DUAL INDUCTION LOG

Company PATTERSON ENERGY, LLC.
Well HABIGER #1
Field BLOOMER
County RICE
State Kansas

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Well HABIGER #1
Field BLOOMER
County RICE
State Kansas

Location: API # : 15 159 22882

980' FNL & 2257' FEL

SEC 5 TWP 18S RGE 10W

Other Services
CDNL
ML

Permanent Datum	Ground Level	Elevation	1764
Log Measured From	KB 8' AGL		
Drilling Measured From	KB		

Elevation
K.B. 1772
D.F. 1770
G.L. 1764

Date	4/24/22		
Run Number	One		
Depth Driller	3270		
Depth Logger	3274		
Bottom Logged Interval	3272		
Top Log Interval	2700		
Casing Driller	8 5/8" @ 394'		
Casing Logger	394		
Bit Size	7 7/8"		
Type Fluid in Hole	Chemical		
Density / Viscosity	9.1/53		
pH / Fluid Loss	10.0/8.8		
Source of Sample	Calculated		
Rm @ Meas. Temp	.8@70degf		
Rmf @ Meas. Temp	.6@70degf		
Rmc @ Meas. Temp	.96@70degf		
Source of Rmf / Rmc	Calculated		
Rm @ BHT	.57@98degf		
Time Circulation Stopped	5:00 a.m		
Time Logger on Bottom	7:30 a.m		
Maximum Recorded Temperature	98degf		
Equipment Number	T127		
Location	Hays, KS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	AUSTIN KLAUS		

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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

CLAFLIN EAST 4 MILES, SOUTH INTO.

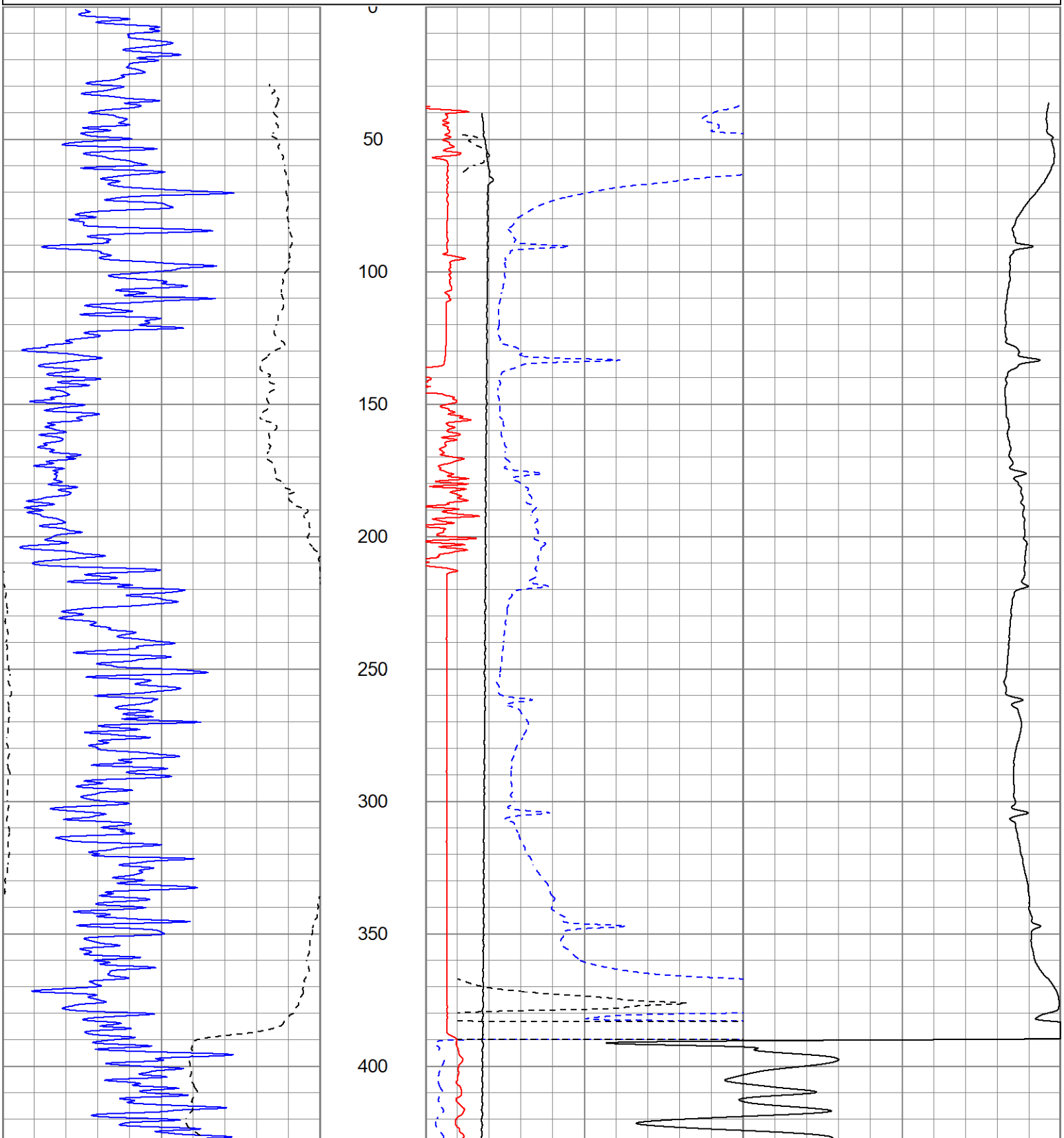
Thanks for using Gemini Wireline LLC
785-625-1182

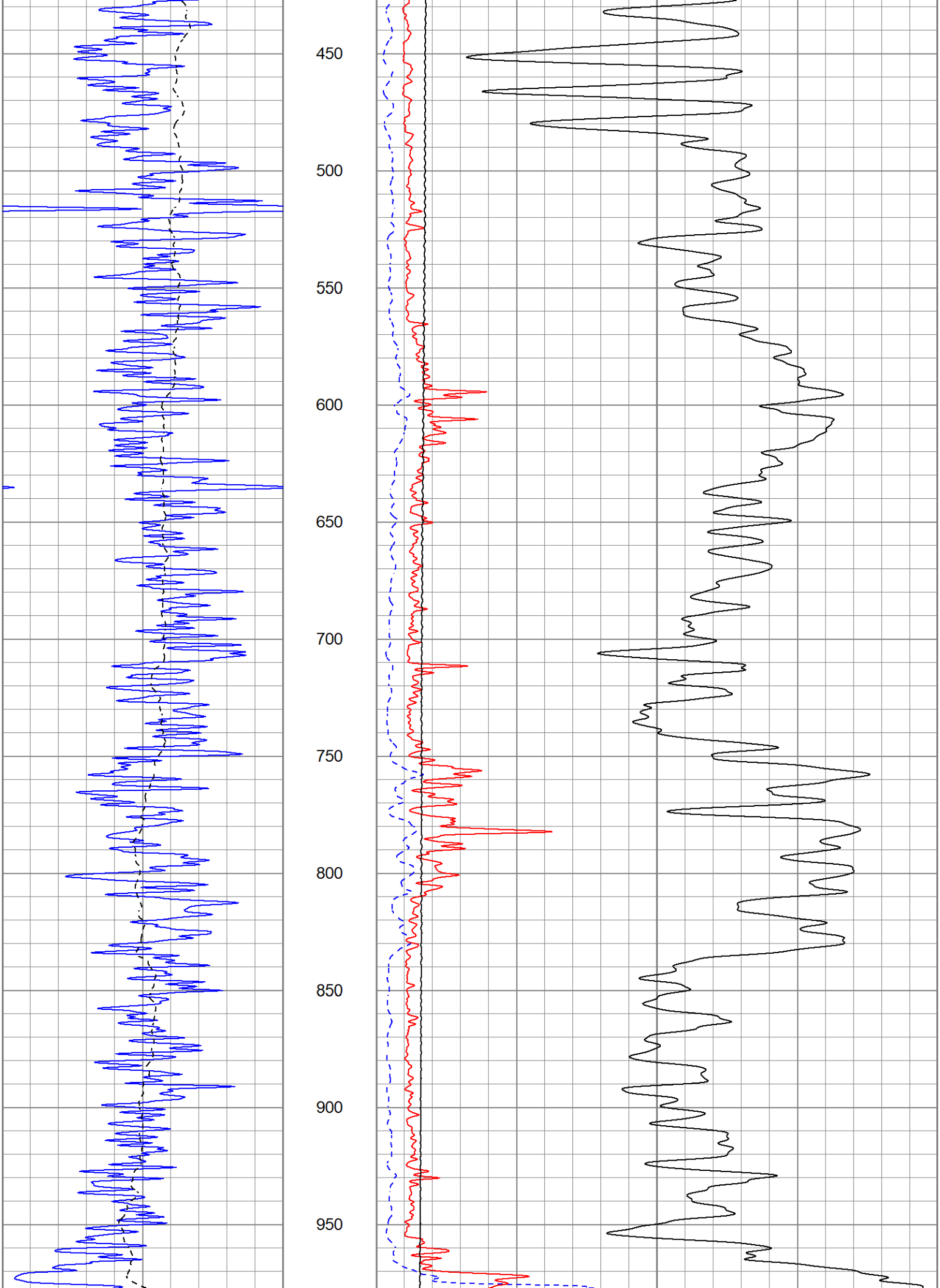
MAIN PASS

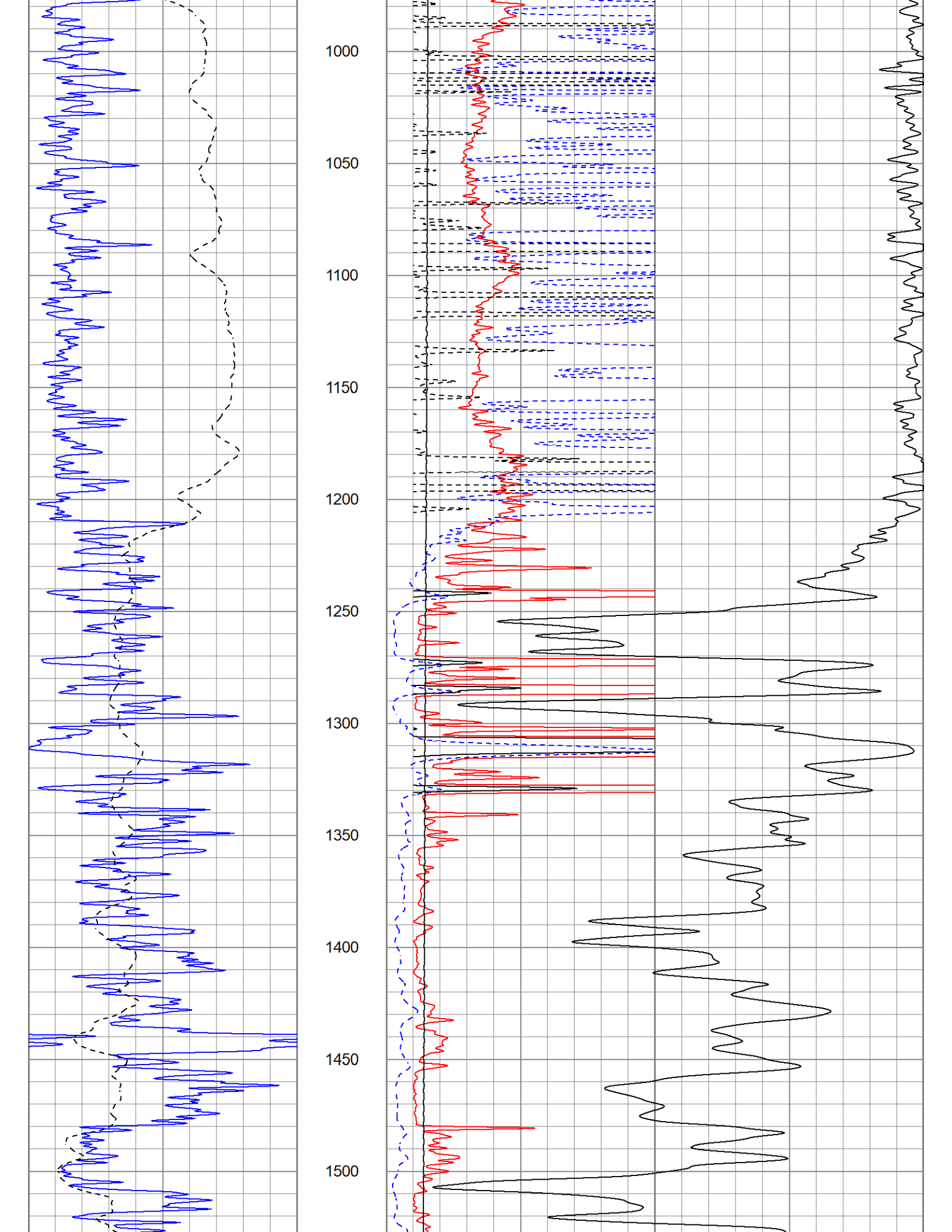
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Dataset Pathname	pass2.1
Presentation Format	kdillinn
Dataset Creation	Sun Apr 24 08:32:27 2022
Charted by	Depth in Feet scaled 1:600

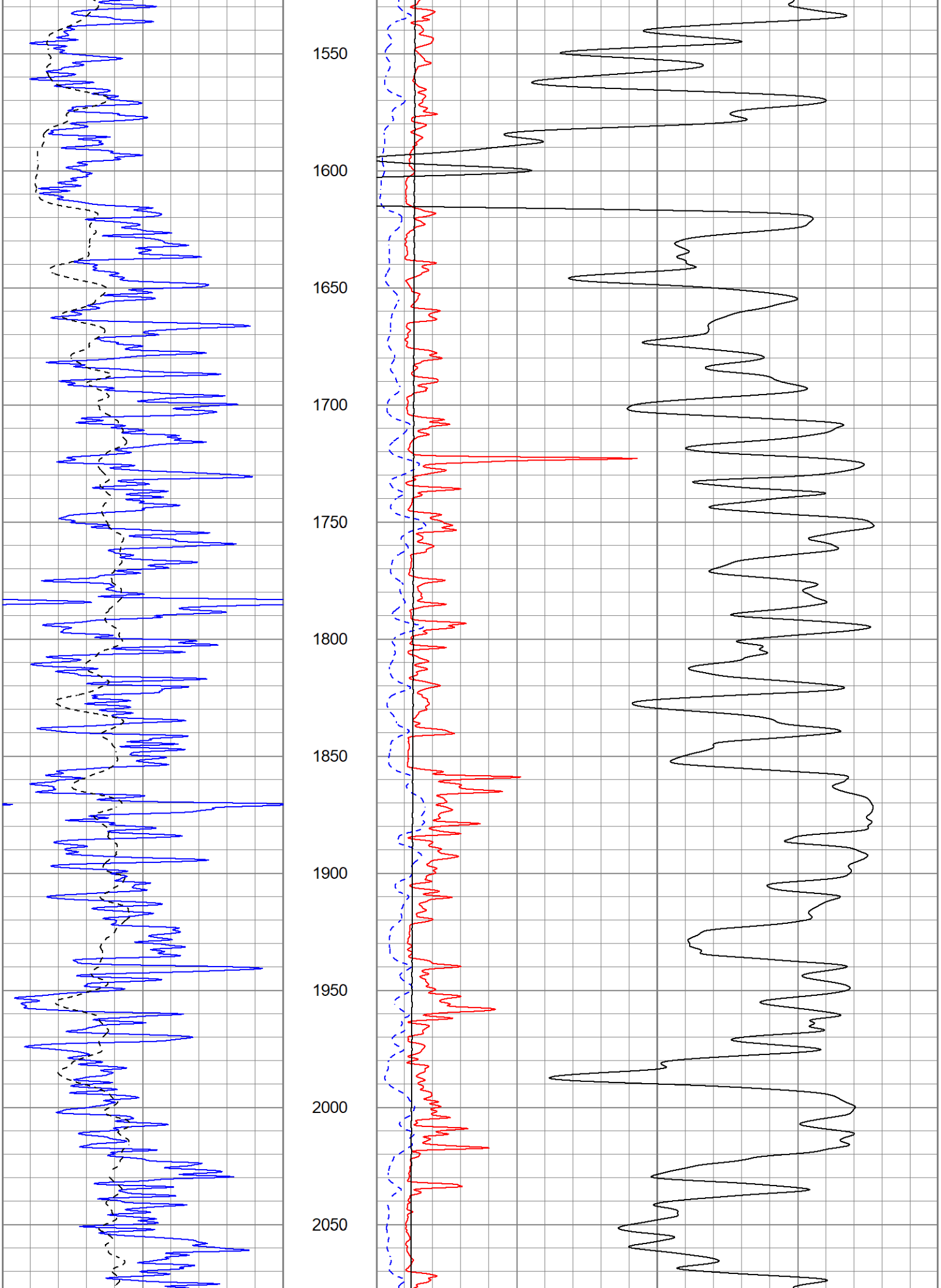
0	GR (GAPI)	150
-100	SP (mV)	100

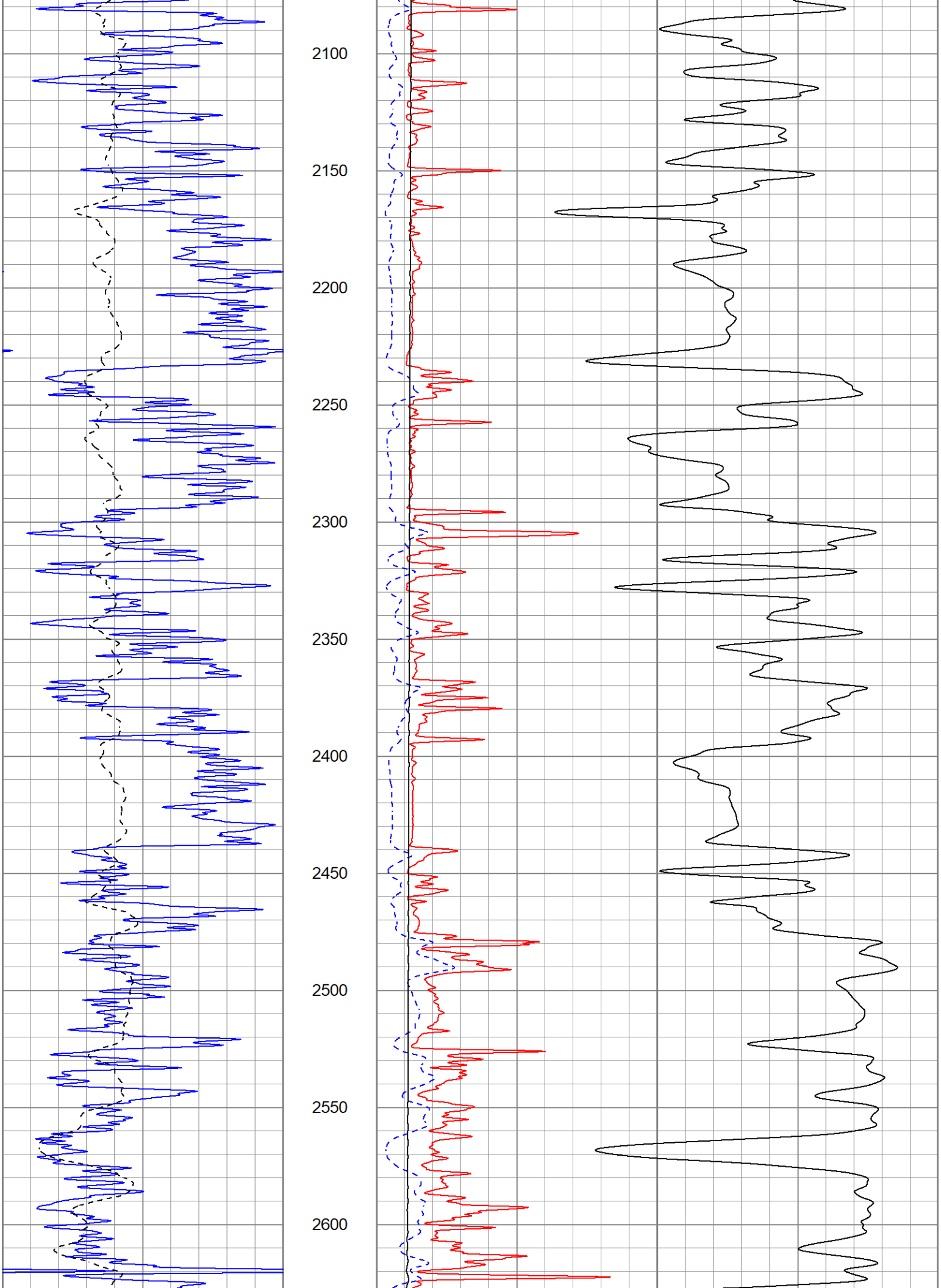
1000	CILD (mmho/m)	0
10000	LTEN (lb)	0
0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500

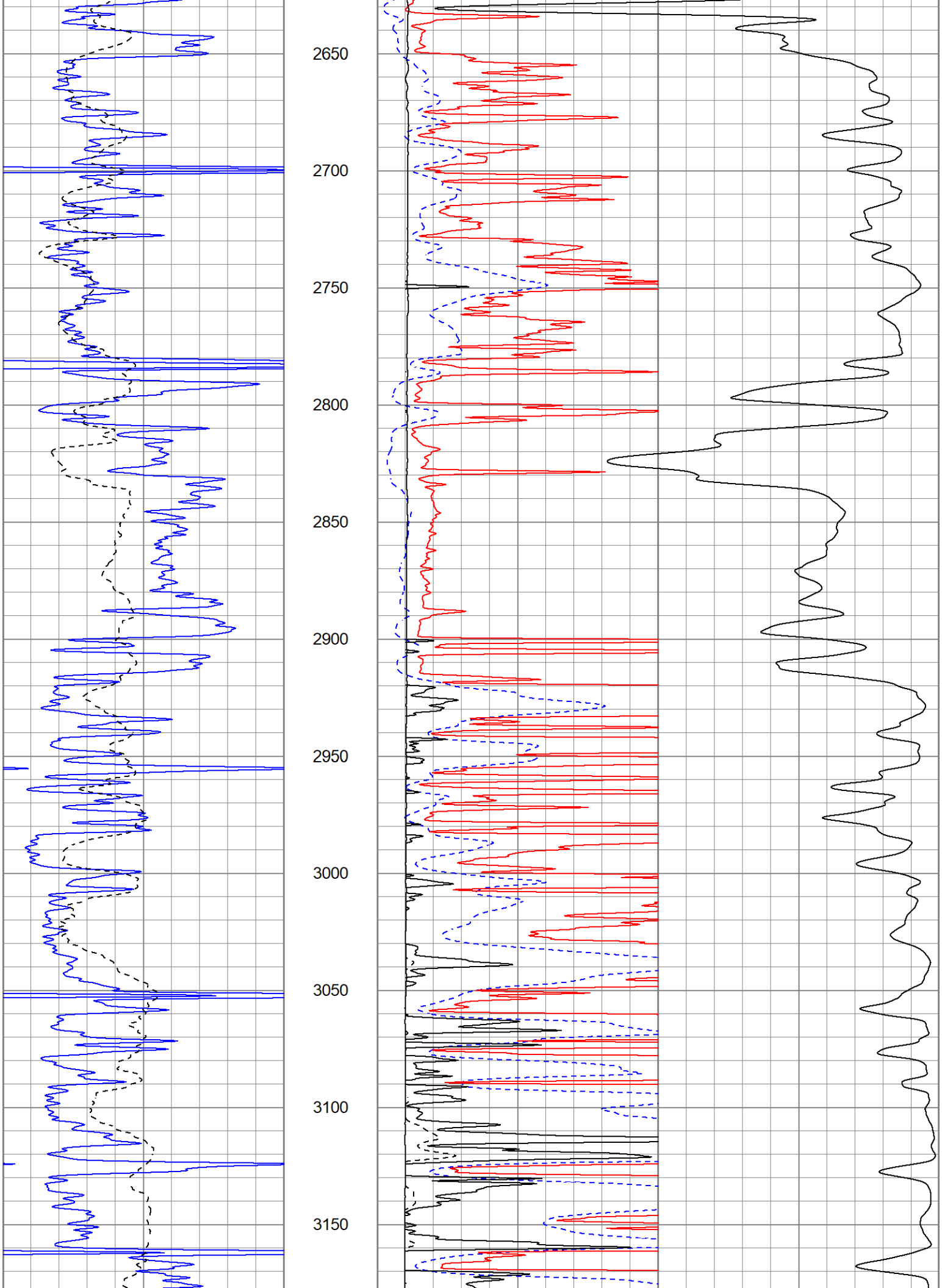


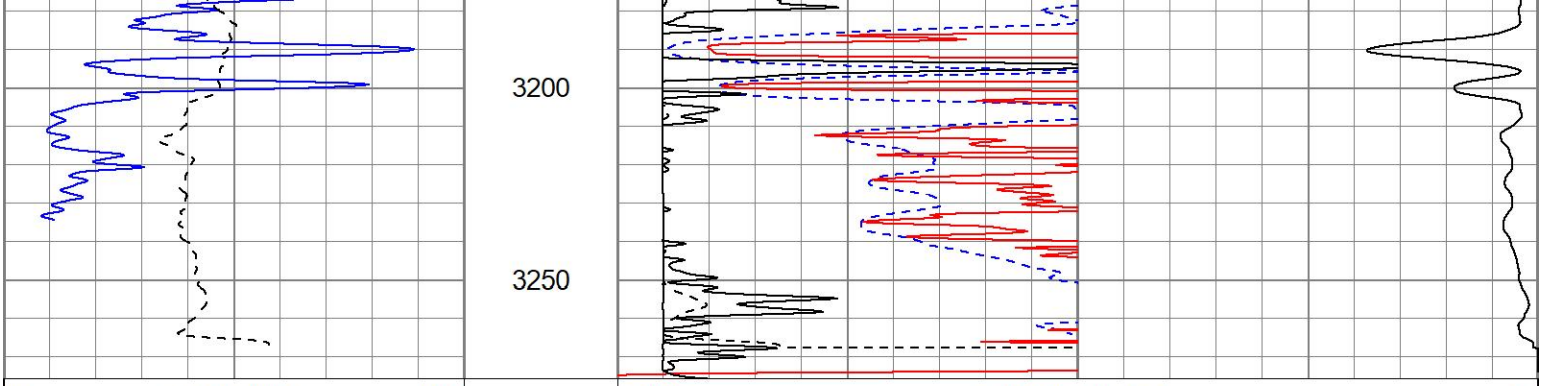

450
500
550
600
650
700
750
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850
900
950


1000
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1100
1150
1200
1250
1300
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1450
1500


1550
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1650
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1850
1900
1950
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2050


2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600


2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150



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

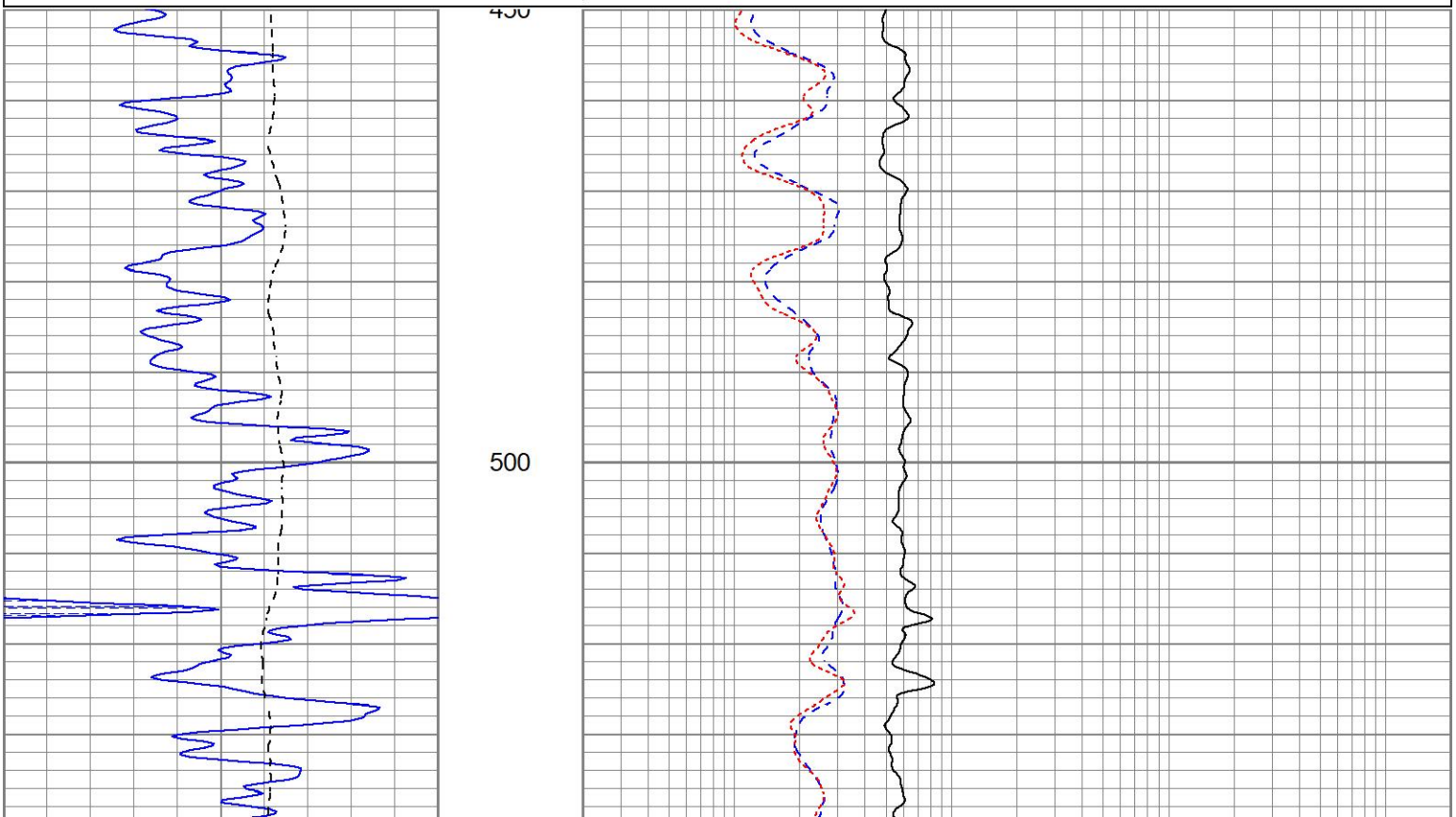
1000	CILD (mmho/m)	0
10000	LTEN (lb)	0
0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500

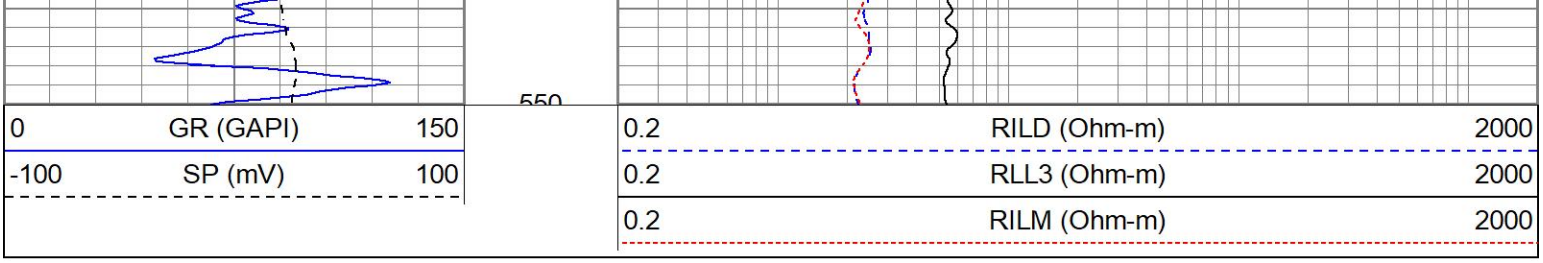
MAIN PASS

Database File	pehabiger#1oh.db
Dataset Pathname	pass2.1
Presentation Format	kdil
Dataset Creation	Sun Apr 24 08:32:27 2022
Charted by	Depth in Feet scaled 1:240

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

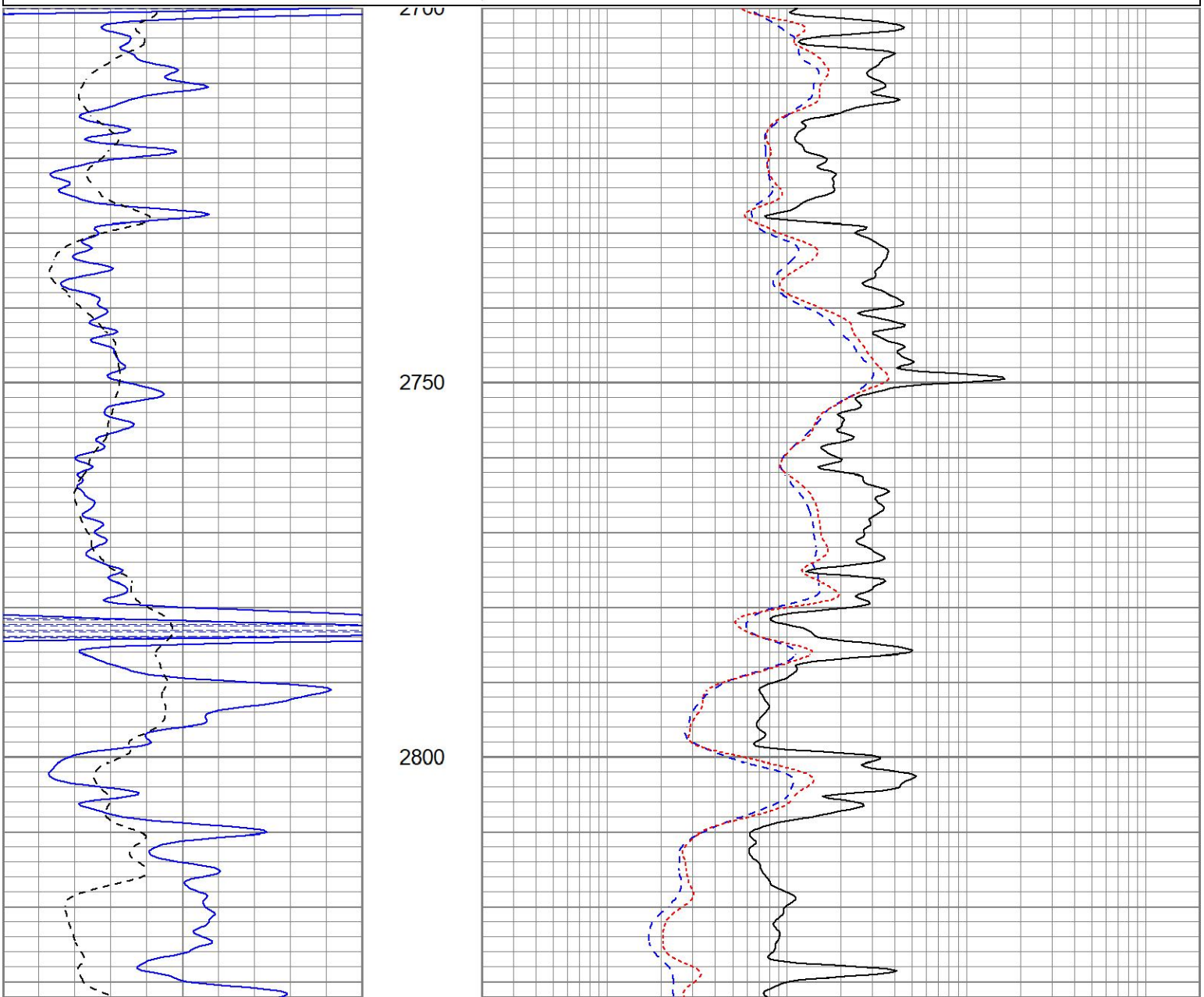
0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

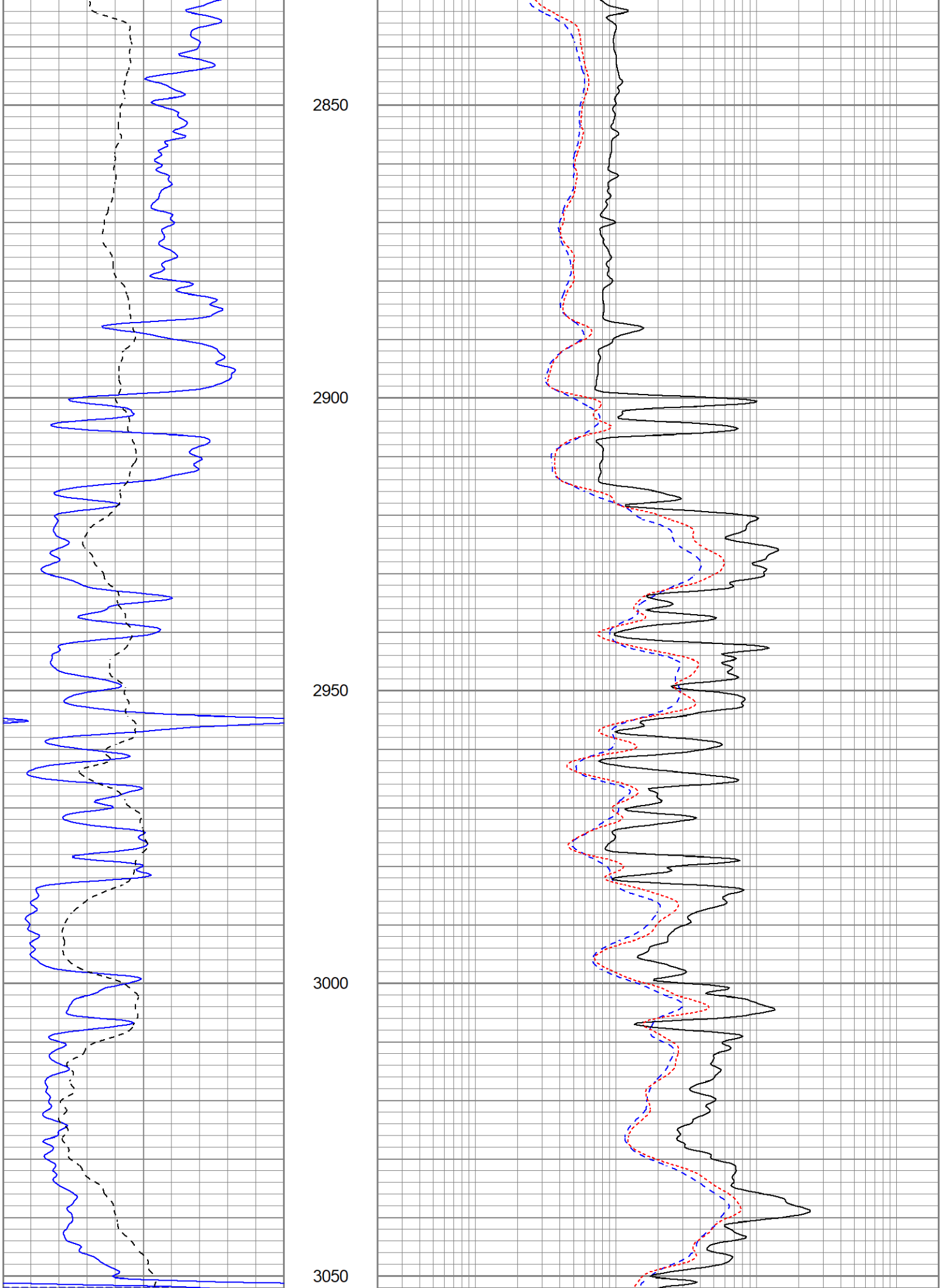


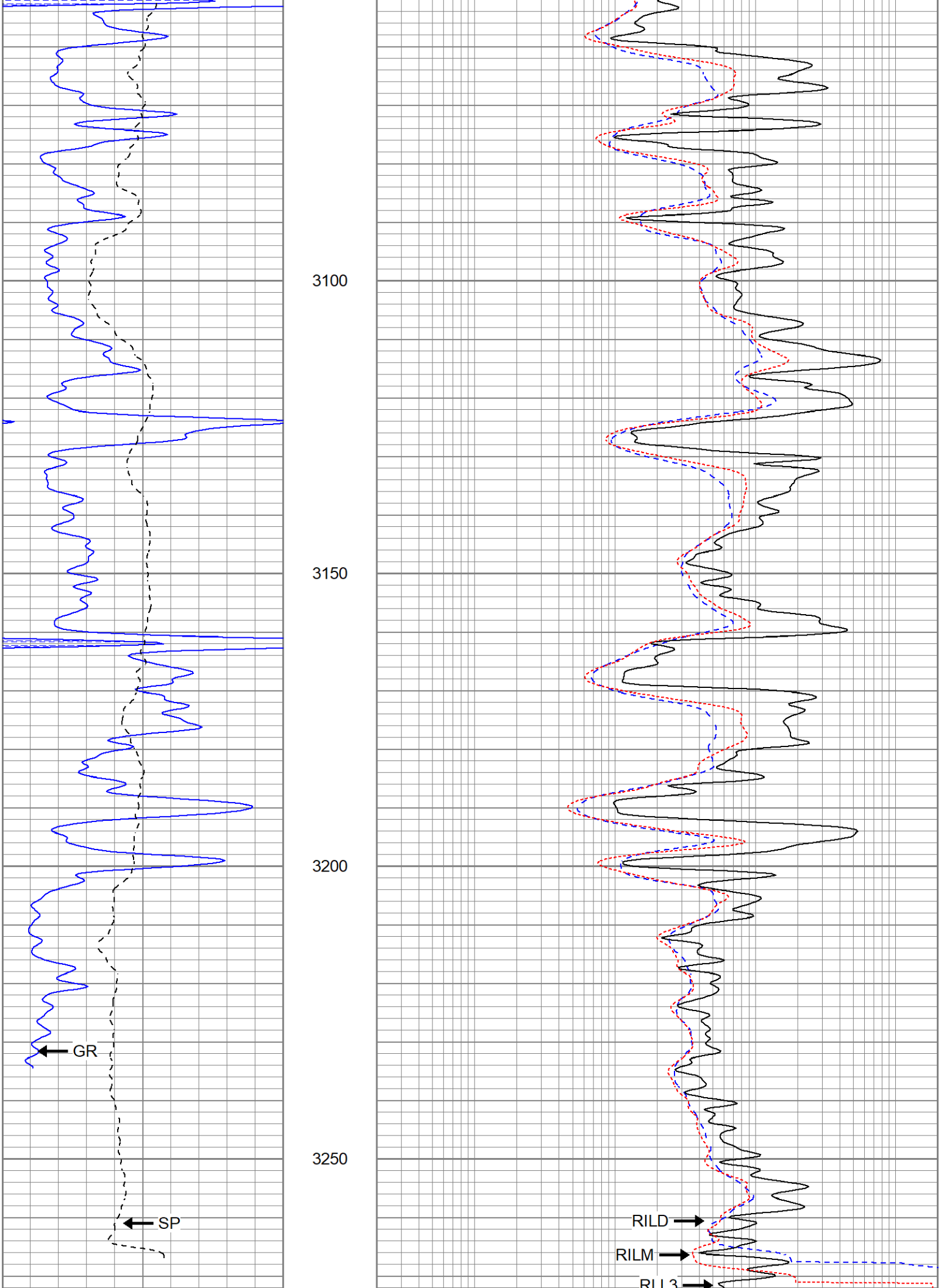


MAIN PASS

Database File	pehabiger#1oh.db
Dataset Pathname	pass2.1
Presentation Format	kdil
Dataset Creation	Sun Apr 24 08:32:27 2022
Charted by	Depth in Feet scaled 1:240




2850
2900
2950
3000
3050


3100
3150
3200
3250
GR
SP
RILD
RILM
RLL3

LTD 3274

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

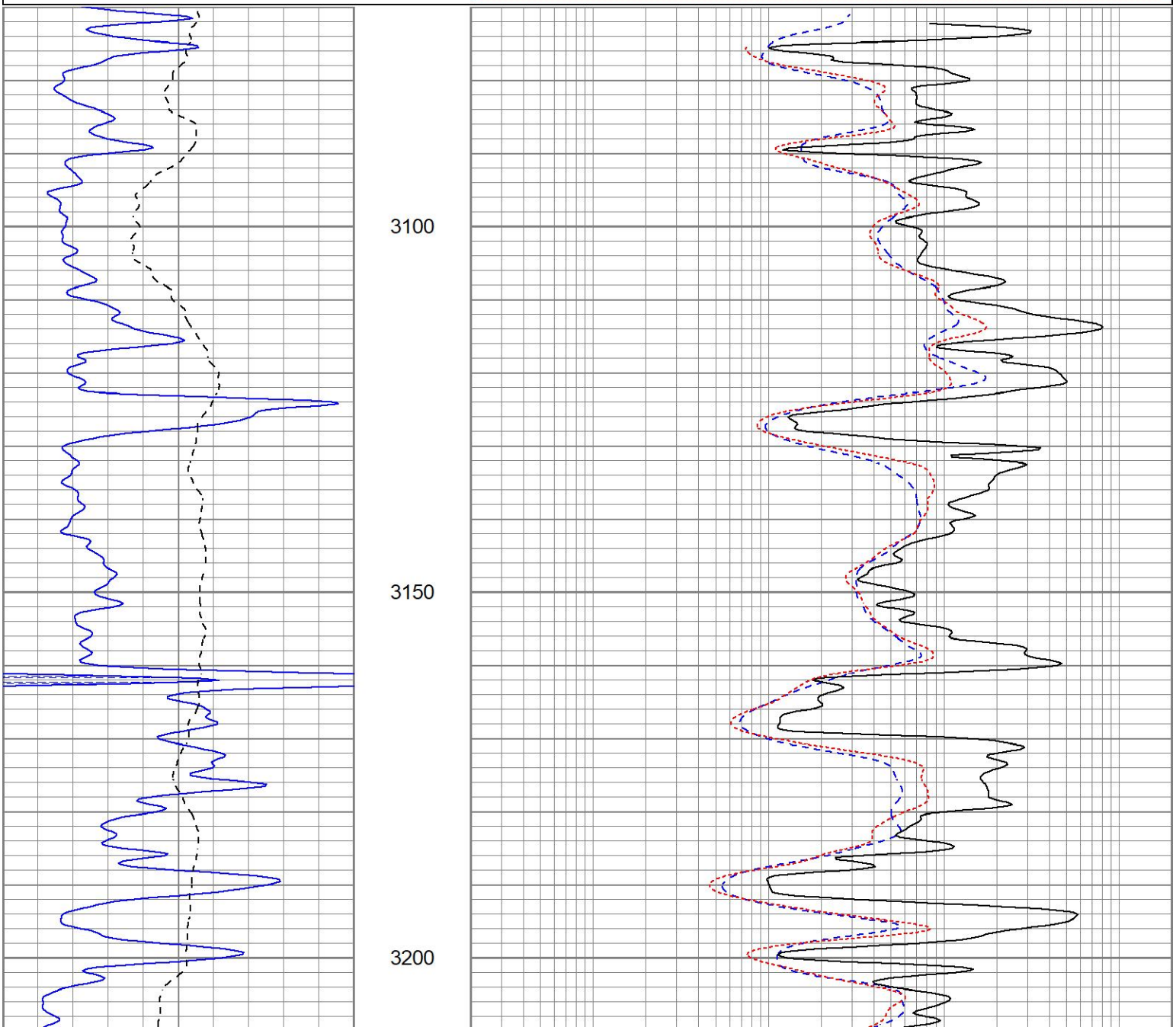
0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

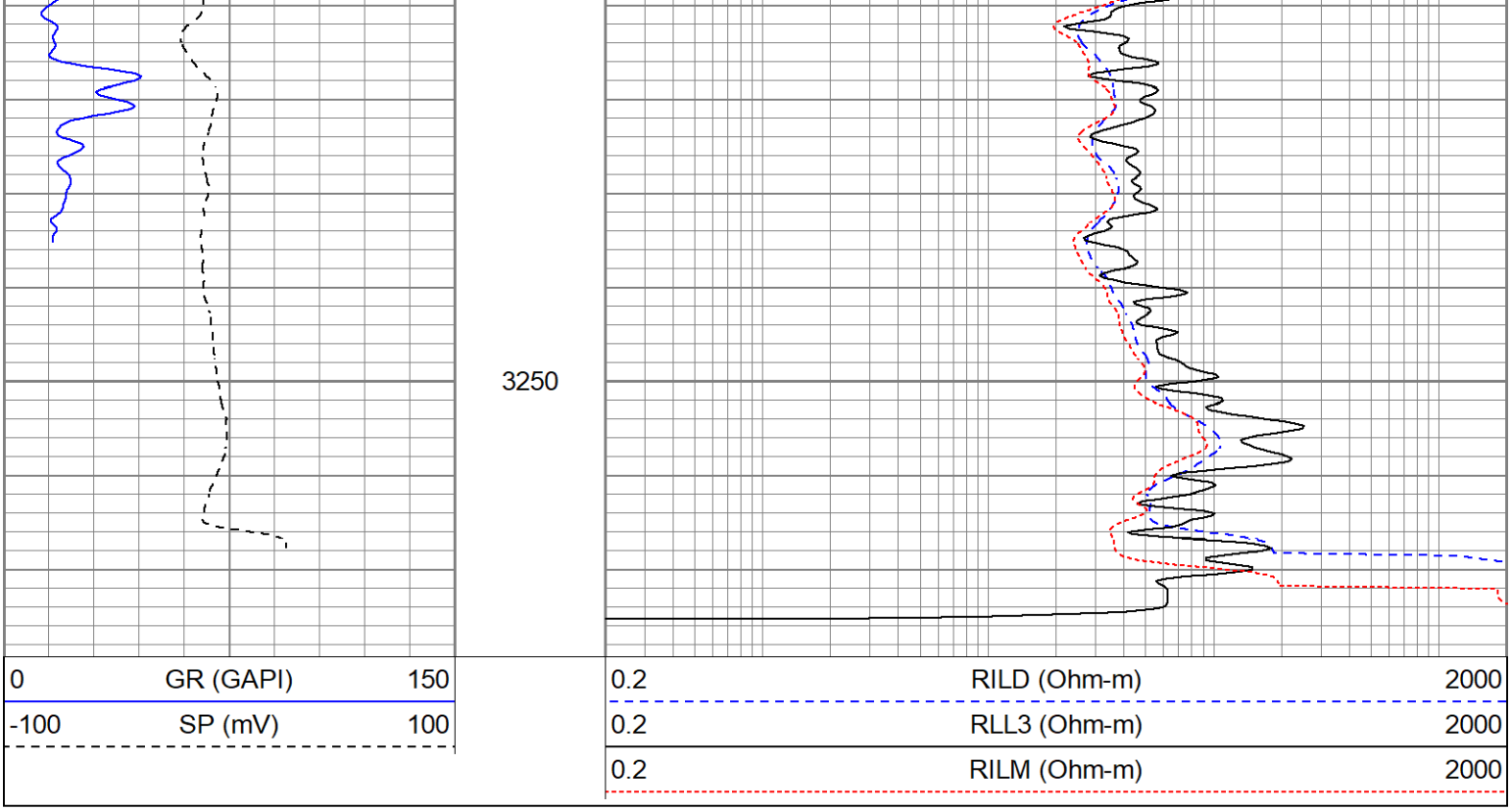
REPEAT SECTION

Database File	pehabiger#1oh.db
Dataset Pathname	pass1.1
Presentation Format	kdil
Dataset Creation	Sun Apr 24 08:38:41 2022
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





Calibration Report

Database File	pehabiger#1oh.db
Dataset Pathname	pass1.1
Dataset Creation	Sun Apr 24 08:38:41 2022

Dual Induction Calibration Report

Serial-Model:	0352-ADM
Surface Cal Performed:	Mon Sep 20 22:00:42 2021
Downhole Cal Performed:	Wed Mar 30 09:59:17 2022
After Survey Verification Performed:	Wed Mar 30 09:59:17 2022

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.475	-9.896
Medium	0.003	0.769	V	0.000	400.000	mmho/m	522.607	-1.745
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.240	-9.549
Medium	0.003	0.768	V	0.000	550.000	mmho/m	718.637	-2.088

Downhole Calibration

	Readings			References			Results	
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	-9.739	334.888	mmho/m	-0.343	349.810	mmho/m	1.016	9.552
Medium	-0.093	389.879	mmho/m	-0.226	399.745	mmho/m	1.026	-0.132
Shallow	2.545	0.014	V	500.000	2.000	Ohm-m	196.757	-0.781

After Survey Verification

	Readings			Targets			Results	

Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-9.739	334.888	mmho/m	1.016	9.552
Medium	0.000	0.000	mmho/m	-0.093	389.879	mmho/m	1.026	-0.132
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Neutron Calibration Report

Serial Number:	AD5139	
Tool Model:	ADMY5139	
Performed:	(Not Performed)	
Calibrator Value:	1	NAPI
Calibrator Reading:	1	cps
Sensitivity:	1	NAPI/cps

Temperature Calibration Report

Serial Number:	WithOutMC			
Tool Model:	WOMC			
Performed:	(Not Performed)			
	Reference		Reading	
Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF
Gain:	1.00			
Offset:	0.00			
Delta Spacing	1			

Inclinometer Calibration Report

Performed: Thu Oct 25 16:29:34 2018

	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

Gamma Ray Calibration Report

Serial Number:	WithOutMC	
Tool Model:	WOMC	
Performed:	Wed Dec 6 22:30:58 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps