



Microresistivity Log

Pioneer Energy Services

API No.

15-109-21,351-00-00

Company Cobalt Energy, LLC

Well Boyd 'A' #1-16

Field Wildcat

County

Logan

State

Kansas

Location

406' FSL & 1669' FEL

Sec: 16

Twp: 11S

Rge: 34W

Elevation

Permanent Datum Ground Level

Elevation 3189

Log Measured From Kelly Bushing

11 Ft. Above Perm. Datum

K.B. 3200

D.F. 3189

Drilling Measured From Kelly Bushing

G.L. 3189

Date

10/19/2014

Run Number

Two

Depth Driller

4817

Depth Logger

4817

Bottom Logged Interval

4816

Top Log Interval

3800

Casing Driller

8.625 @ 224

Casing Logger

224

Bit Size

7.875

Type Fluid in Hole

Chemical

Salinity, ppm CL

3.500

Density / Viscosity

9.5 55

pH / Fluid Loss

10.5 7.2

Source of Sample

Flowline

Rm @ Meas. Temp

.53 @ 68

Rmf @ Meas. Temp

.40 @ 68

Rmc @ Meas. Temp

.72 @ 68

Source of Rmf / Rmc

Charts

Rm @ BHT

.29 @ 124

Operating Rig Time

4 Hours

Max Rec. Temp. F

124

Equipment Number

108

Location

Hays

Recorded By

J. Henrickson

Witnessed By

Paul Gunzelman

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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.

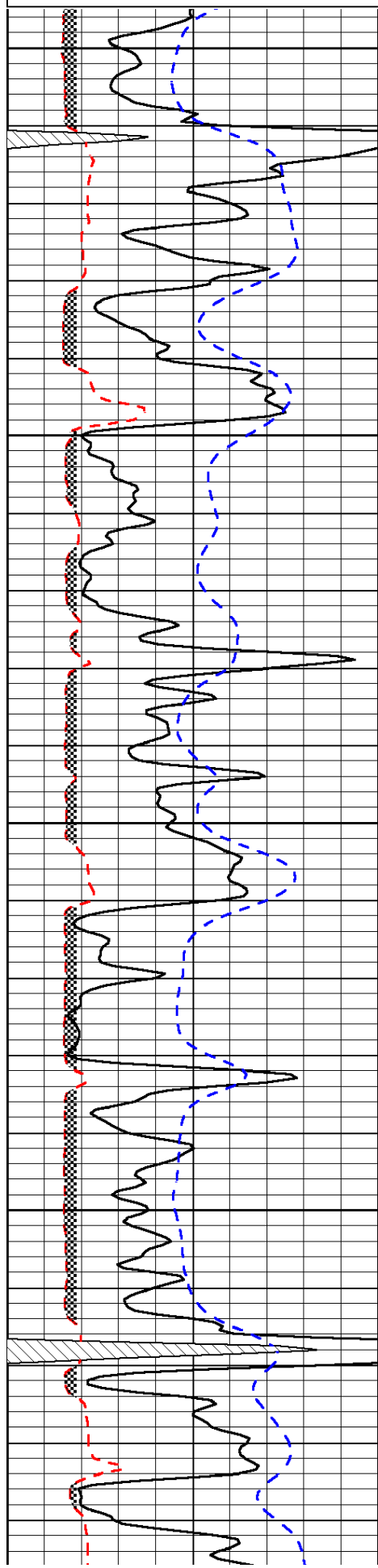
Comments

Thank you for using Pioneer Energy Services
www.pioneerres.com
785 625 3858

Monument Kansas
4 West, 1 South, 1/2 West, North Into

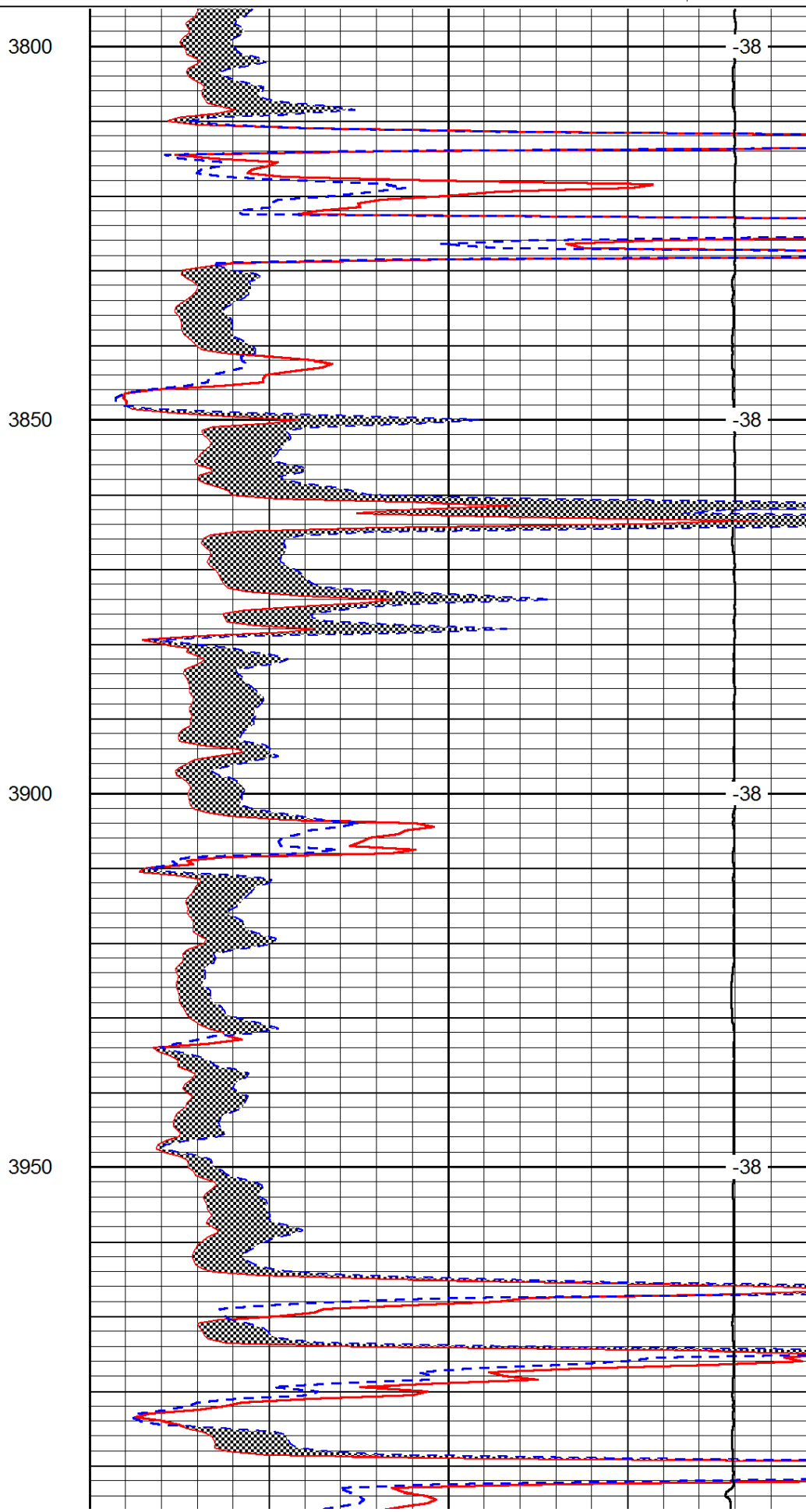
Database File: c:\warrior\data\cobalt_boyd 'a' #1-16\cobalt_boyd_a_1_16hd.db
Dataset Pathname: DIL\cobstk
Presentation Format: micro
Dataset Creation: Sun Oct 19 16:35:31 2014
Charted by: Depth in Feet scaled 1:240

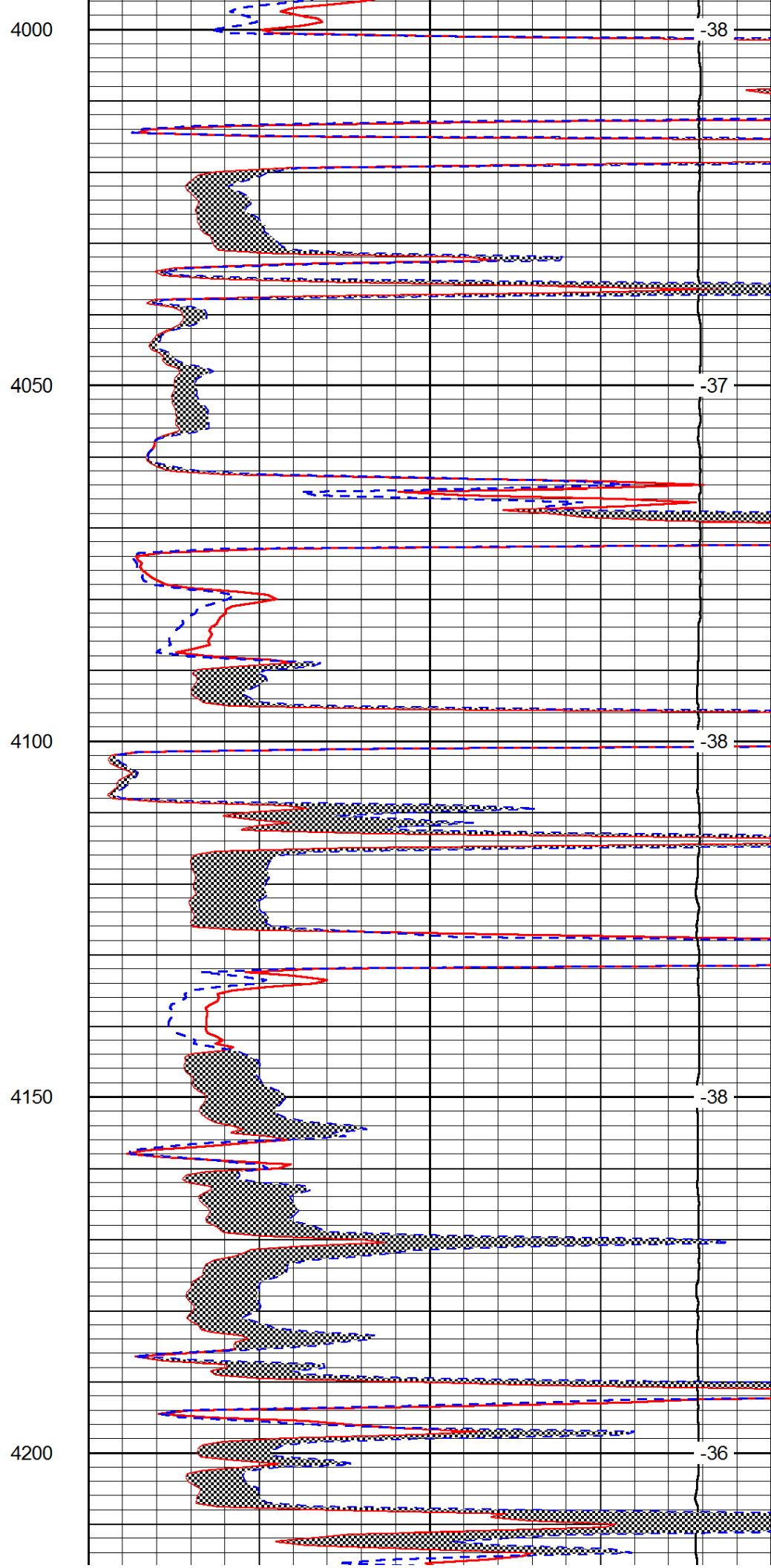
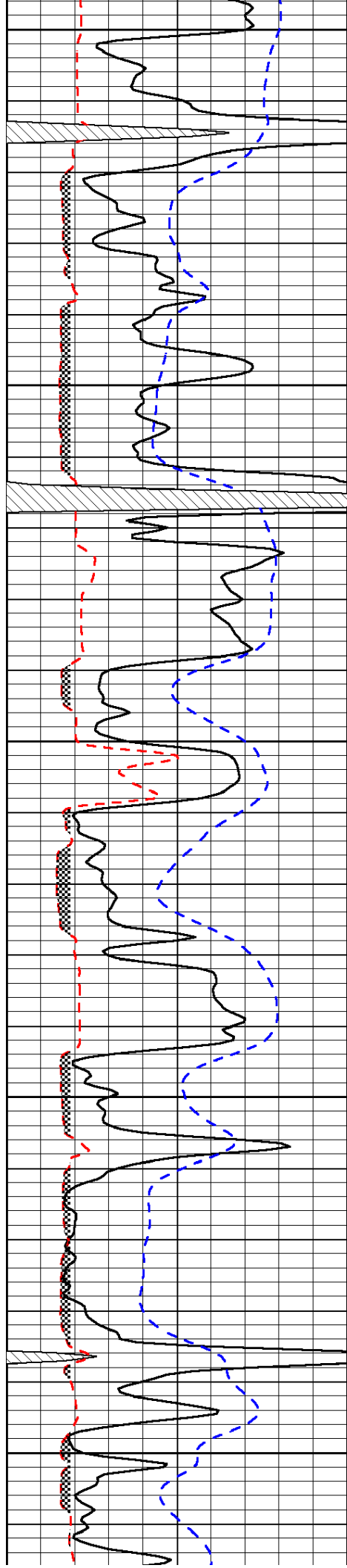
0	Gamma Ray	150
6	MCAL (GAPI)	16
-200	SP (mV)	0

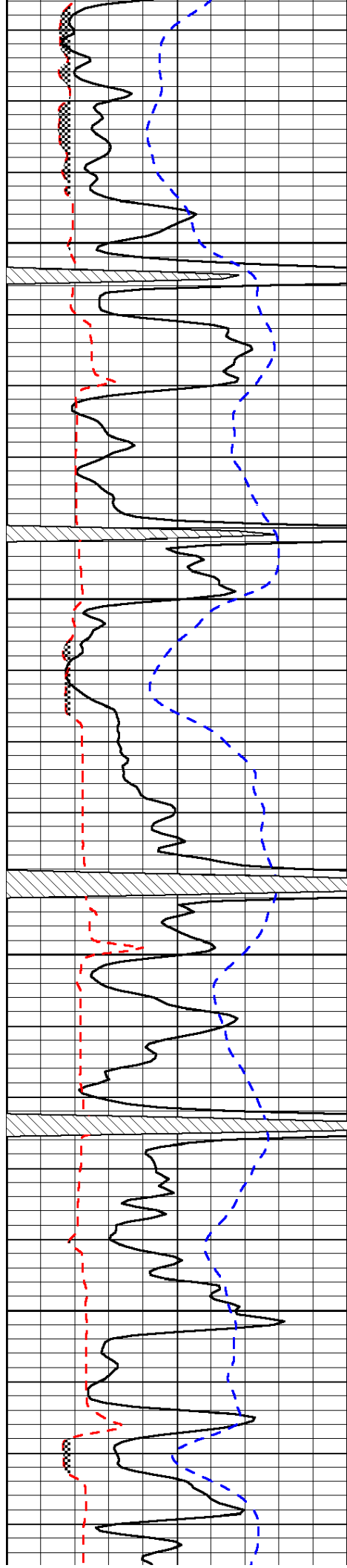


0	Micro Inverse 1 X 1	40
0	Micro Normal 2"	40
15000	Line Weight	0

LSPD





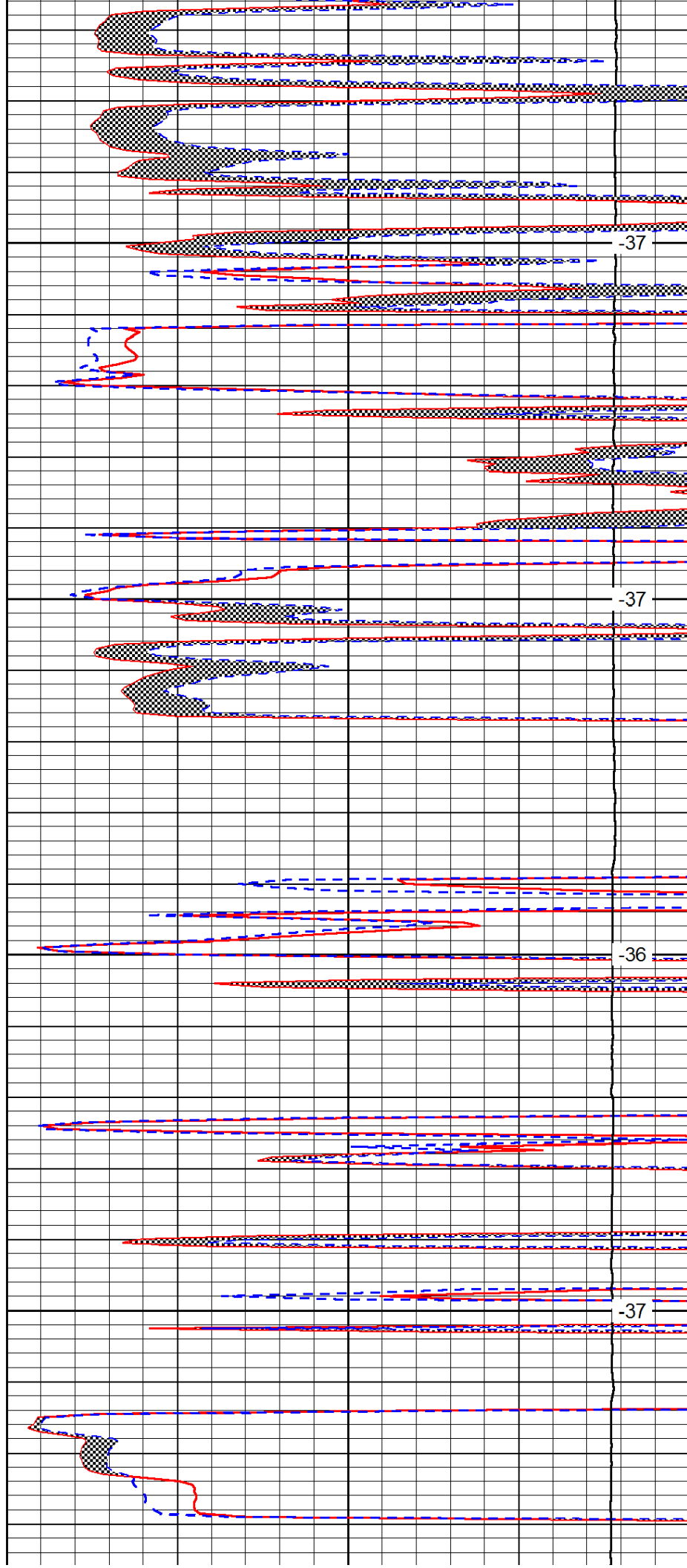


4250

4300

4350

4400

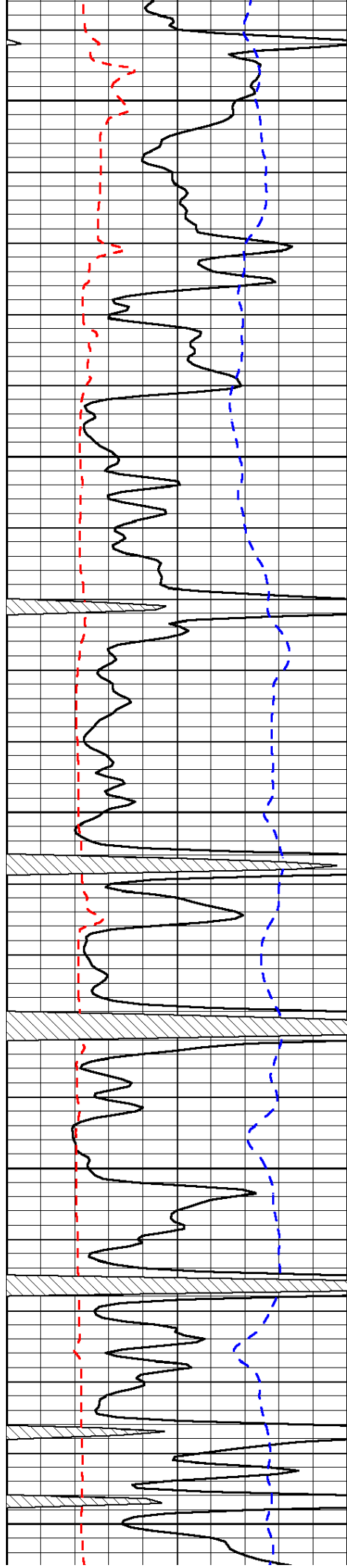


-37

-37

-36

-37



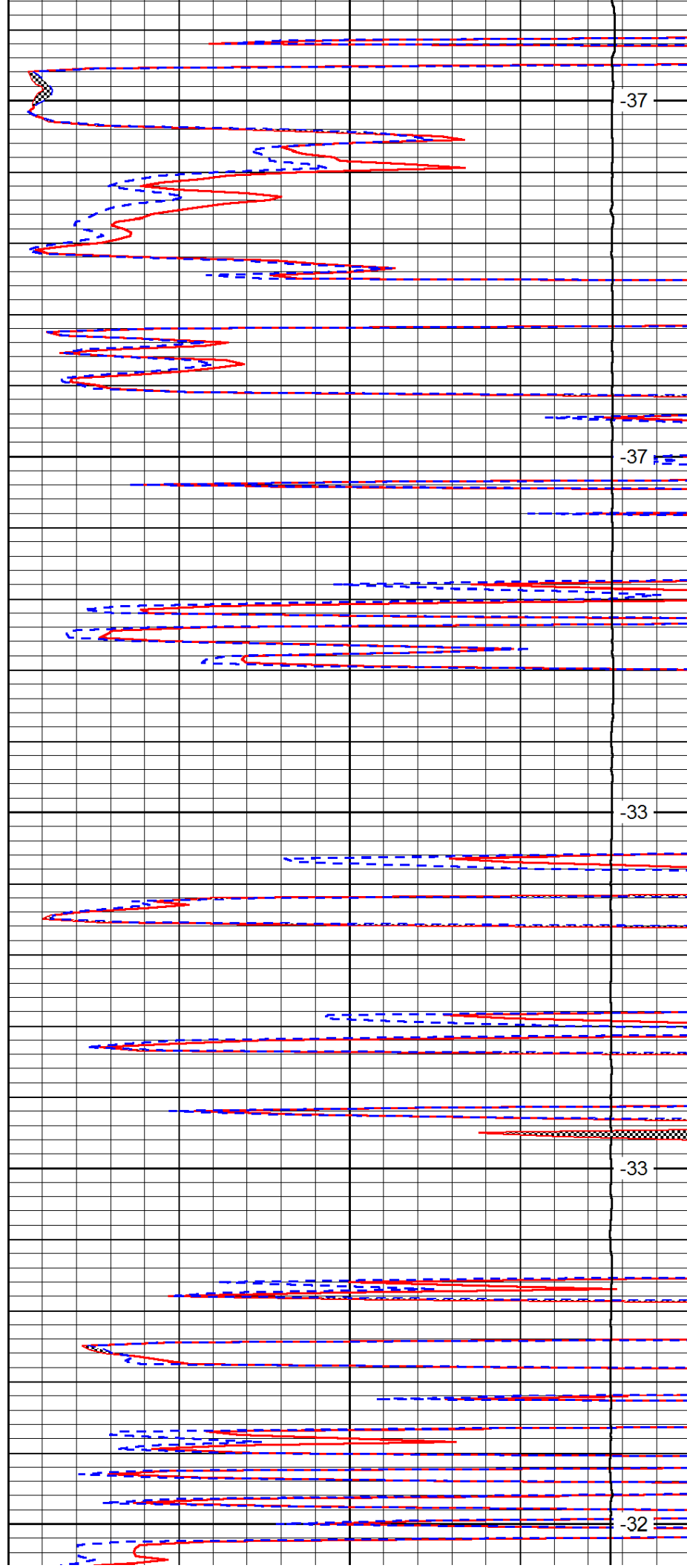
4450

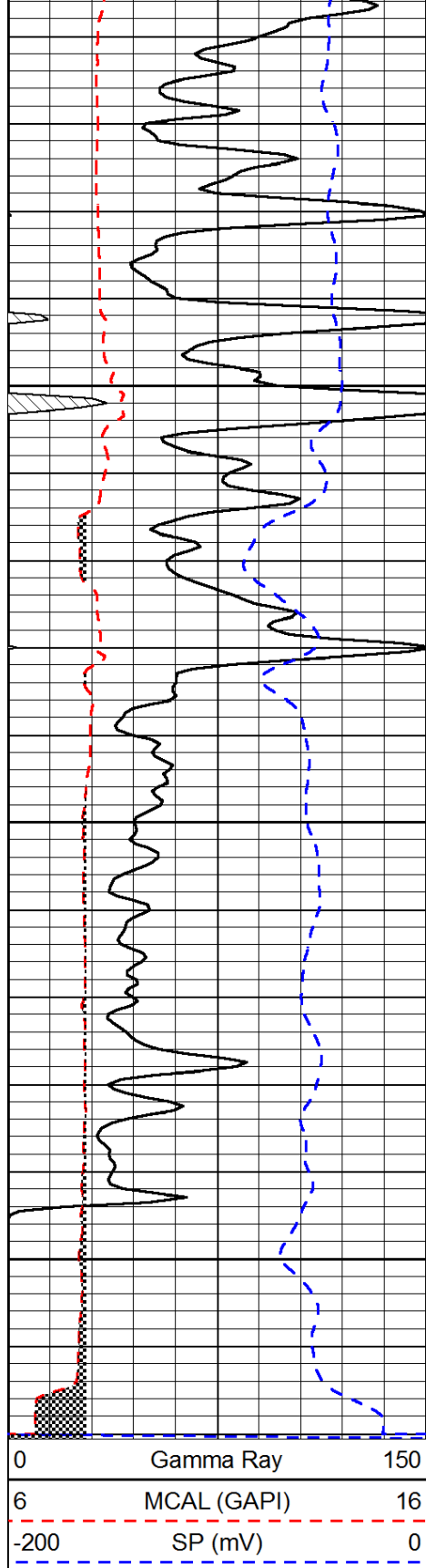
4500

4550

4600

4650

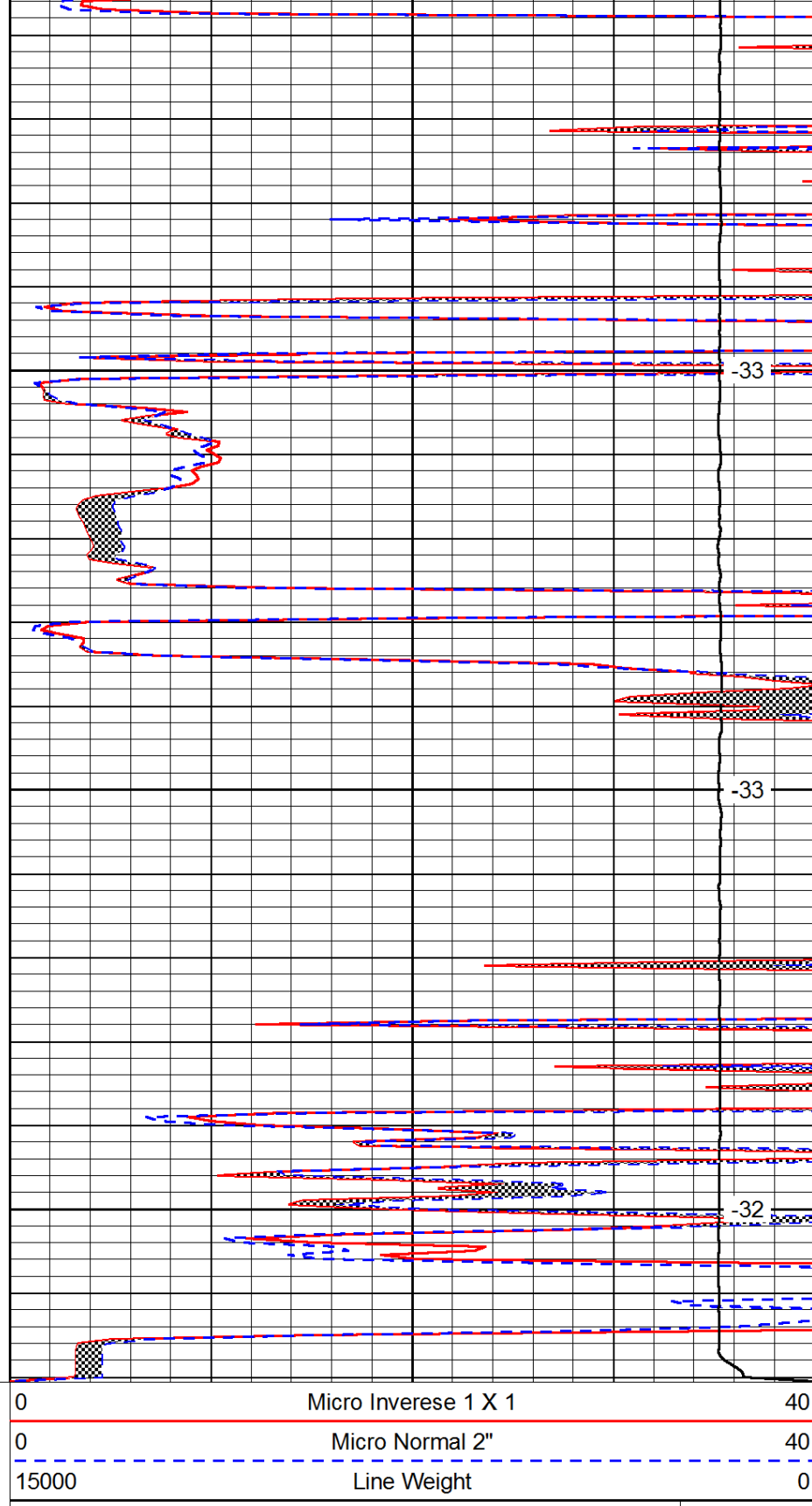




4700

4750

4800



-33

-33

-32

LSPD