



Pioneer Energy Services

Microresistivity Log

API No.

15-051-26,726-00-00

Company TDI, Inc.

Well Engel North No. 2

Field Schoenchen

County Ellis

State

Kansas

Location

2015' FNL & 2225' FEL

Sec: 21

Twp: 15s

Rge: 18w

Permanent Datum Ground Level
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation 2021
10 Ft. Above Perm. Datum

K.B. 2031
D.F.
G.L. 2021

Other Services
CNL/CDL
DIL

Date

9/30/2014

Run Number

Two

Depth Driller

3725

Depth Logger

3723

Bottom Logged Interval

3722

Top Log Interval

2900

Casing Driller

8.625 @ 1194

Casing Logger

1190

Bit Size

7.875

Type Fluid in Hole

Chemical

Salinity, ppm CL

2600

Density / Viscosity

9.1 55

pH / Fluid Loss

11.5 6.8

Source of Sample

Flowline

Rm @ Meas. Temp

.70 @ 78

Rmf @ Meas. Temp

.53 @ 78

Rmc @ Meas. Temp

.95 @ 78

Source of Rmf / Rmc

Charts

Rm @ BHT

.48 @ 113

Operating Rig Time

4 Hours

Max Rec. Temp. F

113

Equipment Number

108

Location

Hays

Recorded By

D. Fischer

Witnessed By

Herb Deines

Tom Denning

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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.

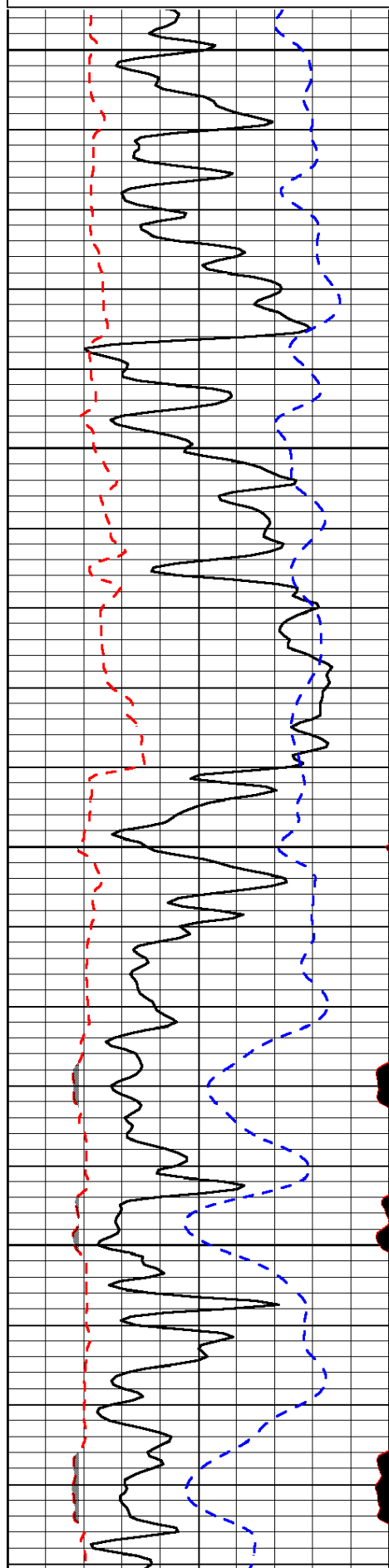
Comments

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

Hays Ks., 8 South, 1/2 West. 1/2 South, East Into.

Database File: tdi_engle_north_2hd.db
Dataset Pathname: DIL/tdistck
Presentation Format: micro
Dataset Creation: Tue Sep 30 07:07:34 2014
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 (mV)	0



2900

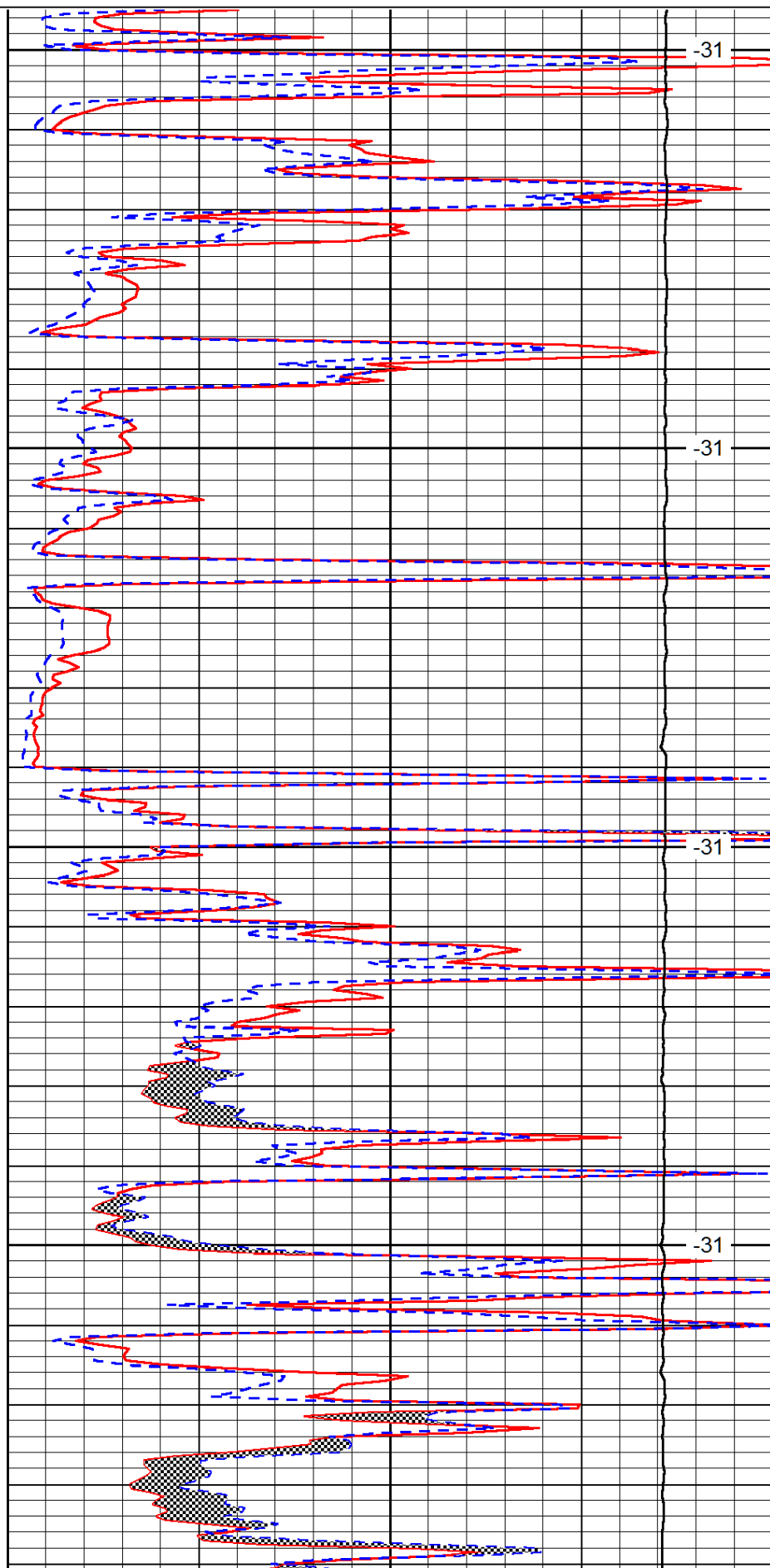
2950

3000

3050

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

LSPD

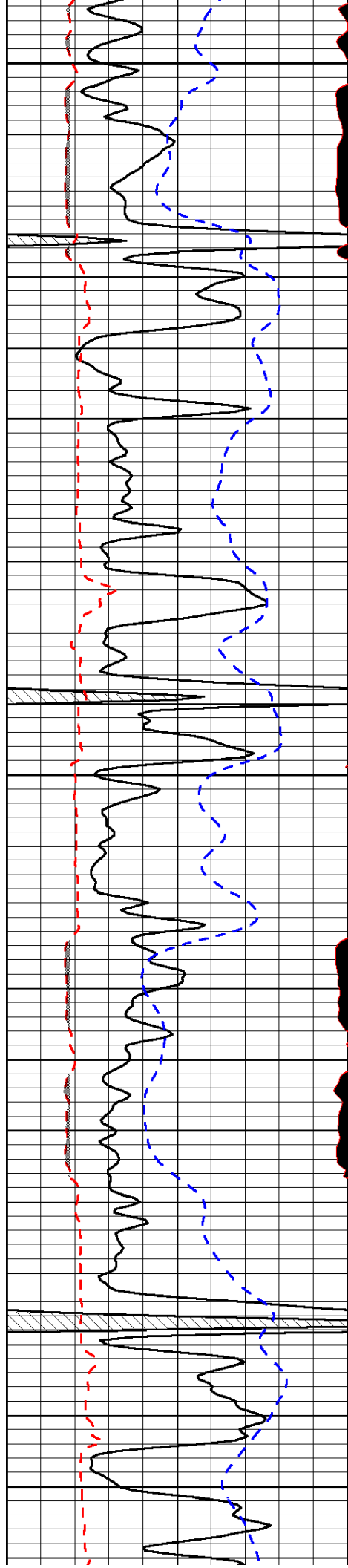


-31

-31

-31

-31



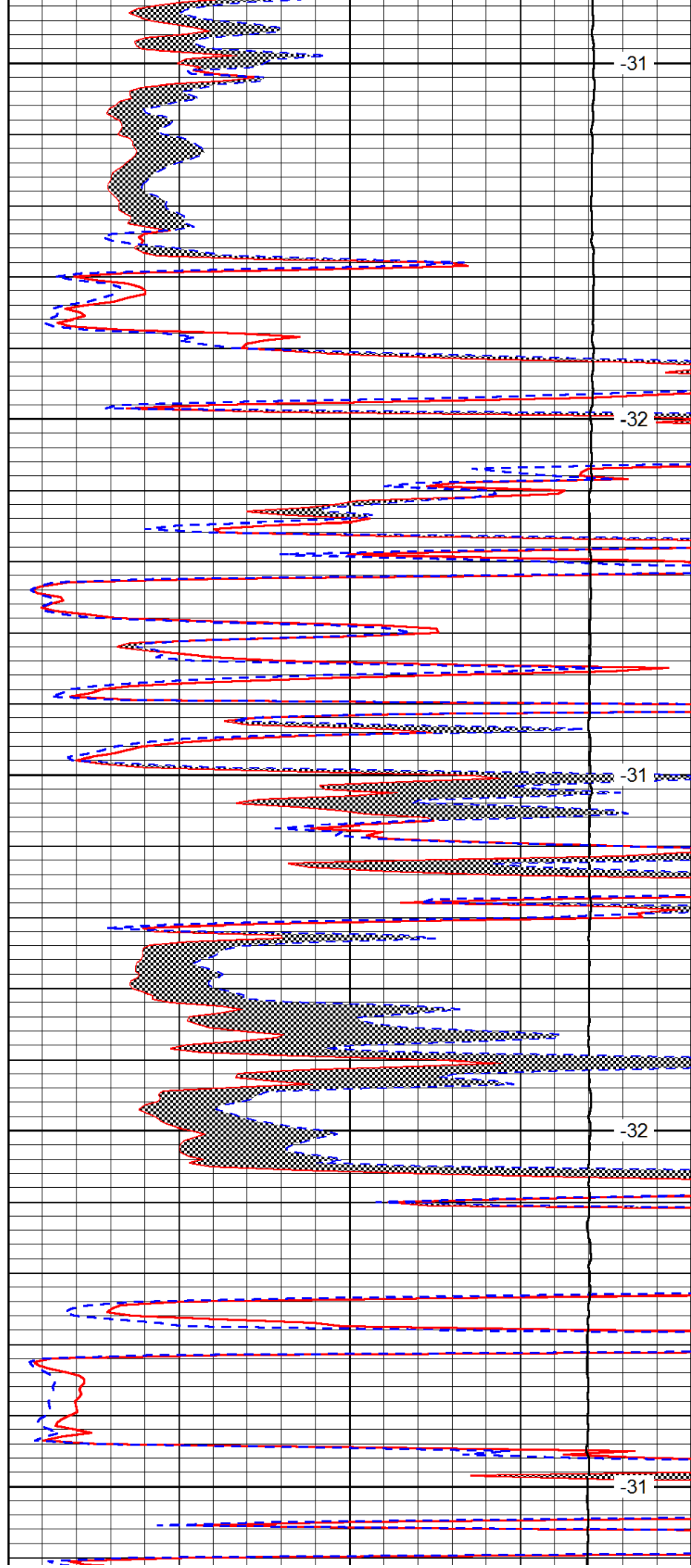
3100

3150

3200

3250

3300



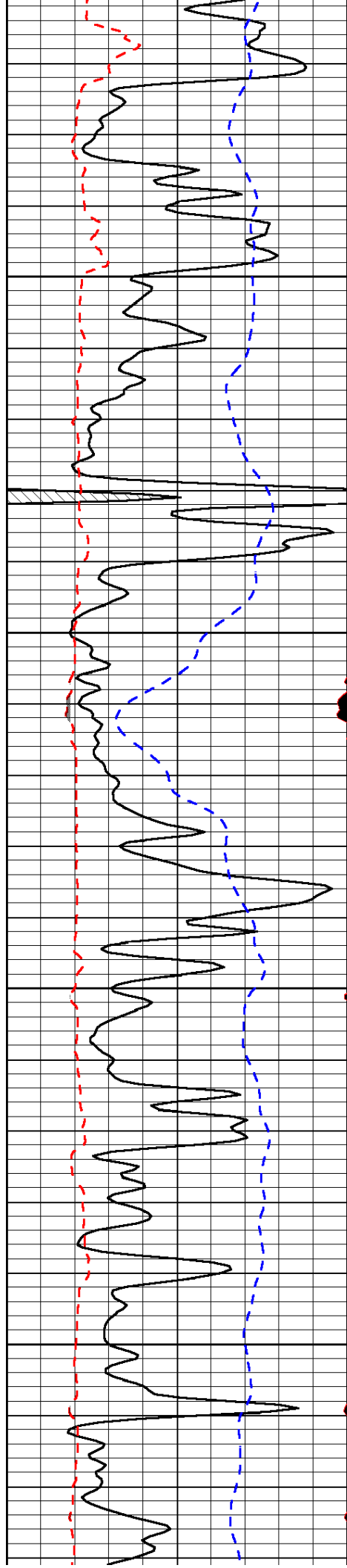
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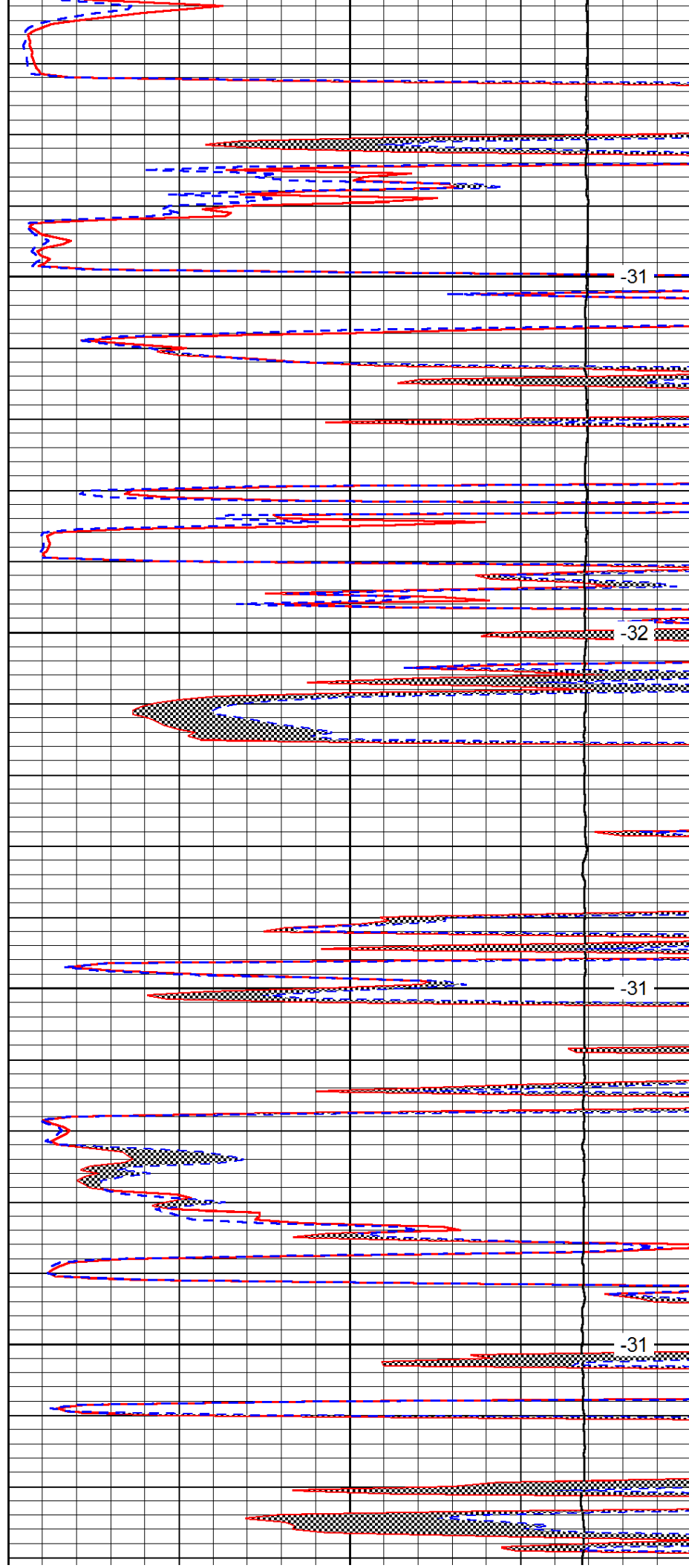


3350

3400

3450

3500

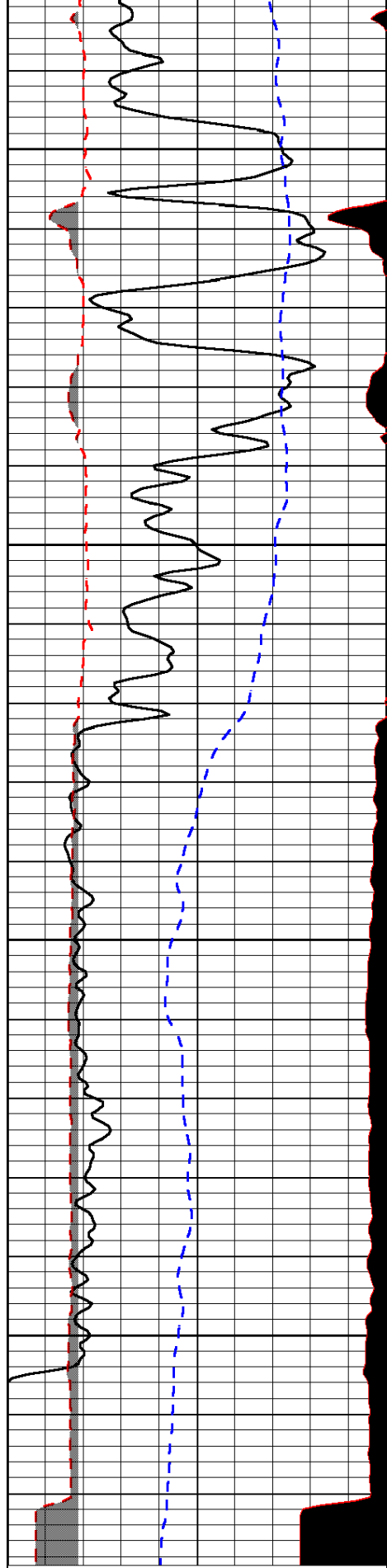


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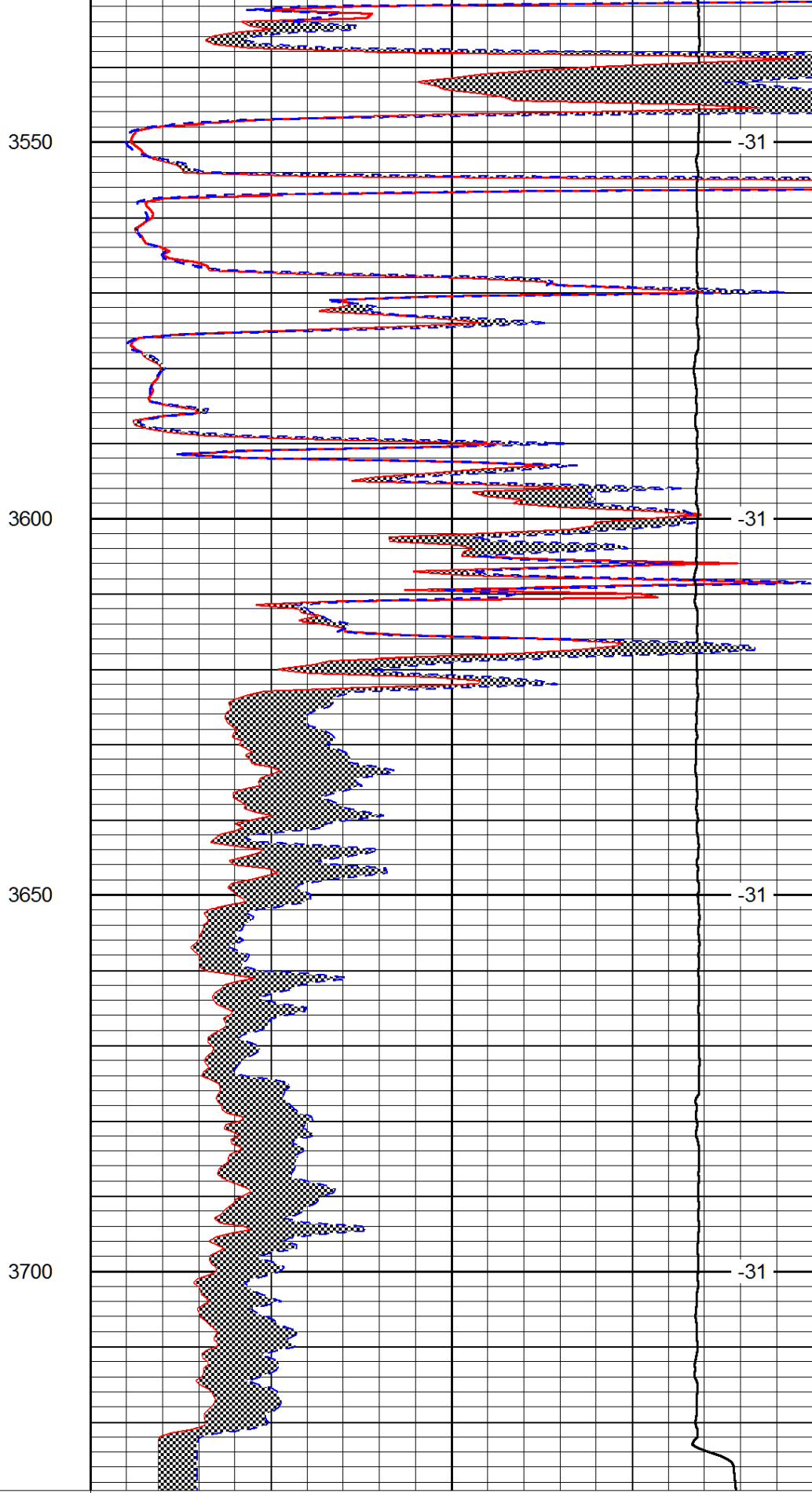
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-31



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