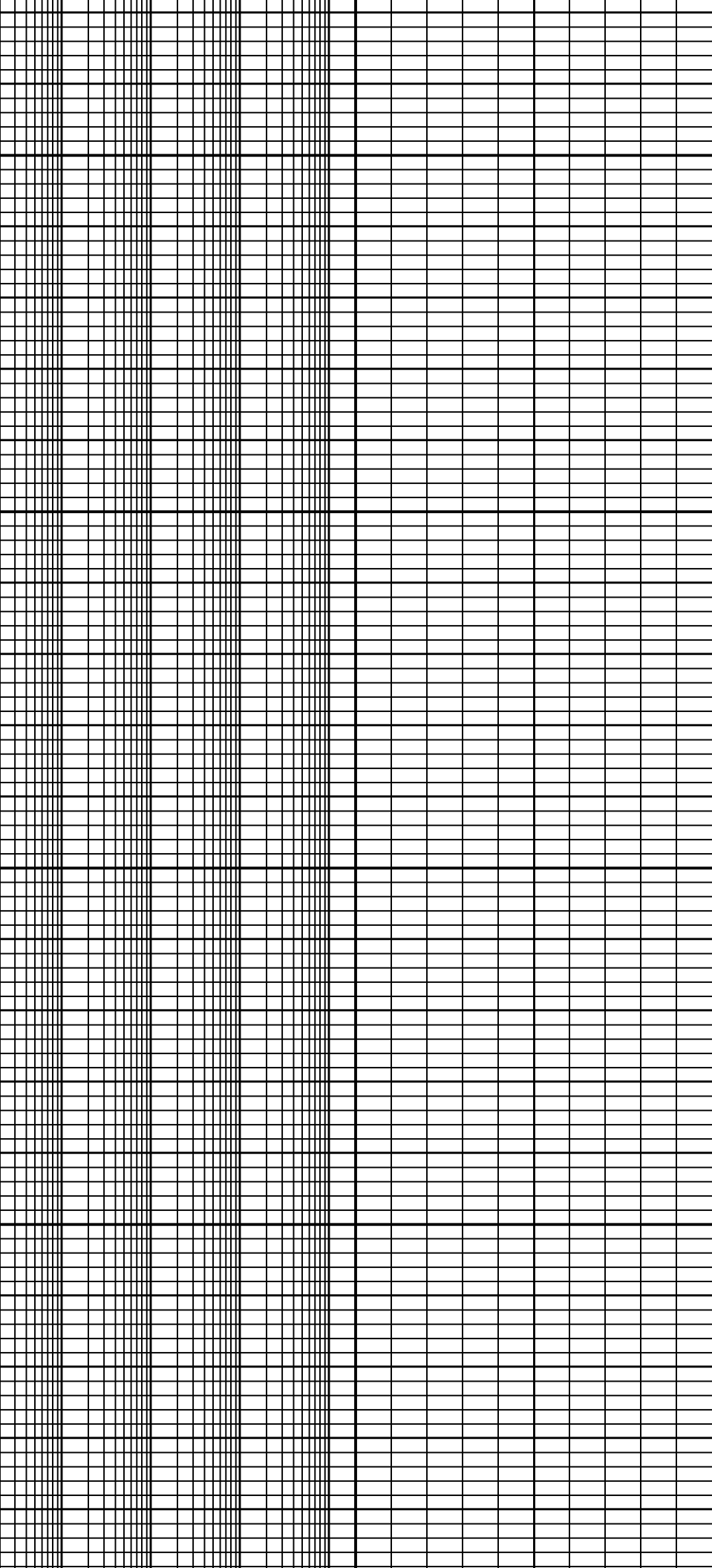
GAMMA RAY [gr]		2FT Matched Resolution Resistivity	
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FEET

100

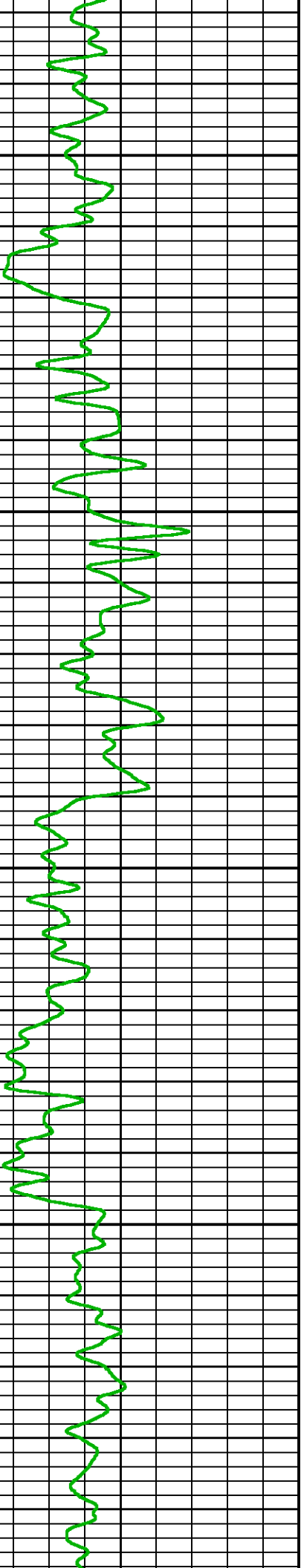


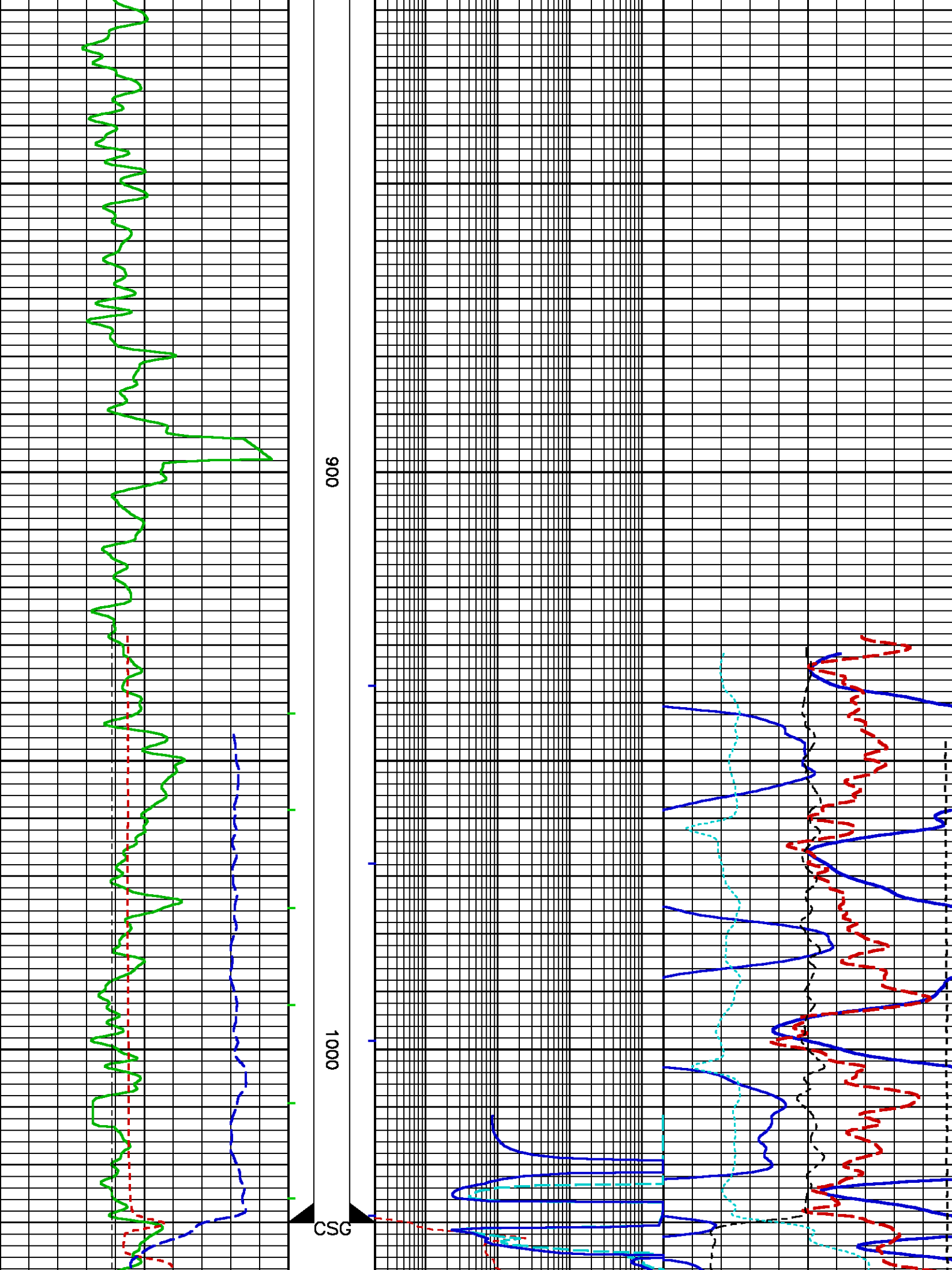


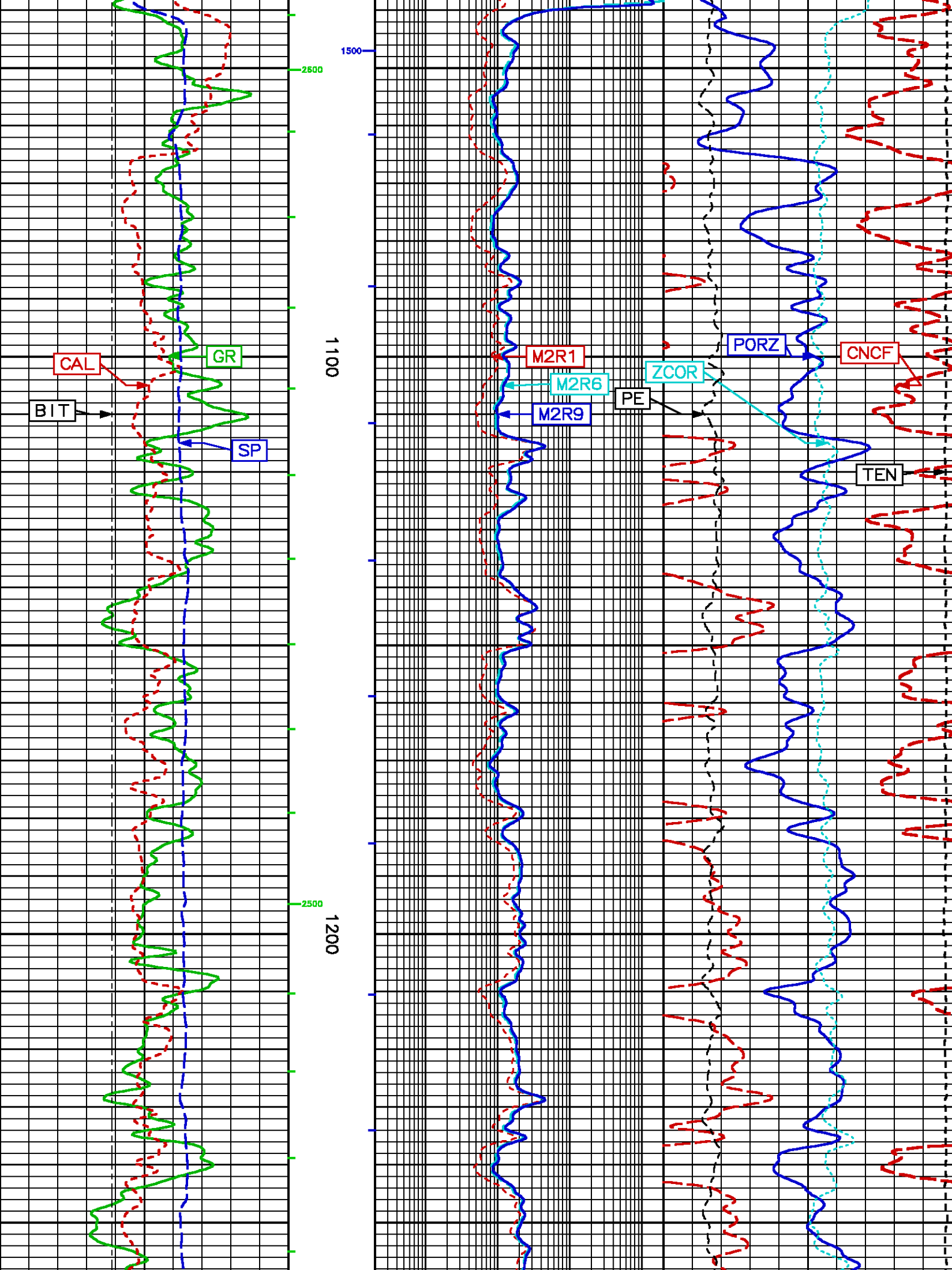
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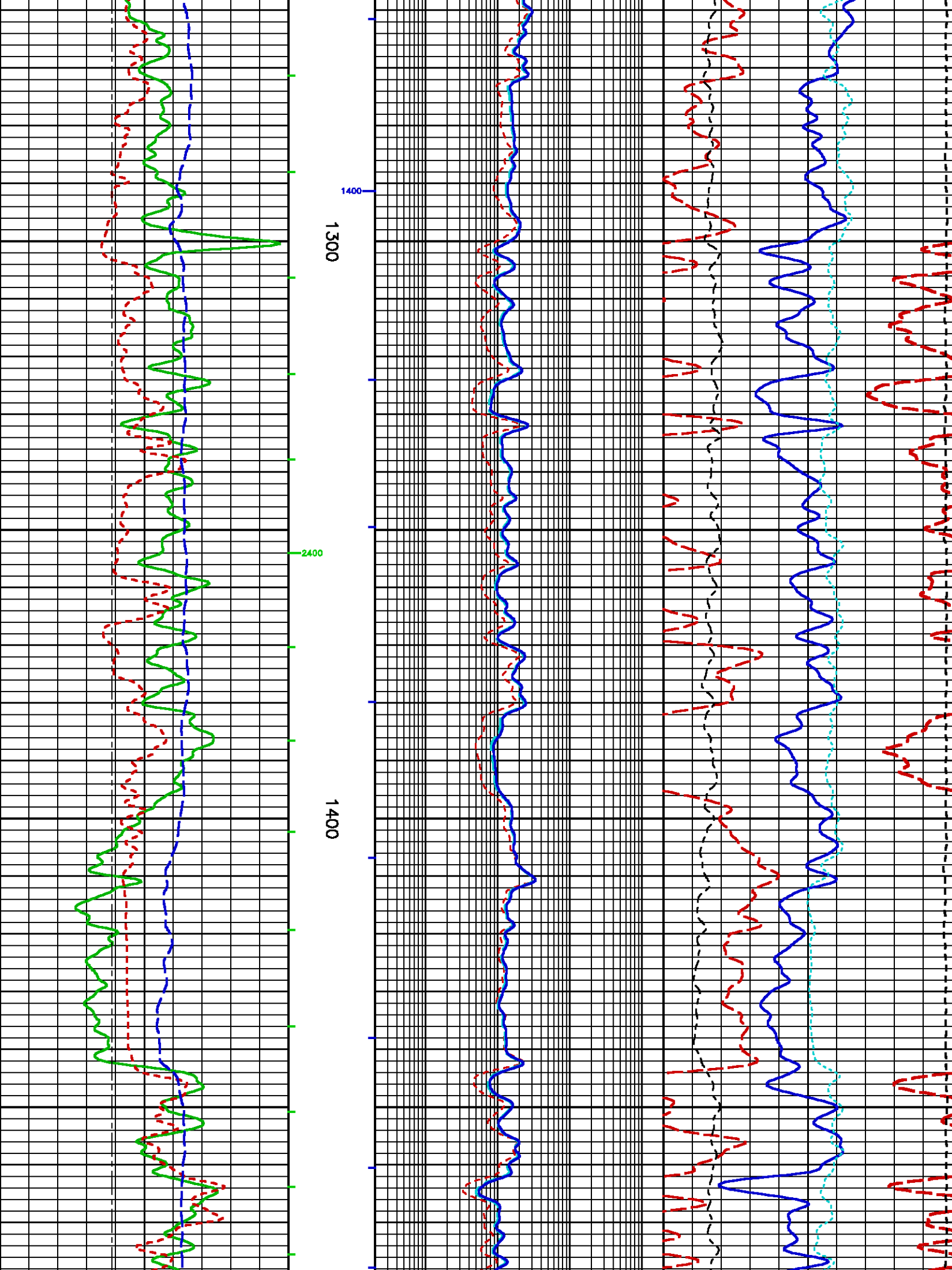
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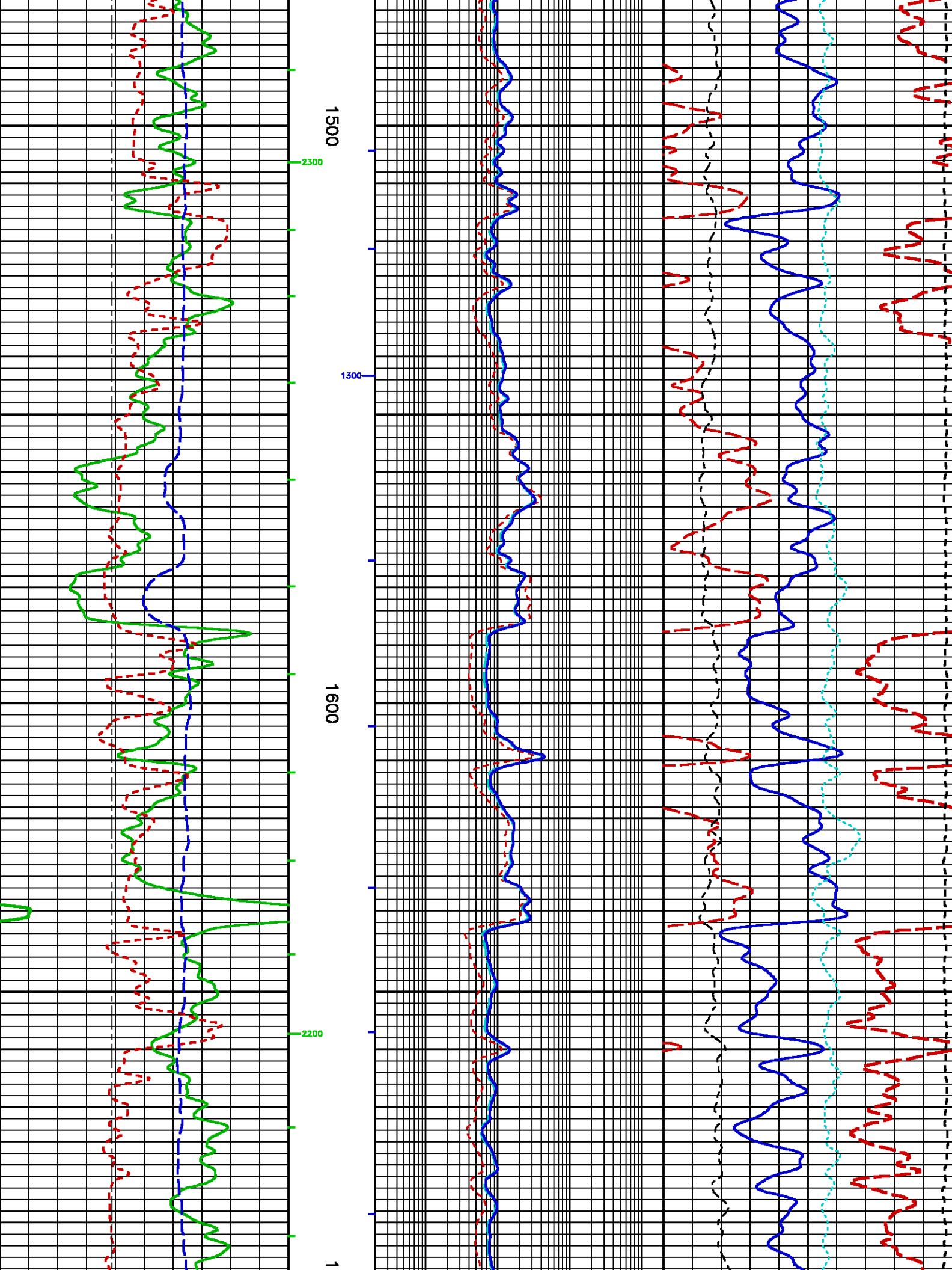
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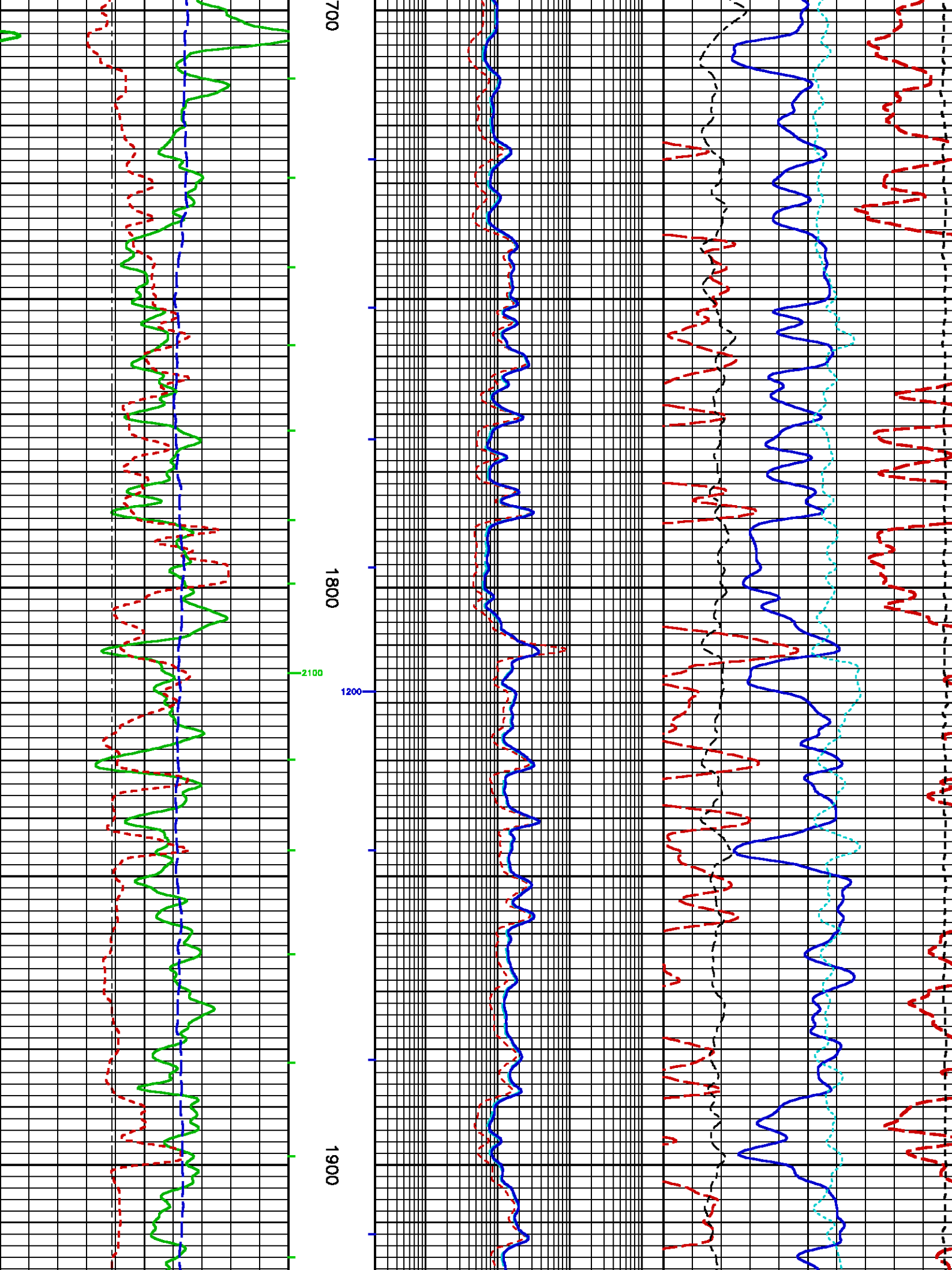


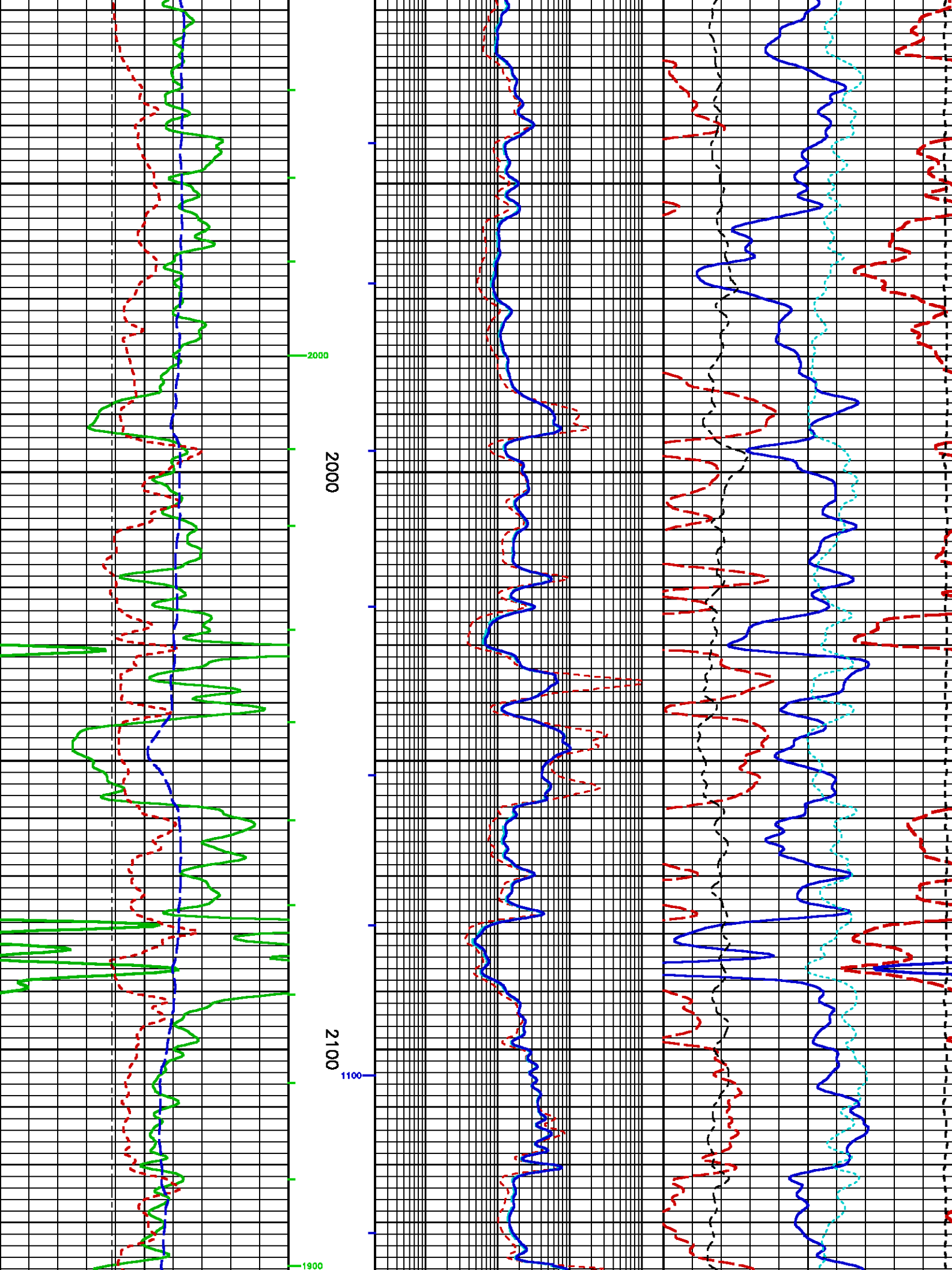


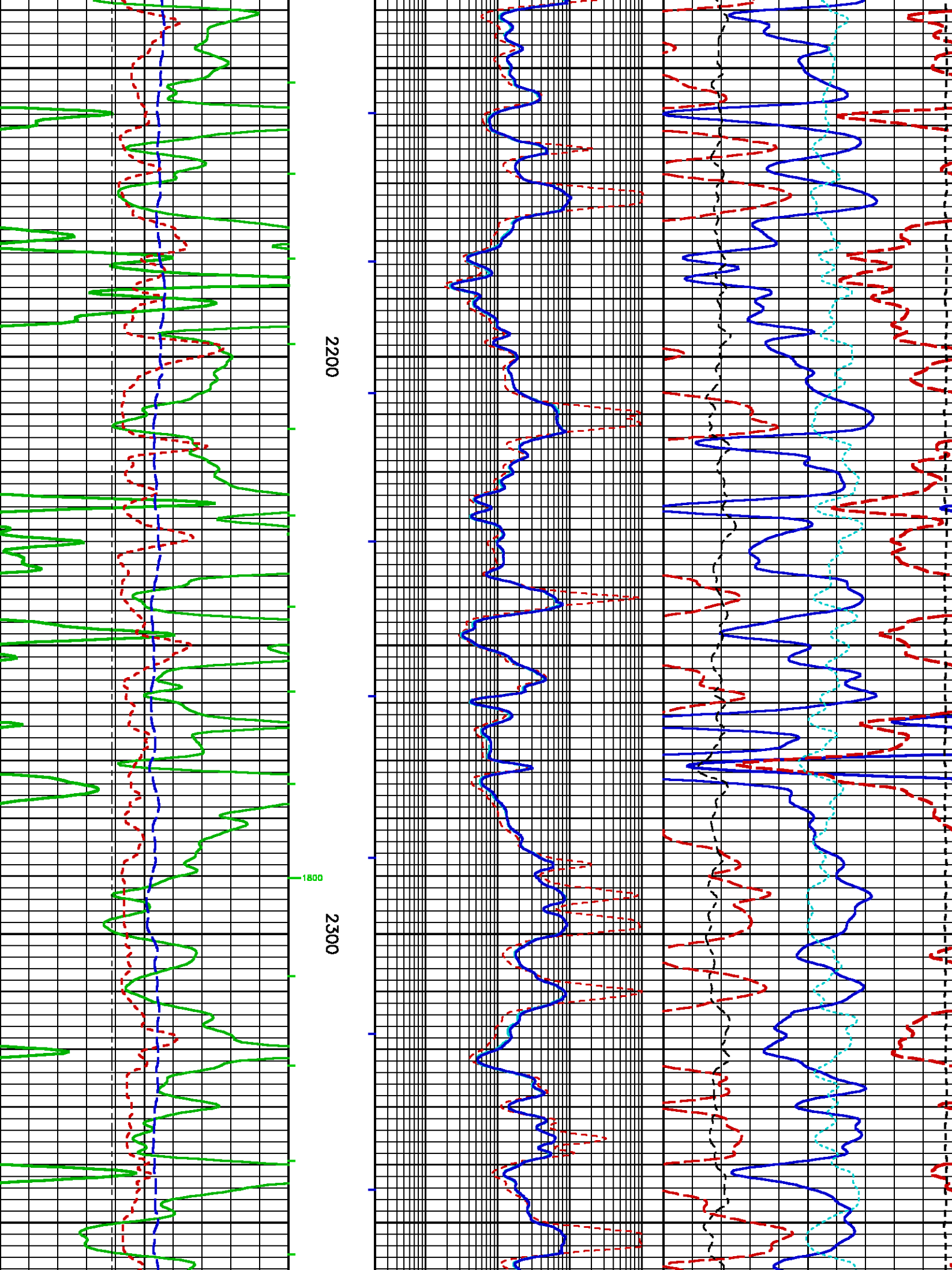


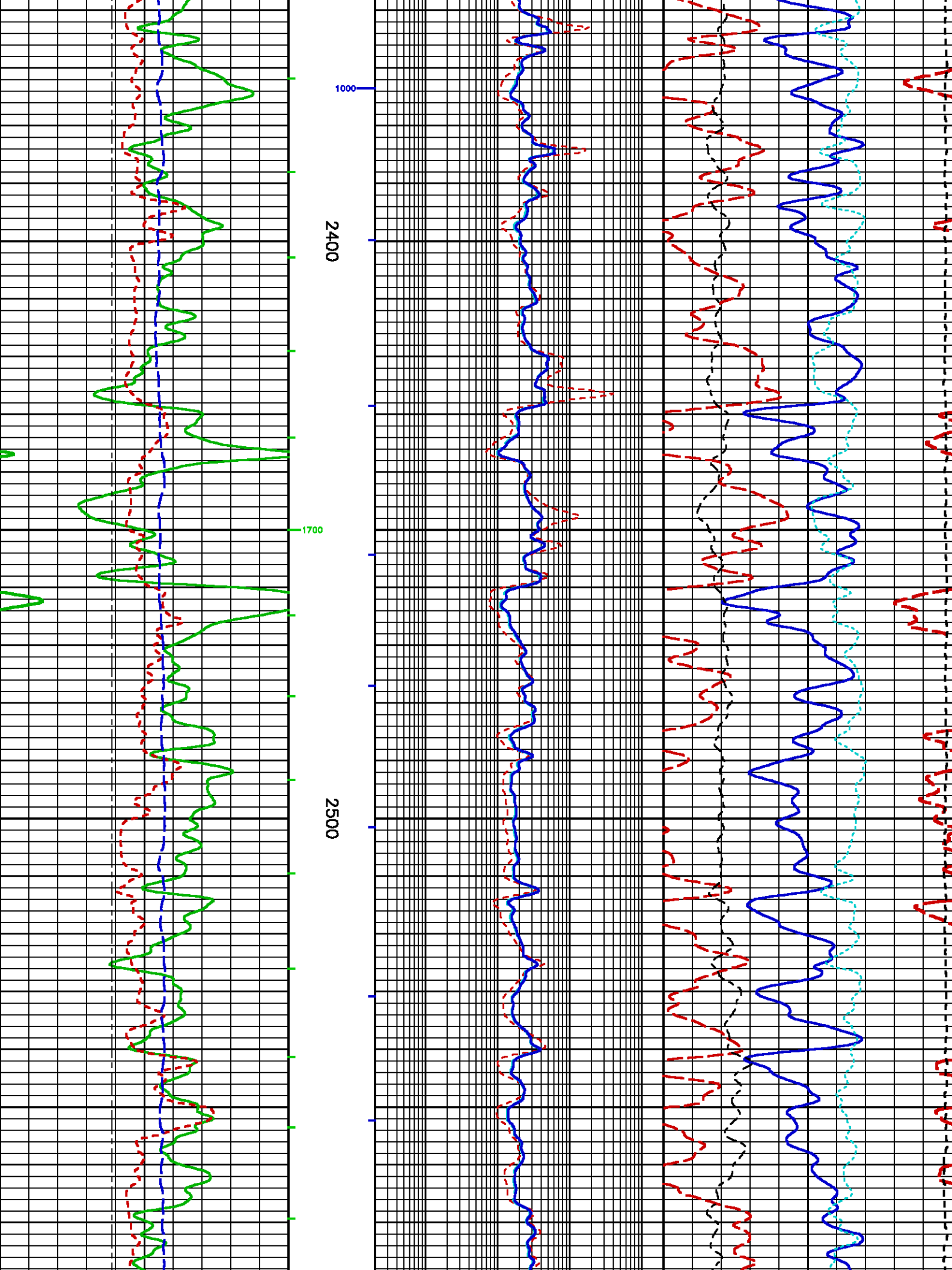


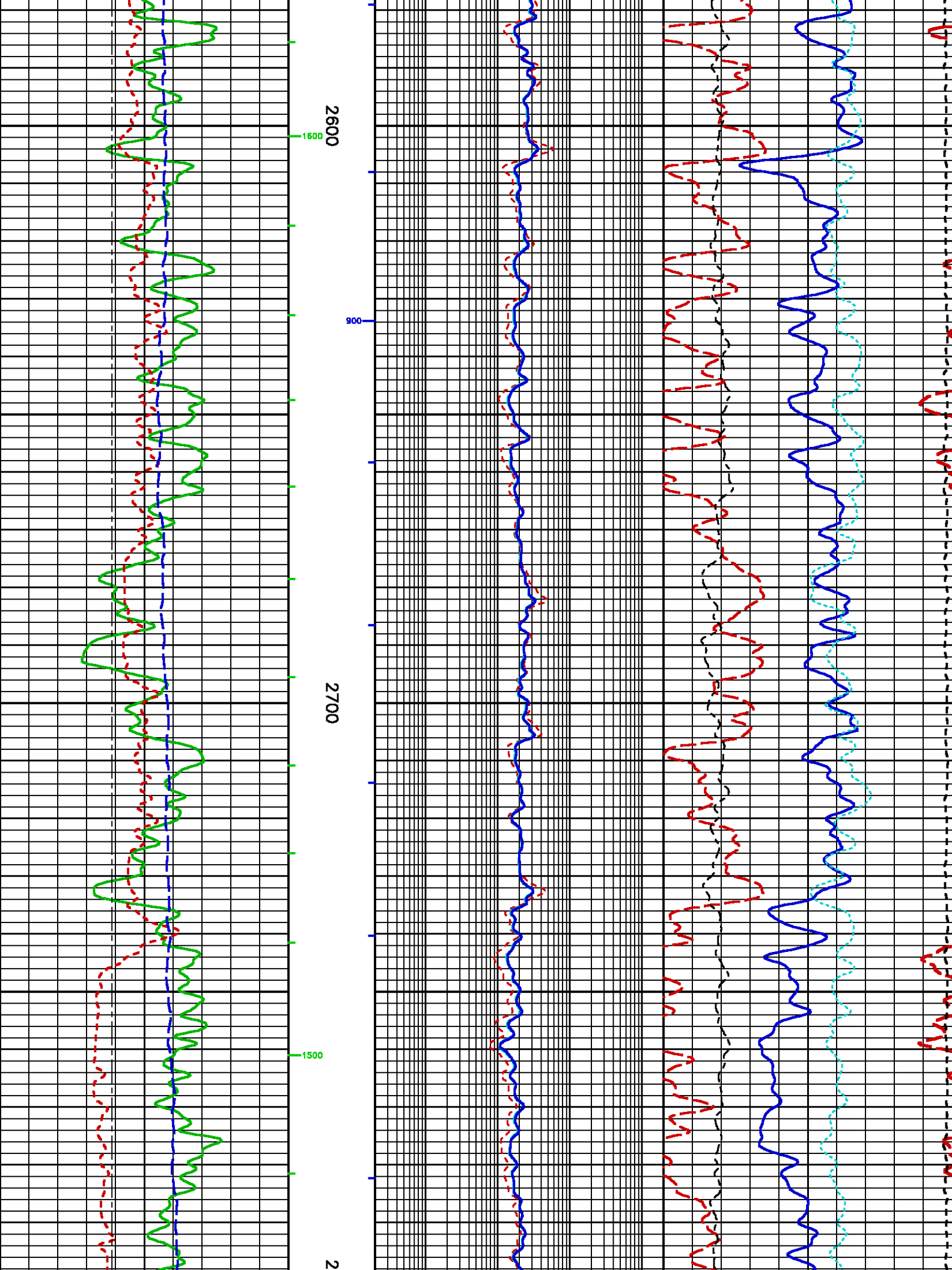


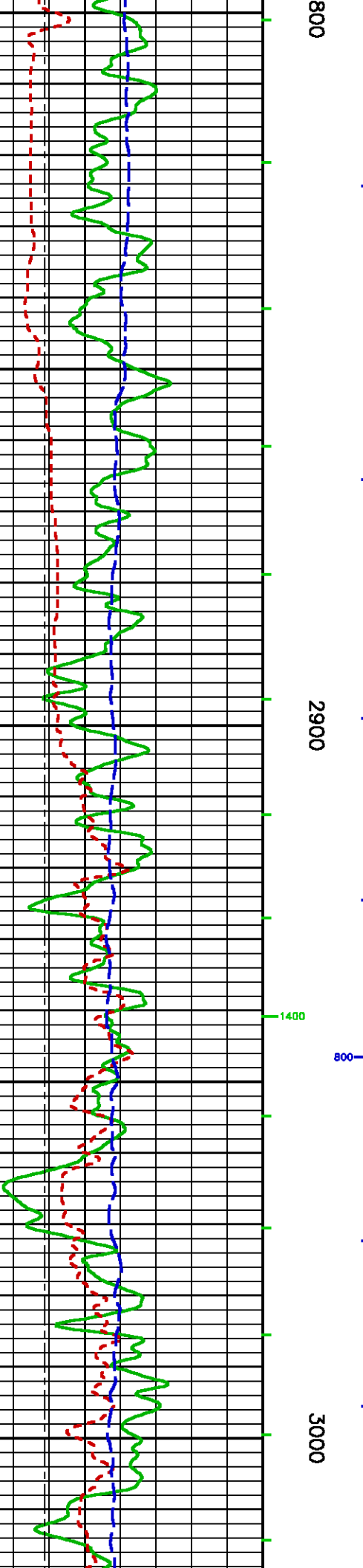
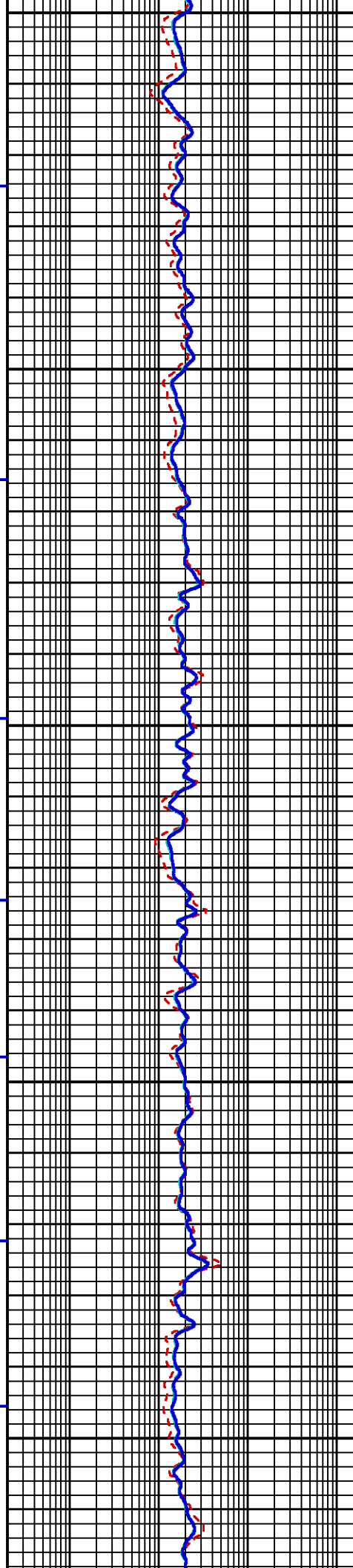
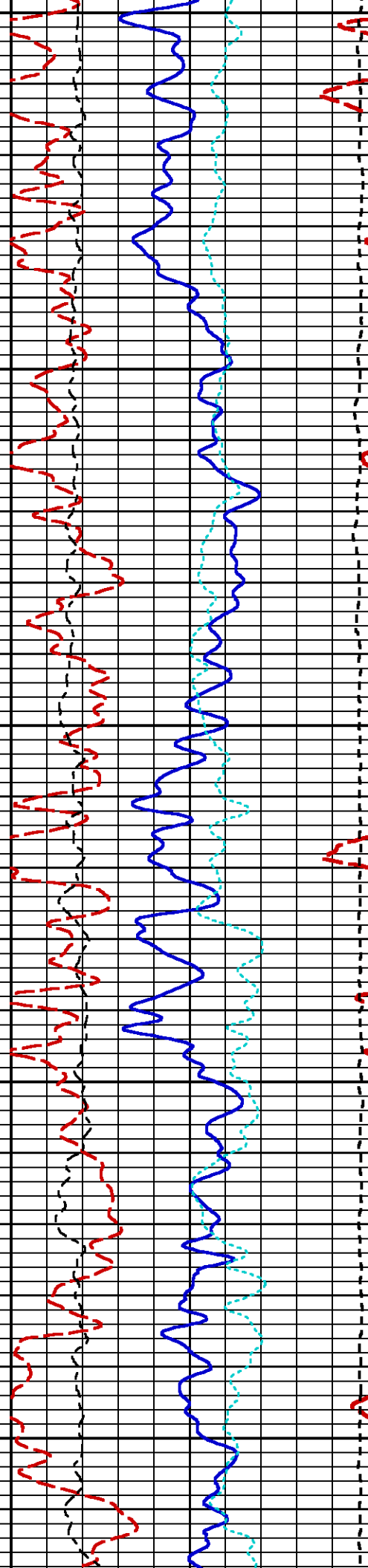


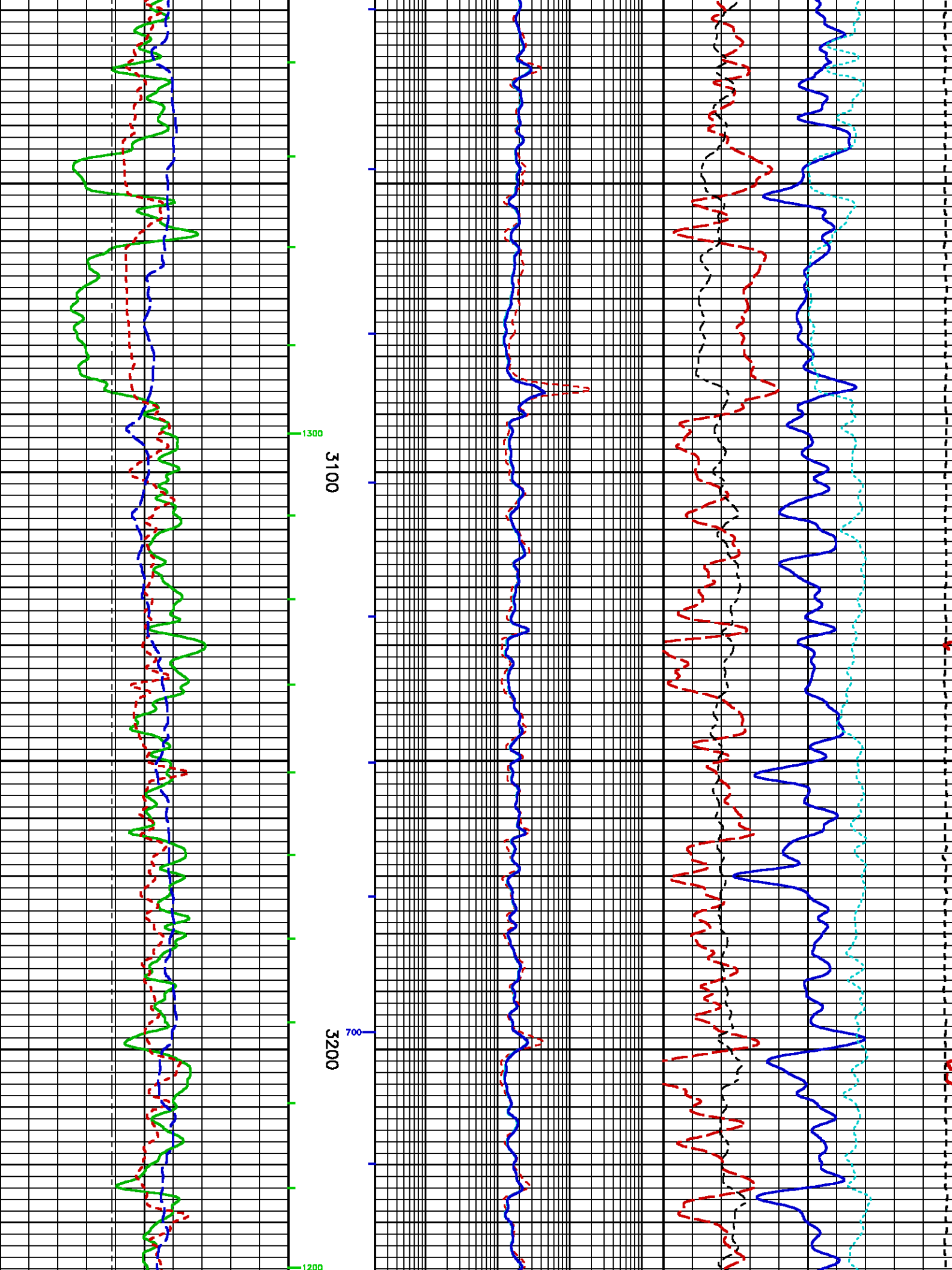


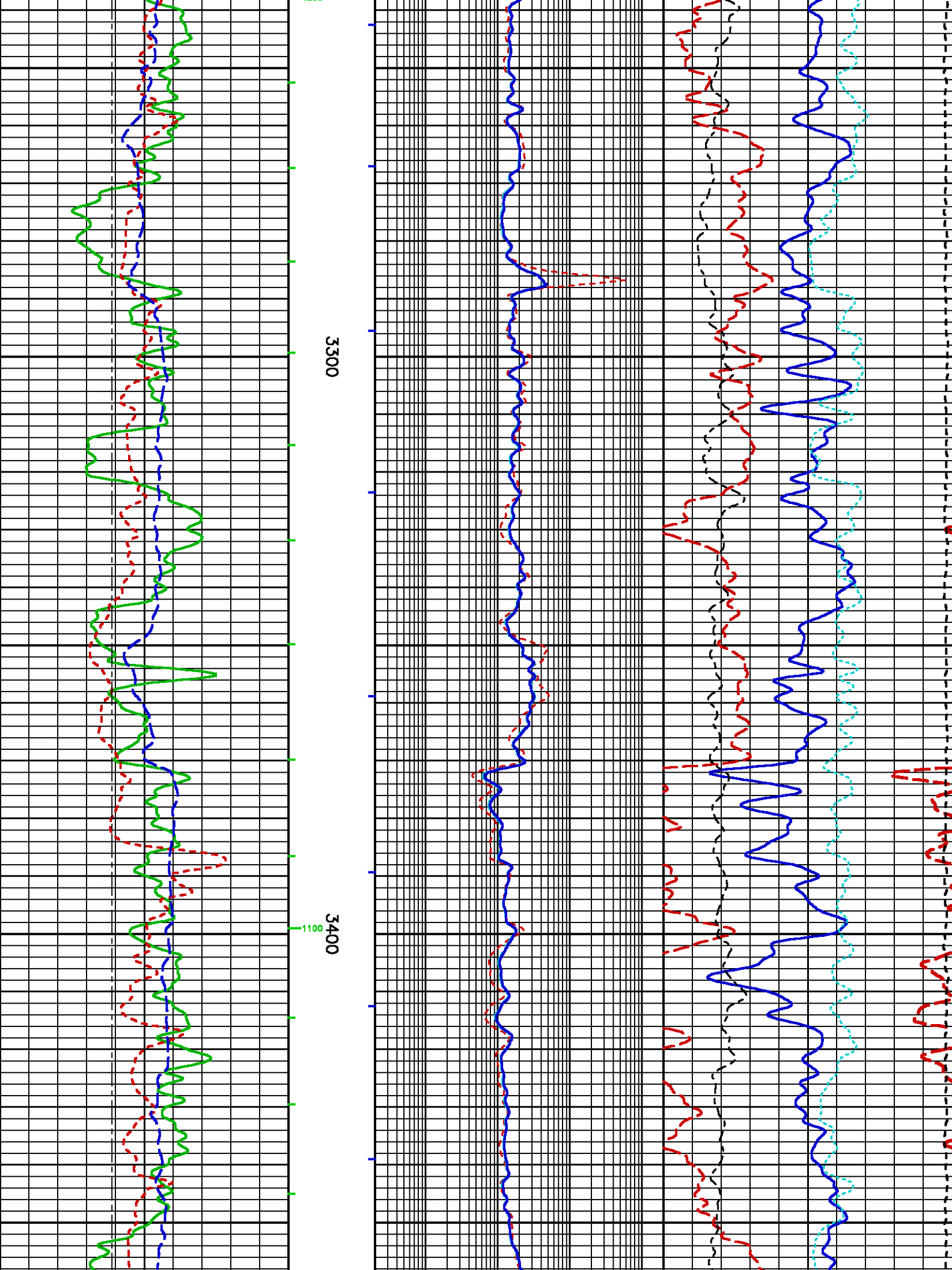


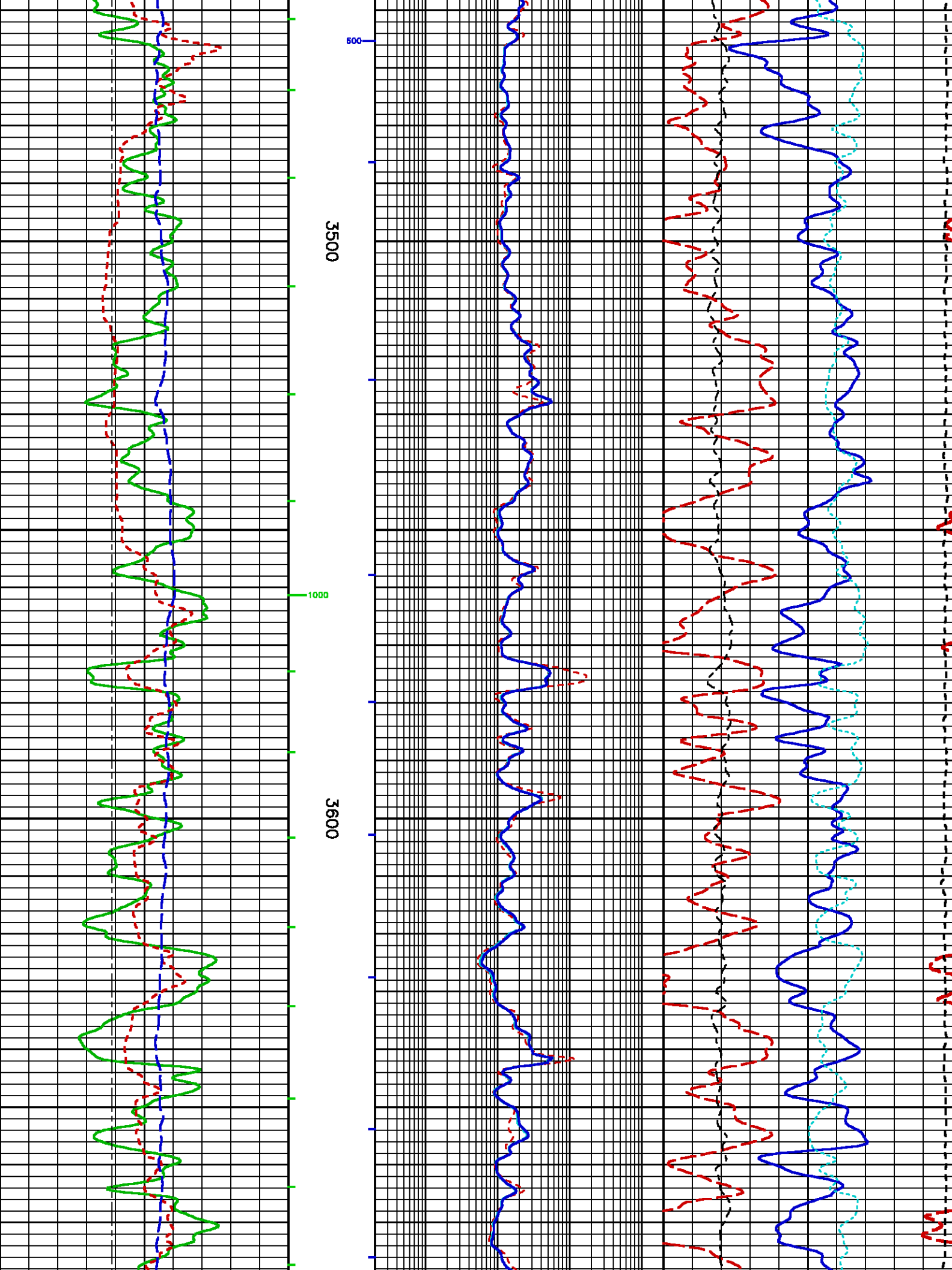


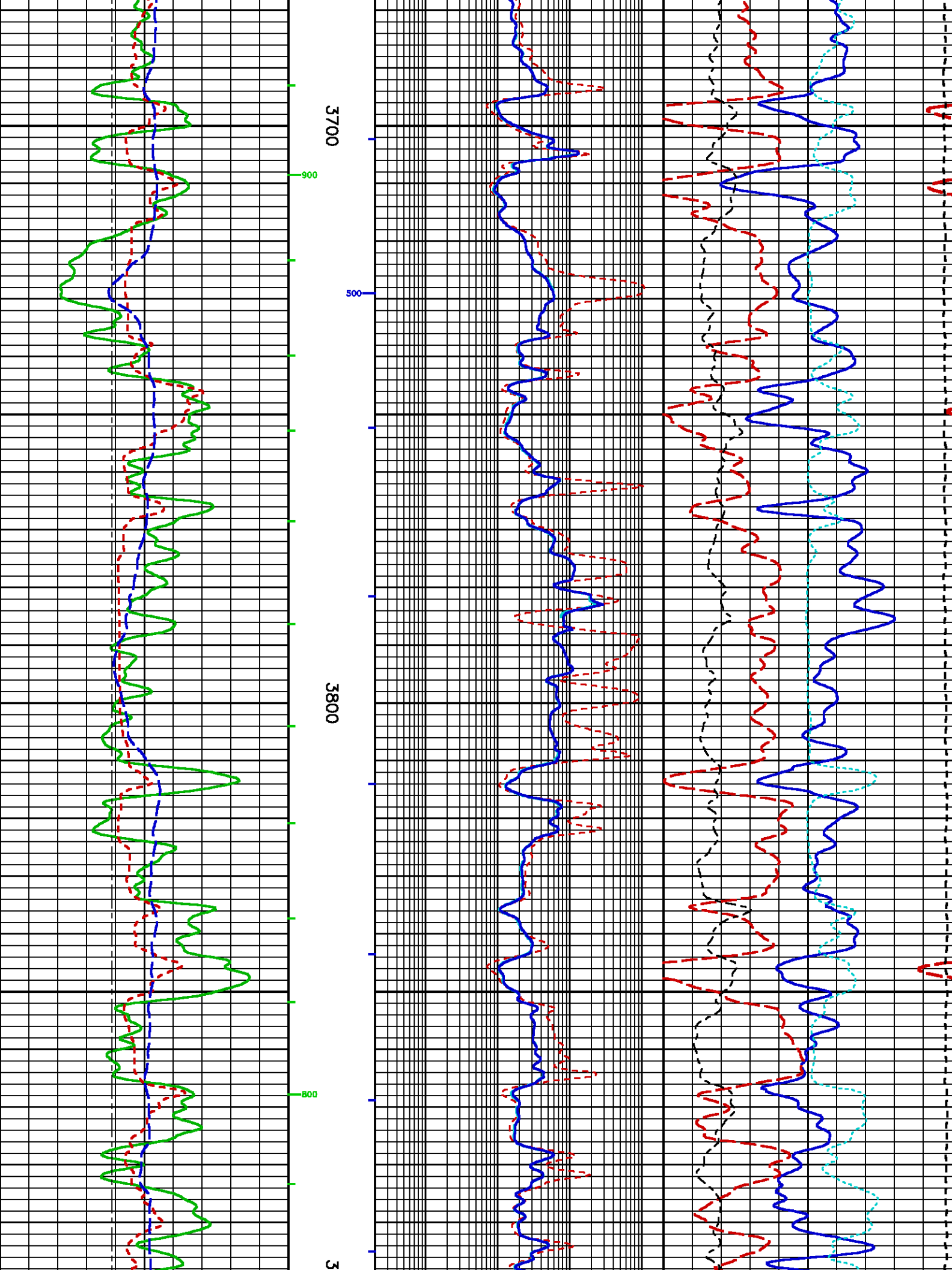


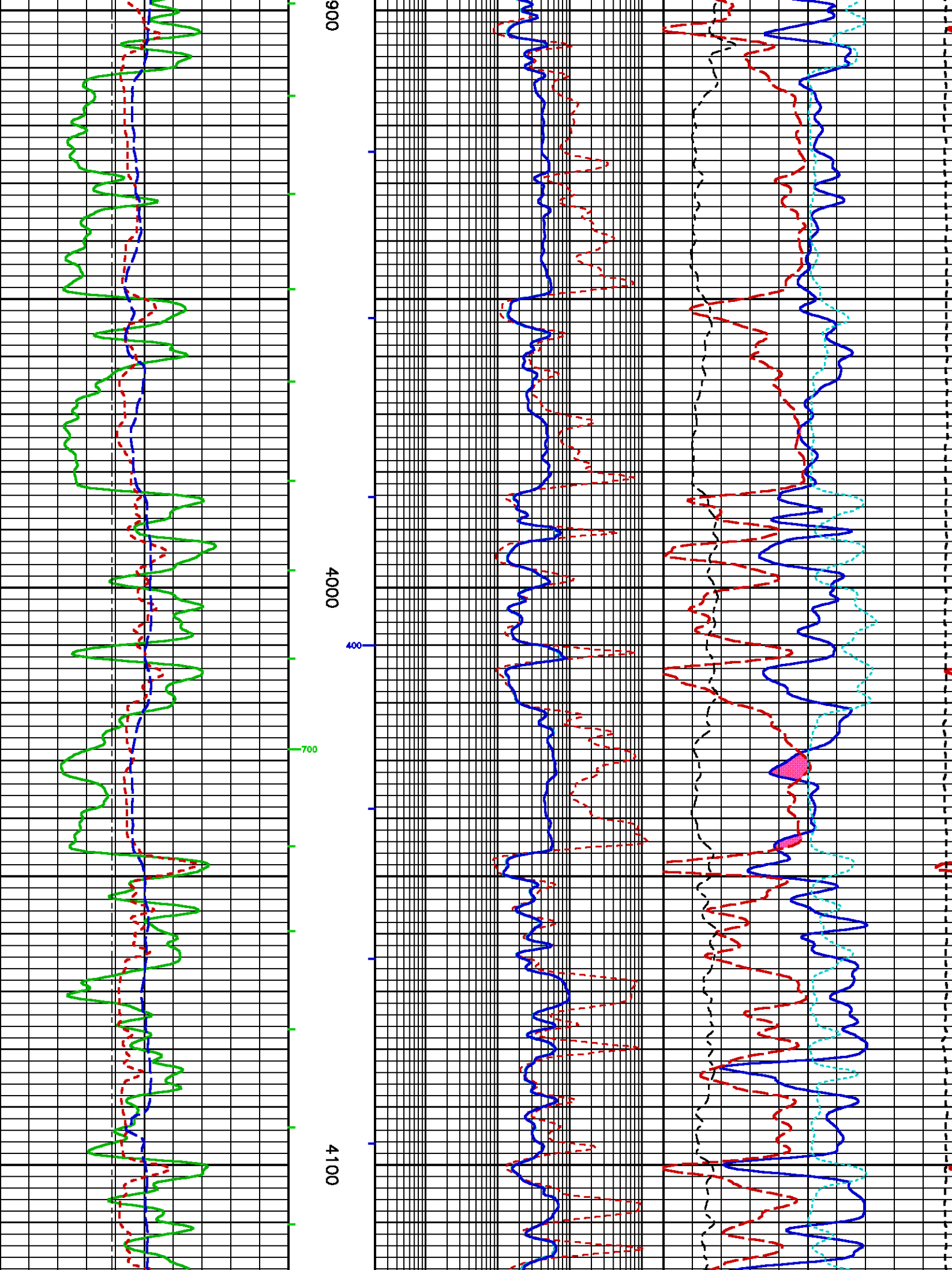


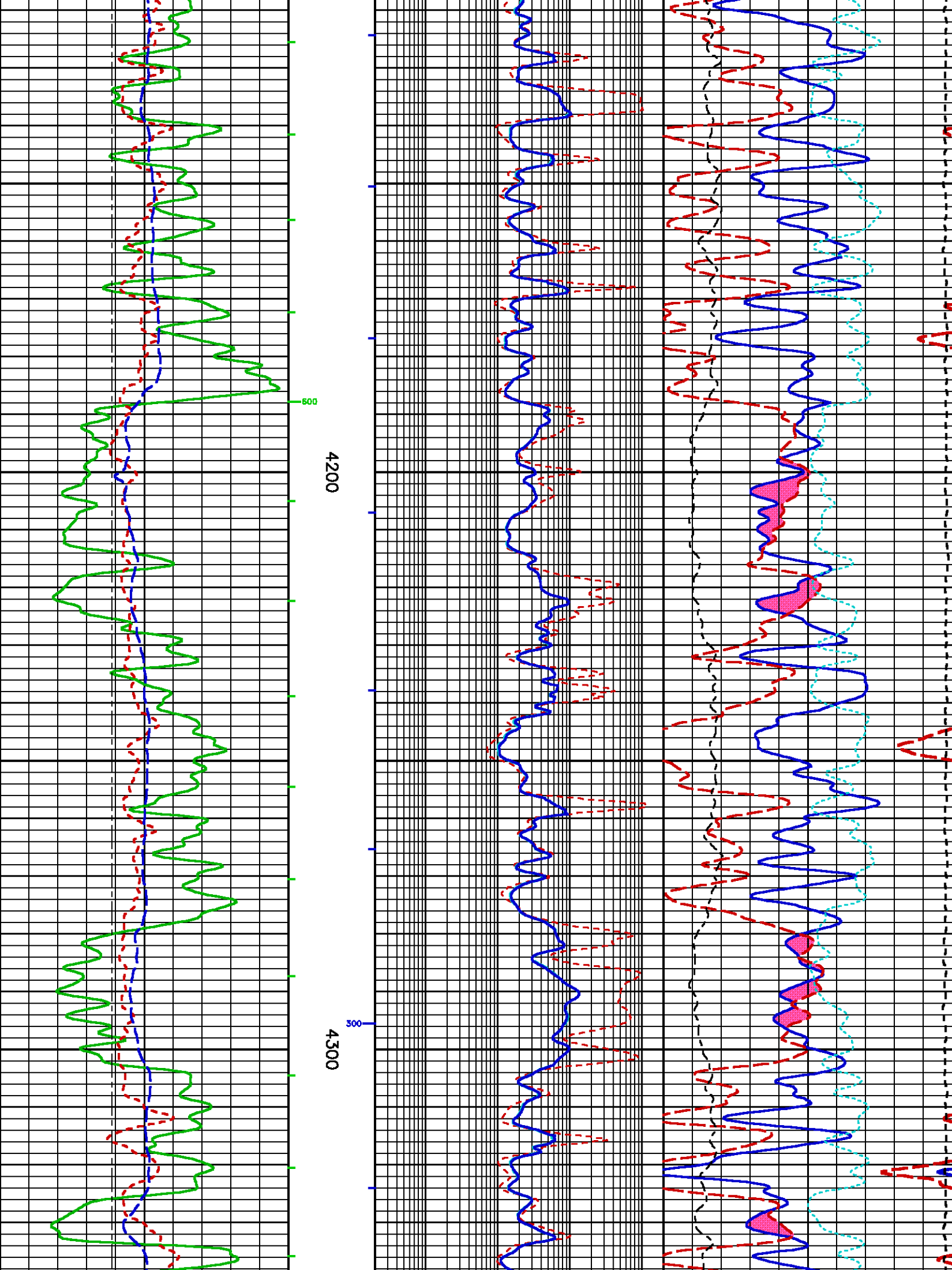


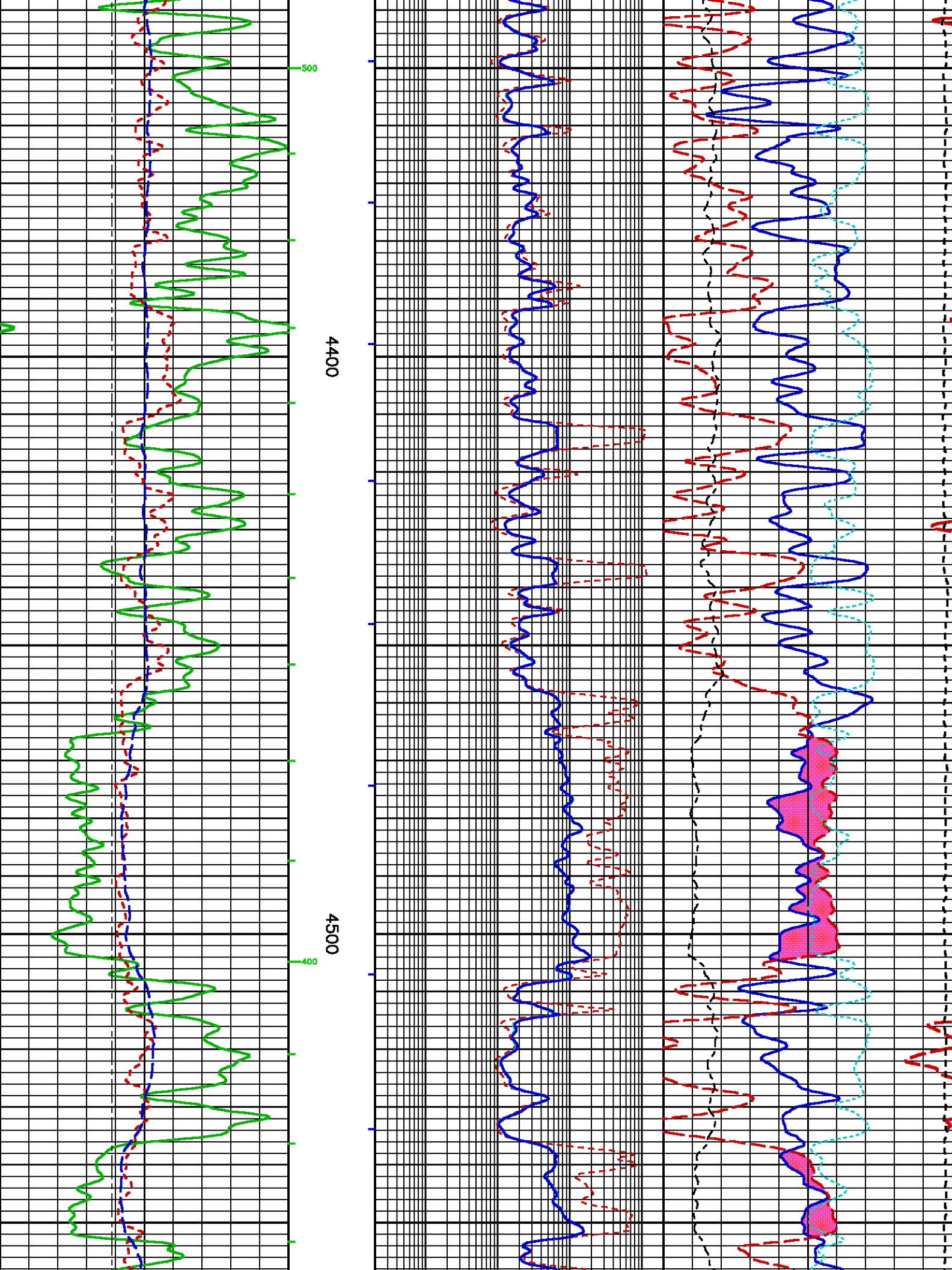


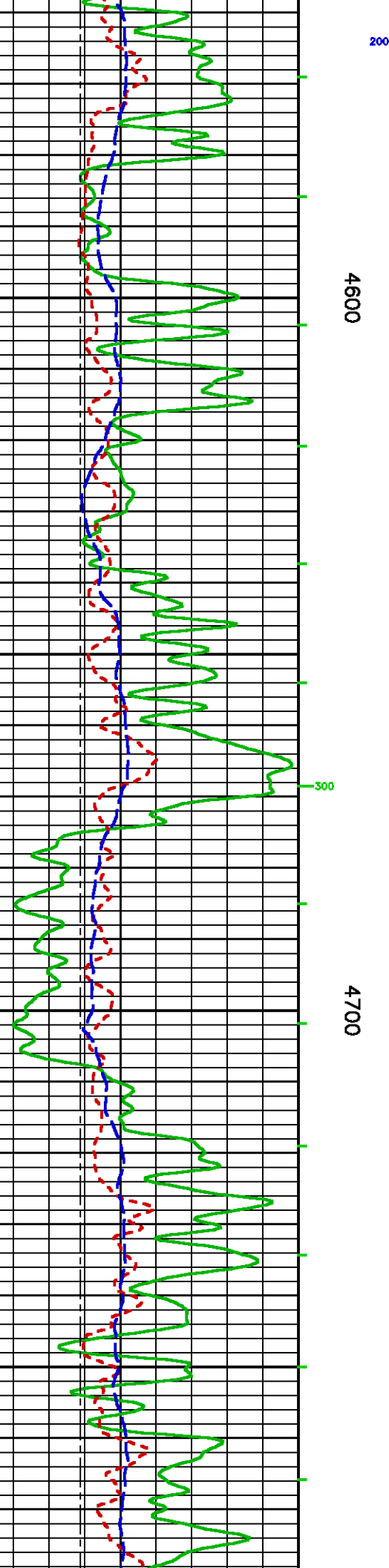
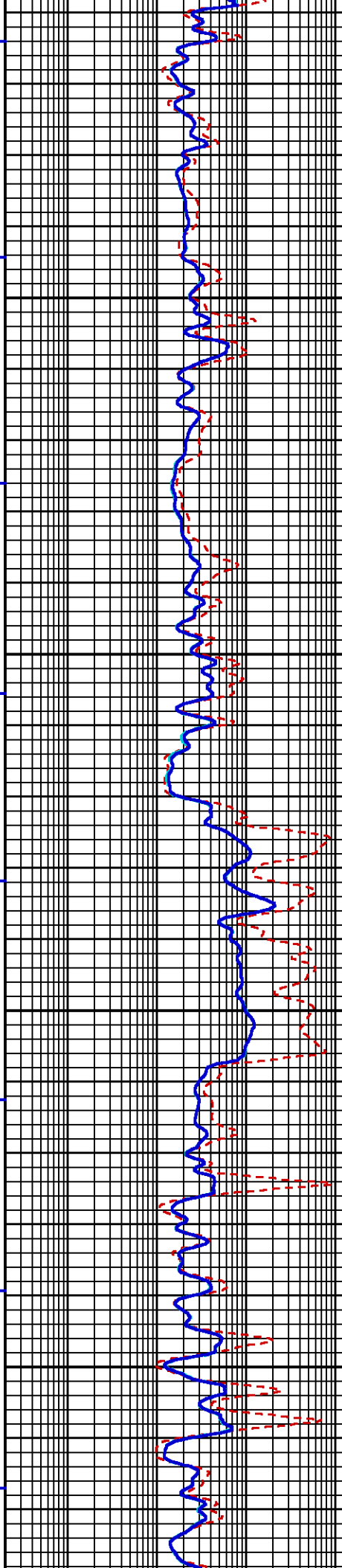
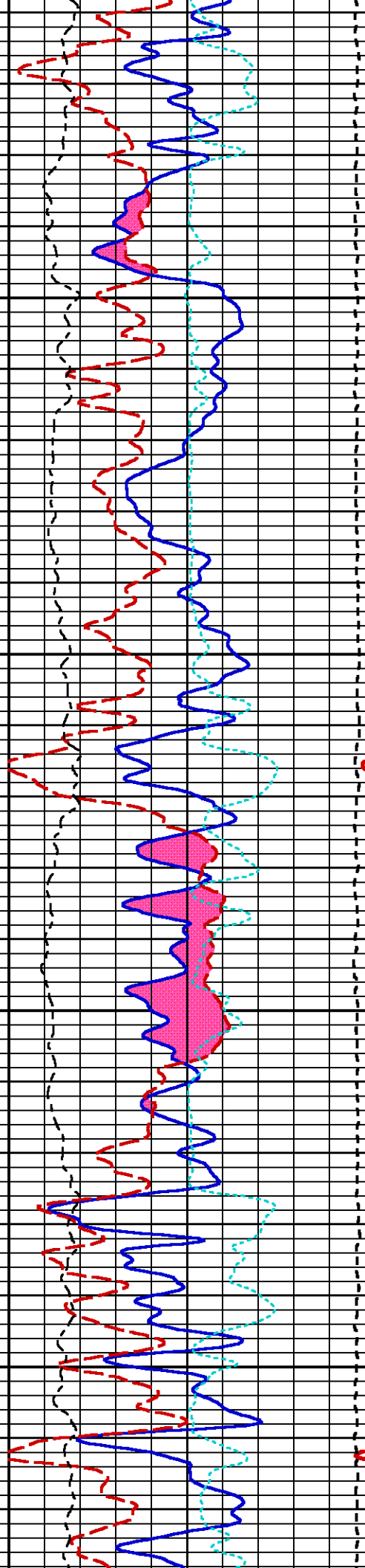


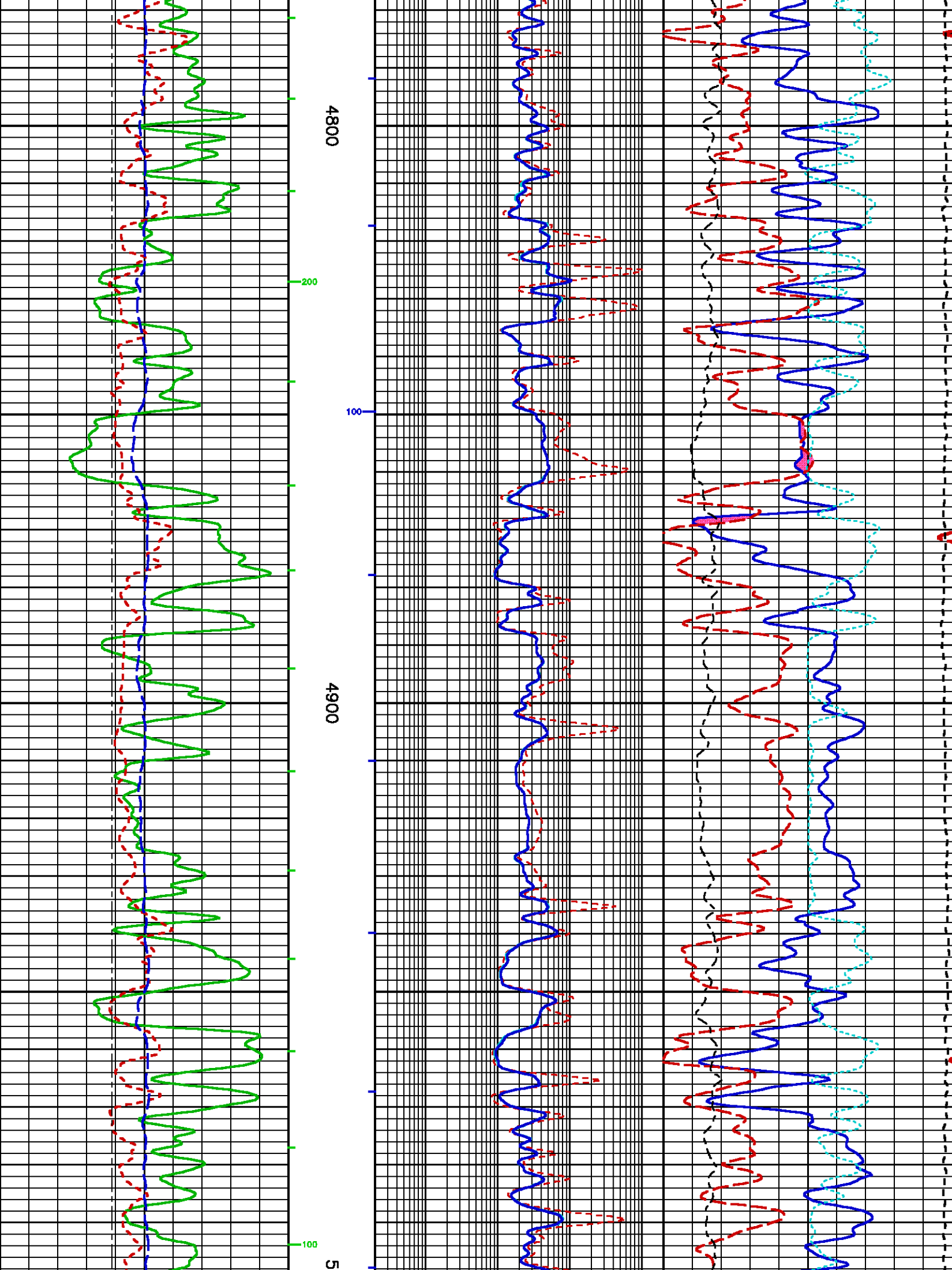


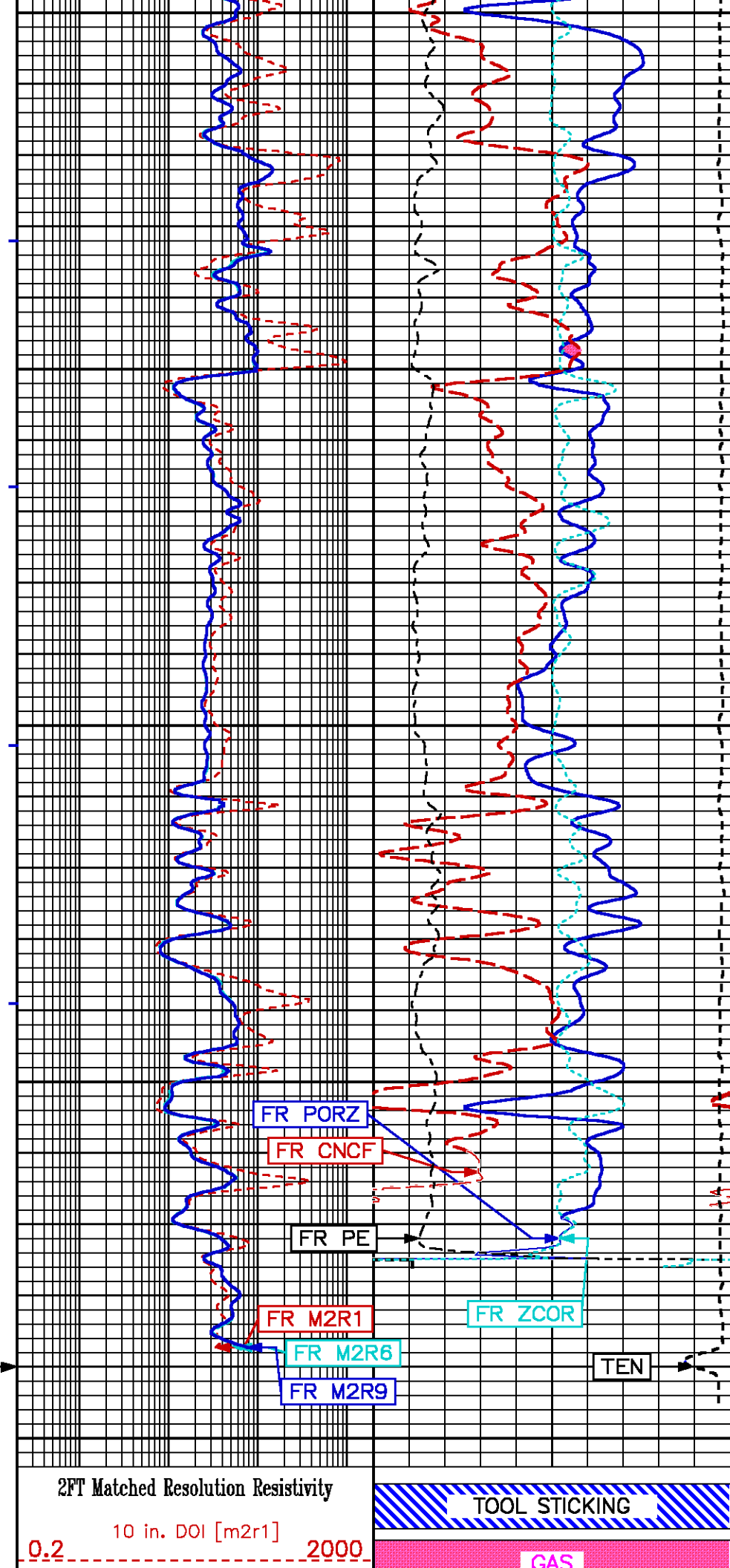
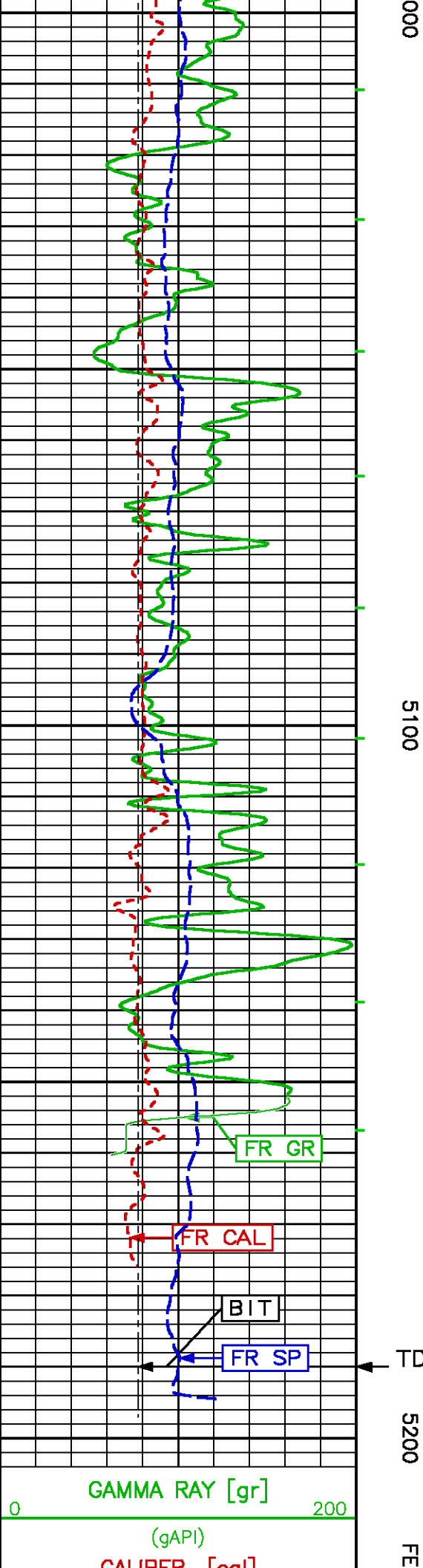


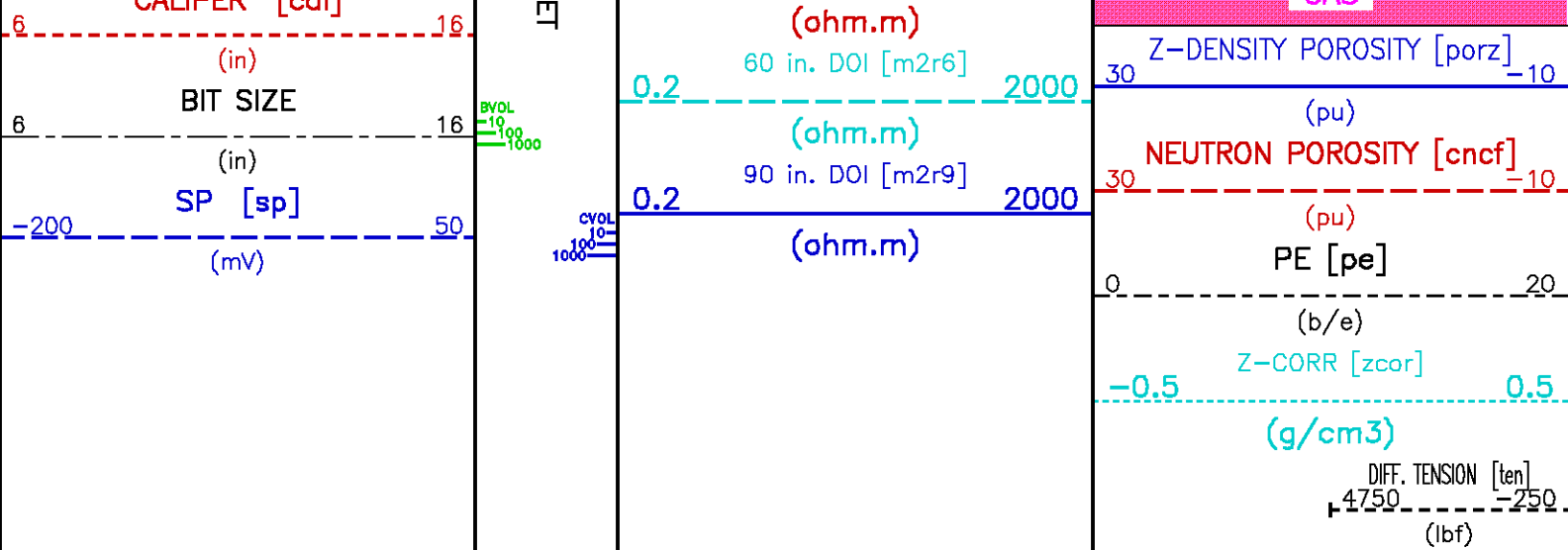












REPEAT LOG 5"/100FT SCALE

ECLIPS 6.0i Feb 21, 2008
Updates: 1

Mon Jun 29 17:47:01 2009

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.42

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/1261/k970a02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 931.750 ft BOTTOM DEPTH: 1445.699 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
GR MED RES	FILTER ()	medium (1)		TOP	BOTTOM
CALIPER	FILTER ()	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
CN MED RES	FILTER ()	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
SP-SPDH	FILTER ()	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	7.000	ln	TOP	BOTTOM
	CASING THICKNESS	0.000	ln	"	"
	BIT SIZE	9.875	ln	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (mbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	7.875	ln	"	"
	FIXED DIAMETER (mbh*)	7.875	ln	"	"
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		"	"
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"

ACCELERATION PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
ACCEL CORR SWITCH	ACCEL DEPTH CORR	CORRECTION ON		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CN MATRIX	2436 MATRIX	SANDSTONE		TOP	BOTTOM
CN BOREHOLE CORRECTION	SALINITY	10000	ppm	"	"
	BOREHOLE CORRECTION	ON		"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	In	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOmatrix	2.680	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	"	"

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORRECTION	ON		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	MUD CONDUCTIVITY		"	"
	STANDOFF	1.50	In	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

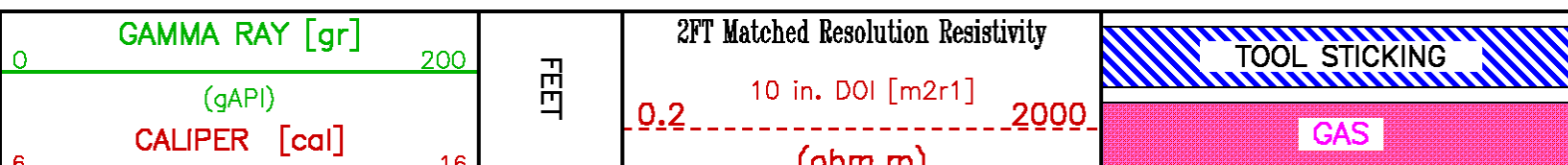
CURVE NAME	CURVE ALIAS	CREATION DATE	CURVE DESCRIPTION
F1:BIT	BIT	Jun 29 17:32:58 2009	BIT SIZE
F1:BVOL	BVOL	Jun 29 17:32:58 2009	BOREHOLE VOLUME
F1:CAL	CAL	Jun 29 17:32:58 2009	CALIPER
F1:CNCF	CNCF	Jun 29 17:32:58 2009	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	CVOL	Jun 29 17:32:58 2009	CEMENT VOLUME
F1:GR	GR	Jun 29 17:32:58 2009	GAMMA RAY
F1:M2R1	M2R1	Jun 29 17:32:58 2009	VERT RESOLUTION MATCHED (2 FT) RES - DOI 10 INCH
F1:M2R6	M2R6	Jun 29 17:32:58 2009	VERT RESOLUTION MATCHED (2 FT) RES - DOI 60 INCH
F1:M2R9	M2R9	Jun 29 17:32:58 2009	VERT RESOLUTION MATCHED (2 FT) RES - DOI 90 INCH
F1:PE	PE	Jun 29 17:32:58 2009	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	PORZ	Jun 29 17:32:58 2009	POROSITY FOR SELECTABLE MATRIX
F1:SP	SP	Jun 29 17:32:58 2009	SPONTANEOUS POTENTIAL
F1:TEN	TEN	Jun 29 17:32:58 2009	DIFFERENTIAL TENSION
F1:ZCOR	ZCOR	Jun 29 17:32:58 2009	DENSITY CORRECTION

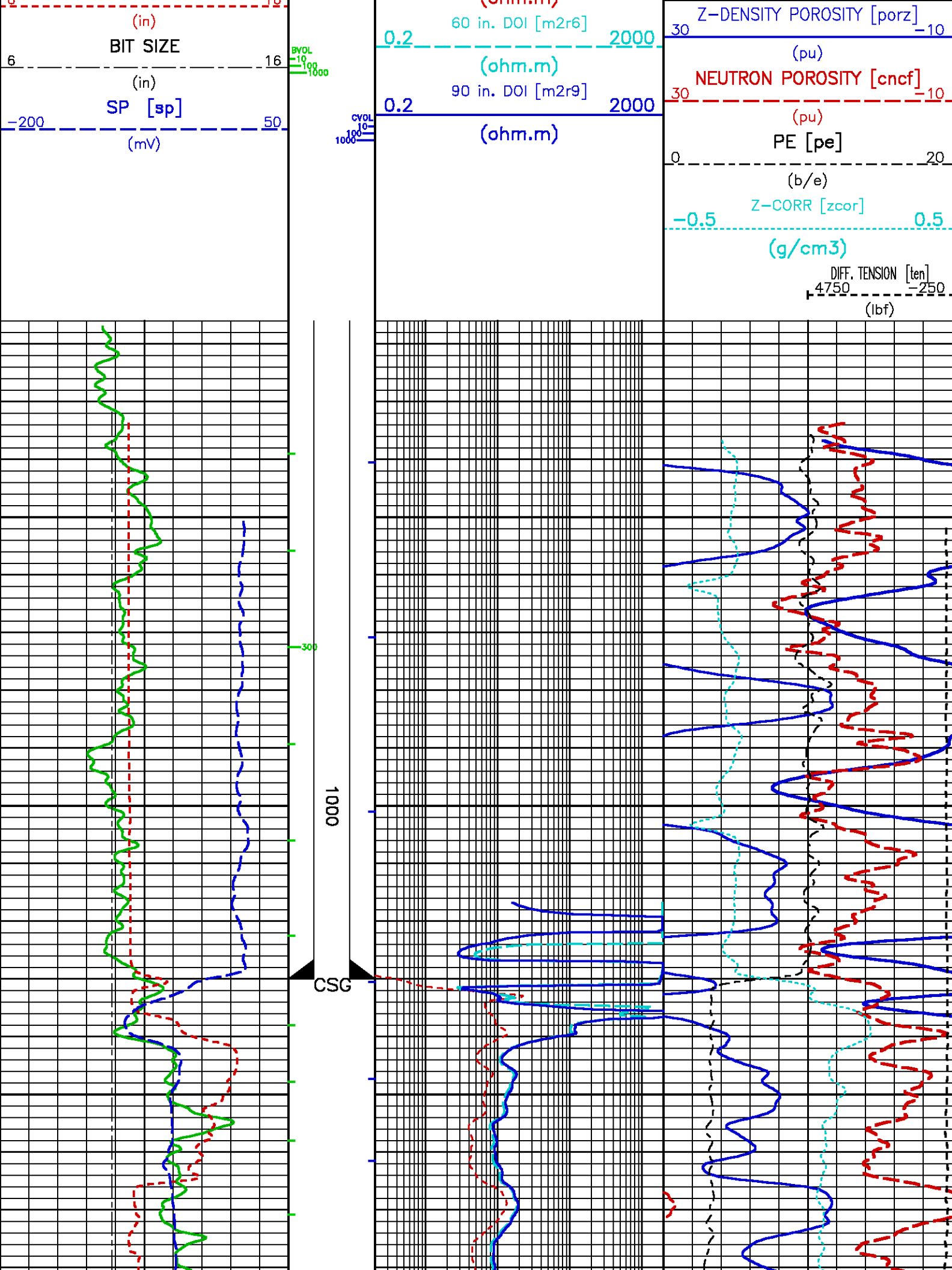
CURVE MEASURE POINT OFFSET

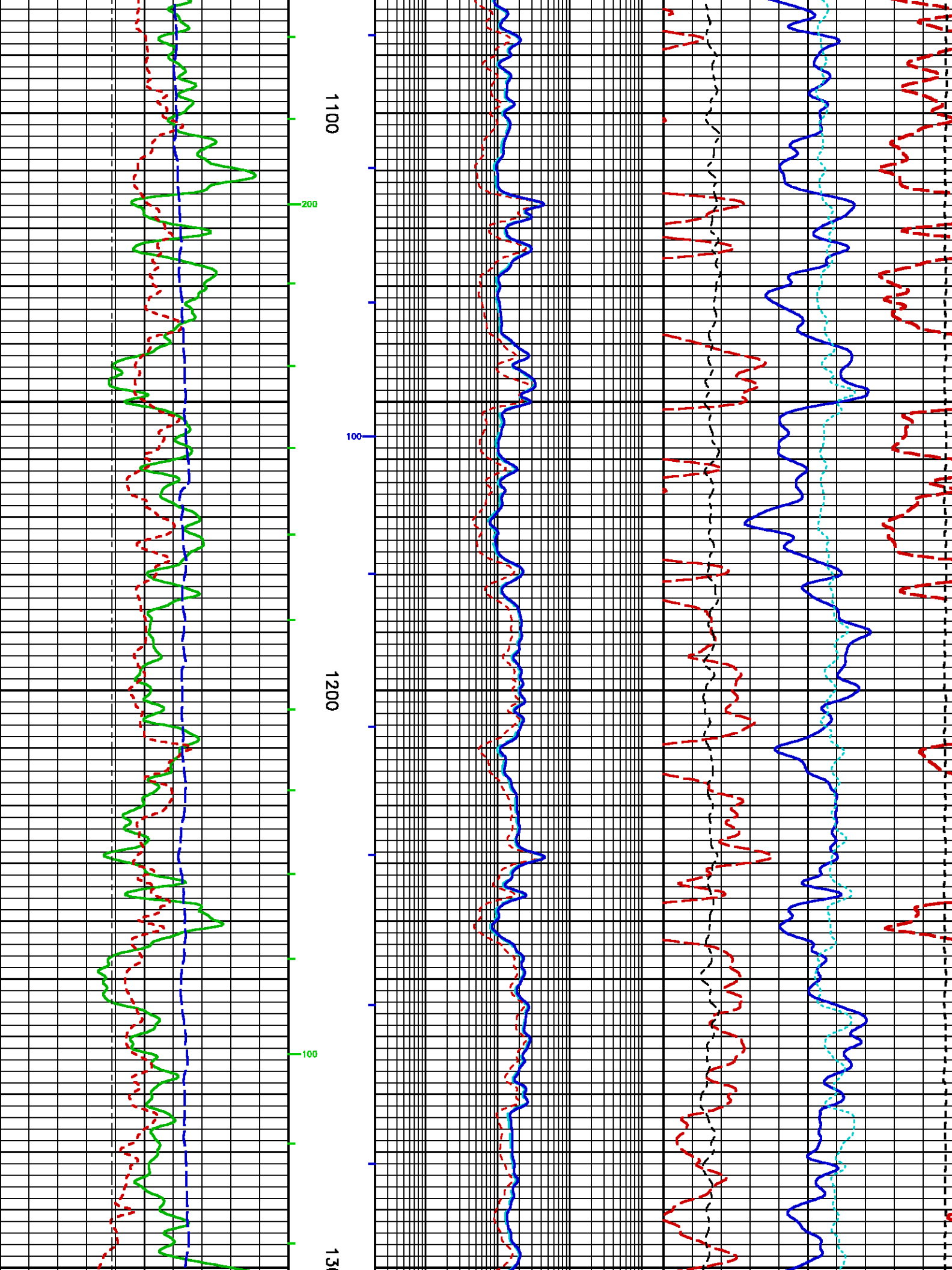
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	35.00	M2R9	2.75	SP	1.25
CAL	18.12	M2R1	2.75	PE	18.00	TEN	0.00
CNCF	27.38	M2R6	2.75	PORZ	18.00	ZCOR	18.00

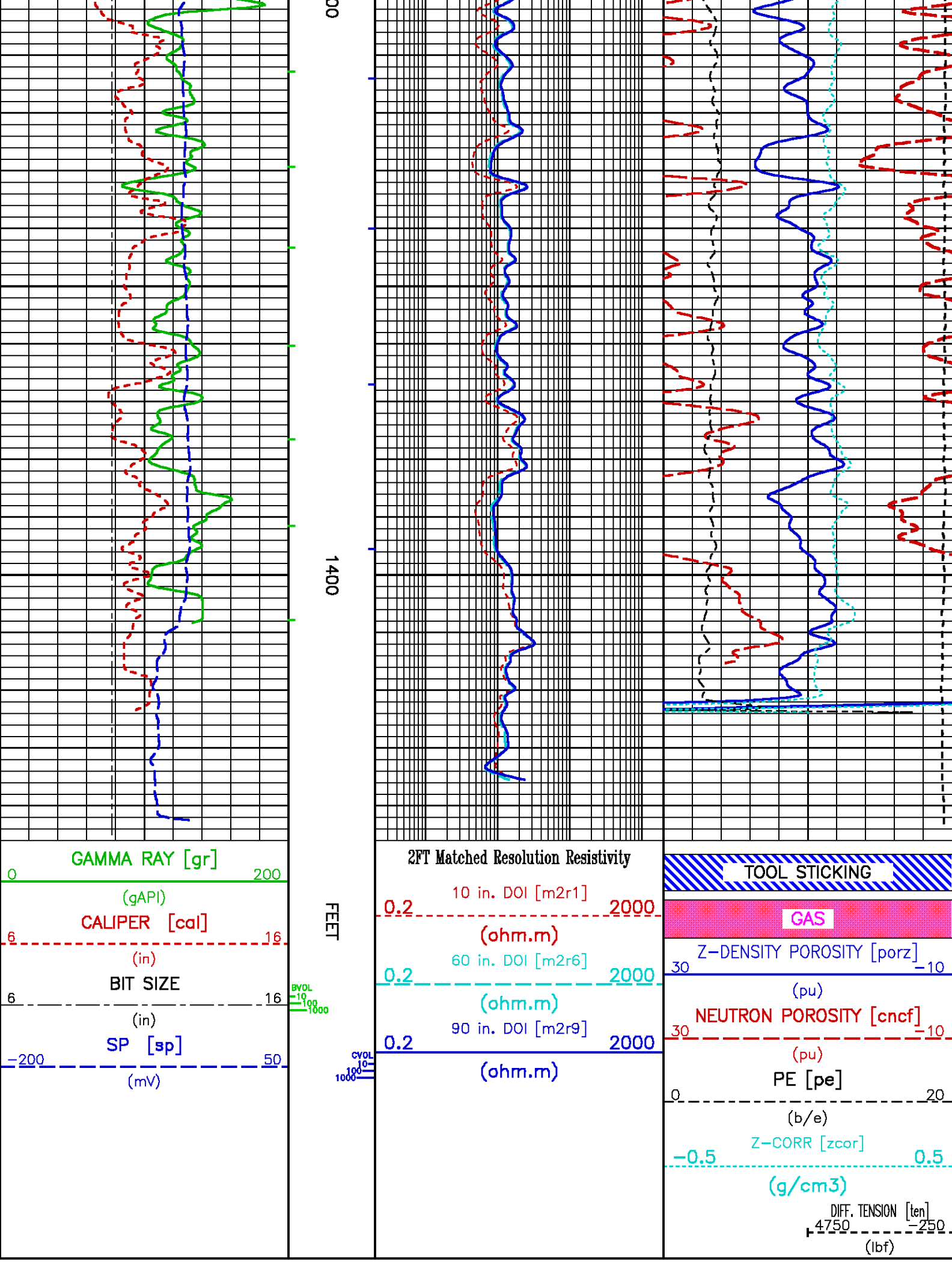
Presentation : mfg1:/dat1a/1261/REPEAT.pdf [5"/100' Scale]
 Plot Interval : 907.5 - 1449.75 Feet

Data File 1 : F1 : mfg1:/dat1a/1261/k970a02_REPEAT.xtf
 Created On : Jun 29 17:32:58 2009
 Company : WILLIAMS PRODUCTION RMT
 Well : GM 943-1D
 Field : GRAND VALLEY
 File Interval : 0 - 1451 Feet
 Oct : k970a









CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/1281/k970a.tp1

GR PRIMARY CALIBRATION SUMMARY

Tool #: 3518EG 10139870

DATE/TIME PERFORMED: Sun Jun 28 22:09:34 2009

Unit #: 3880TA HL6741

Jlg Series: 4702NK BA-857

Background	Calibrator ON	Jlg Value (gAPI)	Mult	Background	Calibrator ON (gAPI)
174.71	844.21	185	0.276 0.230 0.280	48.28	233.28

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Mon Jun 29 15:31:59 2009 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6741

Jlg: INTRNL N/A

Counts	TEMP (degF)	HV (V)
978.67 928.00 1027.00	118.31 536.00	1359.52 1237.00 1512.00

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 3518EG 10139870 DATE/TIME PERFORMED: Mon Jun 29 17:43:53 2009 DAYS SINCE CAL: 0

UNIT #: 3880TA HL6741

Jlg: INTRNL N/A

Counts	TEMP (degF)	HV (V)
978.67 928.00 1027.00	129.21 536.00	1383.98 1237.00 1512.00

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2436XA 10411083

DATE/TIME PERFORMED: Wed May 13 10:06:47 2009

UNIT #: 3880TA HL6741

CALIBRATOR #: 2437XB 112674

SOURCE #: 4718XA N-0945

SSN DT CPS	LSN DT CPS	SSN/LSN	MCF	CNRATIO	CN PU
4786.26	850.68	5.62636	1.01968 0.98000 1.05000	5.73700	25.241

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10411083 DATE/TIME PERFORMED: Mon Jun 29 15:31:48 2009 DAYS SINCE CAL: 47

UNIT #: 3880TA HL6741

CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
992.07	994.44	0.99782 0.98000 1.05000	108.4 280.4	1348.9 1250.0 1450.0	4.642 4.300 5.000

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2436XA 10411083 DATE/TIME PERFORMED: Mon Jun 29 17:43:26 2009 DAYS SINCE CAL: 47

UNIT #: 3880TA HL6741

CALIBRATOR #: INTRNL N/A

SSN DT CPS	LSN DT CPS	SSN/LSN	TEMP (degF)	HV (V)	LV (V)
991.41	993.42	0.99797 0.98000 1.05000	118.3 280.4	1346.9 1250.0 1450.0	4.642 4.300 5.000

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 3880TA HL6741

DATE/TIME PERFORMED: Mon Jun 29 15:31:48 2009

TOOL #: 2223XA 10090664

DATE/TIME PERFORMED: Tue May 12 14:34:40 2009

UNIT #: 3880TA HL6741

	SIZE (In)	VALUE	MULTIPLIER	ADD
SMALL RING (Arm)	7.000	1512.0		
LARGE RING (Arm)	11.000	2758.0	0.00321	2.14607
PAD CLOSED		1064.0	0.00250	-2.66000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jun 29 15:43:29 2009 DAYS SINCE CAL: 48

UNIT #: 3880TA HL6741

	VALUE	MULTIPLIER	ADD	SIZE (In)
ARM	2488.0	0.00321	2.14607	10.1
PAD	1276.0	0.00250	-2.66000	0.5

	ACTUAL (In)	MEASURED (In)
DIAMETER (arm+pad)	10.192	10.2 9.8 10.6

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jun 29 17:43:30 2009 DAYS SINCE CAL: 48

UNIT #: 3880TA HL6741

	VALUE	MULTIPLIER	ADD	SIZE (In)
ARM	2587.8	0.00321	2.14607	10.5
PAD	1224.0	0.00250	-2.66000	0.4

	ACTUAL (In)	MEASURED (In)
DIAMETER (arm+pad)	10.192	10.2 9.8 10.6

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2223XA 10090664

DATE/TIME PERFORMED: Tue May 12 16:26:29 2009

UNIT: 3880TA HL6741

CALB BLKS: 2225XA 094292

CS SRC: 4705XA 160688

PAD TYPE: PADTYP 7.5" PAD

	SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)		
	225.5 220.0 230.0	226.4 220.0 230.0	1395.9	1608.8		
	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	38510.1	14919.2	0.761 0.720 0.890	1.879	0.000	1.900
AL	24086.5	1673.9		2.867	-0.016	
AL + SHIM	32289.0	3009.1		2.558	0.098	
MG + SHIM (HI PE)	18661.9	7020.9	0.299 0.280 0.360			8.550
	1.34 1.30 1.40	1.80 1.60 1.80				
RATIO AL + SHIM/AL						
	1.60 1.58 1.70	8.91 8.55 9.55				
RATIO MG/AL						

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2223XA 10090664 DATE/TIME PERFORMED: Mon Jun 29 15:31:53 2009 DAYS SINCE CAL: 47

UNIT #: 3880TA HL6741

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1 3332.1 3352.1	224.8 220.0 230.0	1391.2 1250.0 1550.0
SS	22555.0	224.1	1341.8

22344.8	22384.8	220.0	230.0	1250.0	1550.0
LV (V)		PAD CURRENT (mA)			
5.0		67.2			
4.8		5.2			
		80.0			
		120.0			

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: **2223XA 10090864** DATE/TIME PERFORMED: **Mon Jun 29 17:43:22 2009** DAYS SINCE CAL: **48**

UNIT #: **3880TA HL6741**

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	3342.1	224.8	1366.5
	3332.1	220.0	1250.0
	3352.1	230.0	1550.0
SS	22355.0	224.1	1358.9
	22344.8	220.0	1250.0
	22364.8	230.0	1550.0
	LV (V)		PAD CURRENT (mA)
	5.0		68.8
	4.8		5.2
			80.0
			120.0

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: **1530XA 10120519** DATE/TIME PERFORMED: **Thu Apr 2 15:05:34 2009**

UNIT #: **3880TA HL6741** GRCOND ID & DATE: **94 101 01**

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.0035 -0.2000 0.2000	-0.0007 -0.1000 0.1000	-0.0001 -0.1000 0.1000	-0.0001 -0.1000 0.1000	-0.0009 -0.1000 0.1000	-0.0004 -0.1000 0.1000	-0.0008 -0.1000 0.1000	-0.0004 -0.1000 0.1000
Coil 0 Q	-0.0094 -0.5000 0.5000	-0.0012 -0.2000 0.2000	0.0011 -0.1000 0.1000	-0.0007 -0.1000 0.1000	0.0001 -0.1000 0.1000	0.0008 -0.1000 0.1000	-0.0008 -0.1000 0.1000	-0.0001 -0.1000 0.1000
Coil 1 R	0.0095 -0.2000 0.2000	-0.0002 -0.1000 0.1000	-0.0012 -0.1000 0.1000	0.0016 -0.1000 0.1000	-0.0007 -0.1000 0.1000	0.0001 -0.1000 0.1000	0.0003 -0.1000 0.1000	0.0008 -0.1000 0.1000
Coil 1 Q	-0.0087 -0.5000 0.5000	-0.0023 -0.2000 0.2000	0.0007 -0.1000 0.1000	-0.0001 -0.1000 0.1000	-0.0014 -0.1000 0.1000	-0.0001 -0.1000 0.1000	0.0013 -0.1000 0.1000	0.0005 -0.1000 0.1000
Coil 2 R	0.0052 -0.2000 0.2000	-0.0027 -0.1000 0.1000	0.0008 -0.1000 0.1000	-0.0006 -0.1000 0.1000	0.0021 -0.1000 0.1000	-0.0008 -0.1000 0.1000	-0.0011 -0.1000 0.1000	-0.0011 -0.1000 0.1000
Coil 2 Q	-0.0032 -0.5000 0.5000	0.0000 -0.2000 0.2000	0.0025 -0.1000 0.1000	0.0003 -0.1000 0.1000	-0.0004 -0.1000 0.1000	0.0008 -0.1000 0.1000	-0.0004 -0.1000 0.1000	0.0005 -0.1000 0.1000
Coil 3 R	0.0464 -0.3000 0.3000	-0.0045 -0.1000 0.1000	-0.0046 -0.1000 0.1000	0.0048 -0.1000 0.1000	0.0001 -0.1000 0.1000	0.0001 -0.1000 0.1000	0.0022 -0.1000 0.1000	0.0004 -0.1000 0.1000
Coil 3 Q	-0.0002 -0.5000 0.5000	-0.0138 -0.2000 0.2000	0.0049 -0.1000 0.1000	-0.0035 -0.1000 0.1000	-0.0033 -0.1000 0.1000	0.0032 -0.1000 0.1000	-0.0007 -0.1000 0.1000	0.0026 -0.1000 0.1000
Coil 4 R	0.1816 -0.5000 0.5000	-0.0021 -0.2000 0.2000	-0.0183 -0.2000 0.2000	0.0147 -0.2000 0.2000	-0.0074 -0.2000 0.2000	-0.0053 -0.2000 0.2000	0.0046 -0.2000 0.2000	-0.0046 -0.2000 0.2000
Coil 4 Q	0.0455 -1.0000 1.0000	-0.0434 -0.4000 0.4000	0.0053 -0.2000 0.2000	0.0046 -0.2000 0.2000	-0.0095 -0.2000 0.2000	0.0039 -0.2000 0.2000	-0.0038 -0.2000 0.2000	-0.0067 -0.2000 0.2000
Coil 5 R	0.3935 -1.2000 1.2000	0.0120 -0.4000 0.4000	-0.0453 -0.4000 0.4000	0.0354 -0.4000 0.4000	-0.0151 -0.4000 0.4000	0.0012 -0.4000 0.4000	0.0008 -0.4000 0.4000	-0.0125 -0.4000 0.4000
Coil 5 Q	0.1424 -1.5000 1.5000	-0.1024 -0.8000 0.8000	0.0249 -0.4000 0.4000	-0.0013 -0.4000 0.4000	-0.0055 -0.4000 0.4000	0.0067 -0.4000 0.4000	-0.0030 -0.4000 0.4000	-0.0073 -0.4000 0.4000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	163.26 136.00 186.00	161.80 134.00 184.00	158.87 131.00 181.00	154.52 128.00 176.00	148.82 122.00 170.00	141.85 118.00 161.00	133.62 112.00 150.00	124.25 105.00 139.00
Coil 0 P	7.784 6.000 8.000	25.445 21.000 30.000	42.692 35.000 50.000	59.888 49.000 71.000	77.099 63.000 91.000	94.299 77.000 109.000	111.529 82.000 130.000	128.741 106.000 151.000
Coil 1 M	282.65 238.00 328.00	280.10 235.00 325.00	274.90 230.00 320.00	267.21 225.00 312.00	257.02 218.00 302.00	244.51 208.00 288.00	229.77 196.00 268.00	213.02 184.00 244.00
Coil 1 P	7.839 6.000 9.000	25.650 21.000 30.000	43.048 35.000 51.000	60.404 49.000 71.000	77.754 63.000 92.000	95.109 78.000 112.000	112.451 83.000 130.000	129.736 107.000 151.000
Coil 2 M	561.07 478.00 659.00	555.86 474.00 654.00	545.43 463.00 643.00	530.02 460.00 622.00	509.83 432.00 602.00	485.27 412.00 572.00	456.49 390.00 540.00	423.80 359.00 499.00
Coil 2 P	7.748 6.000 8.000	25.378 21.000 31.000	42.587 35.000 51.000	59.732 49.000 71.000	76.864 63.000 92.000	94.001 76.000 115.000	111.145 82.000 135.000	128.231 105.000 155.000
Coil 3 M	918.97 772.00 1060.00	909.95 764.00 1050.00	891.74 752.00 1030.00	864.91 728.00 1010.00	829.88 700.00 970.00	787.48 665.00 925.00	737.96 628.00 868.00	682.59 589.00 799.00
Coil 3 P	8.041 6.000 10.000	26.190 21.000 30.000	43.919 35.000 51.000	61.588 49.000 72.000	79.201 63.000 93.000	96.788 76.000 114.000	114.321 80.000 135.000	131.783 104.000 156.000
Coil 4 M	1419.5 1210.0 1700.0	1407.3 1208.0 1690.0	1382.6 1180.0 1580.0	1345.9 1140.0 1590.0	1297.4 1120.0 1530.0	1236.9 1070.0 1490.0	1165.7 1000.0 1350.0	1085.2 942.0 1240.0
Coil 4 P	7.831 6.000 10.000	25.628 21.000 31.000	43.028 35.000 52.000	60.401 49.000 73.000	77.798 63.000 93.000	95.223 77.000 114.000	112.862 81.000 136.000	130.098 106.000 156.000
Coil 5 M	2957.6 2450.0 3450.0	2933.0 2420.0 3400.0	2881.6 2410.0 3320.0	2804.8 2350.0 3200.0	2703.1 2280.0 3080.0	2576.8 2150.0 2950.0	2428.2 2020.0 2750.0	2262.5 1870.0 2570.0
Coil 5 P	7.889 6.000 10.000	25.793 20.000 31.000	43.321 35.000 52.000	60.800 49.000 73.000	78.314 63.000 94.000	95.844 78.000 113.000	113.363 83.000 134.000	130.870 106.000 156.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-916 -3200 940	-606 -1400 -20	-489 -930 -150	-422 -760 -180	-375 -860 -130	-341 -600 -120	-314 -550 -110	-293 -520 -92

		110	-248	-278	-288	-294	-301	-308	-313
		-1500 1100	-5500 3500	-3700 2100	-2700 1400	-2200 1000	-1800 790	-1600 620	-1500 490
Coil 1 R		-110	-136	-133	-127	-120	-112	-108	-101
		-750 460	-360 83	-280 9	-230 -10	-200 -28	-180 -35	-160 -45	-150 -49
Coil 1 Q		338	83	32	6	-10	-21	-27	-31
		-3300 3500	-1100 960	-630 530	-470 360	-350 260	-320 190	-290 150	-260 120
Coil 2 R		-0.4	-29.2	-31.5	-30.7	-28.7	-26.5	-24.2	-22.4
		-85.0 78.0	-84.0 -0.4	-57.0 -12.0	-31.0 -16.0	-46.0 -17.0	-42.0 -18.0	-39.0 -15.0	-37.0 -13.0
Coil 2 Q		141.1	49.4	28.4	19.3	15.2	13.3	13.3	13.9
		-1500.0 1900.0	-500.0 610.0	-290.0 350.0	-220.0 280.0	-160.0 190.0	-140.0 160.0	-110.0 130.0	-99.0 120.0
Coil 3 R		-2.2	-8.7	-9.4	-9.0	-8.7	-8.2	-7.6	-7.4
		-23.0 21.0	-22.0 1.6	-21.0 -1.3	-20.0 -1.6	-19.0 -2.0	-19.0 -1.3	-19.0 -0.8	-19.0 -0.0
Coil 3 Q		79.3	30.1	22.0	19.8	19.7	20.9	22.8	24.7
		-540.0 530.0	-180.0 180.0	-100.0 110.0	-71.0 61.0	-61.0 66.0	-57.0 66.0	-26.0 63.0	-21.0 61.0
Coil 4 R		1.30	-3.58	-4.50	-4.52	-4.48	-4.13	-4.01	-4.33
		-18.00 13.00	-12.00 2.70	-11.00 1.50	-9.60 0.52	-9.90 0.96	-10.00 1.50	-11.00 2.30	-11.00 2.60
Coil 4 Q		64.36	26.26	20.28	19.39	20.29	21.92	24.25	27.13
		-250.00 280.00	-78.00 98.00	-43.00 64.00	-27.00 51.00	-18.00 48.00	-11.00 42.00	-5.50 42.00	-1.00 42.00
Coil 5 R		10.58	-1.28	-2.14	-2.20	-2.34	-2.39	-2.51	-3.38
		-56.00 51.00	-8.40 3.80	-6.80 1.10	-8.90 1.20	-9.30 2.90	-14.00 6.30	-19.00 9.80	-24.00 13.00
Coil 5 Q		4.20	6.27	8.55	11.27	14.12	17.04	20.16	23.39
		-58.00 69.00	-26.00 27.00	-14.00 22.00	-7.00 22.00	-2.80 24.00	1.10 26.00	4.10 29.00	7.10 32.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	0.972	0.980	0.985	0.987	0.988	0.988	0.988	0.988
	0.850 1.100	0.880 1.100	0.870 1.100	0.880 1.100	0.880 1.100	0.880 1.100	0.880 1.100	0.880 1.100
Coil 0 P	-0.308	-0.504	-0.407	-0.286	-0.205	-0.161	-0.104	-0.066
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500
Coil 1 M	0.957	0.966	0.970	0.972	0.973	0.973	0.973	0.972
	0.850 1.100	0.880 1.100	0.870 1.100	0.880 1.100	0.880 1.100	0.880 1.100	0.880 1.100	0.880 1.100
Coil 1 P	-0.279	-0.494	-0.392	-0.281	-0.190	-0.120	-0.084	-0.051
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500
Coil 2 M	0.986	0.986	0.988	0.986	0.986	0.985	0.984	0.984
	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100	0.890 1.100
Coil 2 P	0.049	0.043	0.083	0.112	0.120	0.132	0.160	0.151
	-1.600 1.600	-1.800 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.800 1.600	-1.600 1.600
Coil 3 M	0.991	0.992	0.991	0.991	0.990	0.990	0.988	0.987
	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 3 P	0.071	0.082	0.113	0.171	0.199	0.233	0.257	0.271
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500
Coil 4 M	0.994	0.994	0.995	0.994	0.994	0.992	0.992	0.992
	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 4 P	0.009	0.021	0.038	0.051	0.110	0.130	0.151	0.158
	-1.600 1.600	-1.800 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600	-1.600 1.600
Coil 5 M	0.992	0.992	0.992	0.991	0.991	0.989	0.990	0.989
	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 5 P	0.056	0.049	0.078	0.078	0.116	0.197	0.131	0.148
	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500	-1.500 1.500

PARMS TCID 0 TCID 1 Cal Temp T Factor
(degF)
ID# 2.834 0.730 73.4 1.00

HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Mon Jun 29 15:31:46 2009 DAYS SINCE CAL: 88
UNIT #: 3880TA HL6741

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.004	-0.001	0.001	-0.000	0.000	0.000	-0.000	-0.000
	-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	-0.100 0.100
Coil 0 Q	-0.011	-0.000	0.001	0.000	-0.000	0.001	-0.000	-0.000
	-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 1 R	0.010	-0.002	-0.002	0.002	-0.000	-0.000	0.000	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	-0.008	-0.003	0.001	0.001	0.000	0.001	0.000	0.001
	-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 2 R	0.012	-0.004	-0.000	0.000	0.001	0.000	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 2 Q	0.003	0.001	-0.002	-0.000	0.001	-0.001	0.001	-0.000
	-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 3 R	0.047	-0.013	-0.005	0.003	-0.001	-0.000	0.003	-0.002
	-0.500 0.500	-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	0.005	-0.018	0.006	-0.004	-0.002	0.003	-0.001	0.003
	-0.800 0.800	-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	0.197	-0.006	-0.015	0.012	-0.006	-0.001	0.008	-0.000
	-0.500 0.500	-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	0.035	-0.047	0.017	0.002	-0.011	0.008	0.000	-0.002
	-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	0.424	-0.015	-0.053	0.035	-0.023	0.007	0.009	-0.007
	-1.200 1.200	-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	0.151	-0.114	0.031	0.012	-0.019	0.000	0.002	-0.013
	-1.500 1.500	-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

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	162.70	161.24	158.33	154.01	148.34	141.38	133.17	123.84
	136.00 188.00	134.00 184.00	131.00 181.00	126.00 178.00	122.00 170.00	118.00 161.00	112.00 150.00	105.00 139.00

Coil 0 P	7.519 -1.000 12.000	25.398 19.000 30.000	42.720 35.000 50.000	59.969 49.000 71.000	77.216 63.000 91.000	94.216 77.000 110.000	111.748 82.000 130.000	129.014 105.000 151.000
Coil 1 M	282.70 237.00 327.00	280.14 235.00 325.00	275.00 230.00 320.00	267.31 225.00 312.00	257.15 218.00 302.00	244.88 208.00 288.00	229.92 196.00 266.00	213.20 184.00 244.00
Coil 1 P	7.580 -1.000 12.000	25.594 19.000 30.000	43.058 35.000 51.000	60.450 49.000 71.000	77.848 63.000 92.000	95.237 77.000 112.000	112.829 82.000 132.000	129.962 105.000 153.000
Coil 2 M	580.05 478.00 659.00	554.87 474.00 654.00	544.55 463.00 643.00	529.20 450.00 622.00	509.13 432.00 602.00	484.59 412.00 572.00	455.81 390.00 540.00	423.28 359.00 499.00
Coil 2 P	7.468 -1.000 12.000	25.316 19.000 31.000	42.591 36.000 51.000	59.778 49.000 71.000	78.958 63.000 92.000	94.122 77.000 114.000	111.317 92.000 136.000	128.468 105.000 156.000
Coil 3 M	917.40 772.00 1060.00	908.46 784.00 1050.00	890.39 752.00 1030.00	863.78 728.00 1010.00	828.74 700.00 970.00	786.48 665.00 925.00	737.31 628.00 868.00	681.98 589.00 799.00
Coil 3 P	7.793 -2.000 13.000	26.134 19.000 31.000	43.921 35.000 52.000	61.823 49.000 72.000	79.284 63.000 93.000	96.904 77.000 114.000	114.505 92.000 135.000	131.988 105.000 156.000
Coil 4 M	1421.4 1210.0 1700.0	1409.3 1205.0 1690.0	1384.8 1180.0 1650.0	1348.0 1140.0 1590.0	1299.4 1120.0 1530.0	1238.9 1070.0 1450.0	1167.5 1000.0 1350.0	1086.8 942.0 1240.0
Coil 4 P	7.584 -2.000 13.000	25.585 19.000 31.000	43.051 36.000 52.000	60.489 49.000 73.000	77.903 63.000 93.000	95.584 78.000 114.000	112.863 92.000 136.000	130.339 105.000 158.000
Coil 5 M	2952.0 2480.0 3480.0	2927.6 2420.0 3400.0	2876.9 2410.0 3320.0	2800.3 2380.0 3200.0	2698.8 2280.0 3080.0	2573.0 2180.0 2960.0	2424.7 2020.0 2780.0	2258.6 1870.0 2670.0
Coil 5 P	7.680 -2.000 13.000	25.743 19.000 31.000	43.330 35.000 52.000	60.866 49.000 73.000	78.399 63.000 93.000	95.967 78.000 114.000	113.554 93.000 135.000	131.097 106.000 156.000

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1530XA 10120519 DATE/TIME PERFORMED: Mon Jun 29 17:44:09 2009 DAYS SINCE CAL: 88

UNIT #: 3880TA HL6741

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	0.002 -0.076 0.084	-0.001 -0.061 0.059	0.000 -0.028 0.031	0.000 -0.030 0.030	0.000 -0.030 0.030	-0.000 -0.030 0.030	0.000 -0.030 0.030	0.000 -0.030 0.030
Coil 0 Q	-0.010 -0.051 0.029	-0.001 -0.120 0.120	0.000 -0.028 0.031	0.000 -0.030 0.030	0.000 -0.030 0.030	-0.000 -0.029 0.031	0.001 -0.030 0.030	0.000 -0.030 0.030
Coil 1 R	0.009 -0.070 0.090	-0.001 -0.062 0.048	-0.001 -0.032 0.028	0.001 -0.028 0.032	-0.001 -0.030 0.030	0.001 -0.030 0.030	-0.001 -0.030 0.030	0.001 -0.029 0.031
Coil 1 Q	-0.009 -0.409 0.391	-0.004 -0.103 0.097	0.002 -0.029 0.031	0.001 -0.029 0.031	-0.002 -0.030 0.030	0.001 -0.029 0.031	-0.000 -0.030 0.030	-0.001 -0.029 0.031
Coil 2 R	0.011 -0.058 0.082	-0.000 -0.034 0.026	0.003 -0.030 0.030	-0.001 -0.030 0.030	-0.000 -0.029 0.031	-0.000 -0.030 0.030	-0.000 -0.028 0.032	-0.002 -0.031 0.029
Coil 2 Q	0.002 -0.347 0.353	0.001 -0.089 0.101	-0.002 -0.032 0.028	0.002 -0.030 0.030	-0.000 -0.029 0.031	0.001 -0.031 0.029	0.000 -0.029 0.031	0.002 -0.030 0.030
Coil 3 R	0.054 0.007 0.087	-0.009 -0.053 0.027	-0.009 -0.045 0.035	0.003 -0.037 0.043	0.001 -0.041 0.039	-0.001 -0.040 0.040	0.000 -0.037 0.043	-0.002 -0.042 0.038
Coil 3 Q	0.016 -0.195 0.205	-0.017 -0.098 0.062	0.007 -0.034 0.048	0.001 -0.044 0.036	-0.001 -0.042 0.038	-0.001 -0.037 0.043	-0.002 -0.041 0.039	0.001 -0.037 0.043
Coil 4 R	0.197 0.137 0.267	-0.003 -0.068 0.064	-0.014 -0.076 0.045	0.014 -0.048 0.072	0.001 -0.068 0.084	-0.002 -0.081 0.059	0.003 -0.062 0.068	-0.002 -0.060 0.080
Coil 4 Q	0.039 -0.265 0.335	-0.052 -0.147 0.053	0.007 -0.043 0.077	-0.004 -0.058 0.062	-0.002 -0.071 0.049	0.010 -0.052 0.068	-0.002 -0.060 0.060	-0.002 -0.062 0.058
Coil 5 R	0.445 0.304 0.844	0.007 -0.135 0.105	-0.027 -0.173 0.067	0.028 -0.085 0.135	-0.015 -0.143 0.097	-0.018 -0.113 0.127	0.019 -0.111 0.128	0.004 -0.127 0.113
Coil 5 Q	0.112 -0.448 0.751	-0.112 -0.364 0.136	0.028 -0.088 0.151	0.020 -0.108 0.132	-0.014 -0.139 0.101	0.013 -0.120 0.120	0.004 -0.118 0.122	-0.010 -0.133 0.107
ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	182.44 159.45 165.95	180.98 158.02 164.47	158.08 155.17 161.50	153.77 150.93 157.09	148.10 146.38 151.31	141.15 138.55 144.21	132.94 130.51 135.83	123.58 121.35 128.32
Coil 0 P	7.174 4.519 10.819	25.318 22.395 28.398	42.714 39.720 45.720	60.014 58.969 62.989	77.305 74.218 80.216	94.593 91.470 97.470	111.907 108.746 114.748	129.192 126.014 132.014
Coil 1 M	282.65 277.04 288.35	280.11 274.54 285.75	274.96 269.50 280.51	267.32 261.86 272.66	257.18 252.01 262.29	244.73 239.77 249.56	229.96 225.32 234.52	213.08 208.64 217.46
Coil 1 P	7.247 4.580 10.980	25.510 22.594 28.594	43.038 40.056 46.056	60.481 57.450 63.450	77.911 74.848 80.848	95.348 92.237 98.237	112.754 109.629 115.629	130.108 126.982 132.982
Coil 2 M	559.41 546.85 571.25	554.24 543.77 565.97	543.93 533.85 555.44	528.63 518.61 539.78	508.71 498.94 519.31	484.18 474.90 494.28	455.42 446.70 464.93	422.57 414.79 431.72
Coil 2 P	7.099 4.488 10.488	25.224 22.318 28.318	42.587 39.691 45.691	59.807 58.778 62.778	77.021 73.988 79.988	94.231 91.122 97.122	111.458 108.317 114.317	128.634 125.488 131.488
Coil 3 M	916.45 899.05 935.75	907.63 890.29 925.83	889.62 872.58 908.19	862.99 846.80 881.05	828.11 812.18 845.31	785.98 770.75 802.21	736.75 722.58 752.05	681.04 668.34 695.82
Coil 3 P	7.457 4.793 10.793	26.046 23.134 28.134	43.903 40.921 46.921	61.840 58.823 64.823	79.343 76.284 82.284	96.989 93.804 99.904	114.603 111.505 117.505	132.130 128.886 134.886
Coil 4 M	1422.0 1393.0 1449.8	1410.0 1381.1 1437.5	1385.5 1357.1 1412.5	1348.9 1321.1 1375.5	1299.9 1273.4 1325.4	1240.0 1214.1 1263.7	1168.4 1144.2 1190.8	1087.1 1065.1 1108.5
Coil 4 P	7.263 4.584 10.964	25.495 22.585 28.585	43.017 40.051 46.051	60.478 57.469 63.489	77.944 74.903 80.903	95.441 92.384 98.384	112.957 109.883 115.883	130.442 127.339 133.339
Coil 5 M	2947.0 2893.0 3011.0	2922.4 2869.0 2986.4	2872.8 2819.4 2934.4	2798.3 2744.3 2856.4	2695.7 2644.9 2752.8	2569.3 2521.5 2624.4	2420.9 2378.2 2473.2	2252.7 2213.4 2303.7
Coil 5 P	7.344 4.680 10.680	25.660 22.743 28.743	43.293 40.330 46.330	60.861 57.866 63.866	78.440 75.399 81.399	96.055 92.987 98.987	113.687 110.554 116.554	131.246 128.097 134.097

FOCUS CABLEHEAD

Series : CABL318
Mnemonic : CBLH
Diameter : 3.12"

FOCUS SWIVEL

Series : 3980XA
Mnemonic : SWVL

FOCUS TEN/TEMP/MUD RES/ACCEL

Series : 3980XA
Mnemonic : TTMA
Diameter : 3.13"

FOCUS TELEMETRY (POWER SECTION)

Series : 3518FB
Mnemonic : TMGR
Diameter : 3.13"

FOCUS EB/EQ TELEMETRY GAMMA RAY

Series : 3518EG
Mnemonic : GR
Diameter : 3.12"
Measure Point: 4.24': GR MP

FOCUS COMPENSATED NEUTRON

Series : 2438XA
Mnemonic : CN
Diameter : 3.13"
Measure Point: 1.92': LSN MP
Measure Point: 1.48': SSN MP

FOCUS Z-DENSILOG

Series : 2223XA
Mnemonic : ZDL
Diameter : 3.75"
Measure Point: 4.33': CR1 MP
Measure Point: 1.89': LSD MP
Measure Point: 1.29': SSD MP

FOCUS KNUCKLE JOINT

Series : 3930XA

FOCUS KNUCKLE JOINT

Series : 3930XA

FOCUS HIGH DEFINITION INDUCTION TOOL

Series : 1830XA
Mnemonic : HDIL
Diameter : 3.13"
Measure Point: 7.17': COIL 5 MP
Measure Point: 5.67': COIL 4 MP
Measure Point: 4.17': COIL 3 MP
Measure Point: 3.67': COIL 2 MP
Measure Point: 3.17': COIL 1 MP
Measure Point: 2.67': COIL 0 MP
Measure Point: 1.14': SP MP

FOCUS PINEAPPLE / CABBAGE

TOTAL LENGTH: 50.84'
TOTAL WEIGHT: 749 lbs
MAX DIAMETER: 0'6.13"

50.84'

GR MP 35.47'

LSN MP 28.33'
SSN MP 27.88'

CR1 MP 21.17'

LSD / CR2 MP 18.52'
SSD MP 18.13'

COIL 5 MP 7.67'

COIL 4 MP 6.17'

COIL 3 MP 4.67'

COIL 2 MP 3.67'

COIL 1 MP 3.17'

COIL 0 MP 1.64'

SP MP 0.00'

INSTRUMENT CONFIGURATION

FOCUS CABLEHEAD

Series : CABL318
Mnemonic : CBLH
Diameter : 3.12"

FOCUS SWIVEL

Series : 3980XA
Mnemonic : SWVL

FOCUS TEN/TEMP/MUD RES/ACCEL

Series : 3980XA
Mnemonic : TTMA
Diameter : 3.13"

FOCUS TELEMETRY (POWER SECTION)

Series : 3518FB
Mnemonic : TMGR
Diameter : 3.13"

FOCUS EB/EQ TELEMETRY GAMMA RAY

Series : 3518EG
Mnemonic : GR
Diameter : 3.12"
Measure Point: 4.24': GR MP

FOCUS COMPENSATED NEUTRON

Series : 2438XA
Mnemonic : CN
Diameter : 3.13"
Measure Point: 1.92': LSN MP
Measure Point: 1.48': SSN MP

FOCUS Z-DENSILOG

Series : 2223XA
Mnemonic : ZDL
Diameter : 3.75"
Measure Point: 4.33': CR1 MP

50.84'

GR MP 35.47'

LSN MP 28.33'
SSN MP 27.88'

CR1 MP 21.17'

Measure Point: 1.69' : LSD / CR2 MP
Measure Point: 1.29' : SSD MP

FOCUS KNUCKLE JOINT
Series : 3830XA
FOCUS KNUCKLE JOINT
Series : 3830XA

FOCUS HIGH DEFINITION INDUCTION TOOL
Series : 1830XA
Mnemonic : HDIL
Diameter : 3.13"
Measure Point: 7.17' : COIL 5 MP
Measure Point: 5.67' : COIL 4 MP
Measure Point: 4.17' : COIL 3 MP
Measure Point: 3.67' : COIL 2 MP
Measure Point: 3.17' : COIL 1 MP
Measure Point: 2.67' : COIL 0 MP
Measure Point: 1.14' : SP MP

FOCUS PINEAPPLE / CABBAGE

TOTAL LENGTH: 50.64'
TOTAL WEIGHT: 749 lbs
MAX DIAMETER: 0'6.13"

LSD / CR2 MP 18.52'
SSD MP 18.13'

COIL 5 MP 7.57'
COIL 4 MP 6.17'
COIL 3 MP 4.87'
COIL 2 MP 3.17'
COIL 1 MP 3.17'
COIL 0 MP 1.84'
SP MP 0.00'



Baker Atlas

focus

COMPANY
WELL
FIELD
COUNTY

WILLIAMS PRODUCTION RMT
GM 943-1D
GRAND VALLEY
GARFIELD

STATE CO

FILE NO:

1261

API NO:

05045184260000

LOCATION:

SHL: 1754' FNL 1913' FEL
BHL: 1544' FSL 1137' FEL

SEC 1 TWP 7S RGE 96W

ELEVATIONS:

KB 5331 FT
DF 5330 FT
GL 5308 FT

DATE 28-Jun-2009

RIG: CYCLONE 30