



COMPENSATED Z-DENSILOGSM
COMPENSATED NEUTRON LOG
GAMMA RAY LOG
CALIPER LOG

FILE NO:	COMPANY	TABULA RASA ENERGY
API NO:	WELL	CADDELL 2
05-055-06312	FIELD	OAKDALE
	COUNTY	HUEFANO
	STATE	COLORADO
Ver. 3.87	LOCATION:	OTHER SERVICES
2"/100' SCALE	SHL: 1349' FSL & 1306' FEL	HDIL/CAL/GR
5"/100' SCALE	SEC 4	TWP 29 S
		RGE 69 W
PERMANENT DATUM	GL	ELEVATION 7830 FT
LOG MEASURED FROM	KB	14.5 FT ABOVE P.D.
DRILL MEAS. FROM	KB	ELEVATIONS:
		KB 7844.5 FT
		DF 7844.5 FT
		GL 7830 FT
DATE	TRIP	15-DEC-2013
RUN	1	1
SERVICE ORDER	US079364	
DEPTH DRILLER	5855 FT	
DEPTH LOGGER	5855 FT	
BOTTOM LOGGED INTERVAL	5820 FT	
TOP LOGGED INTERVAL	3900 FT	
CASING DRILLER	9.625 IN	597 FT
CASING LOGGER	586 FT	
BIT SIZE	8.75 IN	
TYPE OF FLUID IN HOLE	OBM	
DENSITY	7.95 LB/G	56 S
PH		
SOURCE OF SAMPLE	DOWNHOLE	
RM AT MEAS. TEMP.	2.29 OHMM	75 DEGF
RMF AT MEAS. TEMP.	1.72 OHMM	75 DEGF
RMC AT MEAS. TEMP.	3.09 OHMM	75 DEGF
SOURCE OF RMF	RMC	CALCULATED
RM AT BHT	6.56 OHMM	165 DEGF
TIME SINCE CIRCULATION	8 HOURS	
MAX. RECORDED TEMP.	166 DEGF	
EQUIP. NO.	6680	WOODWARD OK
RECORDED BY	TIM BURGER	
WITNESSED BY	GENE GUSTIN	

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
17.5 IN	0 FT	110 FT
12.25 IN	110 FT	597 FT
8.75 IN	597 FT	5955 FT

CASING RECORD				
SIZE	WEIGHT	GRADE	FROM	TO
13.375 IN	48 LB/F	H-40	0 FT	110 FT
9.625 IN	36 LB/F	J-55	0 FT	597 FT
7 IN	29 LB/F	L-80	0 FT	

REMARKS

RUN 1 TRIP 1:

1 OPERATION IN THE WELL
OP1: GR/CN/ZDL/HDIL - RAN IN COMBINATION

DENSITY POROSITY (PORZC) = 2.71 G/CC
NEUTRON POROSITY (CNC) = LIMESTONE MATRIX
NETURON POROSITY (CNC) = CALIPER COMPENSATED

2.65 G/CC SANDSTONE POROSITY CURVES (PZCSS & CNCSS) ADDED PER CLIENT REQUEST

(CAL) = SINGLE AXIS CALIPER FROM DENSITY TOOL
(BVOL) = TOTAL BOREHOLE VOLUME FROM CALIPER = 2,677.325 F3
(CVOL) = CEMENT VOLUME CALCULATED FROM 7" CASING = 1,237.829 F3

INDUCTION RAN WITH STAND-OFF

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XB	10045153	FREE
1	1	COM REM	3514XB	116620	DECENTRALIZED
1	1	SL/GR	1329XA	179184	DECENTRALIZED
1	1	NEUTRON	2446XA	173079	DECENTRALIZED
1	1	DENSITY	2234XA	179939	PAD-PINNED DEVICE
1	1	KNUCKLE	3939XA	10238696	FREE
1	1	INDUCTION	1515EA/MA	179495/183381	STAND-OFF

MAIN LOG - LIMESTONE 2.71 G/CC MATRIX 2"/100FT SCALE

ECLIPS 6.1i Aug 06, 2010

Sun Dec 15 13:25:00 2013

Updates: 1,2 Patches: 3

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/TABULA_CADDELL_2_R1/m777q05.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 0.000 ft BOTTOM DEPTH: 0.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
SL	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1s*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2s*)	light		"	"
	FILTER (soft*)	light		"	"

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	BIT SIZE	8.750	ln	"	"
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. {cnbh*}	USE CALIPER		"	"
	CALIPER/FIXED DIA. {slbh*}	USE CALIPER		"	"
	CALIPER/FIXED DIA. {zdbh*}	USE CALIPER		"	"

BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	in	''	''
	FIXED DIAMETER (slbh*)	8.750	in	''	''

SL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K MUD CONTENT	0.00	pct	''	''
	K MUD TYPE	KCL		''	''
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		''	''

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	''	''
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	2.710	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
ZDL	DENX TRACKING	ON		''	''

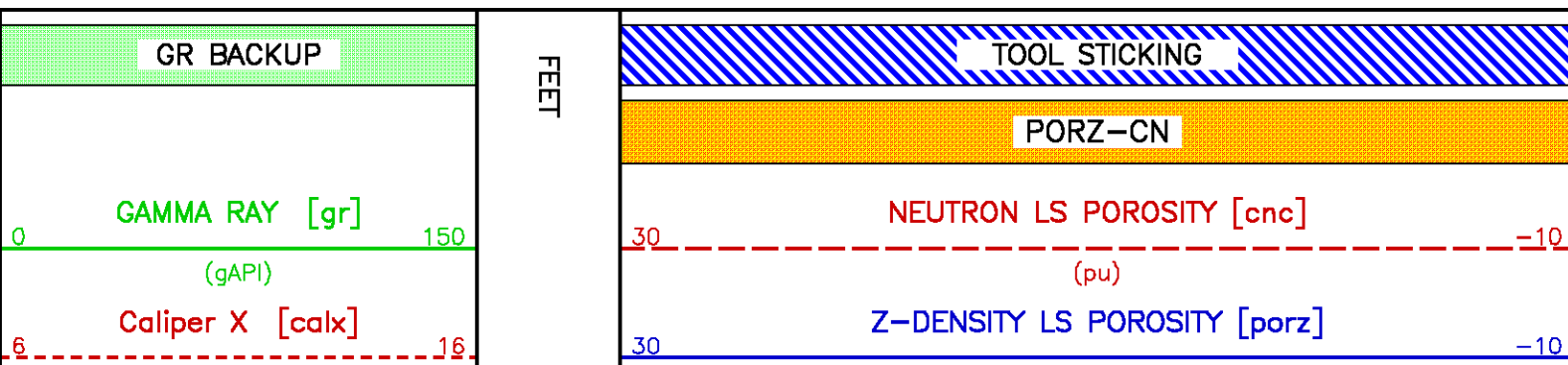
CURVE DESCRIPTION REPORT

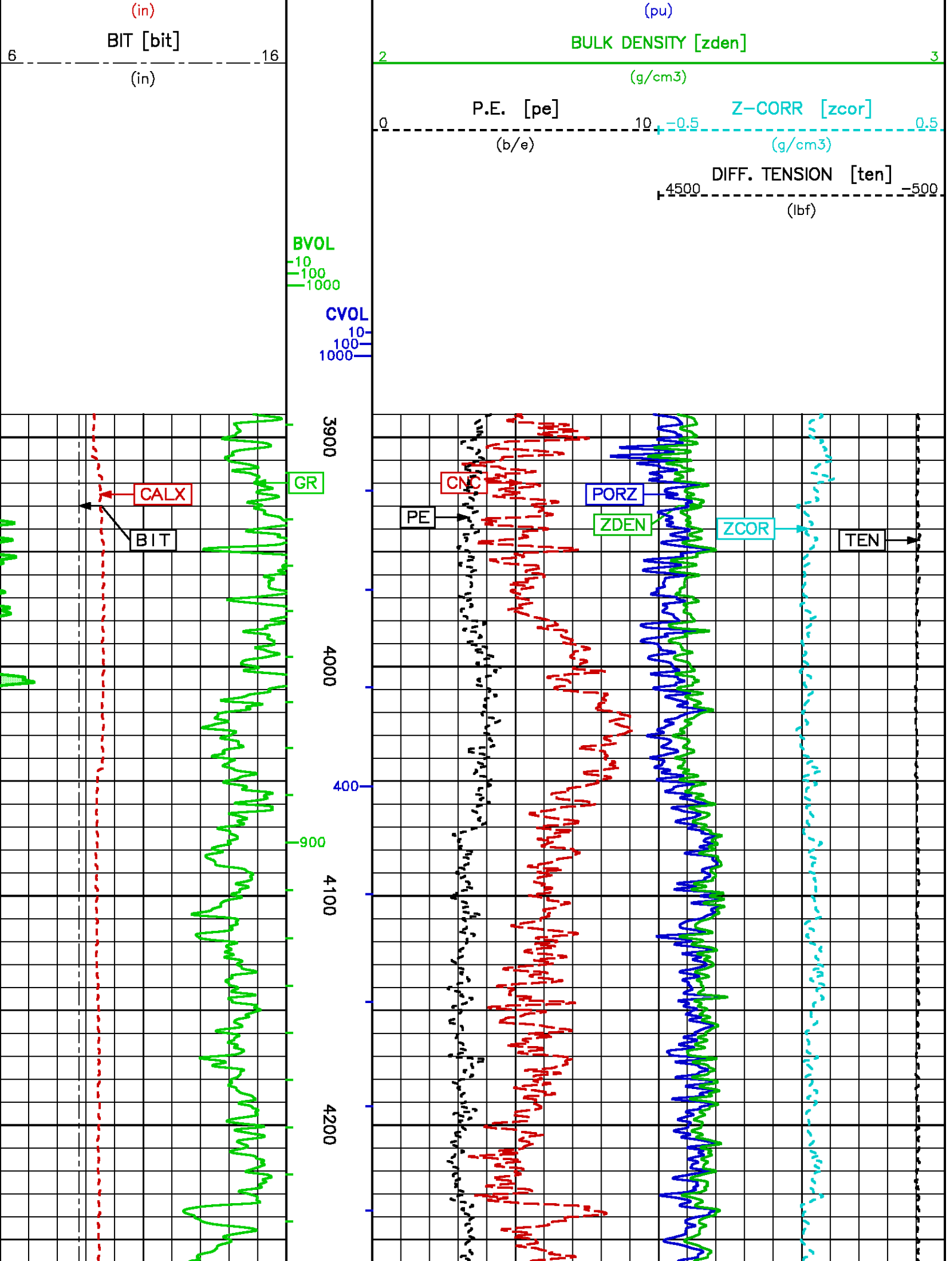
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 11:21:30 2013	BIT SIZE
F1:BVOL	Dec 15 11:21:30 2013	BOREHOLE VOLUME
F1:CALX	Dec 15 11:21:30 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	Dec 15 11:21:30 2013	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CVOL	Dec 15 11:21:30 2013	CEMENT VOLUME
F1:GR	Dec 15 11:21:30 2013	GAMMA RAY
F1:PE	Dec 15 11:21:30 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Dec 15 11:21:30 2013	POROSITY FOR SELECTABLE MATRIX
F1:TEN	Dec 15 11:21:30 2013	DIFFERENTIAL TENSION
F1:ZCOR	Dec 15 11:21:30 2013	DENSITY CORRECTION
F1:ZDEN	Dec 15 11:21:30 2013	FORMATION BULK DENSITY

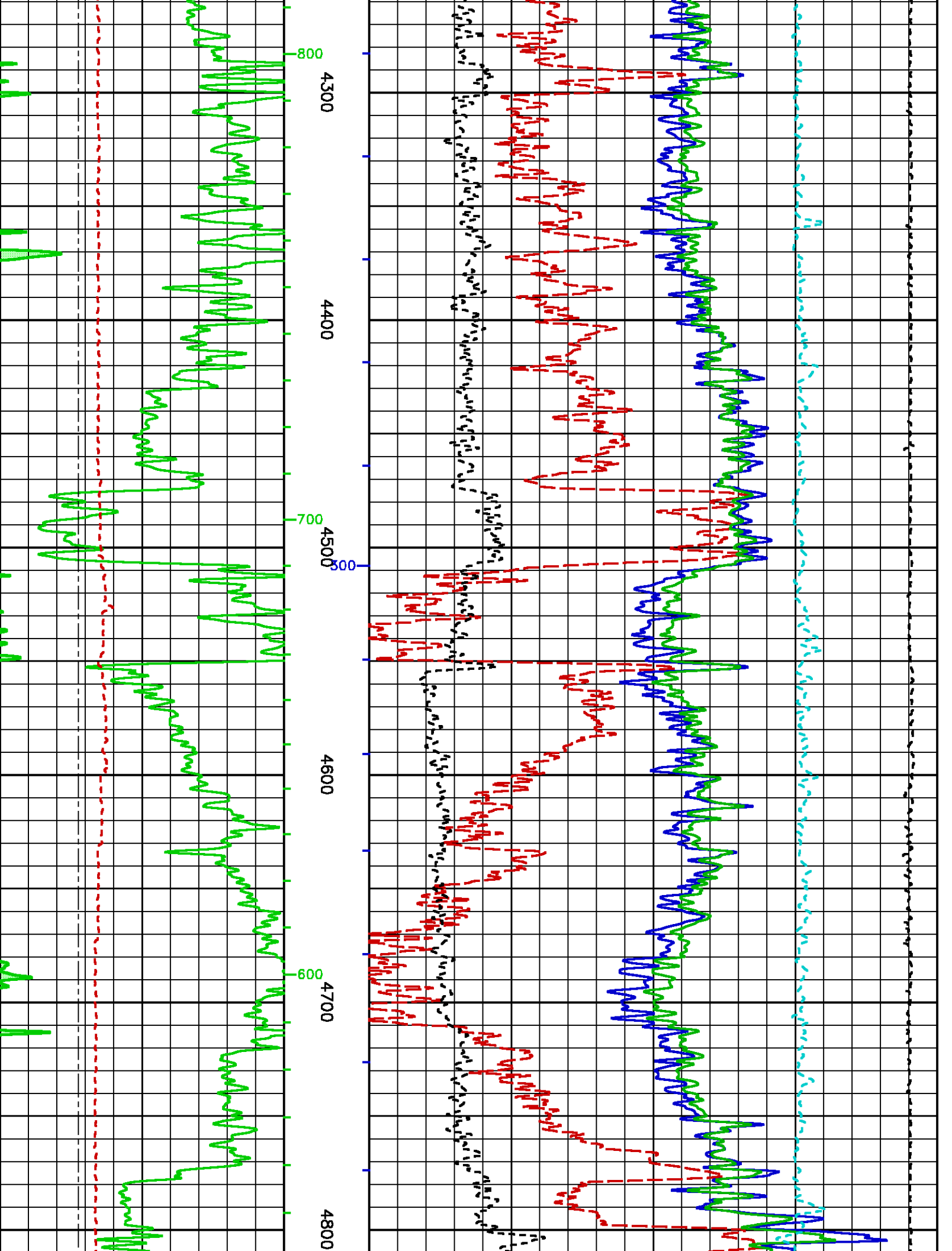
CURVE MEASURE POINT OFFSET

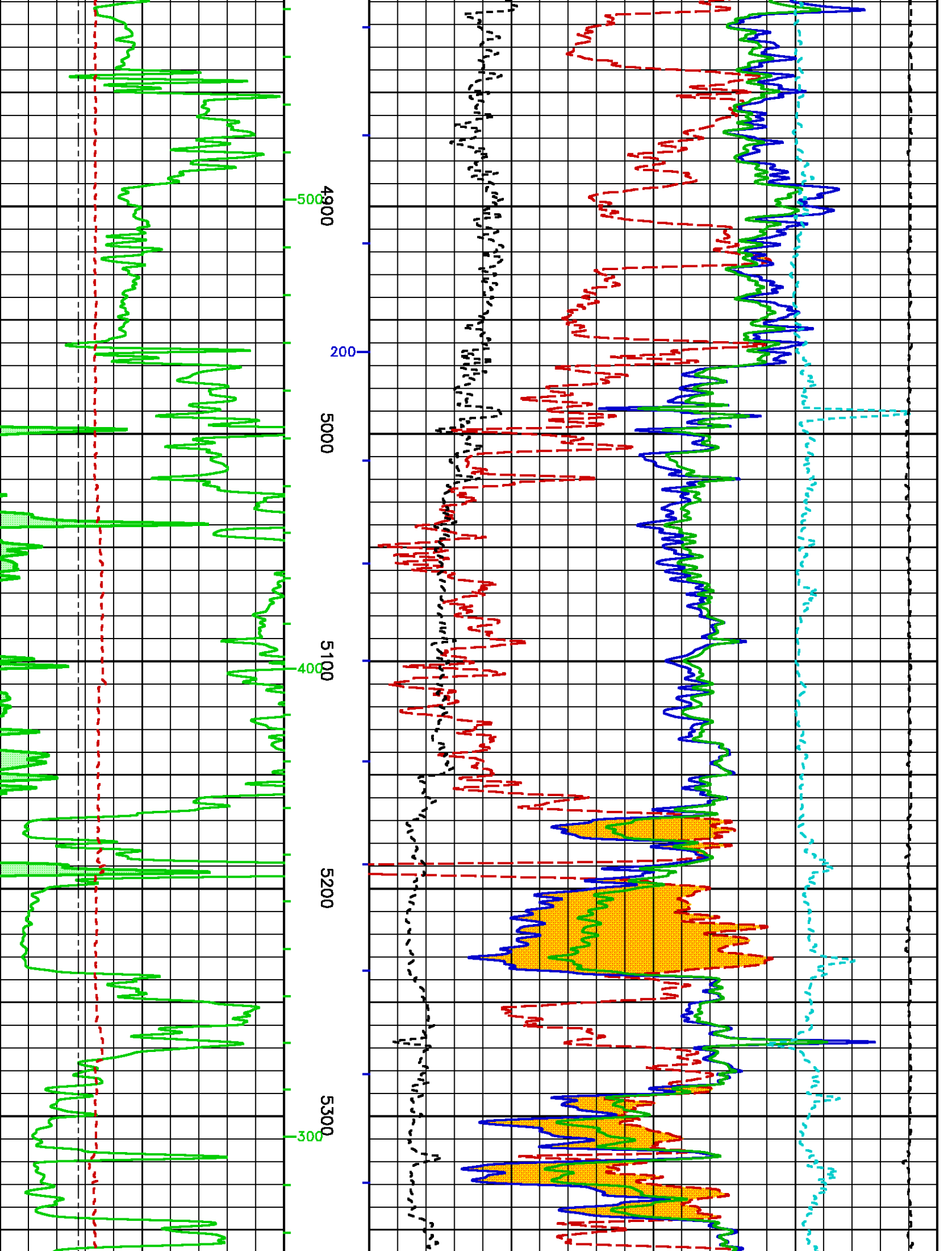
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	52.25	TEN	0.00		
CALX	35.00	PE	34.25	ZCOR	34.25		
CNC	45.25	PORZ	34.25	ZDEN	34.25		

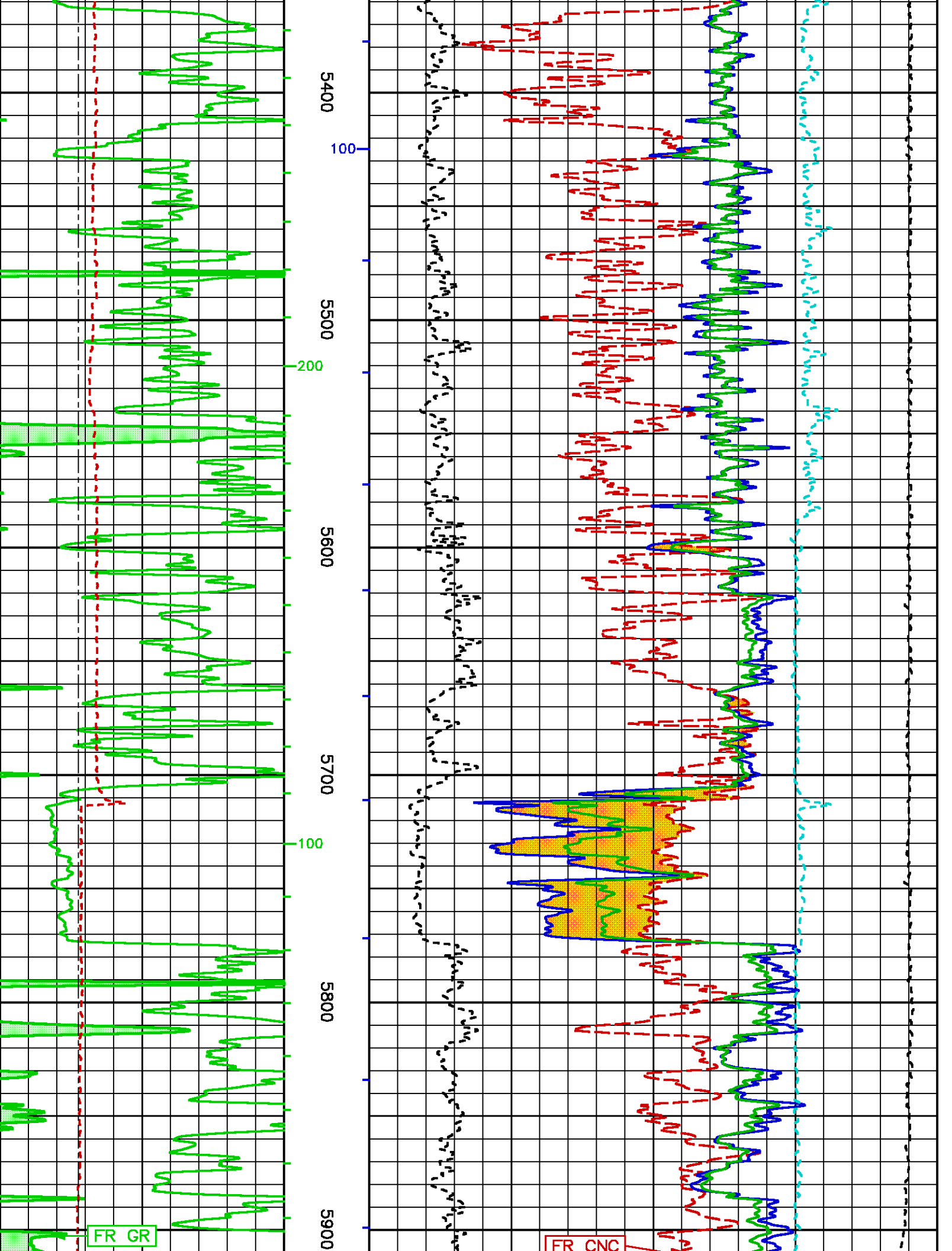
Presentation	: wwdsys71:/dat1a/TABULA_CADDELL_2_R1/zdL_MN02_LS_r1.pdf [2"/100' Scale]
Plot Interval	: 3890 - 5972.75 Feet
Data File 1	: F1 : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/m777q05.off
Created On	: Dec 15 11:21:30 2013
Company	: TABULA RASA ENERGY
Well	: CADDELL 2
Field	: OAKDALE
File Interval	: 2775.25 - 5972.75 Feet
Oct	: m777q

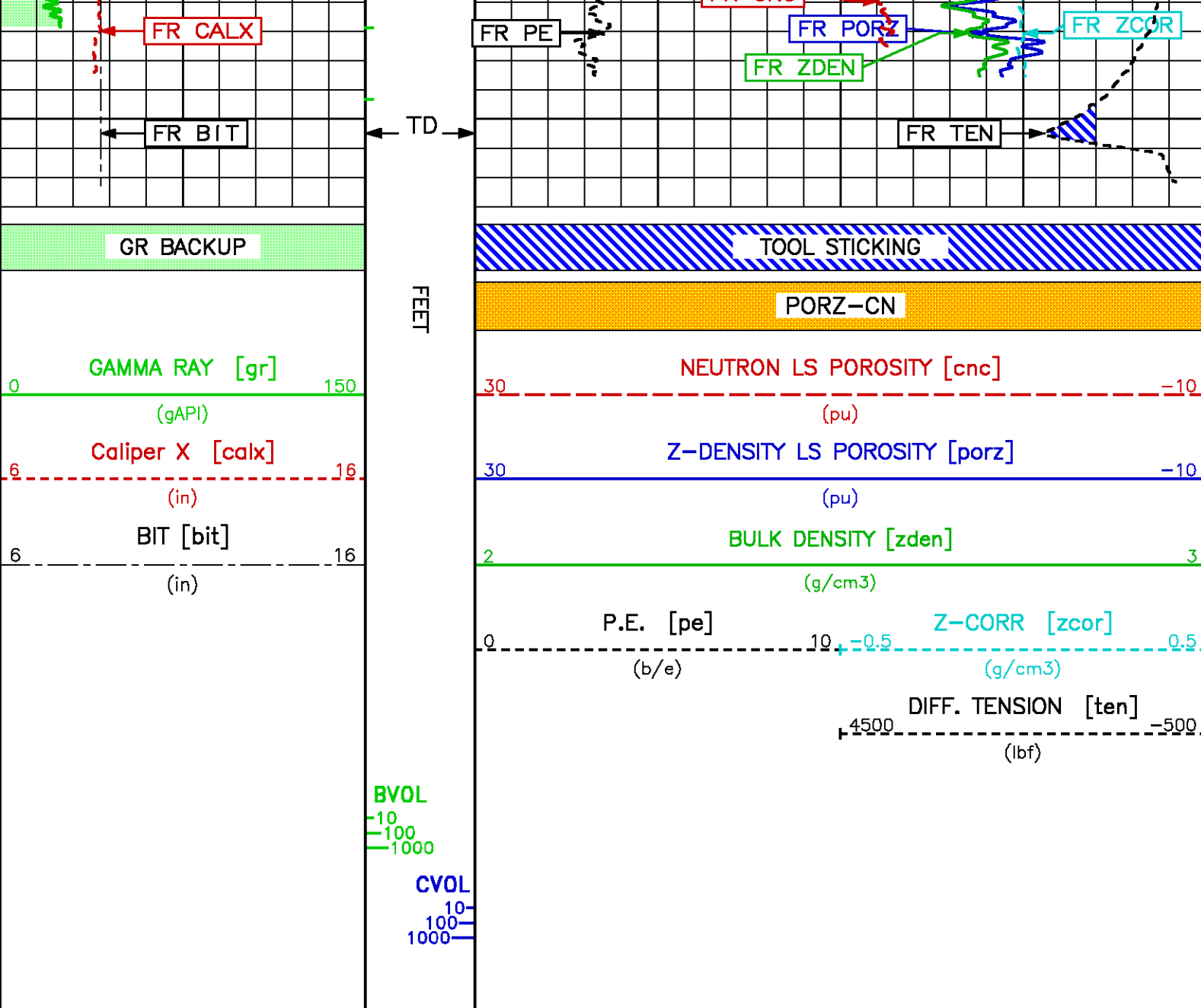












MAIN LOG - LIMESTONE 2.71 G/CC MATRIX
5"/100FT SCALE

ECLIPS 6.1i Aug 06, 2010
Updates: 1,2 Patches: 3

Sun Dec 15 13:19:39 2013

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data1a/TABULA_CADELL_2_R1/m777q05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 0.000 ft BOTTOM DEPTH: 0.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)
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Y AXIS CALIPER	FILTER ()	medium (1)	TOP	BOTTOM
TENSION	FILTER ()	medium (1)	''	''
GR	FILTER ()	medium (1)	''	''
	FILTER (.h)	medium (1)	''	''
SL	FILTER ()	medium (1)	''	''
CN	FILTER ()	medium (1)	''	''
	FILTER (.h)	medium (1)	''	''
CALIPER	FILTER ()	medium (1)	''	''
	FILTER (.h)	medium (1)	''	''
	FILTER (.i)	medium (1)	''	''
ZDL MED RES	FILTER (hrd1*)	medium	''	''
	FILTER (hrd1s*)	medium	''	''
	FILTER (hrd2*)	medium	''	''
	FILTER (hrd2s*)	medium	''	''
	FILTER (soft*)	medium	''	''
ZDL HIGH RES	FILTER (hrd1*)	light	''	''
	FILTER (hrd1s*)	light	''	''
	FILTER (hrd2*)	light	''	''
	FILTER (hrd2s*)	light	''	''
	FILTER (soft*)	light	''	''

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	BIT SIZE	8.750	ln	''	''
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. {cnbh*}	USE CALIPER		''	''
	CALIPER/FIXED DIA. {slbh*}	USE CALIPER		''	''
	CALIPER/FIXED DIA. {zdbh*}	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER {cnbh*}	8.750	ln	''	''
	FIXED DIAMETER {slbh*}	8.750	ln	''	''

SL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K MUD CONTENT	0.00	pct	''	''
	K MUD TYPE	KCL		''	''
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		''	''

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	7.875	ln	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
DENSITY POROSITY	RHOfmatrix	2.710	g/cm3	TOP	BOTTOM
	RHOffluid	1.000	g/cm3	''	''
ZDL	DENX TRACKING	ON		''	''

CURVE DESCRIPTION REPORT

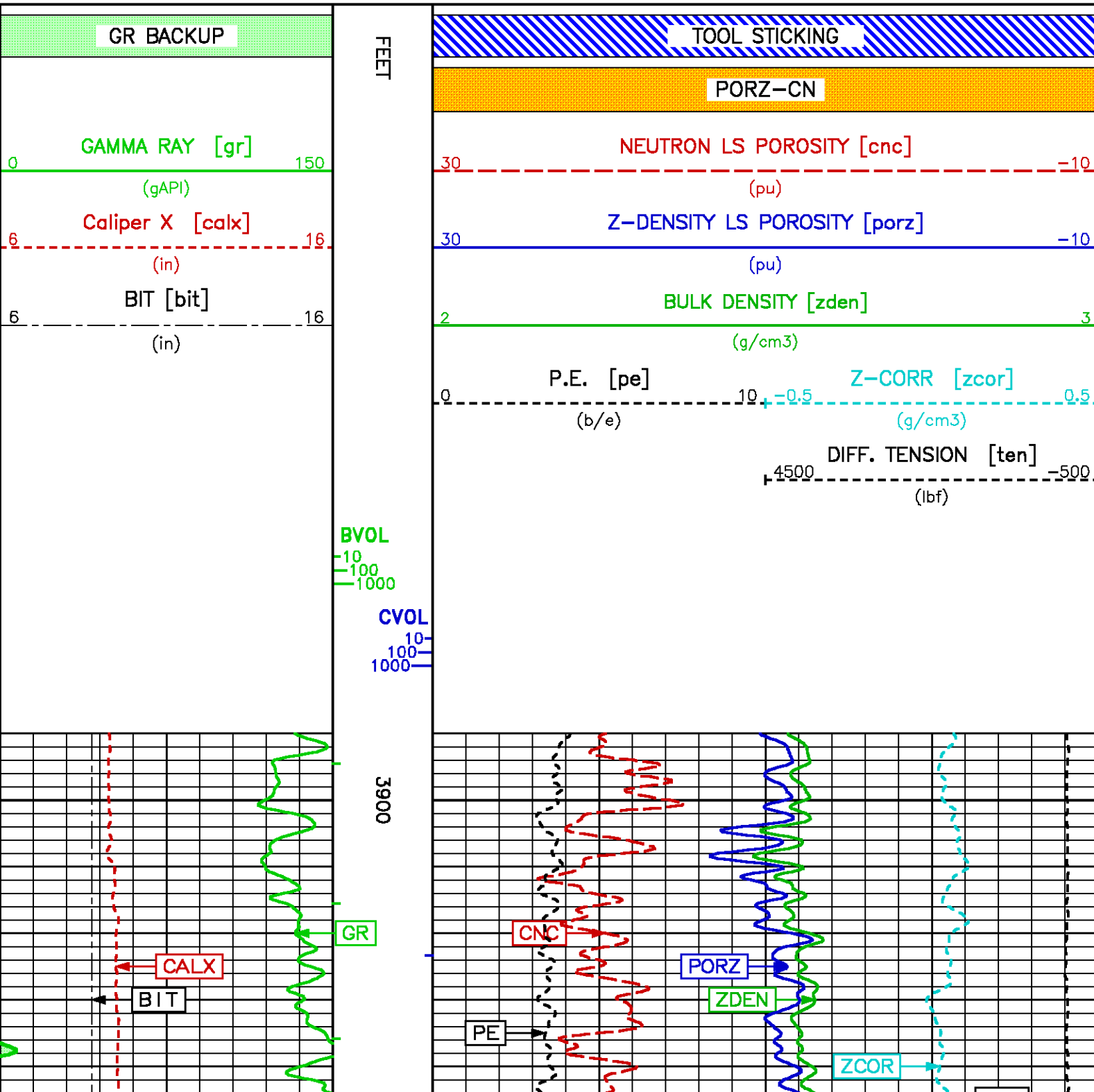
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 11:21:30 2013	BIT SIZE
F1:BVOL	Dec 15 11:21:30 2013	BOREHOLE VOLUME
F1:CALX	Dec 15 11:21:30 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	Dec 15 11:21:30 2013	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CVOL	Dec 15 11:21:30 2013	CEMENT VOLUME
F1:GR	Dec 15 11:21:30 2013	GAMMA RAY
F1:PE	Dec 15 11:21:30 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Dec 15 11:21:30 2013	POROSITY FOR SELECTABLE MATRIX
F1:TEN	Dec 15 11:21:30 2013	DIFFERENTIAL TENSION
F1:ZCOR	Dec 15 11:21:30 2013	DENSITY CORRECTION
F1:ZDEN	Dec 15 11:21:30 2013	FORMATION BULK DENSITY

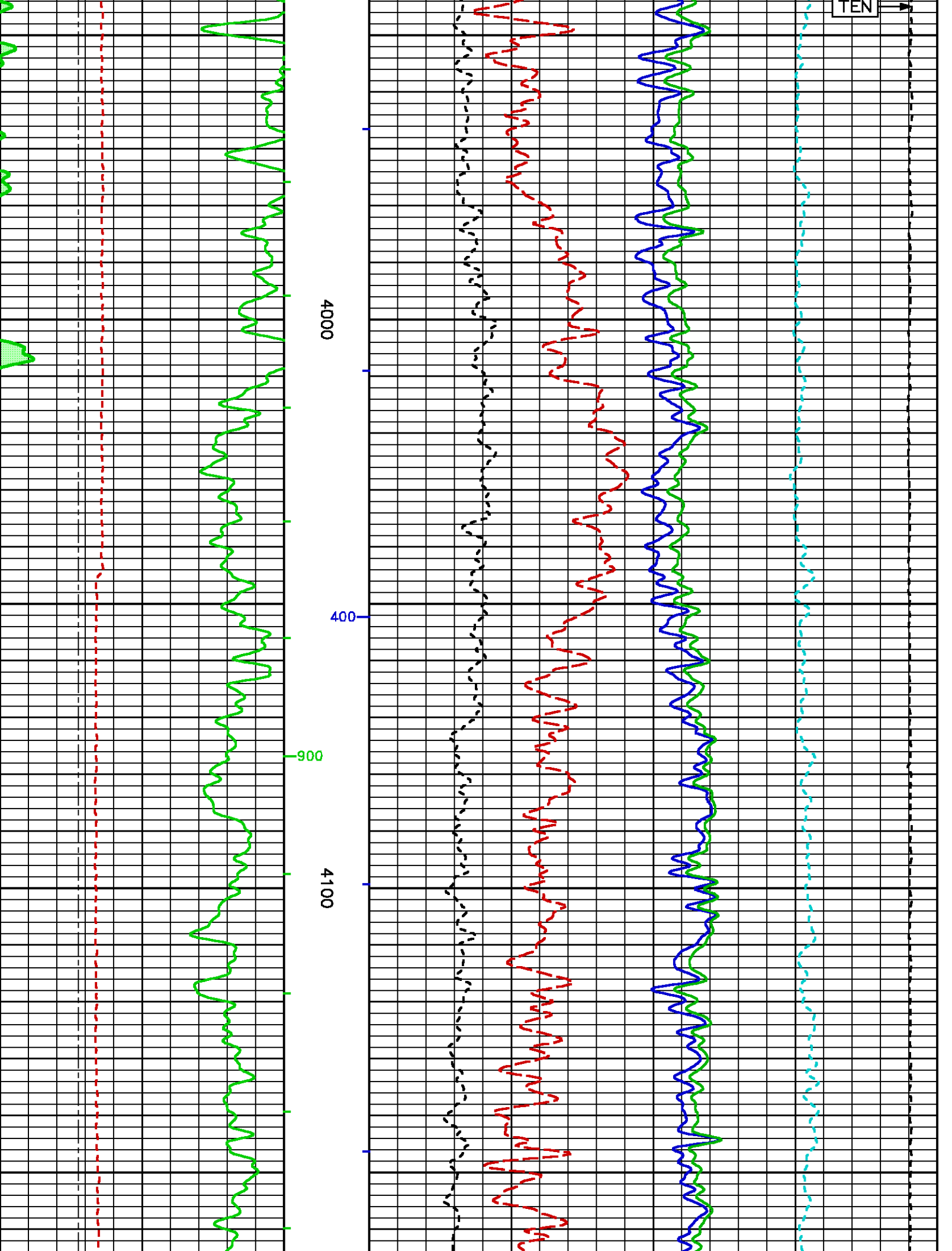
CURVE MEASURE POINT OFFSET

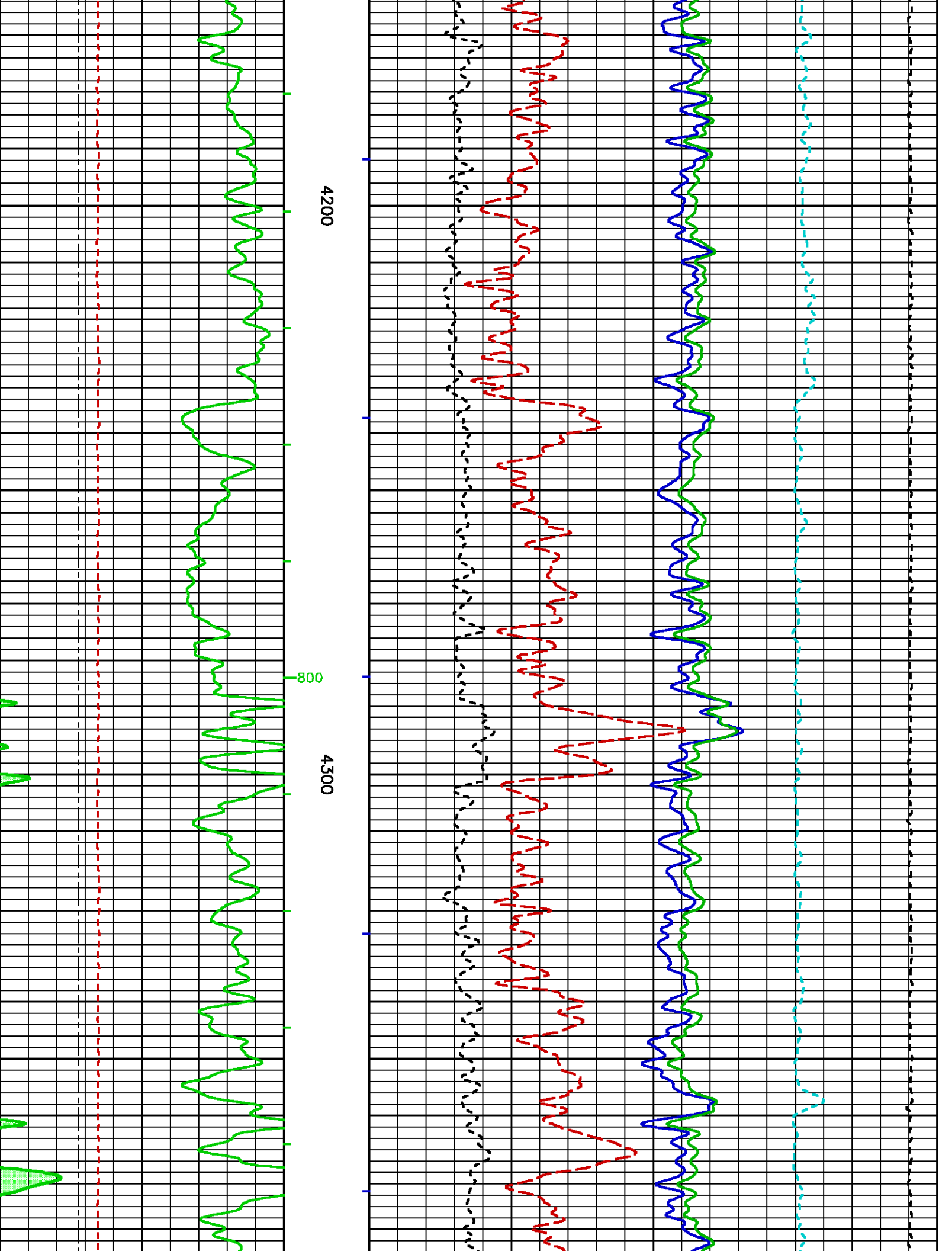
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	52.25	TEN	0.00		
CALX	35.00	PE	34.25	ZCOR	34.25		
CNC	45.25	PORZ	34.25	ZDEN	34.25		

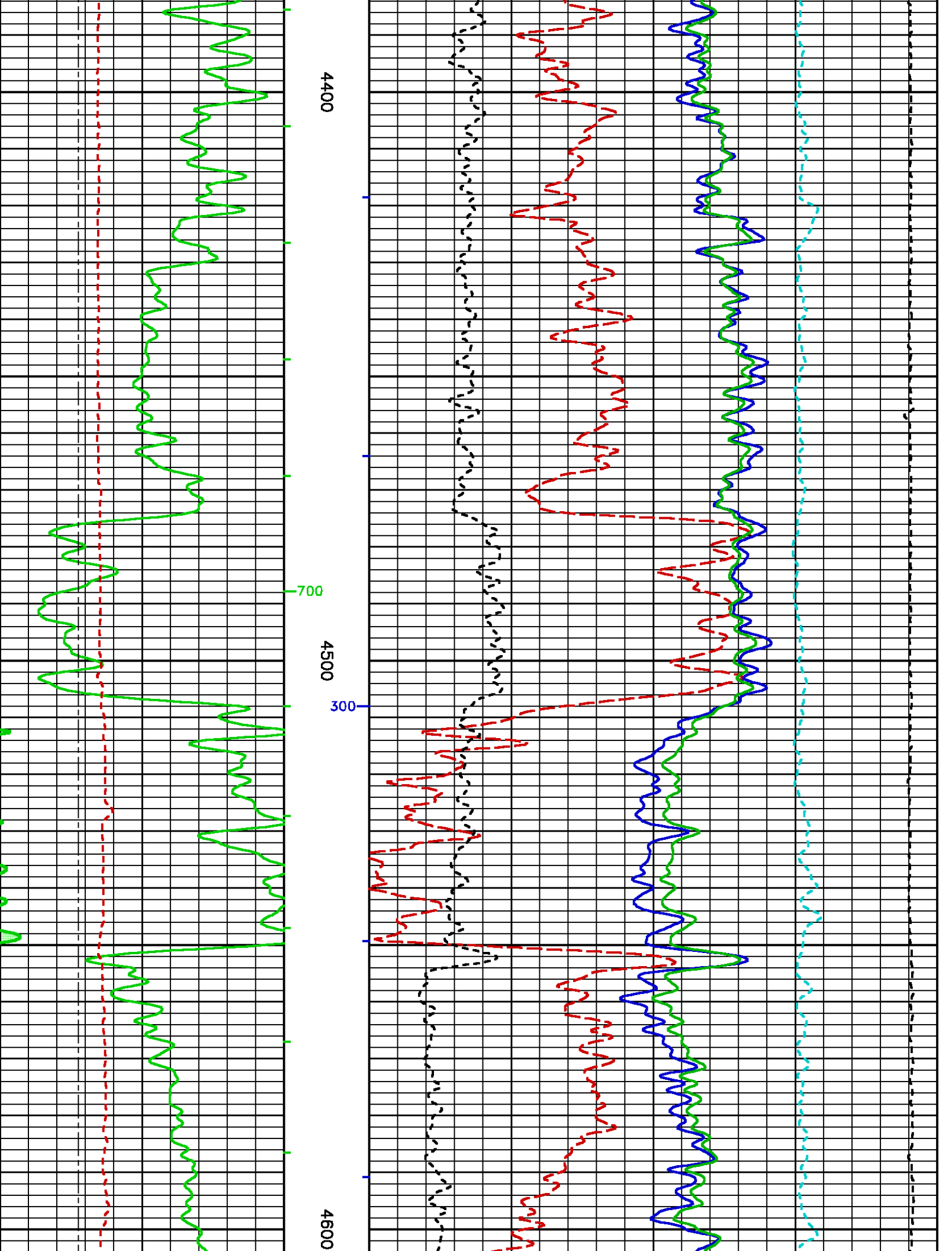
Presentation : wwdsys71:/dat1a/TABULA CADDELL 2_R1/zdl_MN05_LS_r1.pdf [5"/100' Scale]
 Plot Interval : 3890 - 5972.75 Feet

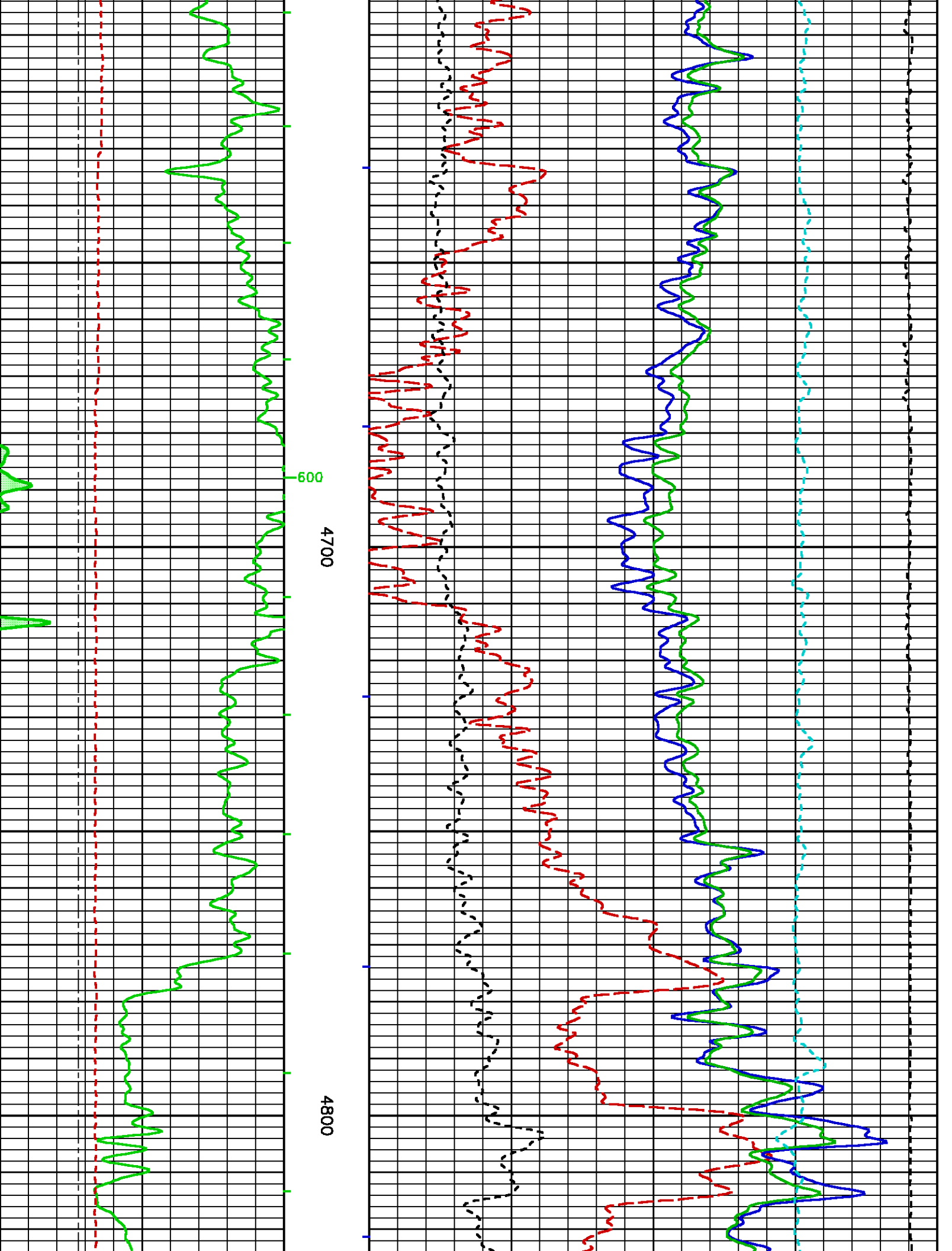
Data File 1 : F1 : wwdsys71:/dat1a/TABULA CADDELL 2_R1/m777q05.aiff
 Created On : Dec 15 11:21:30 2013
 Company : TABULA RASA ENERGY
 Well : CADDELL 2
 Field : OAKDALE
 File Interval : 3095.25 - 5972.75 Feet
 Oct : m777q

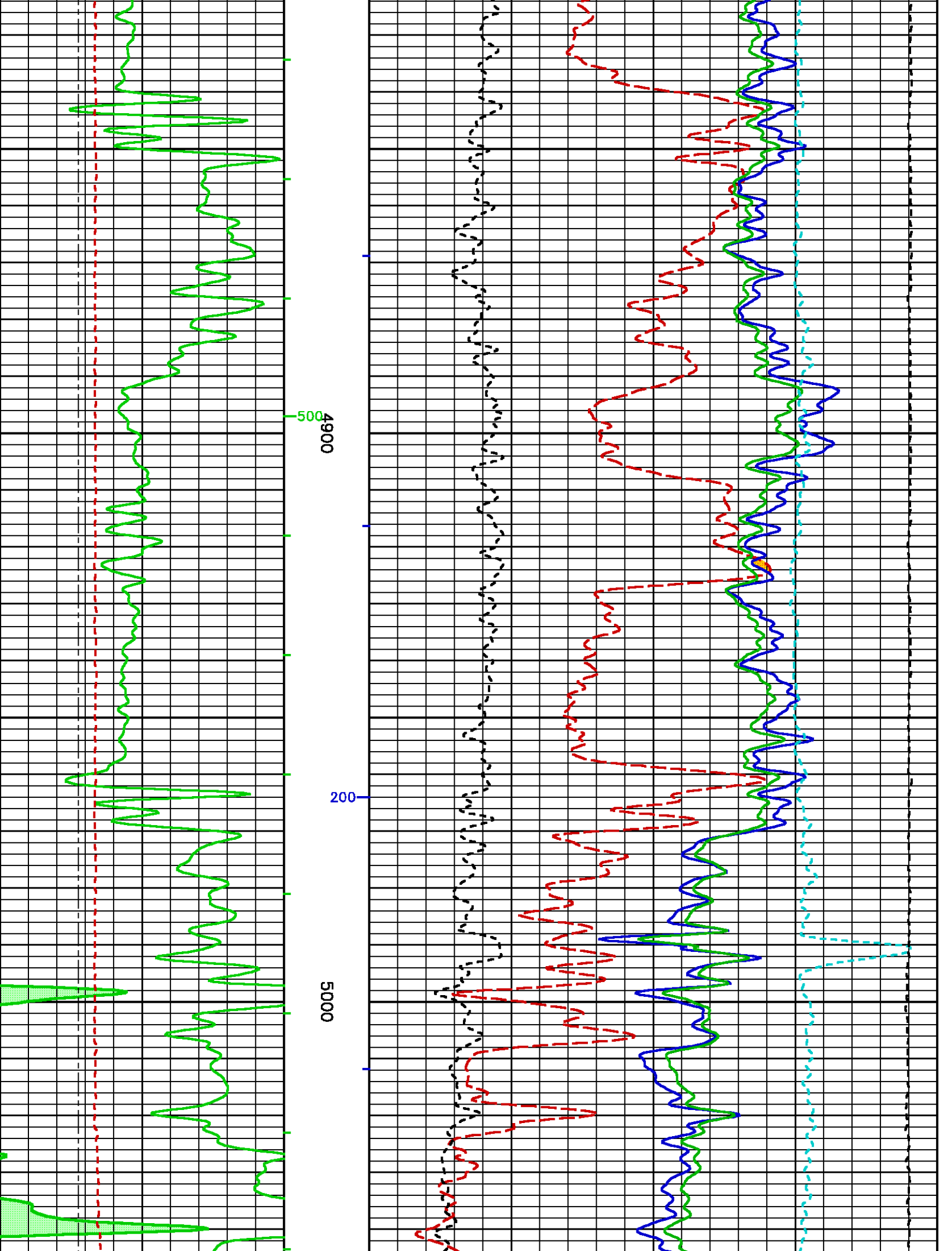


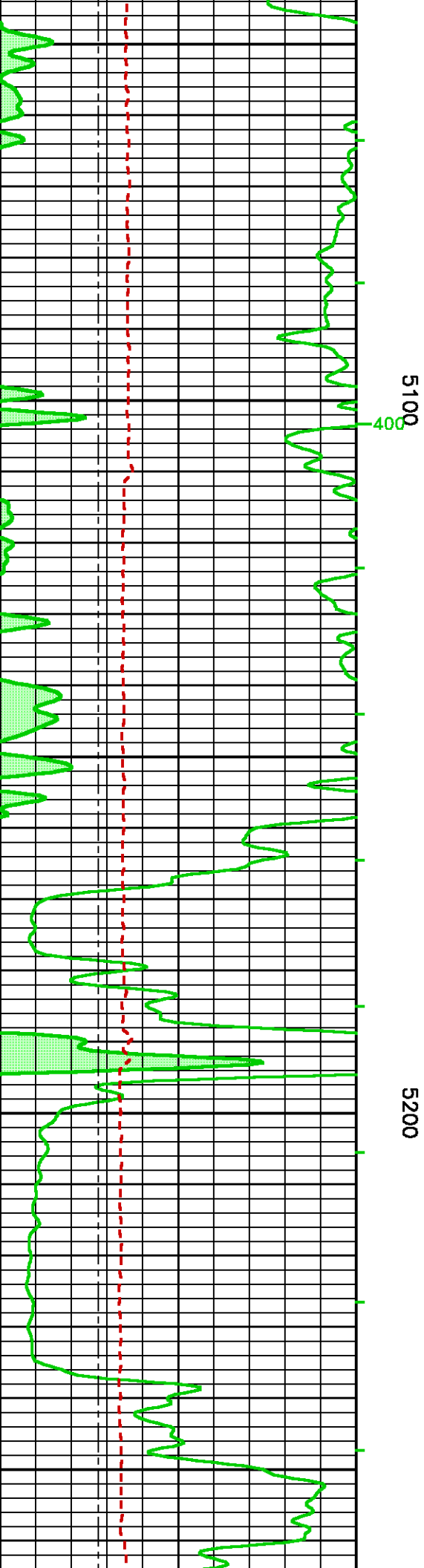
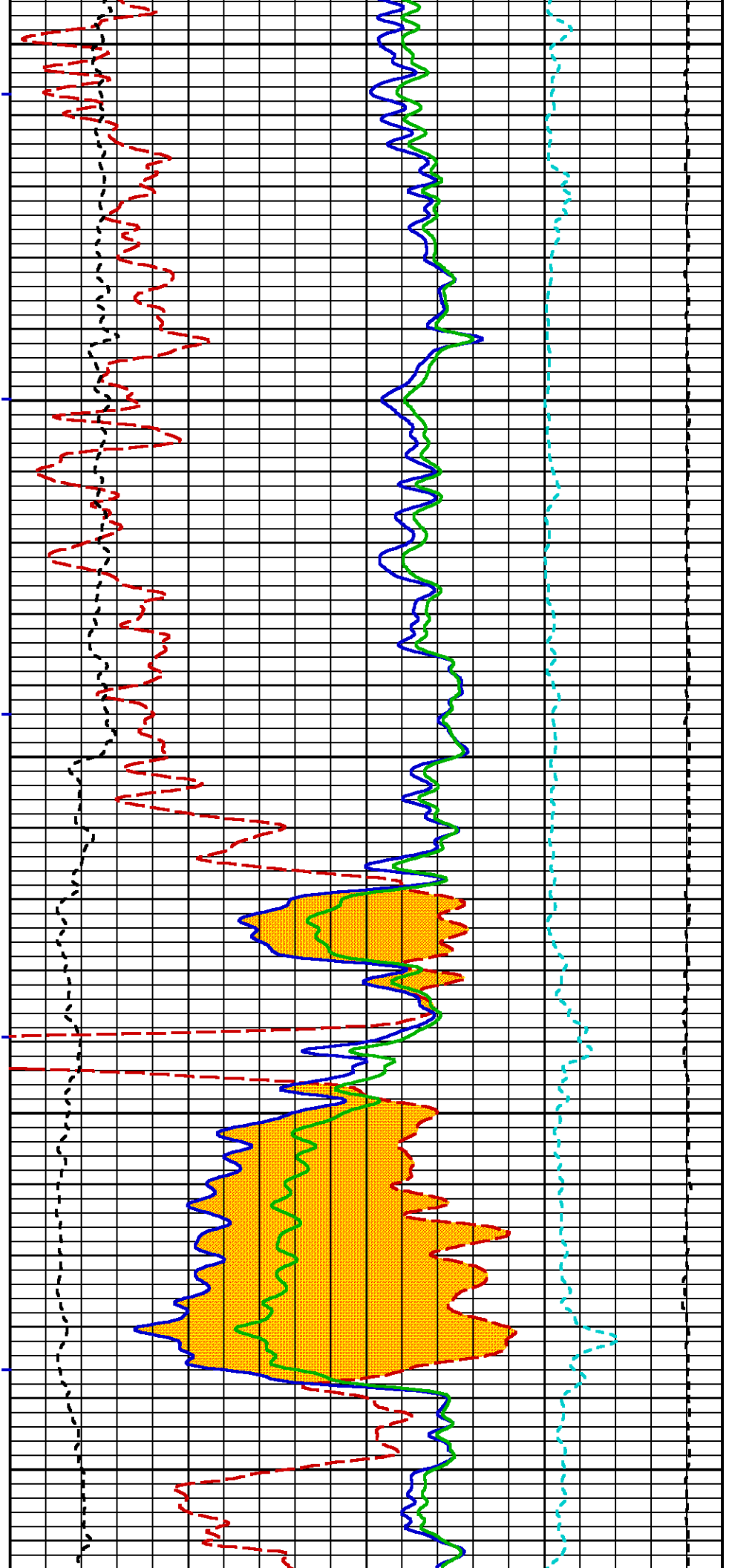


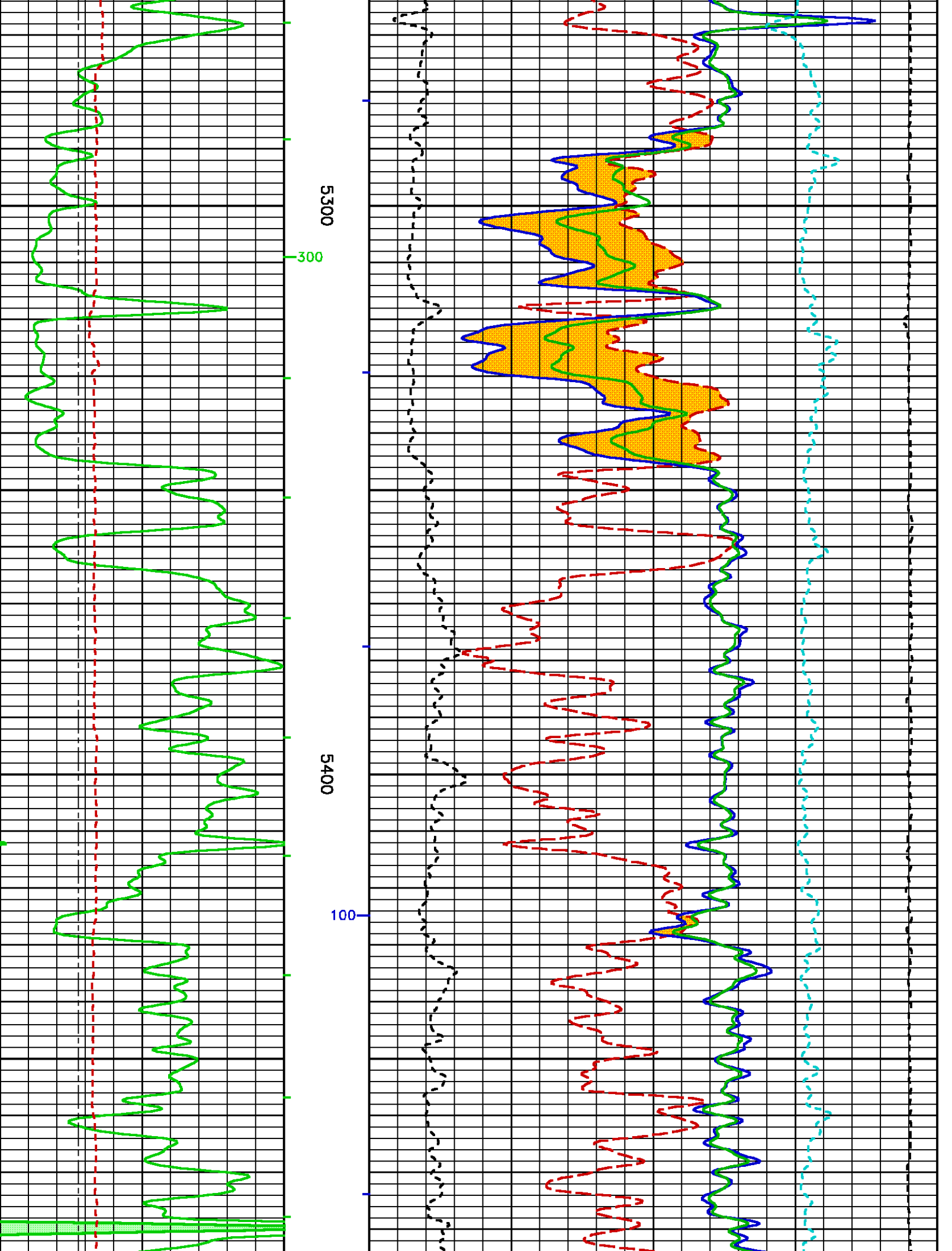


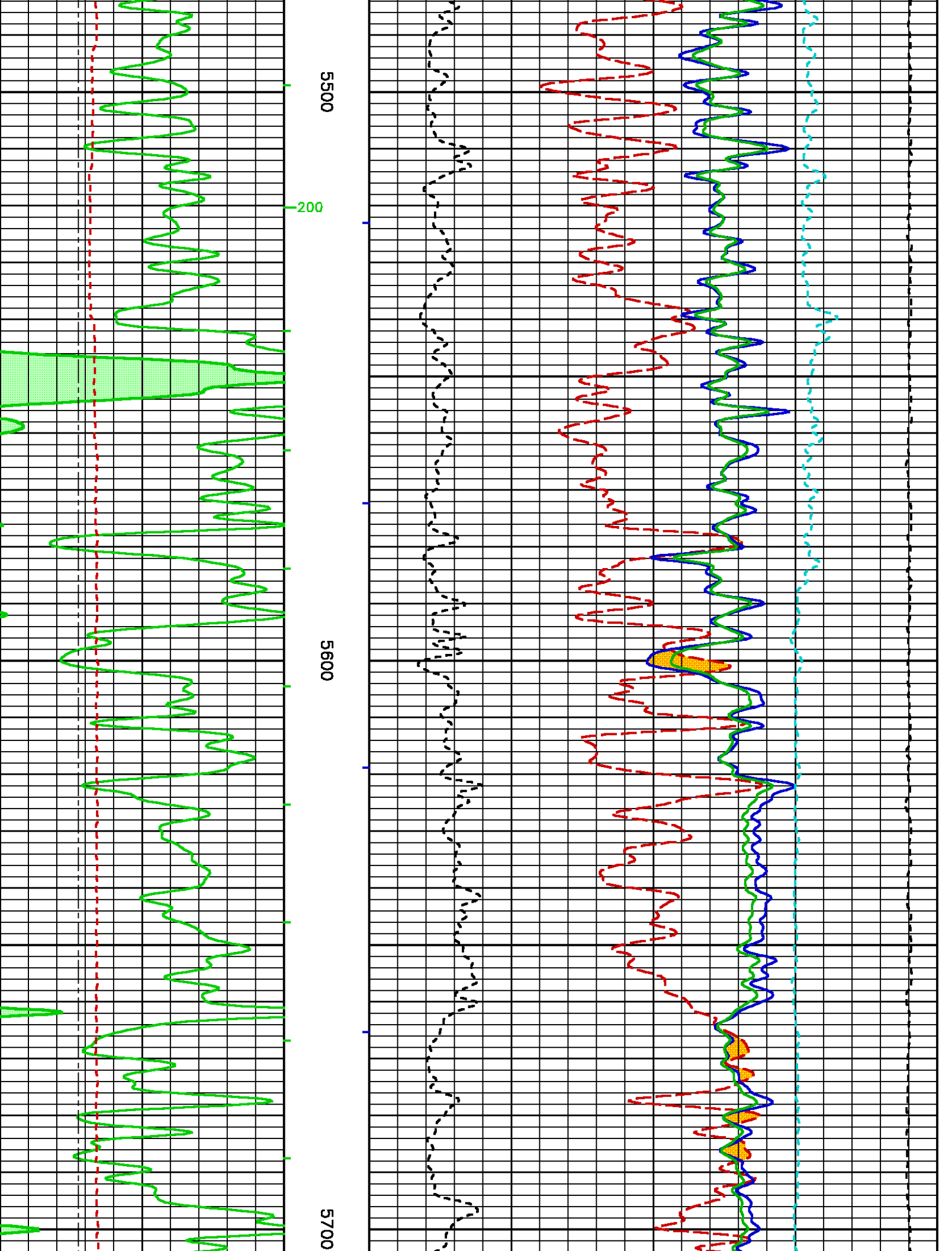


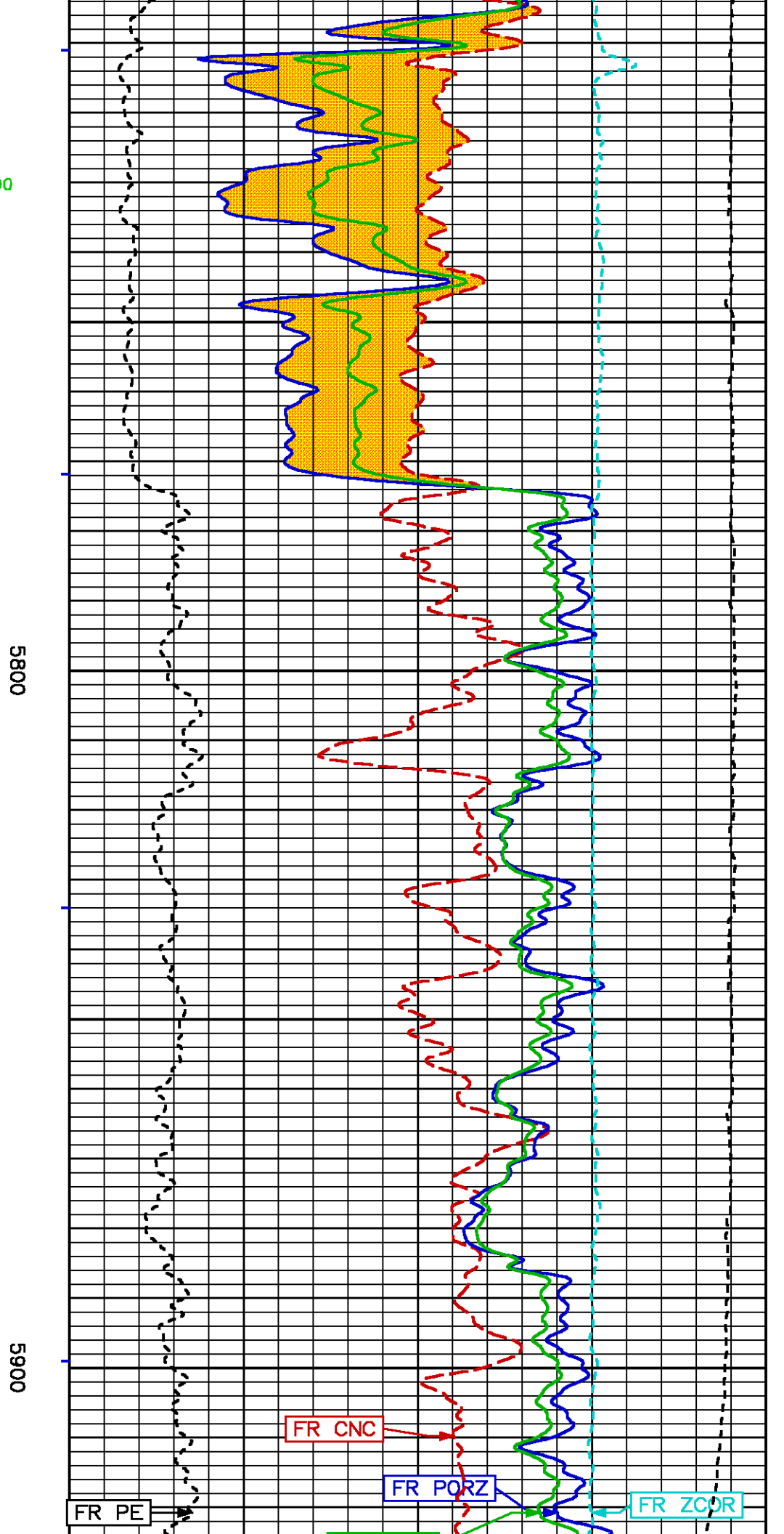
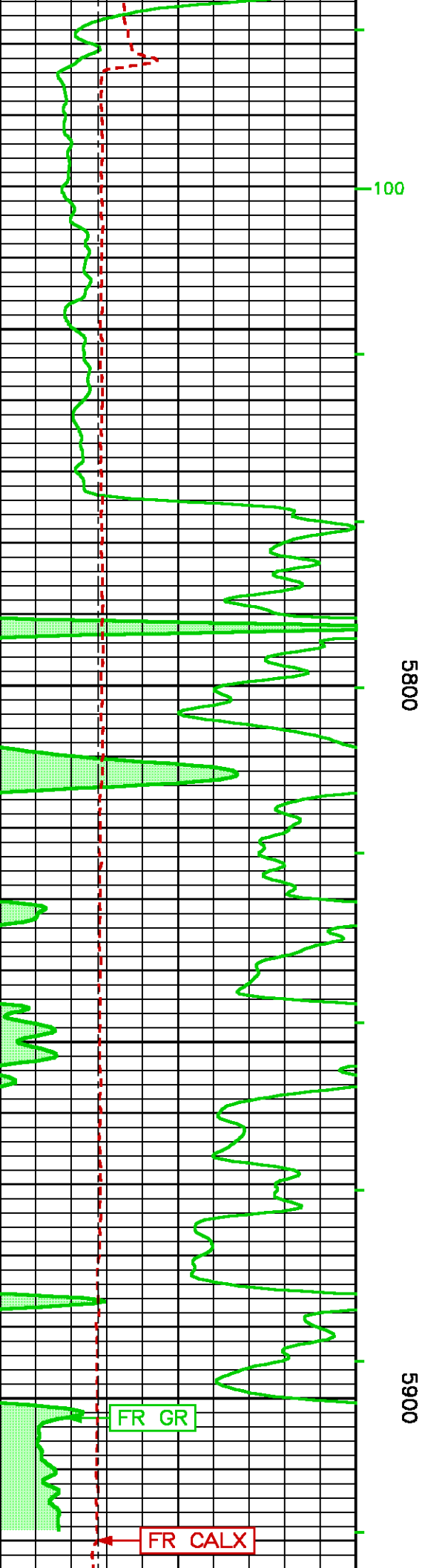


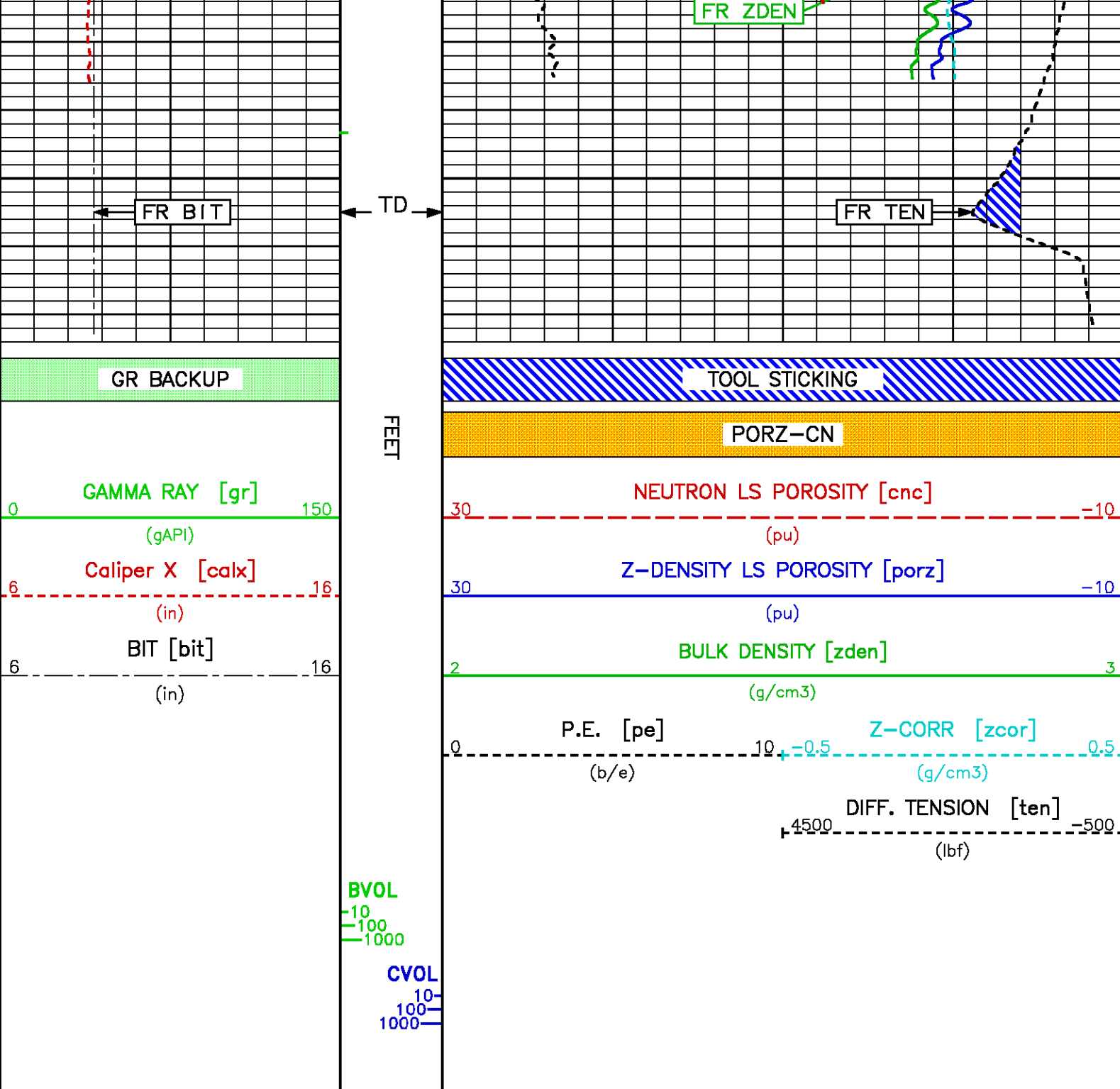












REPEAT LOG

File: /data/TABULA_CADDELL_2_R1/m777q03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 5078.000 ft BOTTOM DEPTH: 5971.308 ft

SYMMETRIC FILTER					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER TENSION GR	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER ()	medium (1)		''	''
	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
SL CN	FILTER	medium (1)		''	''
	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
CALIPER	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
	FILTER (.l)	medium (1)		''	''
ZDL MED RES	FILTER (hrd1*)	medium		''	''
	FILTER (hrd1s*)	medium		''	''
	FILTER (hrd2*)	medium		''	''
	FILTER (hrd2s*)	medium		''	''
	FILTER (soft*)	medium		''	''
ZDL HIGH RES	FILTER (hrd1*)	light		''	''
	FILTER (hrd1s*)	light		''	''
	FILTER (hrd2*)	light		''	''
	FILTER (hrd2s*)	light		''	''
	FILTER (soft*)	light		''	''

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	8.750	in	''	''
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. {cnbh*}	USE CALIPER		''	''
	CALIPER/FIXED DIA. {slbh*}	USE CALIPER		''	''
	CALIPER/FIXED DIA. {zdbh*}	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER {cnbh*}	8.750	in	''	''
	FIXED DIAMETER {slbh*}	8.750	in	''	''

SL PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K MUD CONTENT	0.00	pct	''	''
	K MUD TYPE	KCL		''	''
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		''	''

CN PROCESSING					
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	''	''
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	2.710	g/cm3	TOP	BOTTOM
	RHOfluid	1.000	g/cm3	''	''
ZDL	DENX TRACKING	ON		''	''

CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 10:06:52 2013	BIT SIZE
F1:BVOL	Dec 15 10:06:52 2013	BOREHOLE VOLUME
F1:CALX	Dec 15 10:06:52 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	Dec 15 10:06:52 2013	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CVOL	Dec 15 10:06:52 2013	CEMENT VOLUME
F1:CP	Dec 15 10:06:52 2013	GAMMA RAY

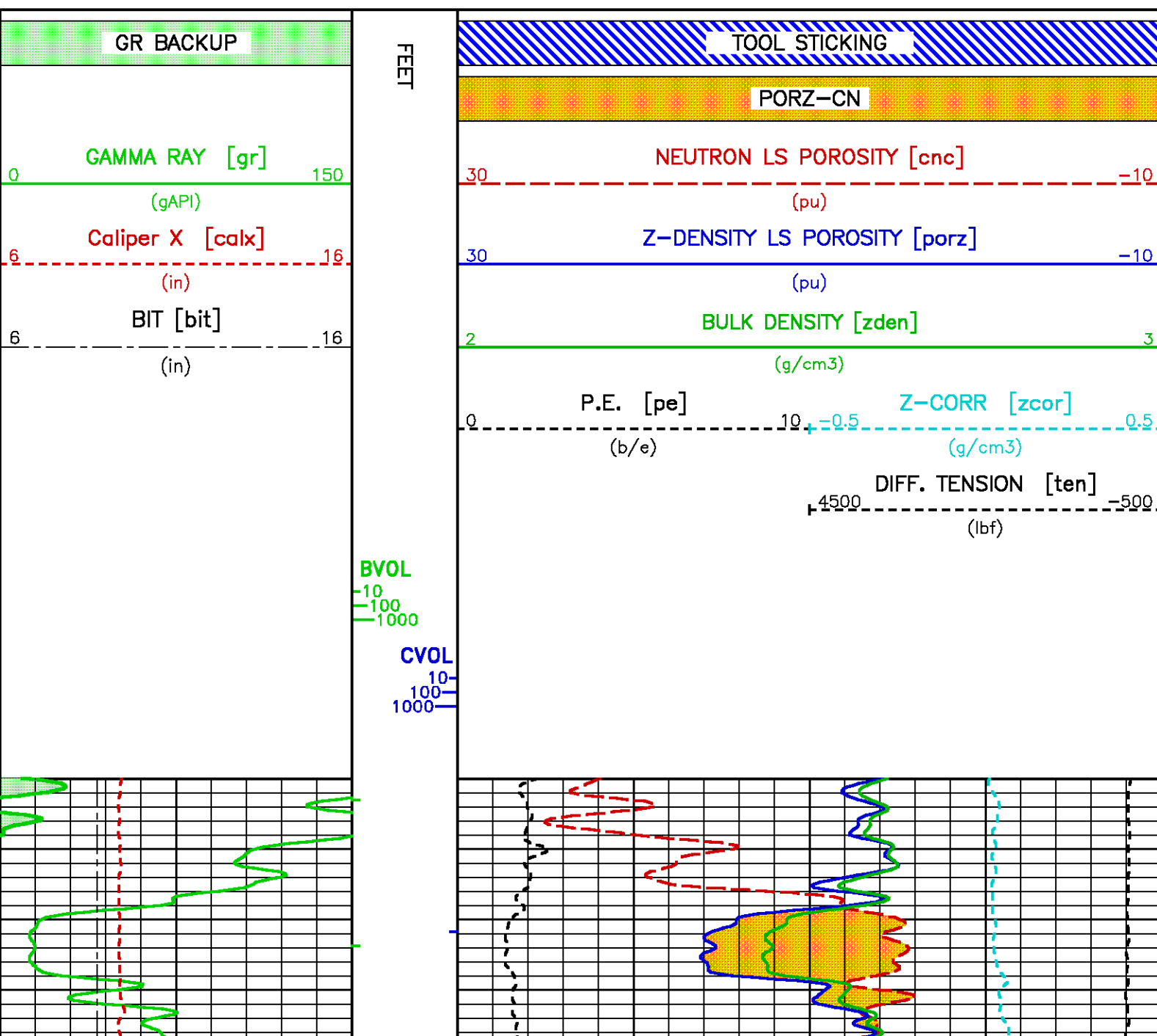
F1:GR	Dec 15 10:06:52 2013	GAMMA RAY
F1:PE	Dec 15 10:06:52 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Dec 15 10:06:52 2013	POROSITY FOR SELECTABLE MATRIX
F1:TEN	Dec 15 10:06:52 2013	DIFFERENTIAL TENSION
F1:ZCOR	Dec 15 10:06:52 2013	DENSITY CORRECTION
F1:ZDEN	Dec 15 10:06:52 2013	FORMATION BULK DENSITY

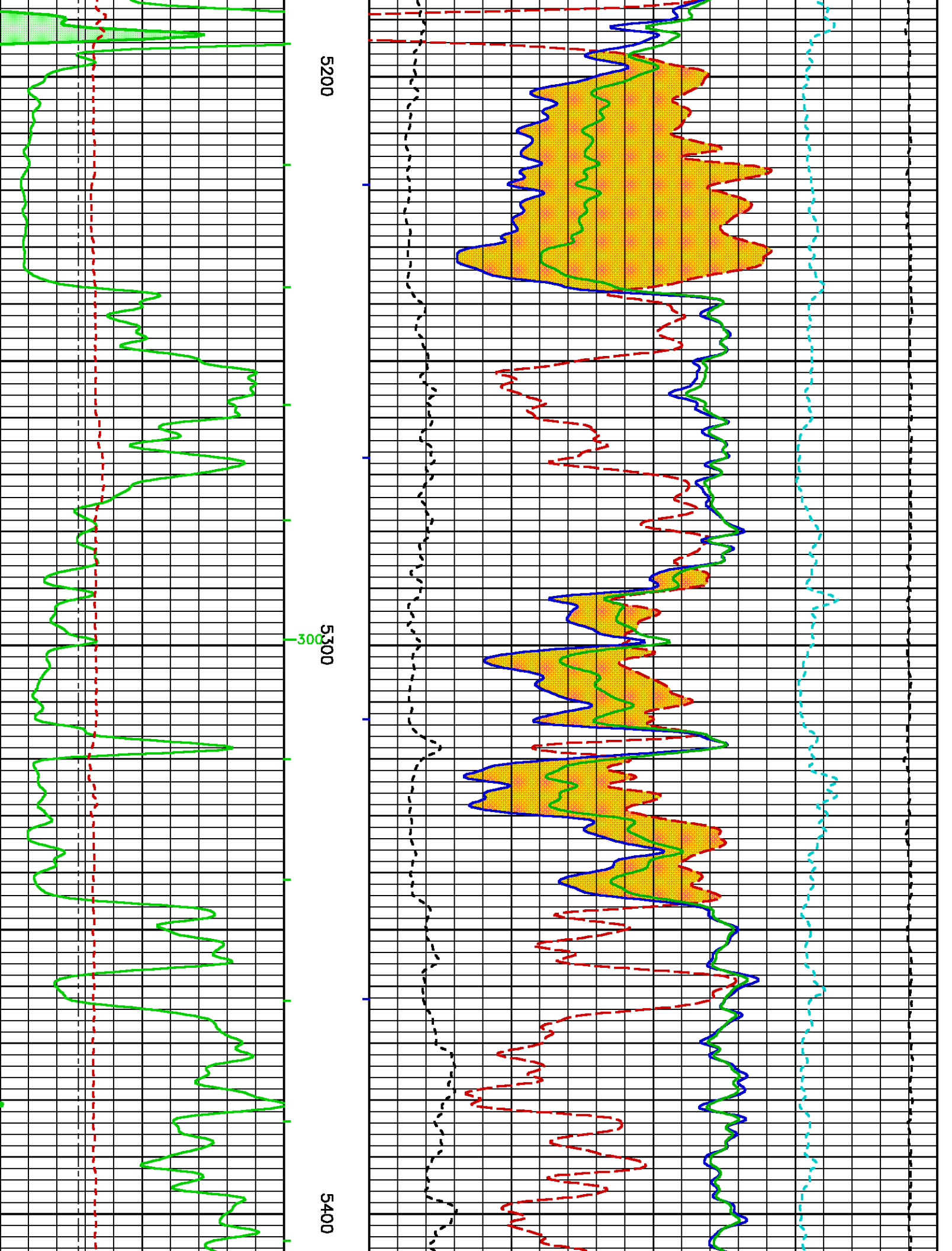
CURVE MEASURE POINT OFFSET

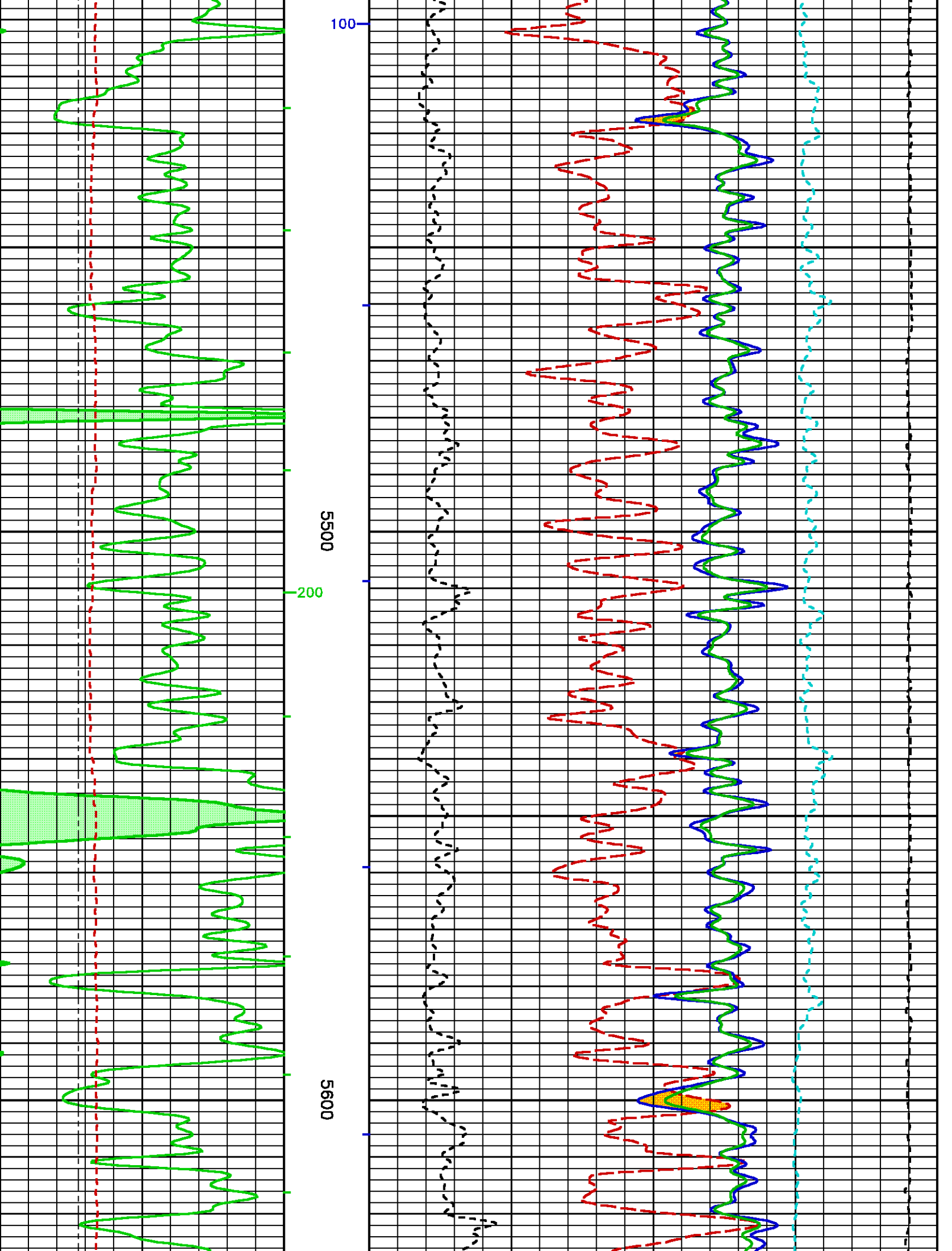
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	52.25	TEN	0.00		
CALX	35.00	PE	34.25	ZCOR	34.25		
CNC	45.25	PORZ	34.25	ZDEN	34.25		

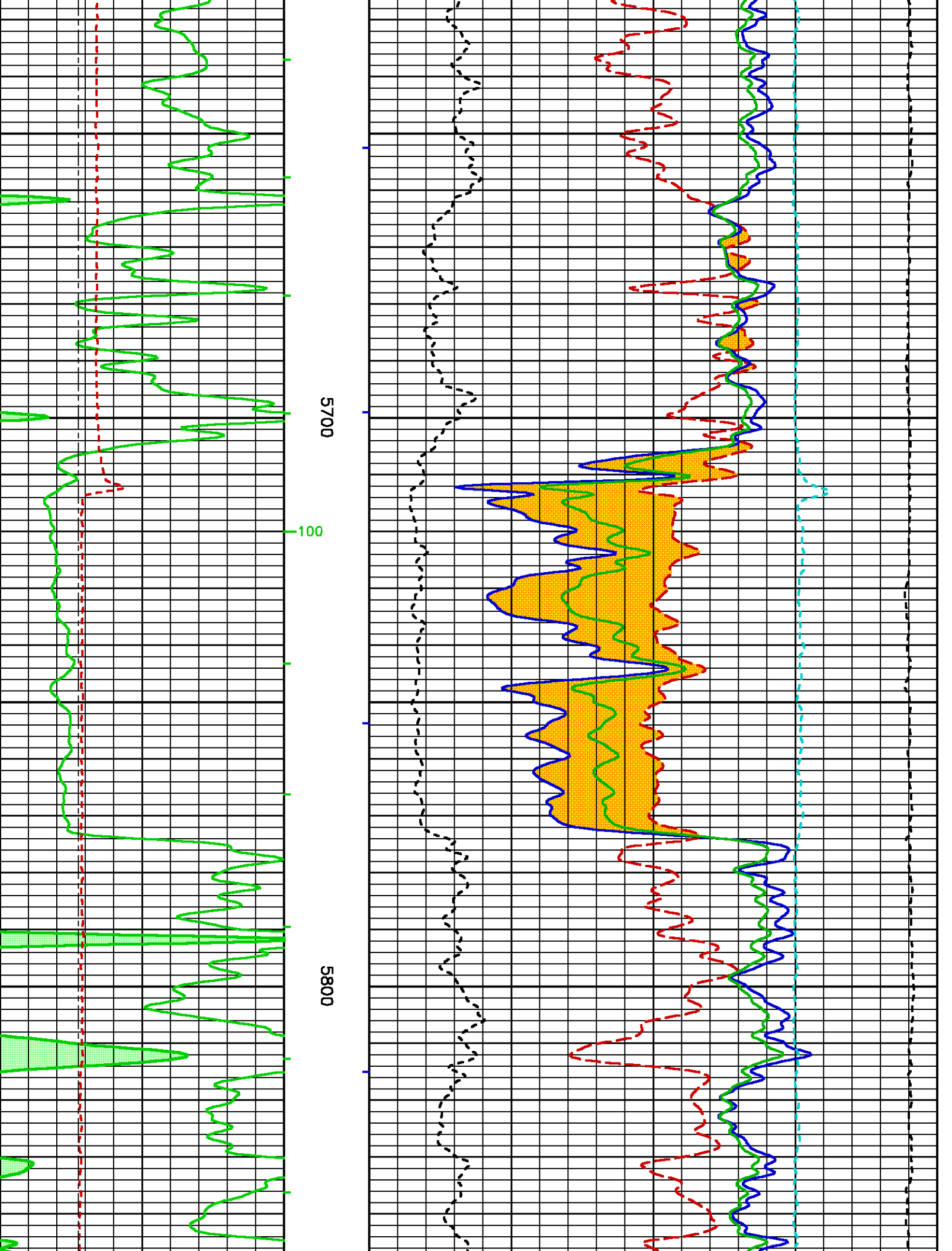
Presentation : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/zdL_RPT05_r1.pdf [5"/100' Scale]
 Plot Interval : 5150 - 5966.75 Feet

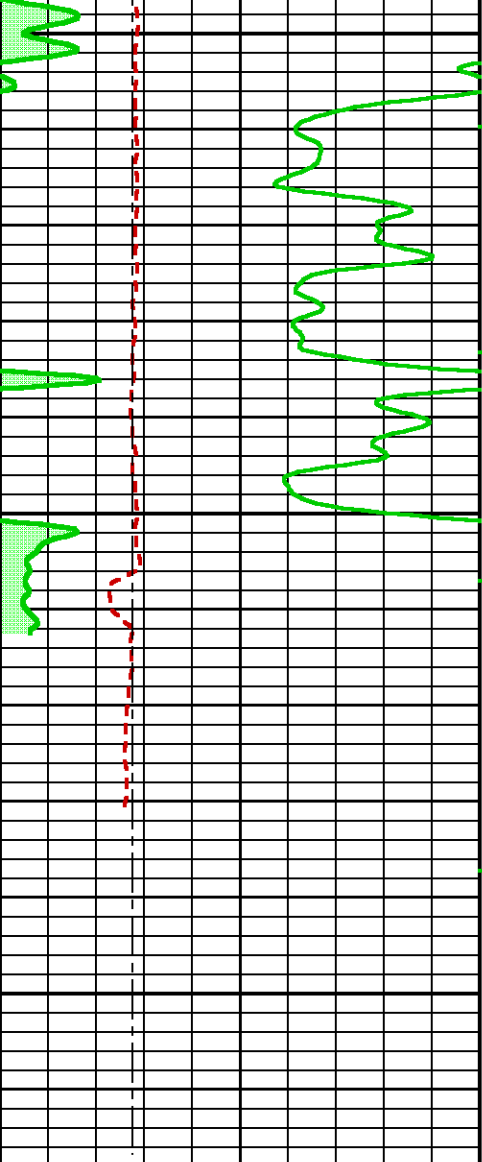
Data File 1 : F1 : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/m777q03.xtf
 Created On : Dec 15 10:06:52 2013
 Company : TABULA RASA ENERGY
 Well : CADDELL 2
 Field : OAKDALE
 File Interval : 5012.5 - 5966.75 Feet
 Oct : m777q





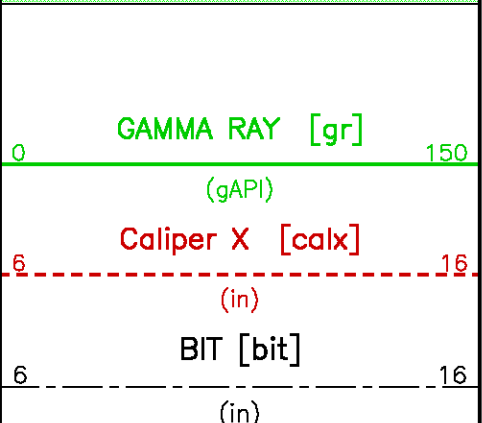






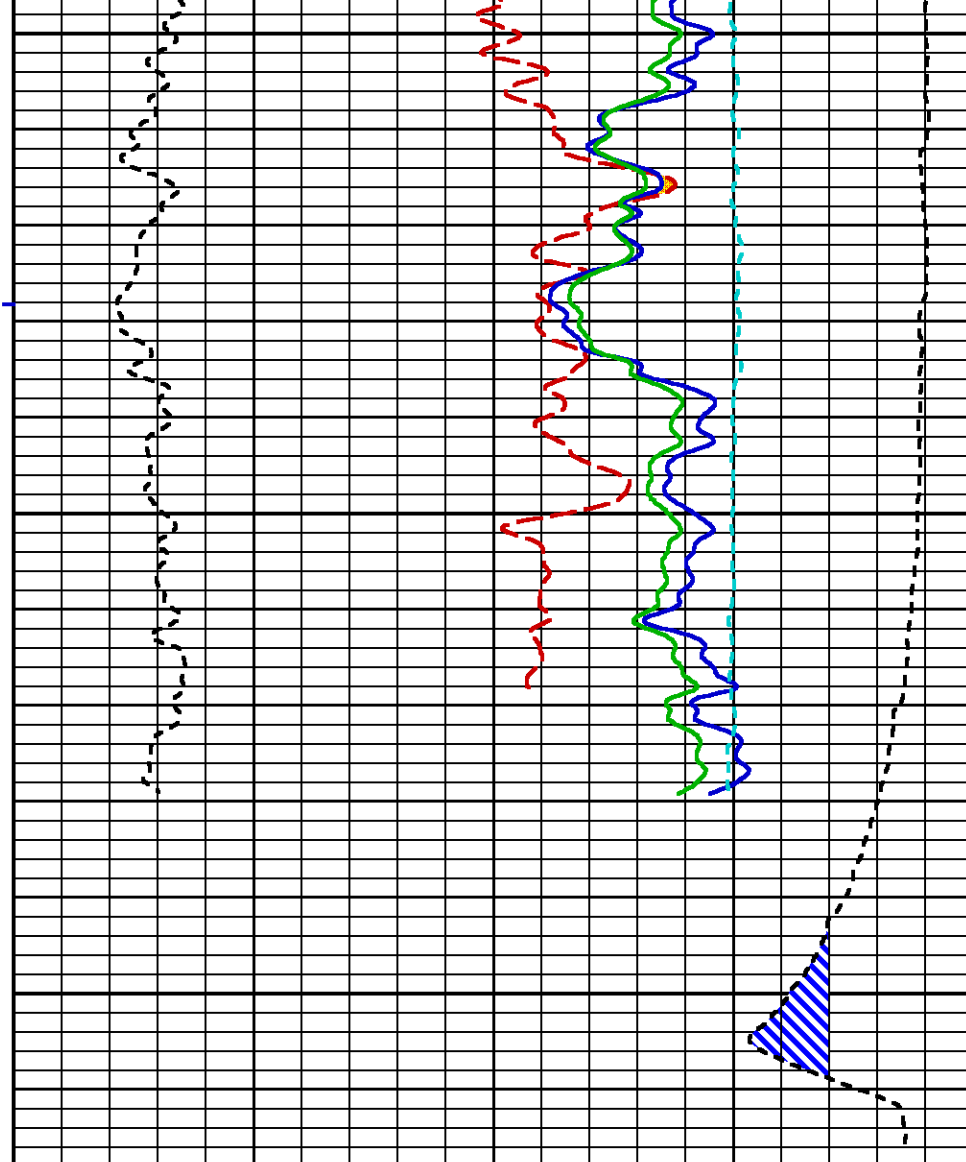
5900

GR BACKUP



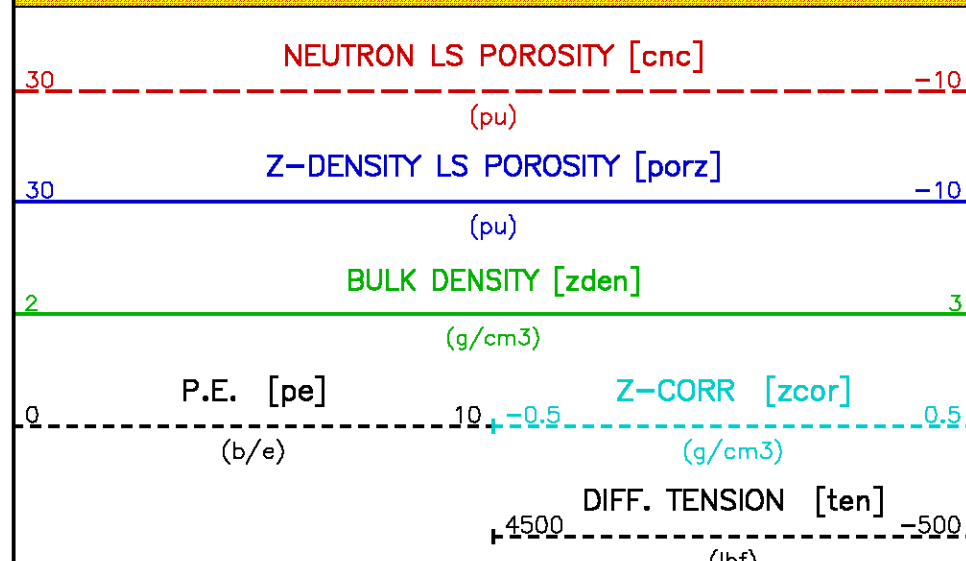
FEET

BVOL
10
100
1000
CVOL
10
100



TOOL STICKING

PORZ-CN



MAIN LOG - SANDSTONE 2.65 G/CC MATRIX 5"/100FT SCALE

ECLIPS 6.1i Aug 06, 2010
Updates: 1,2 Patches: 3

Sun Dec 15 14:00:51 2013

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/TABULA_CADELL_2_R1/m777q05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 0.000 ft BOTTOM DEPTH: 0.000 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
SL	FILTER	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1s*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2s*)	light		"	"
	FILTER (soft*)	light		"	"

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	BIT SIZE	8.750	ln	"	"
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (slbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	ln	"	"
	FIXED DIAMETER (slbh*)	8.750	ln	"	"

SL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM
	K MUD CONTENT	0.00	pct	"	"
	K MUD TYPE	KCL		"	"
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		"	"

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	"	"
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		"	"
	BIT SIZE BEHIND CSNG	7.875	1n	"	"

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOMatrix	2.710	g/cm3	"	"
	RHOfluid	1.000	g/cm3	"	"
	RHOMatrix (sand)	2.650	g/cm3	"	"
ZDL	DENX TRACKING	ON		"	"

CURVE DESCRIPTION REPORT

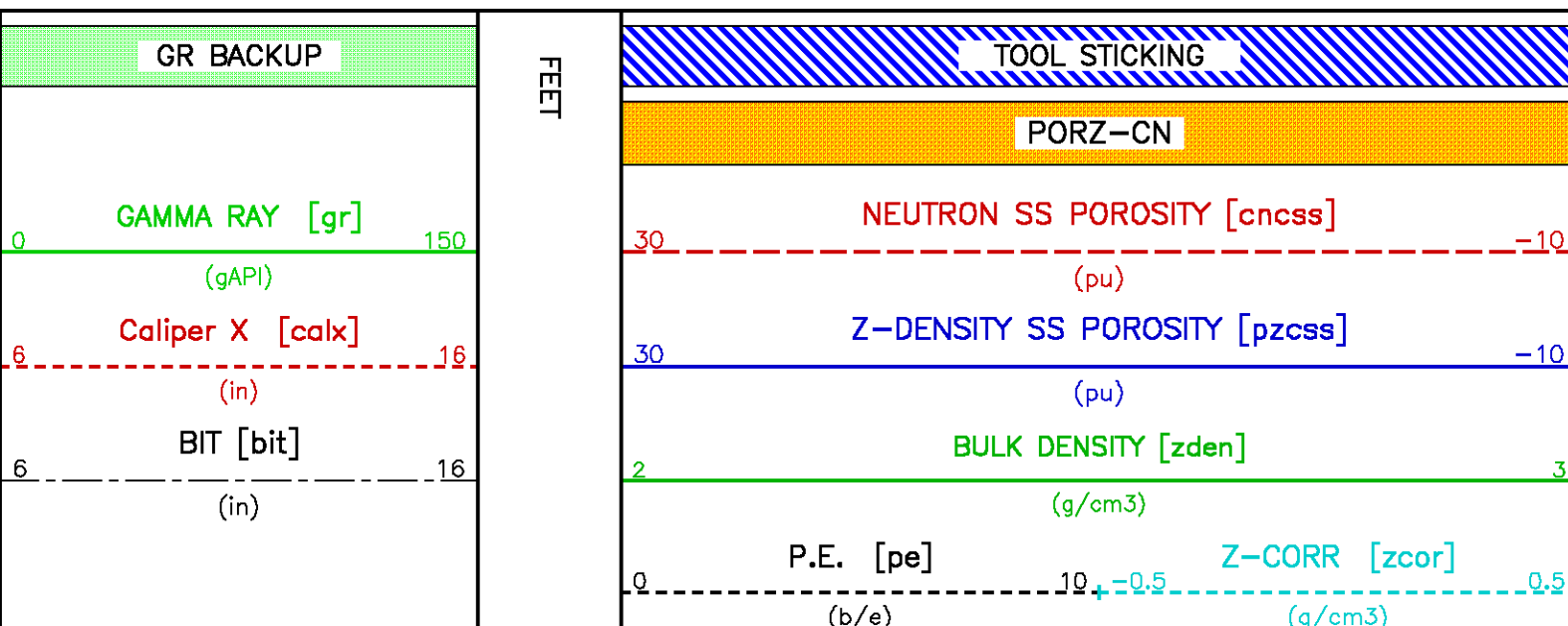
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 11:21:30 2013	BIT SIZE
F1:BVOL	Dec 15 11:21:30 2013	BOREHOLE VOLUME
F1:CALX	Dec 15 11:21:30 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNCSS	Dec 15 11:21:30 2013	BOREHOLE SIZE CORRECTED SANDSTONE COMPENSATED NEU POROSITY
F1:CVOL	Dec 15 11:21:30 2013	CEMENT VOLUME
F1:GR	Dec 15 11:21:30 2013	GAMMA RAY
F1:PE	Dec 15 11:21:30 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PZCSS	Dec 15 11:21:30 2013	CORRECTED POROSITY FOR SANDSTONE MATRIX
F1:TEN	Dec 15 11:21:30 2013	DIFFERENTIAL TENSION
F1:ZCOR	Dec 15 11:21:30 2013	DENSITY CORRECTION
F1:ZDEN	Dec 15 11:21:30 2013	FORMATION BULK DENSITY

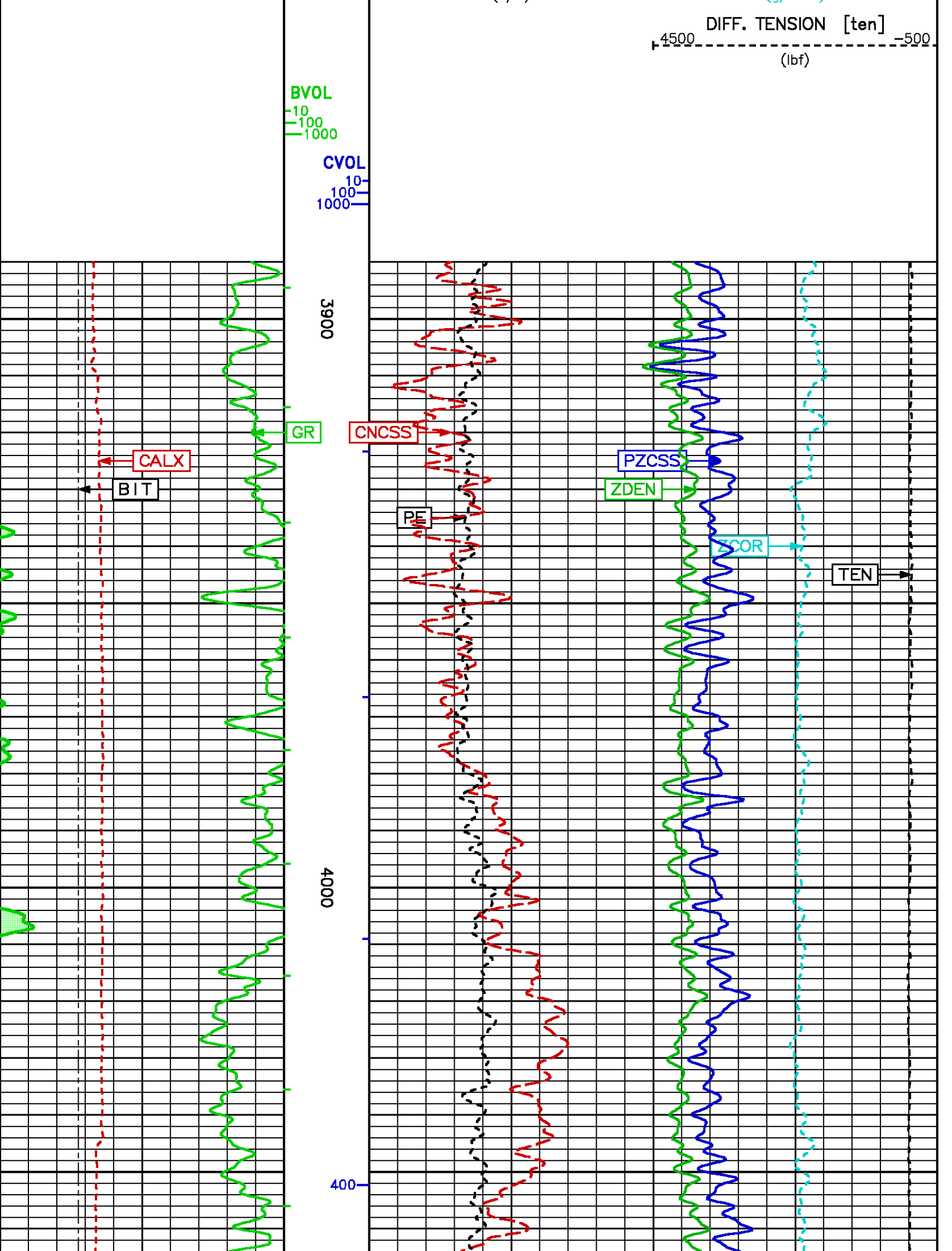
CURVE MEASURE POINT OFFSET

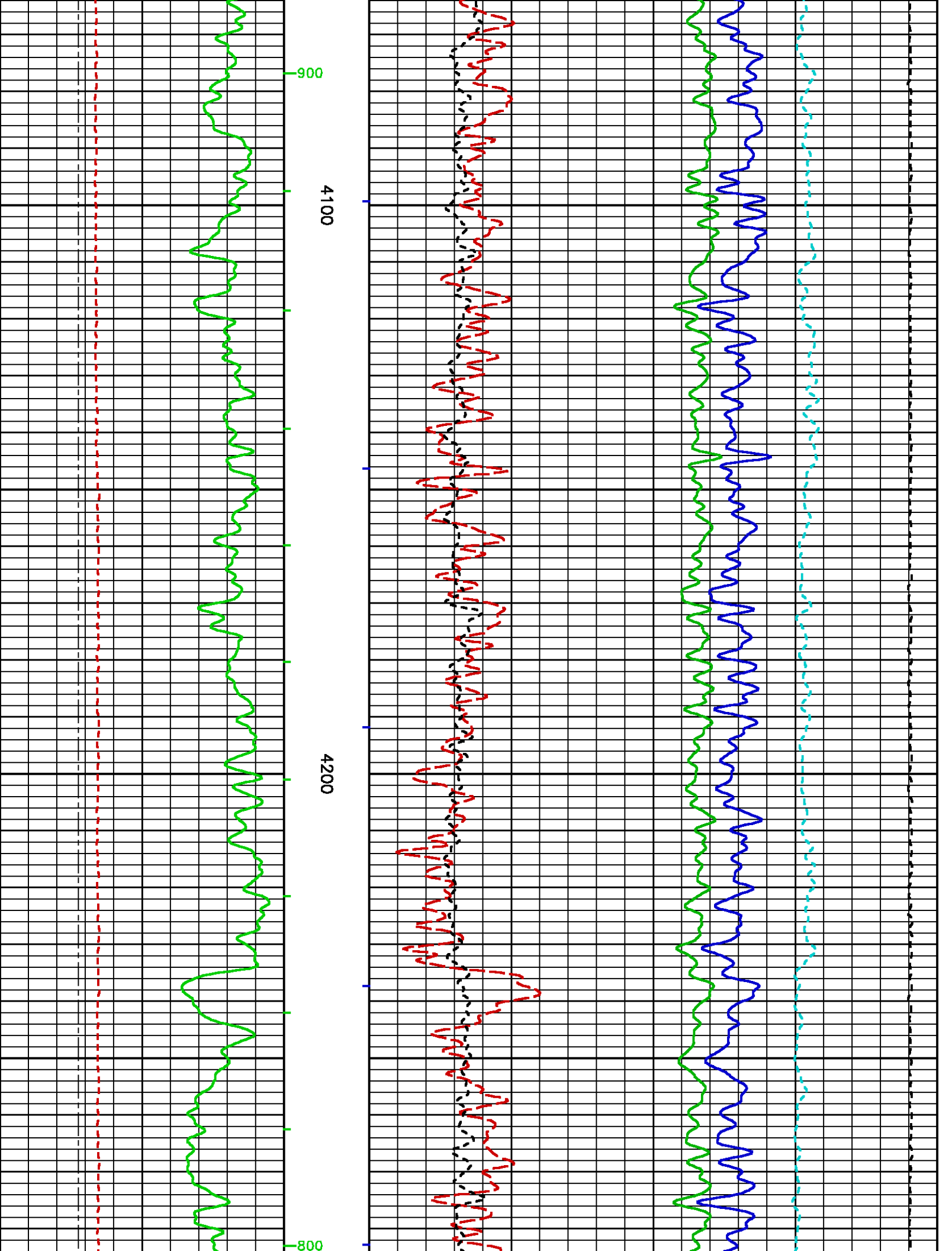
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	52.25	TEN	0.00		
CALX	35.00	PE	34.25	ZCOR	34.25		
CNCSS	45.25	PZCSS	34.25	ZDEN	34.25		

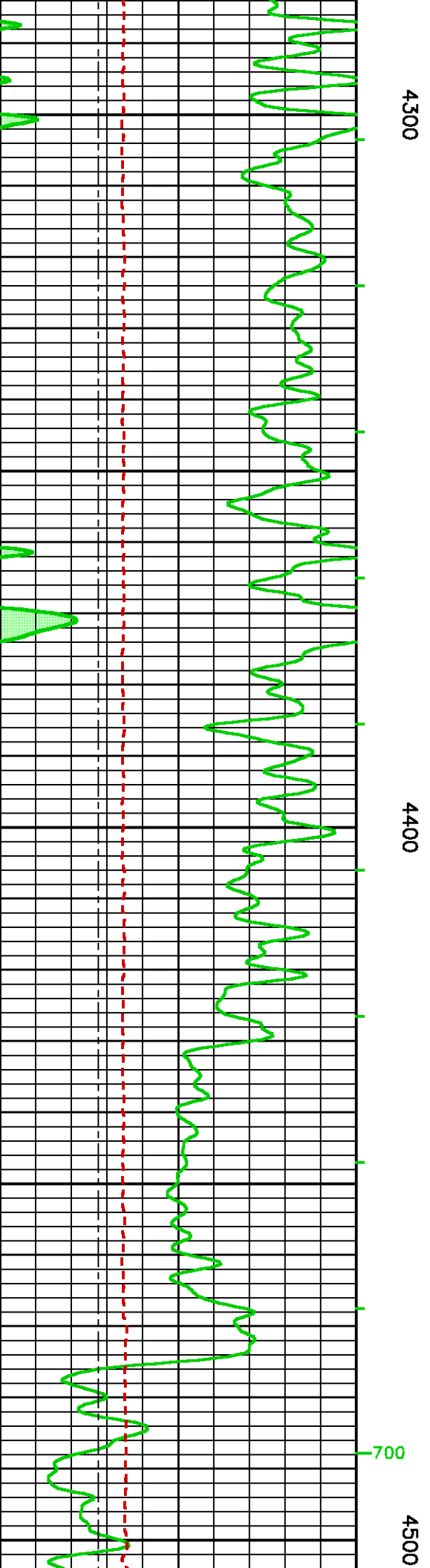
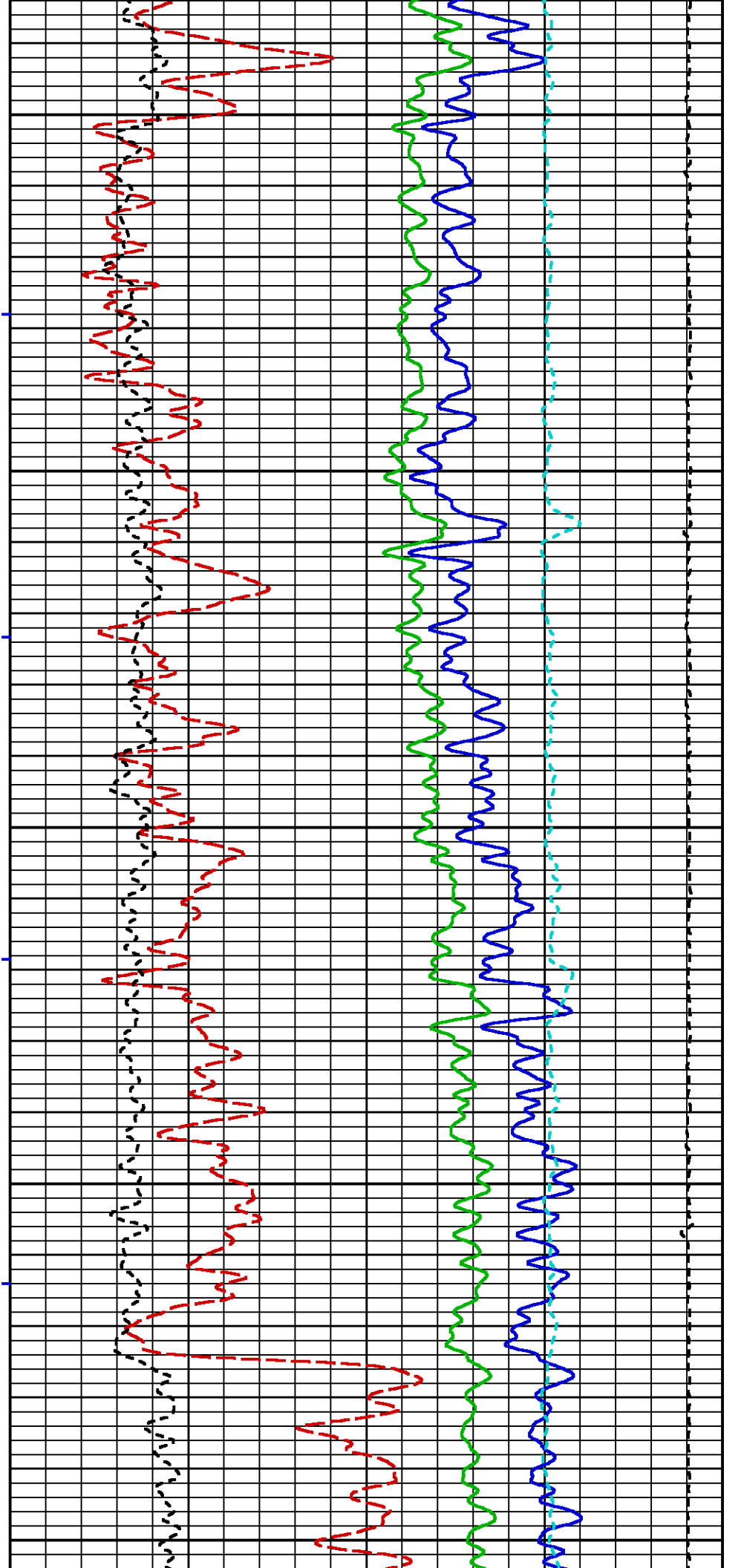
Presentation : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/zdl_MN05_SS_r1.pdf [5"/100' Scale]
Plot Interval : 3890 - 5972.75 Feet

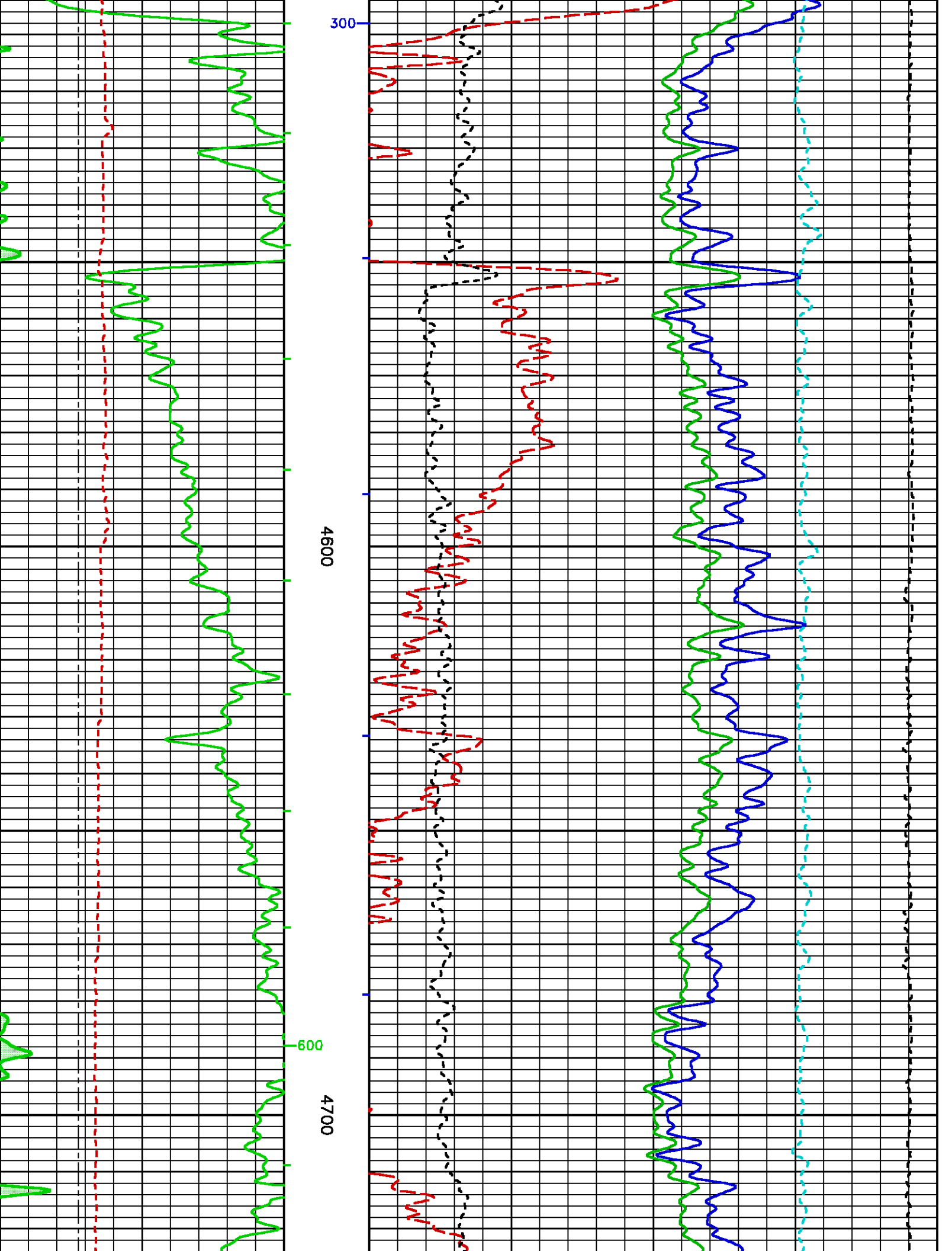
Data File 1 : F1 : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/m777q05.off
Created On : Dec 15 11:21:30 2013
Company : TABULA RASA ENERGY
Well : CADDELL 2
Field : OAKDALE
File Interval : 958.5 - 5972.75 Feet
Oct : m777q

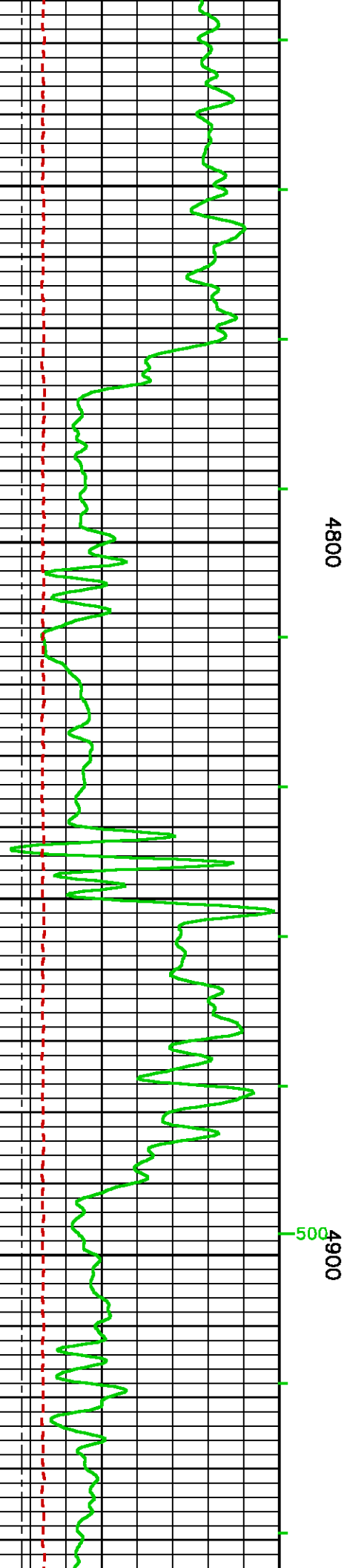
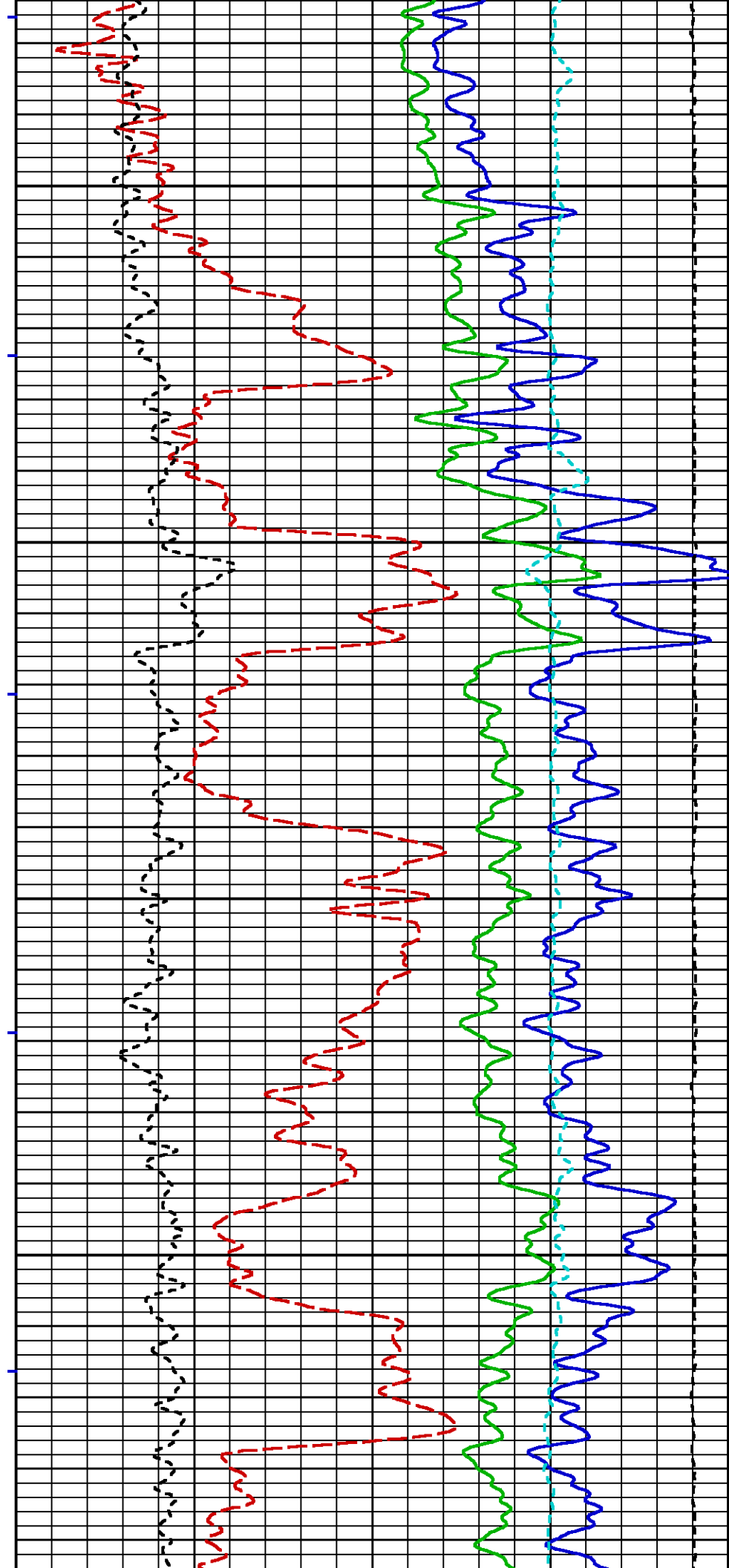


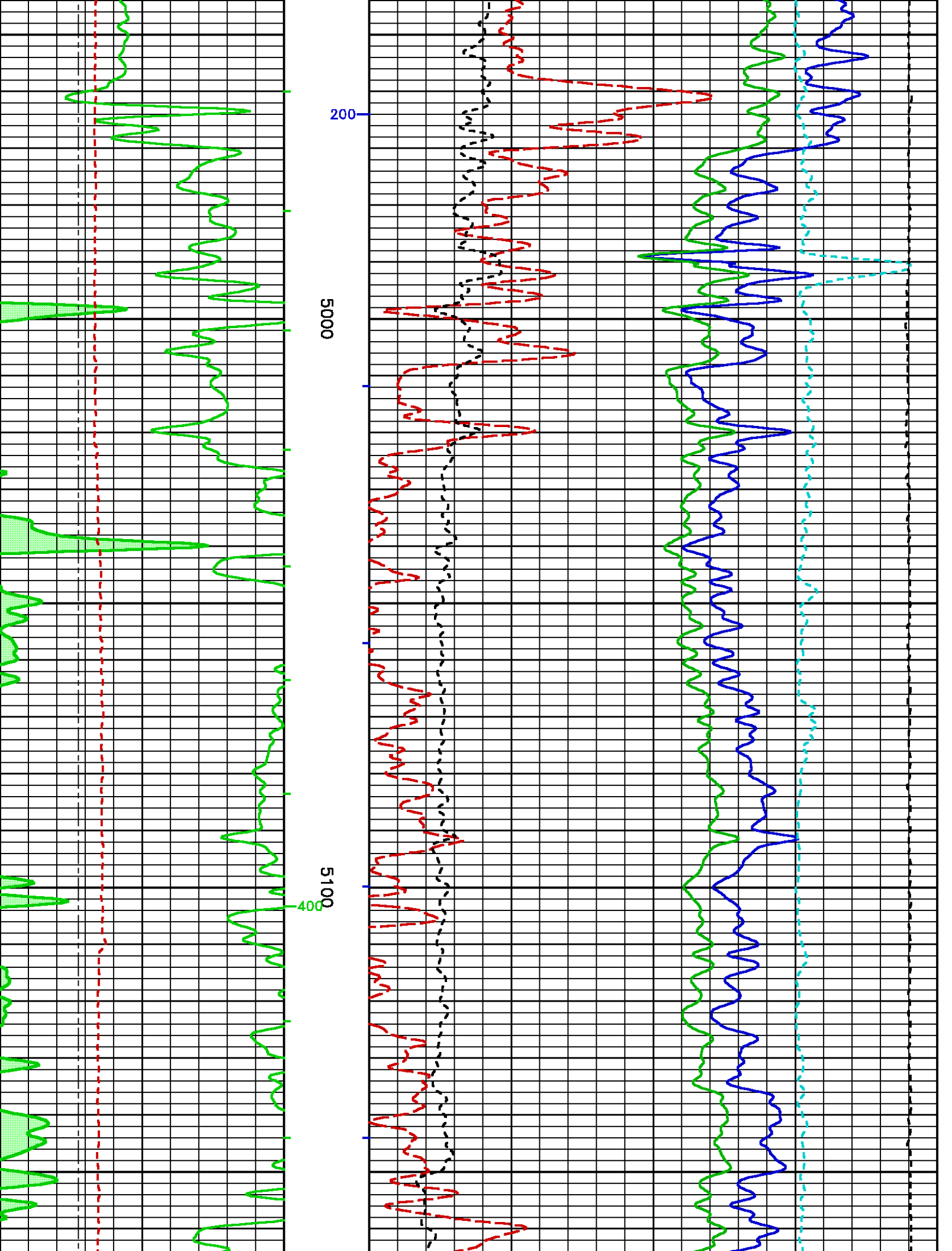


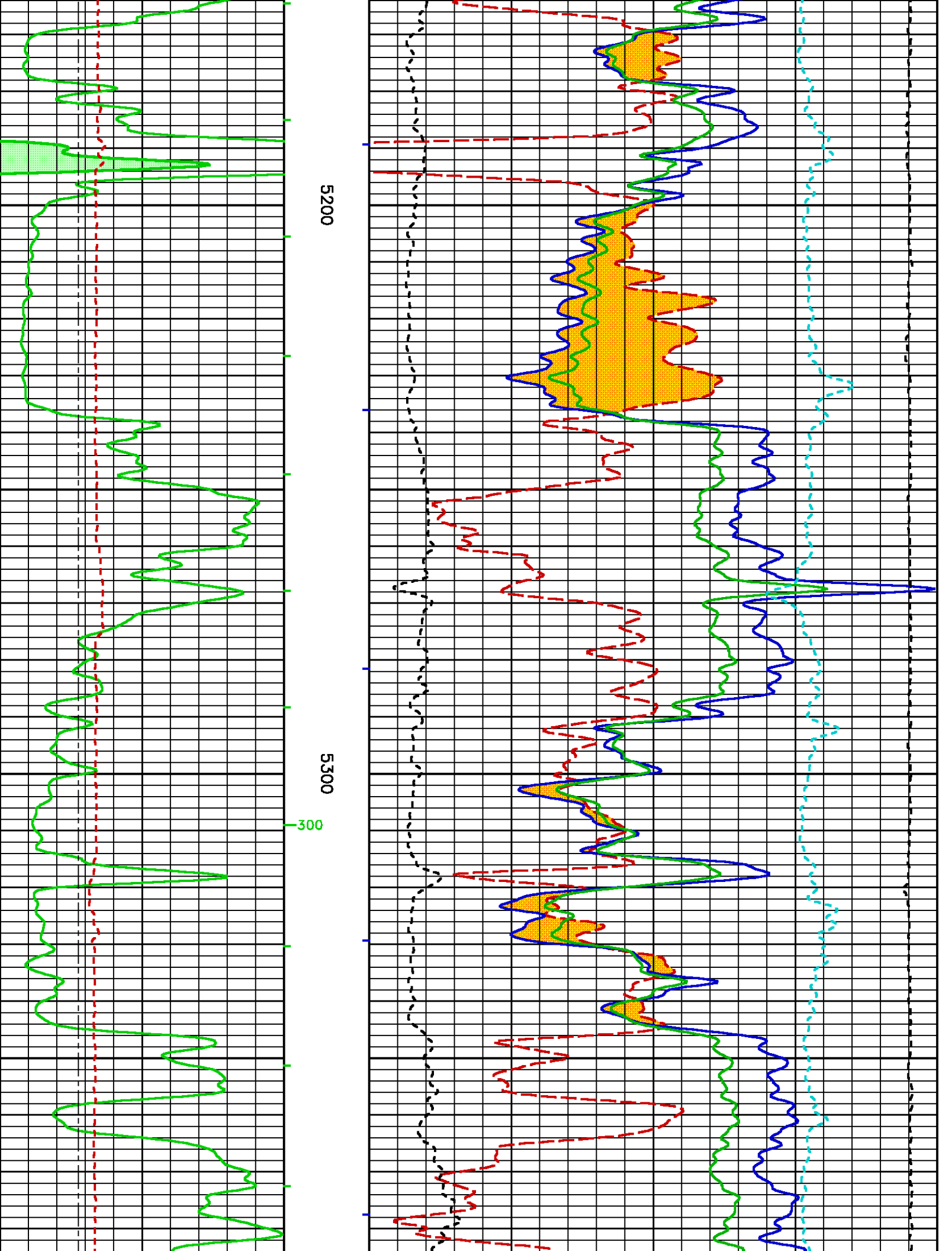


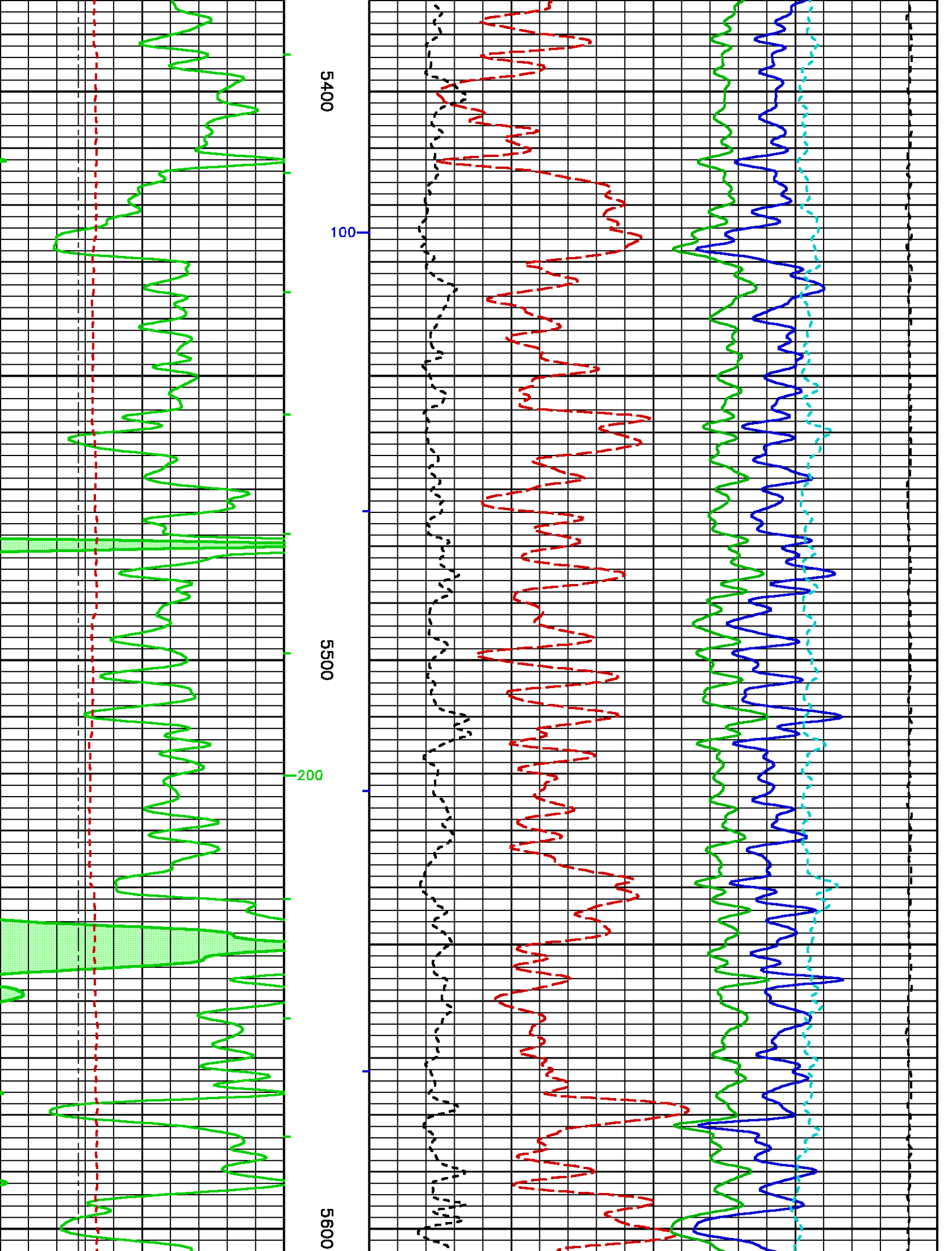


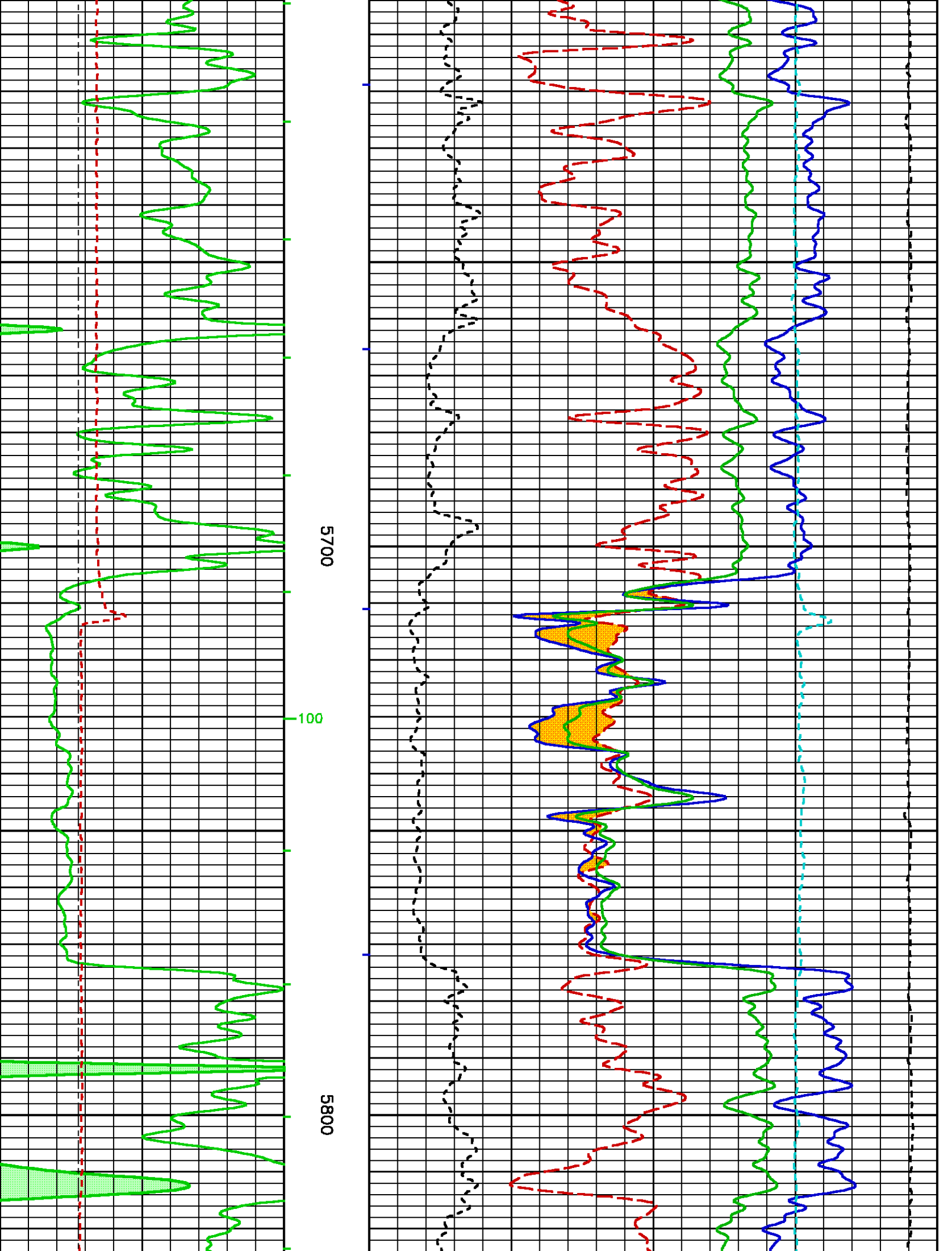


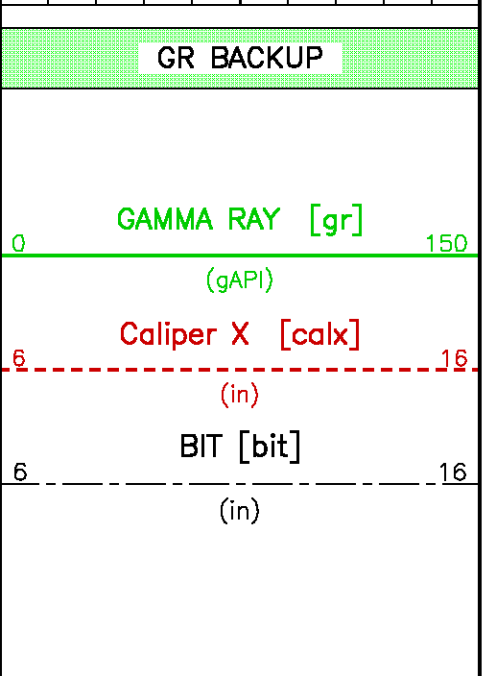
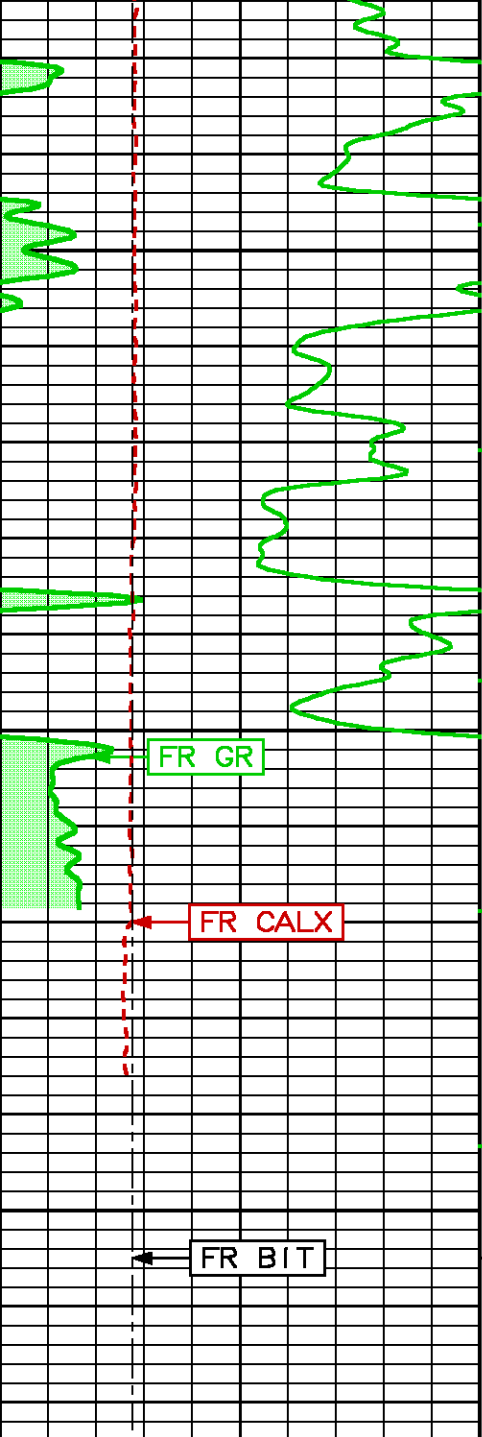








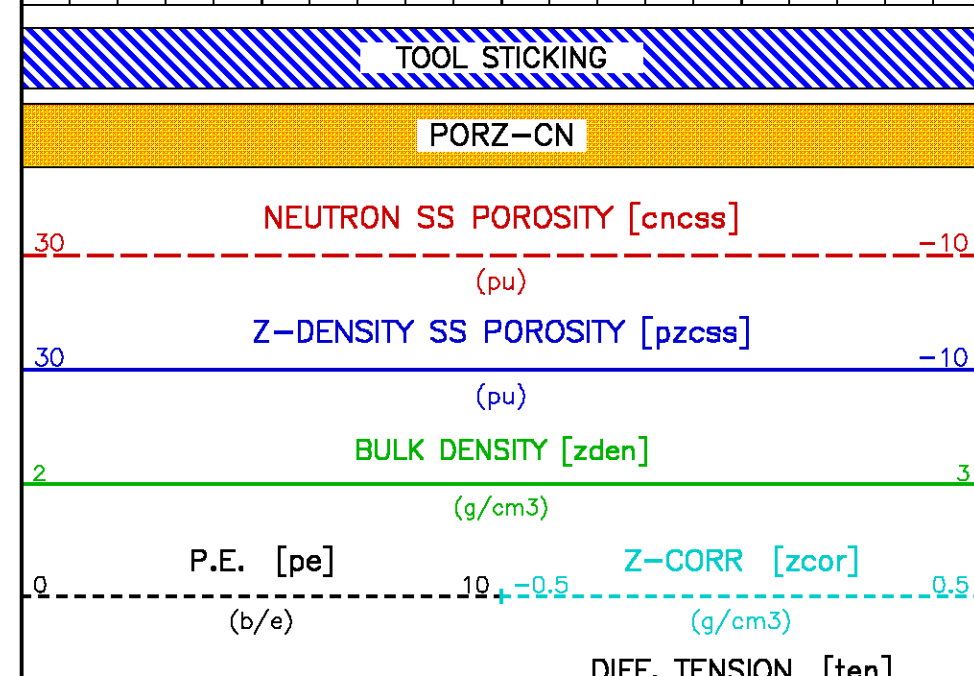
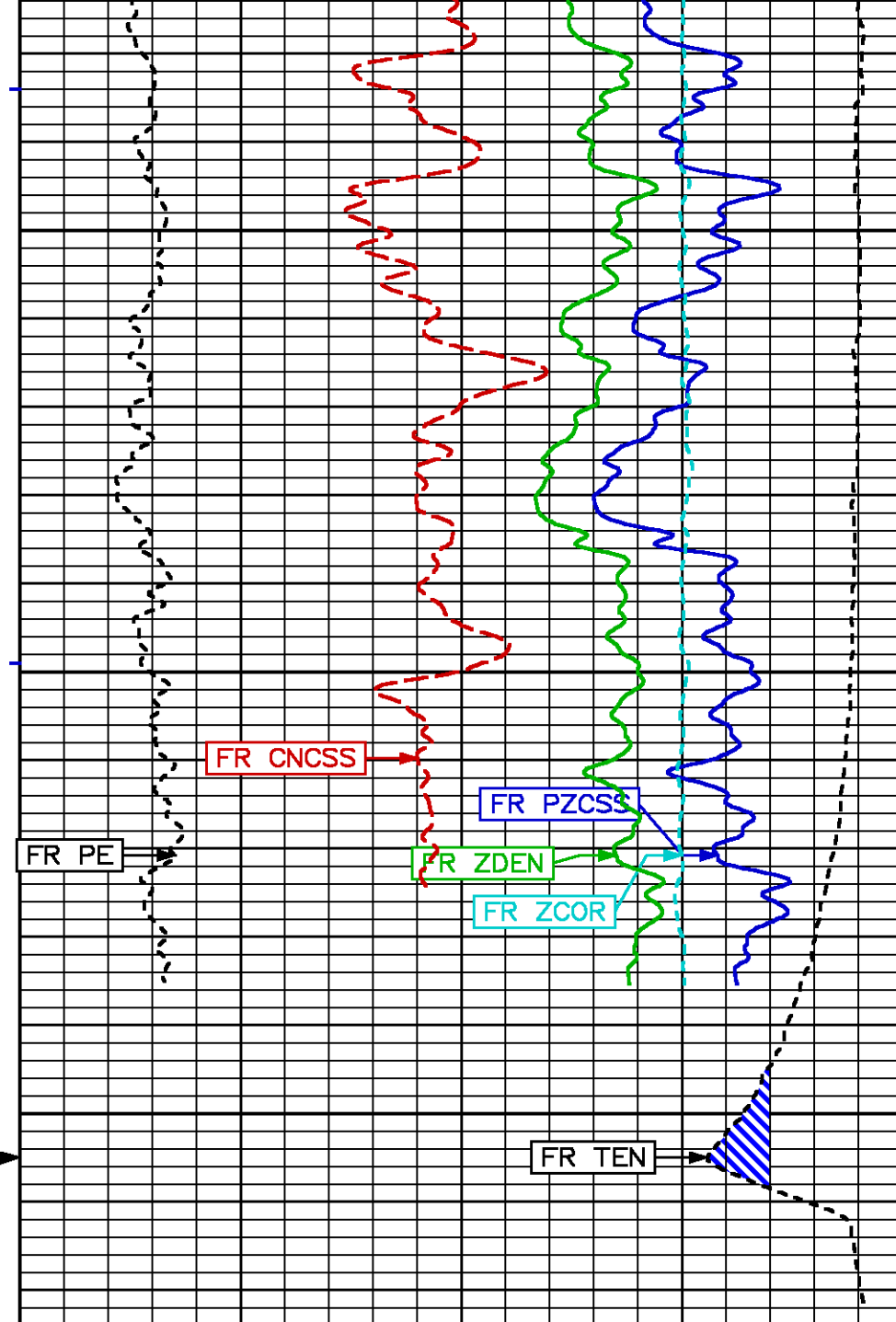




5900

TD

FEET



BVOL
-10
-100
-1000
CVOL
10
100
1000

MAIN LOG - LIMESTONE / SANDSTONE COMPOSITE 5"/100FT SCALE

ECLIPS 6.1i Aug 06, 2010
Updates: 1,2 Patches: 3

Sun Dec 15 15:36:06 2013

Pcrplt /main/62

Cplot

Pdf_Cpp /main/16

Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

File: /data/TABULA_CADDELL_2_R1/m777q05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 480.500 ft BOTTOM DEPTH: 5972.631 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
SL	FILTER ()	medium (1)		"	"
CN	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
ZDL MED RES	FILTER (hrd1*)	medium		"	"
	FILTER (hrd1s*)	medium		"	"
	FILTER (hrd2*)	medium		"	"
	FILTER (hrd2s*)	medium		"	"
	FILTER (soft*)	medium		"	"
ZDL HIGH RES	FILTER (hrd1*)	light		"	"
	FILTER (hrd1s*)	light		"	"
	FILTER (hrd2*)	light		"	"
	FILTER (hrd2s*)	light		"	"
	FILTER (soft*)	light		"	"

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	BIT SIZE	8.750	ln	"	"
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (cnbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (slbh*)	USE CALIPER		"	"
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (cnbh*)	8.750	ln	"	"

BOREHOLE CORN DENSITY		FIXED DIAMETER (slbh*)	8.750	in	''	''
SL PROCESSING						
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)		
SL BOREHOLE	OPEN/CASED HOLE	OPEN HOLE		TOP	BOTTOM	
	K MUD CONTENT	0.00	pcf	''	''	
	K MUD TYPE	KCL		''	''	
SL SPECTRUM CALIBRATION	MODE	AUTOMATIC		''	''	

CN PROCESSING						
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)		
2446 CN MATRIX	2446 MATRIX	LIMESTONE		TOP	BOTTOM	
CN SALINITY CORRECTION	SALINITY	0	ppm	''	''	
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''	
	BIT SIZE BEHIND CSNG	7.875	in	''	''	

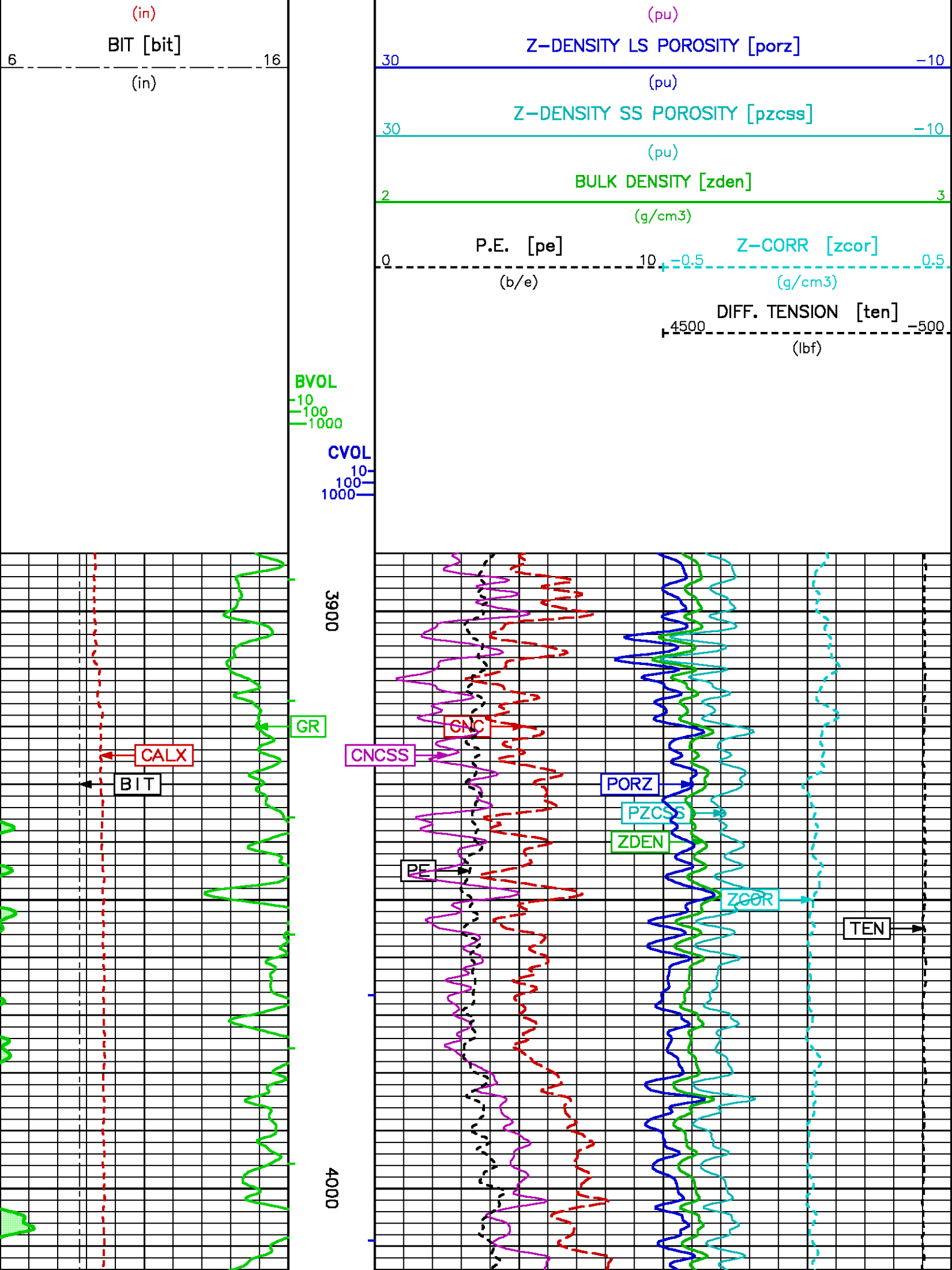
ZDL PROCESSING						
MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)		
MUD DENSITY	MUD DENSITY	7.95	lbm/gal	TOP	BOTTOM	
DENSITY POROSITY	RHOMatrix	2.710	g/cm3	''	''	
	RHOfluid	1.000	g/cm3	''	''	
	RHOMatrix (sand)	2.650	g/cm3	''	''	
ZDL	DENX TRACKING	ON		''	''	

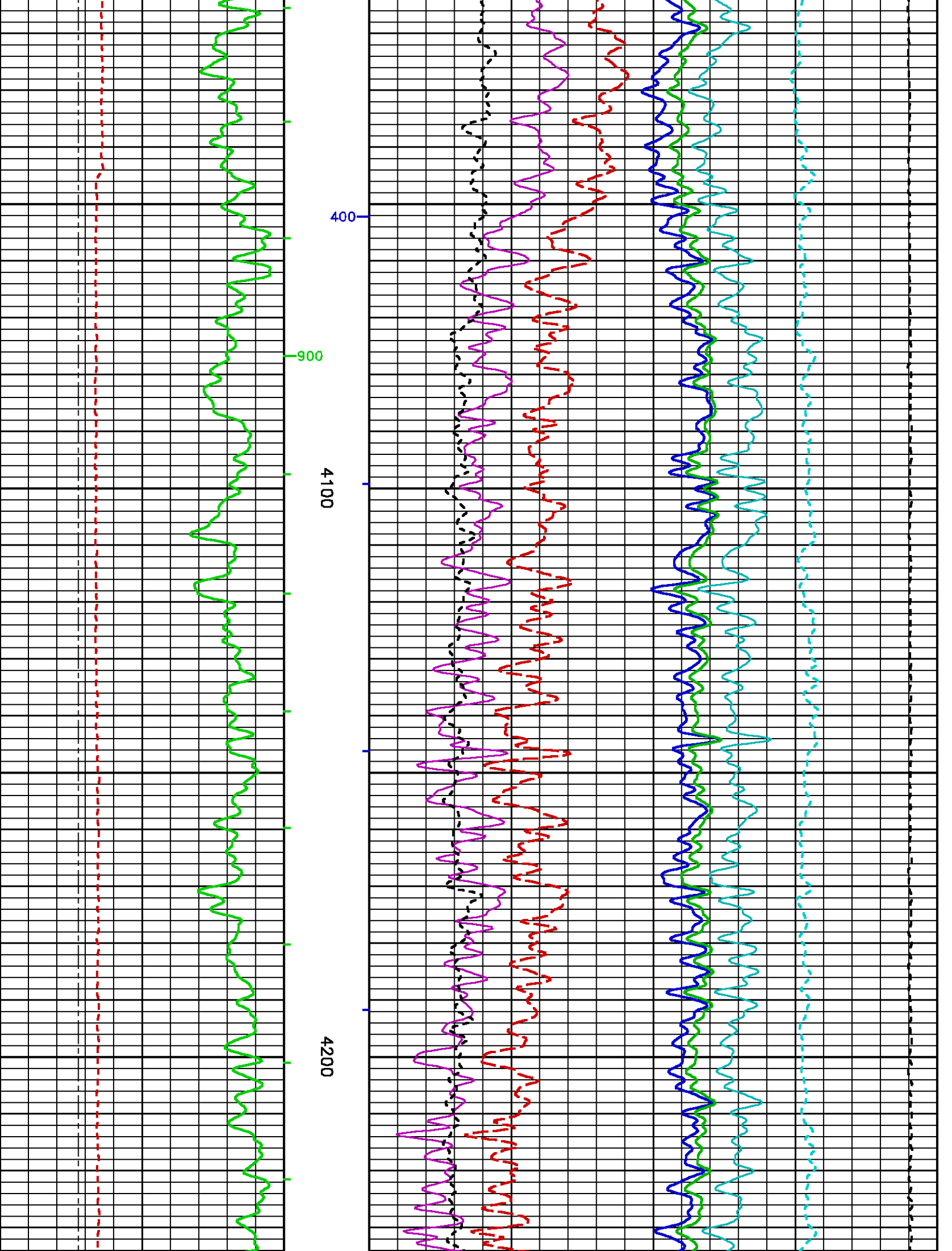
CURVE DESCRIPTION REPORT		
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	Dec 15 11:21:30 2013	BIT SIZE
F1:BVOL	Dec 15 11:21:30 2013	BOREHOLE VOLUME
F1:CALX	Dec 15 11:21:30 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNC	Dec 15 11:21:30 2013	BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY
F1:CNCSS	Dec 15 11:21:30 2013	BOREHOLE SIZE CORRECTED SANDSTONE COMPENSATED NEU POROSITY
F1:CVOL	Dec 15 11:21:30 2013	CEMENT VOLUME
F1:GR	Dec 15 11:21:30 2013	GAMMA RAY
F1:PE	Dec 15 11:21:30 2013	PHOTO ELECTRIC CROSS-SECTION
F1:PORZ	Dec 15 11:21:30 2013	POROSITY FOR SELECTABLE MATRIX
F1:PZCSS	Dec 15 11:21:30 2013	CORRECTED POROSITY FOR SANDSTONE MATRIX
F1:TEN	Dec 15 11:21:30 2013	DIFFERENTIAL TENSION
F1:ZCOR	Dec 15 11:21:30 2013	DENSITY CORRECTION
F1:ZDEN	Dec 15 11:21:30 2013	FORMATION BULK DENSITY

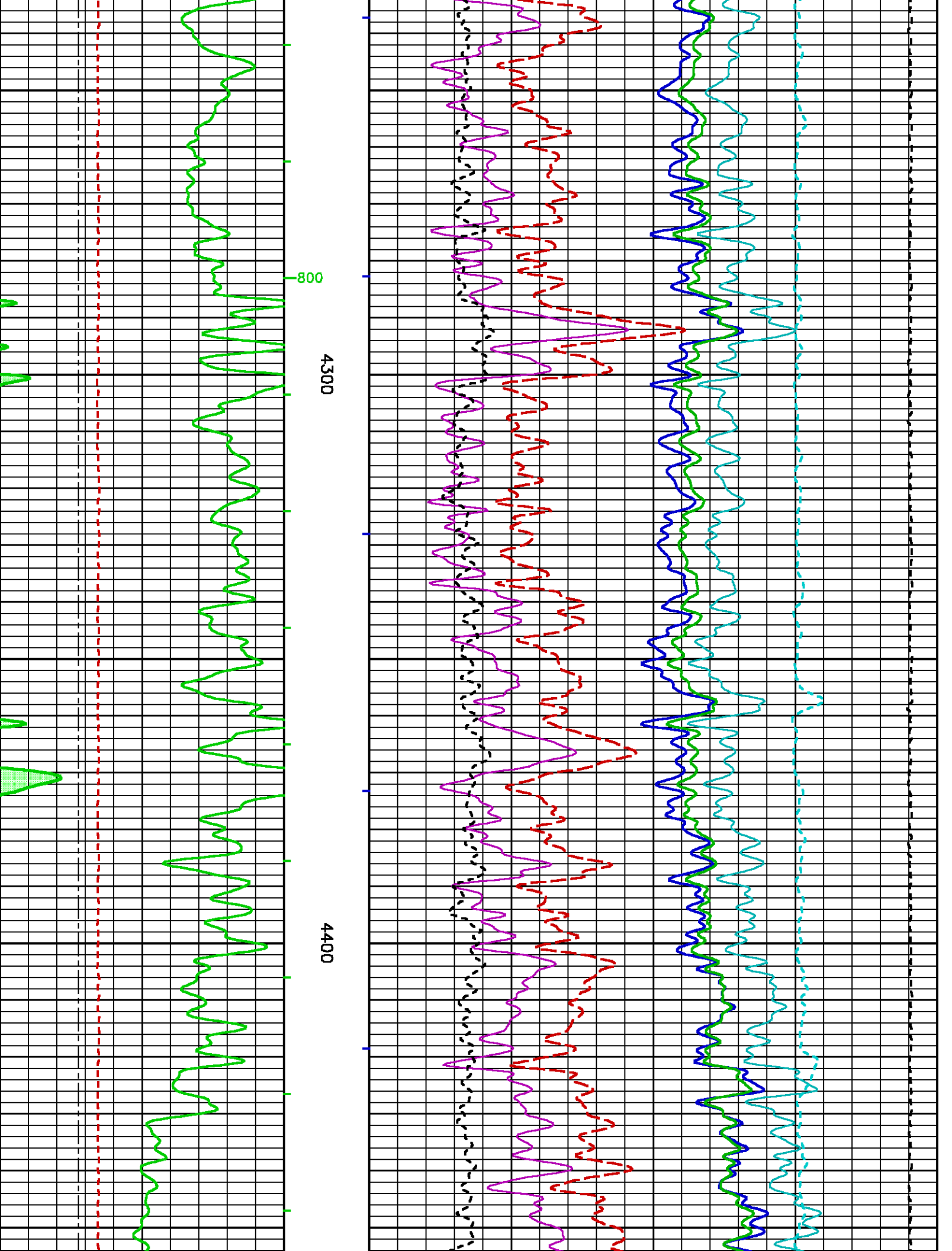
CURVE MEASURE POINT OFFSET							
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	CNCSS	45.25	PORZ	34.25	ZCOR	34.25
CALX	35.00	GR	52.25	PZCSS	34.25	ZDEN	34.25
CNC	45.25	PE	34.25	TEN	0.00		

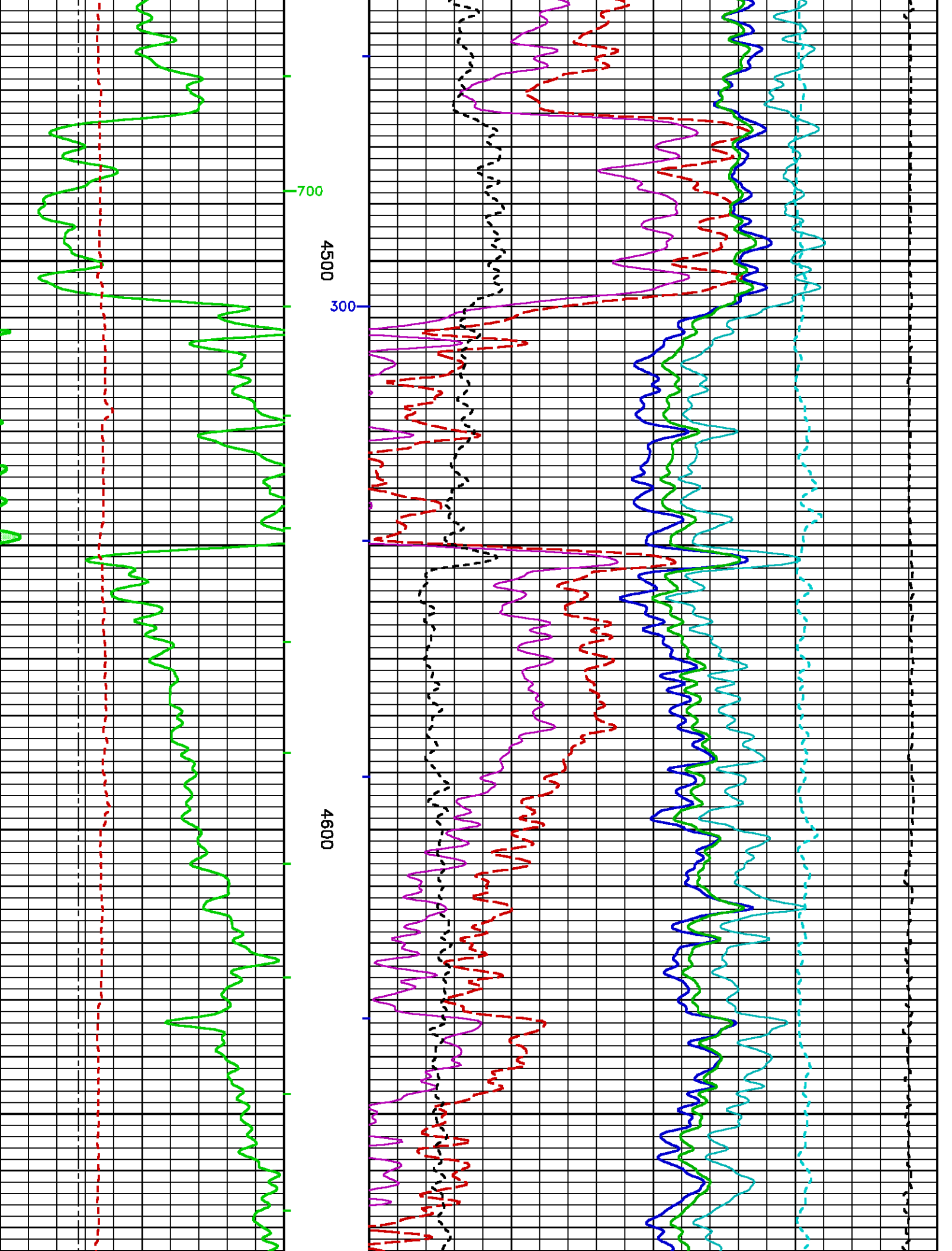
Presentation	: wwdsys71:/dat1a/TABULA_CADDELL_2_R1/zdl_MN05_COMP_r1.pdf [5"/100' Scale]
Plot Interval	: 3890 - 5972.75 Feet
Data File 1	: F1 : wwdsys71:/dat1a/TABULA_CADDELL_2_R1/m777q05.off
Created On	: Dec 15 11:21:30 2013
Company	: TABULA RASA ENERGY
Well	: CADDELL 2
Field	: OAKDALE
File Interval	: 415 - 5972.75 Feet
Oct	: m777q

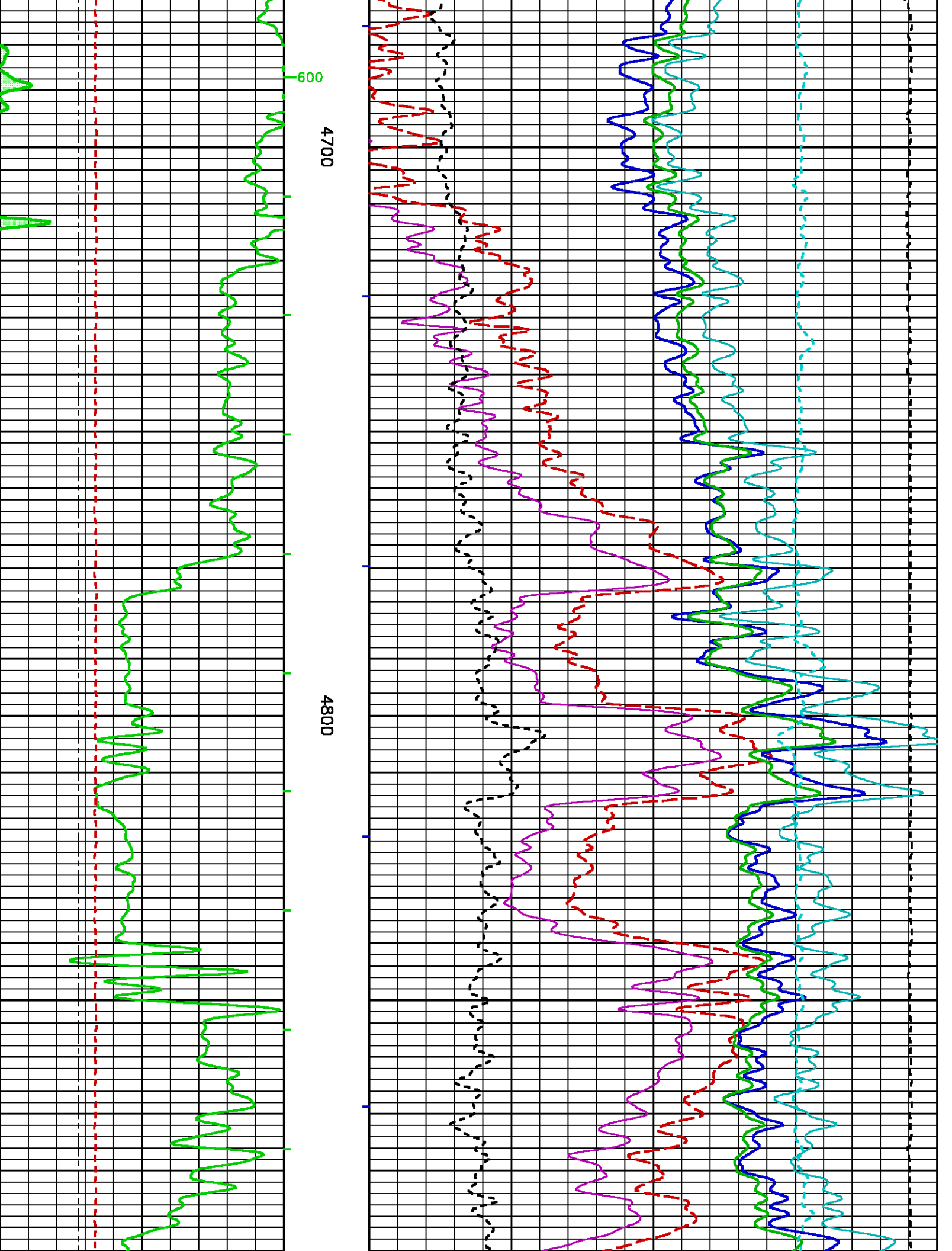
GR BACKUP		FEET	TOOL STICKING	
GAMMA RAY [gr]			NEUTRON LS POROSITY [cnc]	
0	150		30	-10
(gAPI)			(pu)	
Caliper X [calx]			NEUTRON SS POROSITY [cncss]	
6	16	30	-10	

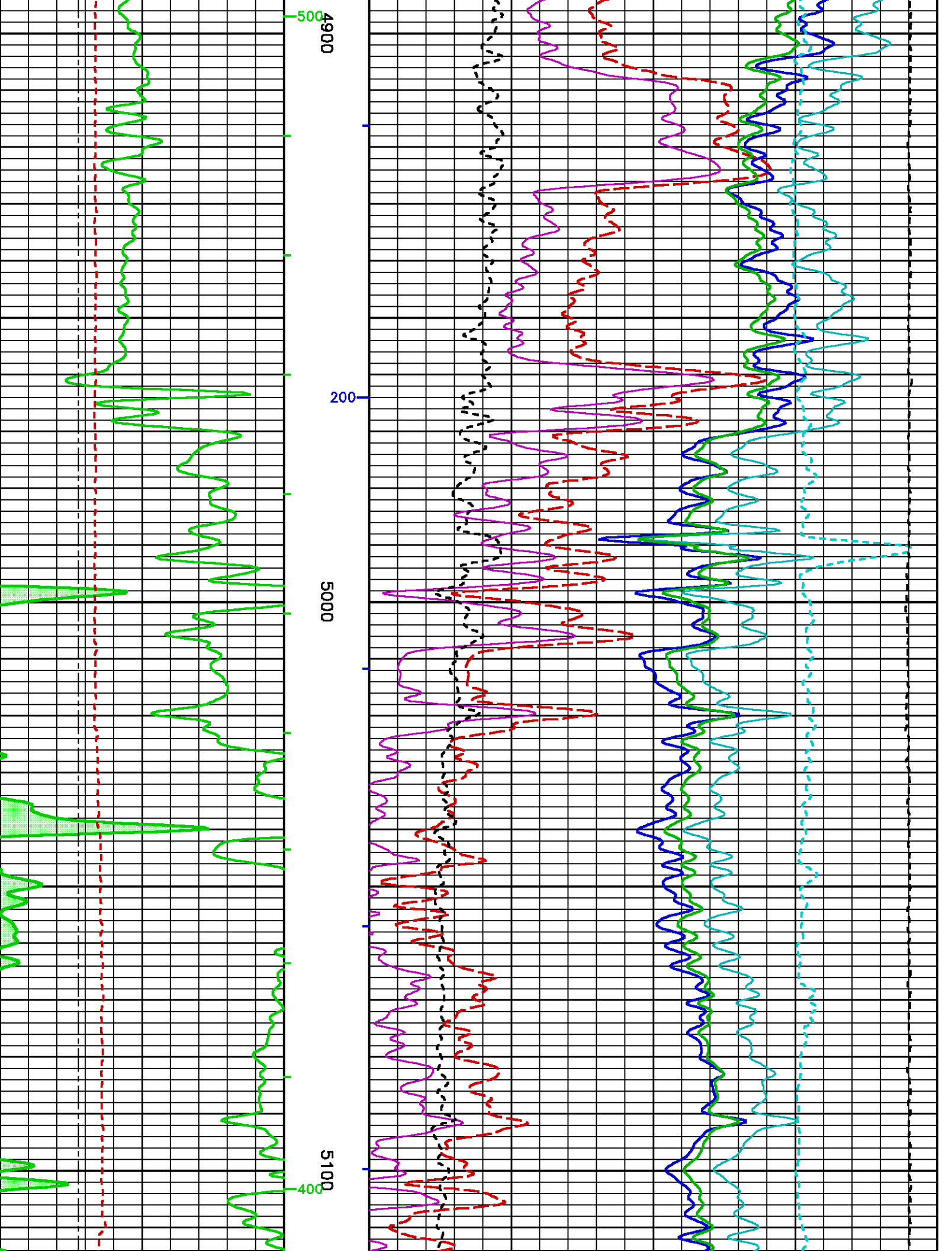


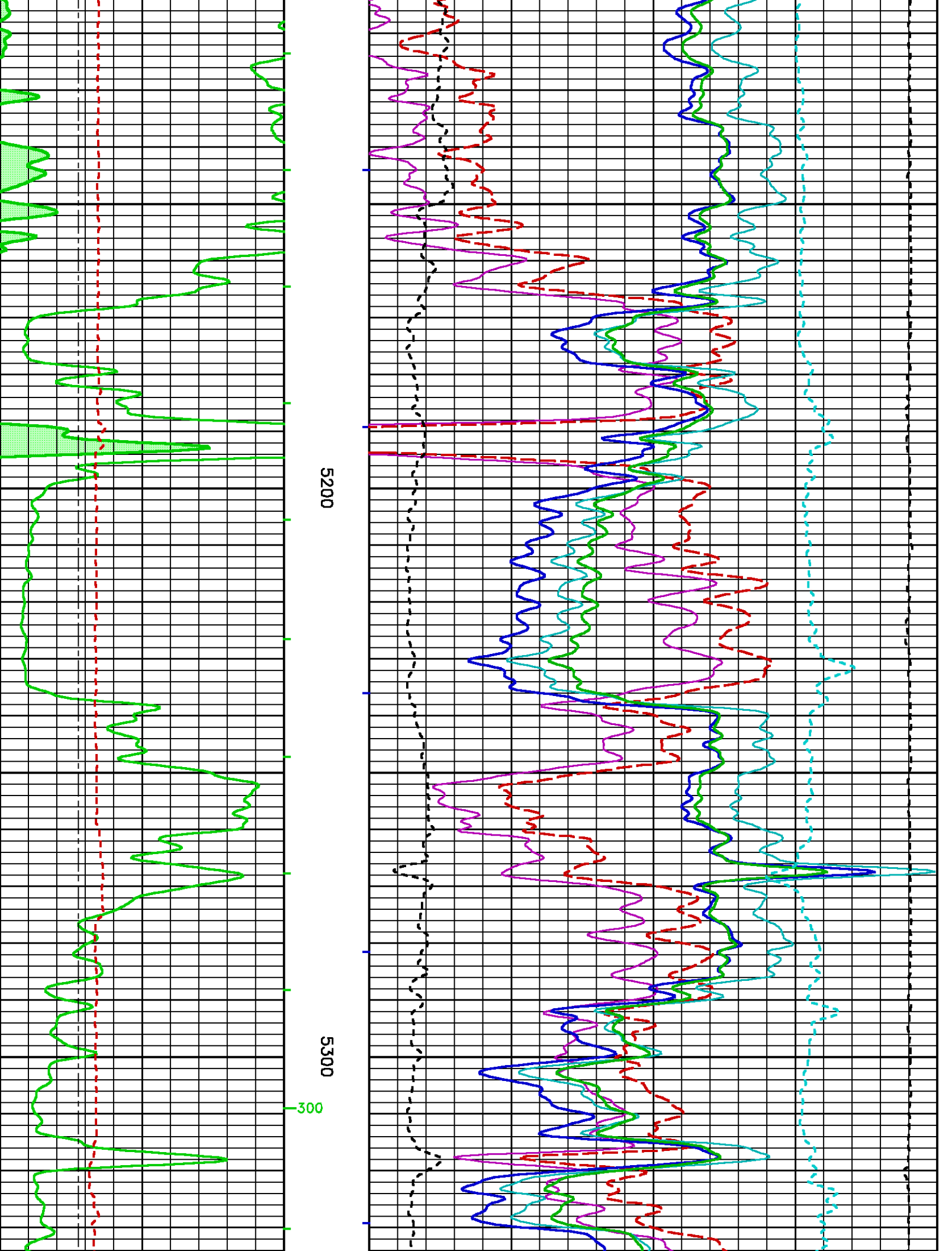


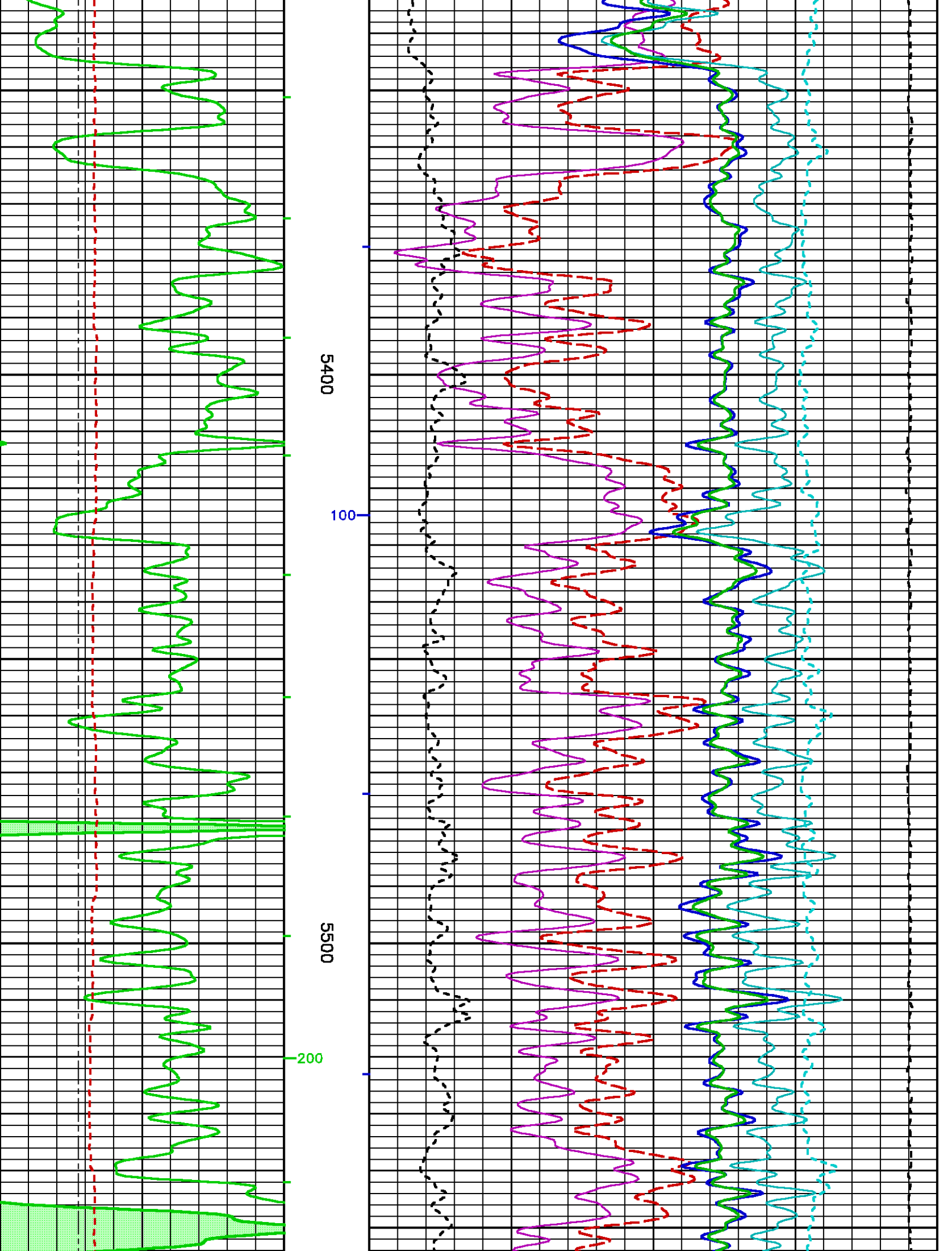


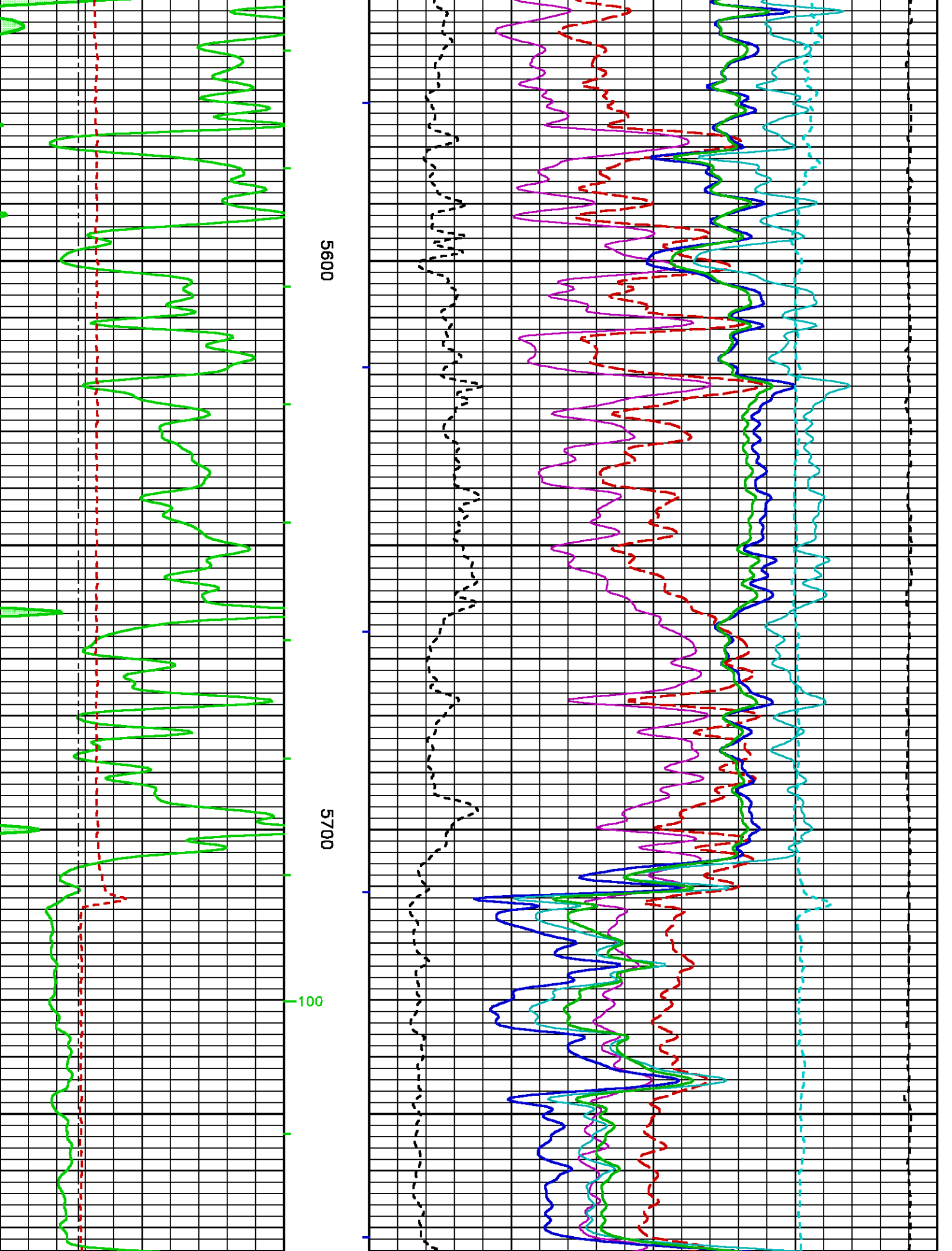


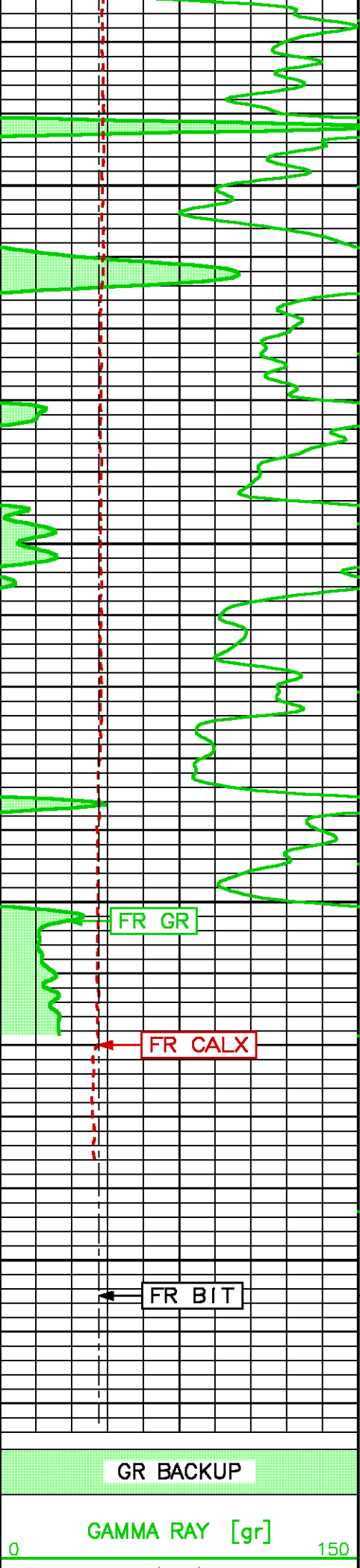








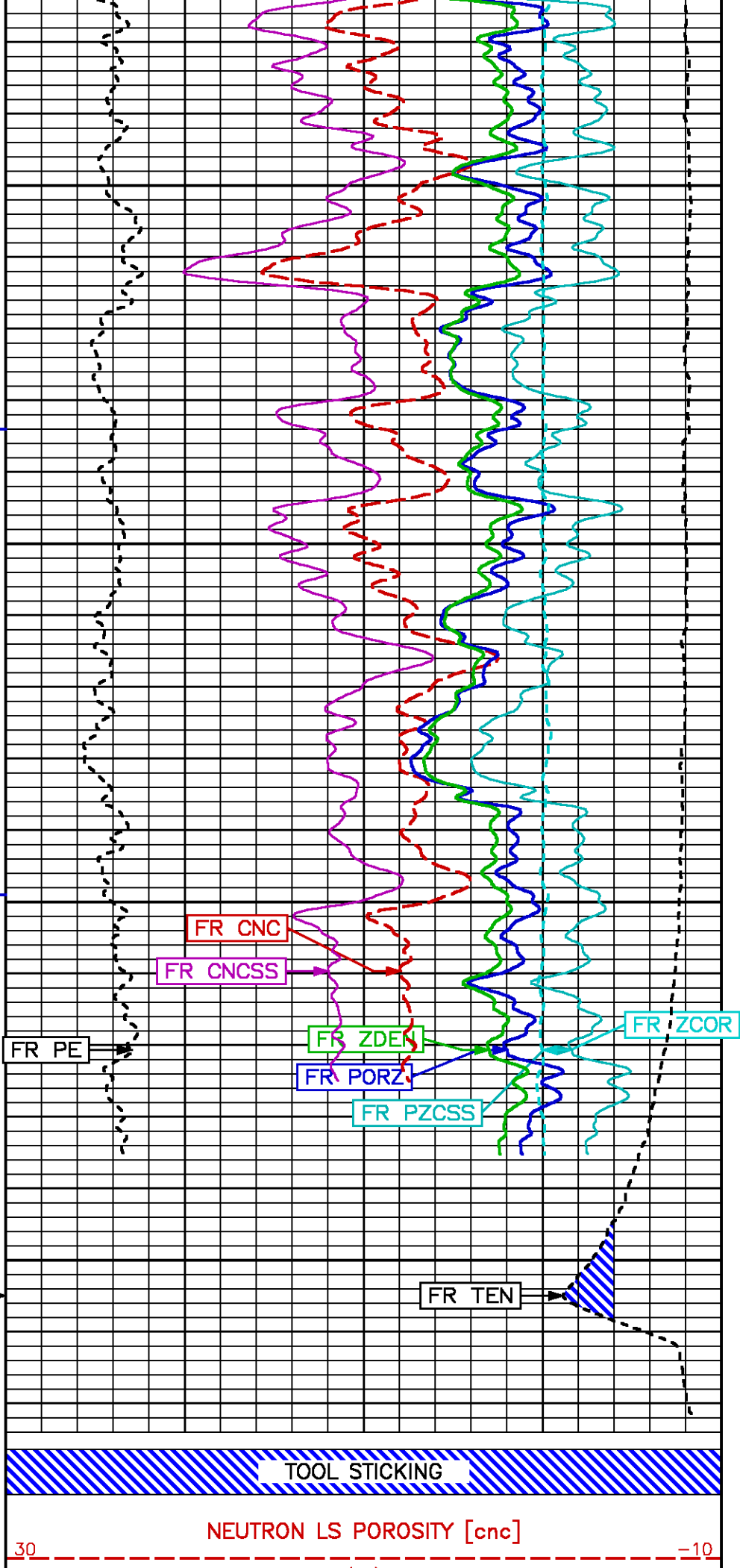




5800

5900

FEET



FR CNC

FR CNCSS

FR ZDEN

FR PORZ

FR PZCSS

FR PE

FR ZCOR

FR CALX

FR BIT

TD

FR TEN

GR BACKUP

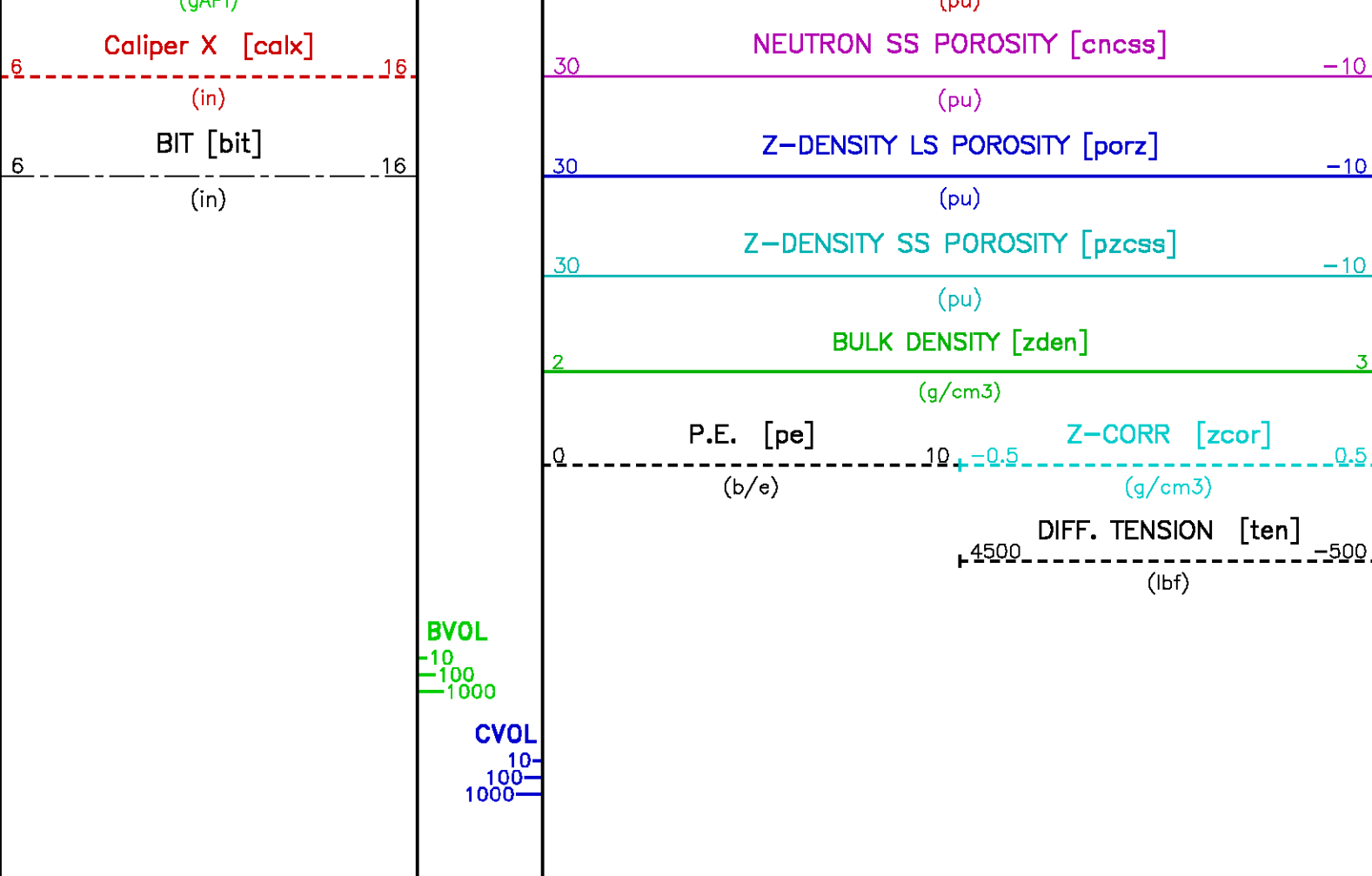
TOOL STICKING

GAMMA RAY [gr]

NEUTRON LS POROSITY [cnc]

0 150 (API)

30 -10 (%)



CALIBRATION / VERIFICATION SUMMARY

Source File: /data/TABULA_CADDELL_2_R1/m777q.tp1

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 179184

DATE/TIME PERFORMED: Thu Nov 14 10:42:17 2013

UNIT #: 3882TA HL6680

CALB JIG #: 4702NK DA-228

	BACKGROUND CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	181.80	1116.36	0.161	29.18	179.18
		830.0 960.0			150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 179184

DATE/TIME PERFORMED: Thu Nov 14 10:47:44 2013

UNIT #: 3882TA HL6680

VERI JIG #: 4702NK DA-228

UNIT #: 3882TA HL6680 VERI JIG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	182.84	1117.47	0.161	29.35	179.36	150.01
						140.00 160.00

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 179184 DATE/TIME PERFORMED: Sun Dec 15 08:43:53 2013 DAYS SINCE CAL: 30

UNIT #: 3882TA HL6680 VERI JIG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	230.58	1176.80	0.161	37.01	188.88	151.87
						140.01 160.01

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 179184 DATE/TIME PERFORMED: Sun Dec 15 14:47:35 2013 DAYS SINCE CAL: 31

UNIT #: 3882TA HL6680 VERI JIG #: 4702NK DA-228

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	211.38	1143.69	0.161	33.93	183.57	149.64
						141.87 161.87

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 173079 DATE/TIME PERFORMED: Tue Oct 1 10:51:20 2013

UNIT #: 3882TA HL6680 CALIBRATOR #: 2437XB 120052 SOURCE #: 4717XS N_923

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (pu)
LSN	542.90	550.06				
SSN	1470.59	1515.15				
RATIO			2.75450	2.75100	0.99873	
					0.97000 1.07000	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 173079 DATE/TIME PERFORMED: Tue Oct 1 10:55:51 2013

UNIT #: 3882TA HL6680 ICE BLOCK #: 4717ND D_043

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	2075.73	2184.63				
SSN	4654.77	5132.68				
RATIO			2.34945	0.99873	2.34786	
CN						15.843

CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2446XA 173079 DATE/TIME PERFORMED: Sun Dec 15 08:52:31 2013 DAYS SINCE CAL: 74

UNIT #: 3882TA HL6680 ICE BLOCK #: 4717ND D_043

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1951.47	2047.39				
SSN	4557.79	5015.03				
RATIO			2.44947	0.99873	2.44720	
CN						17.148 15.843 17.843

CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2446XA 173079 DATE/TIME PERFORMED: Sun Dec 15 14:43:22 2013 DAYS SINCE CAL: 75

UNIT #: 3882TA HL6680 ICE BLOCK #: 4717ND D_043

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1967.92	2065.54				
SSN	4551.13	5006.96				
RATIO			2.42405	0.99873	2.42255	
CN						16.824 15.148 19.148

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 179939

DATE/TIME PERFORMED: Mon Sep 30 16:33:15 2013

UNIT #: 3882TA HL6680

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1558.0	2383.6	0.00863	-5.57067	7.875	15.000

CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Sun Dec 15 09:14:55 2013 DAYS SINCE CAL: 75

UNIT #: 3882TA HL6680

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1765.2	0.00863	-6.31283	8.921

CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Sun Dec 15 14:12:12 2013 DAYS SINCE CAL: 75

UNIT #: 3882TA HL6680

	I.D.	MULT	ADD	I.D. (in)
CALIPER	1770.8	0.00863	-6.31283	8.969
				8.421 9.421

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 179939

DATE/TIME PERFORMED: Tue Oct 1 12:30:42 2013

UNIT: 3882TA HL6680

CALB BLKS: 2225XA B94287

CS SRC: 4703NT 11344B

SS CS PK (Channel)	LS CS PK (Channel)	SS_BKGD (cps)	LS BKGD (cps)
226.4	227.0	1206.2	1536.0
220.0 230.0	220.0 230.0		

	SS (cps)	LS (cps)	SHR	DEN (g/cm ³)	CORR (g/cm ³)	PE (b/e)
MG (LO PE)	21133.1	10979.1	0.635	1.700	0.003	2.160
			0.565 0.565			
AL	12448.3	1116.9		2.698	-0.010	
AL +SHIM	17205.7	1937.9		2.619	0.158	

MG + SHIM (HI PE)

10084.3

5093.9

0.257

8.500

0.210

0.270

RATIO AL + SHIM/AL

1.38

1.74

1.32

1.42

1.64

1.84

RATIO MG/AL

1.70

9.83

1.65

1.78

9.40

10.20

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Sun Dec 15 08:39:28 2013 DAYS SINCE CAL: 74

UNIT #: 3882TA HL6680

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1537.3	226.7	1269.4
	1436.0 1636.0	220.0 230.0	1100.0 1550.0
SS	1202.2	229.5	1318.5
	1106.2 1306.2	220.0 230.0	1100.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	83.8	
	4.8 5.2	50.0 120.0	

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 179939 DATE/TIME PERFORMED: Sun Dec 15 14:42:37 2013 DAYS SINCE CAL: 75

UNIT #: 3882TA HL6680

	TOTAL (cps)	CSPK (Channel)	HV (V)
LS	1522.5	225.4	1240.5
	1436.0 1636.0	220.0 230.0	1100.0 1550.0
SS	1196.0	224.7	1309.5
	1106.2 1306.2	220.0 230.0	1100.0 1550.0
	LV (V)	PAD CURRENT (mA)	
	5.0	66.5	
	4.8 5.2	50.0 120.0	

INSTRUMENT CONFIGURATION

CABLEHEAD 3 3/8 WITH SP

Diameter : 3.38"
Length : 2.00'
Weight : 35 lbs
Series : 3069ZZ
Mnemonic : CH
Measure Point: 0.83': SP

TTRM SUB

Diameter : 3.63"
Length : 3.83'
Weight : 62 lbs
Series : 3981XA
Mnemonic : TTRM
Measure Point: 1.38': TEMP MP
Measure Point: 1.13': RM MP

WTS COMMON REMOTE

Diameter : 3.63"
Length : 6.36'
Weight : 126 lbs
Series : 3514XB
Mnemonic : WTS

DIGITAL SPECTRALOG

Diameter : 3.63"
Length : 7.31'
Weight : 130 lbs
Series : 1329XA
Mnemonic : DSL
Measure Point: 1.60': GR MP

COMPENSATED NEUTRON

Diameter : 3.63"
Length : 7.59'
Weight : 150 lbs
Series : 2448XA
Mnemonic : CN
Measure Point: 2.63': LSN MP

70.38'

SP 69.22'

TEMP MP 65.93'
RM MP 65.68'

GR MP 52.48'

Measure Point: 2.24': SSN MP

LSN MP 45.92'
SSN MP 45.52'

Z-DENS LOG

Diameter : 4.88"
Length : 11.22'
Weight : 360 lbs
Series : 2234XA
Mnemonic : ZDL
Measure Point: 3.19': CAL MP
Measure Point: 2.47': LSD MP
Measure Point: 2.07': SSD MP

CAL MP 35.26'

LSD MP 34.54'

SSD MP 34.14'

KNUCKLE JOINT (DOUBLE)

Diameter : 3.38"
Length : 4.65'
Weight : 90 lbs
Series : 3939XA
Mnemonic : KNJT

HIGH DEFINITION INDUCTION TOOL

Diameter : 3.62"
Length : 27.13'
Weight : 415 lbs
Series : 1515XA
Mnemonic : HDIL
Measure Point: 13.91': SP MP
Measure Point: 7.44': XMTR MP

SP MP 14.19'

XMTR MP 7.72'

0.00'

BULL PLUG 3 3/8

TOTAL LENGTH: 70.38'
TOTAL WEIGHT: 1399 lbs
MAX DIAMETER: 0'4.88"



COMPANY TABULA RASA ENERGY
WELL CADDELL 2
FIELD OAKDALE
COUNTY HUEFANO STATE COLORADO

FILE NO: _____
API NO: 05-055-06312

LOCATION:

SHL: 1349' FSL & 1306' FEL

ELEVATIONS:

KB 7844.5 FT
DF 7844.5 FT
GL 7830 FT

2"/100' SCALE
5"/100' SCALE

SEC 4 TWP 29 S RGE 69 W

DATE 15-DEC-2013

