DUAL INDUCTION LOG

Company	ELK ENERGY HOLDINGS, LLC.
Well	LEROY BRAUN #2
Field	HERZOG W
County	ELLIS
State	KANSAS

Company ELK ENERGY HOLDINGS, LLC.

Well LEROY BRAUN #2

Field HERZOG W

County ELLIS State KANSAS

Location: API # : 15-051-26868-00-00 Other Services

1720' FSL & 160' FEL CDL/CNL/MEL

SEC 26 TWP 13S RGE 17W

Permanent Datum	GROUND LEVEL	Elevation 1979'	Elevation
Log Measured From	KELLY BUSHING 8' A.G.L.		K.B. 1987
Drilling Measured From	KELLY BUSHING		D.F. 1985
			G.L. 1979

Date	03/04/17		
Run Number	ONE		
Depth Driller	3660		
Depth Logger	3661		
Bottom Logged Interval	3659		
Top Log Interval	00		
Casing Driller	8 5/8" @ 221		
Casing Logger	221		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7400 PPM	
Density / Viscosity	9.2/53		
pH / Fluid Loss	10.5/7.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.70@62		
Rmf @ Meas. Temp	.52@62		
Rmc @ Meas. Temp	.84@62		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.20@113		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	113F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	SEAN DEENIHAN		

<<< Fold Here >>>

Comments

THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395

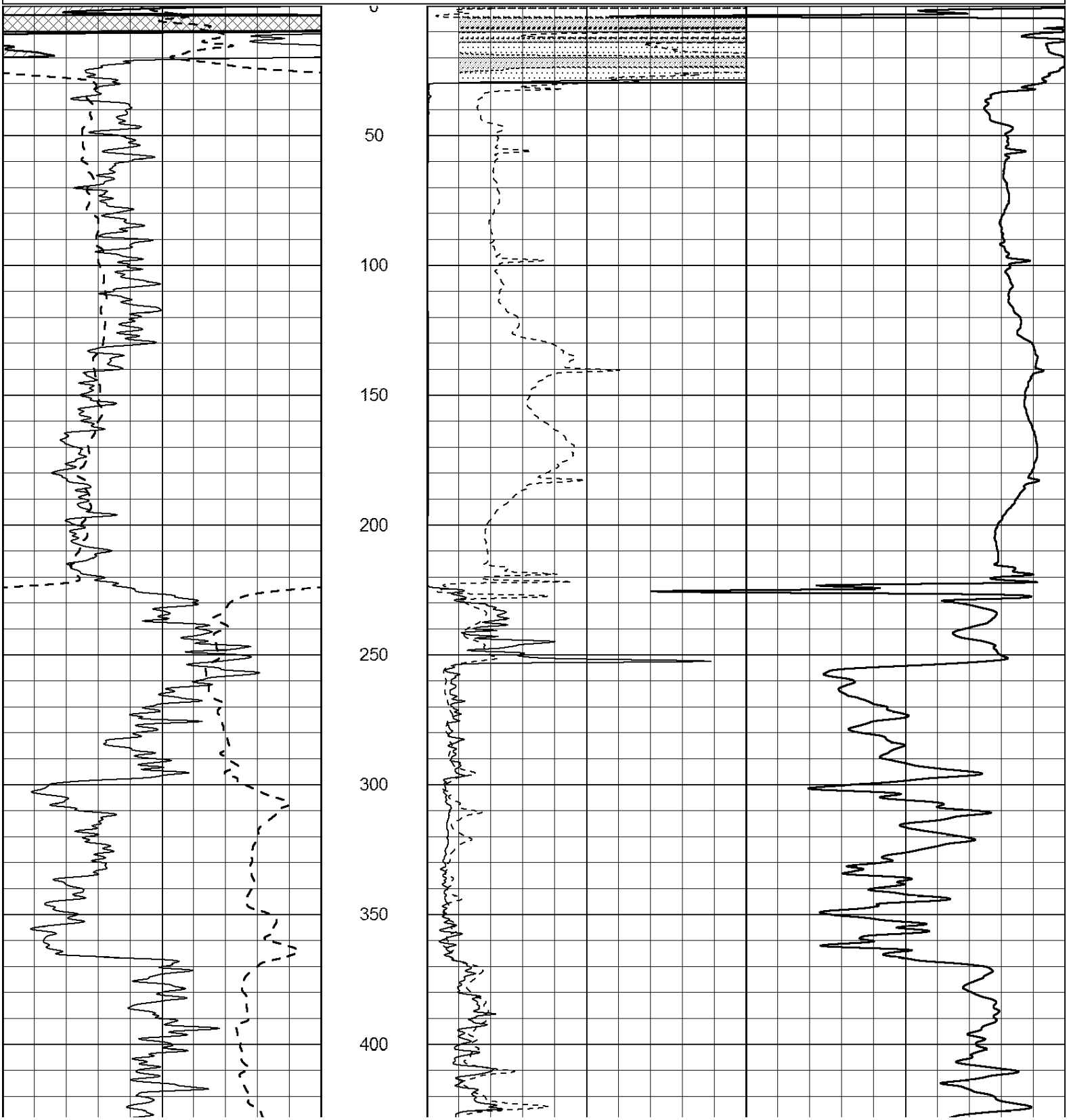
DIRECTIONS
VICTORIA I70 EXIT 1/2 NORTH TO AIRBASE RD.
1 WEST, NORTH 1/2
WEST INTO

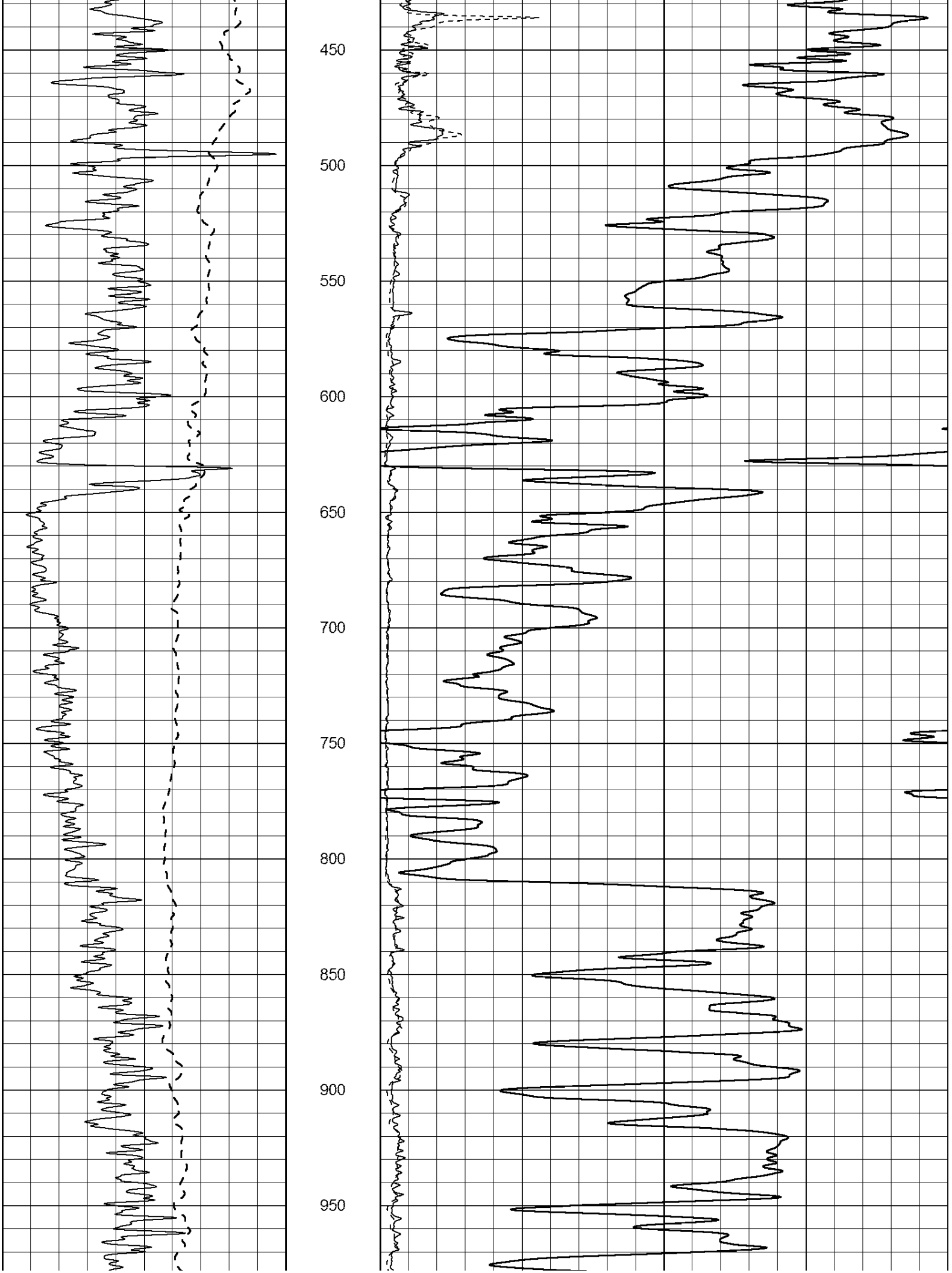
MAIN PASS

Database File: 1453ddn.db
Dataset Pathname: pass3DILM
Presentation Format: _dil2
Dataset Creation: Sat Mar 04 19:50:36 2017 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

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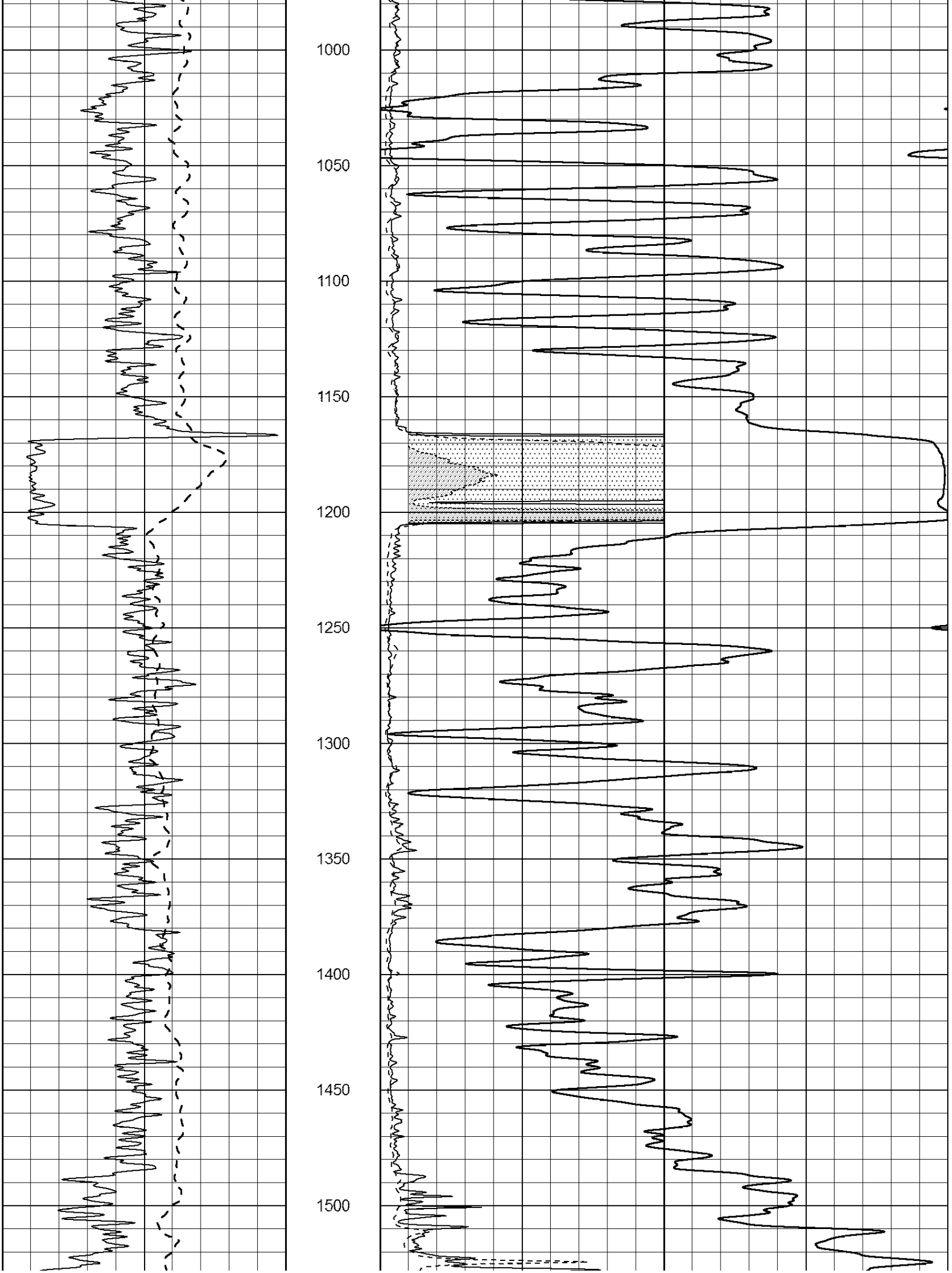
500
550
600
650
700
750
800
850
900
950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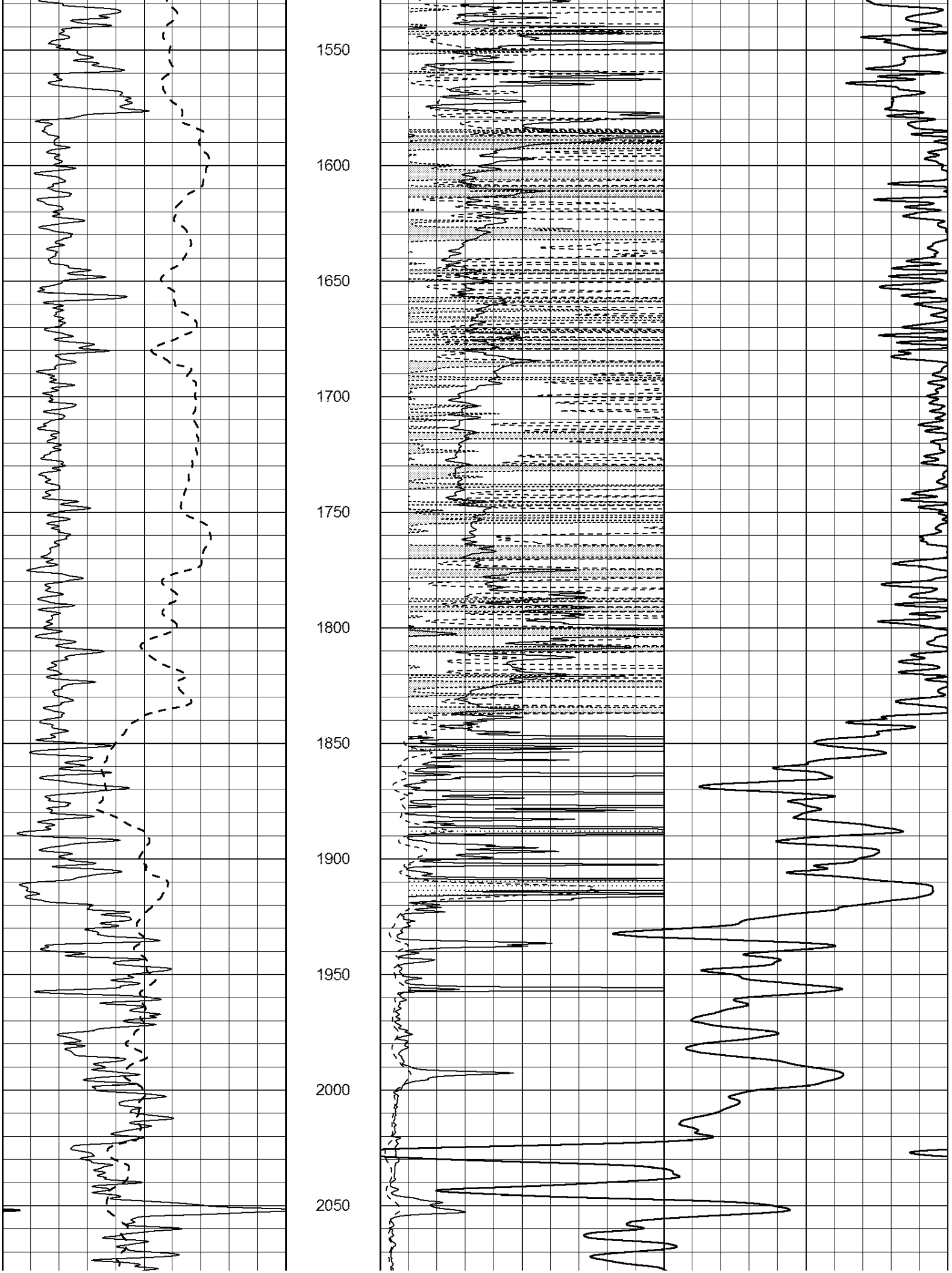
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500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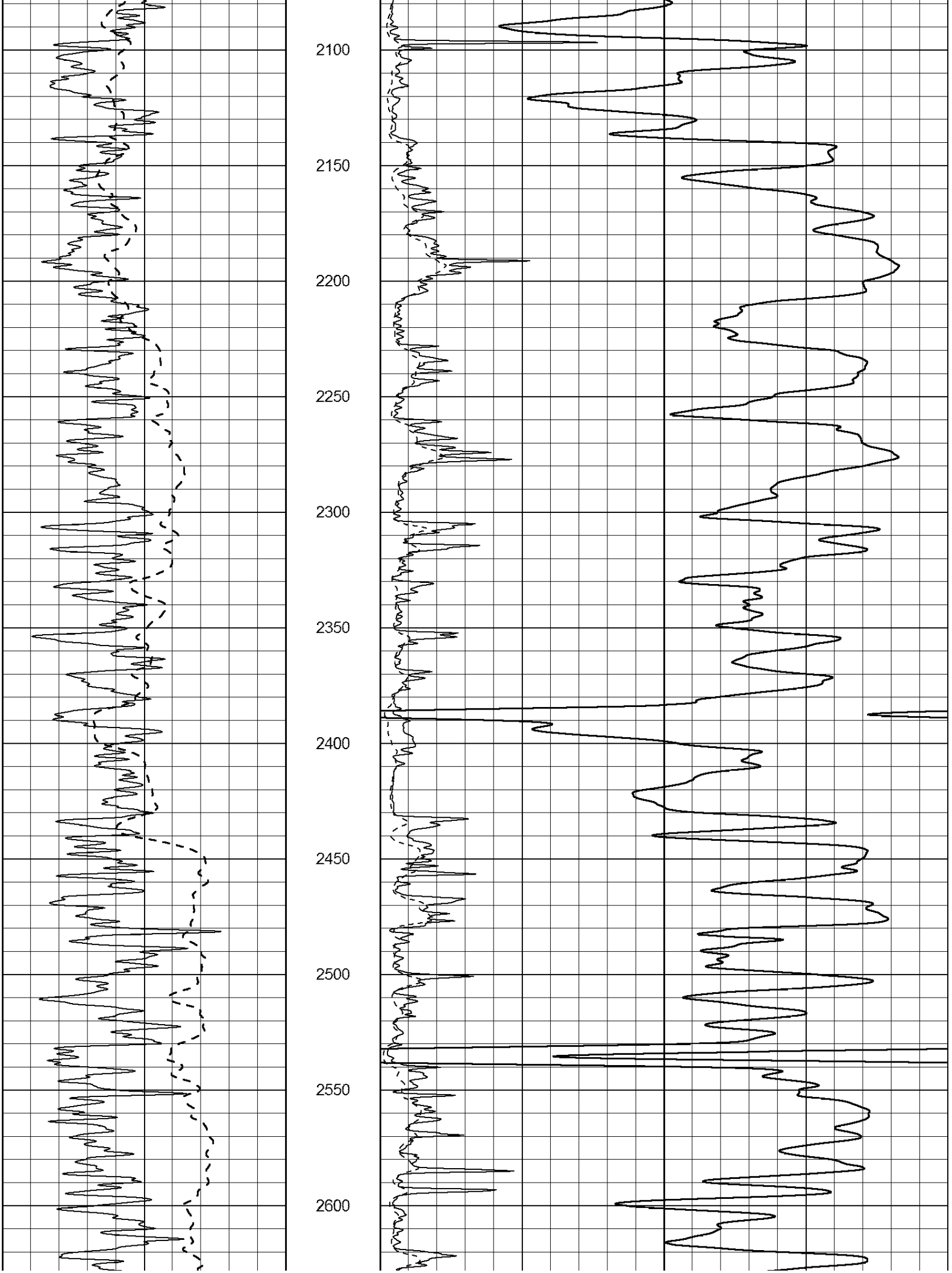
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050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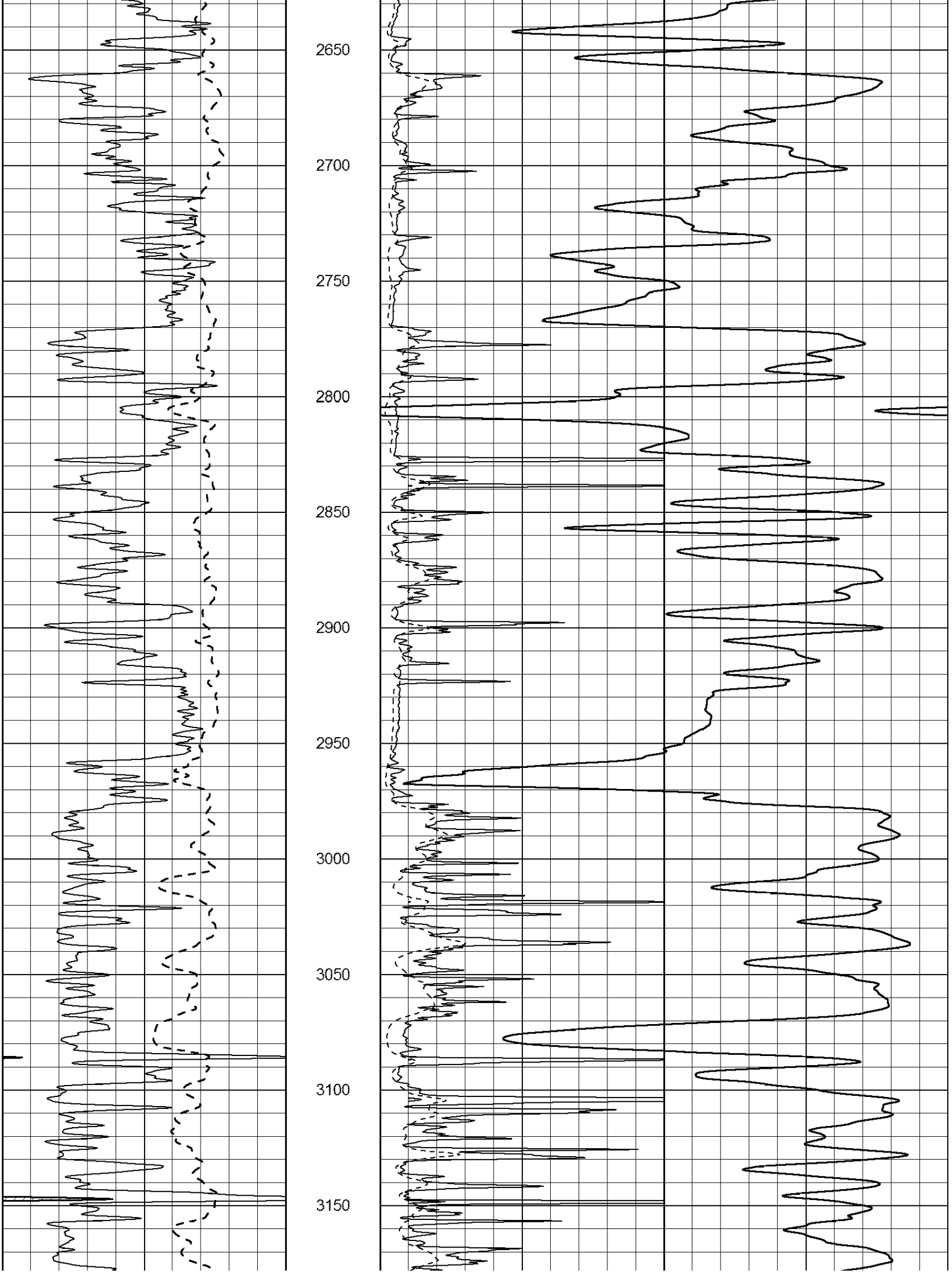
2200
2250
2300
2350
2400
2450
2500
2550
2600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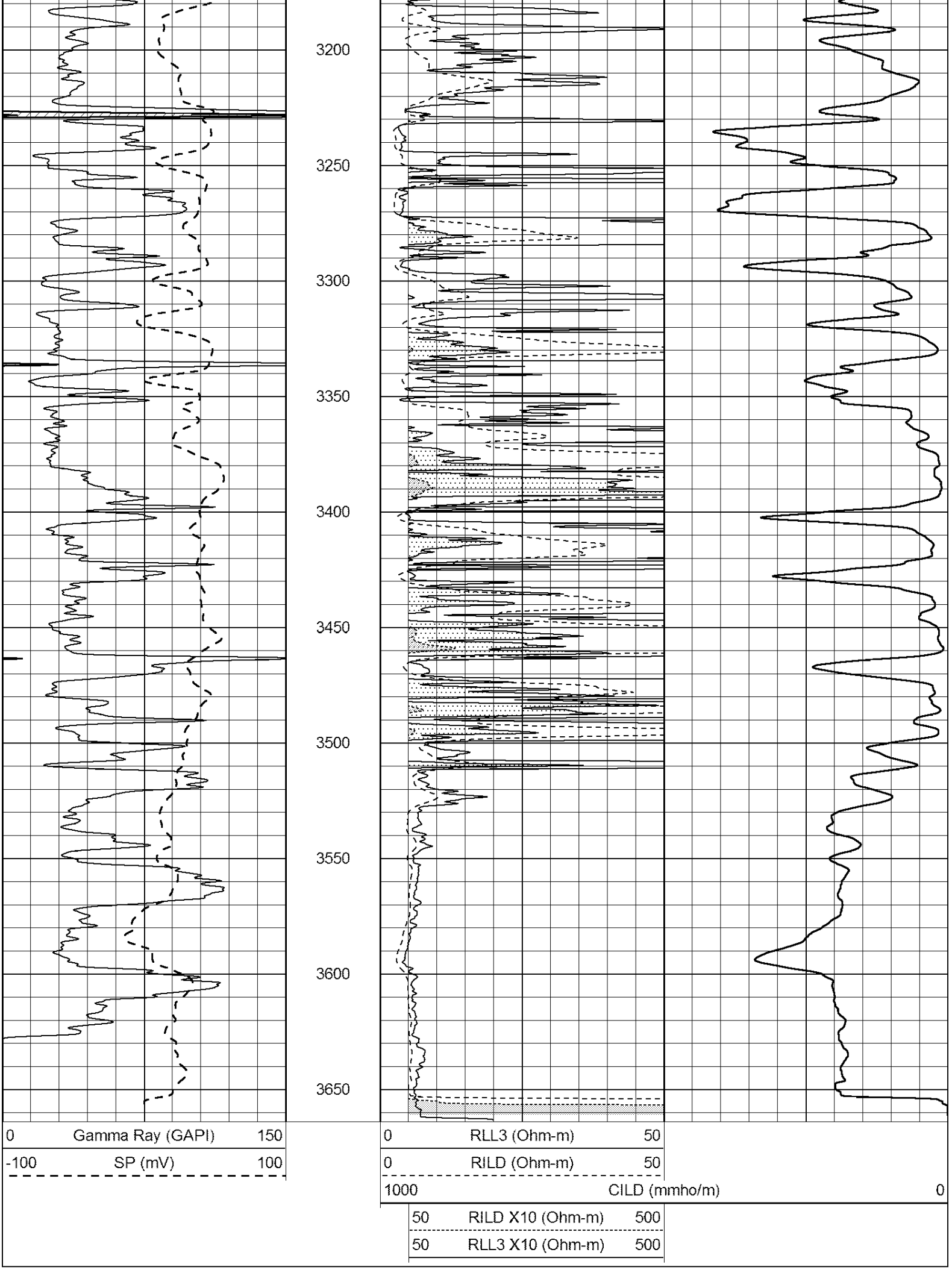
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150

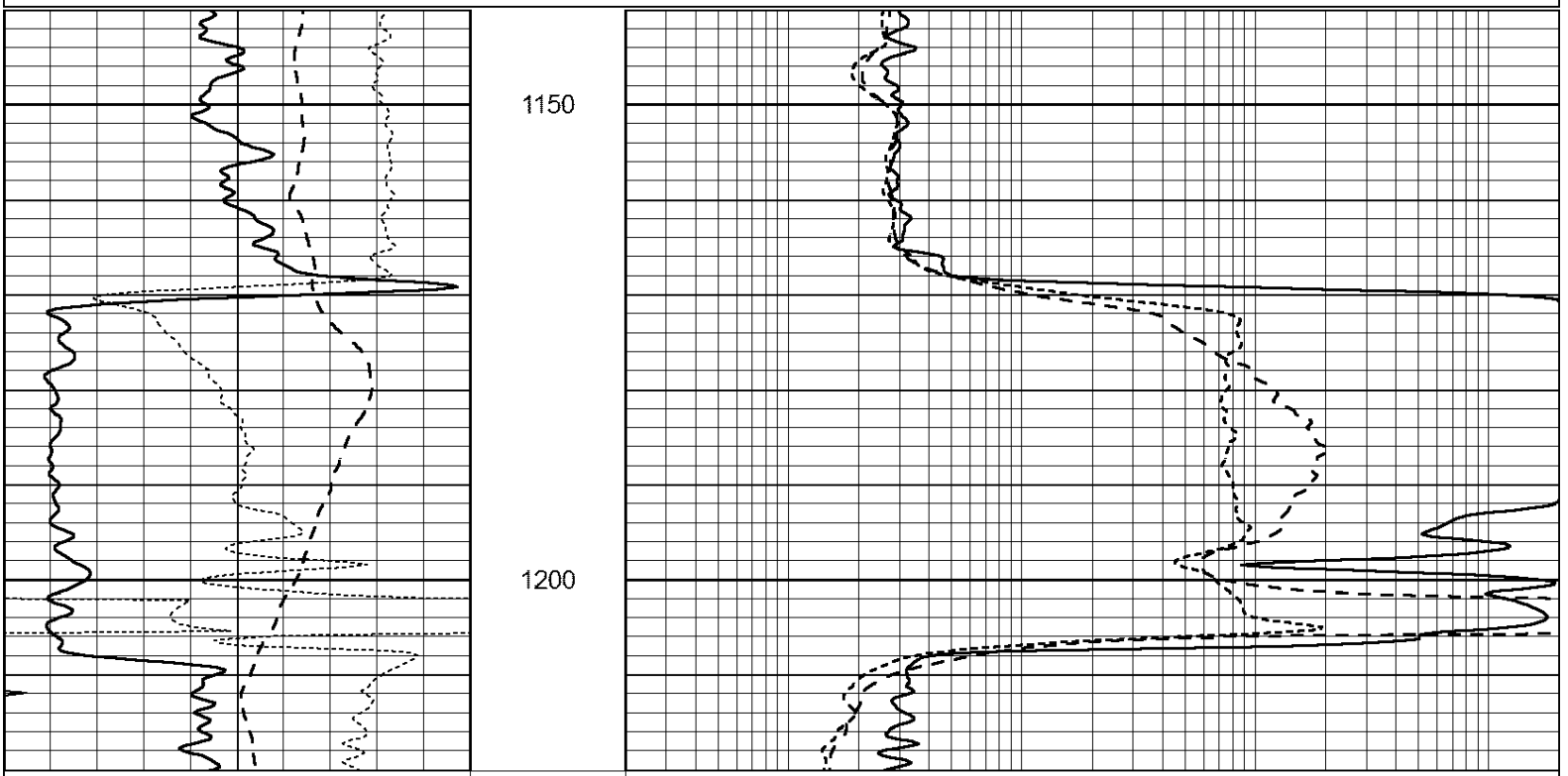

3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
0 Gamma Ray (GAPI) 150
-100 SP (mV) 100
0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50
1000 CILD (mmho/m) 0
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500

ANHYDRITE

Database File: 1453ddn.db
Dataset Pathname: pass3ANH
Presentation Format: _dil
Dataset Creation: Sat Mar 04 19:51:12 2017 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

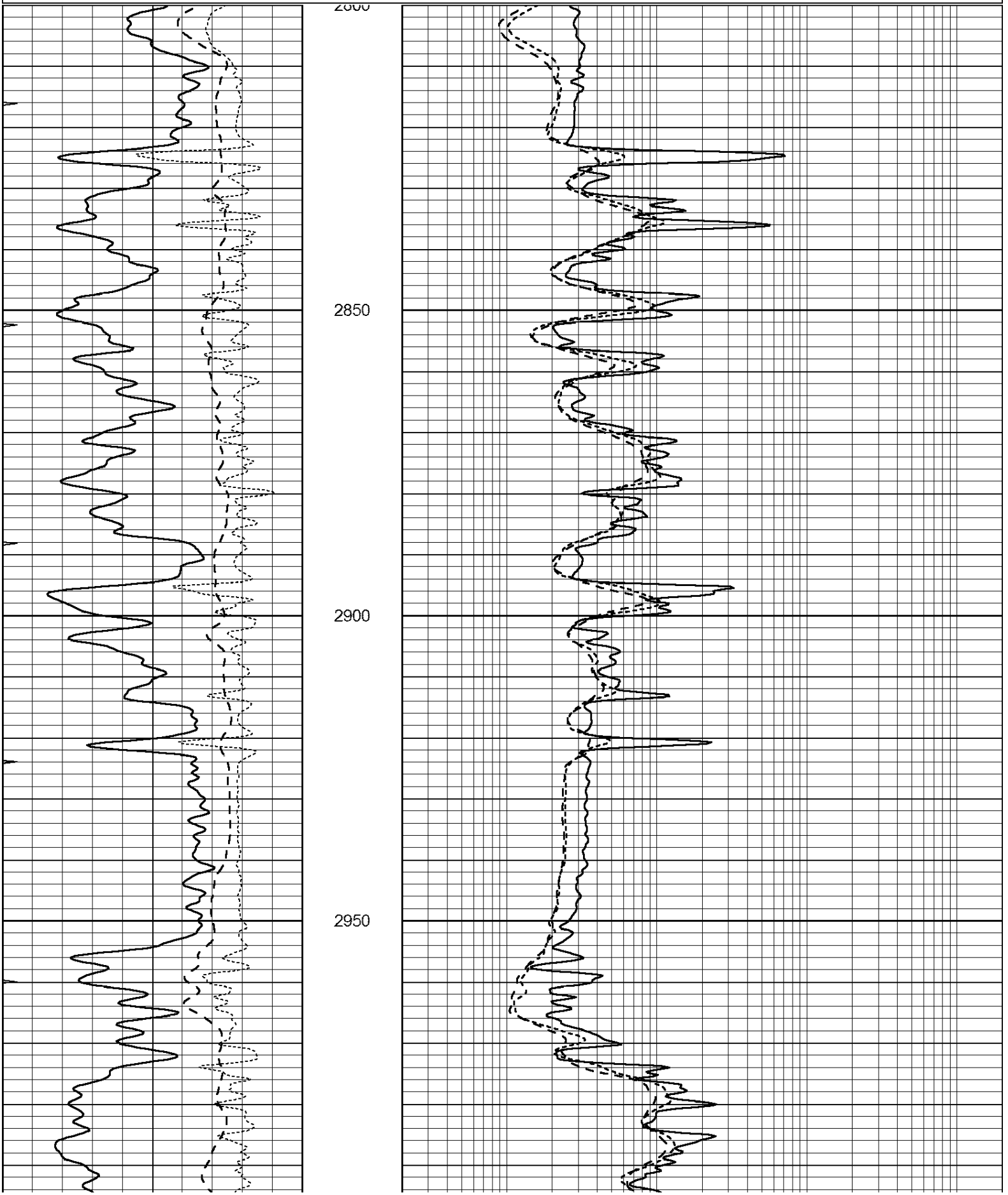
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

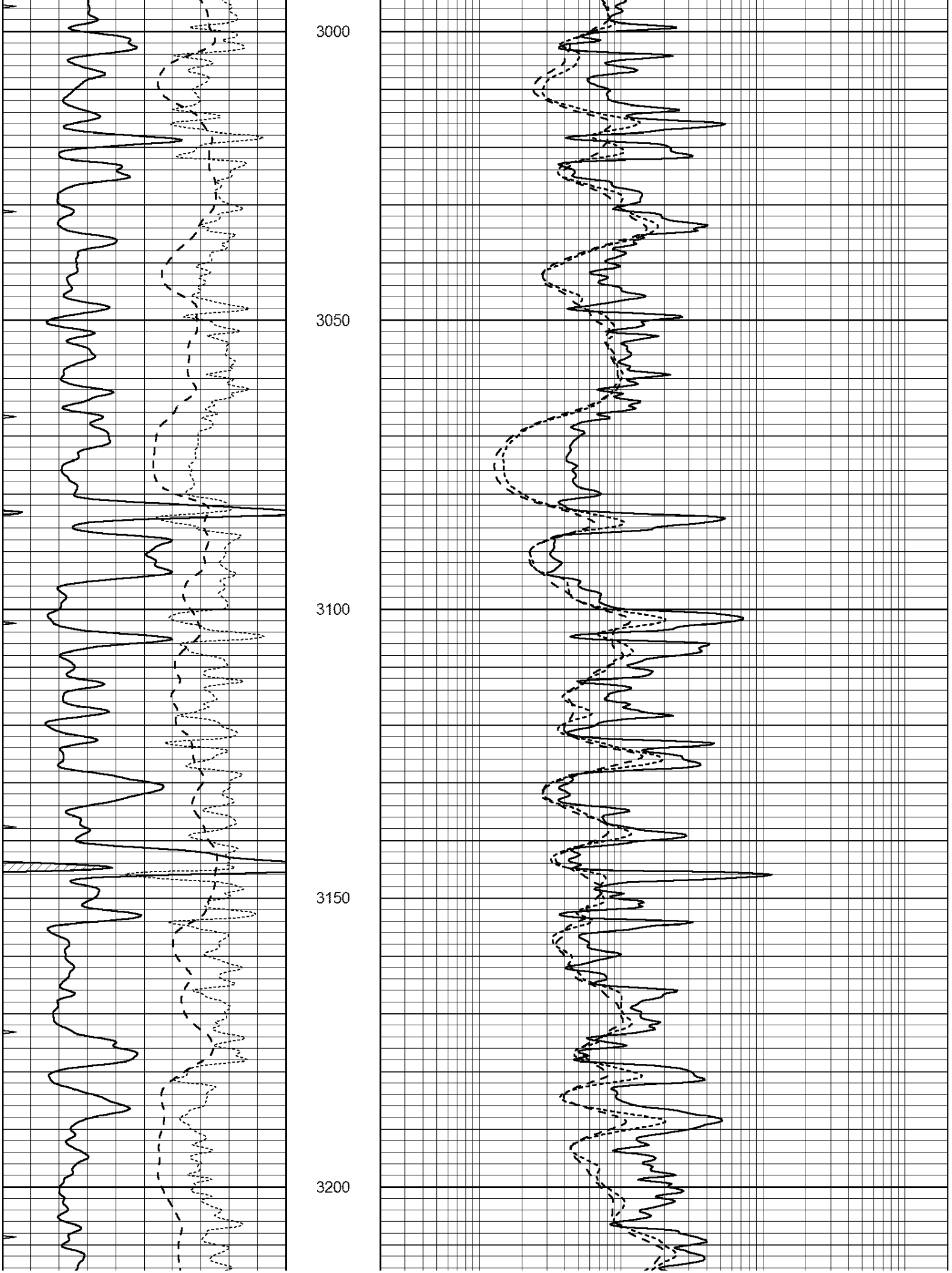
MAIN PASS

Database File: 1453ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Sat Mar 04 18:23:22 2017 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

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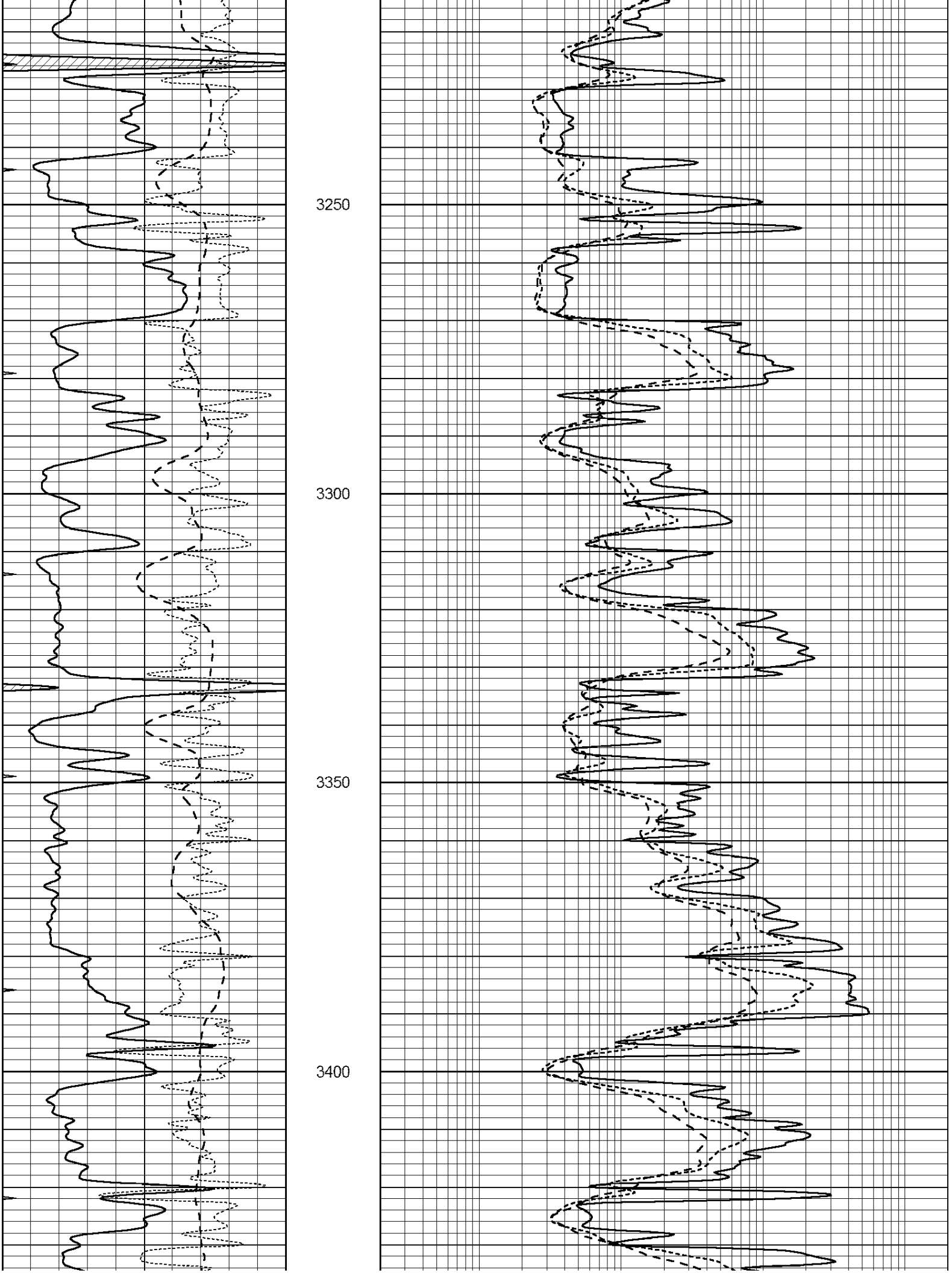
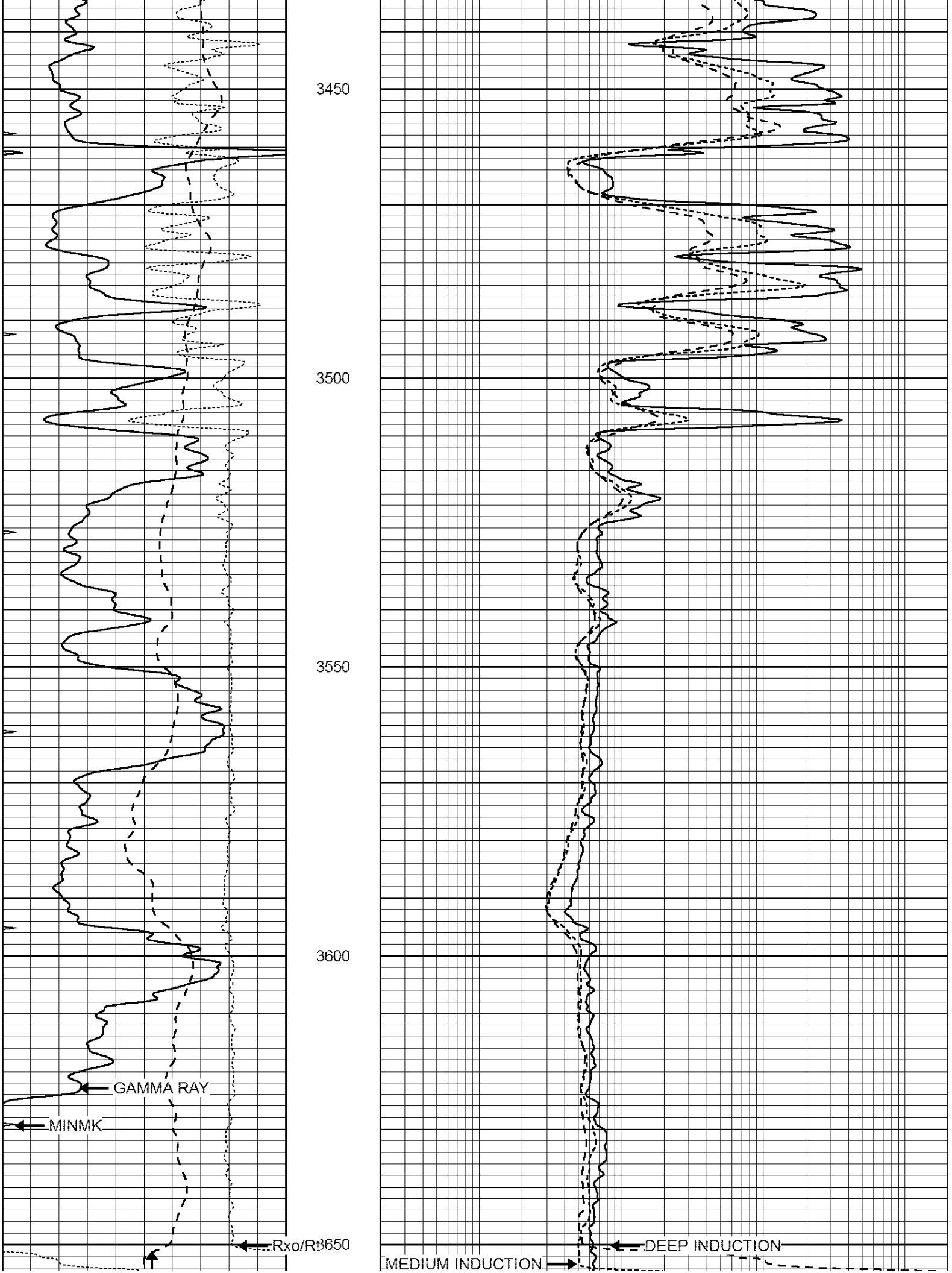
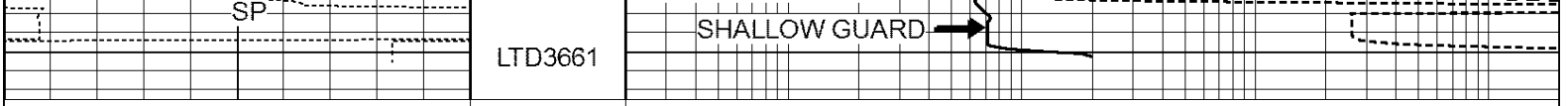
3100
3150
3200


3250
3300
3350
3400


3450
3500
3550
3600
GAMMA RAY
MINMK
Rxo/Rt
3650
DEEP INDUCTION
MEDIUM INDUCTION



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

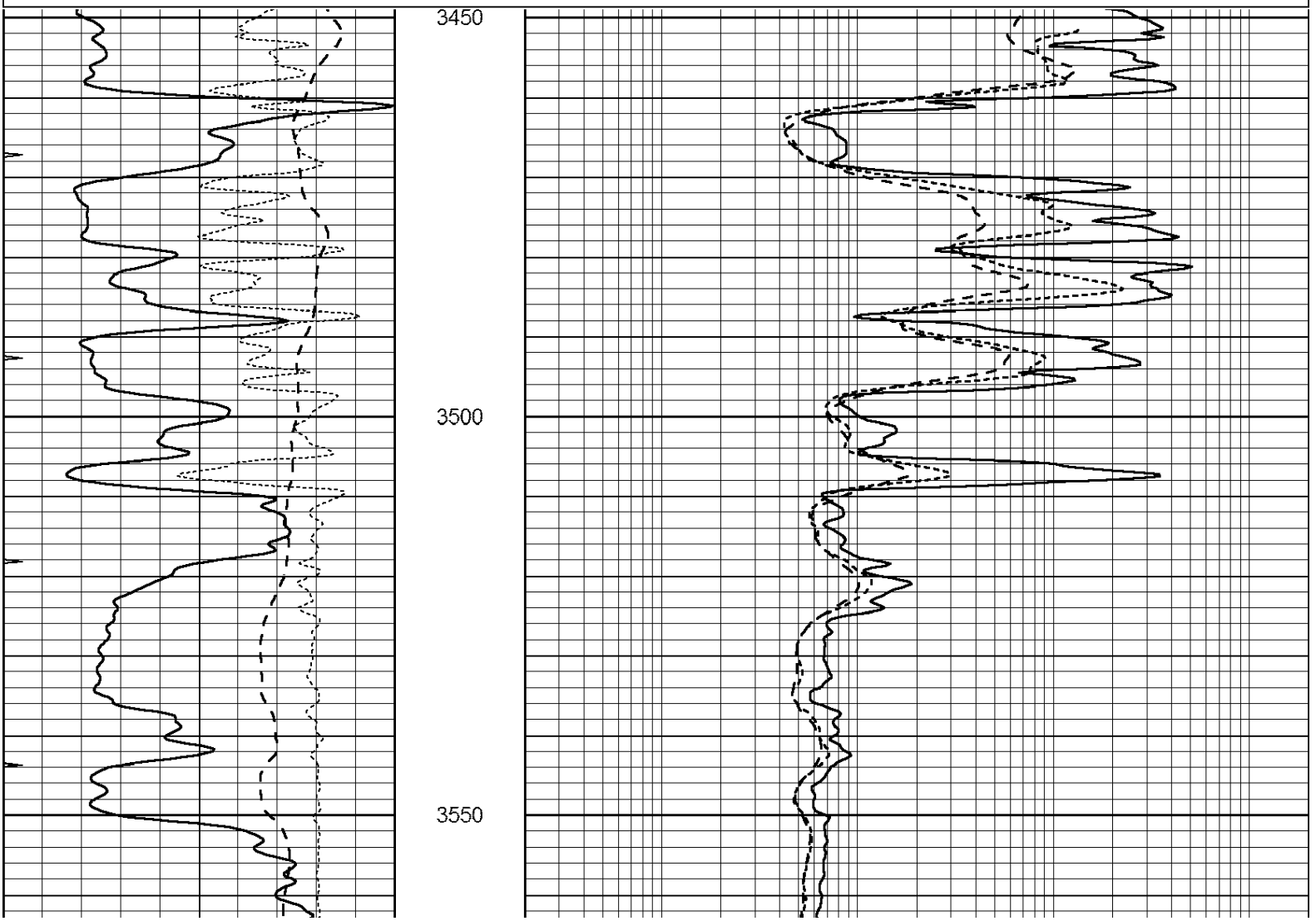
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

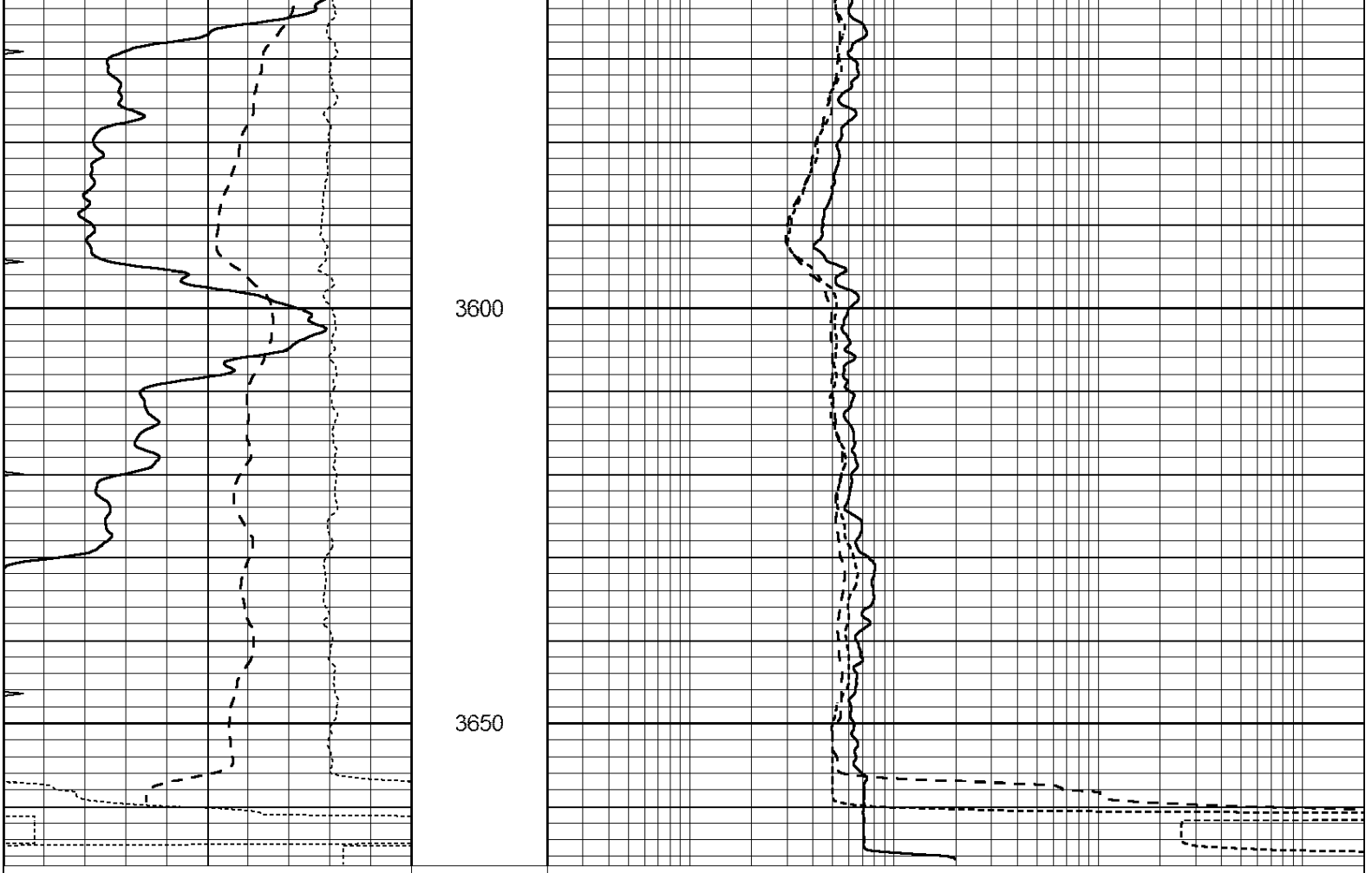
REPEAT SECTION

Database File: 1453ddn.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Sat Mar 04 18:35:20 2017 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 1453ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Sat Mar 04 18:35:20 2017 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
Surface Cal Performed: Sun May 10 19:54:09 2015
Downhole Cal Performed: Mon Jul 28 11:08:27 2008
After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Compensated Density Calibration Report

Serial-Model: GEAR5-GEARHART
Source / Verifier: /
Master Calibration Performed: Sun Dec 06 13:45:22 2015
Before Survey Verification Performed:
After Survey Verification Performed:

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	798.83	465.02	cps
Aluminum	2.570	g/cc	178.16	323.19	cps

Spine Angle = 76.37 Density/Spine Ratio = 0.557

	Size		Reading	
Small Ring	7.15	in	1.47	V
Large Ring	14.00	in	3.01	V

Before Survey Verification

Target		Measured	
	g/cc		g/cc
	g/cc		g/cc
	g/cc		g/cc

After Survey Verification

Target		Measured	
	g/cc		g/cc
	g/cc		g/cc
	g/cc		g/cc

Compensated Neutron Calibration Report

Serial Number: 6I
Tool Model: G

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.0000
Long Space	1.00	cps	1.00	cps	1.0000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Thu Nov 12 05:47:01 2015	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.4500	GAPI/cps