NABORS COMPLETION & PRODUCTION SERVICES CO.

DUAL INDUCTION LOG

Company	RITCHIE EXPLORATION, INC.
Well	#1 YORK 31 AB
Field	WILDCAT
County	GOVE
State	KANSAS

Company RITCHIE EXPLORATION, INC.
Well #1 YORK 31 AB
Field WILDCAT
County GOVE State KANSAS
Location: API # : 15-063-22205-0000
1015' FNL & 380' FWL
SEC 31 TWP 15S RGE 30W
Permanent Datum GROUND LEVEL Elevation 2760
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services: CDL/CNL

Elevation: K.B. 2765, D.F. 2763, G.L. 2760

Date	6/22/14		
Run Number	ONE		
Depth Driller	4600		
Depth Logger	4602		
Bottom Logged Interval	4600		
Top Log Interval	00		
Casing Driller	8 5/8" @ 214		
Casing Logger	212		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2200 PPM	
Density / Viscosity	9.2/70		
pH / Fluid Loss	11.5/6.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.0 @ 88F		
Rmf @ Meas. Temp	.75 @ 88F		
Rmc @ Meas. Temp	1.20 @ 88F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.72 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	ADAM ELDANI		

<<< Fold Here >>>

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

THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
HEALY, KS. - 7 1/2 WEST TO TAOS RD. - 5 1/2 NORTH - EAST TO Y, STAY NORTH TO CURVE EAST TO WILLOW RD. - 2 NORTH - EAST INTO

NABORS COMPLETION & PRODUCTION SERVICES CO.

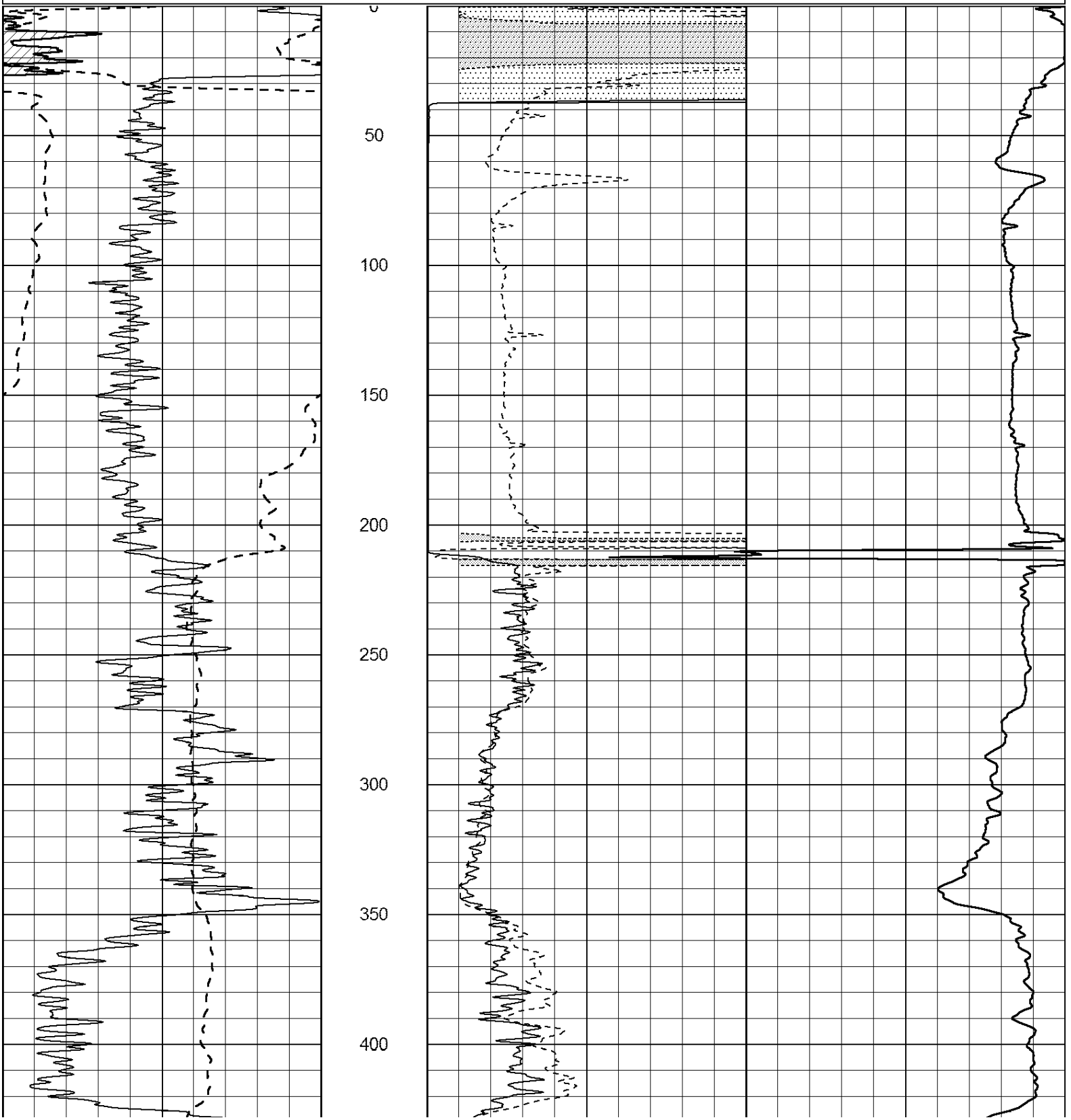
MAIN SECTION

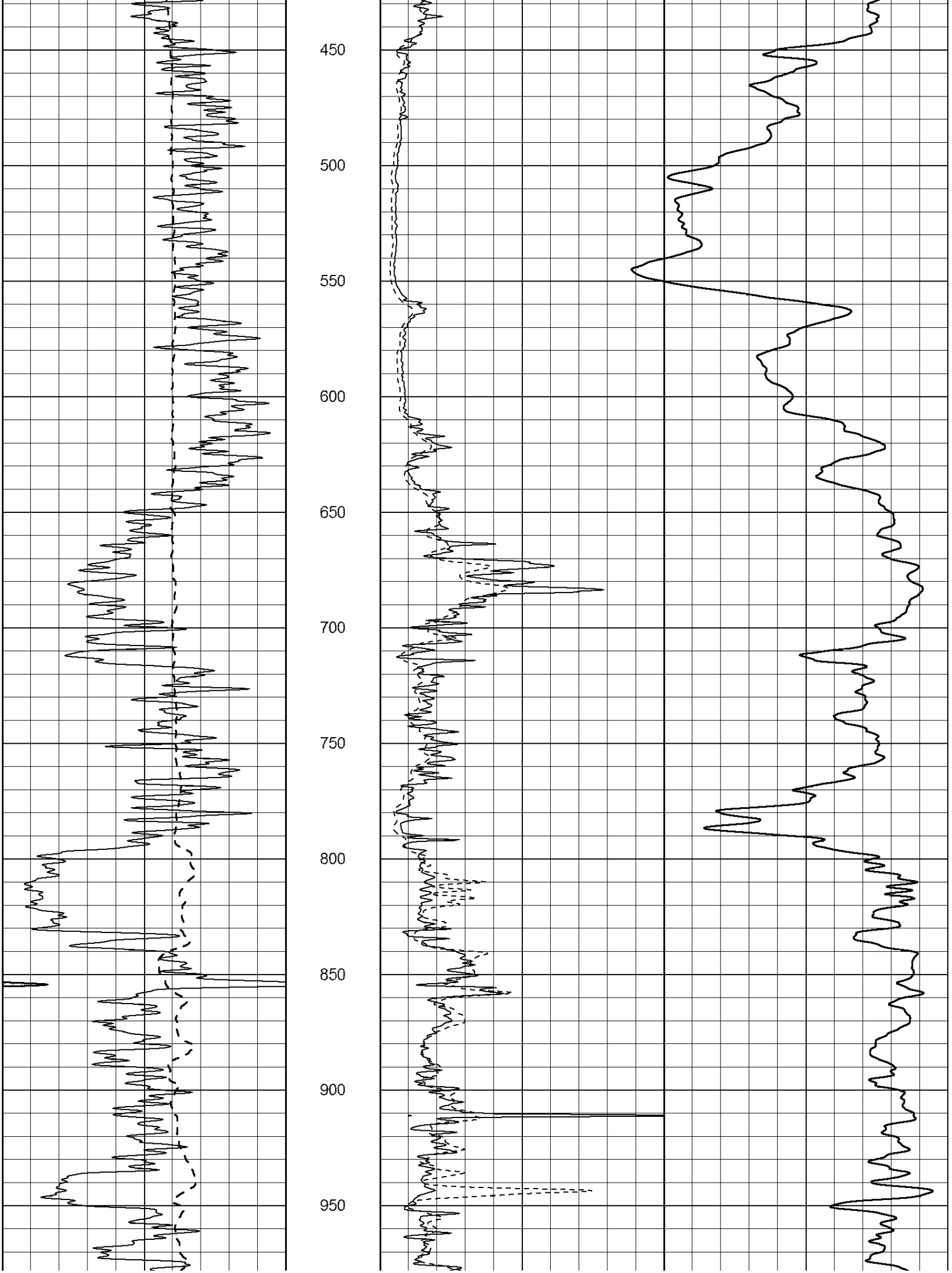
SERVICES CO.

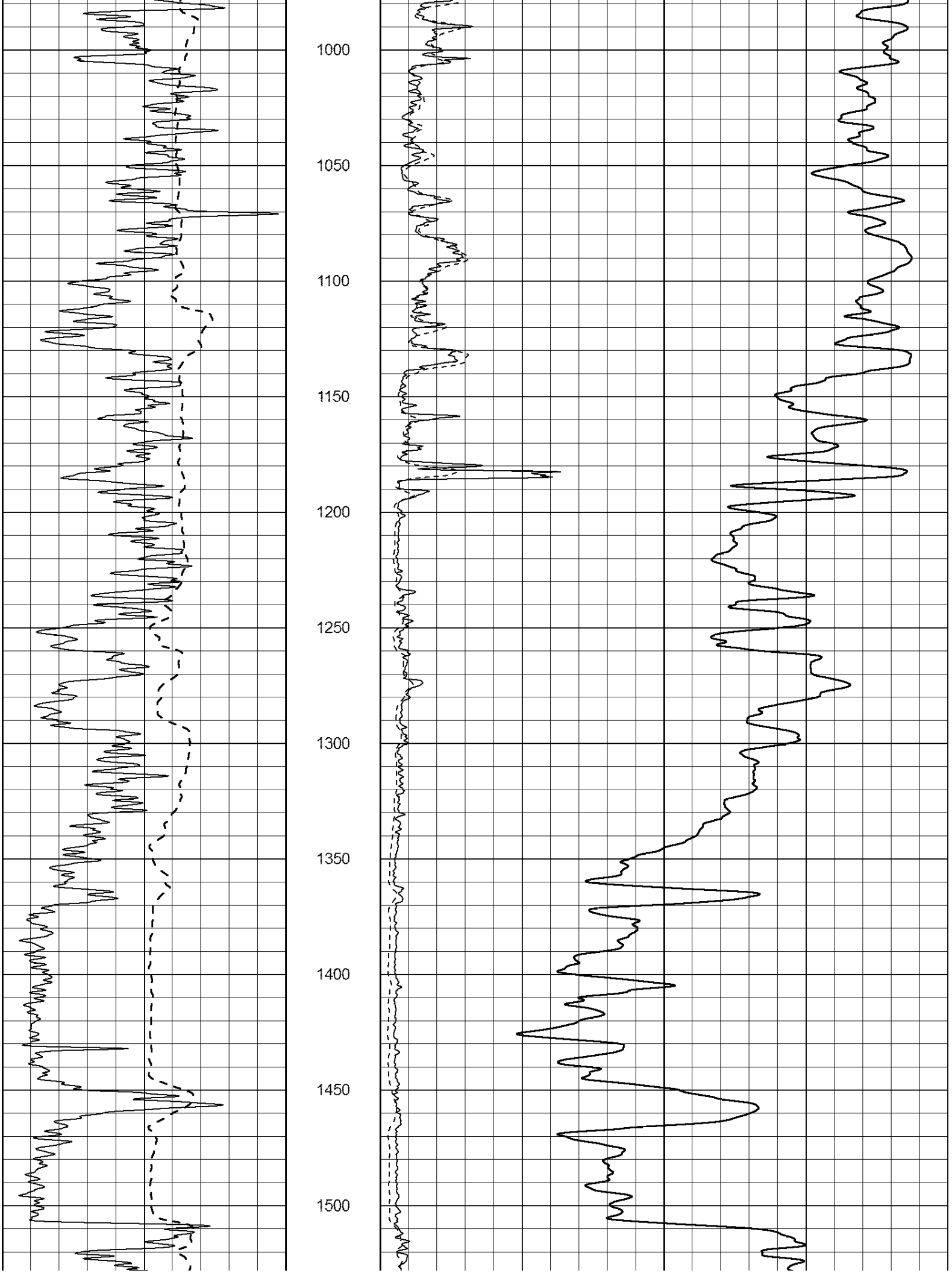
Database File: 24637ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil2
Dataset Creation: Sun Jun 22 06:16:43 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

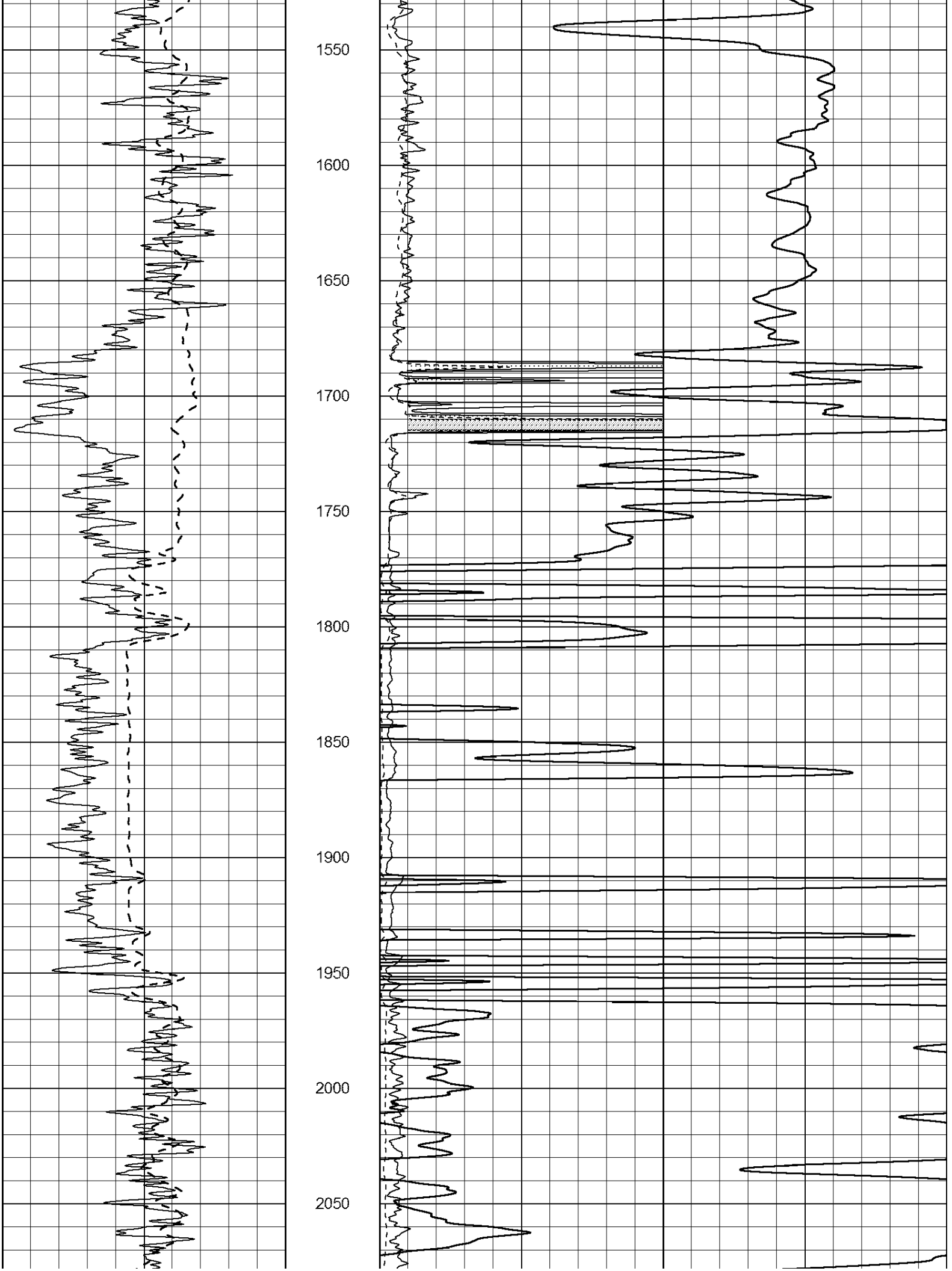
0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

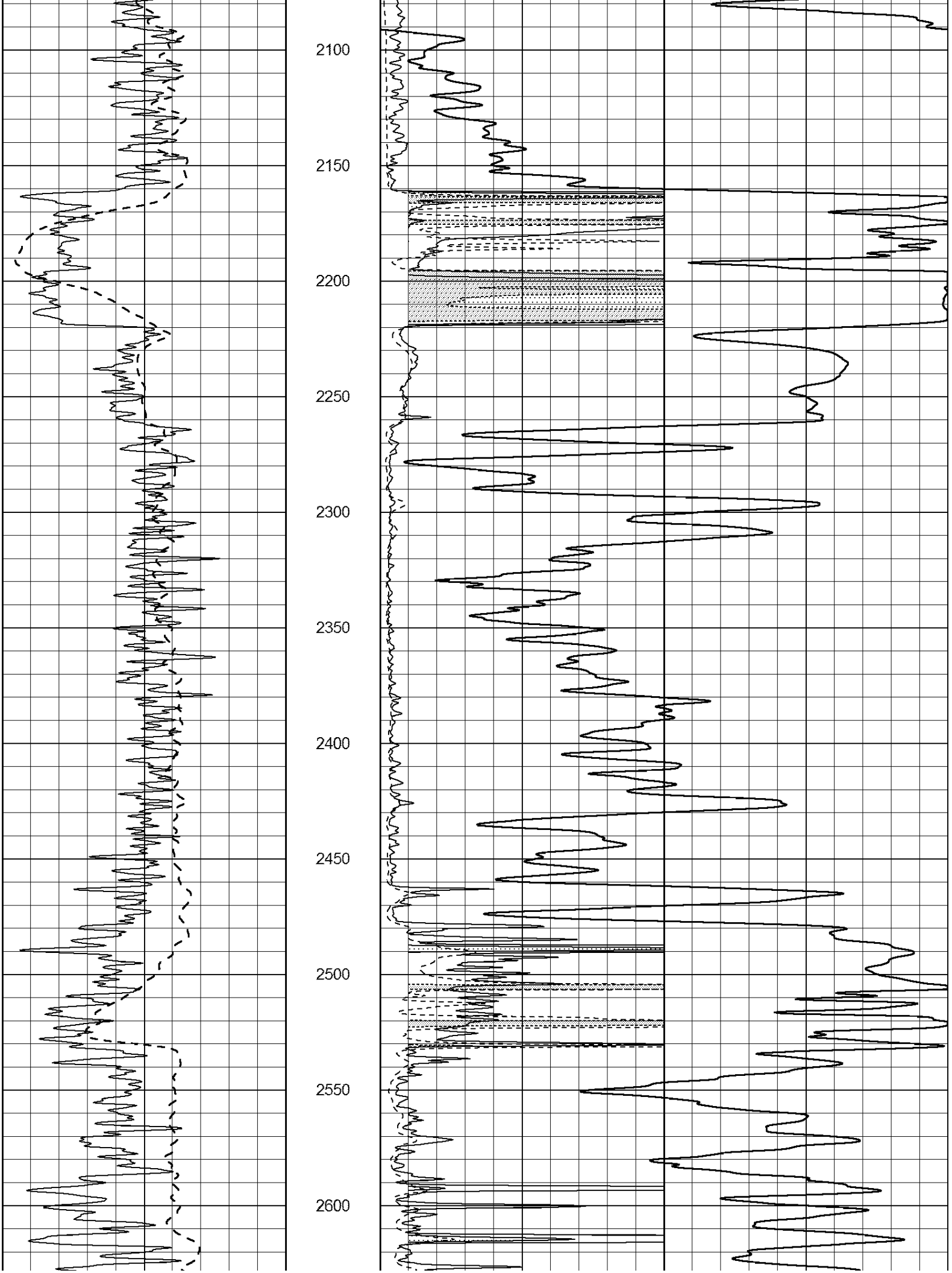
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

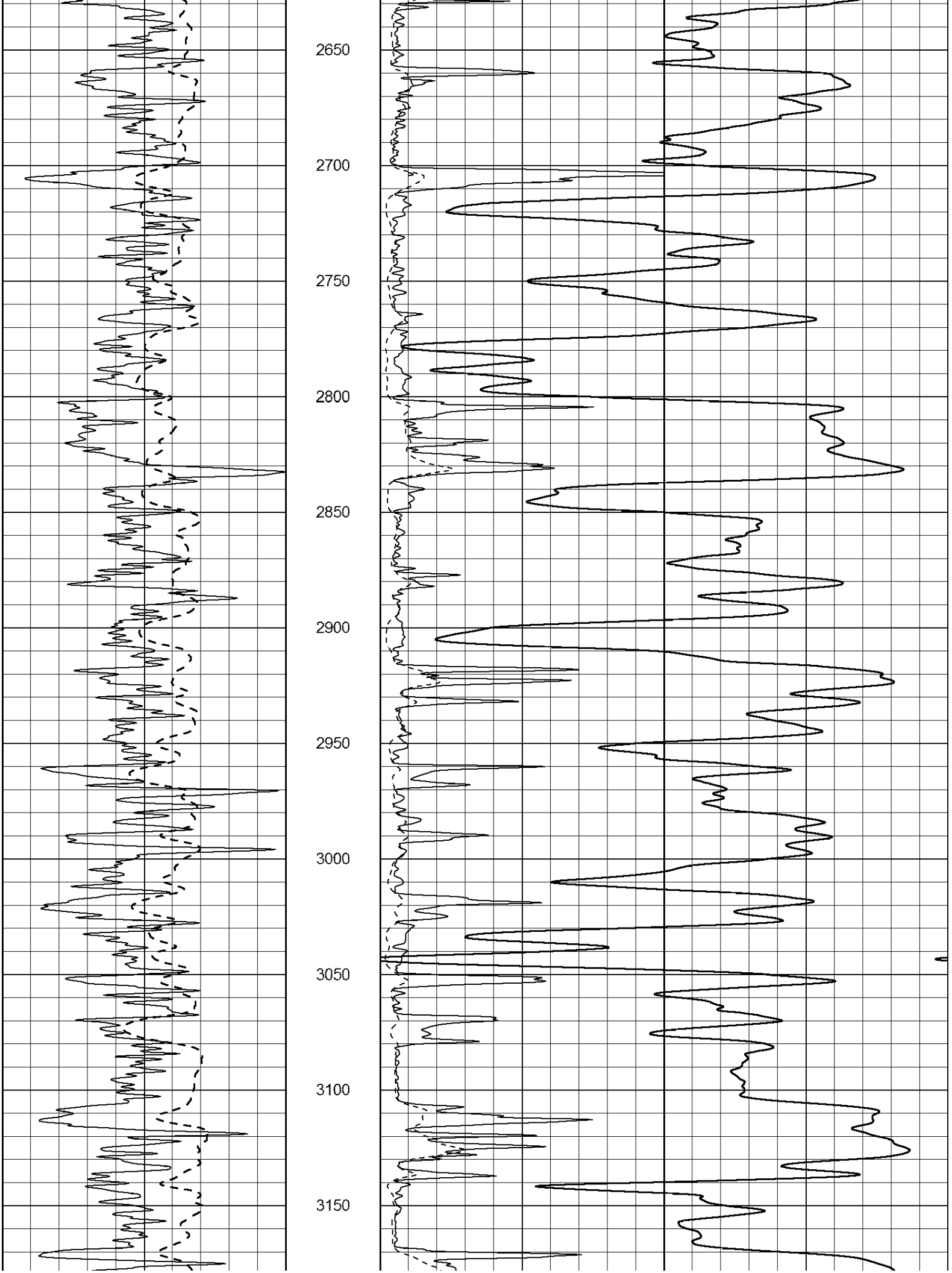


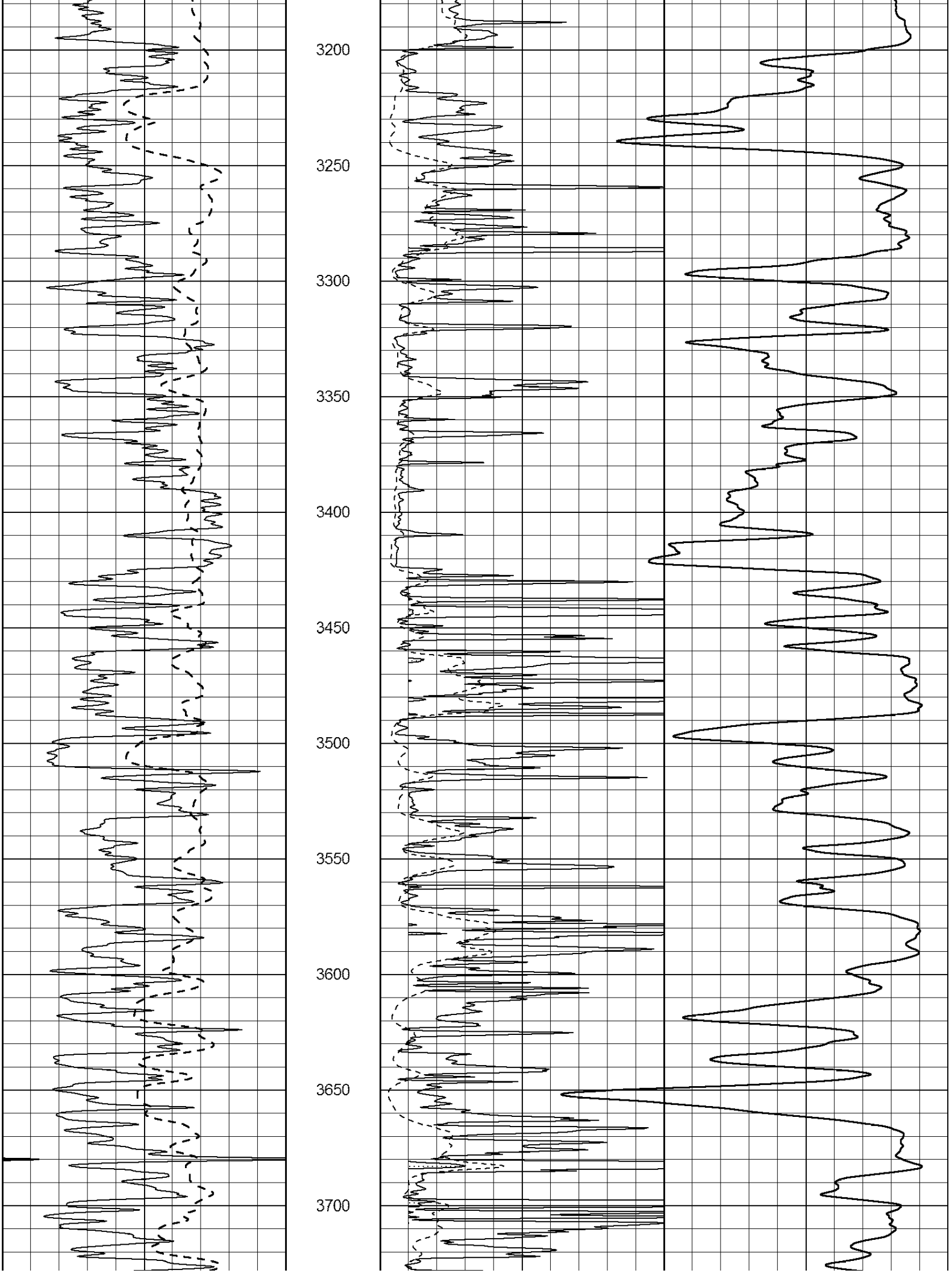

450
500
550
600
650
700
750
800
850
900
950

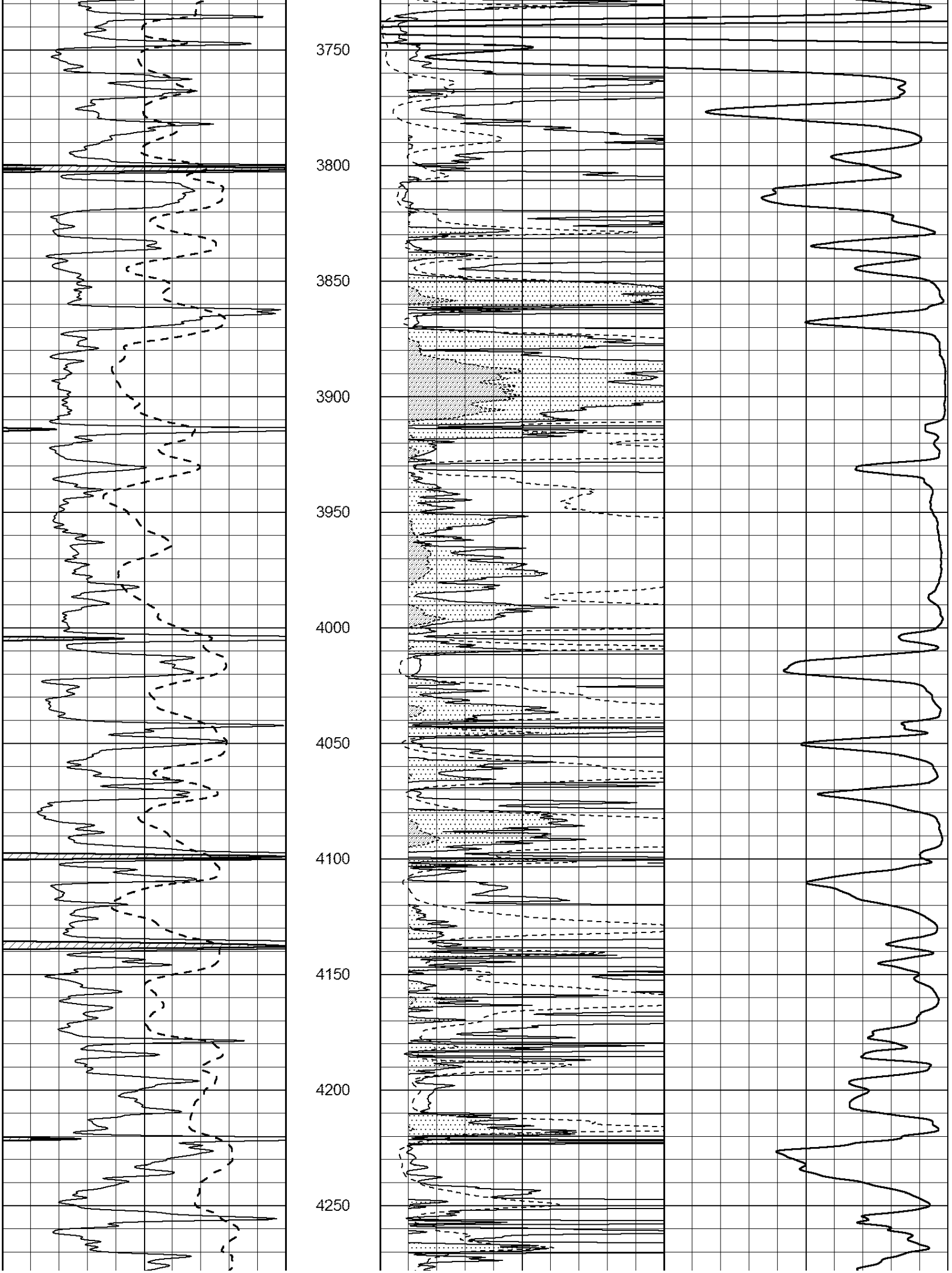

1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

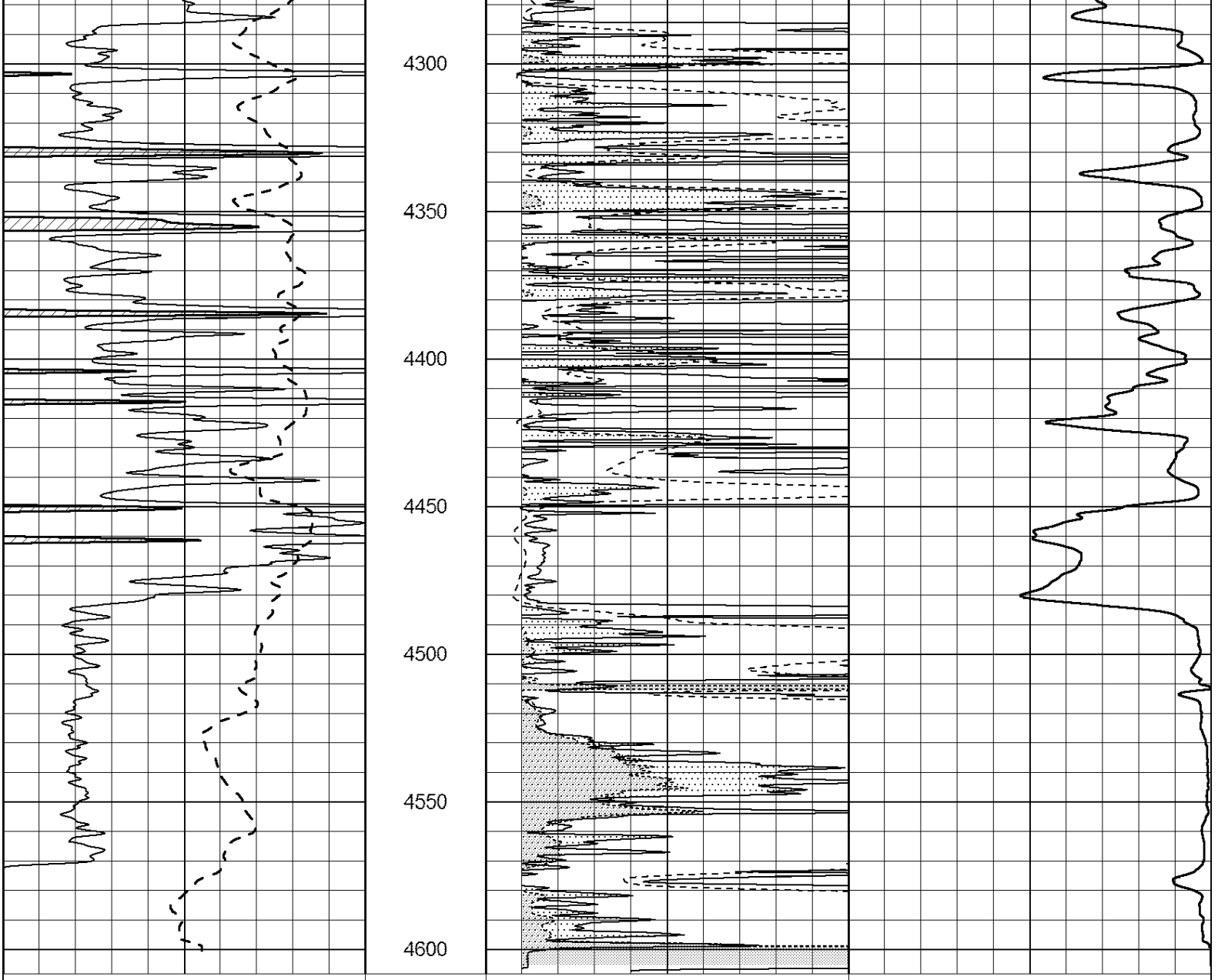

1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050


2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600


2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150


3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700


3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250



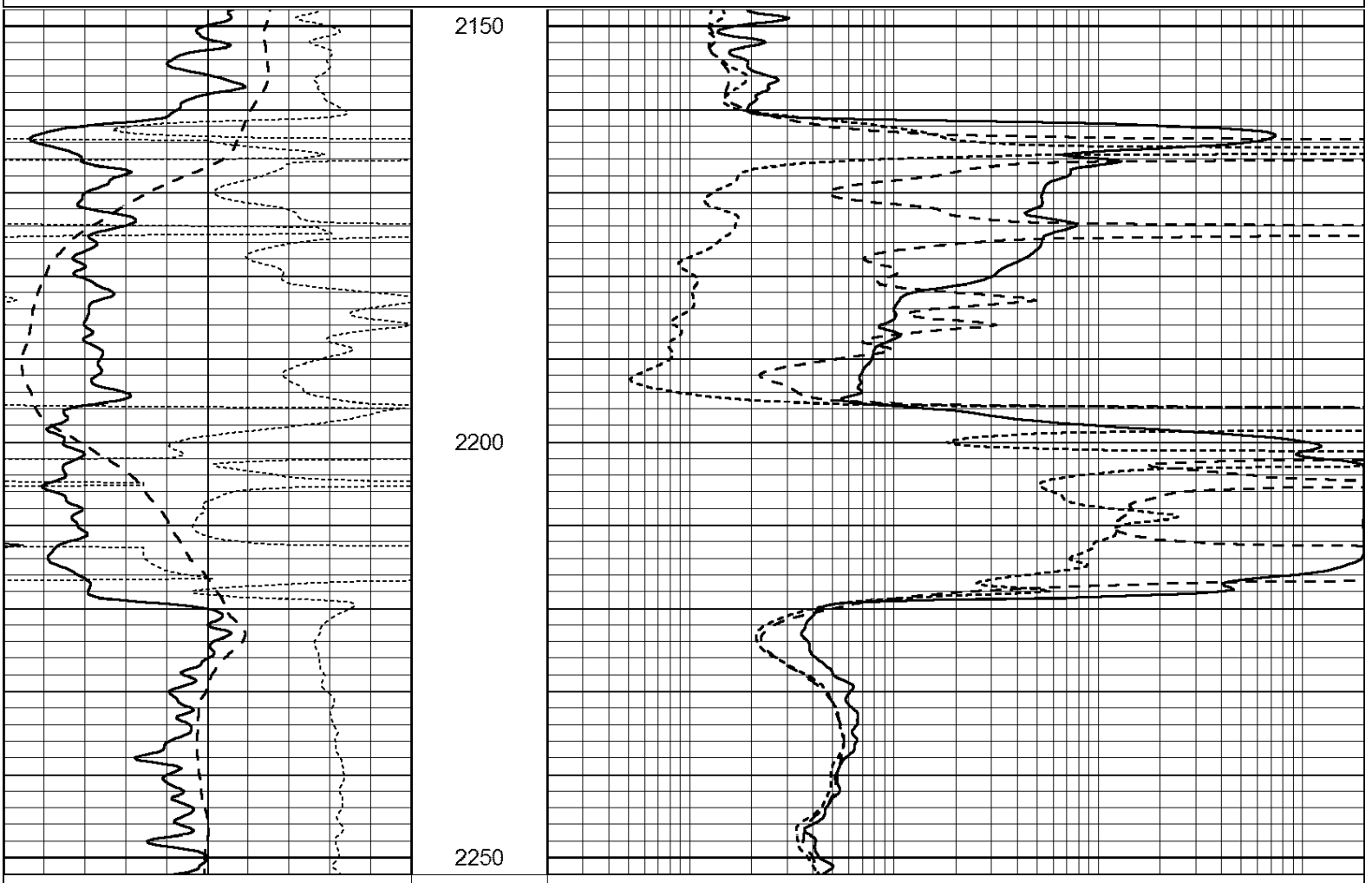
NABORS
COMPLETION & PRODUCTION SERVICES CO.

ANHYDRITE

Database File: 24637ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Sun Jun 22 05:37:00 2014 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

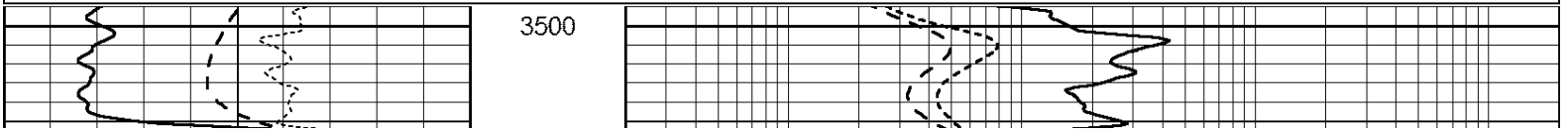
NABORS
COMPLETION & PRODUCTION SERVICES CO.

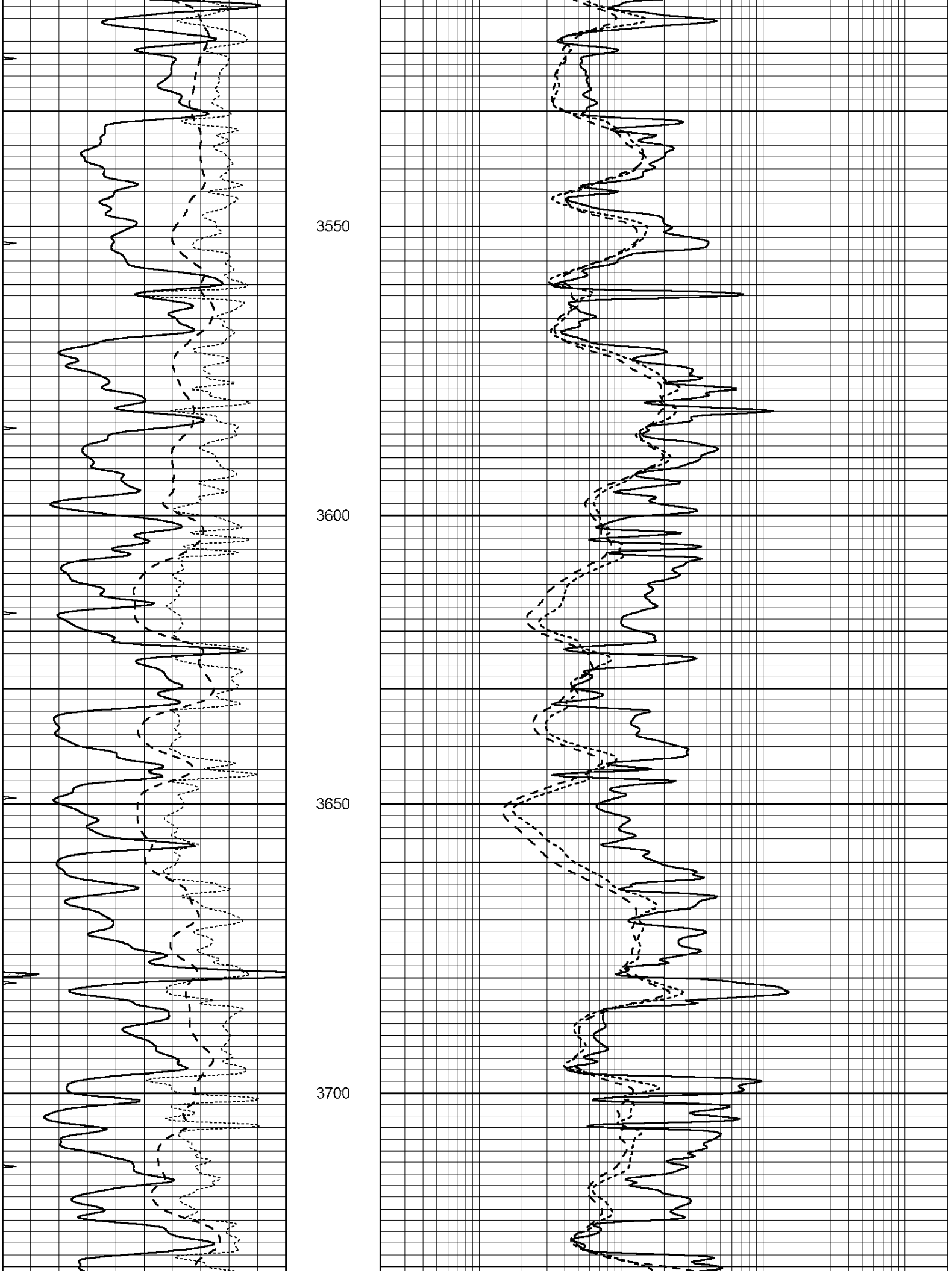
MAIN SECTION

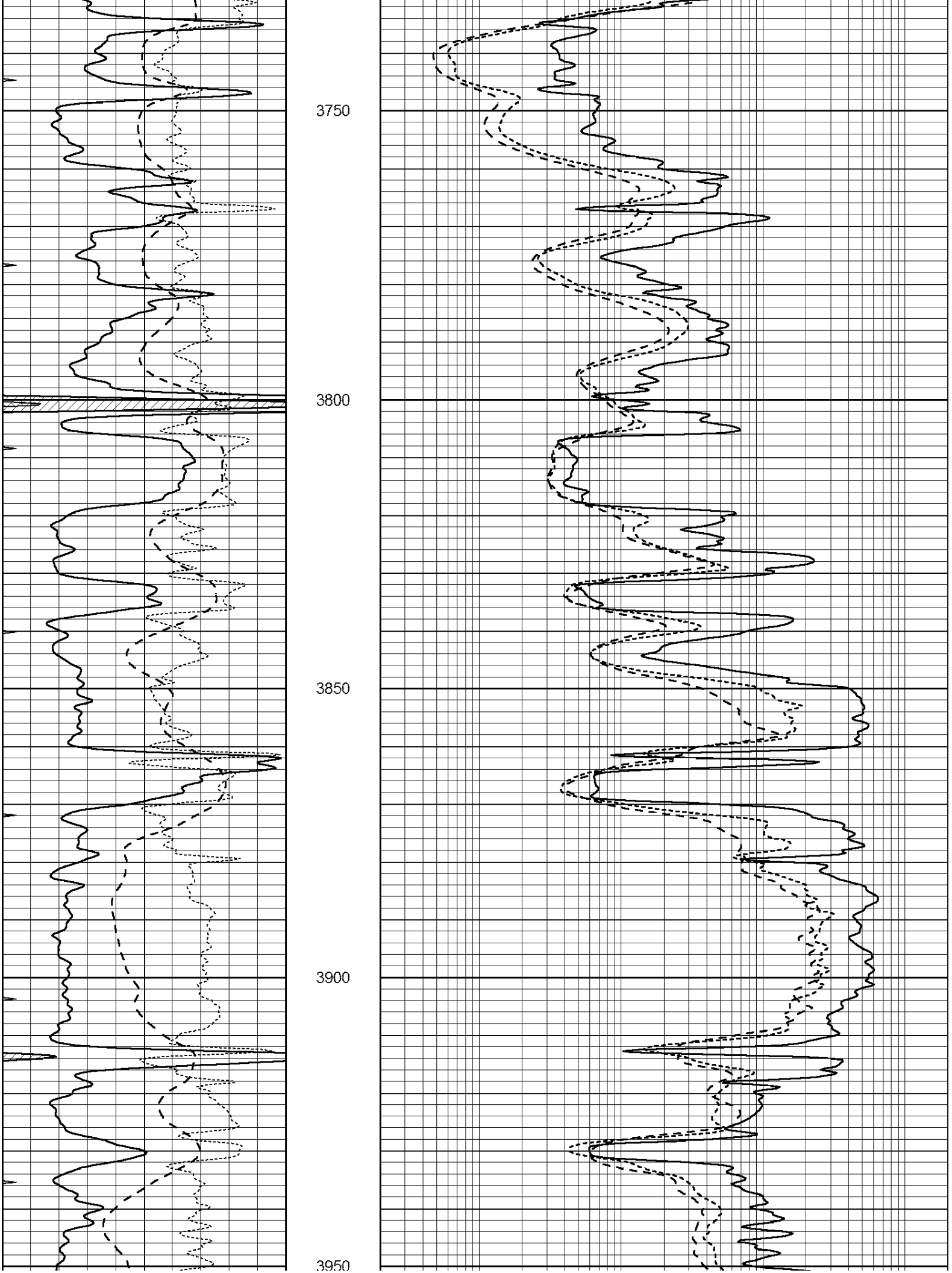
Database File: 24637ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Sun Jun 22 05:23:11 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

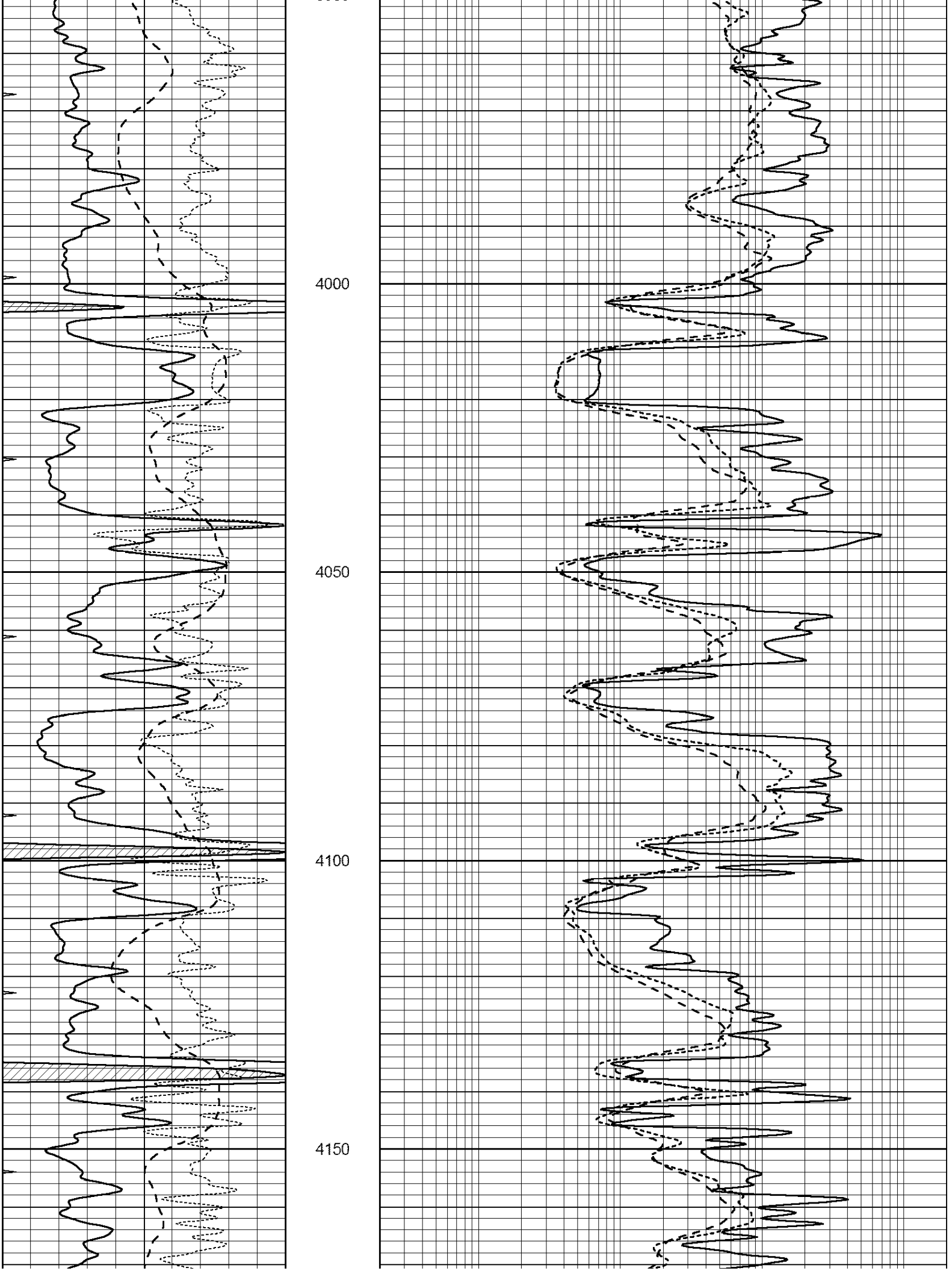
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

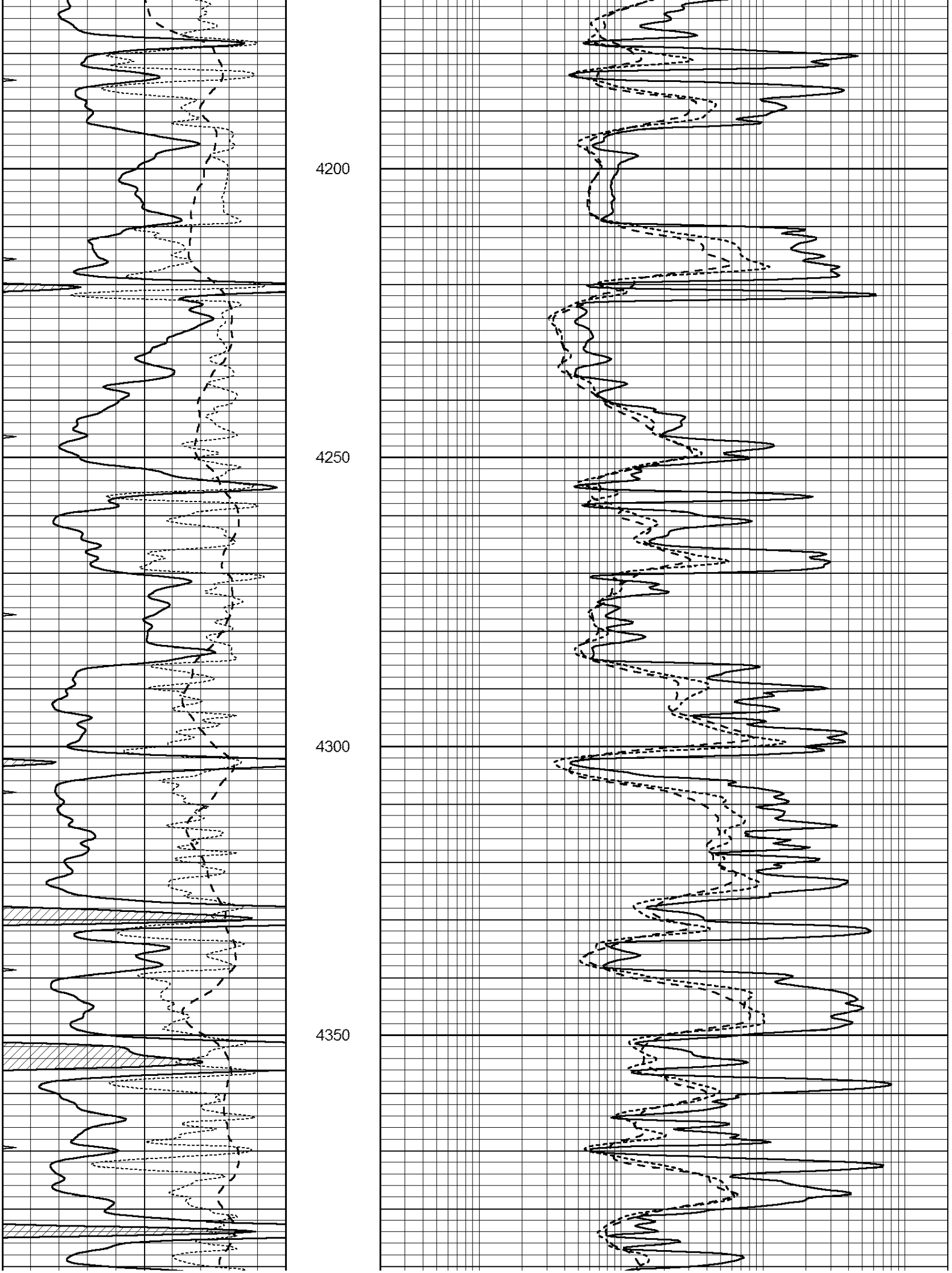
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

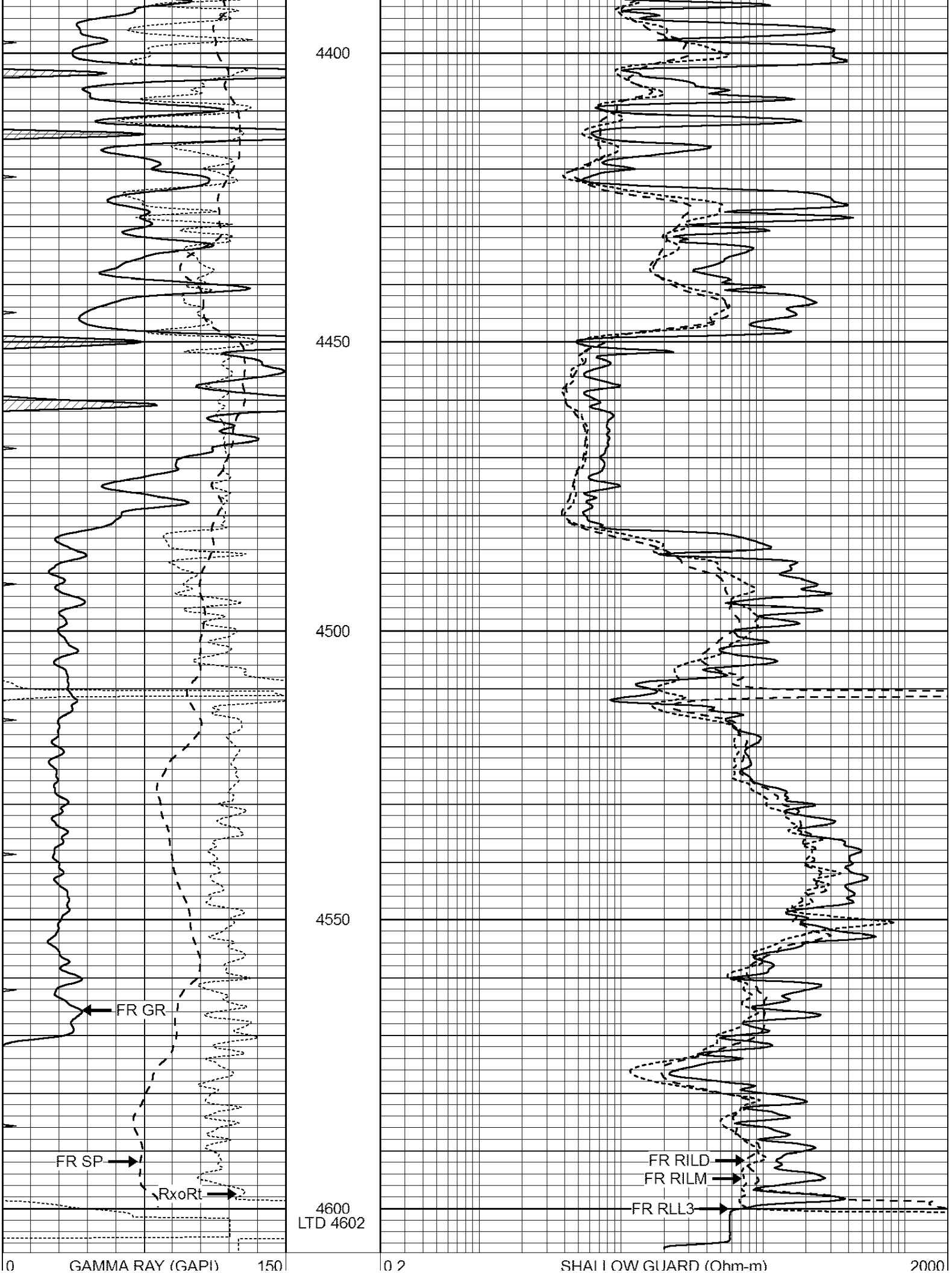



3550
3600
3650
3700


3750
3800
3850
3900
3950


4000
4050
4100
4150


4200
4250
4300
4350


4400
4450
4500
4550
4600
LTD 4602
FR GR
FR SP
RxoRt
FR RILD
FR RILM
FR RLL3
0
GAMMA RAY (GAPI)
150
0.2
SHALLOW GUARD (Ohm-m)
2000

-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

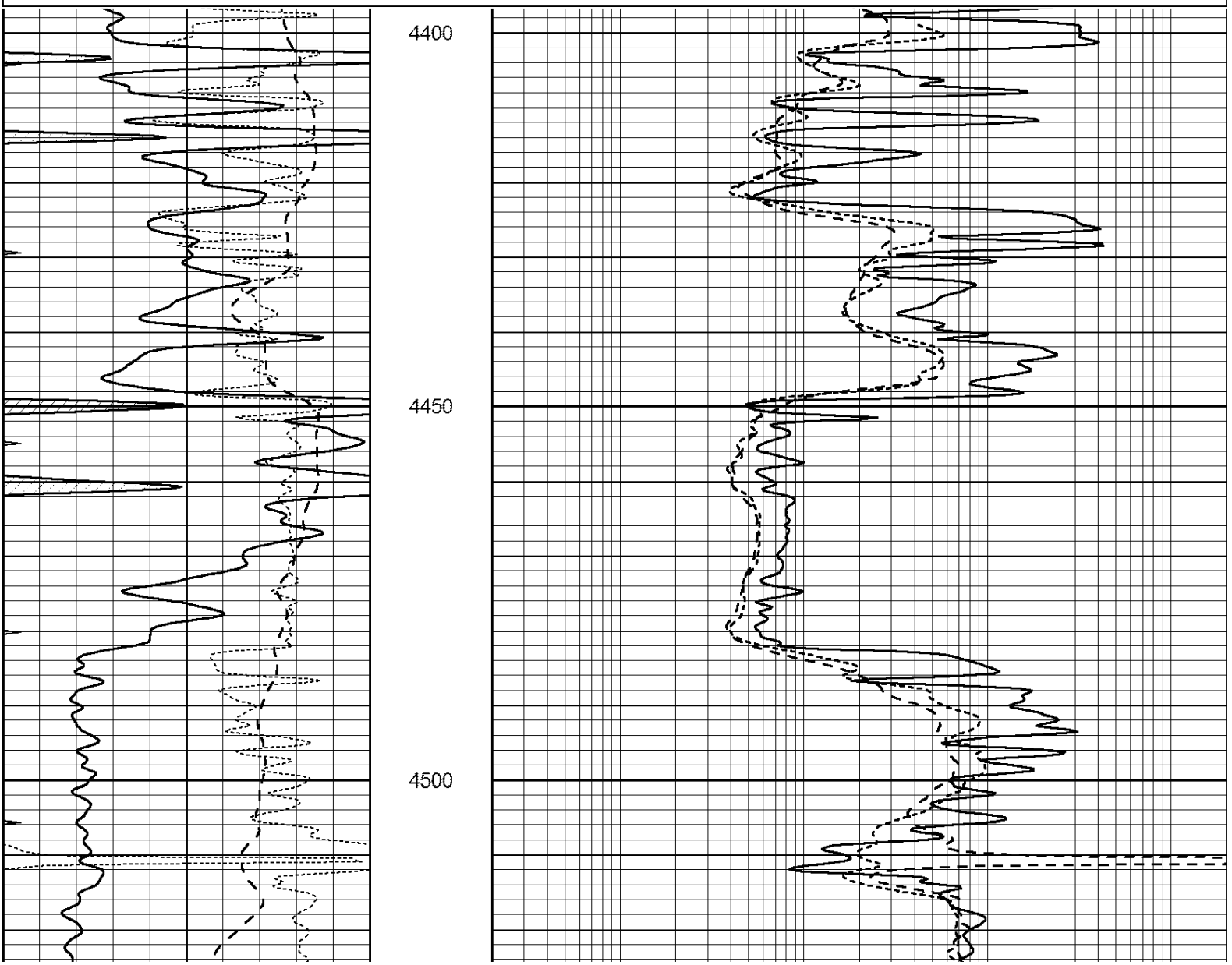
NABORS
COMPLETION & PRODUCTION SERVICES CO.

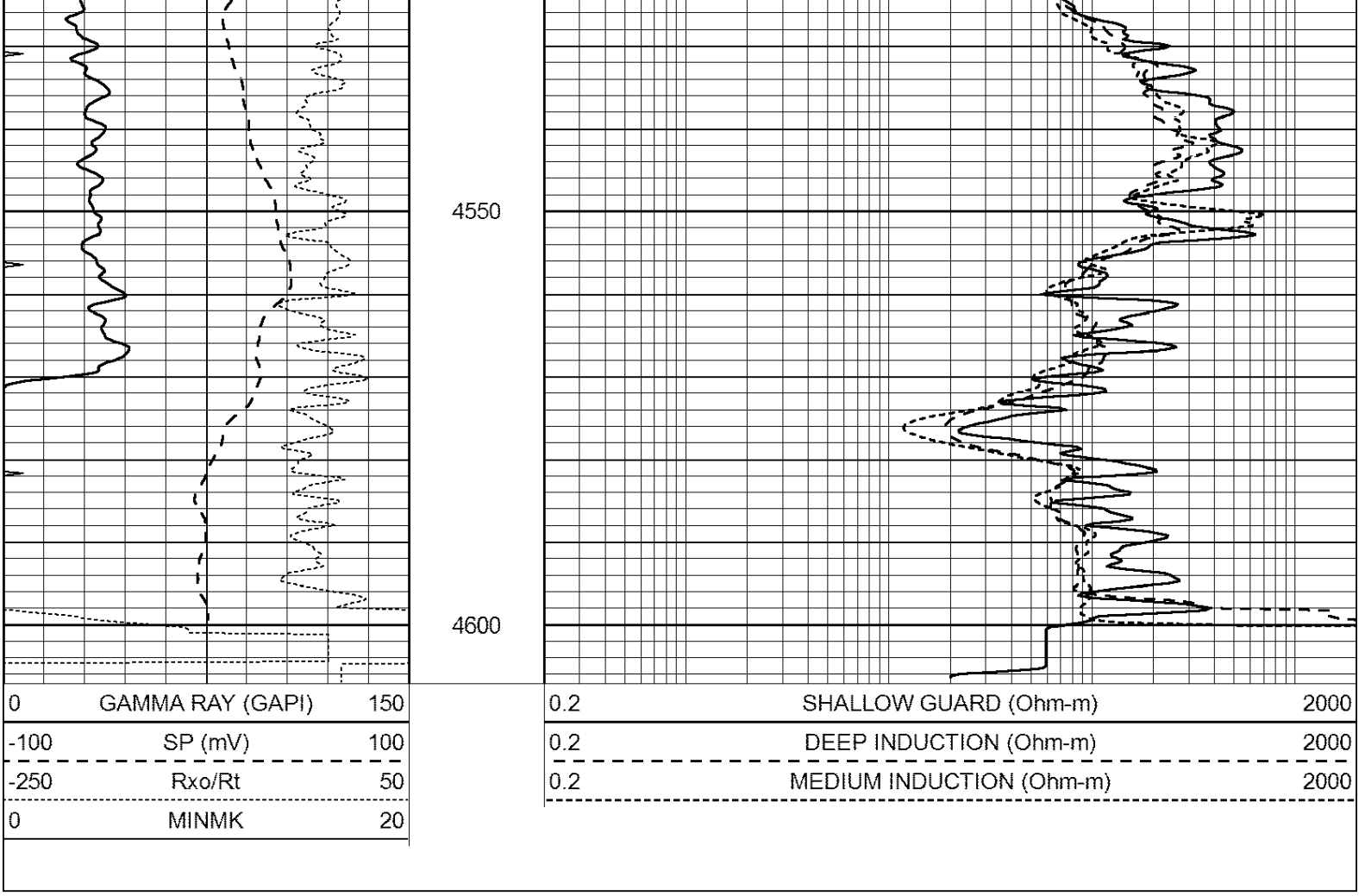
REPEAT SECTION

Database File: 24637ddn.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Sun Jun 22 05:14:41 2014 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





Calibration Report

Database File: 24637ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Sun Jun 22 05:14:41 2014 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Fri Aug 01 06:33:19 2008
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	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
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:	GEAR3-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Fri Jan 04 15:48:16 2013
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	935.36	501.55	cps
Aluminum	2.580	g/cc	209.32	357.01	cps

Spine Angle = 77.21 Density/Spine Ratio = 0.567

	Size		Reading	
Small Ring	8.00	in	4.29	V
Large Ring	14.00	in	6.24	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:	6l
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:	Sat May 31 01:22:06 2014	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.7535	GAPI/cps