



**DUAL
INDUCTION
LOG**

Company Coachman Energy Operating Well Penney 1-14-15-20 Field Wildcat County Ellis State Kansas	Company Coachman Energy Operating Company, LLC Well Penney 1-14-15-20 Field Wildcat County Ellis State Kansas
Location: SEC 14 TWP 15S RGE 20W 125' FSL & 555' FEL	API #: 15 051 26867 Ground Level Elevation 2044' KB 8' AGL KB
Permanent Datum Log Measured From Drilling Measured From	Other Services CDNL ML BCS Elevation K.B. 2052' D.F. 2051' G.L. 2044'

Date	3-27-17		
Run Number	One		
Depth Driller	3770'		
Depth Logger	3772'		
Bottom Logged Interval	3770'		
Top Log Interval	3000		
Casing Driller	8 5/8" @ 221'		
Casing Logger	221'		
Bit Size	7 7/8"		
Type Fluid in Hole	Chemical		
Density / Viscosity	9.4/55		
pH / Fluid Loss	10.5/8.8		
Source of Sample	Pit		
Rm @ Meas. Temp	2.9@72degf		
Rmf @ Meas. Temp	2.17@72degf		
Rmc @ Meas. Temp	3.48@72degf		
Source of Rmf / Rmc	Calculated		
Rm @ BHT	1.86@112degf		
Time Circulation Stopped	2:00 p.m.		
Time Logger on Bottom	4:45 p.m		
Maximum Recorded Temperature	112degf		
Equipment Number	T-127		
Location	Hays, KS		
Recorded By	Casey Patterson		
Witnessed By	Mr. Bob Plante	Mr. Charlie Sturdavant	

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

Comments

Antonino Rd. West to 180th Ave., then 3 mi. South to Chetolah Gold Rd.,
 then 1mi West to cattle Guard on county Rd.,
 Continue West through cattle guard this is cattle guard #1,
 West on this Rd. to the Third Cattle Guard(approx. 2 mi.)
 Approximatley 900' West of Third Cattle Guard to Ingress Path on South Side of County Rd.
 Follow path South to Location(about 1 mi South)

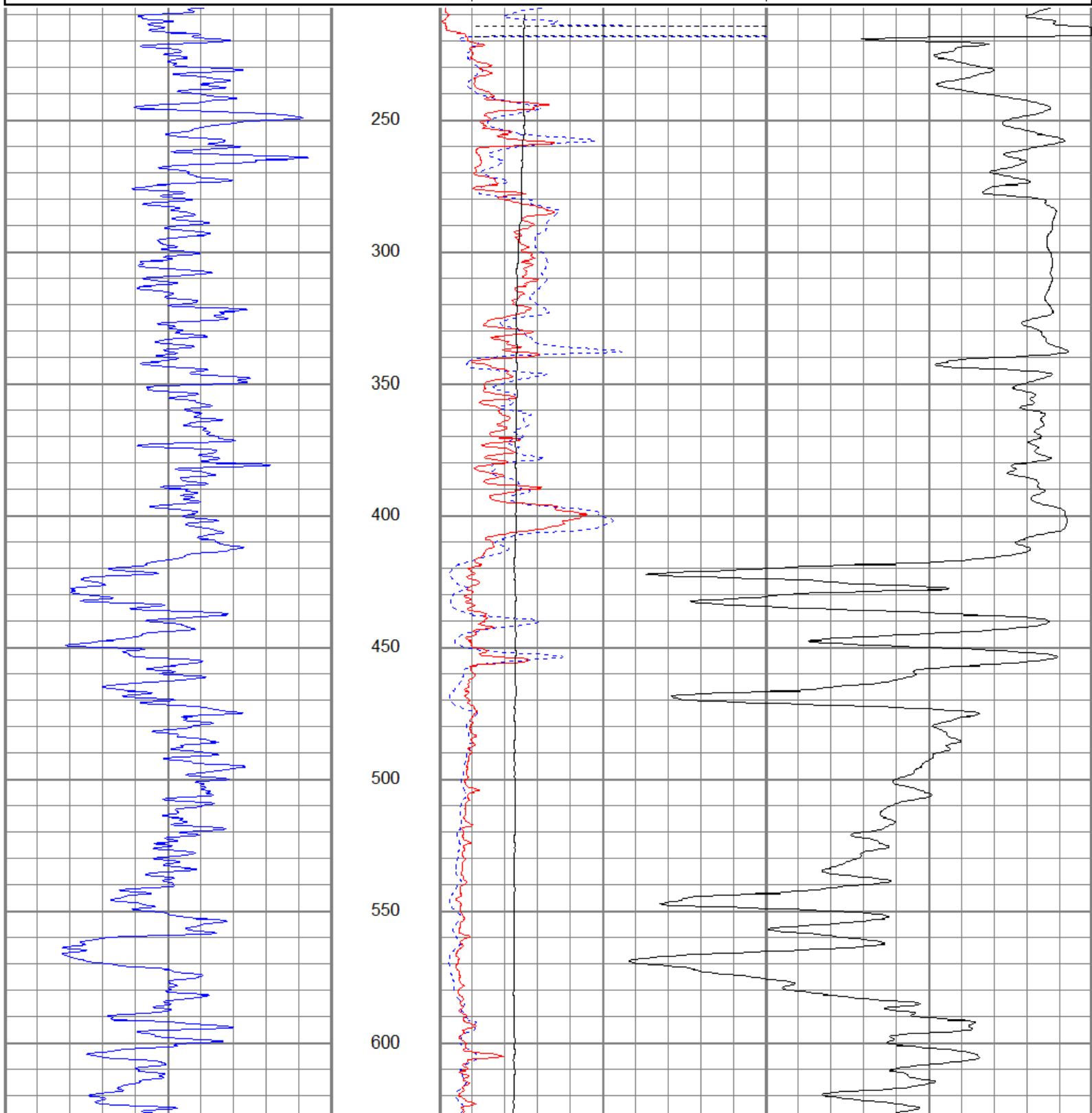
Thanks for using Gemini Wireline LLC
 785-625-1182

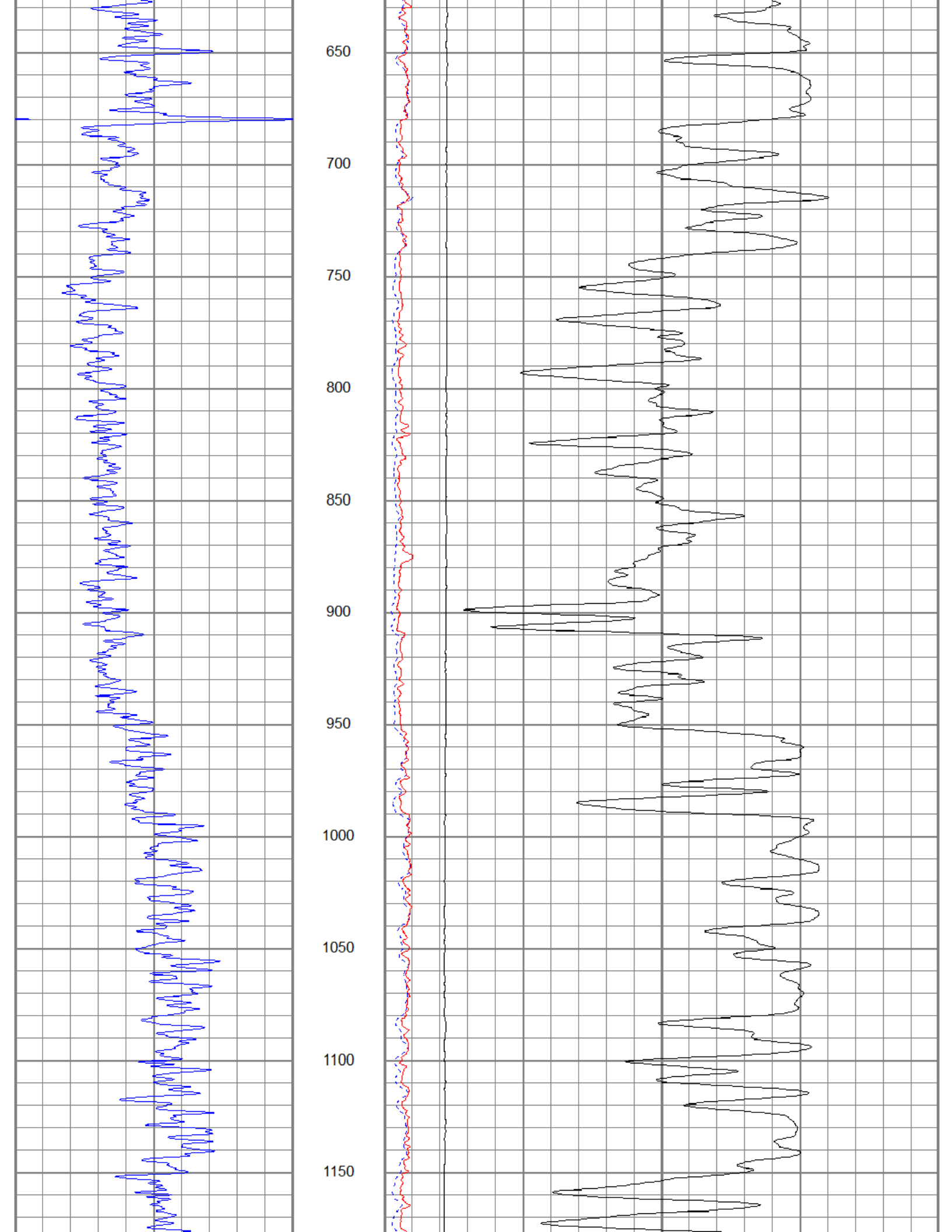


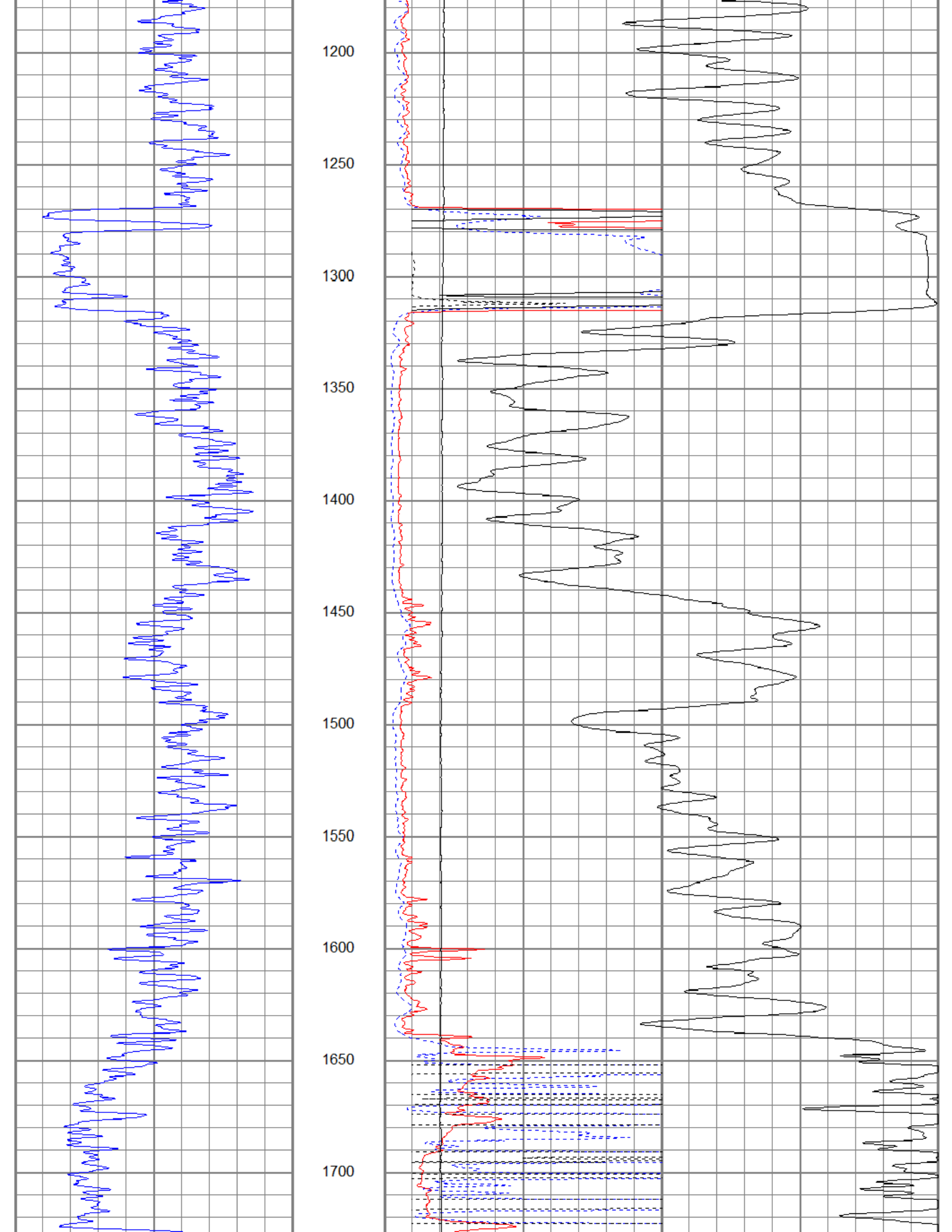
Main Pass

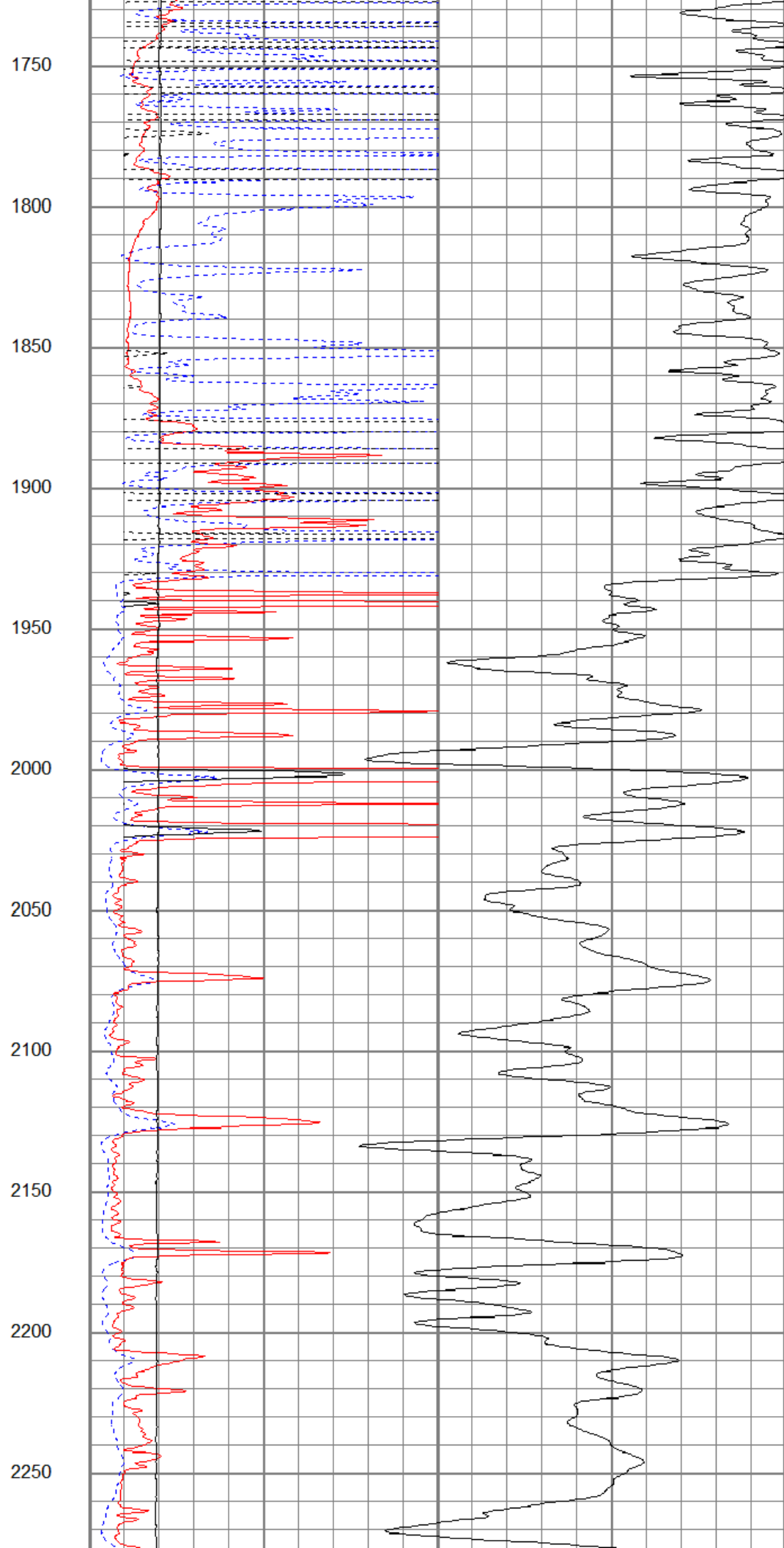
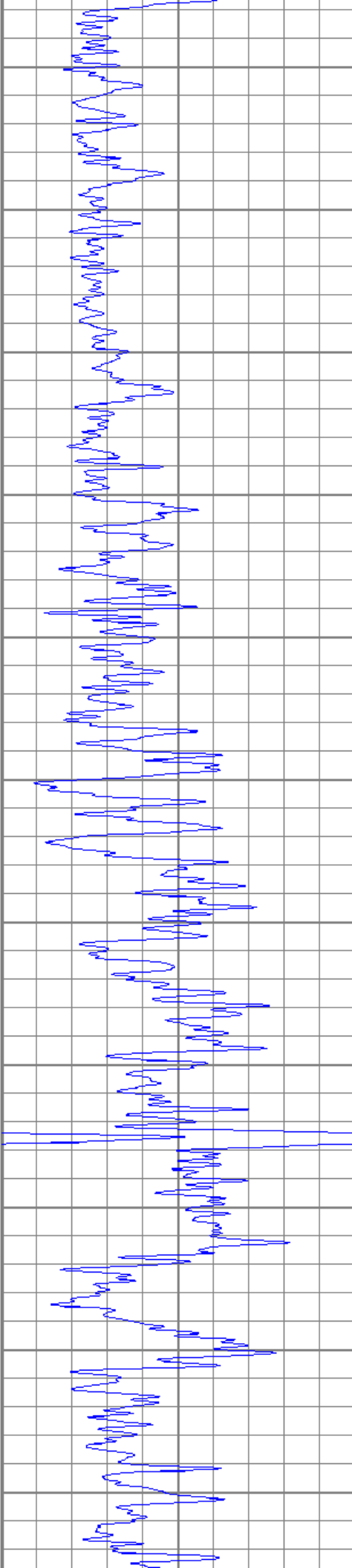
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 Dataset Pathname pass2.1
 Presentation Format kdrillinn
 Dataset Creation Mon Mar 27 18:27:58 2017
 Charted by Depth in Feet scaled 1:600

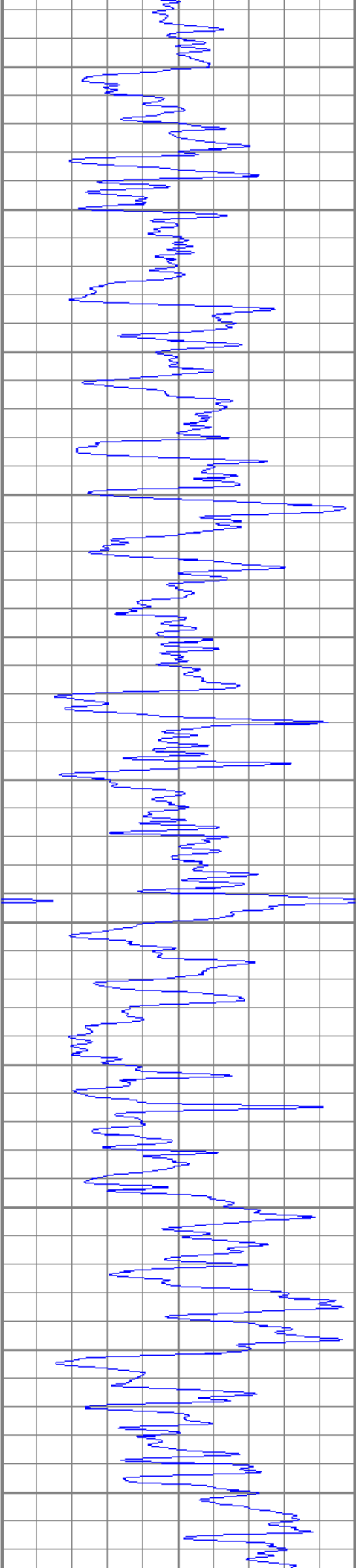
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			10000	LTEN (lb)	0
0	RILD (Ohm-m)	50			
0	RLL3 (Ohm-m)	50			
50	RILD x 10 (Ohm-m)	500			
50	RLL3 x 10 (Ohm-m)	500			



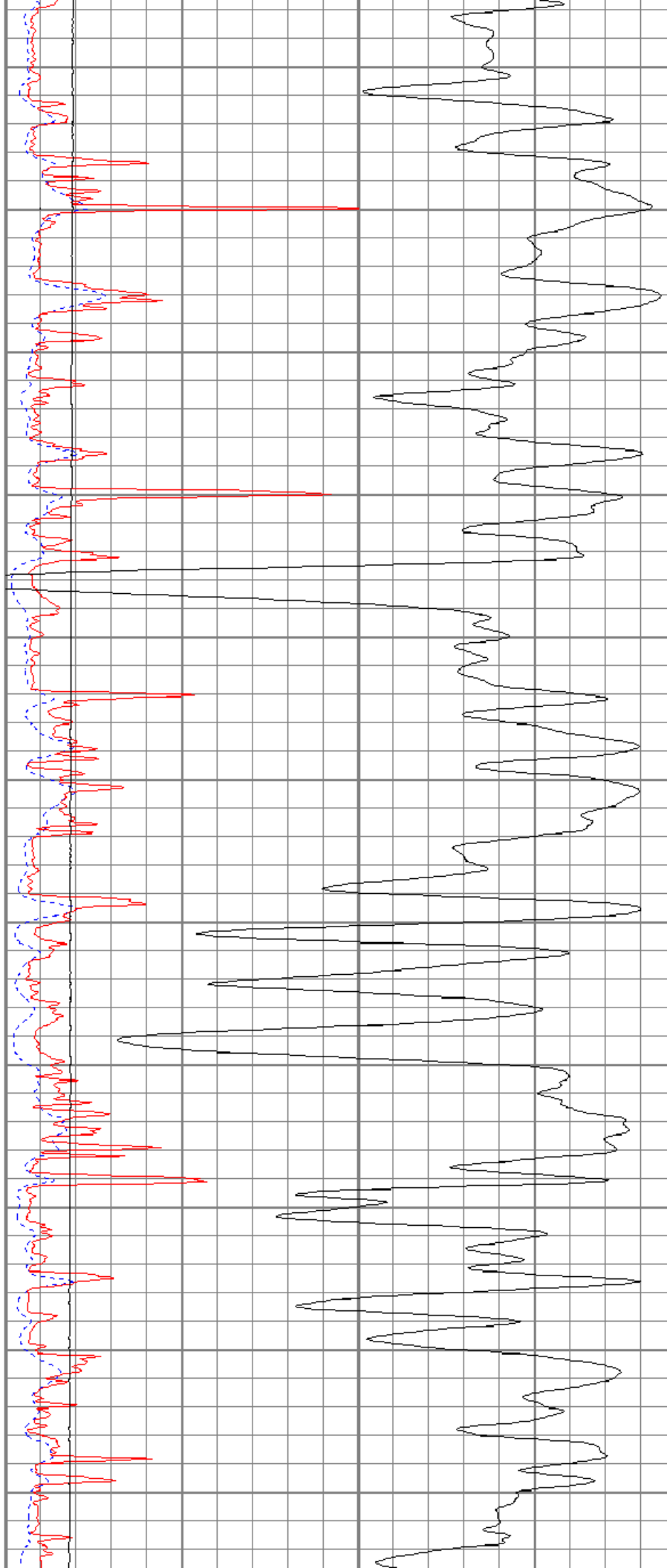


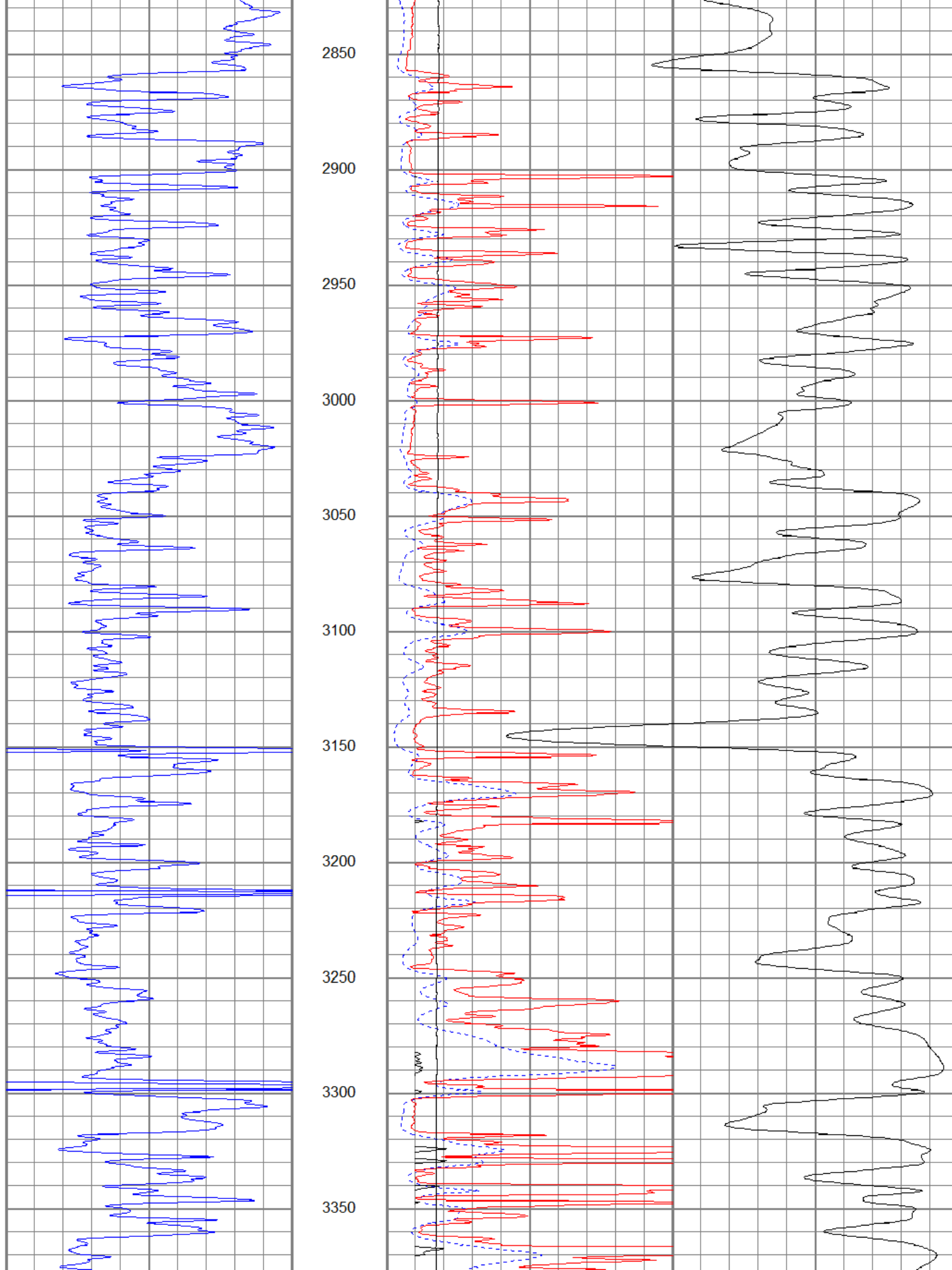


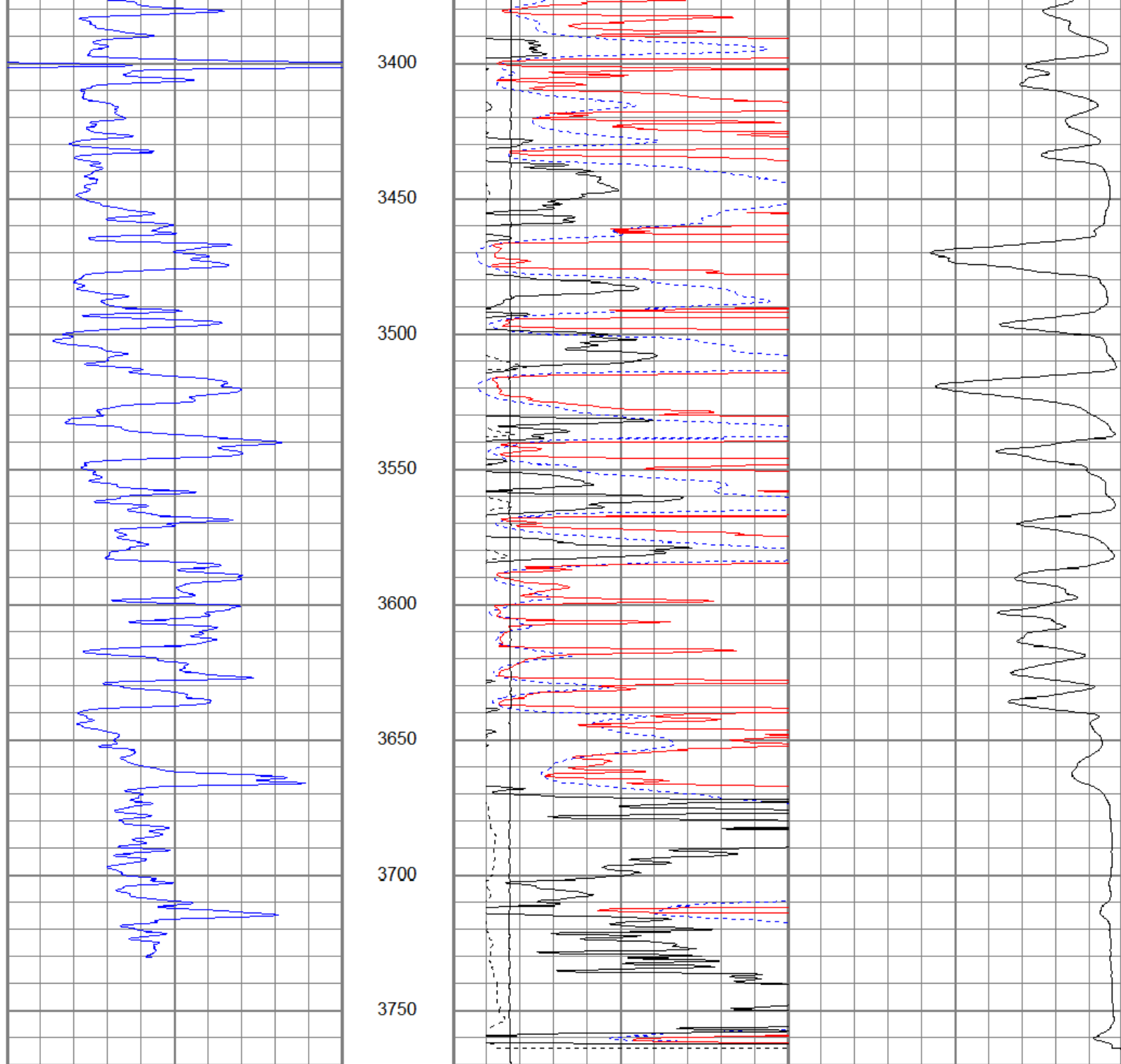




2300
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800







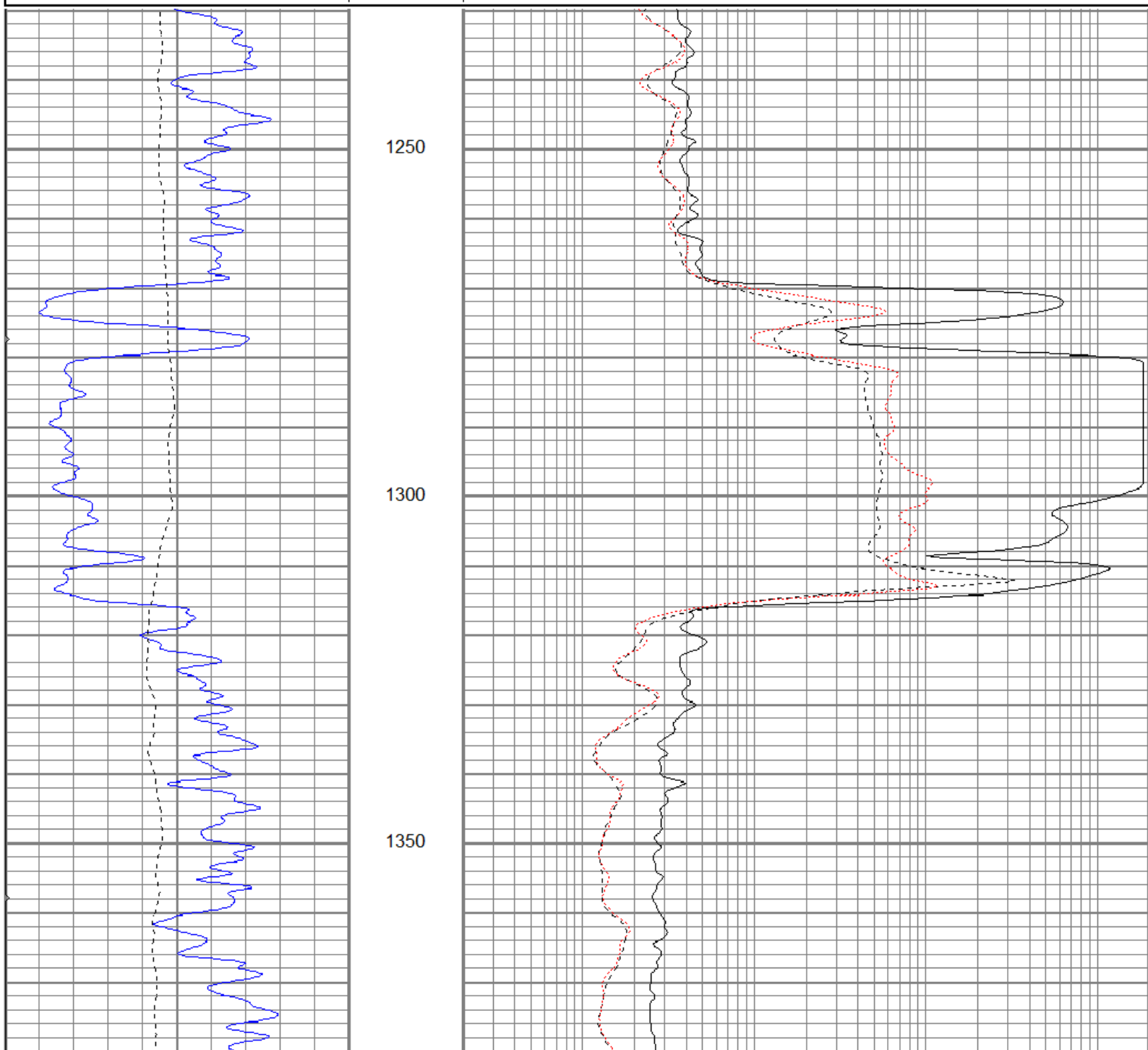
0	GR (GAPI)	150
1000	CILD (mmho/m)	0
10000	LTEN (lb)	0
0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500



Main Pass

0	GR (GAPI)	150
-100	SP (mV)	100
0	MINMK	90

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000



0	GR (GAPI)	150
-100	SP (mV)	100
0	MINMK	90

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

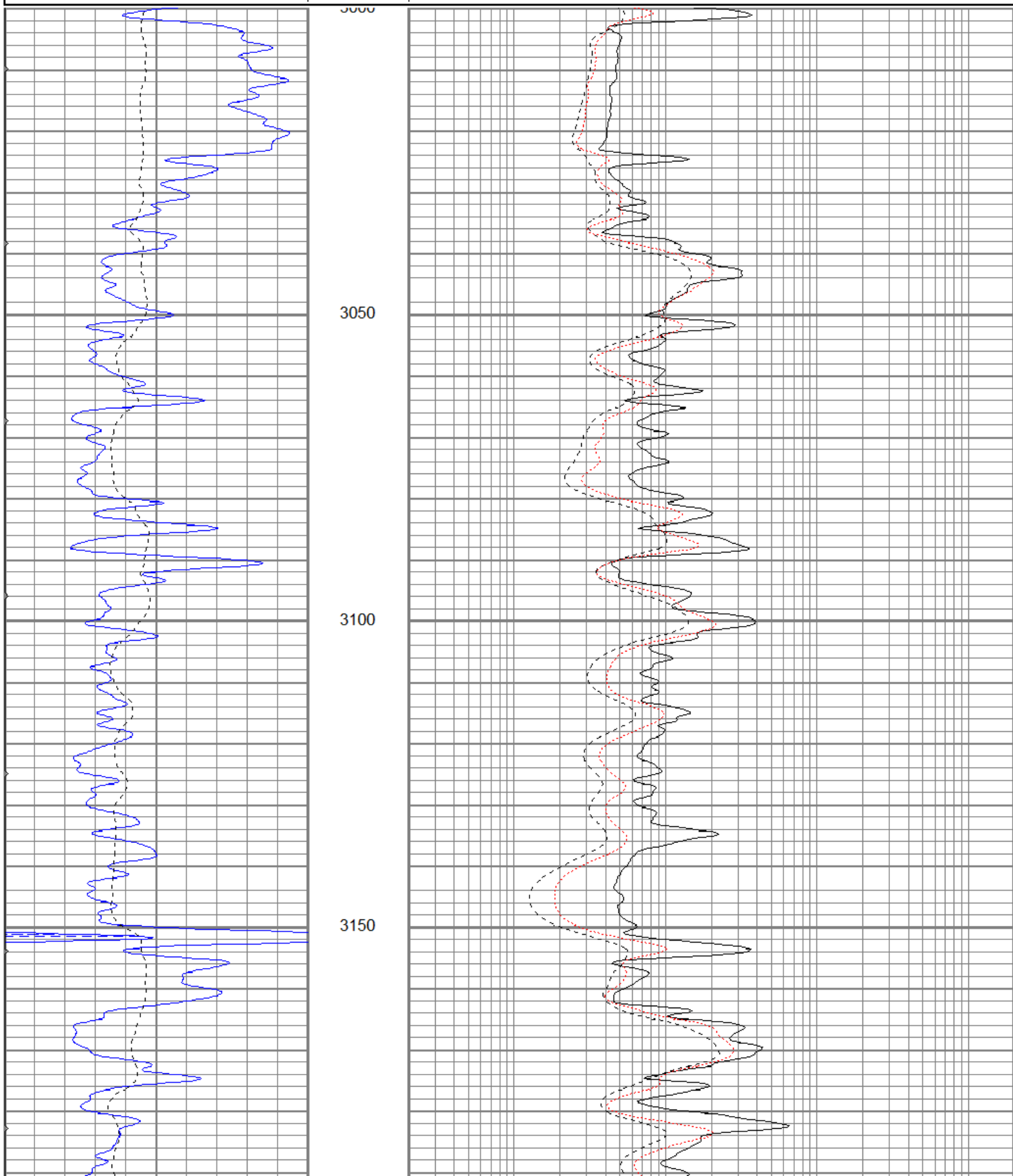


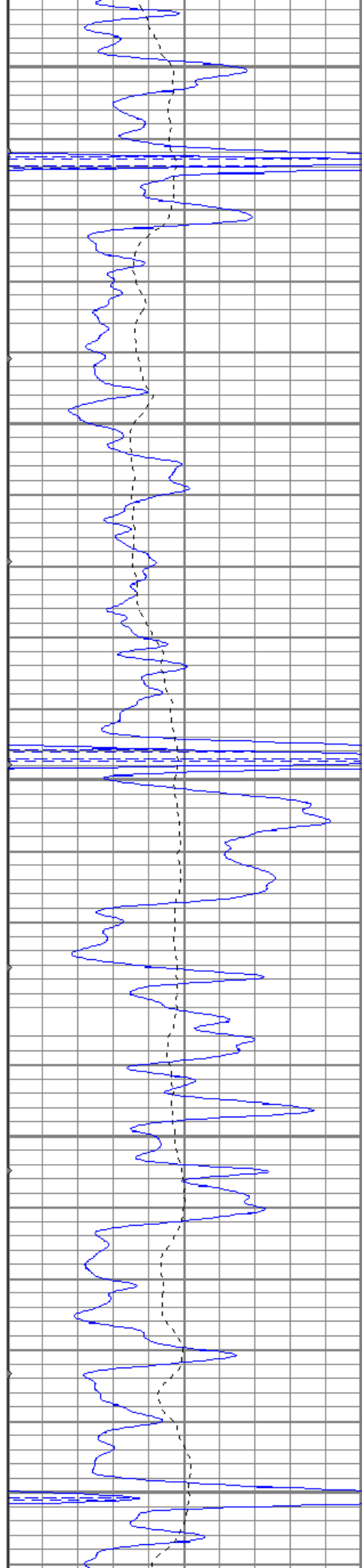
Main Pass

Dataset Pathname pass2.1
 Presentation Format kdil
 Dataset Creation Mon Mar 27 18:27:58 2017
 Charted by Depth in Feet scaled 1:240

0	GR (GAPI)	150
-100	SP (mV)	100
0	MINMK	90

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000





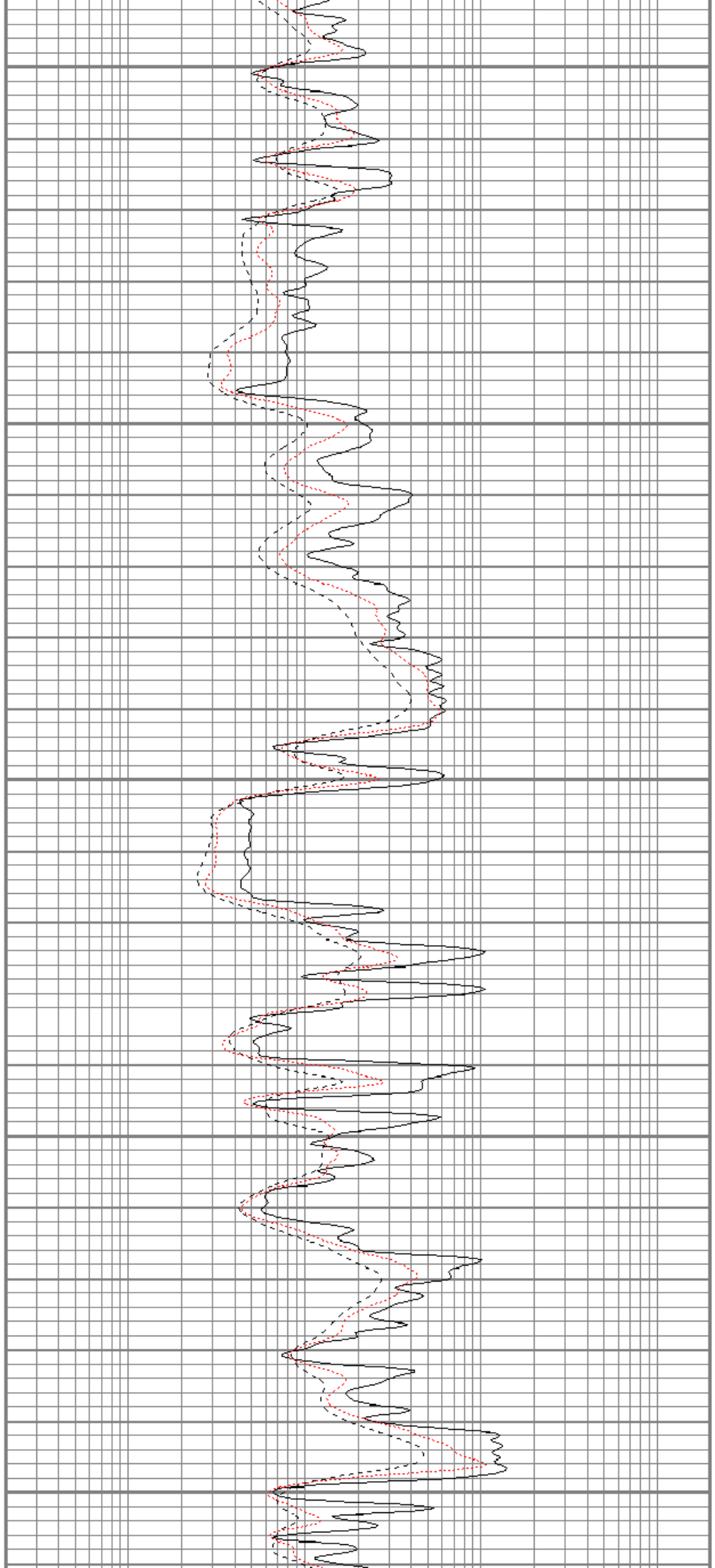
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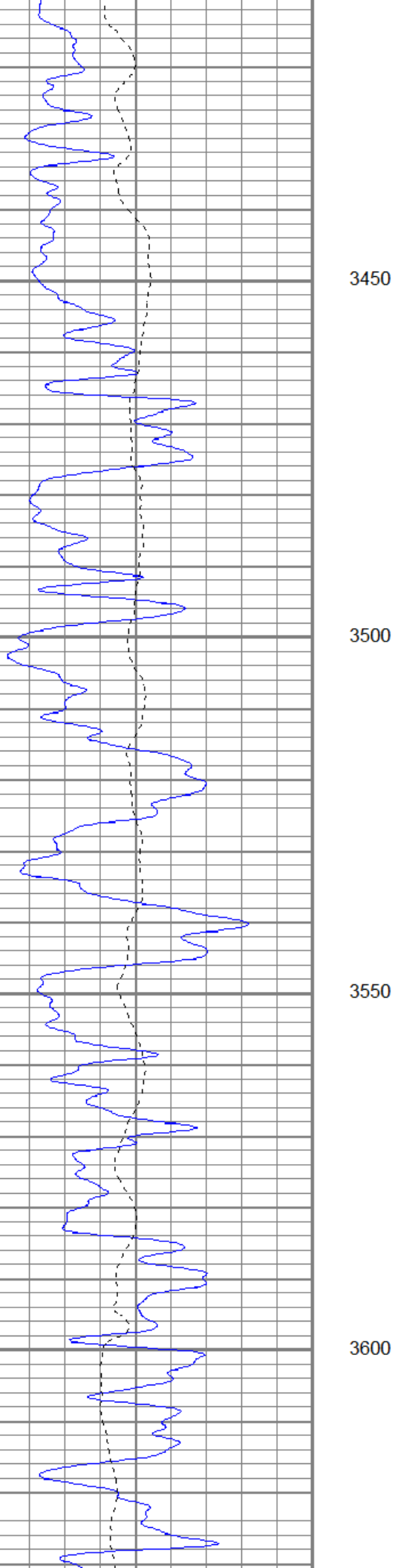
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3300

3350

3400



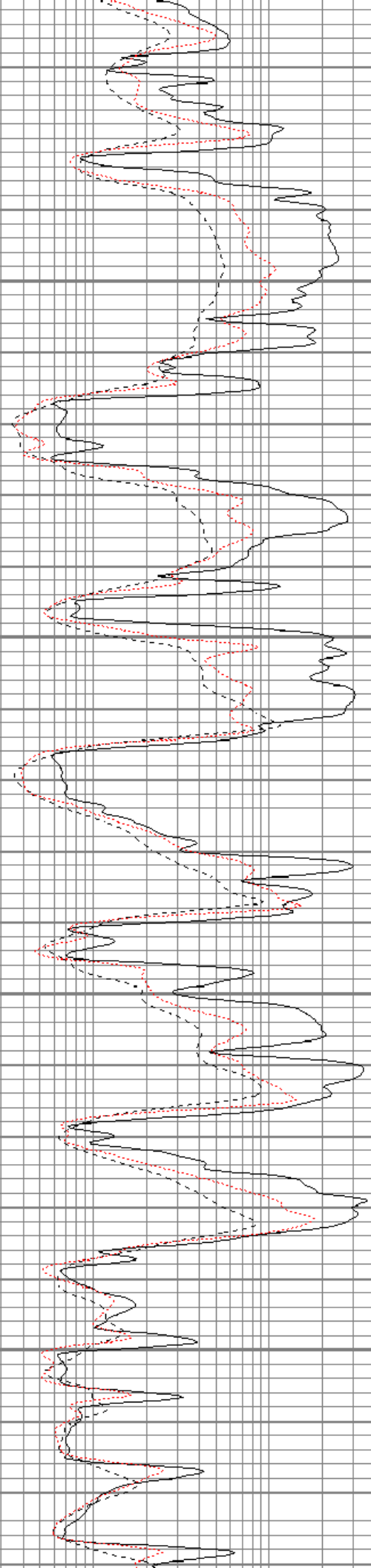


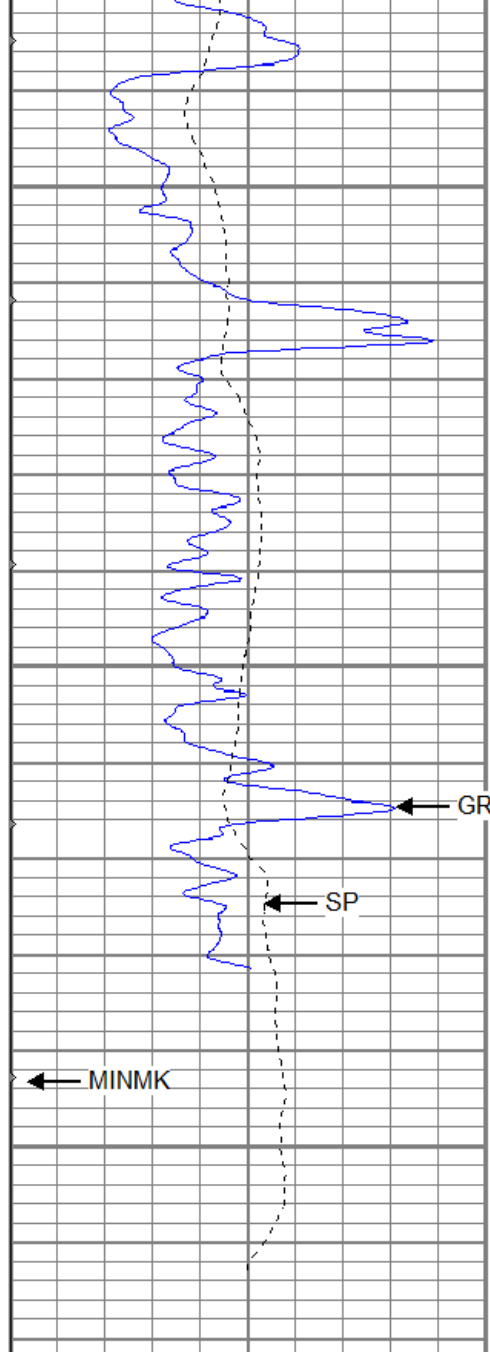
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3500

3550

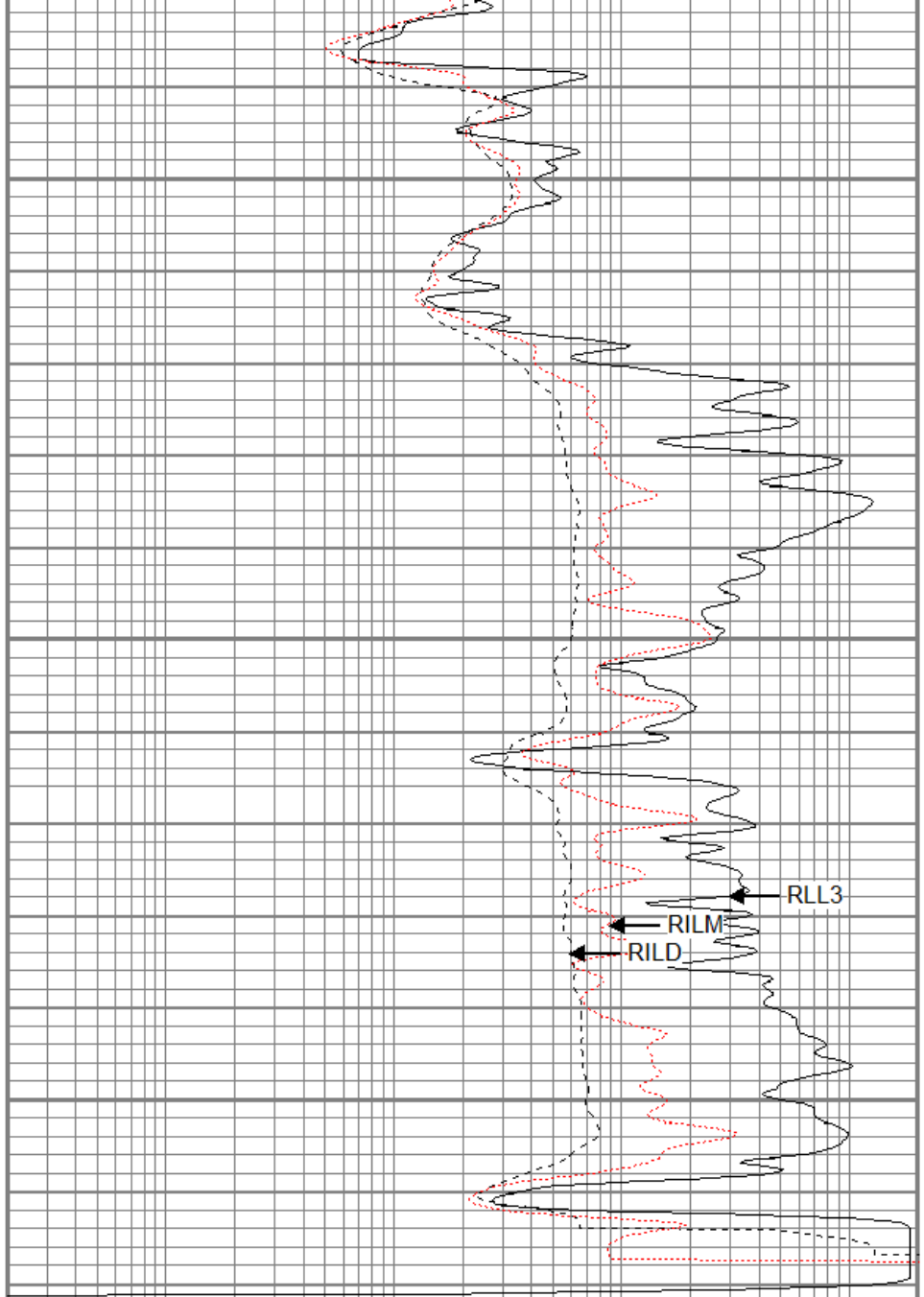
3600





3650
3700
3750

0	GR (GAPI)	150
-100	SP (mV)	100
0	MINMK	90



0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

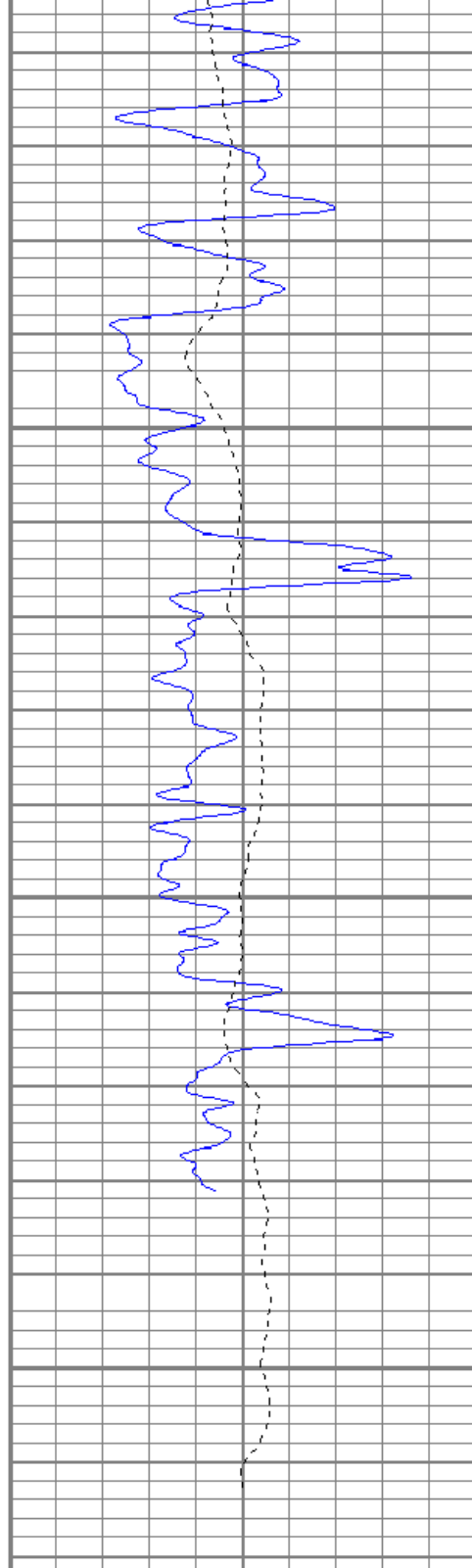


Repeat Section

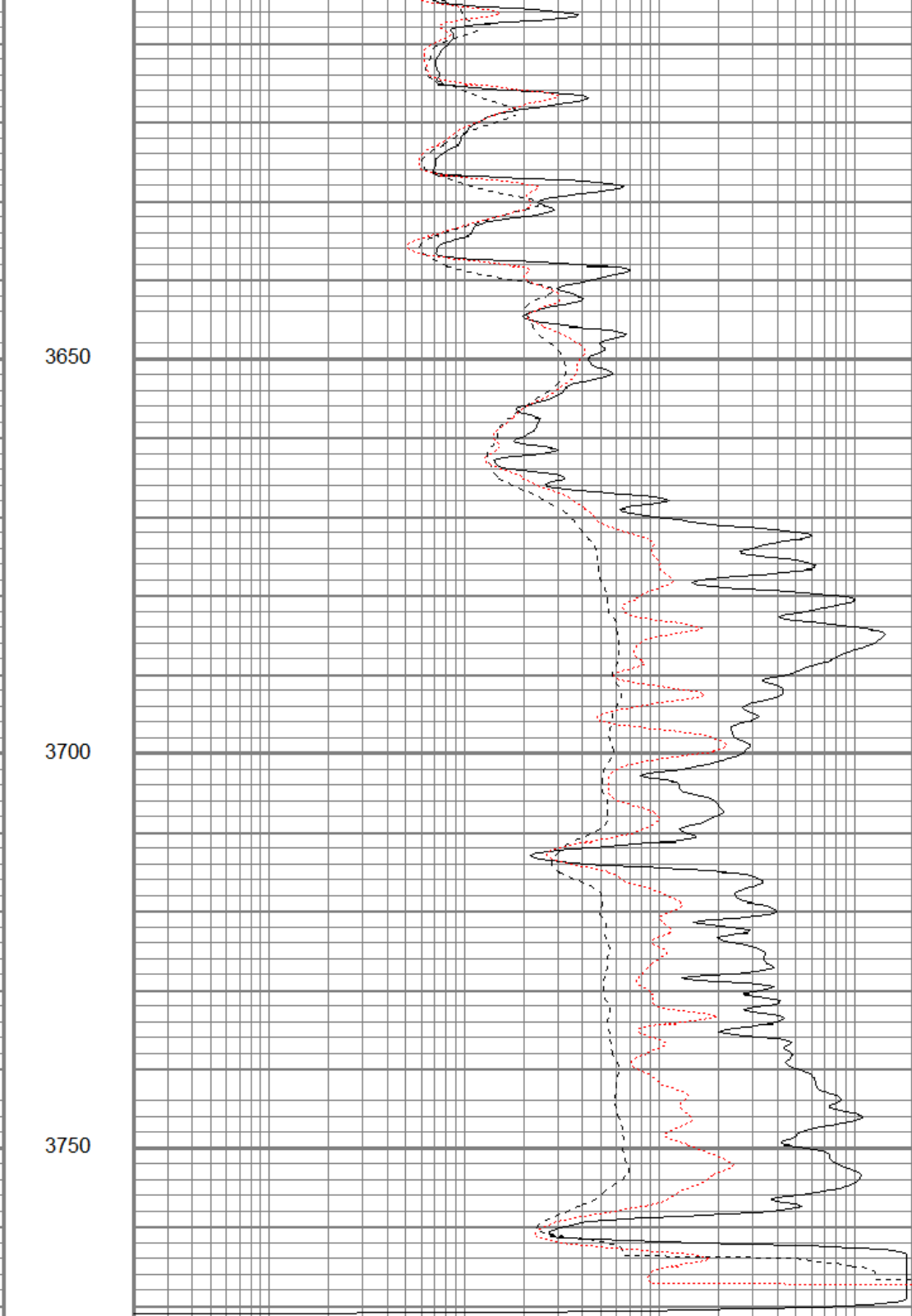
Database File cepenny1-14-15-20oh.db
 Dataset Pathname pass1.1
 Presentation Format kdil
 Dataset Creation Mon Mar 27 19:14:42 2017
 Charted by Depth in Feet scaled 1:240

0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000



0	GR (GAPI)	150
-100	SP (mV)	100



0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

Calibration Report

Database File cepenny1-14-15-20oh.db
 Dataset Pathname pass2.1
 Dataset Creation Mon Mar 27 18:27:58 2017

Dual Induction Calibration Report

Serial-Model: 1989-ADM
 Surface Cal Performed: Fri Dec 09 04:19:59 2016
 Downhole Cal Performed: Fri Dec 09 04:20:05 2016

Surface Calibration								
Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.002	0.656	V	0.000	350.000	mmho/m	535.560	-1.118
Medium	0.003	0.745	V	0.000	400.000	mmho/m	538.828	-1.427
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.656	V	0.000	350.000	mmho/m	535.220	-1.003
Medium	0.003	0.745	V	0.000	550.000	mmho/m	741.357	-2.036

Downhole Calibration								
Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	-0.036	349.993	mmho/m	-0.114	350.108	mmho/m	1.001	-0.078
Medium	0.039	400.181	mmho/m	0.053	399.799	mmho/m	0.999	0.013
Shallow	2.503	0.015	V	500.000	2.000	Ohm-m	180.177	-2.046

After Survey Verification								
Internal:	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.036	349.993	mmho/m	1.001	-0.078
Medium	0.000	0.000	mmho/m	0.039	400.181	mmho/m	0.999	0.013
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Neutron Calibration Report								
Serial Number:	Admyr							
Tool Model:	G							
Performed:	Thu Mar 09 09:56:12 2017							
Calibrator Value:	1			NAPI				
Calibrator Reading:	1			cps				
Sensitivity:	1			NAPI/cps				

Gamma Ray Calibration Report								
Serial Number:	1							
Tool Model:	A							
Performed:	Thu Mar 09 09:56:15 2017							
Calibrator Value:	1.0			GAPI				
Background Reading:	0.0			cps				
Calibrator Reading:	1.0			cps				
Sensitivity:	0.9000			GAPI/cps				

Temperature Calibration Report								
Serial Number:	1							
Tool Model:	A							
Performed:	Sat Apr 09 21:14:20 2016							
	Reference			Reading				
Low Reference:	0.00	degF		0.00	degF			
High Reference:	32.00	degF		32.00	degF			

Gain: 1.00
 Offset: 0.00
 Delta Spacing: 1

Inclinometer Calibration Report

Performed:	Thu Mar 09 10:44:26 2017				
	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	gee
Z Accelerometer					gee

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
PSTAT	39.60		CHD-STD	0.50	1.69	1.00
GR	38.32		ADT1PULSE-A (1)	0.83	3.50	10.00
TEMP	35.35		Pulsed Interface Tool #1			
ASTAT	35.06		ADT1ADC-A (1)	0.83	3.50	10.00
GRD	34.81		Analog Interface #1			
ACCY	34.65		ADT1SENSORS-A (1)	4.54	3.50	10.00
ACCX	34.65		NEU-G (Admyr)	5.65	3.50	85.00
SSTAT	34.65		Gearhart Epithermal			
NEU	33.46					
LStat	22.54					
LS8	21.88					
LS7	21.88					
LS6	21.88					
LS5	21.88		ADT1LITH-A (1)	9.29	3.50	240.00
LS4	21.88		Admyr Litho Density Tool			
LS3	21.88					
LS2	21.88					
LS1	21.88					
LSV	21.88					
LSD	21.86					
SSV	21.67					
SS8	21.67					
SS7	21.67					
SS6	21.67					
SS5	21.67					
SS4	21.67		DIL-ADM (1989)	19.71	4.00	300.00
SS3	21.67		Dual Induction			
SS2	21.67					
SS1	21.67					
DCAL	21.61					
SSD	21.27					
SP	10.60					
CILD	10.60					
CILM	6.89					
RLL3	1.70					
TR_Mon	0.00					

Dataset: cepenny1-14-15-20oh.db: field/well/run1/pass2.1
 Total length: 39.69 ft
 Total weight: 656.00 lb
 O.D.: 4.00 in