



Dual Induction Log

Pioneer Energy Services

API No.	Company TDI, Inc. Well Kraus-Unit No.1 Field Reichert County Ellis State Kansas		
15-051-26,416-00-00	Location 1890' FSL & 2515' FWL	Other Services CNL/CDL MEL	
	Sec: 10 Twp: 15S Rge: 19W	Elevation	
Permanent Datum	Ground Level	Elevation 2036	
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	K.B. 2046
Drilling Measured From	Kelly Bushing		D.F. 2036
Date	11/21/2012		
Run Number	One		
Depth Driller	3750		
Depth Logger	3754		
Bottom Logged Interval	3753		
Top Log Interval	200		
Casing Driller	8.625 @ 223.65		
Casing Logger	222		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	6.900		
Density / Viscosity	9.3 58		
pH / Fluid Loss	10.5 8.0		
Source of Sample	Flowline		
Rm @ Meas. Temp	.65 @ 54		
Rmf @ Meas. Temp	.49 @ 54		
Rmc @ Meas. Temp	.88 @ 54		
Source of Rmf / Rmc	Charts		
Rm @ BHT	.31 @ 114		
Operating Rig Time	3 1/2 Hours		
Max Rec. Temp. F	114		
Equipment Number	17		
Location	Hays		
Recorded By	C. Desaire		
Witnessed By	Tom Denning	Herb Deines	

<<< 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 Log-Tech, Inc.
(785) 625-3858

Antonino KS, 2 S,
1 1/2 W, N Into

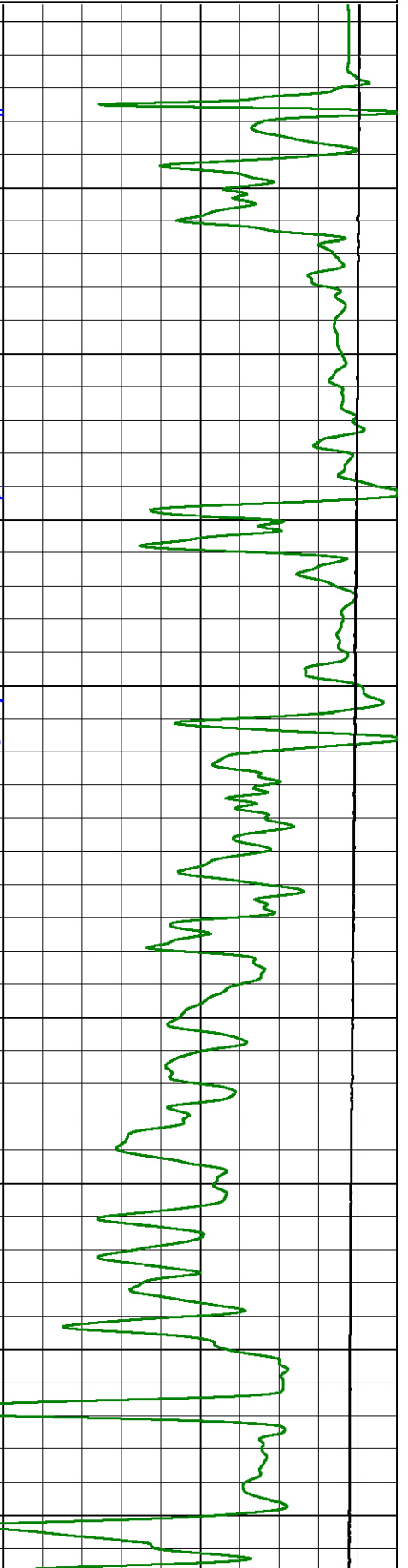
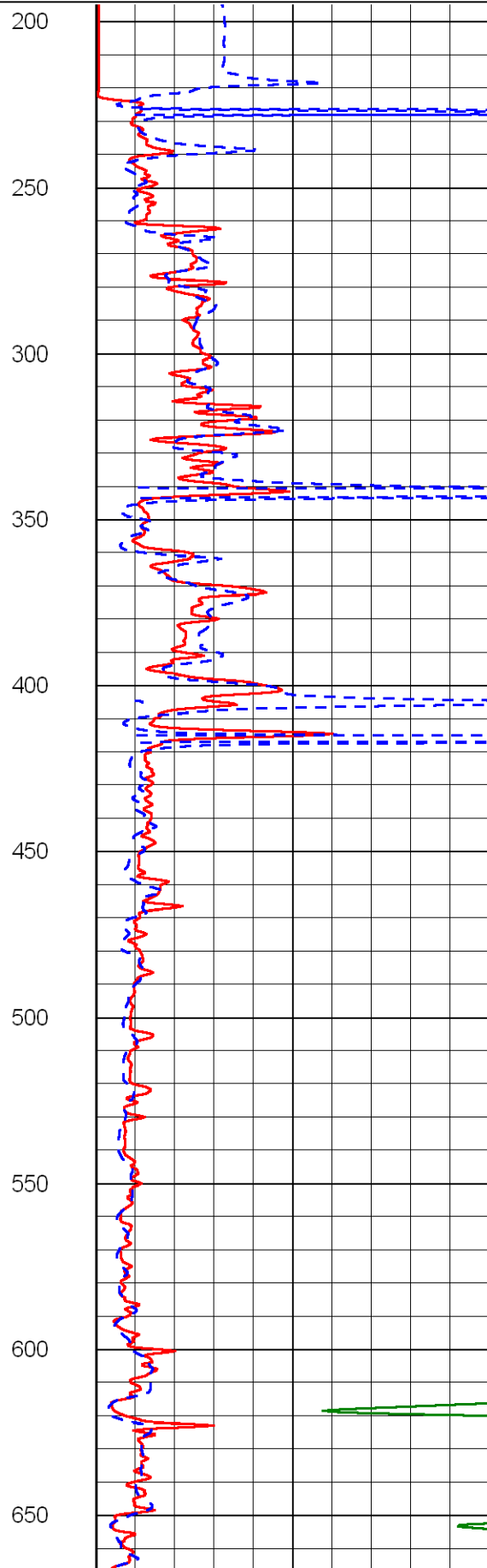
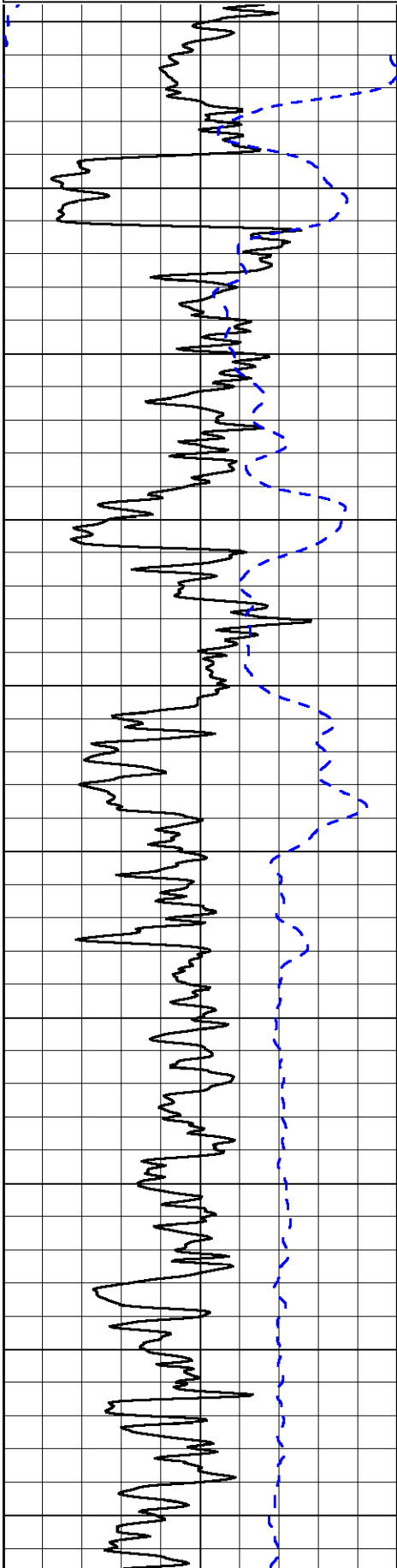
Database File: tdihd2.db
Dataset Pathname: dil/tdistk
Presentation Format: dil2in
Dataset Creation: Wed Nov 21 04:51:15 2012
Charted by: Depth in Feet scaled 1:600

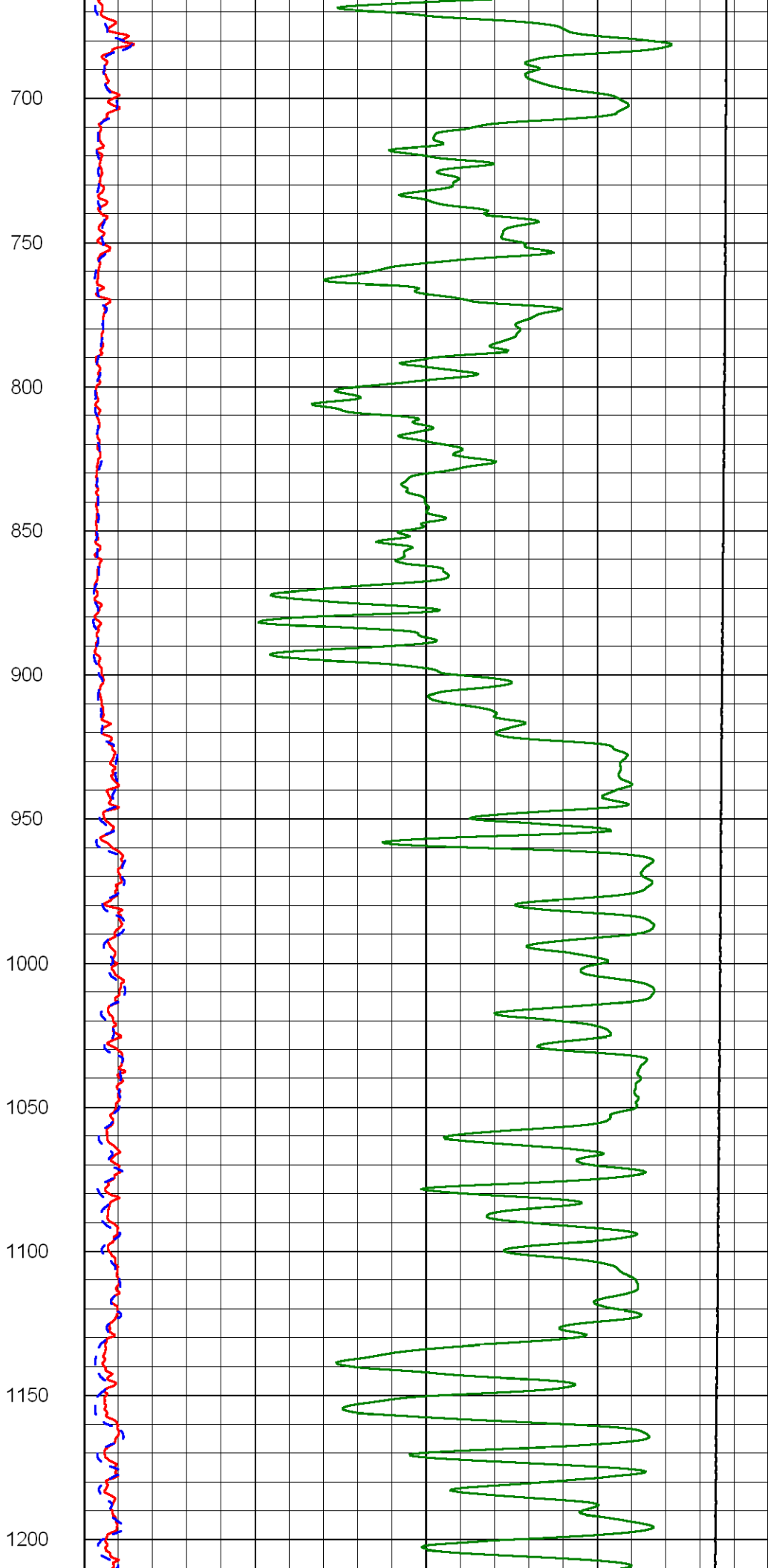
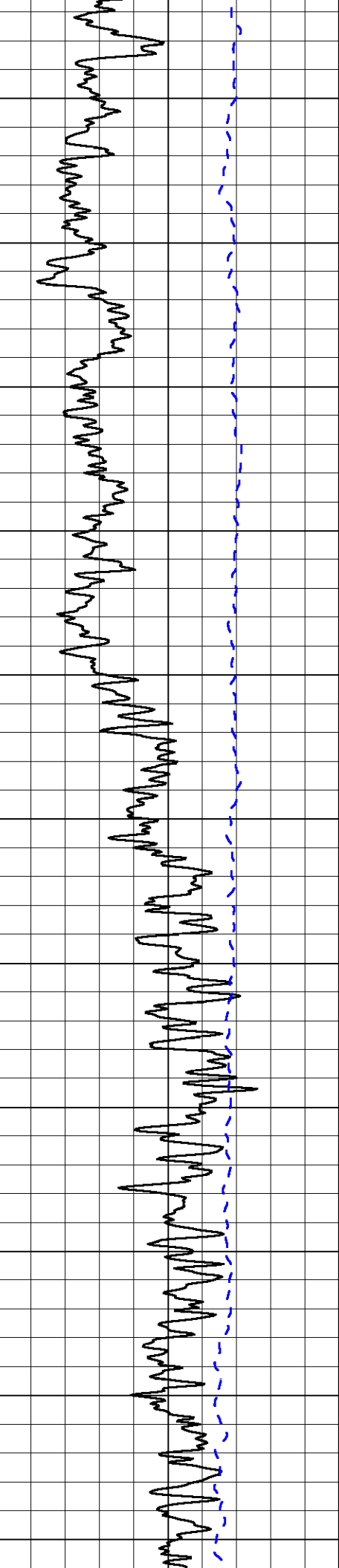
0	Gamma Ray	150
-200	SP	0

0	Shallow Resistivity	50
0	Deep Resistivity	50

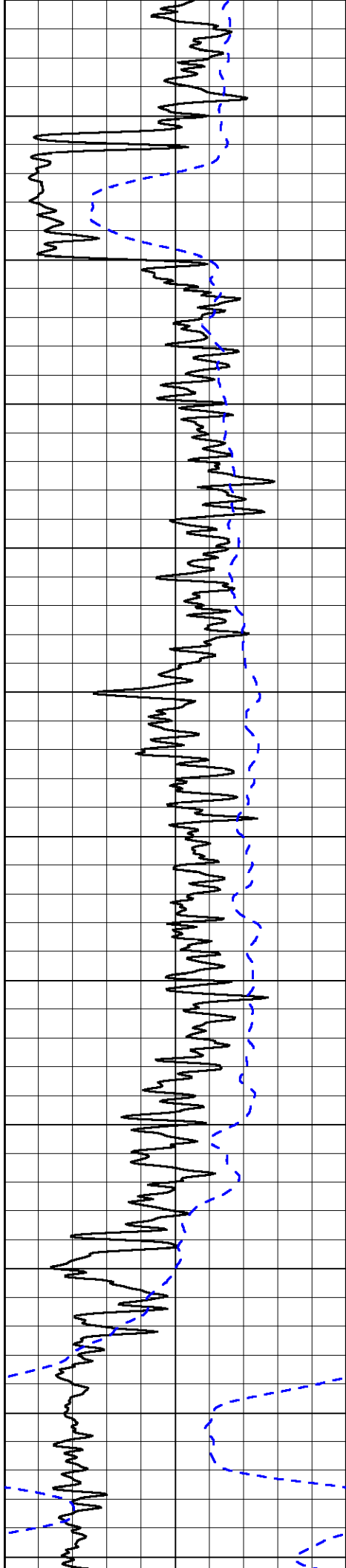
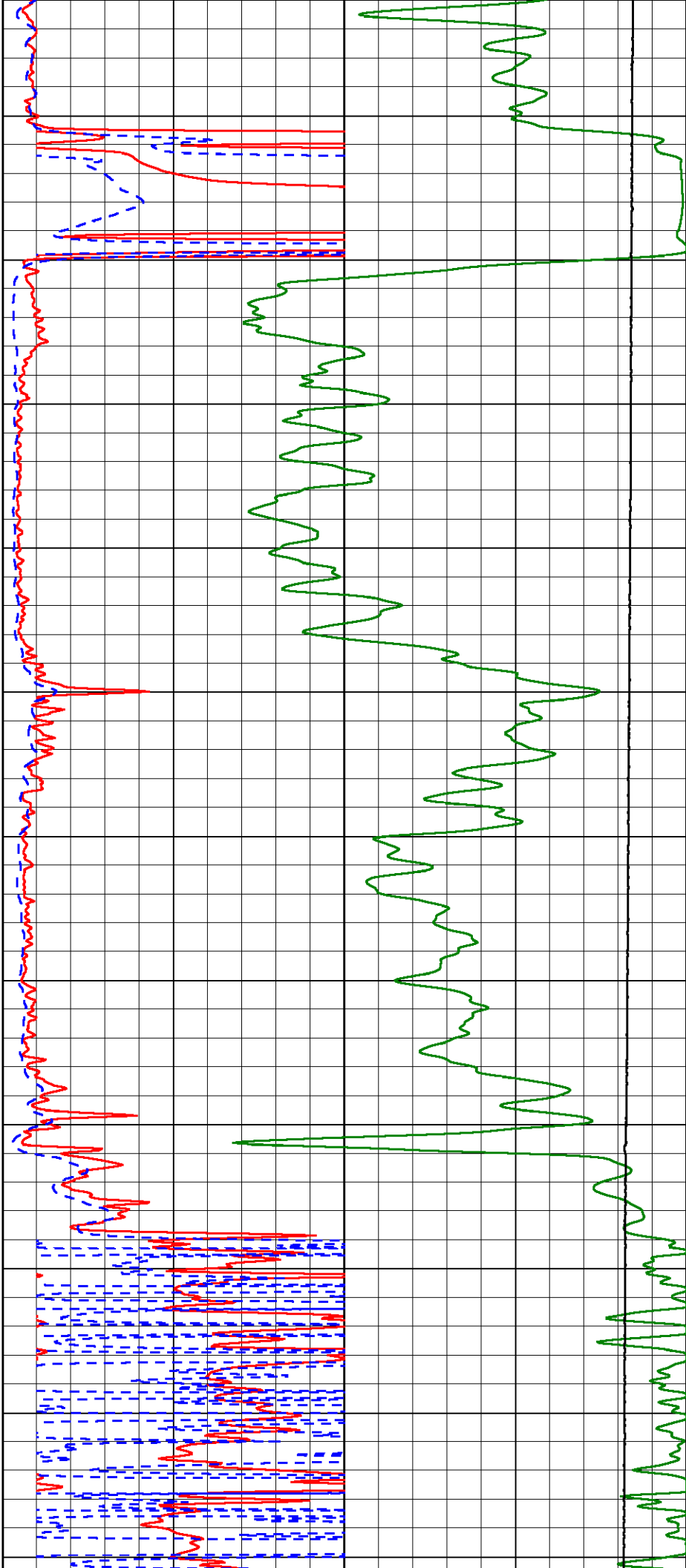
1000	Conductivity	0
15000	Line Tension	0

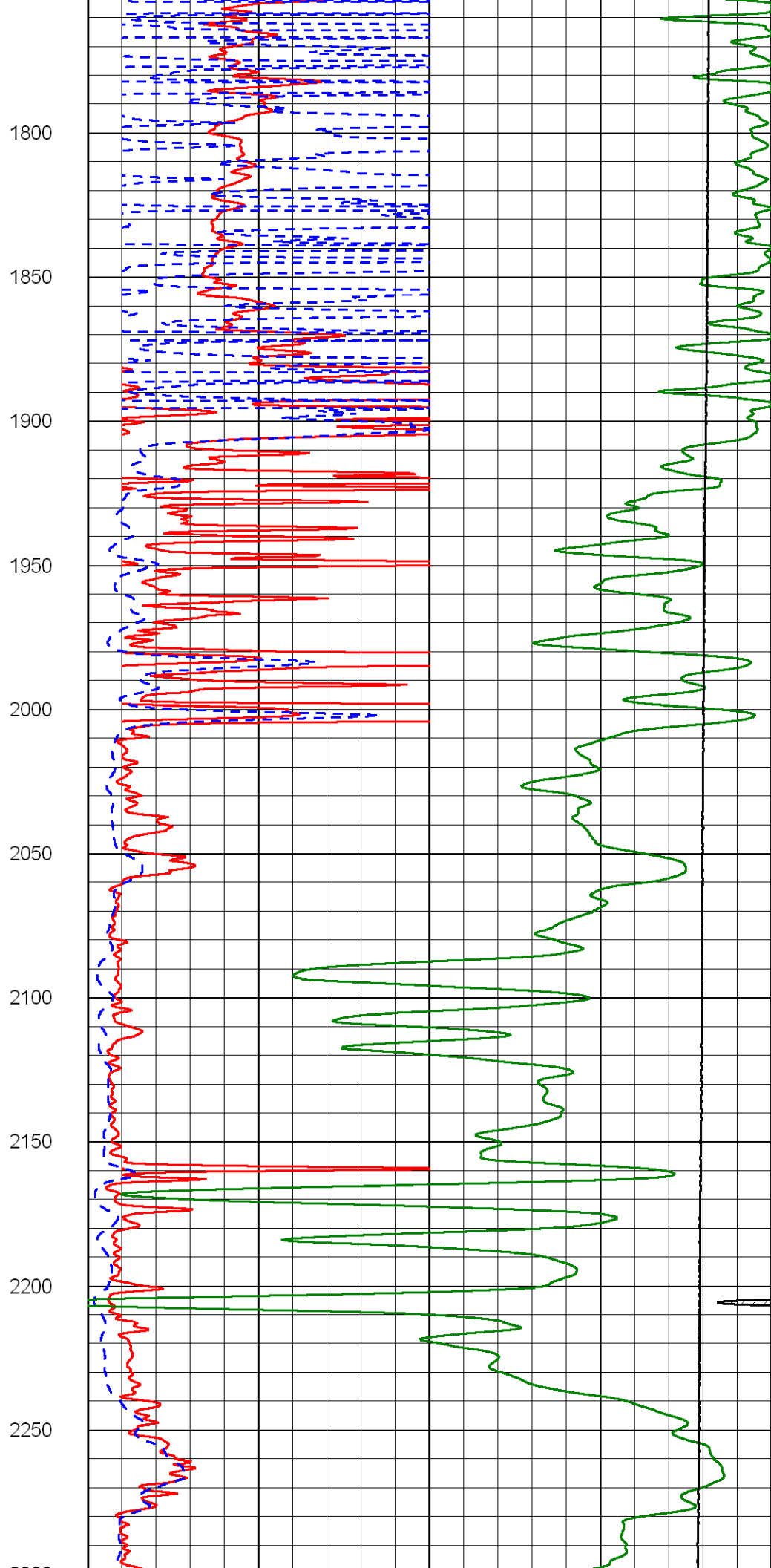
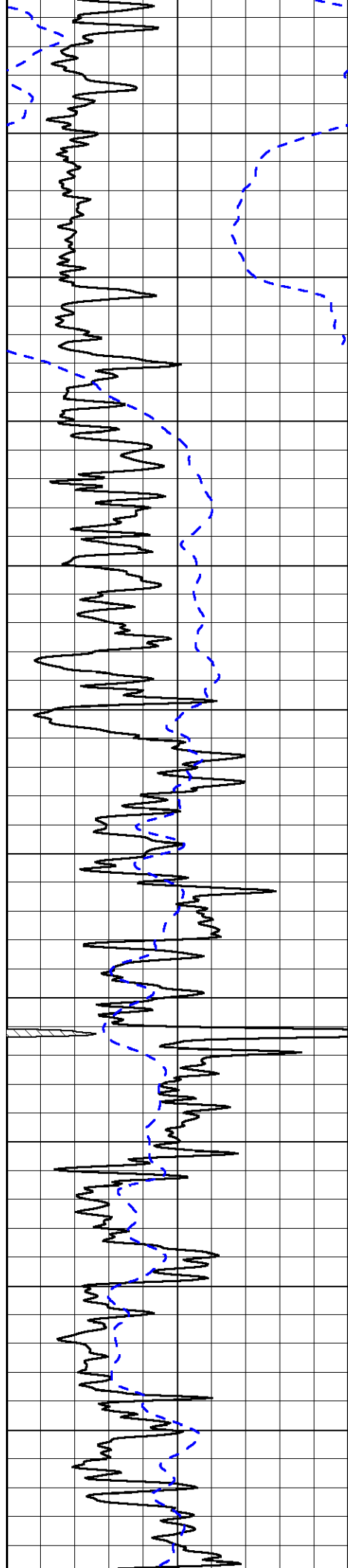
50	Shallow Resistivity	500
50	Deep Resistivity	500

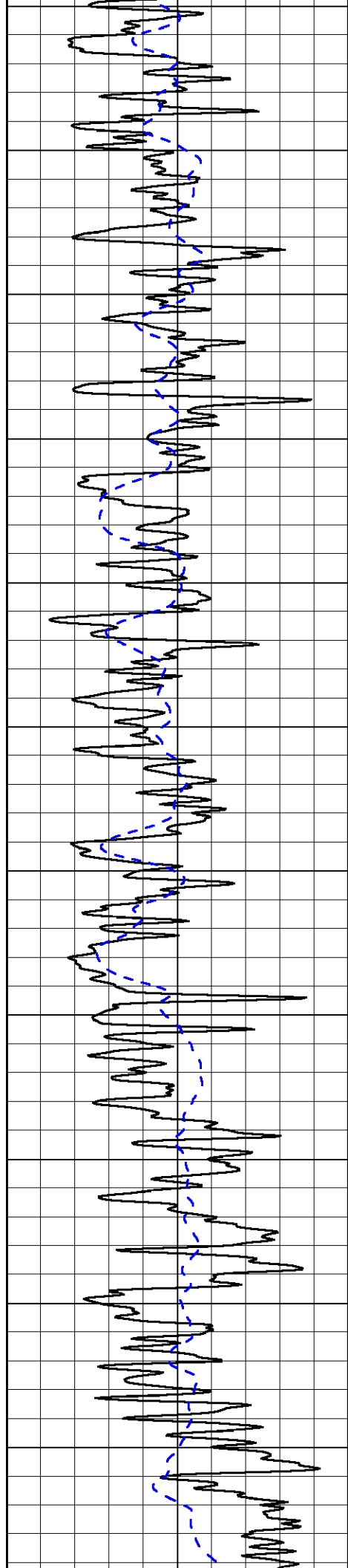




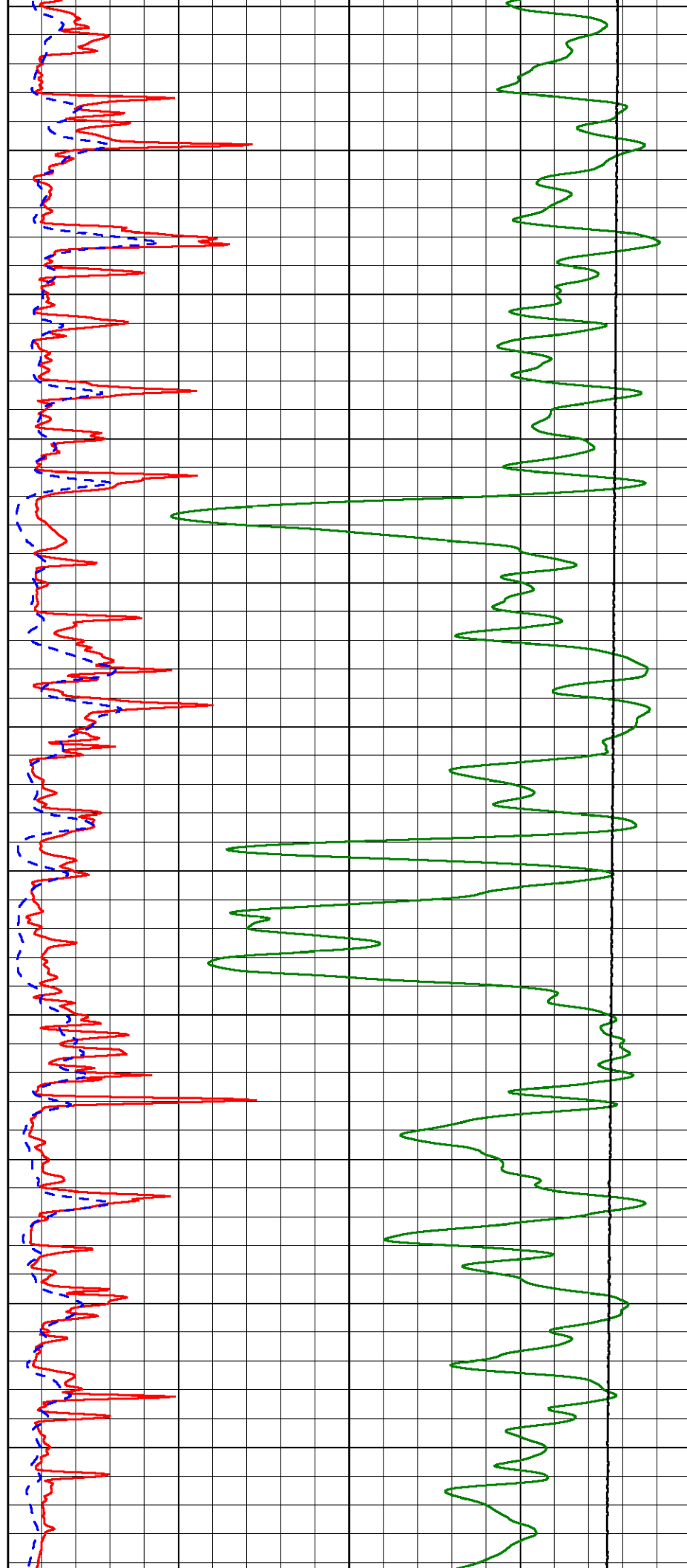
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700
1750

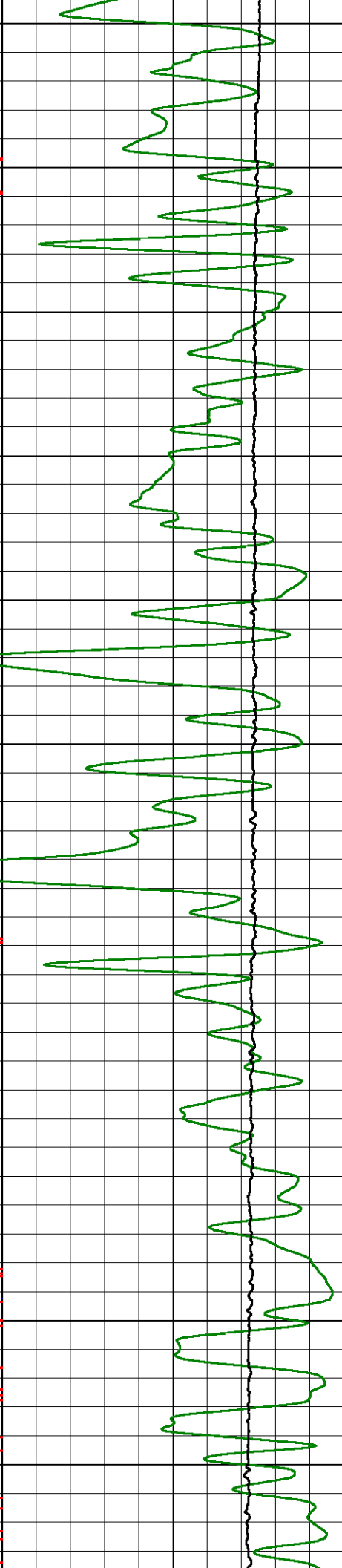
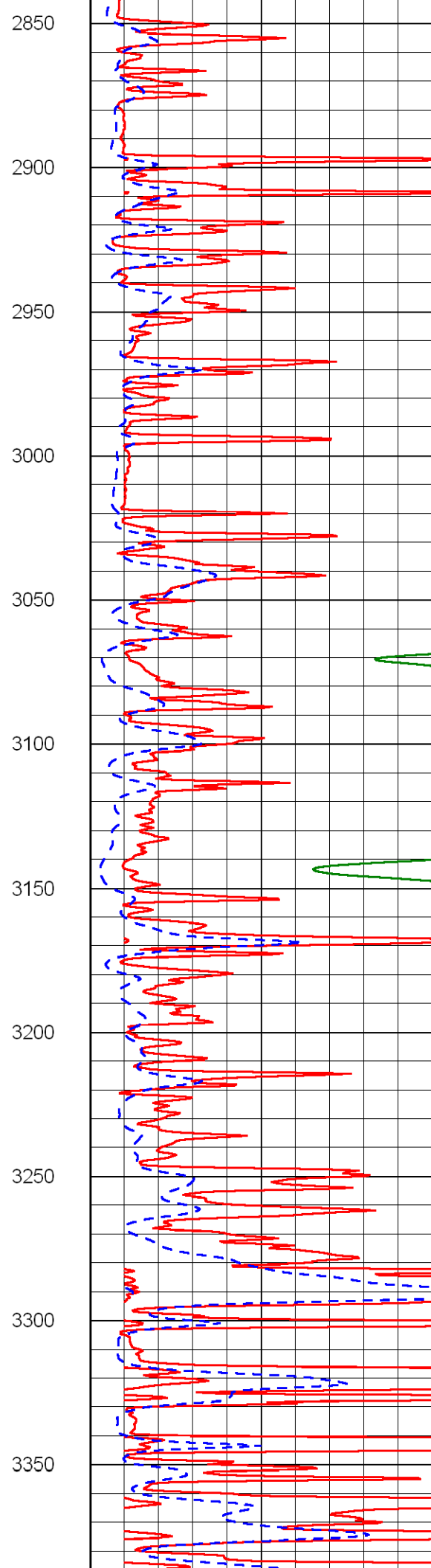
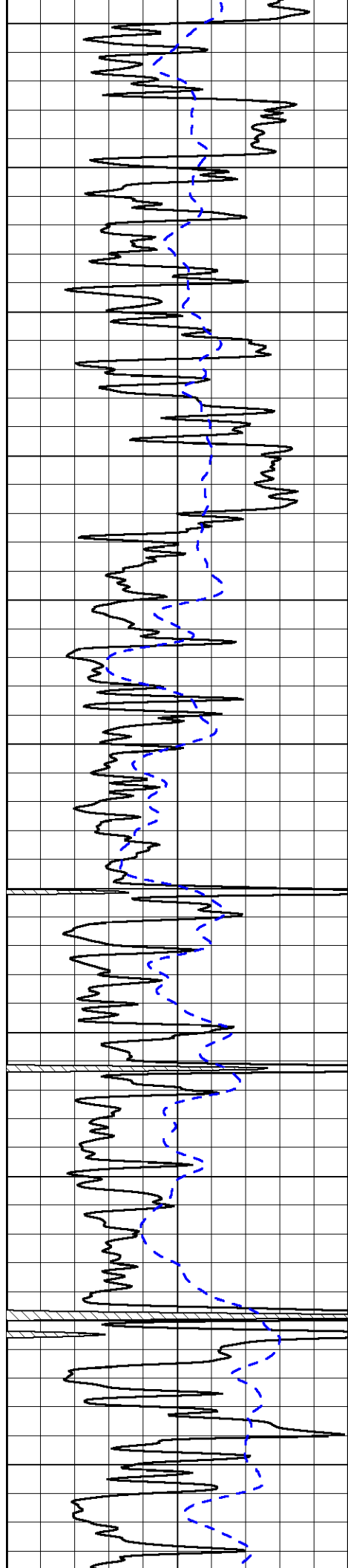


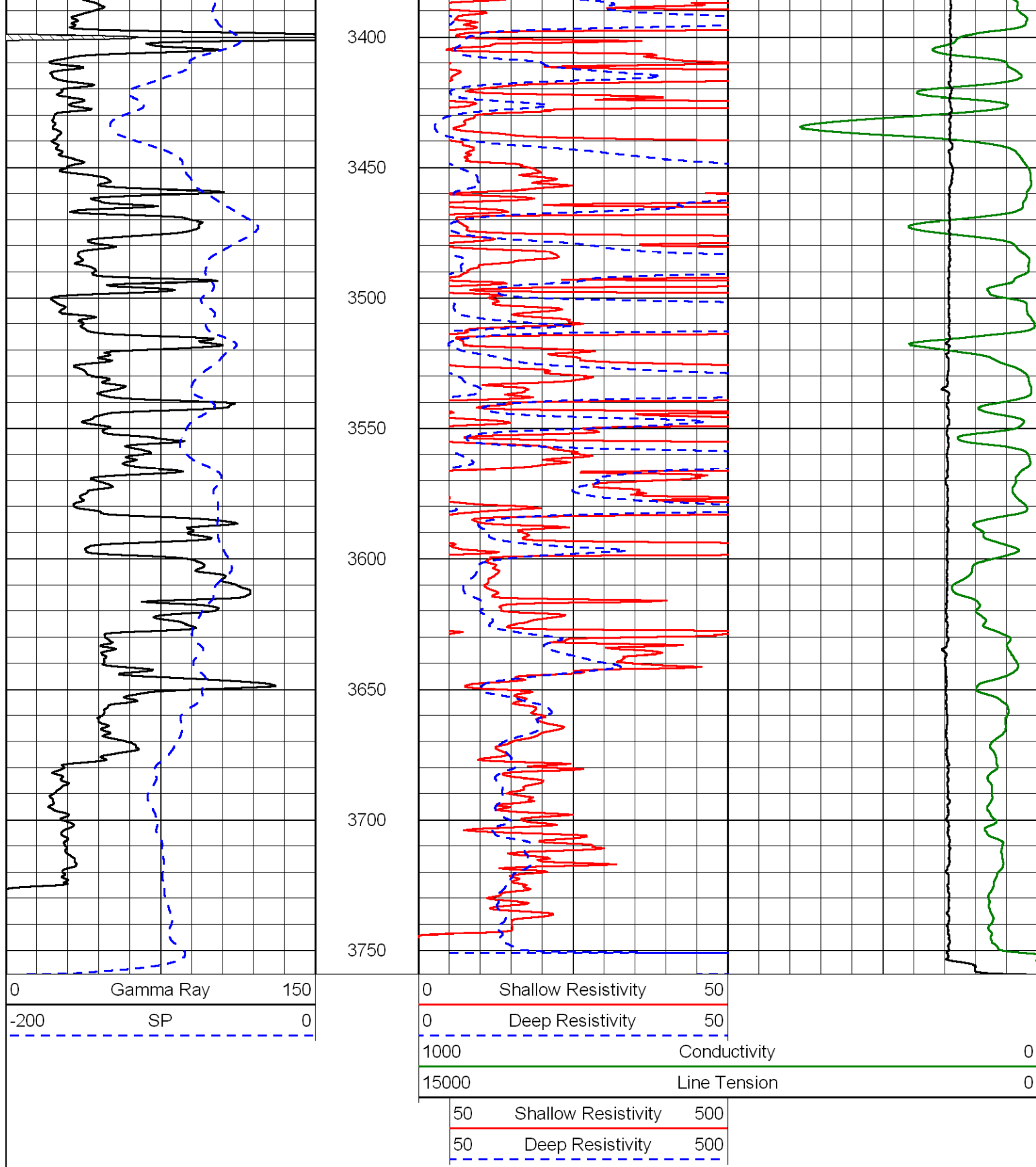




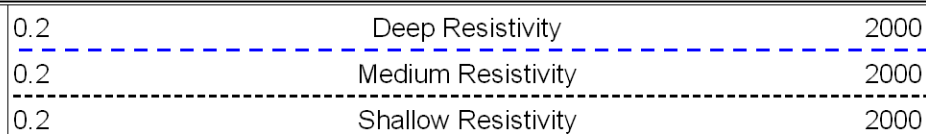
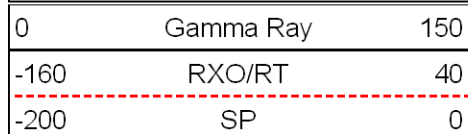
2300
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800

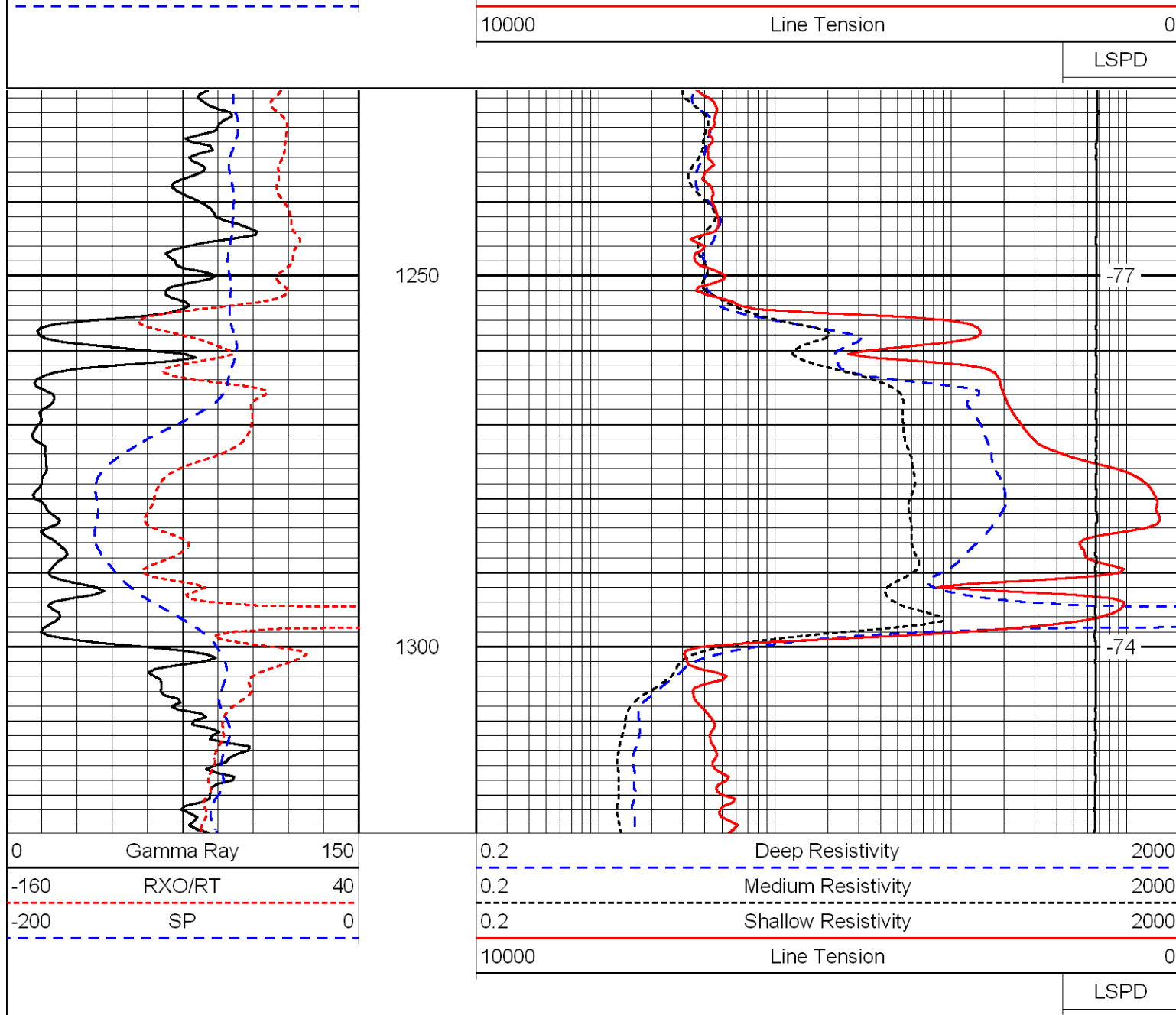


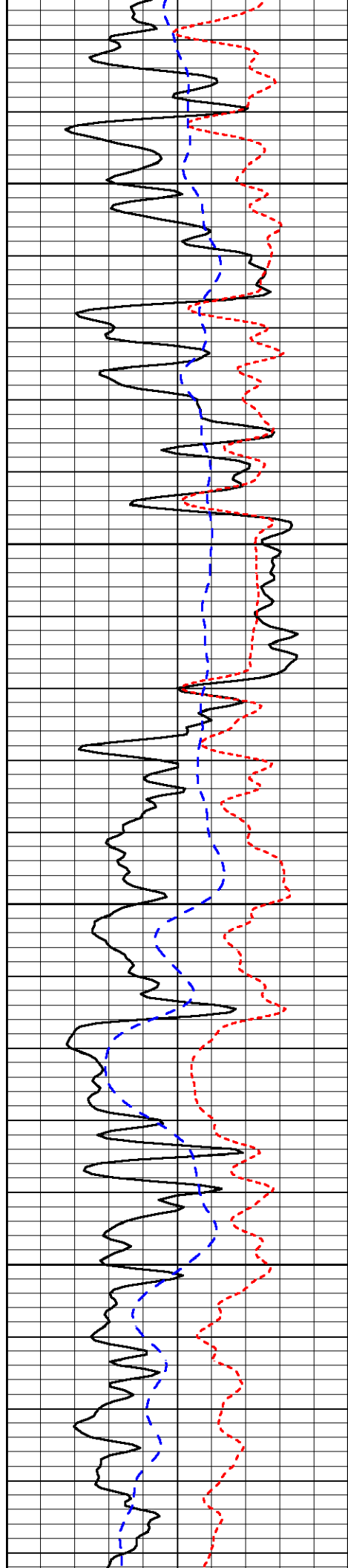




Database File: tdihd2.db
 Dataset Pathname: dil/tdistk
 Presentation Format: dil
 Dataset Creation: Wed Nov 21 04:51:15 2012
 Charted by: Depth in Feet scaled 1:240





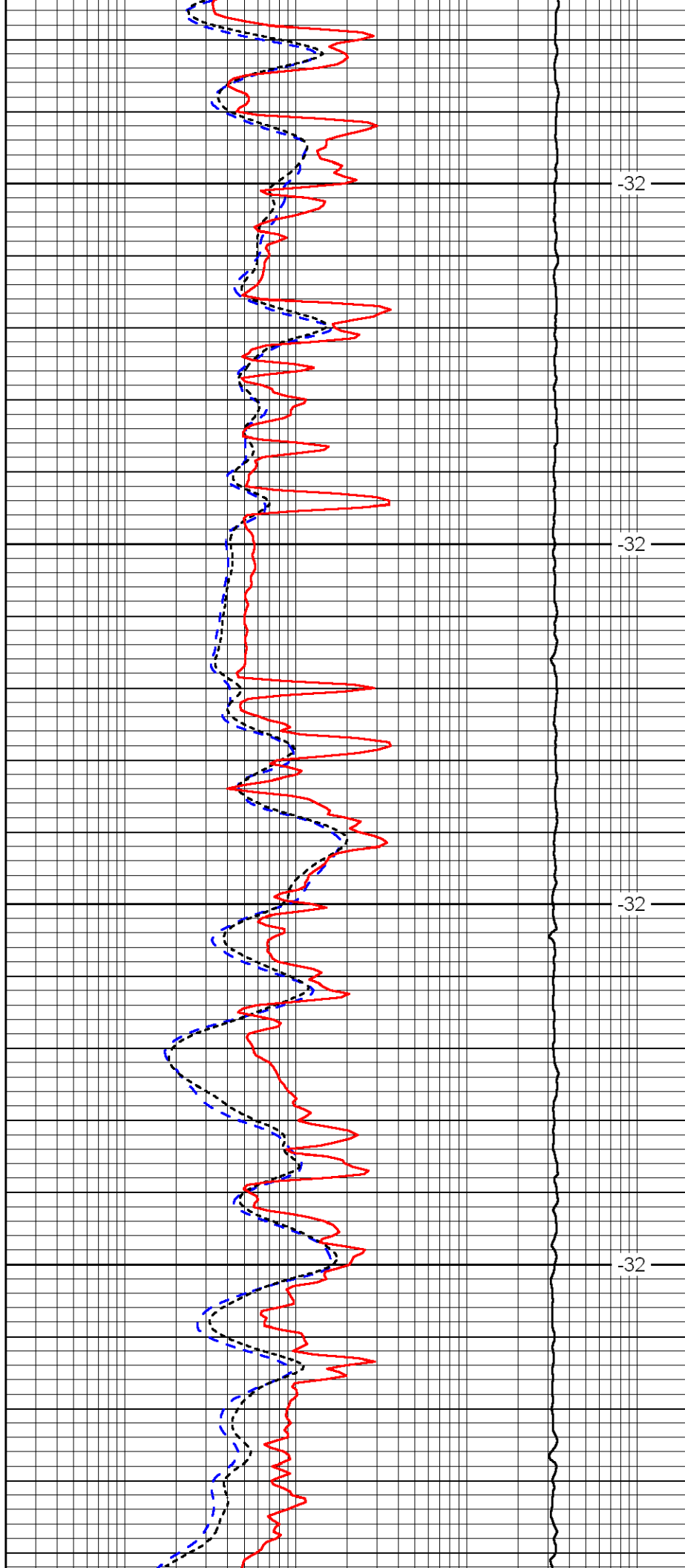


2950

3000

3050

3100

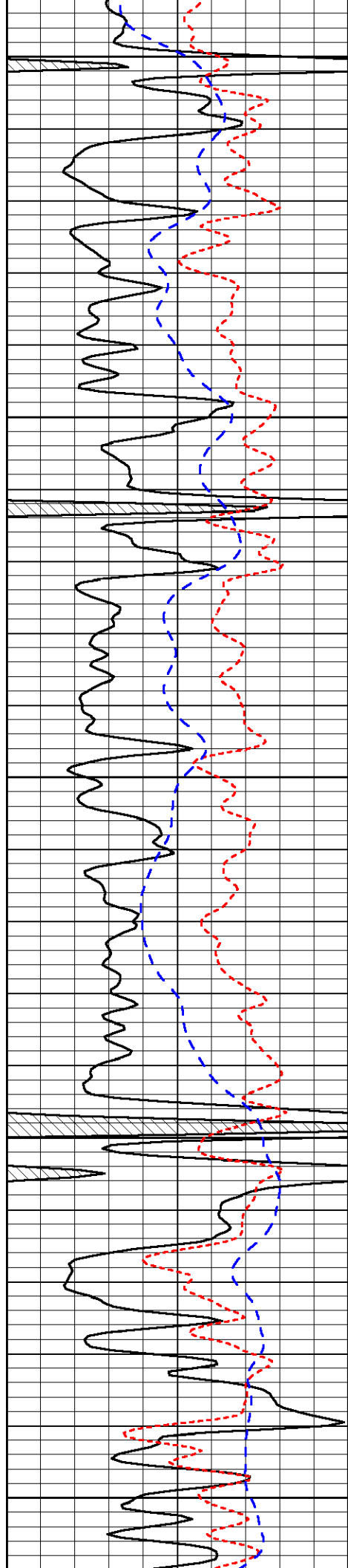


-32

-32

-32

-32



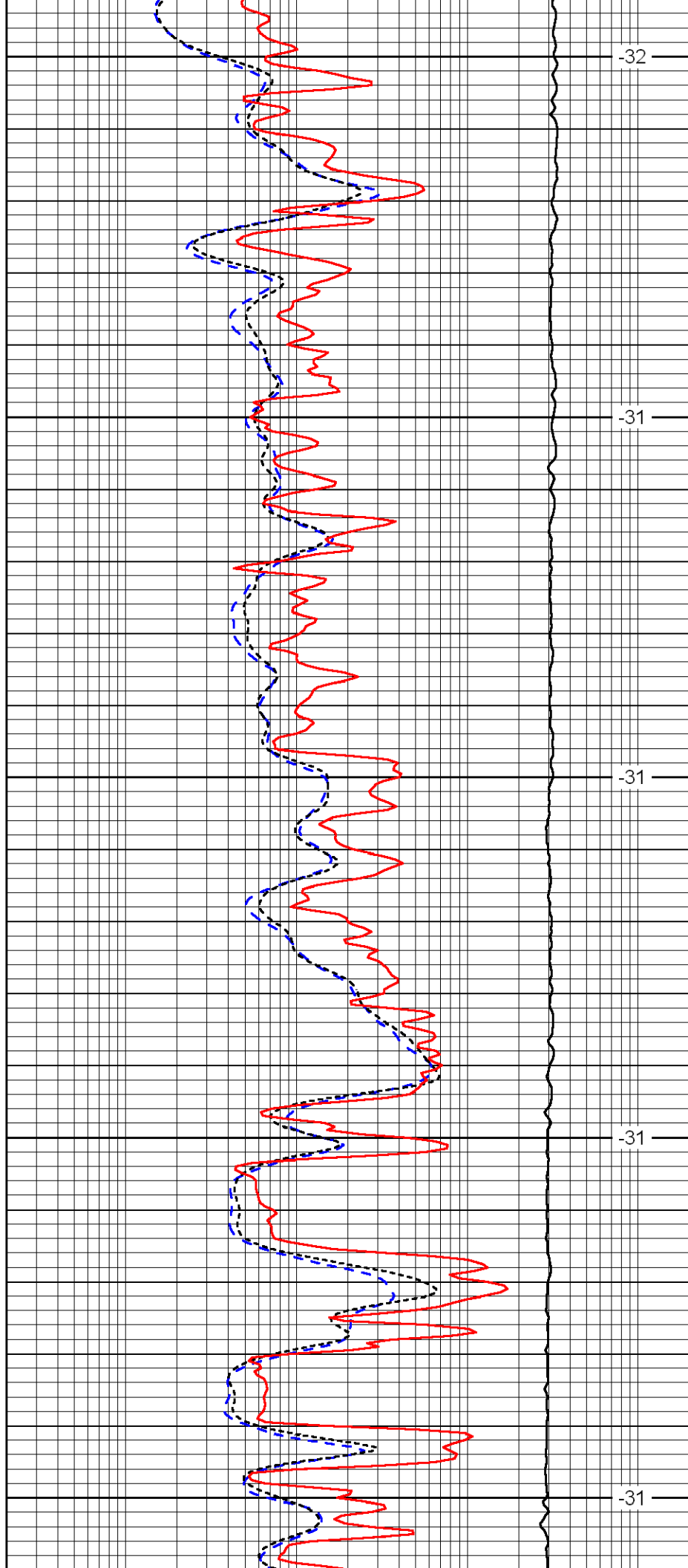
3150

3200

3250

3300

3350



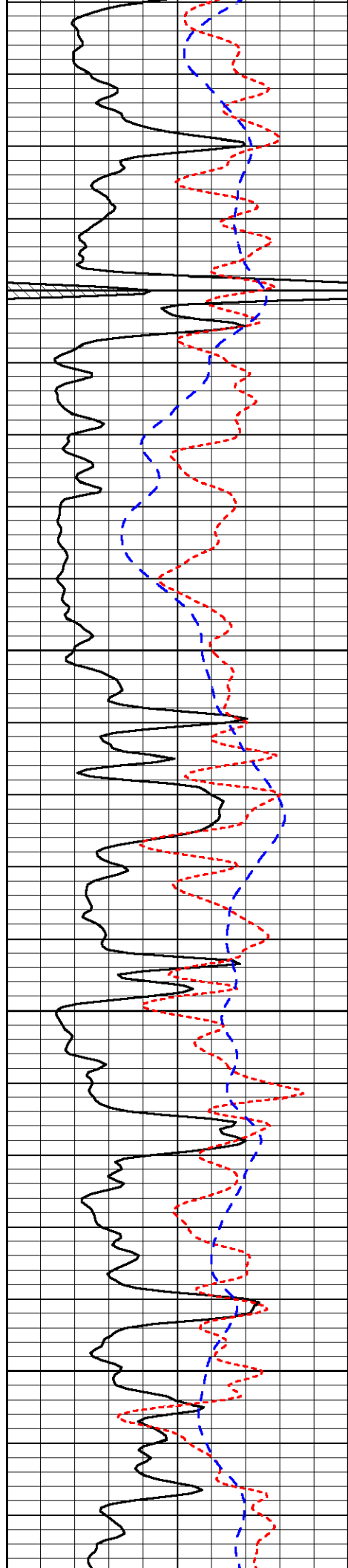
-32

-31

-31

-31

-31

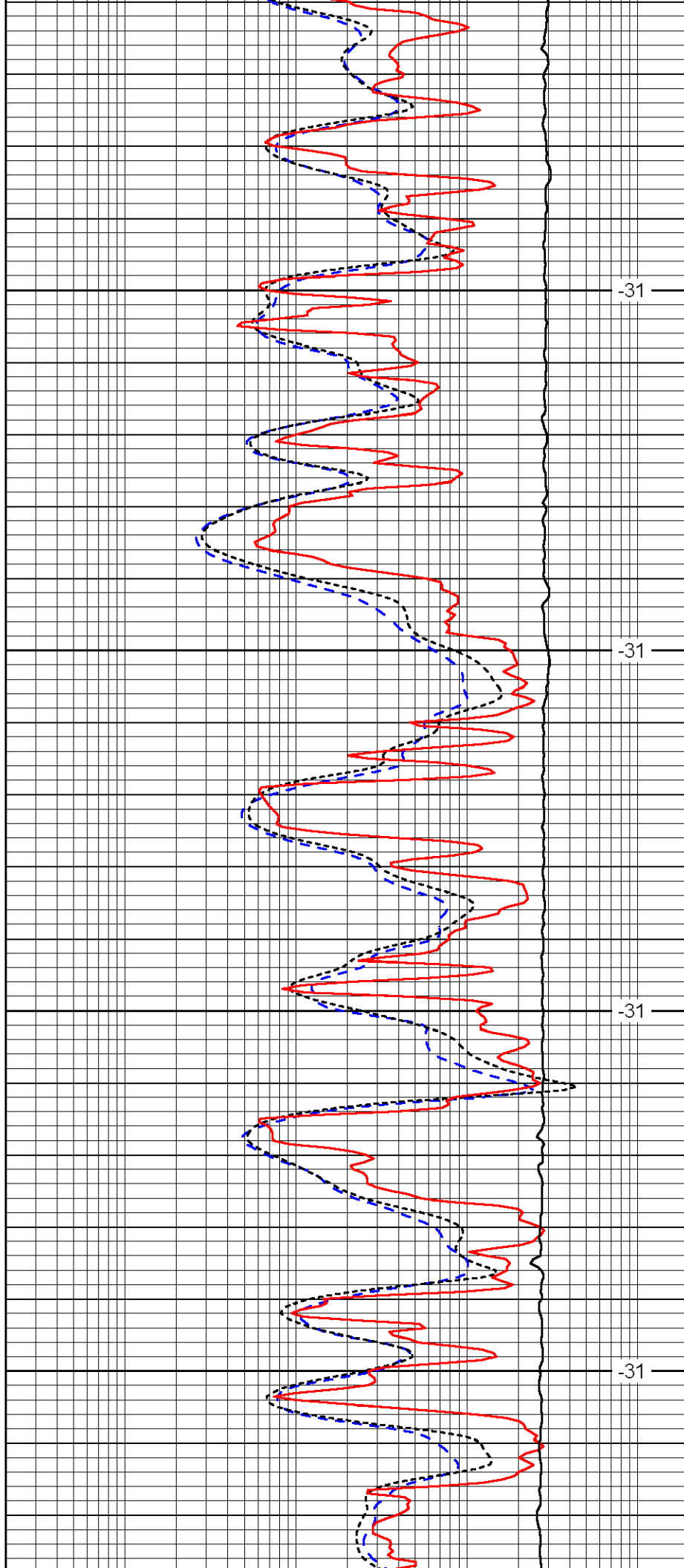


3400

3450

3500

3550

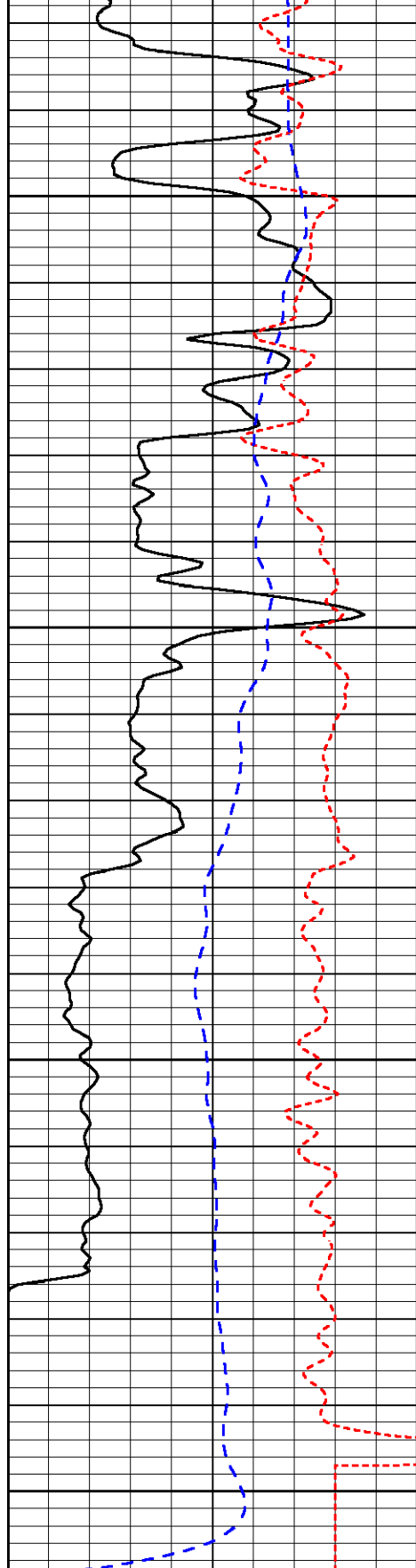


-31

-31

-31

-31



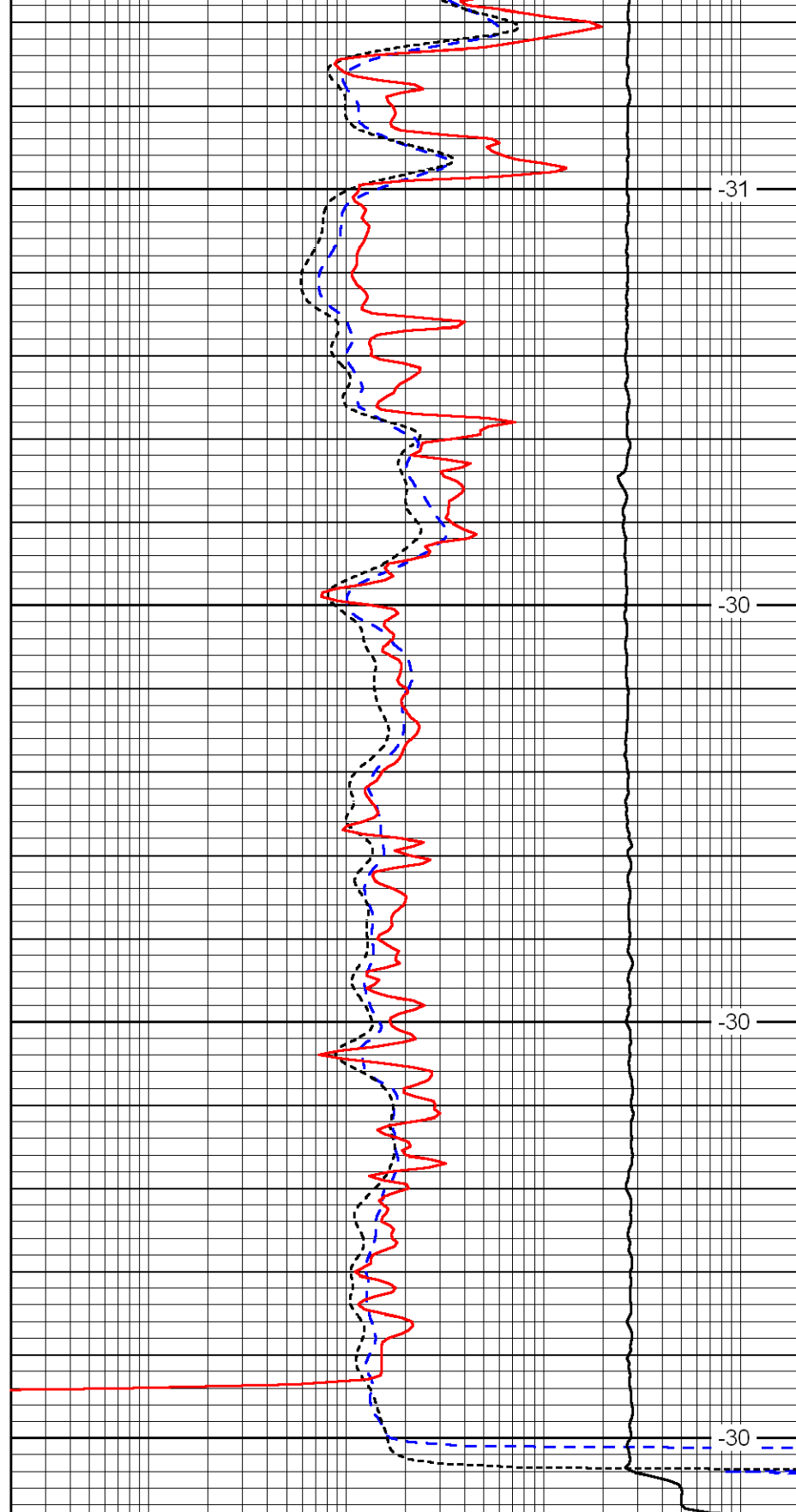
0	Gamma Ray	150
-160	RXO/RT	40
-200	SP	0

3600

3650

3700

3750



0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD



PIONEER

Pioneer Energy Services

Dual Compensated Porosity Log

API No.

15-051-26,416-00-00

Company TDI, Inc.

Well Kraus-Unit No.1

Field Reichert

County Ellis

State Kansas

Location

1890' FSL & 2515' FWL

Other Services
DIL/MEL

Sec: 10

Twp: 15S

Rge: 19W

Elevation

K.B. 2046
D.F. 2036
G.L. 2036

Permanent Datum Ground Level Elevation 2036
Log Measured From Kelly Bushing 10 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Date 11/21/2012

Run Number One

Type Log CNL / CDL

Depth Driller 3750

Depth Logger 3754

Bottom Logged Interval 3733

Top Logged Interval 2900

Type Fluid In Hole Chemical

Salinity, PPM CL 6,900

Density 9.3

Level Full

Max. Rec. Temp. F 114

Operating Rig Time 3 1/2 Hours

Equipment -- Location 17 Hays

Recorded By C. Desaire

Witnessed By Tom Denning

Borehole Record

Run No Bit From To Size Wgt. From To

One 12.25 00 223 8.625 23# 00 223

Two 7.875 223 TD

<<< 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

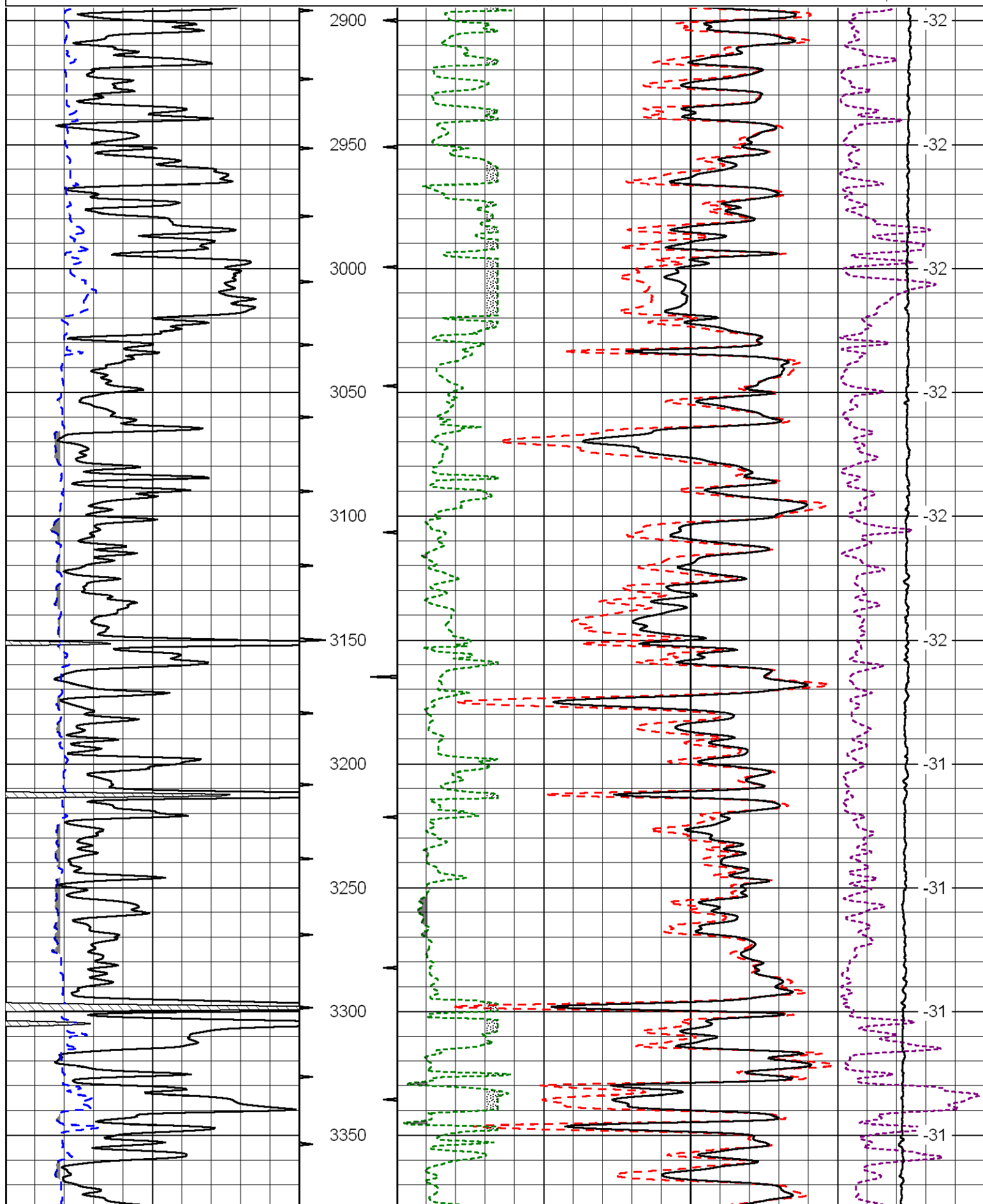
Thank you for using Log-Tech, Inc.
(785) 625-3858

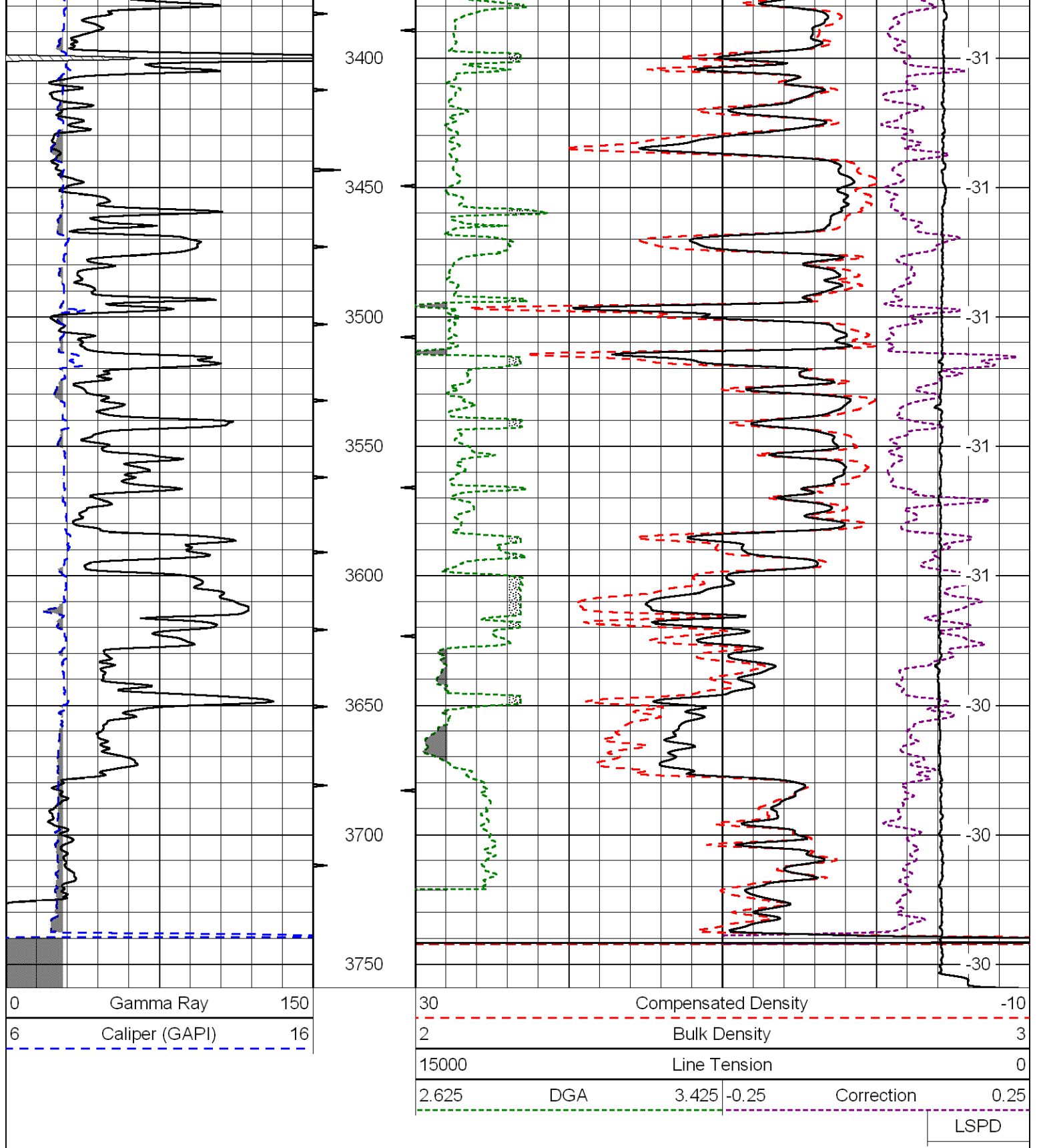
Antonino KS, 2 S,
1 1/2 W, N Into

Database File: tdihd2.db
Dataset Pathname: dil/tdistk
Presentation Format: cdl
Dataset Creation: Wed Nov 21 04:51:15 2012
Charted by: Depth in Feet scaled 1:600

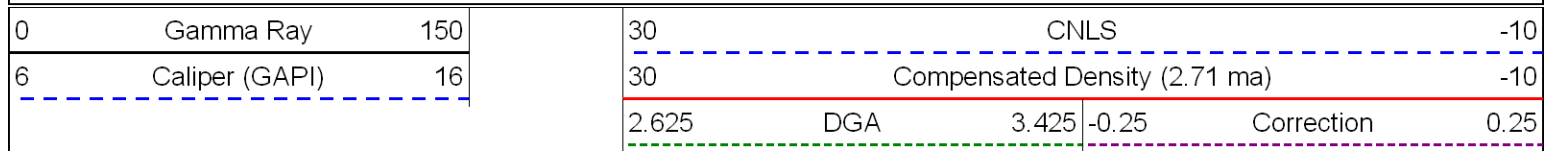
0	Gamma Ray	150
6	Caliper (GAPI)	16

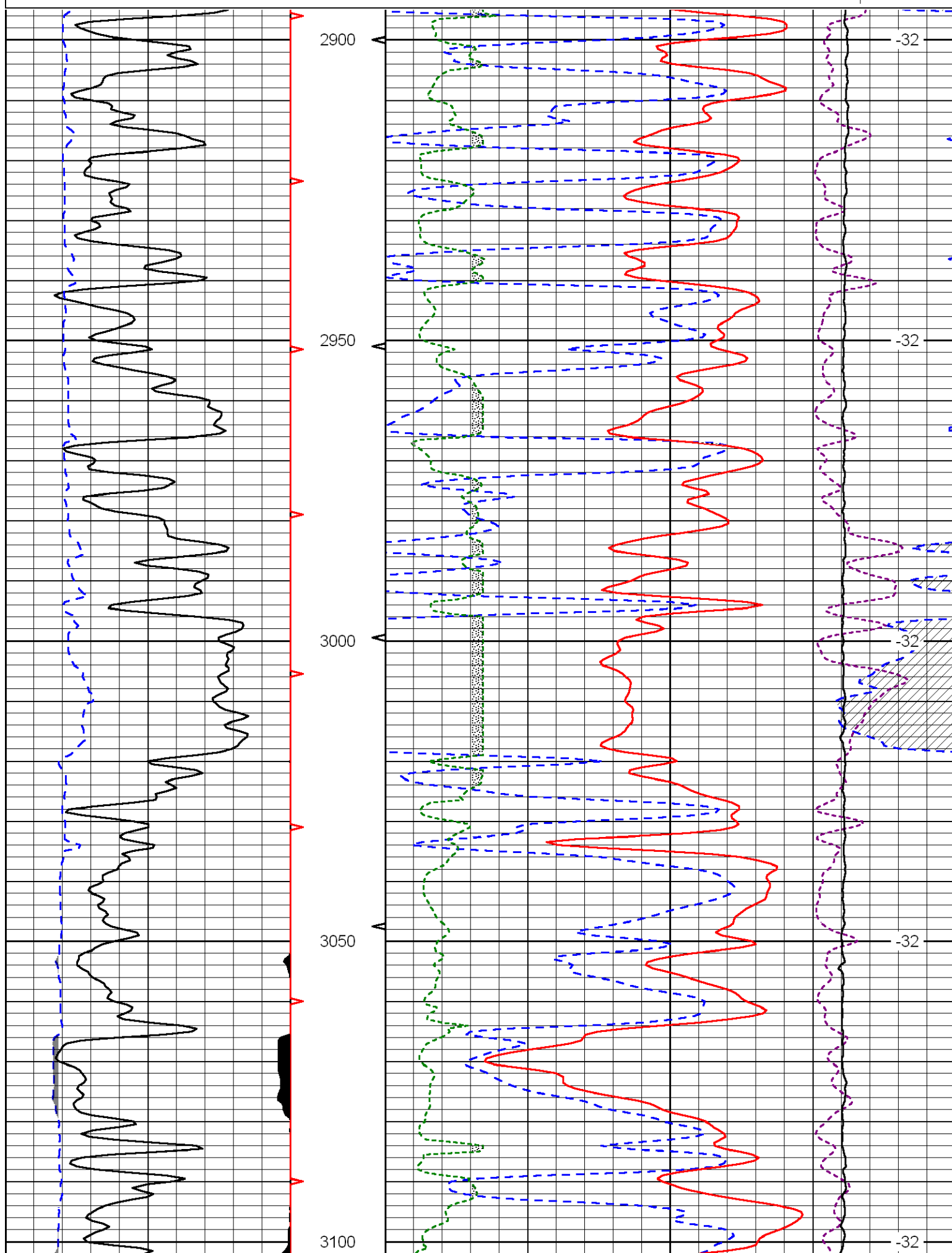
30	Compensated Density				-10
2	Bulk Density				3
15000	Line Tension				0
2.625	DGA	3.425	-0.25	Correction	0.25
					LSPD

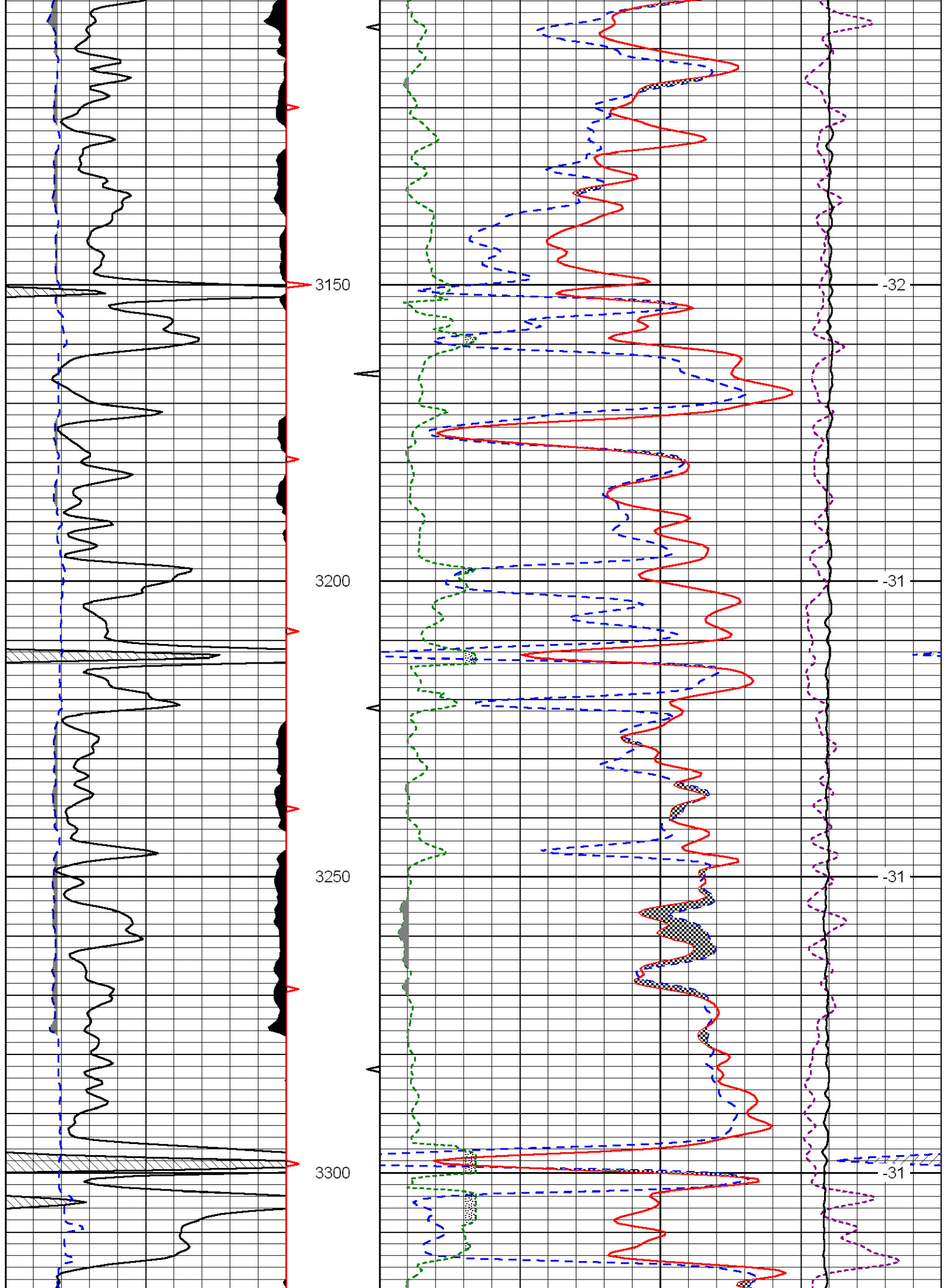


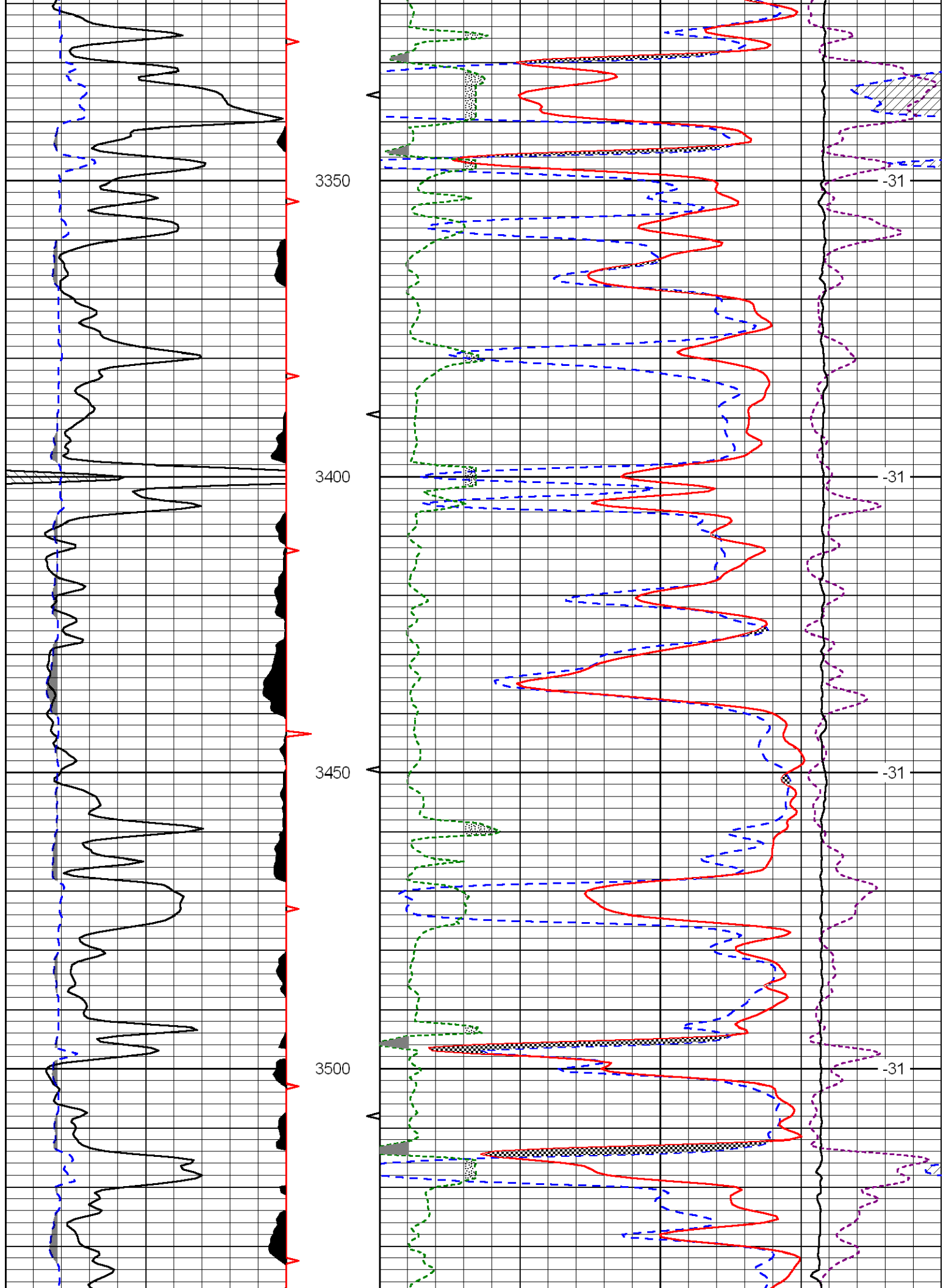


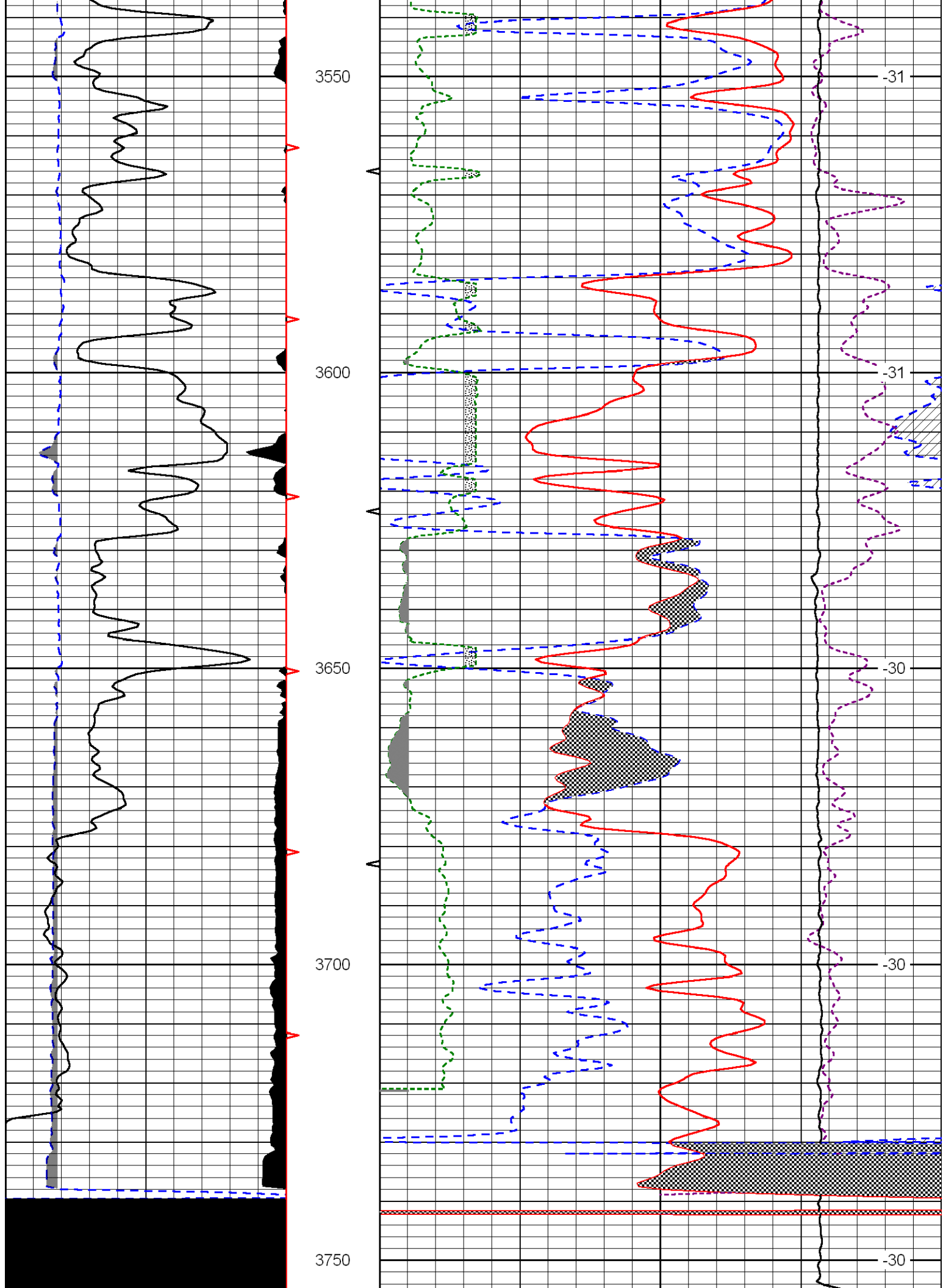
Database File: tdihd2.db
 Dataset Pathname: dil/tdistk
 Presentation Format: cndlspec
 Dataset Creation: Wed Nov 21 04:51:15 2012
 Charted by: Depth in Feet scaled 1:240











0	Gamma Ray	150	30	CNLS		-10
6	Caliper (GAPI)	16	30	Compensated Density (2.71 ma)		-10
			2.625	DGA	3.425	-0.25
					Correction	0.25
			10000	Line Tension		0
						LSPD



PIONEER

Pioneer Energy Services

Microresistivity Log

API No.	Company TDI, Inc.		
15-051-26,416-00-00	Well	Kraus-Unit No.1	
	Field	Reichert	
	County	Ellis	State Kansas
	Location	1890' FSL & 2515' FWL	
	Sec: 10	Twp: 15S	Rge: 19W
Permanent Datum	Ground Level	Elevation 2036	
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	K.B. 2046
Drilling Measured From	Kelly Bushing		D.F. 2036
			G.L. 2036
Date	11/21/2012		
Run Number	Two		
Depth Driller	3750		
Depth Logger	3754		
Bottom Logged Interval	3753		
Top Log Interval	2900		
Casing Driller	8.625 @ 223.65		
Casing Logger	222		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	6.900		
Density / Viscosity	9.3	58	
pH / Fluid Loss	10.5	8.0	
Source of Sample	Flowline		
Rm @ Meas. Temp	.65 @ 54		
Rmf @ Meas. Temp	.49 @ 54		
Rmc @ Meas. Temp	.88 @ 54		
Source of Rmf / Rmc	Charts		
Rm @ BHT	.31 @ 114		
Operating Rig Time	3 1/2 Hours		
Max Rec. Temp. F	114		
Equipment Number	17		
Location	Hays		
Recorded By	C. Desaire		
Witnessed By	Tom Denning		
	Herb Deines		

<<< 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.

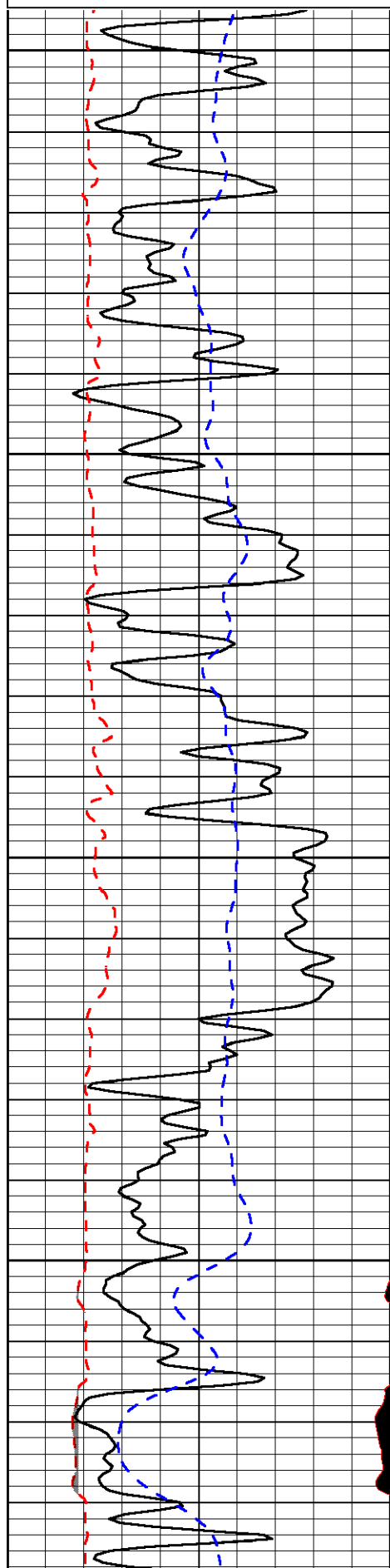
Comments

Thank you for using Log-Tech, Inc.
(785) 625-3858

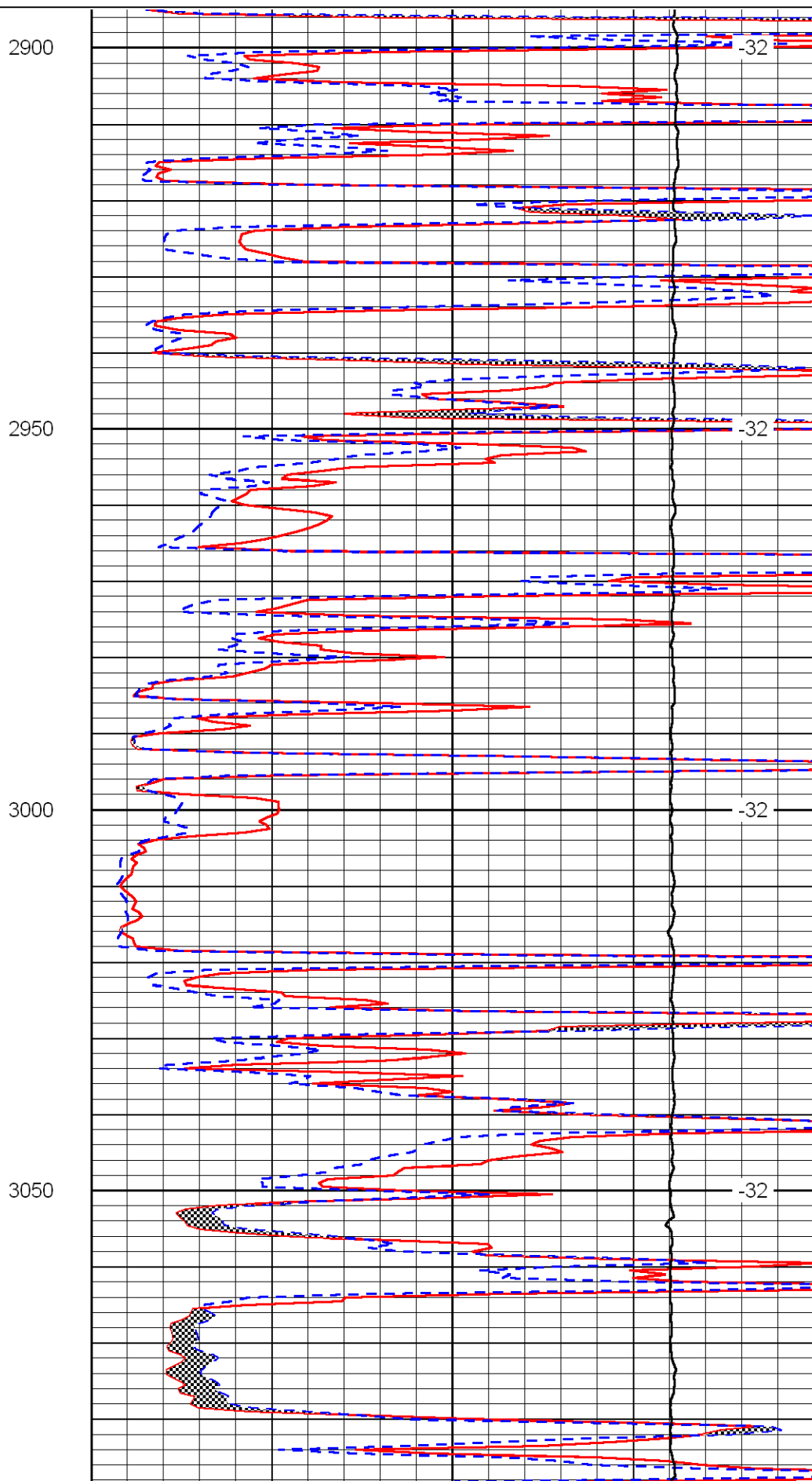
Antonino KS, 2 S,
1 1/2 W, N Into

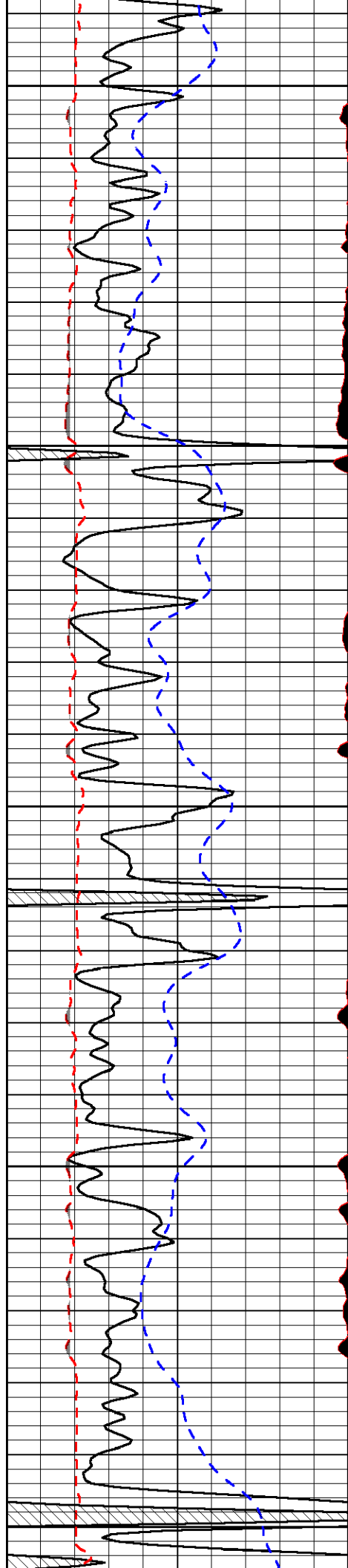
Database File: tdihd2.db
Dataset Pathname: dil/tdistk
Presentation Format: micro
Dataset Creation: Wed Nov 21 04:51:15 2012
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray	150
6	MCAL (GAPI)	16
2.875	Mud Cake (GAPI)	7.875
-200	SP	0



0	Micro Inverse 1 X 1	40
0	Micro Normal 2"	40
10000	Line Weight	0
		LSPD





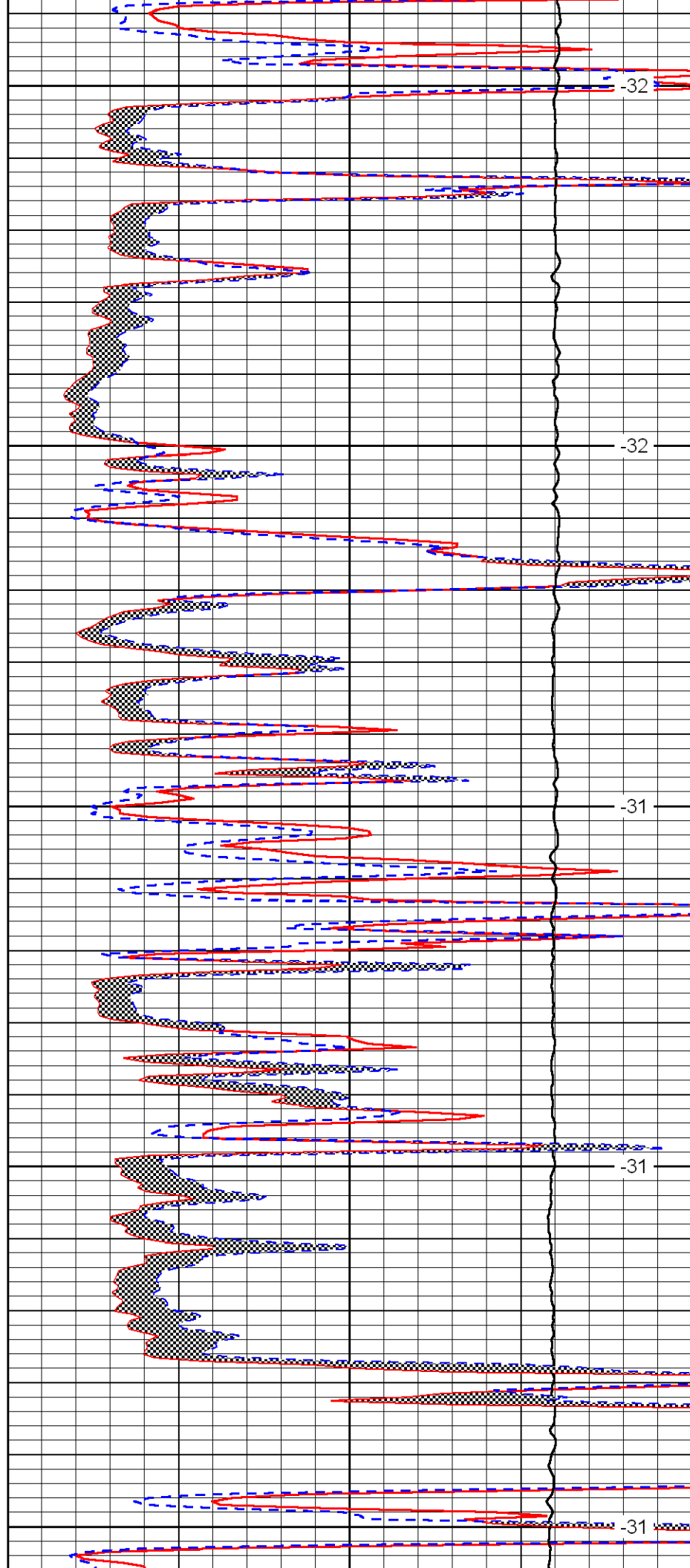
3100

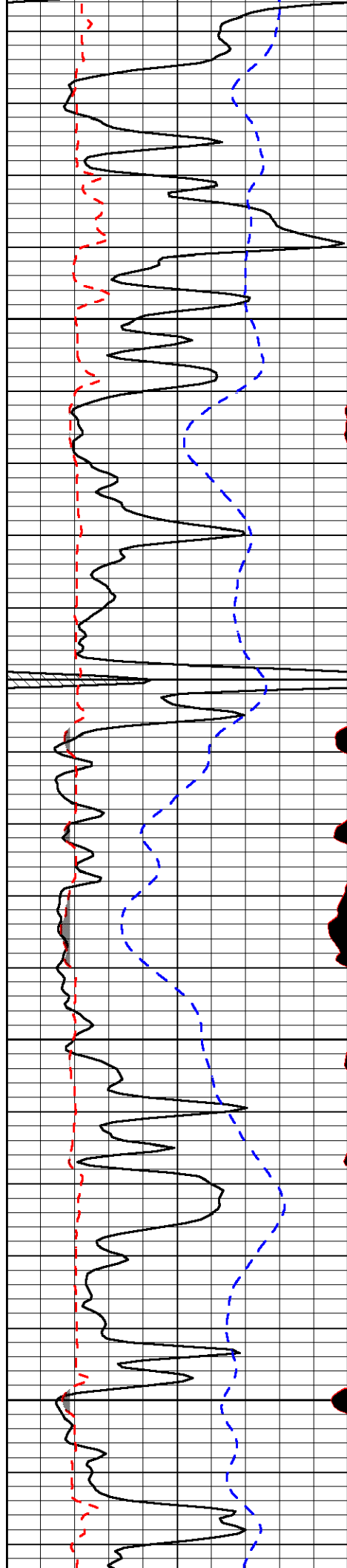
3150

3200

3250

3300



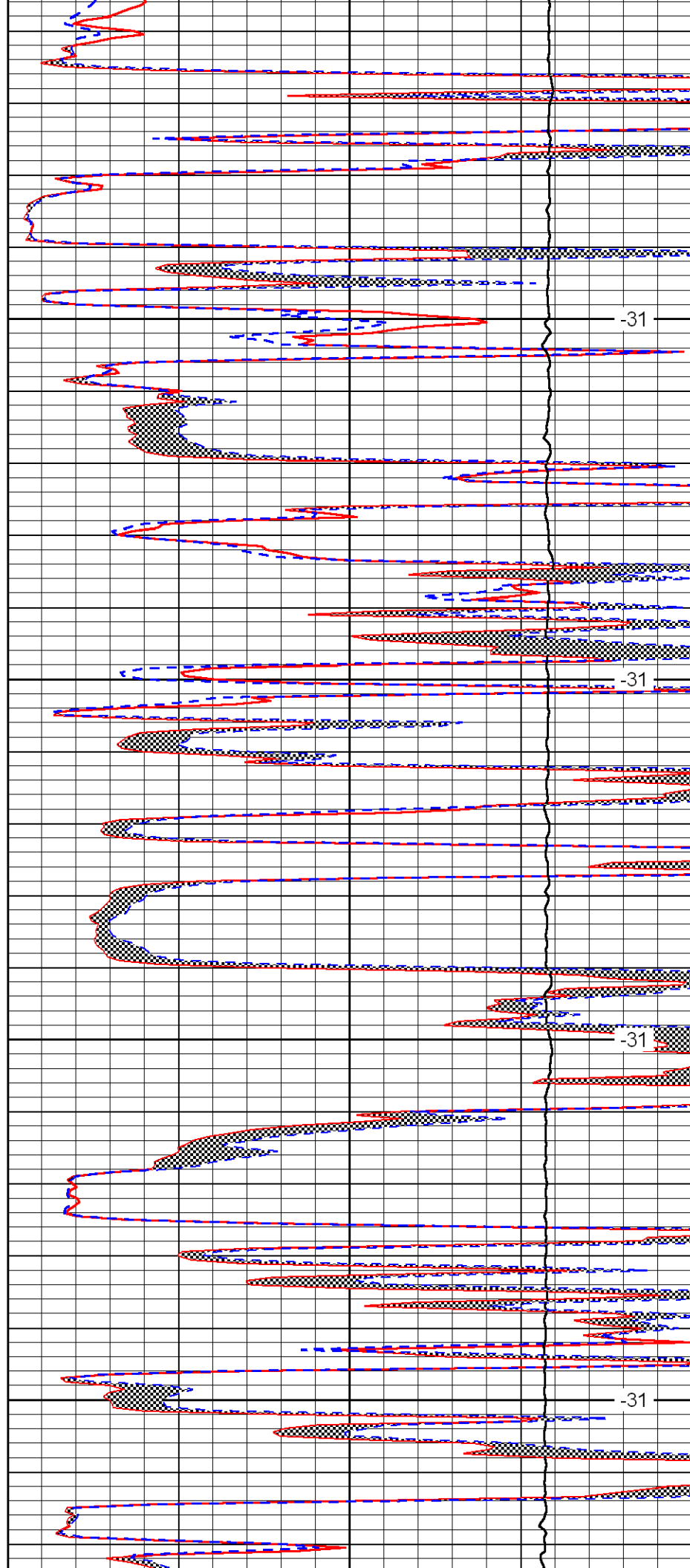


3350

3400

3450

3500

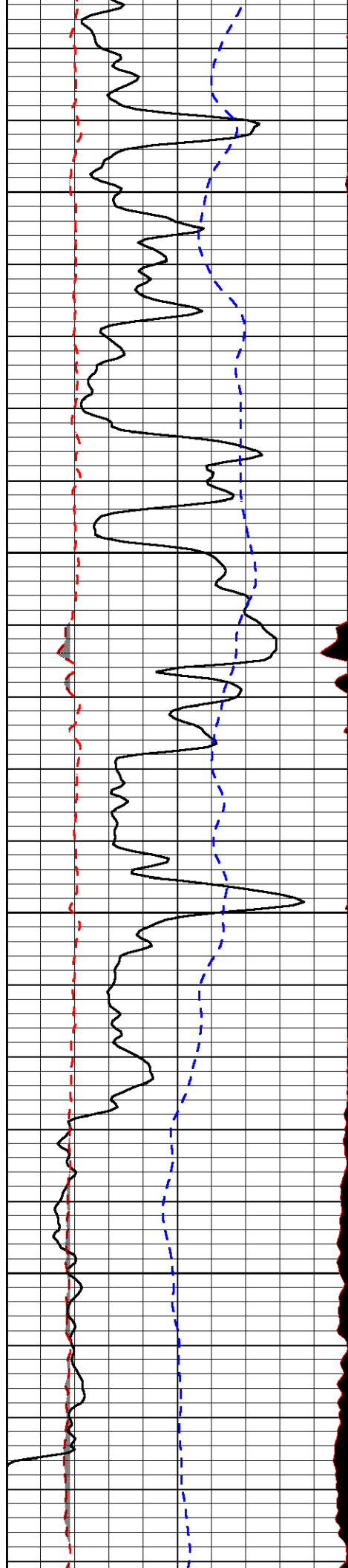


-31

-31

-31

-31

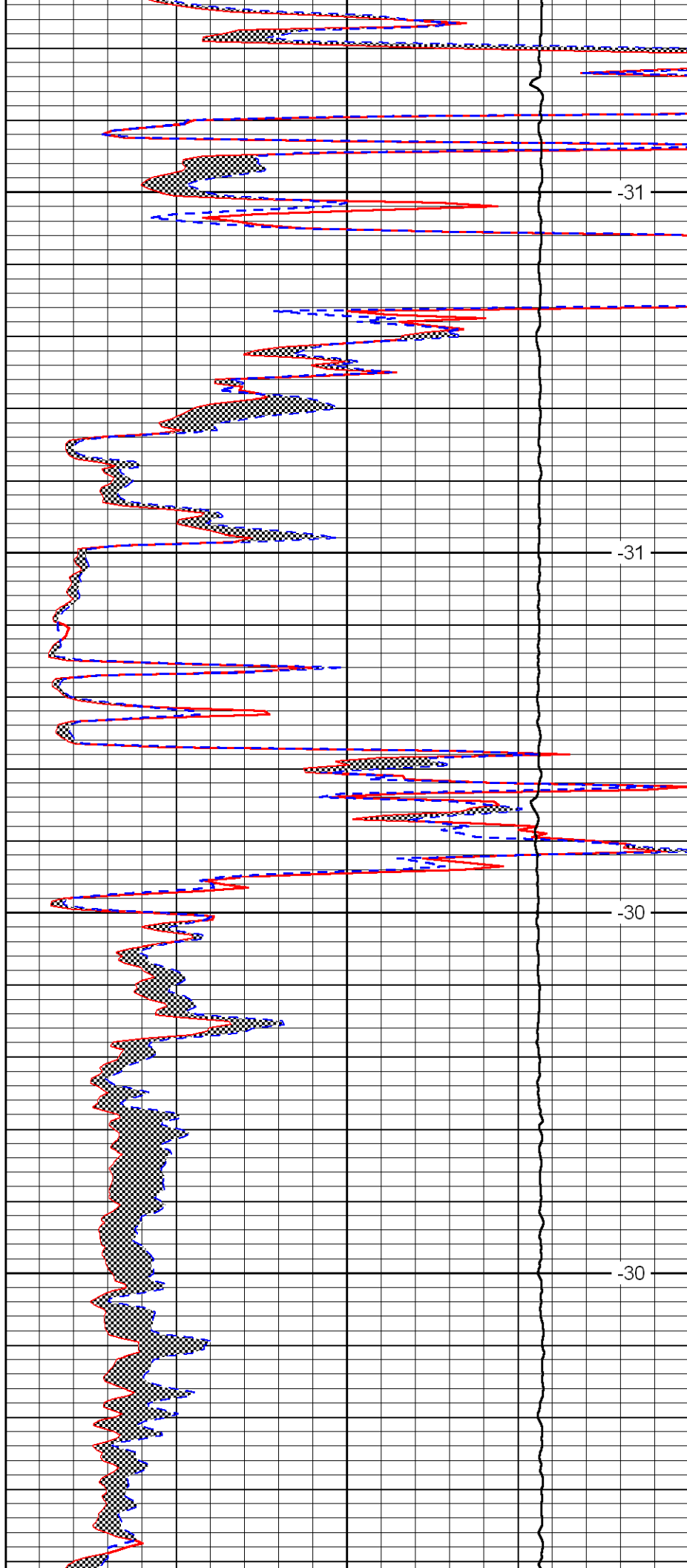


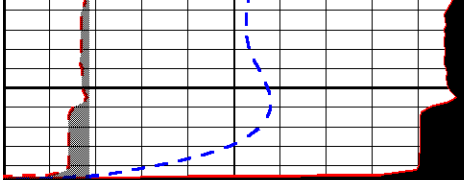
3550

3600

3650

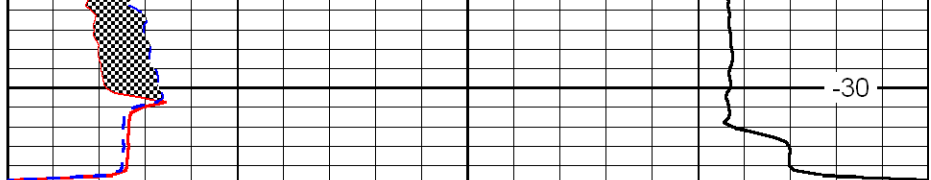
3700





0	Gamma Ray	150
6	MCAL (GAPI)	16
2.875	Mud Cake (GAPI)	7.875
-200	SP	0

3750



0	Micro Inverse 1 X 1	40
0	Micro Normal 2"	40
10000	Line Weight	0

LSPD