



**Casedhole
Solutions**

**DUAL
INDUCTION
LOG**

Company	SHELBY RESOURCES, LLC.		
Well	L-S UNIT #1-15		
Field			
County	BARTON	State	KANSAS
Company	SHELBY RESOURCES, LLC.	Well	L-S UNIT #1-15
Field		County	BARTON
County	BARTON	State	KANSAS
Location:	AP1 # : 15-009-26134-0000 1740' FNL & 2600' FEL		Other Services CDL/CNL MEL/SON
Permanent Datum	GROUND LEVEL	Elevation	1923
Log Measured From	KELLY BUSHING 11' A.G.L.	Elevation	K.B. 1934 D.F. 1932 G.L. 1923
Drilling Measured From	KELLY BUSHING		
SEC 15	TWP 18S	RGE 14W	
Date	12/6/15		
Run Number	ONE		
Depth Driller	3560		
Depth Logger	3559		
Bottom Logged Interval	3557		
Top Log Interval	00		
Casing Driller	8 5/8" @ 896'		
Casing Logger	894'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6500 PPM	
Density / Viscosity	9.0/72		
pH / Fluid Loss	9.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.75 @ 50F		
Rmt @ Meas. Temp	.56 @ 50F		
Rmc @ Meas. Temp	.90 @ 50F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.30 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	JEREMY SCHWARTZ		

<<< 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 CASEDHOLE SOLUTIONS, HAYS, KS. (785) 628-6395
DIRECTIONS:
AT INTERSECTION OF HWY 4 & HWY 281 - 3 SOUTH TO 90 RD. - 1/2 WEST
SOUTH INTO



**Casedhole
Solutions**

MAIN SECTION

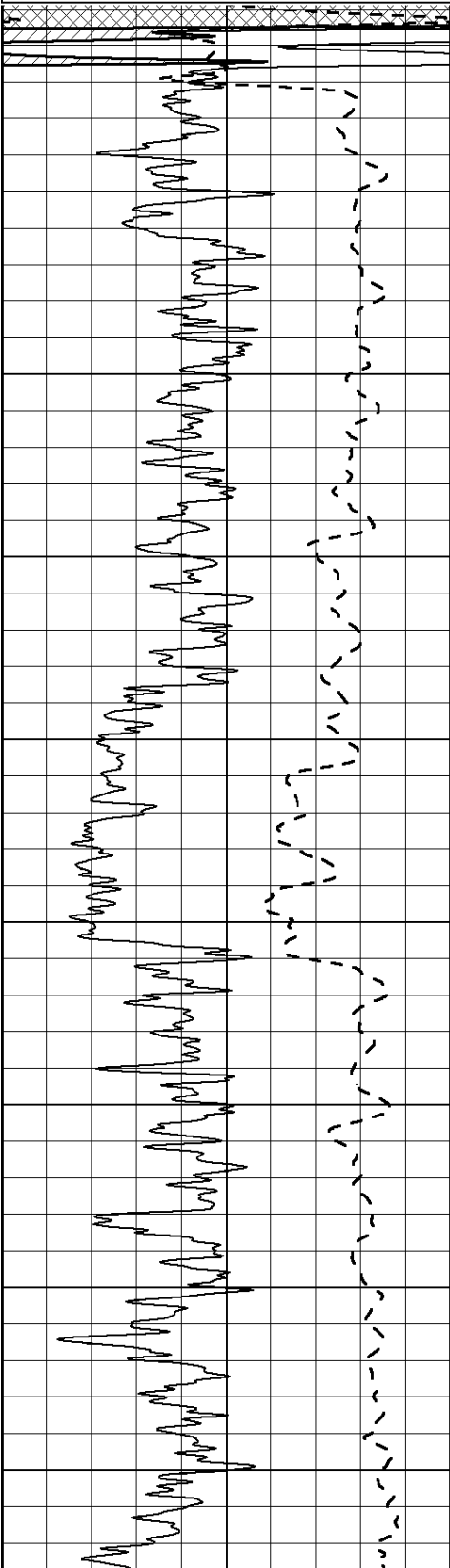
Database File: 30886ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil2
Dataset Creation: Sun Dec 06 15:29:58 2015 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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

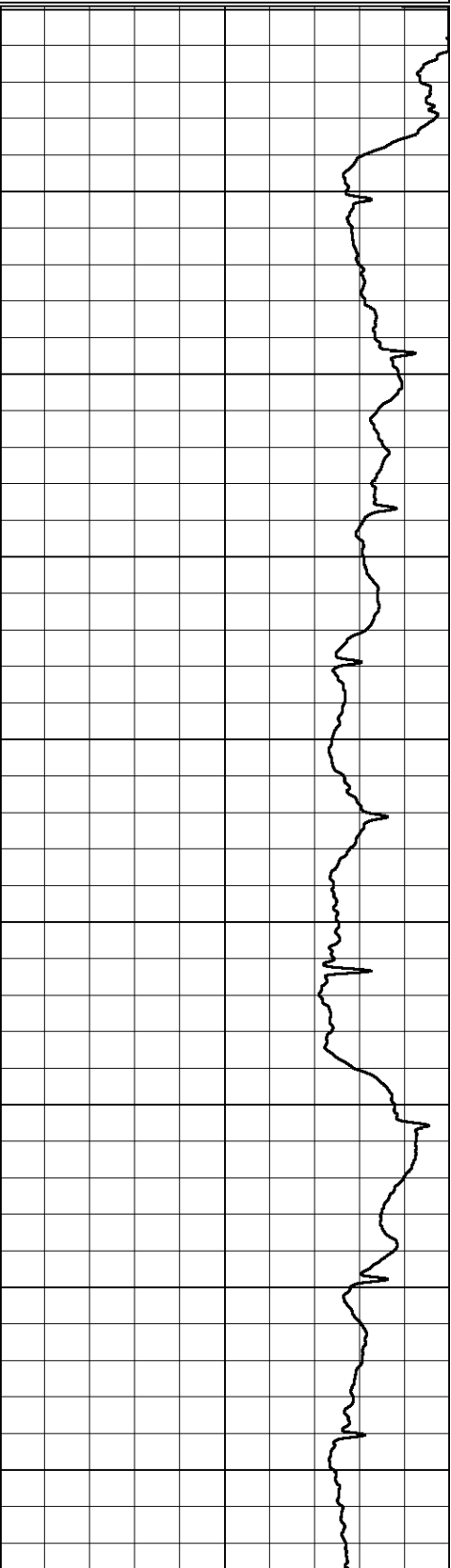
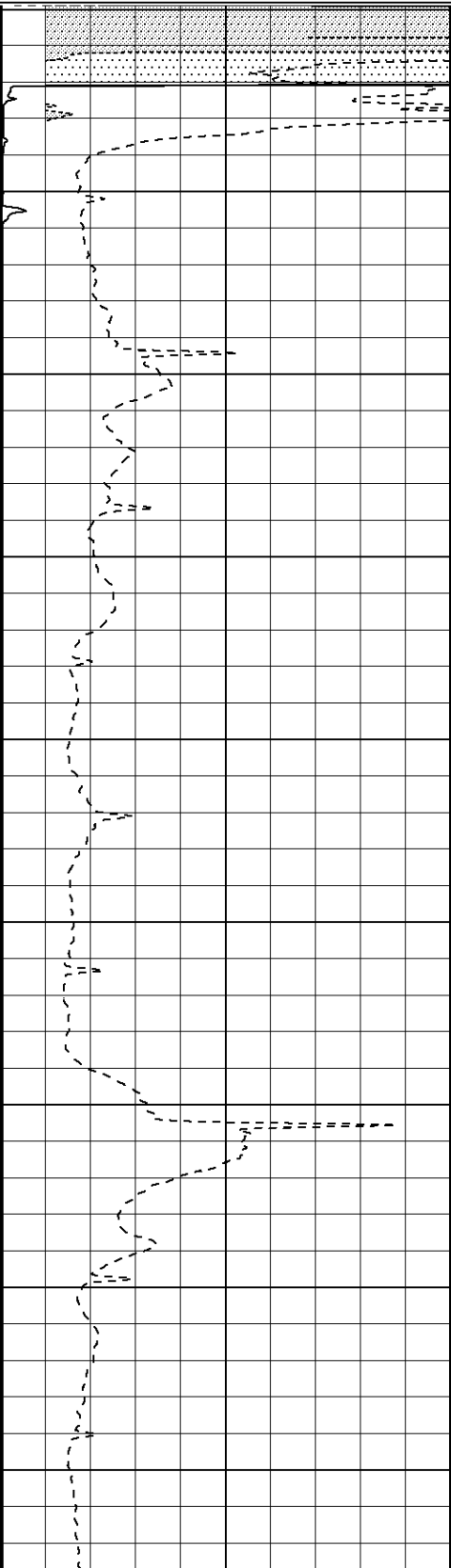
0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50

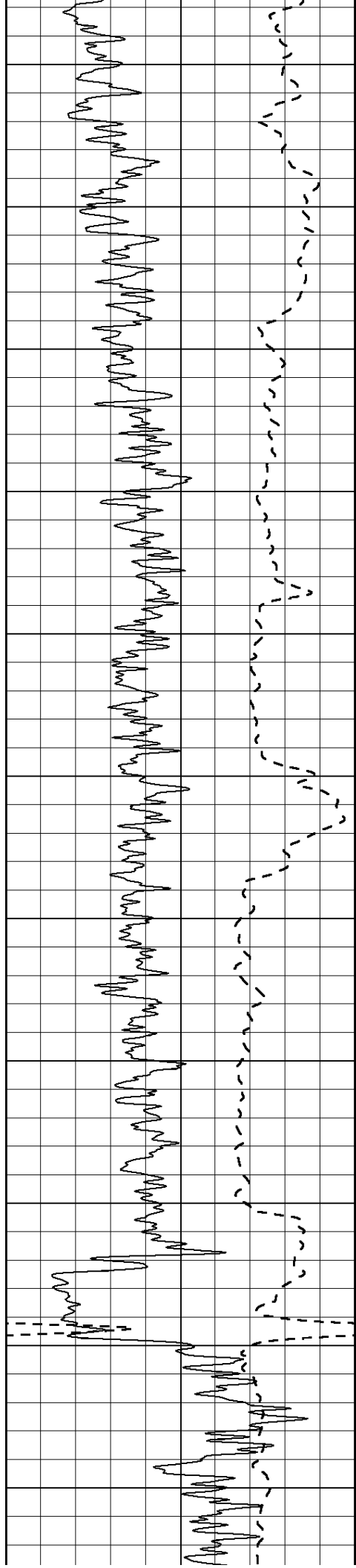
1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

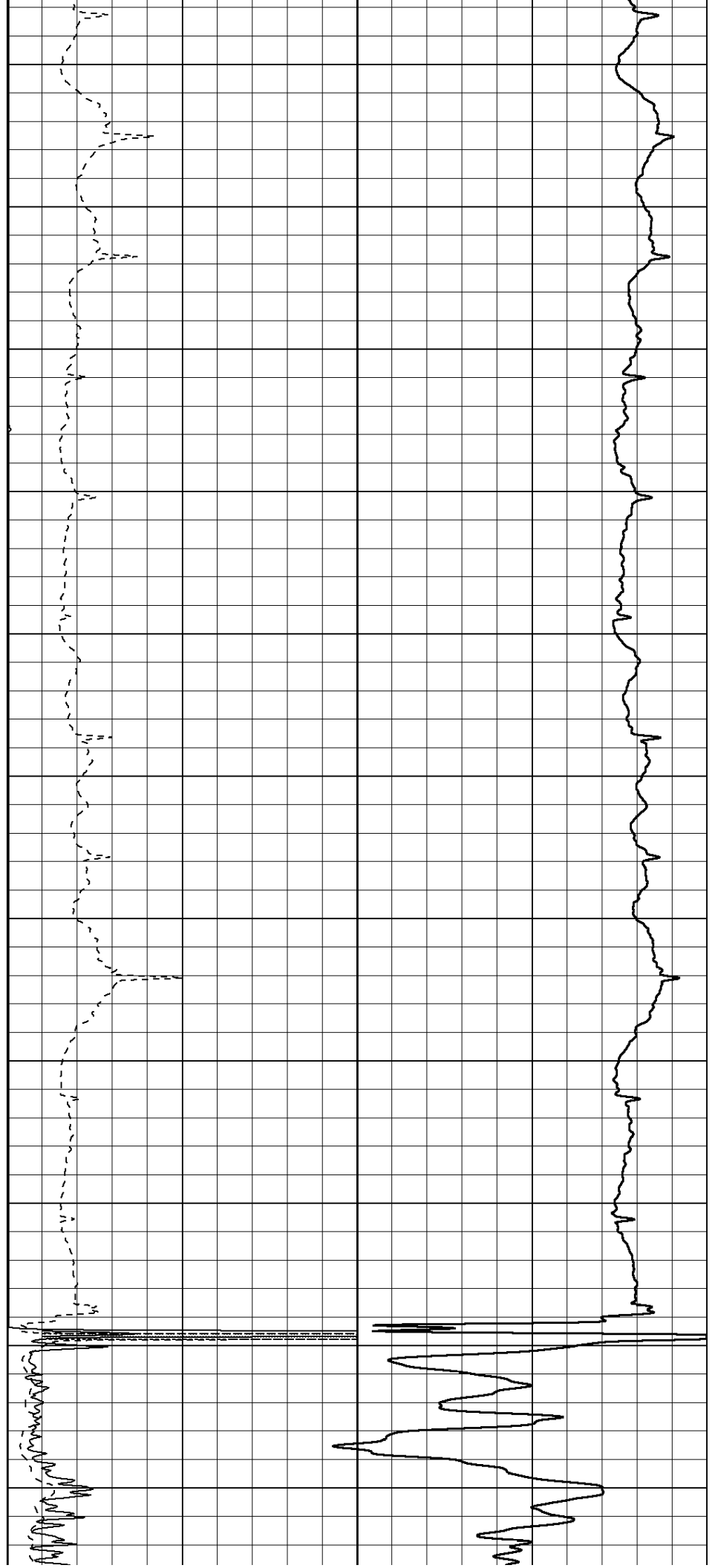
750

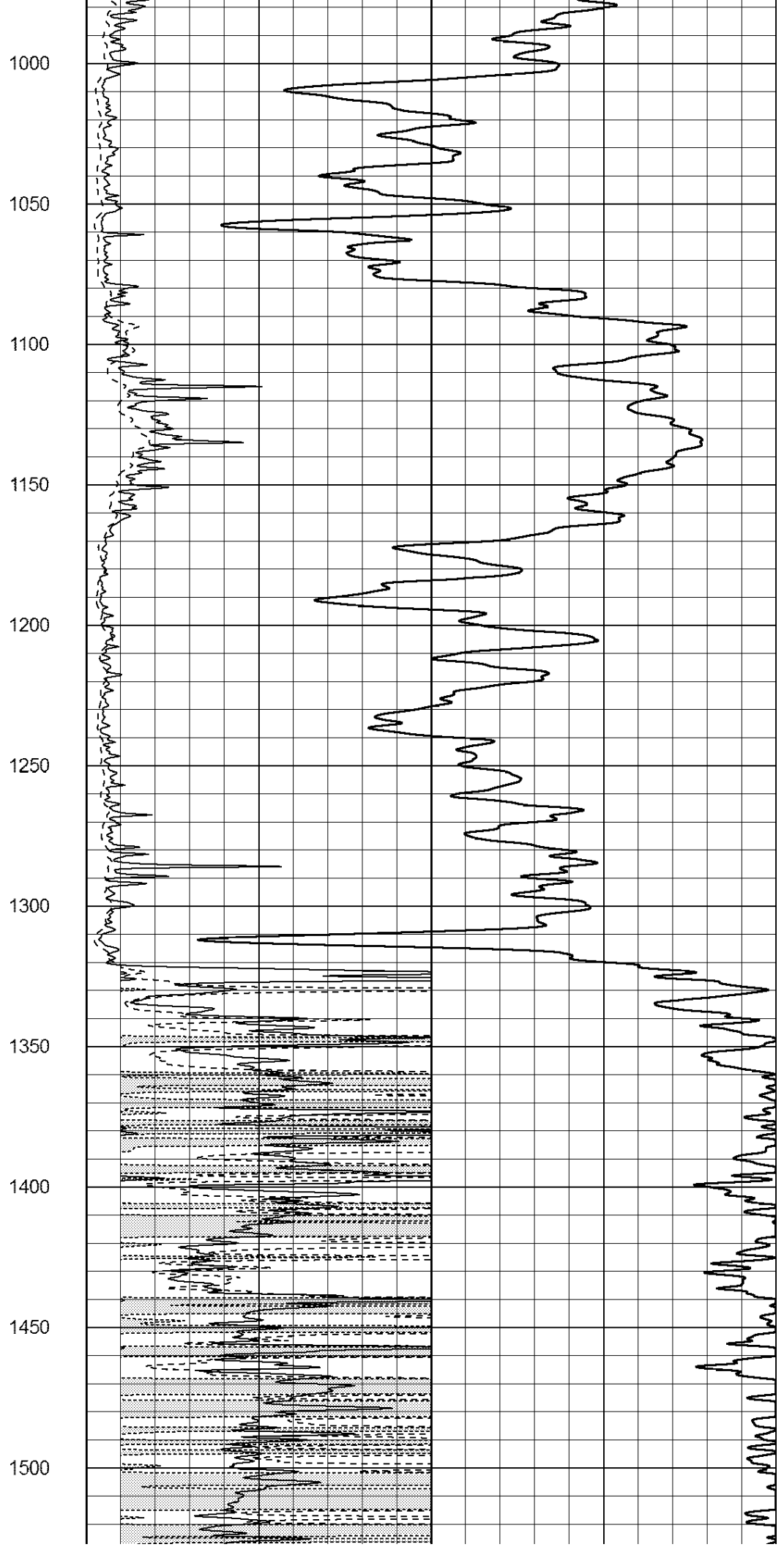
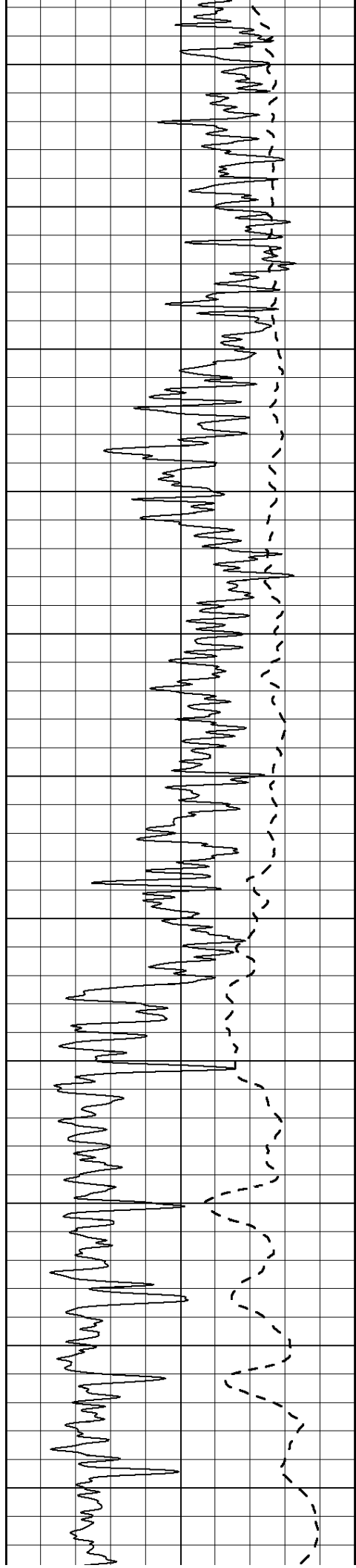
800

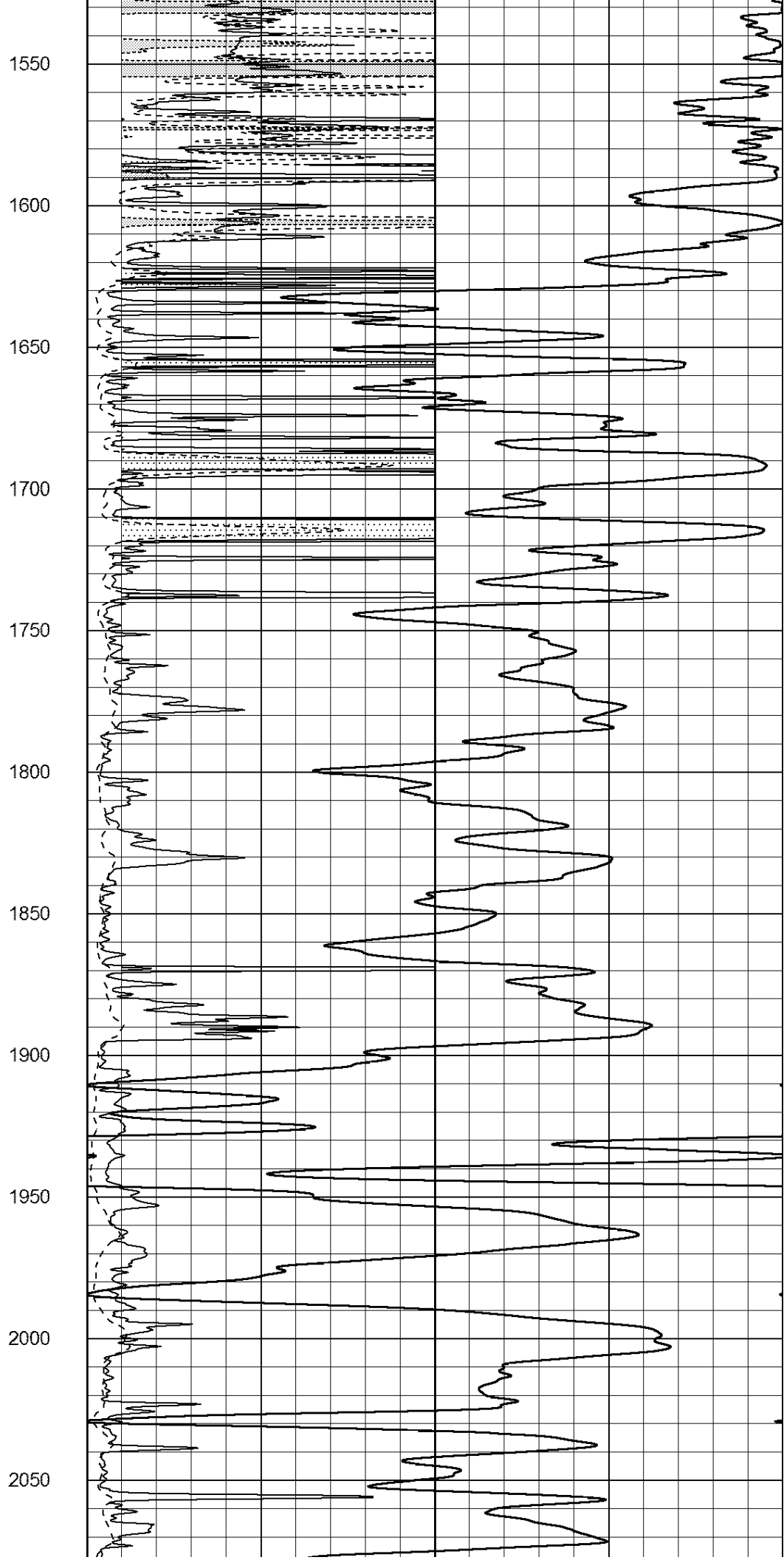
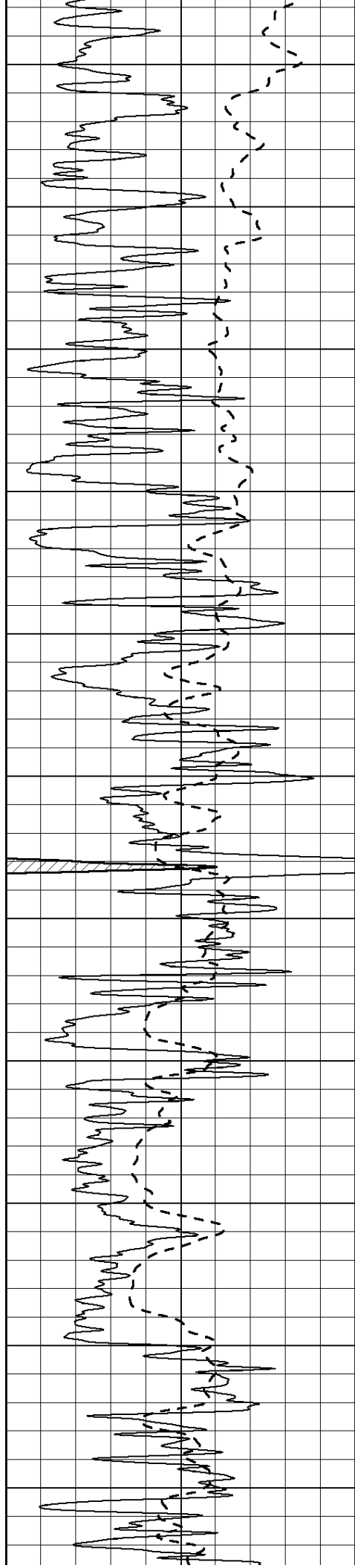
850

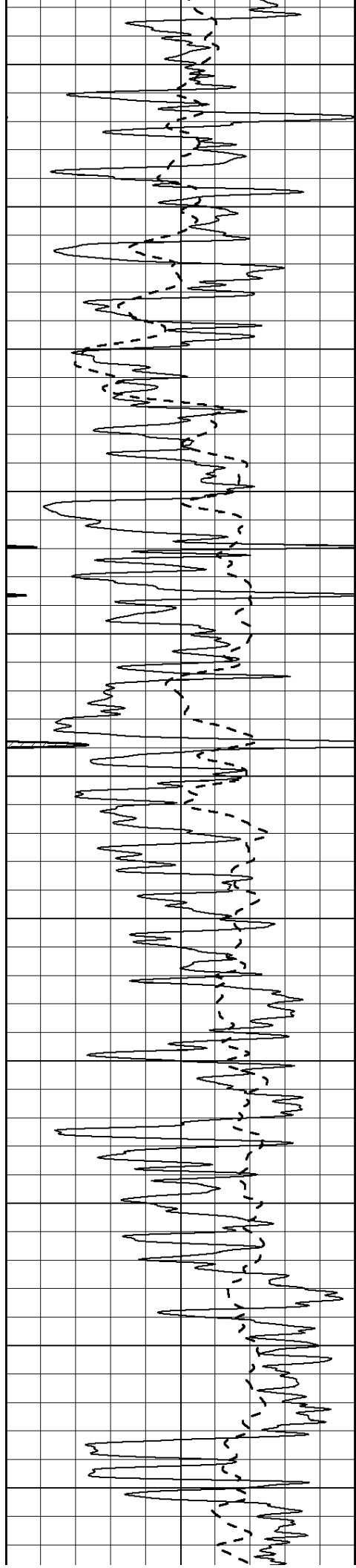
900

950









2100

2150

2200

2250

2300

2350

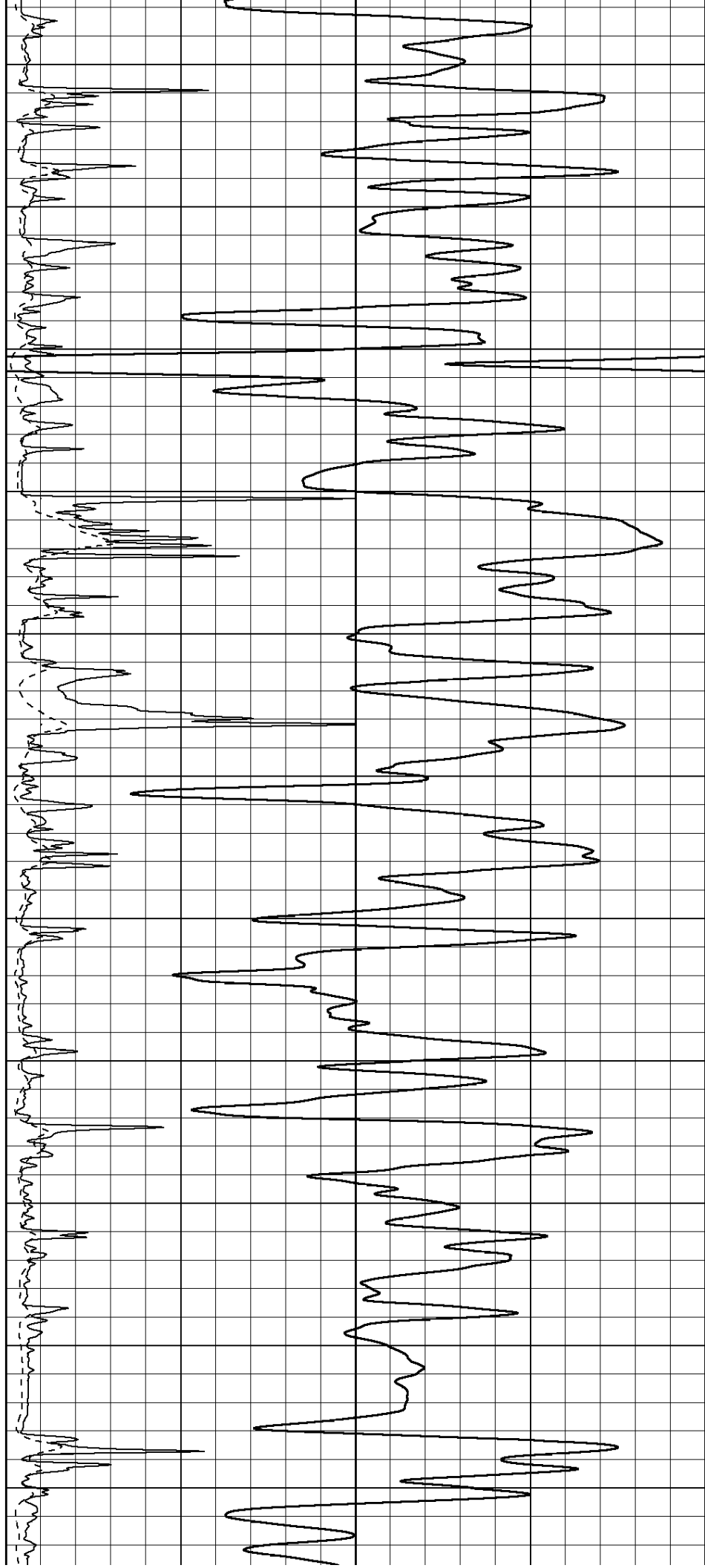
2400

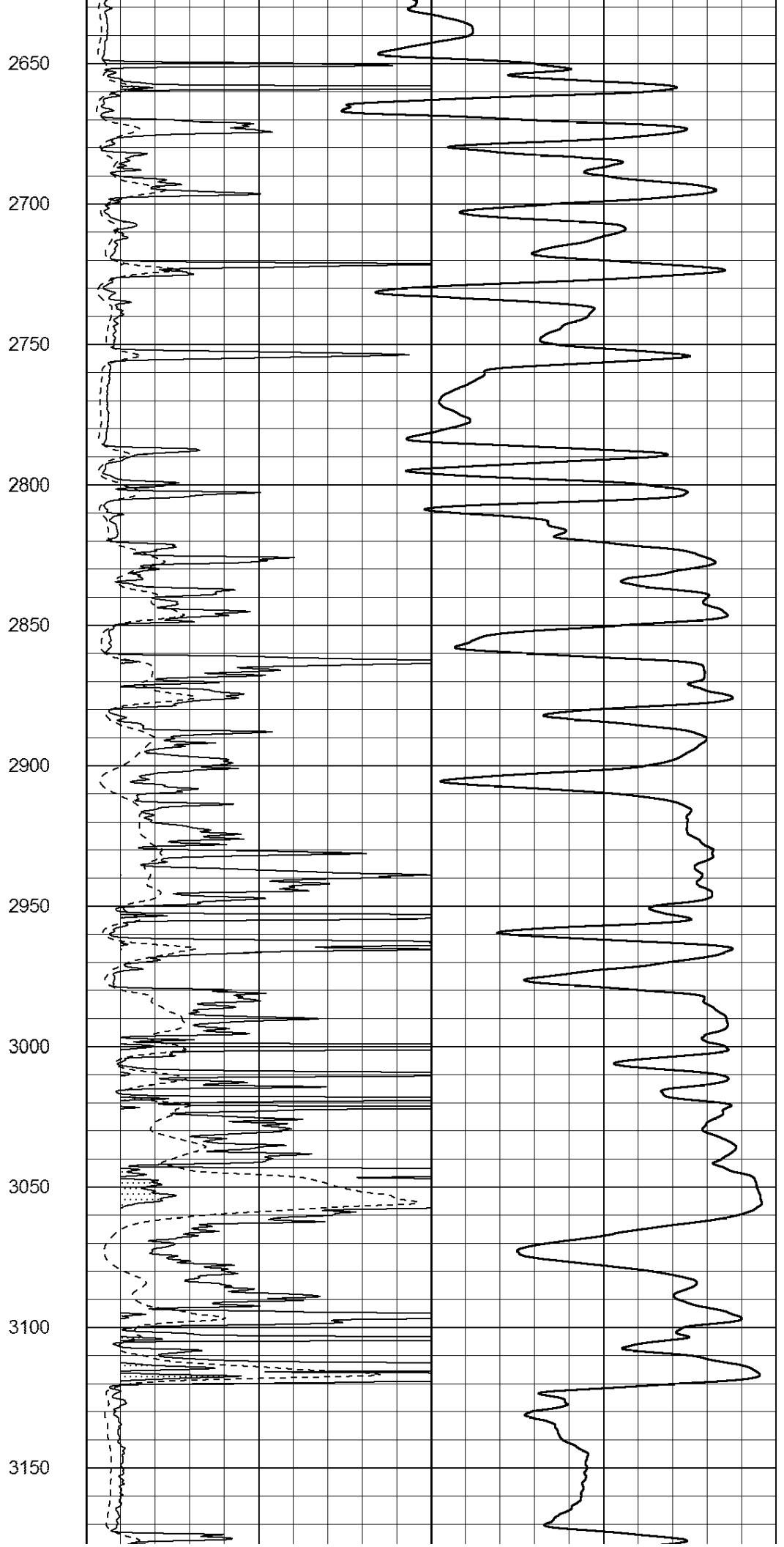
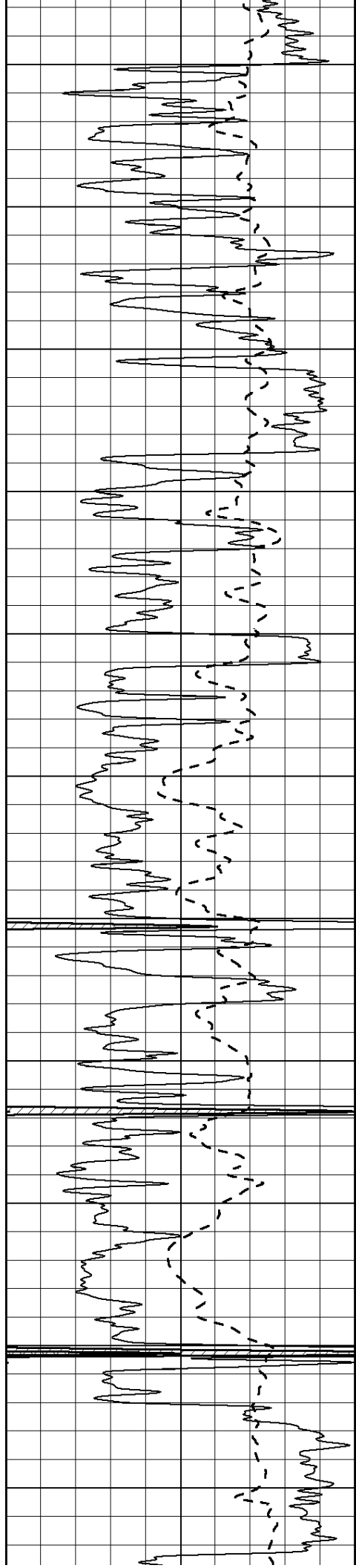
2450

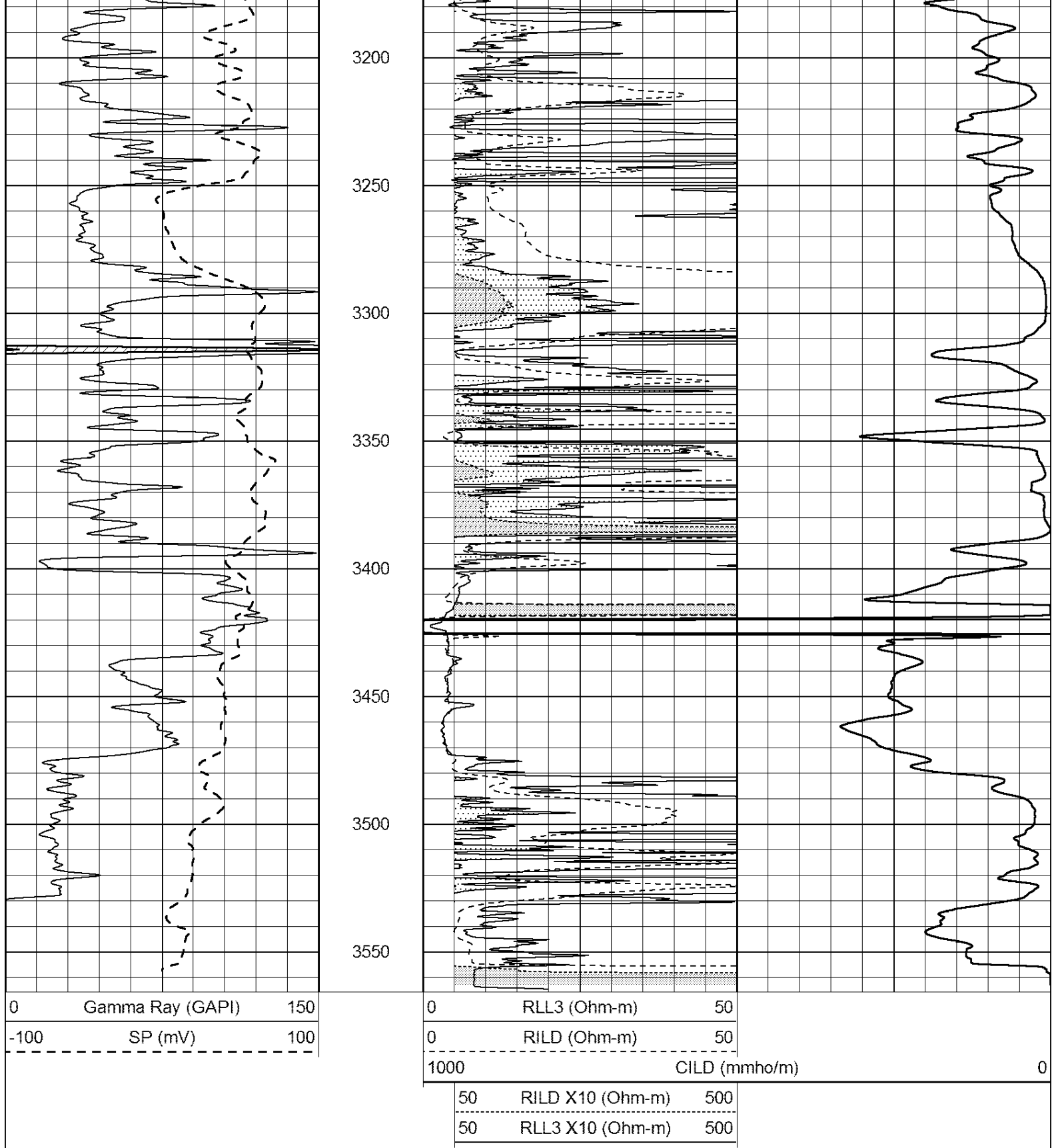
2500

2550

2600







**Casedhole
Solutions**

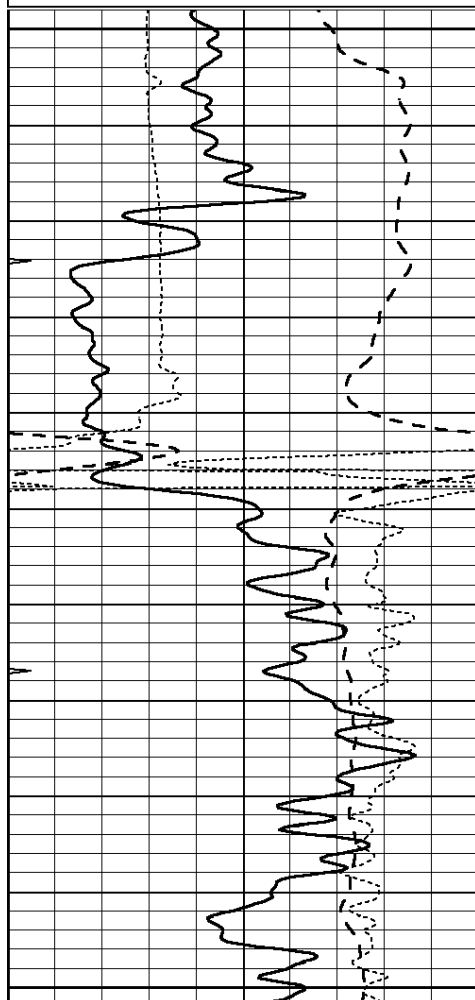
ANHYDRITE

Database File: 30886ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Sun Dec 06 15:06:02 2015 by Calc Open-Cased 090629

Charted by:

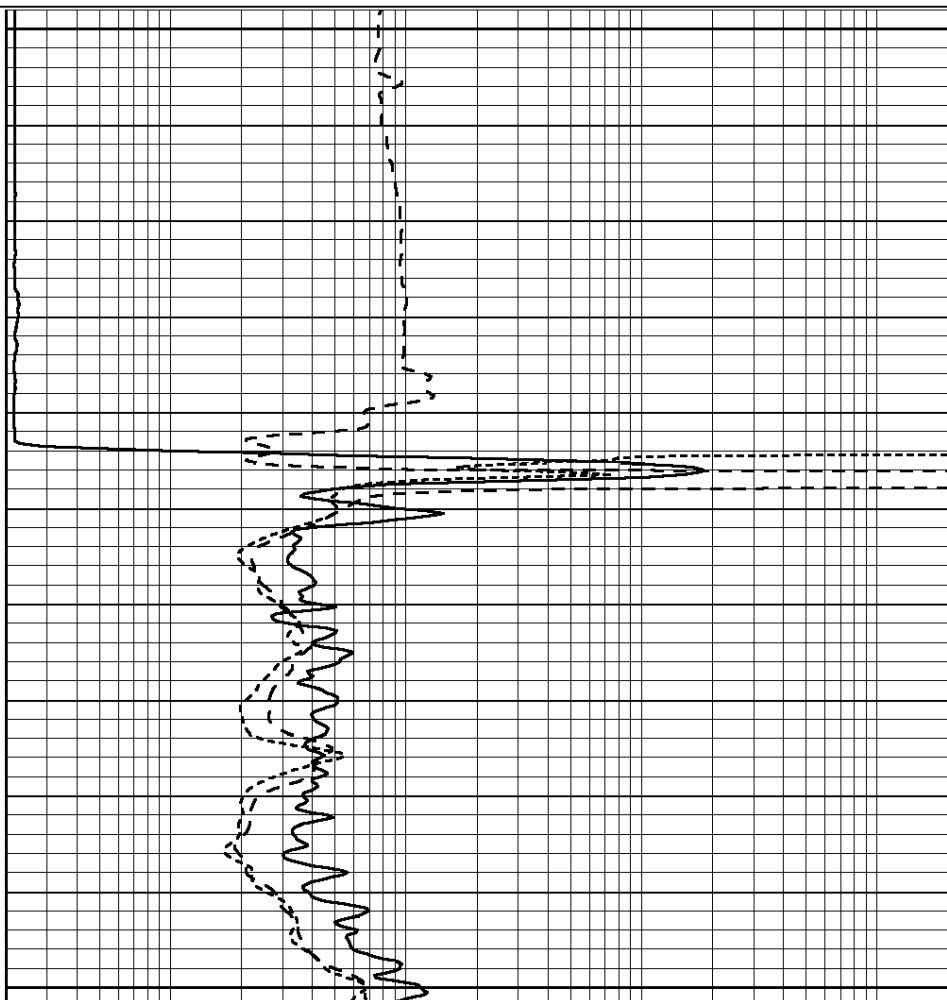
Depth in Feet scaled 1:240

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



0	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



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



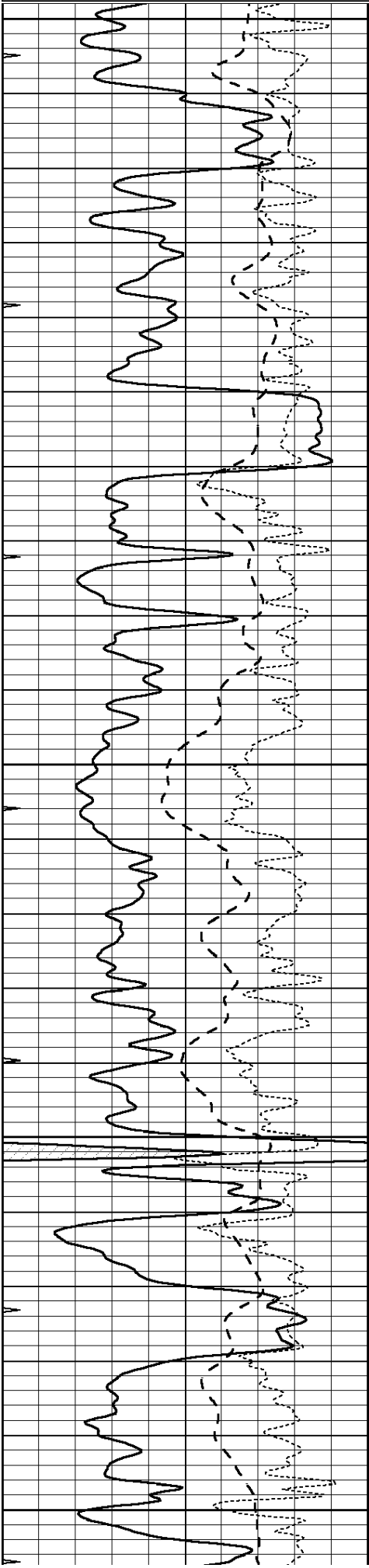
**Casedhole
Solutions**

MAIN SECTION

Database File: 30886ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Sun Dec 06 14:44:02 2015 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

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



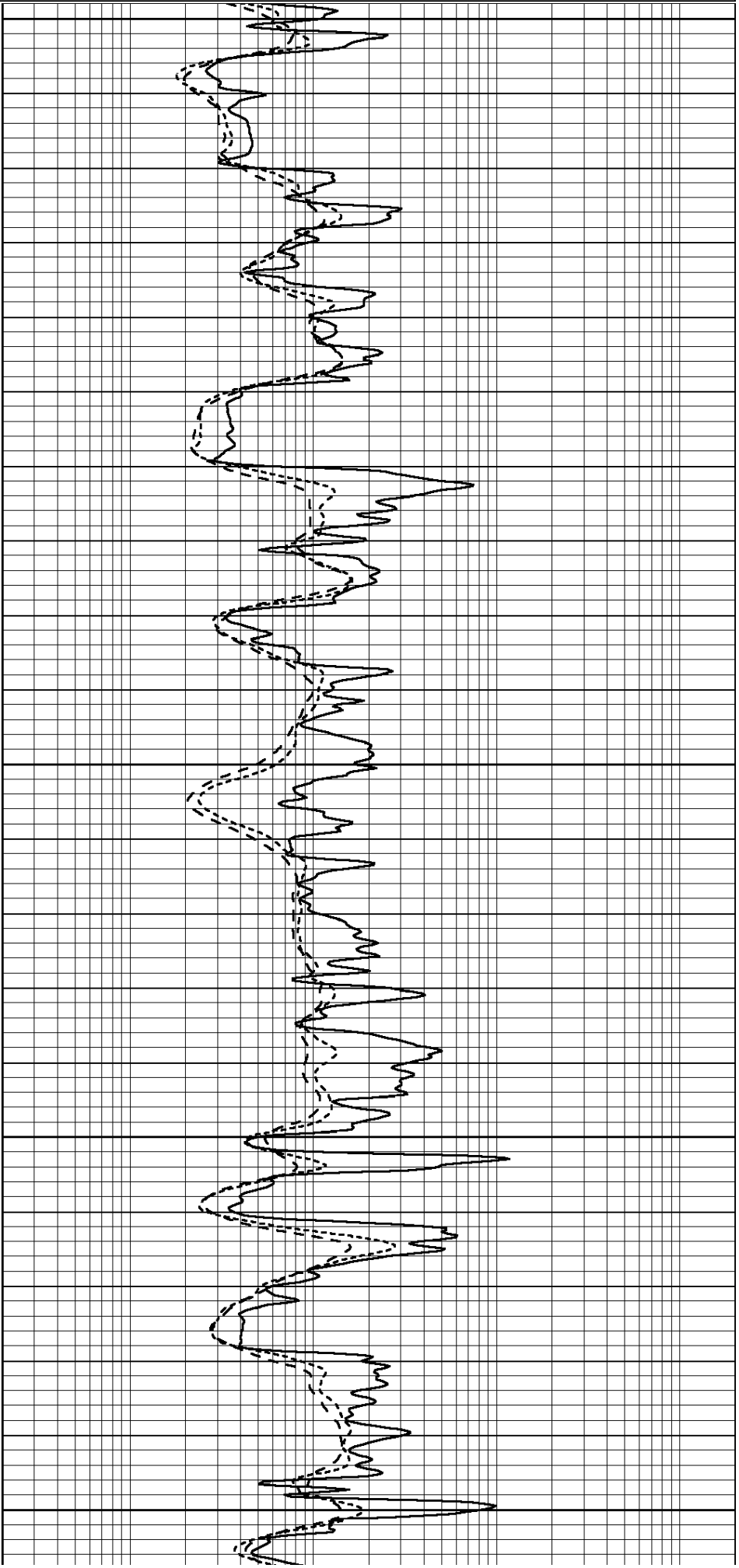
2800

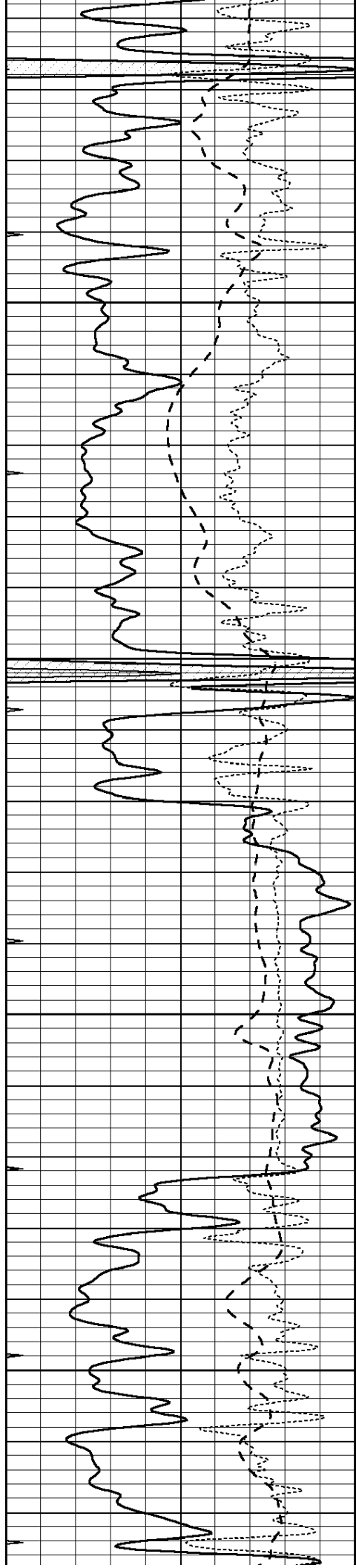
2850

2900

2950

3000



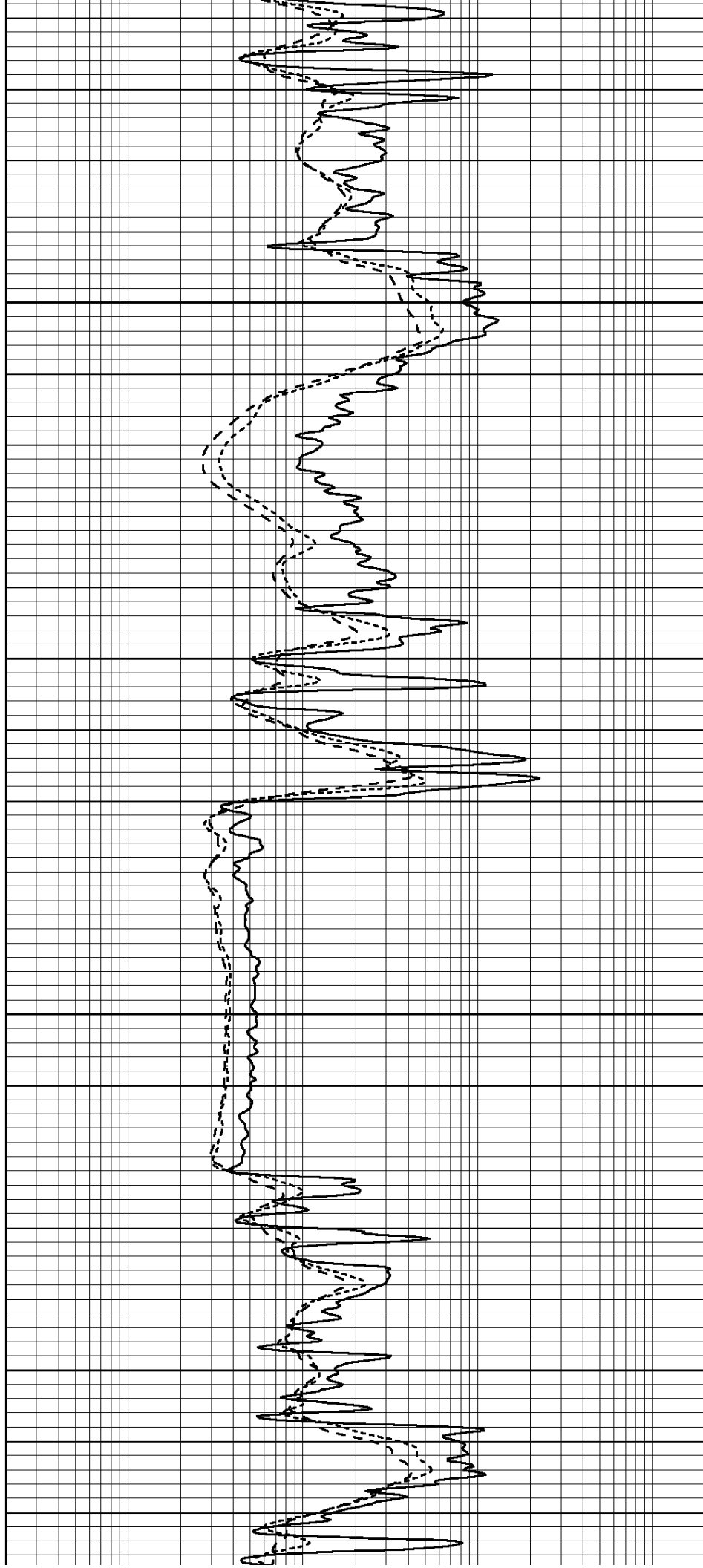


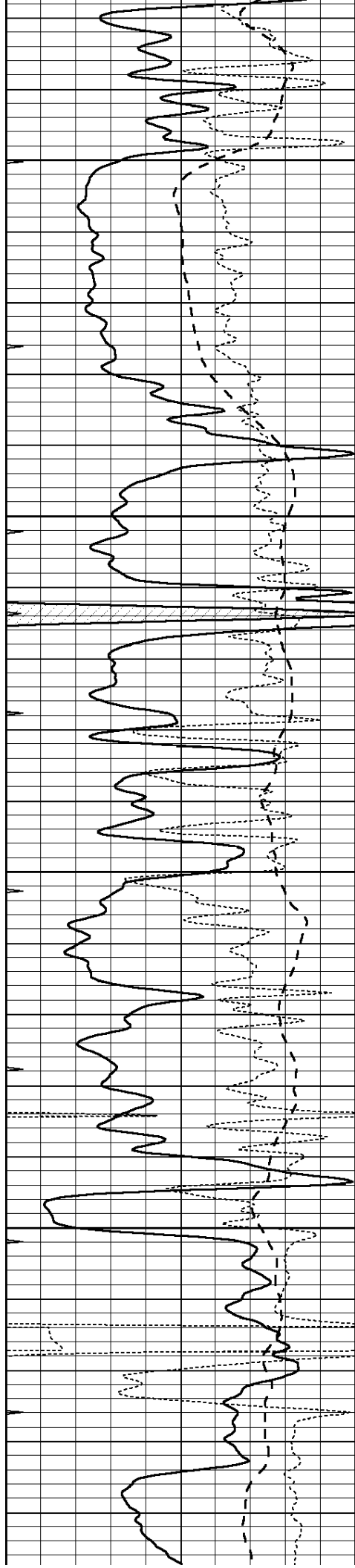
3050

3100

3150

3200



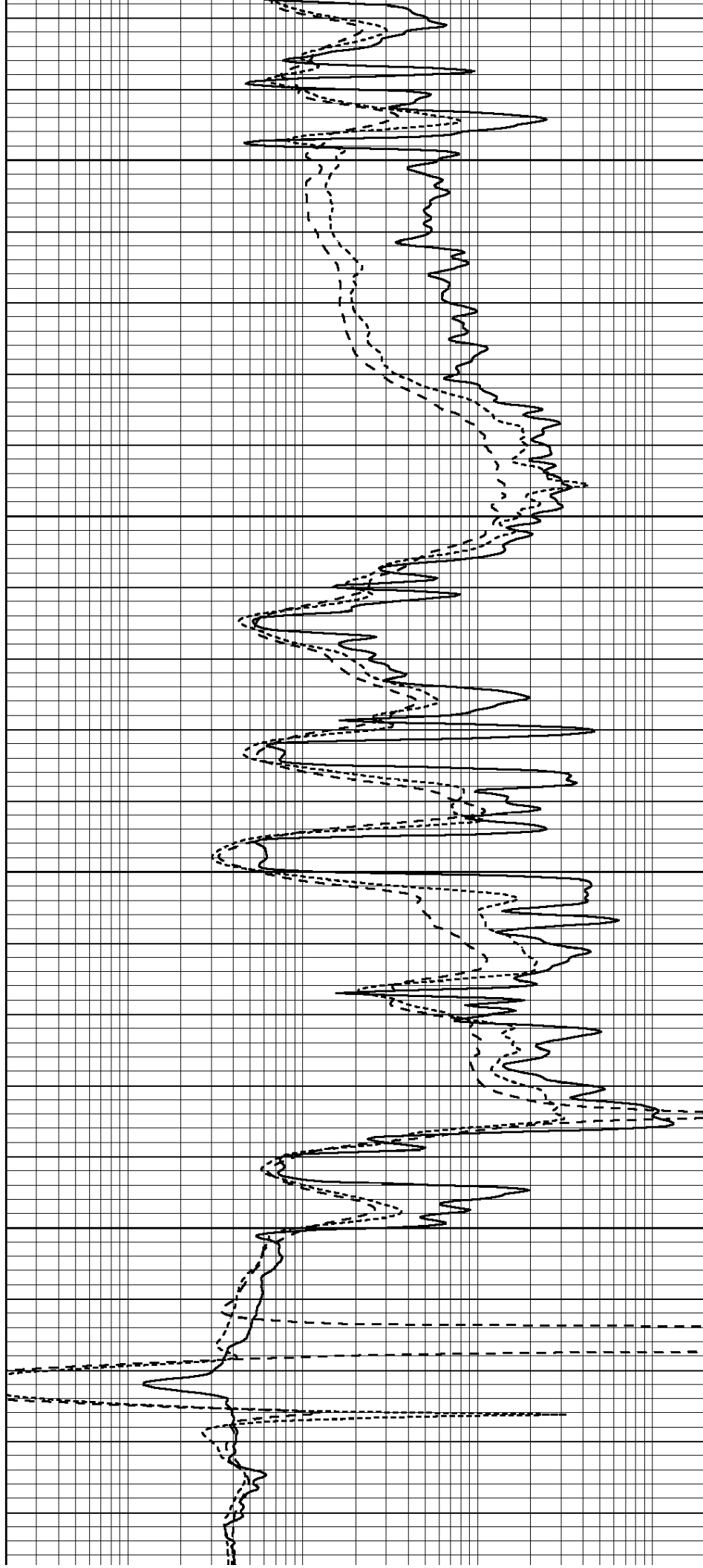


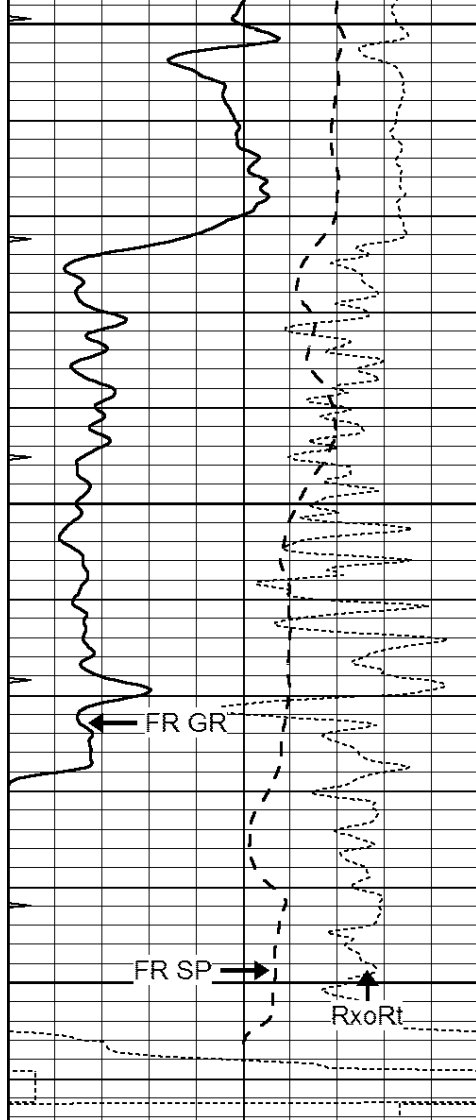
3250

3300

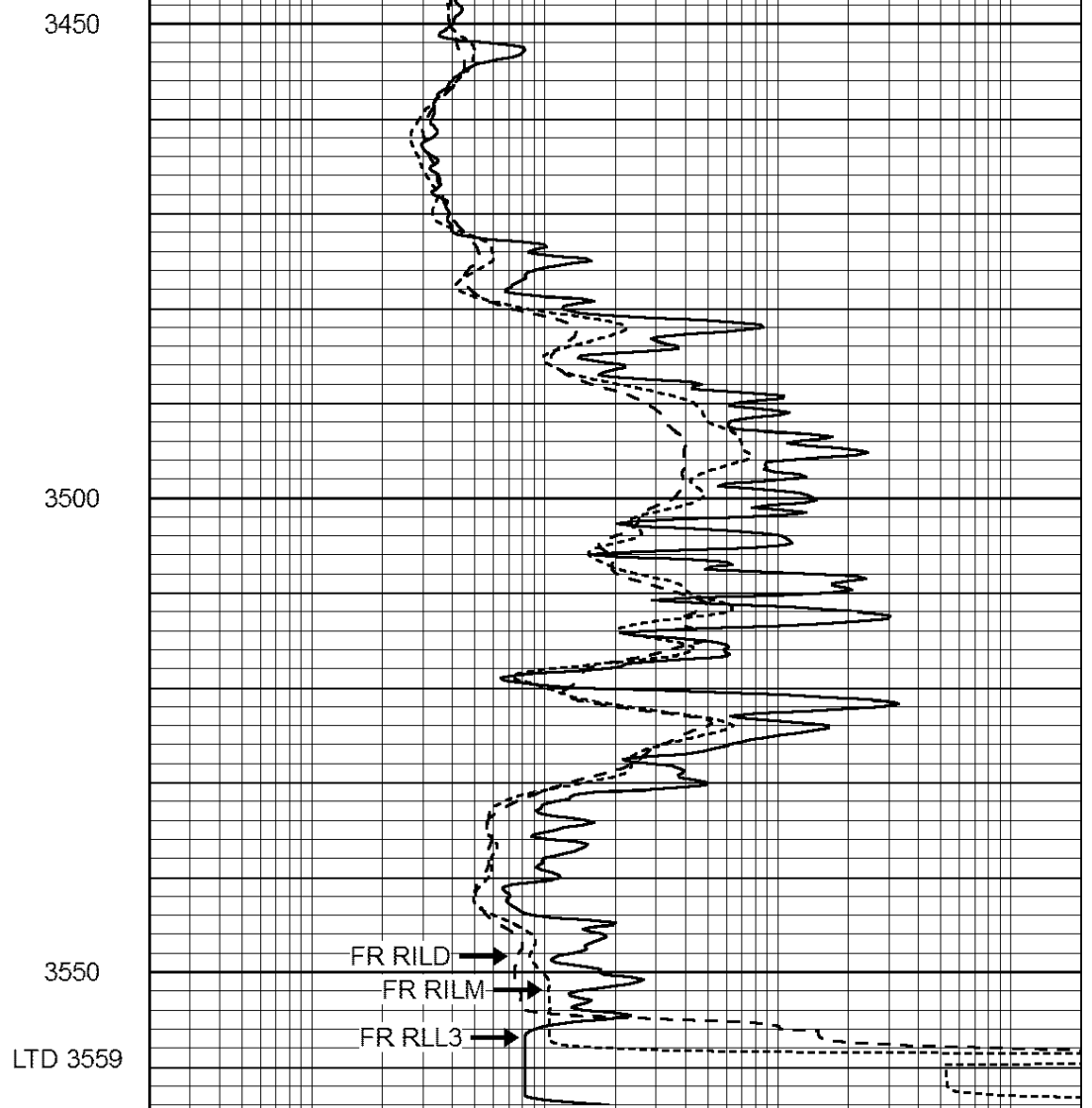
3350

3400





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



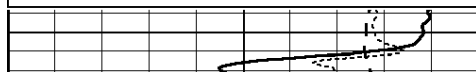
**Casedhole
Solutions**

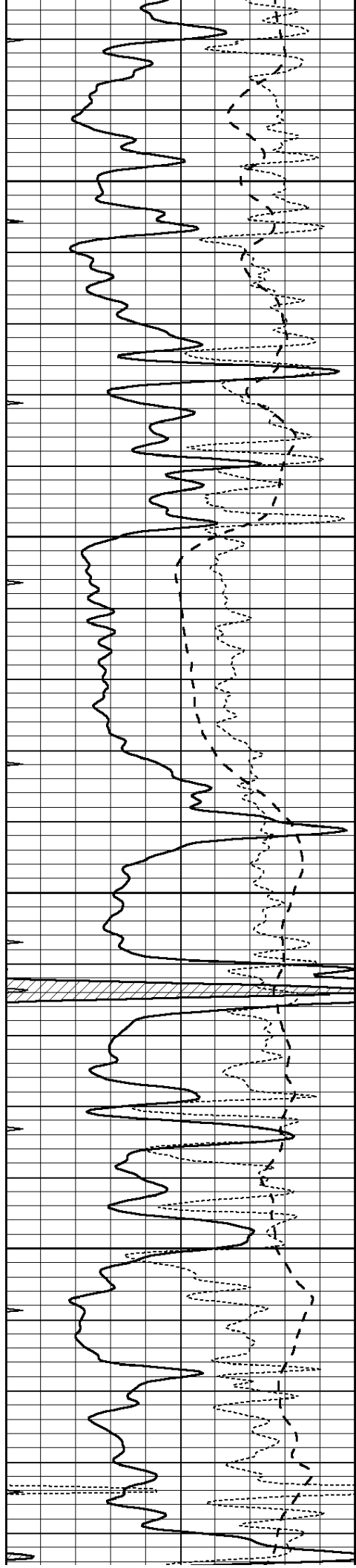
REPEAT SECTION

Database File: 30886ddn.db
 Dataset Pathname: pass2.1.1
 Presentation Format: _dil
 Dataset Creation: Sun Dec 06 14:33:34 2015 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



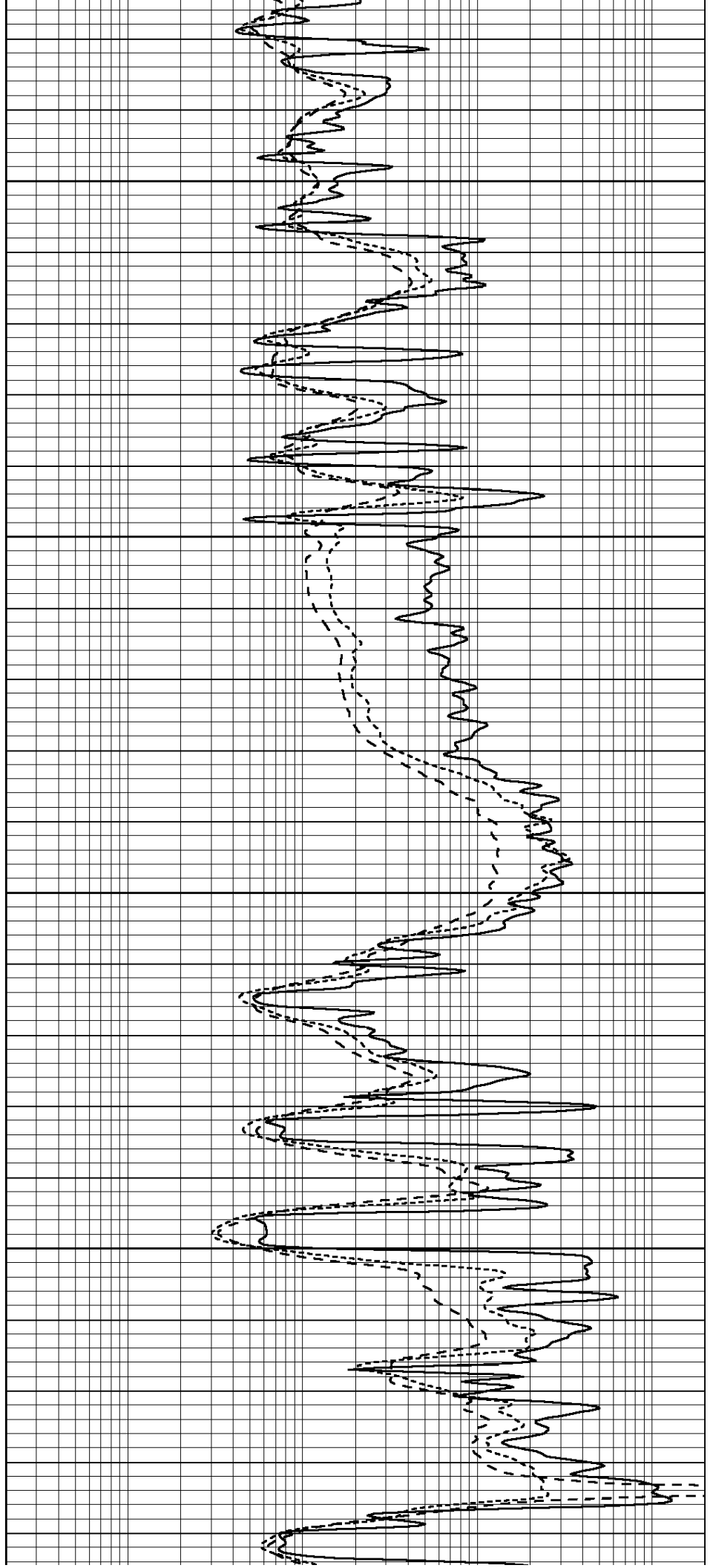


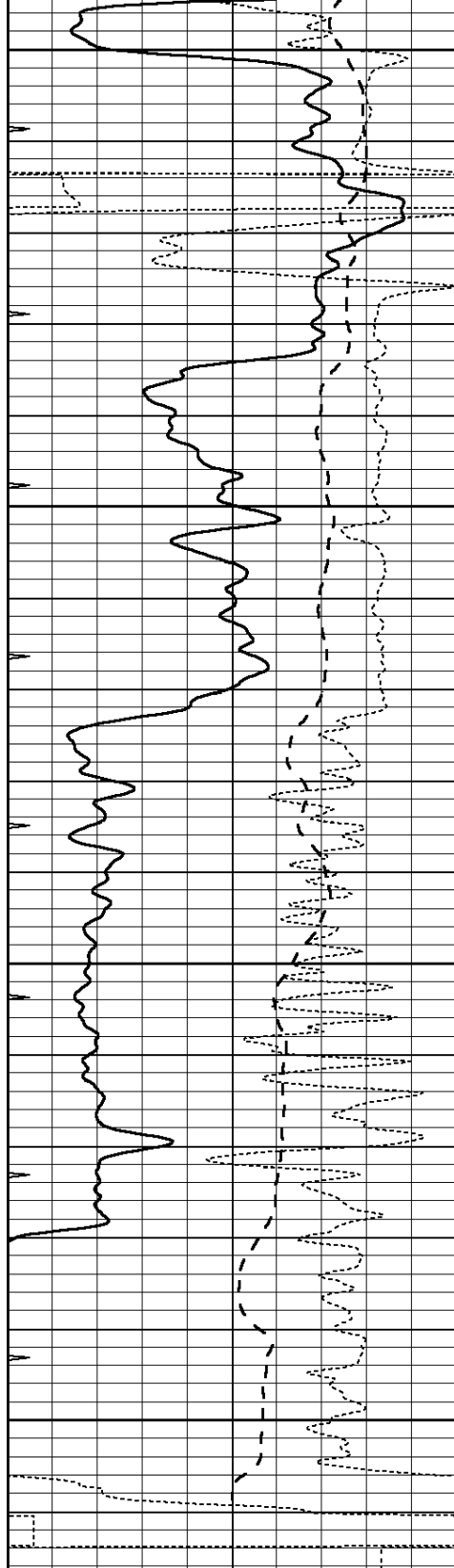
3200

3250

3300

3350





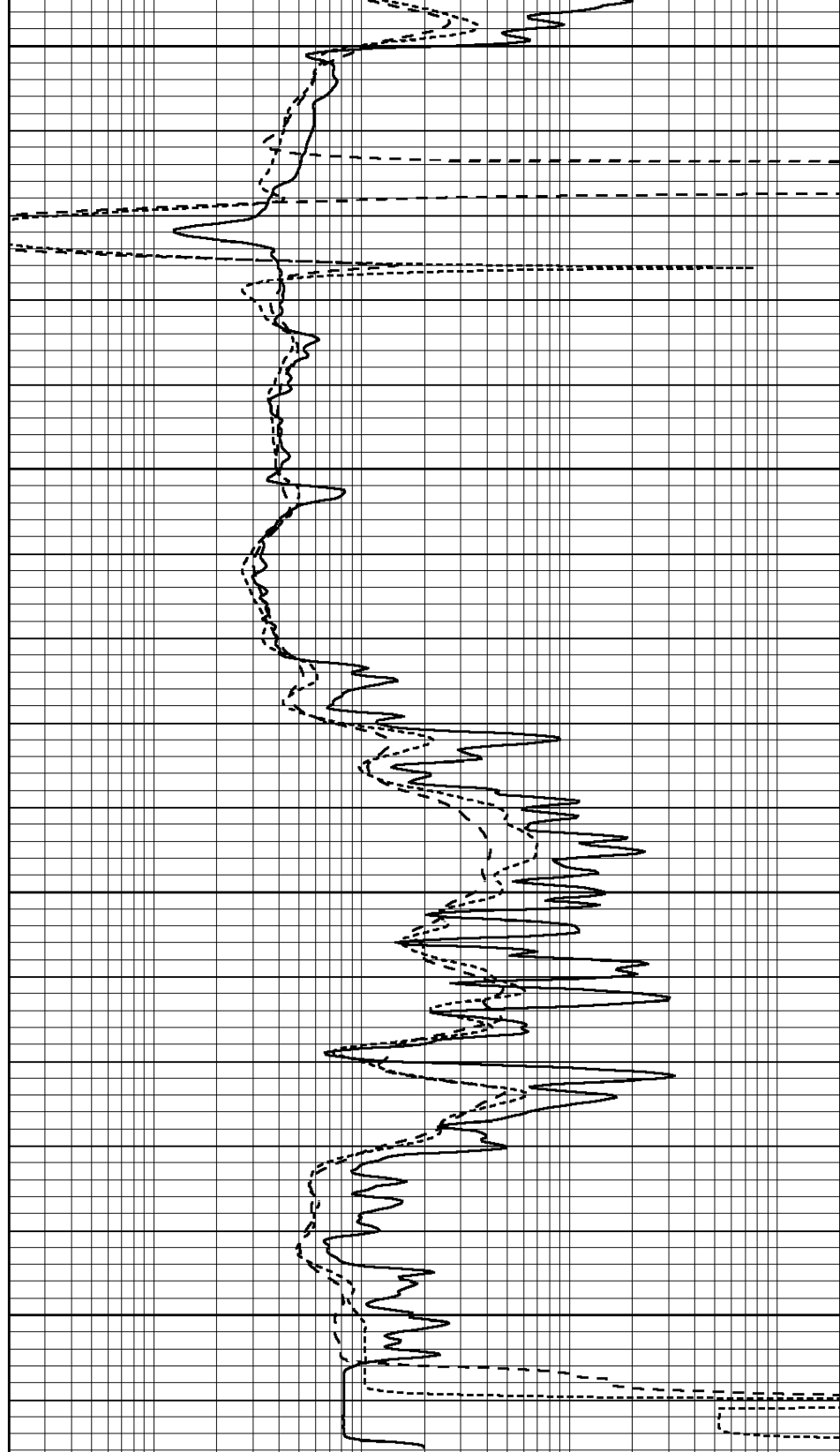
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3400

3450

3500

3550



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: 30886ddn.db
 Dataset Pathname: pass3.1
 Dataset Creation: Sun Dec 06 14:44:02 2015 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	7.00	in		1.47	V		
Large Ring	14.00	in		3.01	V		

Before Survey Verification

Target	Measured
g/cc	g/cc
a/cc	a/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:		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			