



CALIPER LOG

FILE NO:		COMPANY		LARAMIE ENERGY	
WELL		NICHOLS 0994-24-06W			
FIELD		VEGA			
COUNTY		MESA		STATE COLORADO	
API NO: 05077104150000		LOCATION: LAT: 39.2645944N, LONG:107.8306361		OTHER SERVICES GR/CAL	
Version		SEC 24 TWP 9S RGE 94W			
PERMANENT DATUM		GL ELEVATION 7137 FT		ELEVATIONS: KB 7161 FT DF 7160 FT GL 7137 FT	
LOG MEASURED FROM		KB 24 FT ABOVE P.D.			
DRILL. MEAS. FROM		KB			
DATE		13-DEC-2017			
RUN		TRIP 1			
SERVICE ORDER		US130698			
DEPTH DRILLER		7658 FT			
DEPTH LOGGER		7651 FT			
BOTTOM LOGGED INTERVAL		7651 FT			
TOP LOGGED INTERVAL		1549 FT			
CASING DRILLER		8.625 IN @ 1549 FT			
CASING LOGGER		1549 FT			
BIT SIZE		7.875 IN			
TYPE OF FLUID IN HOLE		WBM			
DENSITY		9.9 LB/G		65 CP	
PH		8.9		NA	
SOURCE OF SAMPLE		FLOWLINE			
RM AT MEAS. TEMP.		2.08 OHMM		@ 75 DEGF	
RMF AT MEAS. TEMP.		1.55 OHMM		@ 75 DEGF	
RMC AT MEAS. TEMP.		2.60 OHMM		@ 75 DEGF	
SOURCE OF RMF		RMC		CALCULATED	
RM AT BHT		1.43 OHMM		@ 112 DEGF	
TIME SINCE CIRCULATION		7 HRS			
MAX. RECORDED TEMP.		192 DEGF			
EQUIP. NO.		HL 6741		WOODWARD	
RECORDED BY		S.YASSA			
WITNESSED BY		NA			

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE 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.

REMARKS	
RUN 1 TRIP 1: 1 OPERATION IN WELL HDIL/ZDL/CN/GR RUN IN COMBINATION	
BVOL & CVOL CALCULATED IN CUBIC FEET CVOL CALCULATED FOR PROPOSED 4.5" CASING CALIPER VERIFIED IN CASING	
ZDL & CN RUN ON LIMESTONE MATRIX RHO MATRIX: 2.68 G/CC	
HDIL RUN WITH 1.5" STANDOFFS ABC TO CALCULATED: MUD CONDUCTIVITY	
WELLBORE RUGOSITY WILL AFFECT THE ACCURACY OF MEASUREMENTS	
CREW: J.PENA, RIG: H&P 290	

EQUIPMENT DATA	
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EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	TTRM	3981XA	10045153	FREE
1	1	CR	3514XB	10226222	DECENTRALIZED
1	1	GR	1329XA	179184	DECENTRALIZED
1	1	CN	2446XA	10378389	FREE
1	1	ZDL	2234XA	10231795	PAD DEVICE
1	1	DKJT	3939XA	12093196	FREE
1	1	HDIL	1515EA/1515MA	10342170/1179553	FREE

BOREHOLE PROFILE LOG FOR 4.5" CASING

ECLIPS 7.0w PC-ECLIPS General Release Rel 7.0w Fri Jun 09 11:02:06 Central Daylight Time 2017

Patches: 2

Plotted: Wed Dec 13 09:44:24 2017

PARAMETER AND FILTER SUMMARY REPORT

File: C:\dat1a\LARAMIE_Nichols_0994_24_06\WMSALM03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 1484.750 ft BOTTOM DEPTH: 7578.750 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	heavy (3)		"	"
GR	FILTER ()	medium (1)		"	"
CALIPER	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.i)	medium (1)		"	"
SP-SPDH	FILTER ()	heavy (3)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	4.500	in	TOP	BOTTOM
BIT SIZE	BIT SIZE	7.875	in	"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BIT	N/A	BIT SIZE
F1:BVOL	N/A	BOREHOLE VOLUME
F1:CAL	N/A	CALIPER
F1:CVOL	N/A	CEMENT VOLUME
F1:GR	N/A	GAMMA RAY
F1:SPDH	N/A	SPONTANEOUS POTENTIAL PROCESSED IN COMMON REMOTE
F1:TEN	N/A	DIFFERENTIAL TENSION

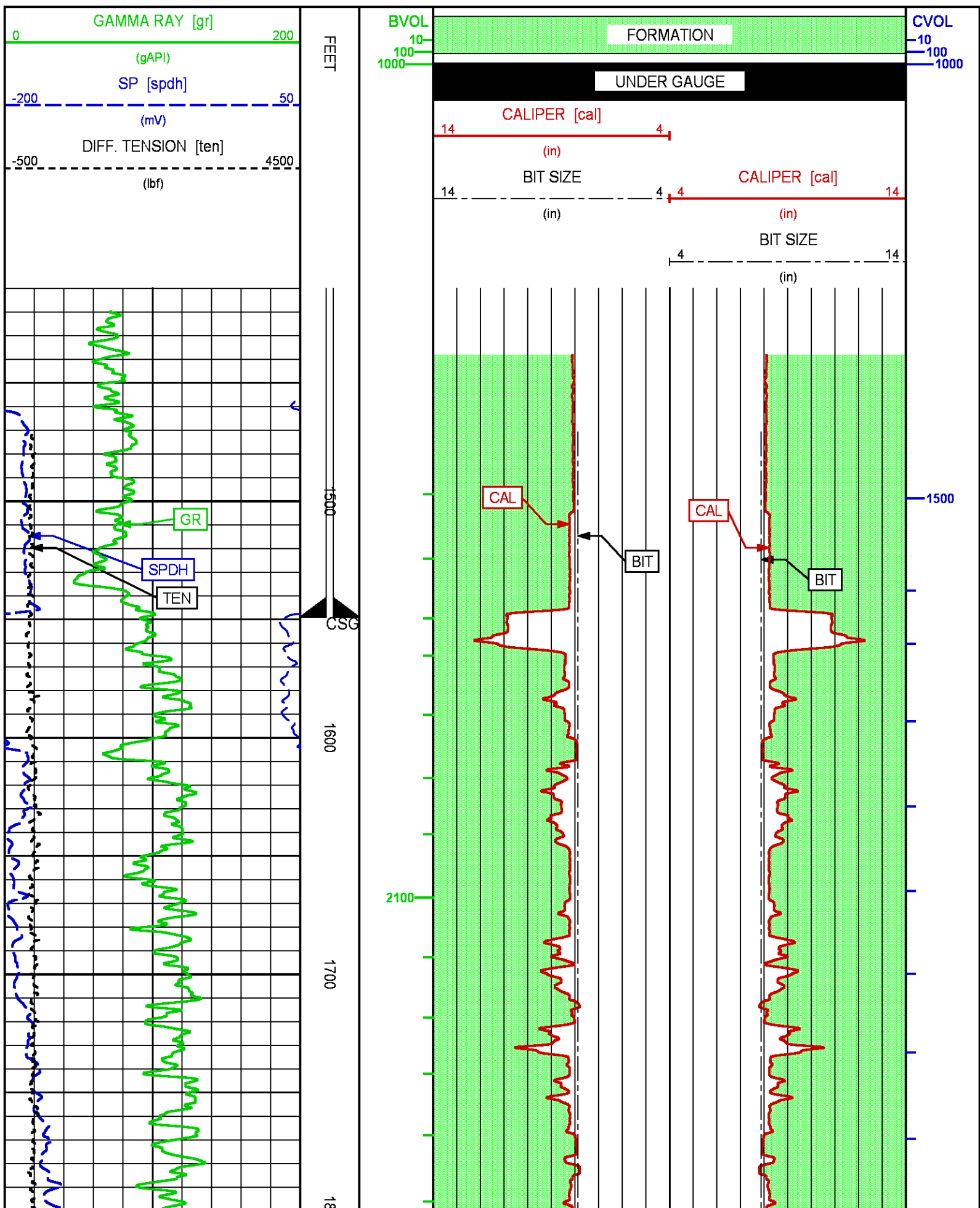
CURVE MEASURE POINT OFFSET

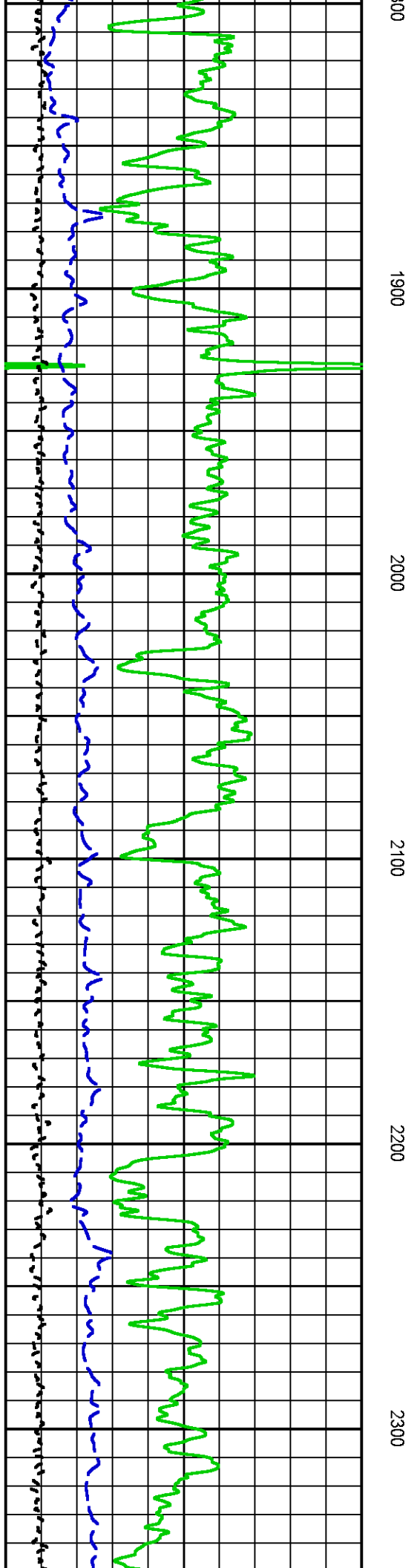
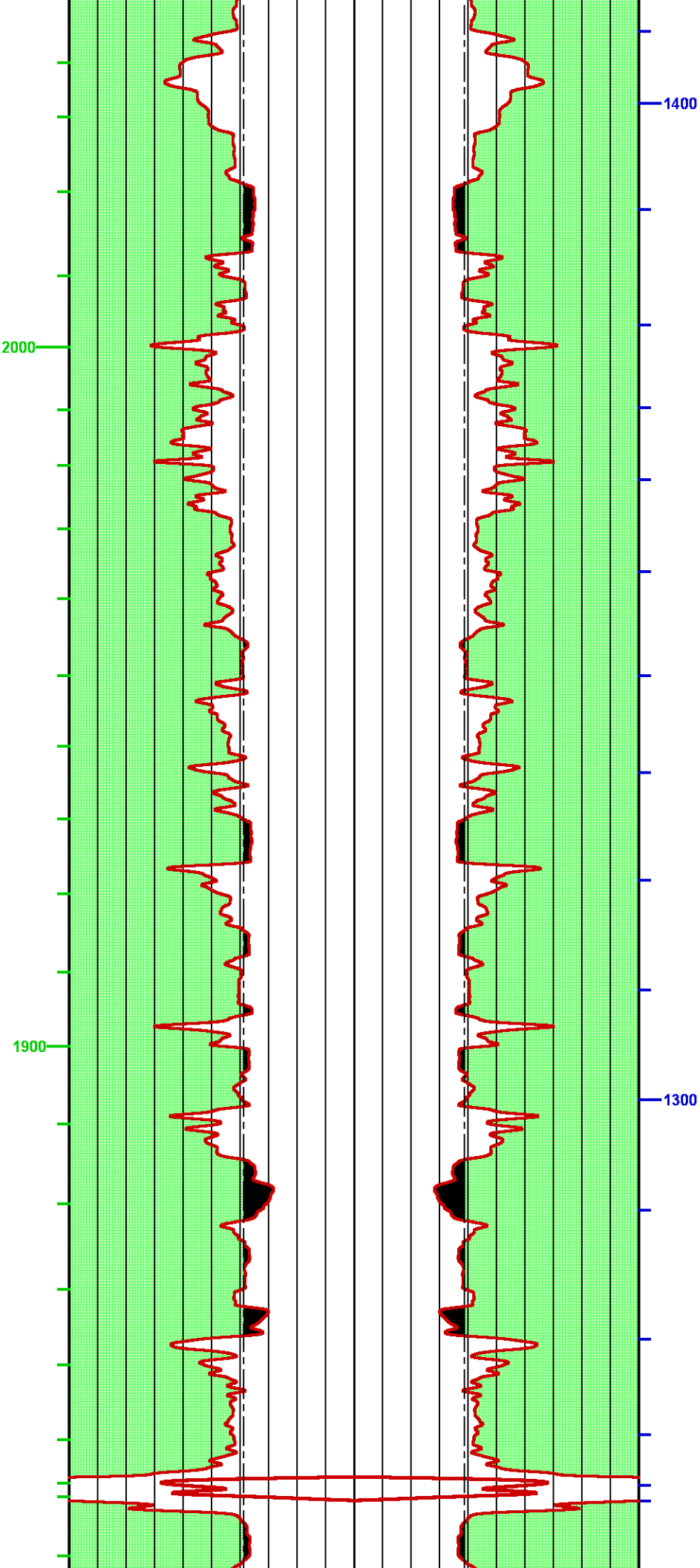
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
BIT	0.00	GR	-52.25	TEN	0.00		
CAL	-35.00	SPDH	-14.00				

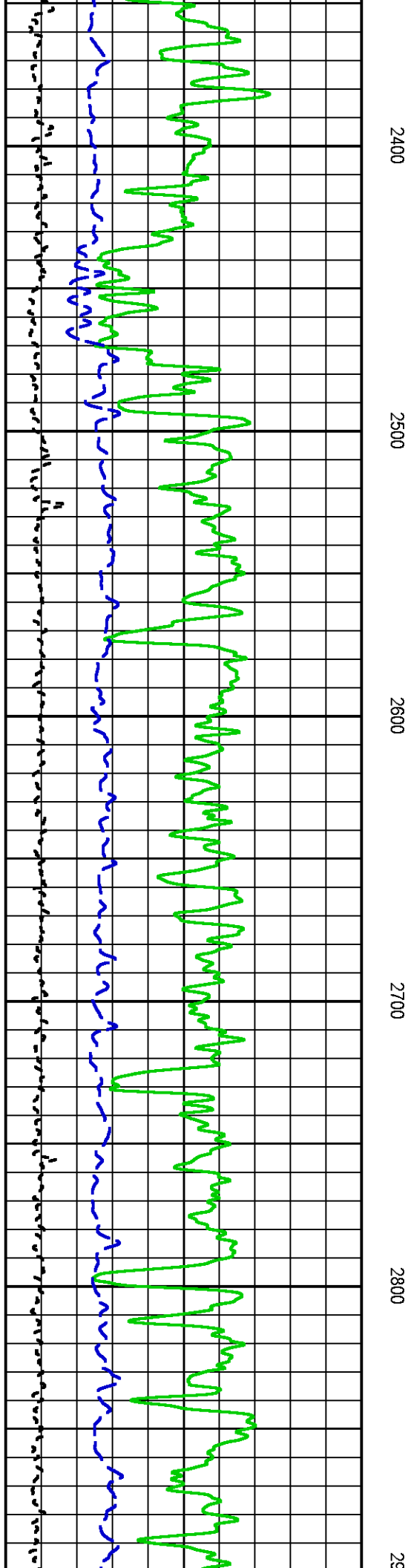
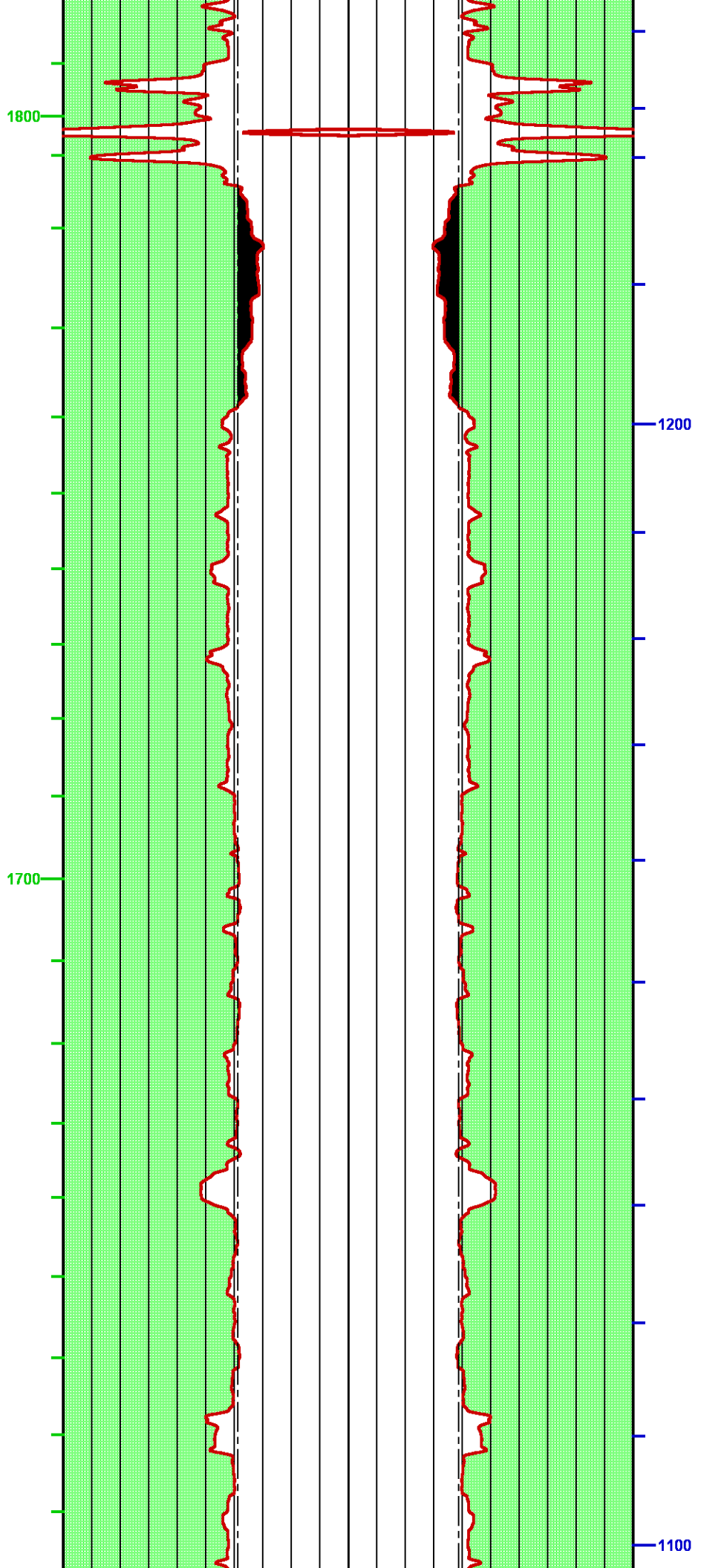
Presentation : BHI78FR4H2:C:\dat1a\LARAMIE_Nichols_0994_24_06\Wbhp1cal_OH_MAIN-2.fvpdf [2"/100' Scale]
Plot Interval : 1419.75 - 7564.75 Feet

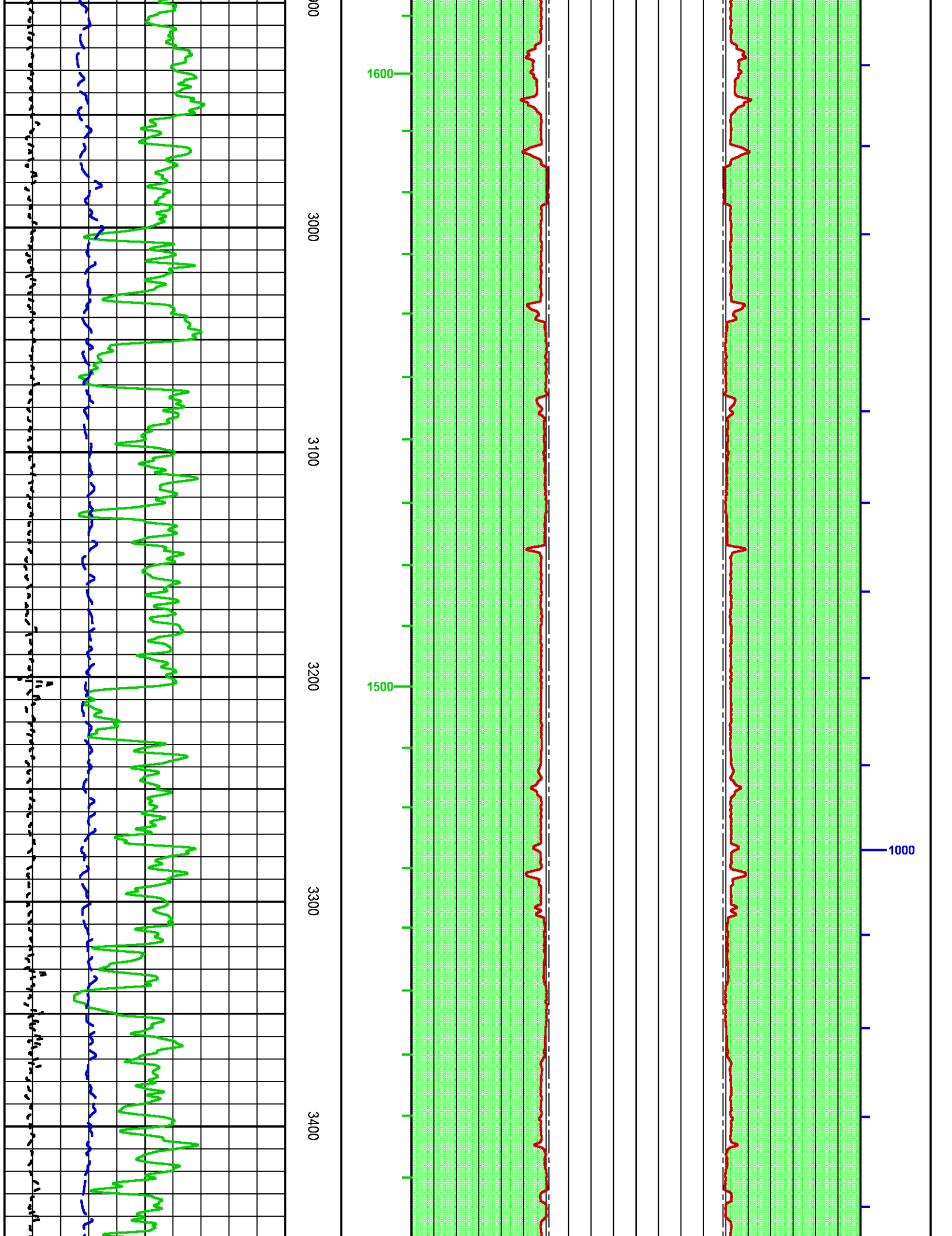
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Created On : N/A

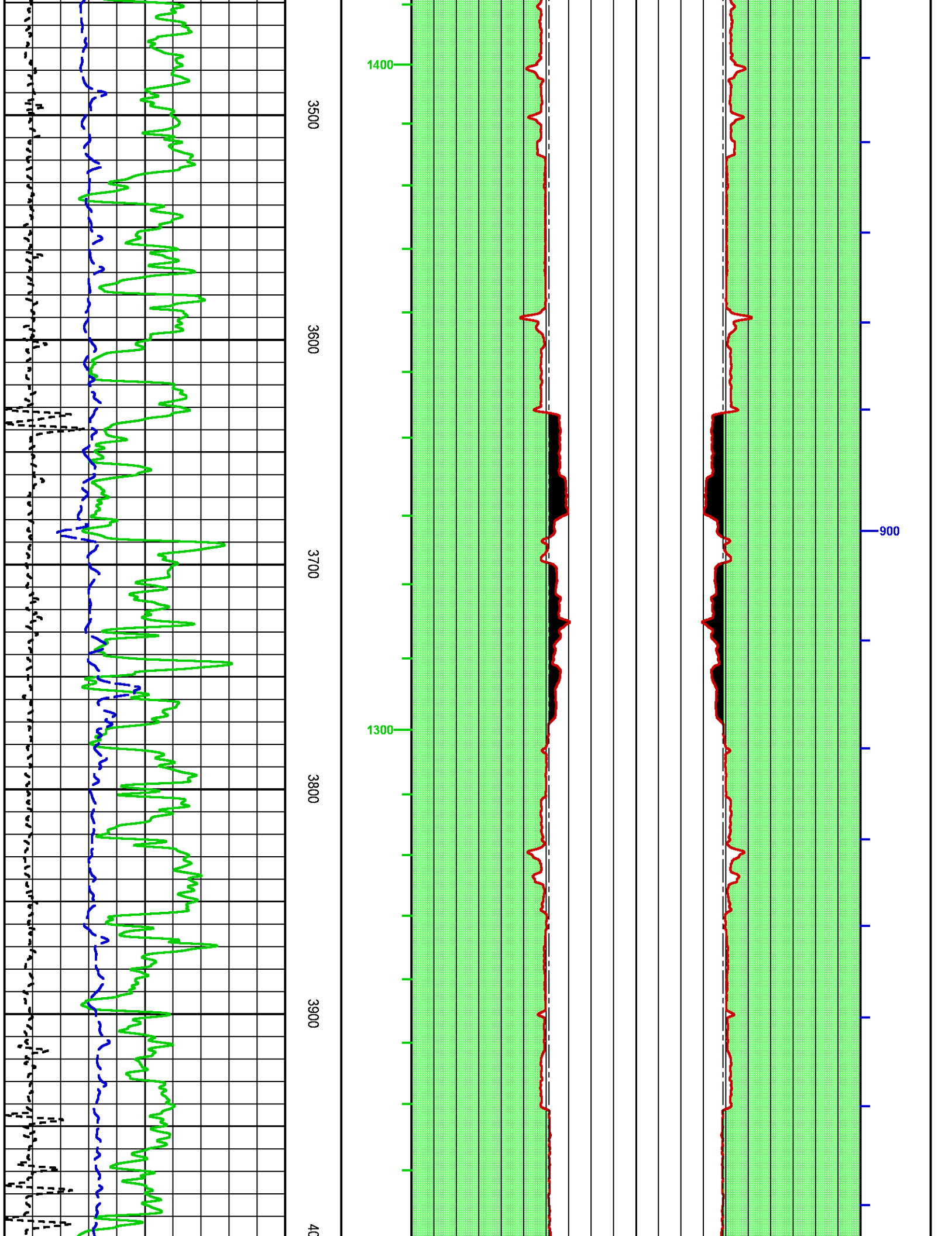
Company : LARAMIE ENERGY LLC
Well : Nichols 0994-24-06W
Field : VEGA
File Interval : 1405.25 - 7578.75 Feet
OCT : MSALM

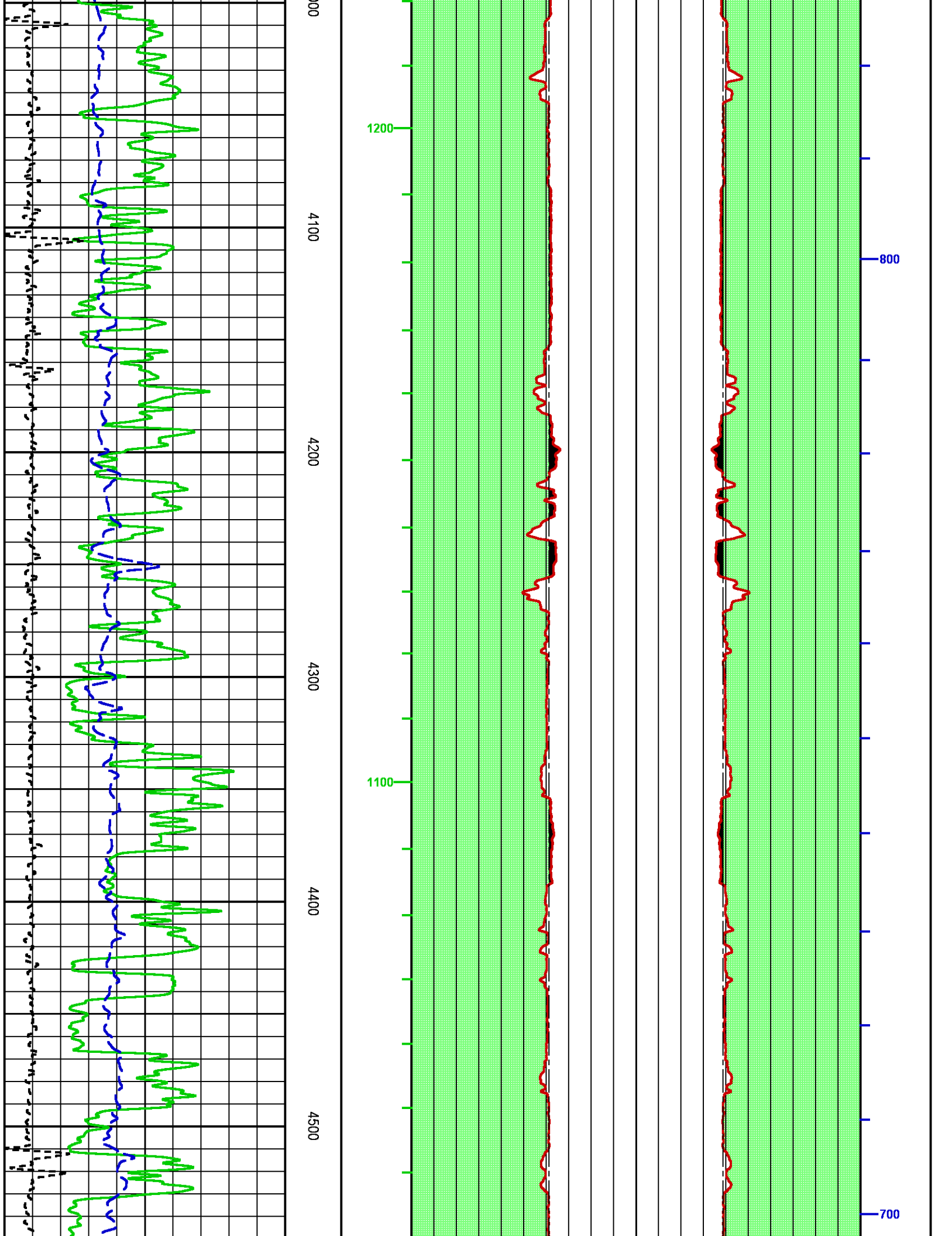


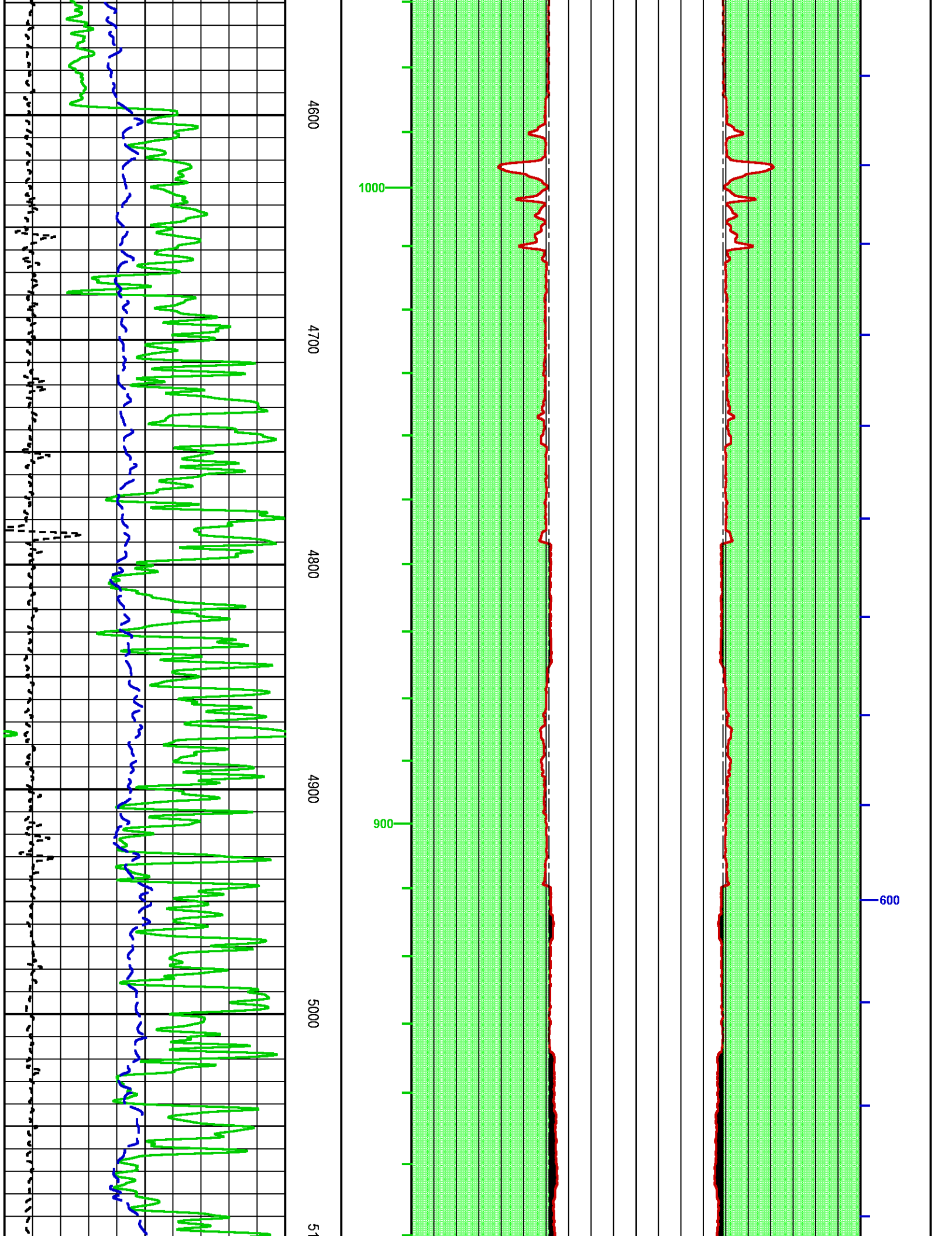


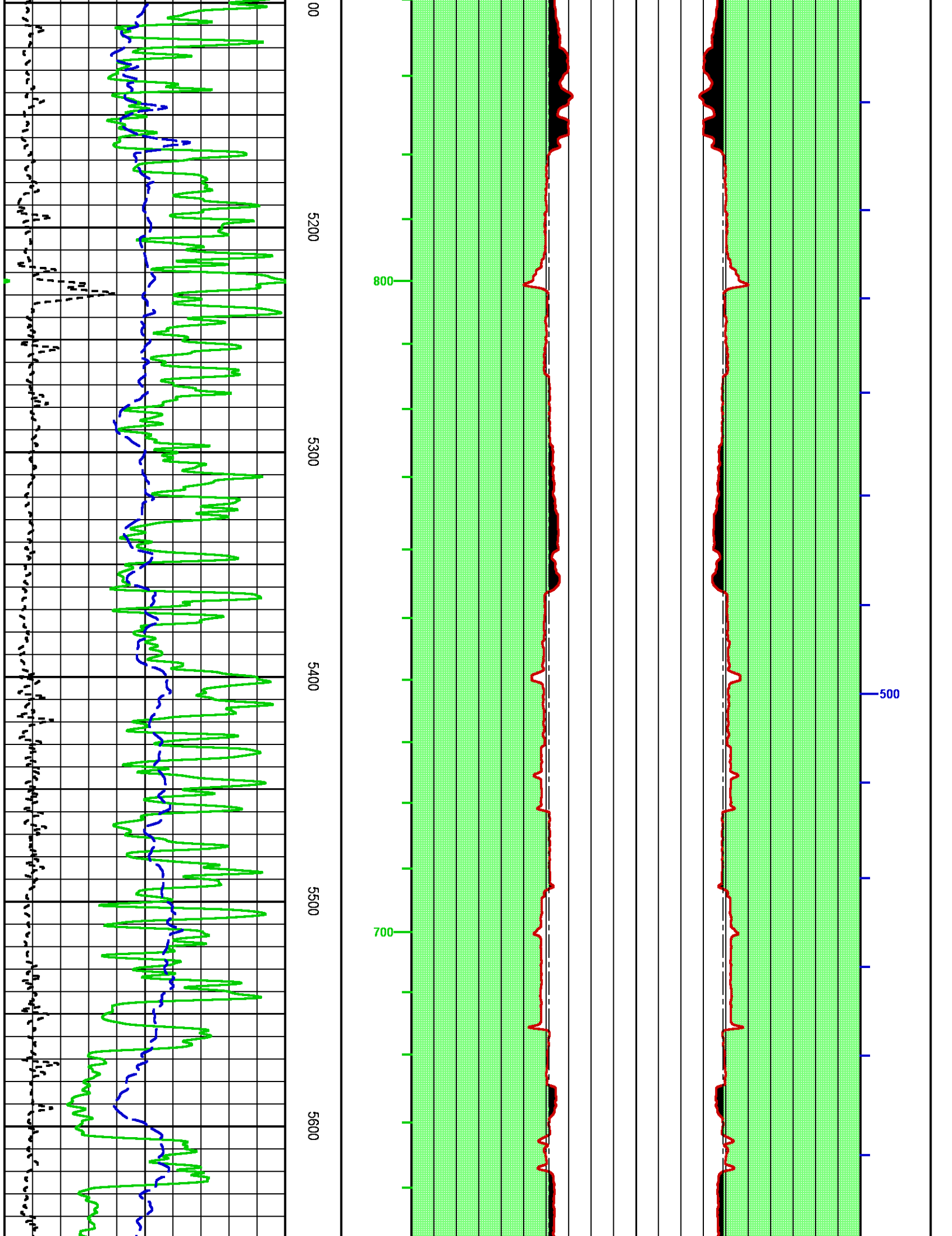


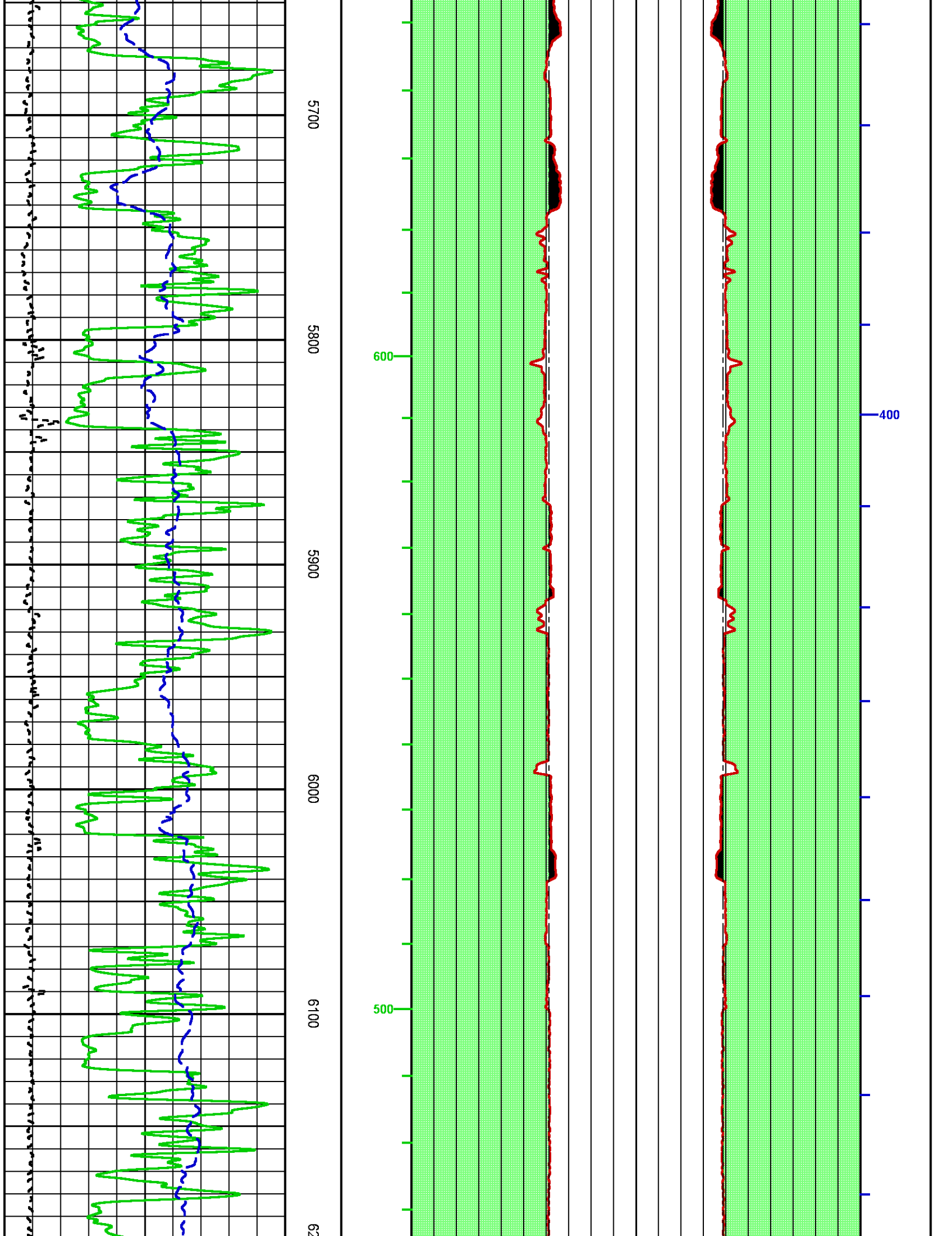


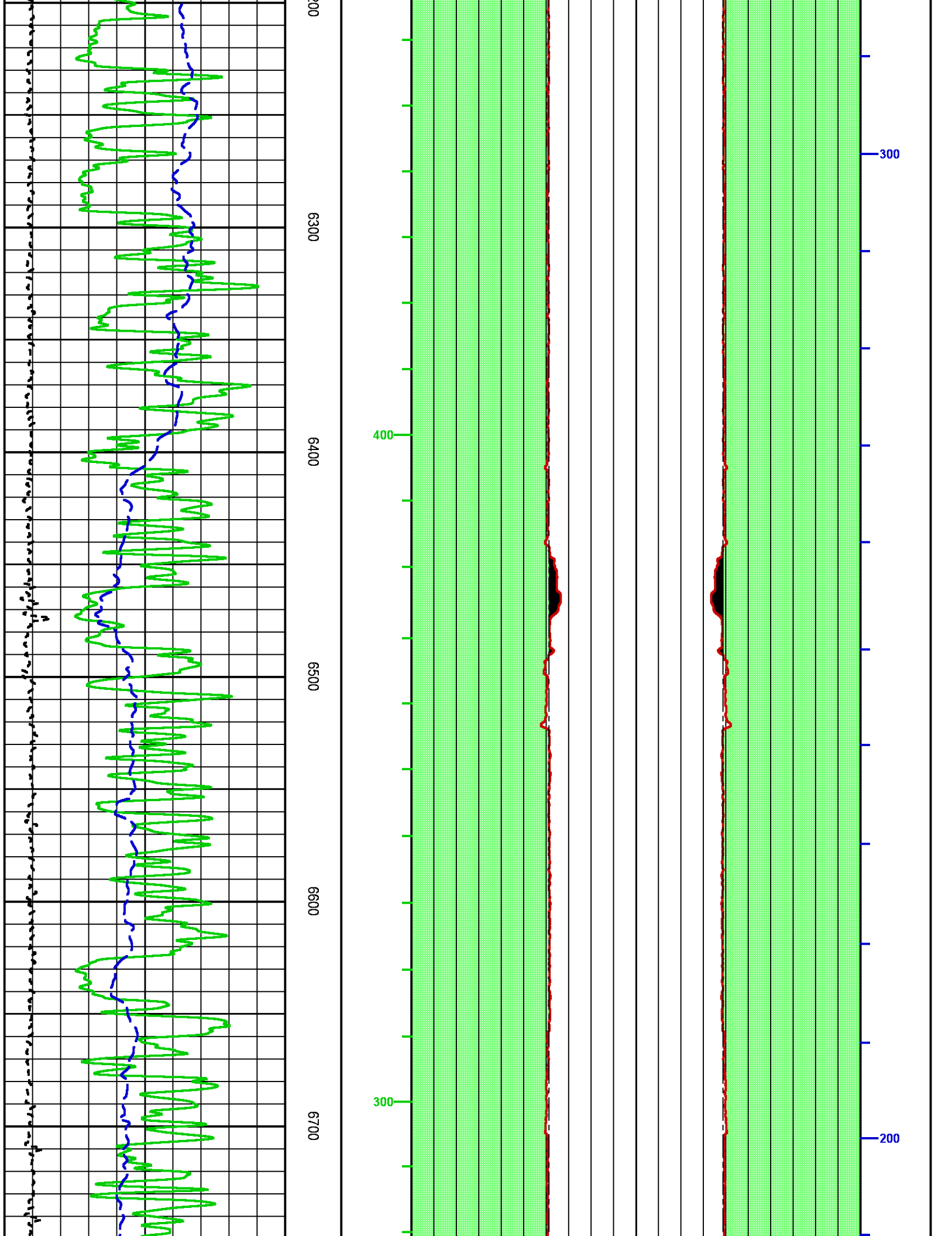


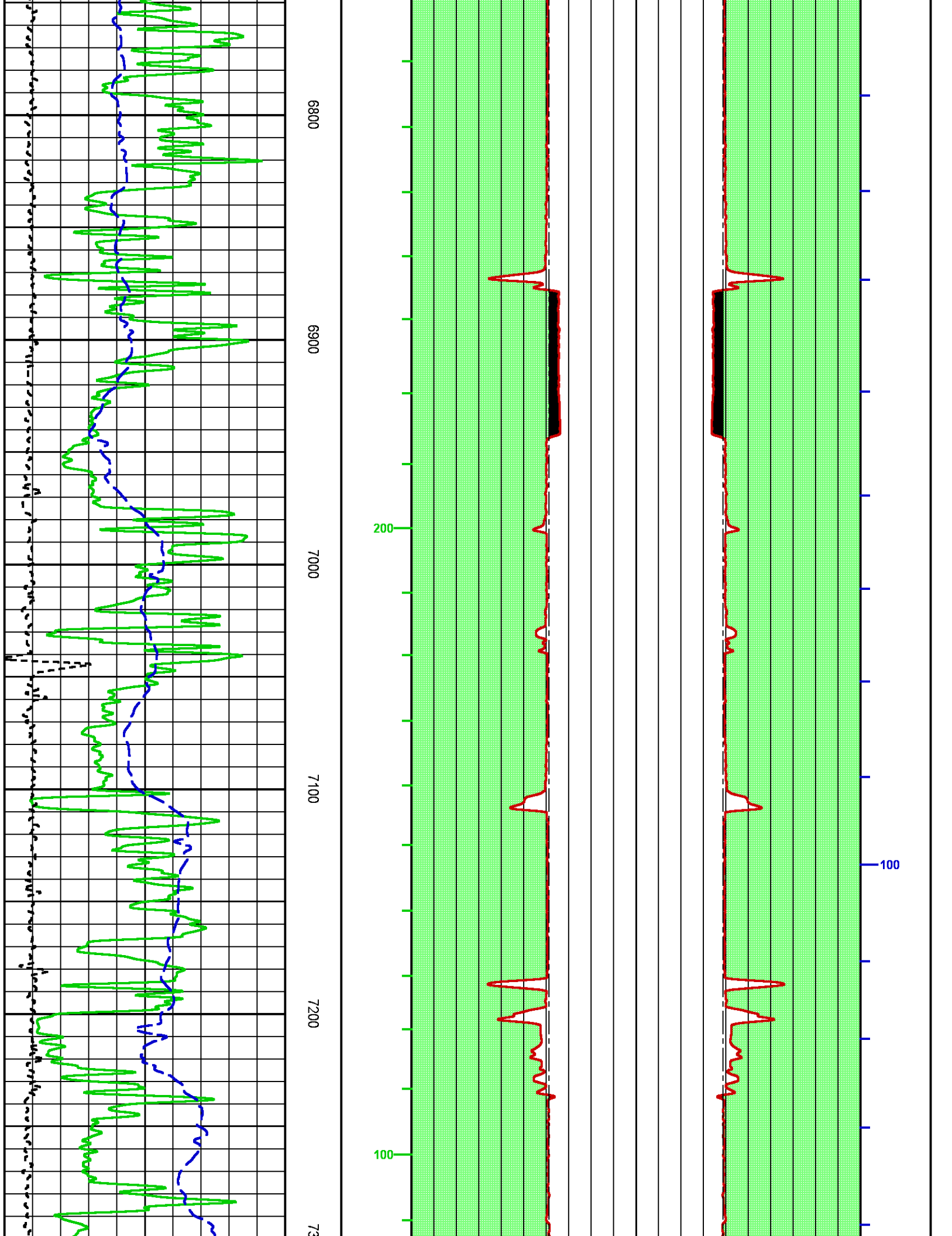


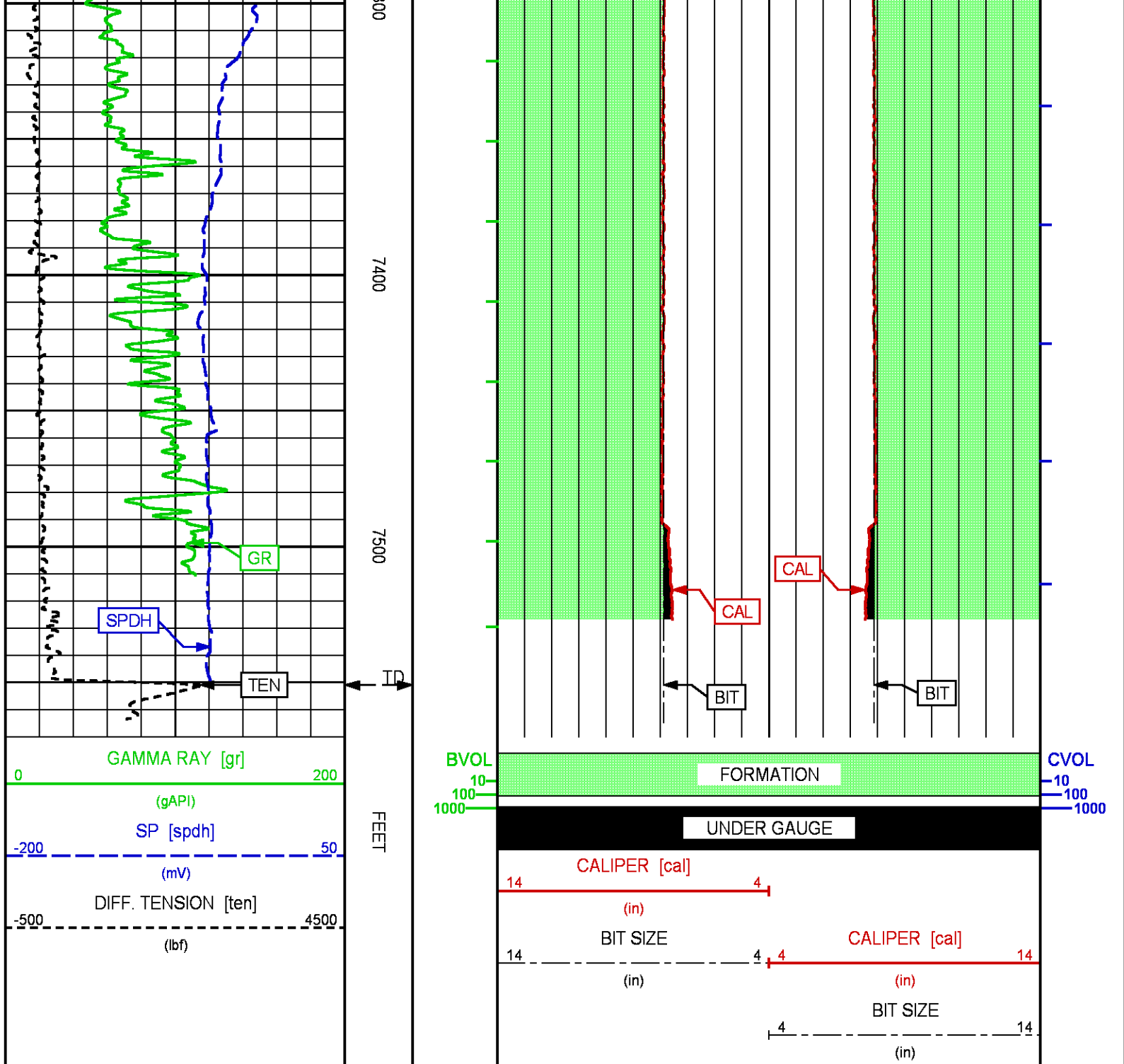












INSTRUMENT CONFIGURATION

Source File: C:\dat1a\LARAMIE_Nichols_0994_24_06\WMSLAM_XC~tdg.meta

CABLEHEAD
Diameter : 3.38"
Length : 5.50"
Weight : 24 lbs
Series : CABL338
Mnemonic : CBLH

CABLEHEAD TOP 71.13'

73.88'

Measure Point: 2.75: CABLEHEAD TOP

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

TEMP MP 65.93'
RM MP 65.68'

WTS COMMON REMOTE

Diameter : 3.63"
Length : 6.36'
Weight : 128 lbs
Series : 3514XC
Mnemonic : WTS

DIGITAL SPECTRALOG

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

GR MP 52.48'

COMPENSATED NEUTRON

Diameter : 3.63"
Length : 7.59'
Weight : 150 lbs
Series : 2446XA
Mnemonic : CN
Measure Point: 2.63: LSN MP
Measure Point: 2.24: SSN MP

LSN MP 45.92'
SSN MP 45.52'

Z-DENSILOG

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 : 3.35"
Length : 4.65'
Weight : 90 lbs
Series : 3939XA
Mnemonic : KNJT

HIGH DEFINITION INDUCTION TOOL
Diameter : 3.83"
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'

BULL PLUG 3 3/8

0.00'

TOTAL LENGTH: 73.88'
TOTAL WEIGHT: 1380 lbs
MAX DIAMETER: 04.88'



COMPANY LARAMIE ENERGY
WELL NICHOLS 0994-24-06W
FIELD VEGA
COUNTY MESA STATE COLORADO

FILE NO: _____
API NO: 05077104150000

LOCATION:
LAT: 39.2645944N, LONG:107.8306361
SEC 24 TWP 9S RGE 94W

ELEVATIONS:
KB 7161 FT
DF 7160 FT
GL 7137 FT
DATE 13-DEC-2017