



PIONEER

Pioneer Energy Services

MICRORESISTIVITY LOG

Company **HERMAN L. LOEB, LLC**
Well **MOEDER NO. 1-21**
Field **SUGARLOAF**
County **ELLIS** State **KANSAS**

Location: API #: 15-051-26822-00-00

Other Services

2305' FNL & 331' FWL
NE-SW-SW-NW
SEC 21 TWP 13S RGE 17W

CNL/CDL
DIL

Permanent Datum GROUND LEVEL Elevation 2002'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2013'
D.F. N/A
G.L. 2002'

Date 4/2/16

Run Number ONE

Depth Driller 3630'

Depth Logger 3628'

Bottom Logged Interval 3627'

Top Log Interval 2950'

Casing Driller 8.625" @ 688'

Casing Logger 690'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 4,600

Density / Viscosity 9.2 55

pH / Fluid Loss 11.0 7.4

Source of Sample FLOWLINE

Rm @ Meas. Temp .56 @ 69

Rmt @ Meas. Temp .42 @ 69

Rmc @ Meas. Temp .76 @ 69

Source of Rmt / Rmc CHARTS

Rm @ BHT .34 @ 112

Operating Rig Time 3 HOURS

Max Rec. Temp. F 112 DEGF

Equipment Number 108

Location COLBY

Recorded By J. HENRICKSON

Witnessed By JON CHRISTENSEN

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

CATHERINE KANSAS
SOUTH END OF TOWN, SOUTH ON 350TH 1 MILE TO CURVE,
SOUTHWEST INTO THROUGH CATTLE GUARD

Log Measured From: KELLY BUSHING 11 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

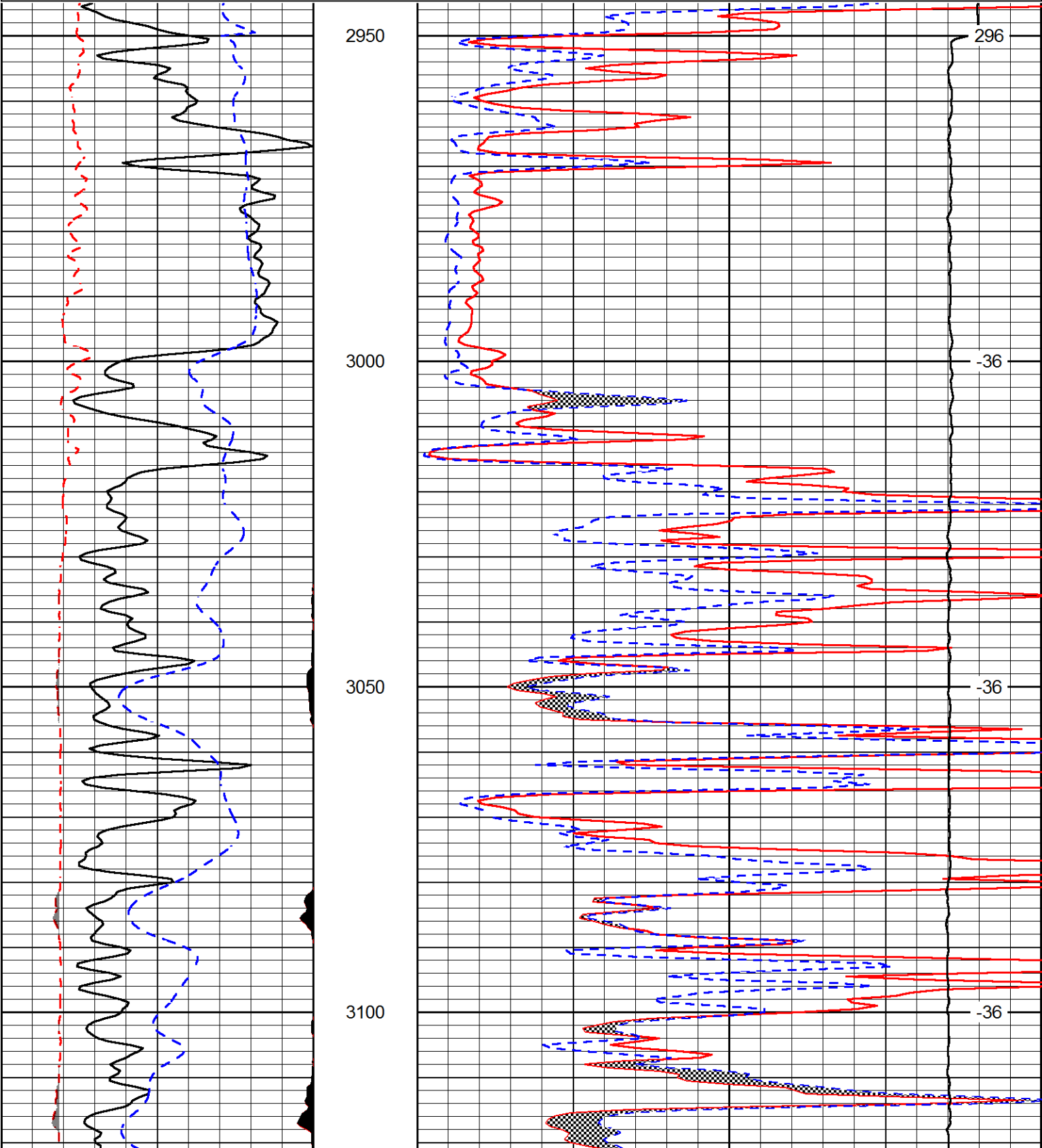
Engineer: J. HENRICKSON
Operator:
Operator:
Operator:

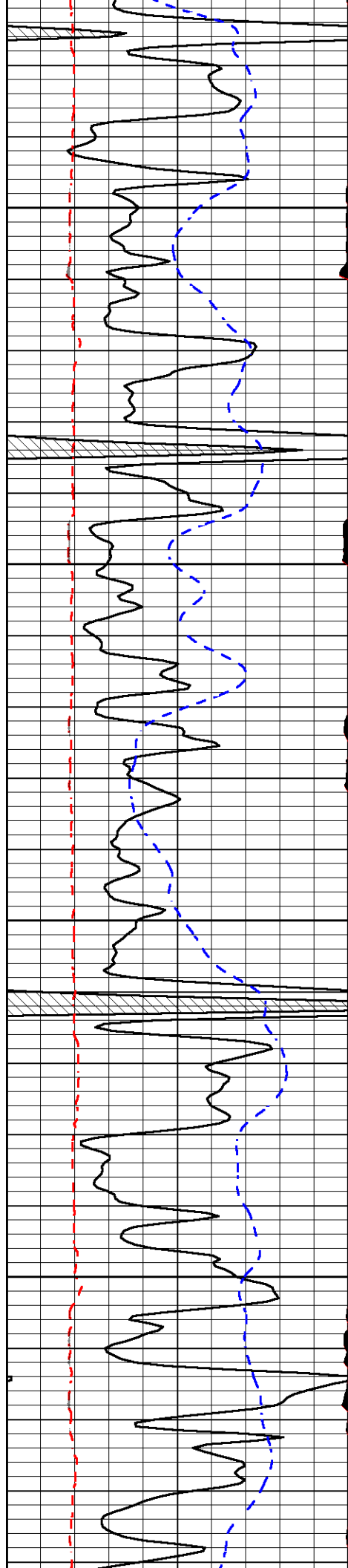
This Log Record Was Witnessed By

Primary Witness: JON CHRISTENSEN
Secondary Witness:
Secondary Witness:
Secondary Witness:

Database File	herman_loeb_moeder_1_21hd.db
Dataset Pathname	DIL/hl
Presentation Format	micro
Dataset Creation	Sun Apr 03 00:57:37 2016
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0	Micro Inverese 1 X 1 (Ohm-m)	40
6	MCAL (in)	16	0	Micro Normal 2" (Ohm-m)	40
2.875	Mud Cake (in)	7.875	10000	Line Weight (lb)	0
-200	SP (mV)	0	LSPD (ft/min)		



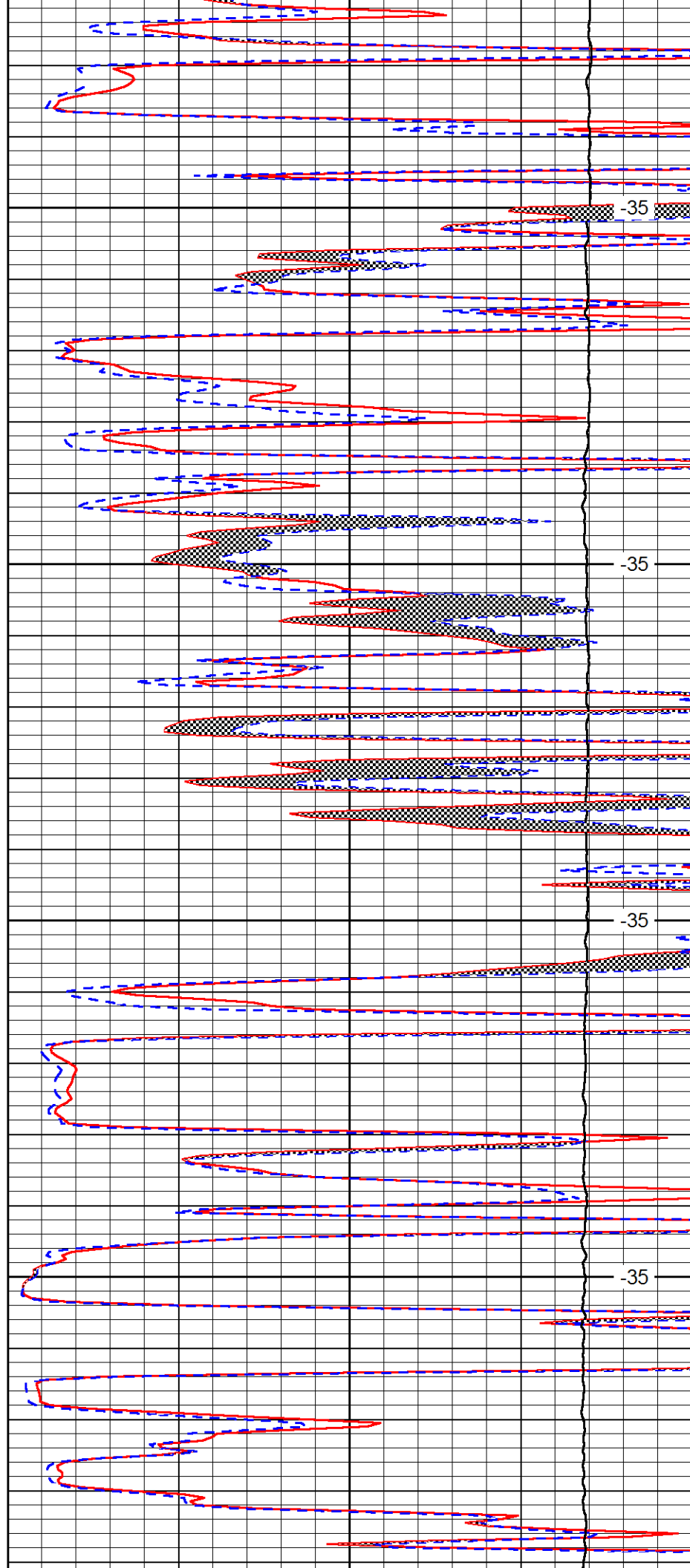


3150

3200

3250

3300

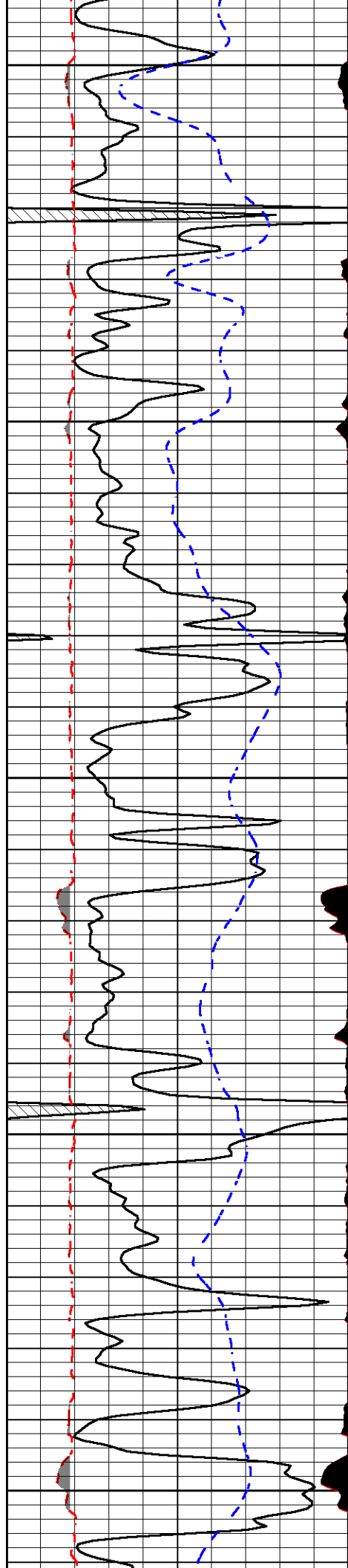


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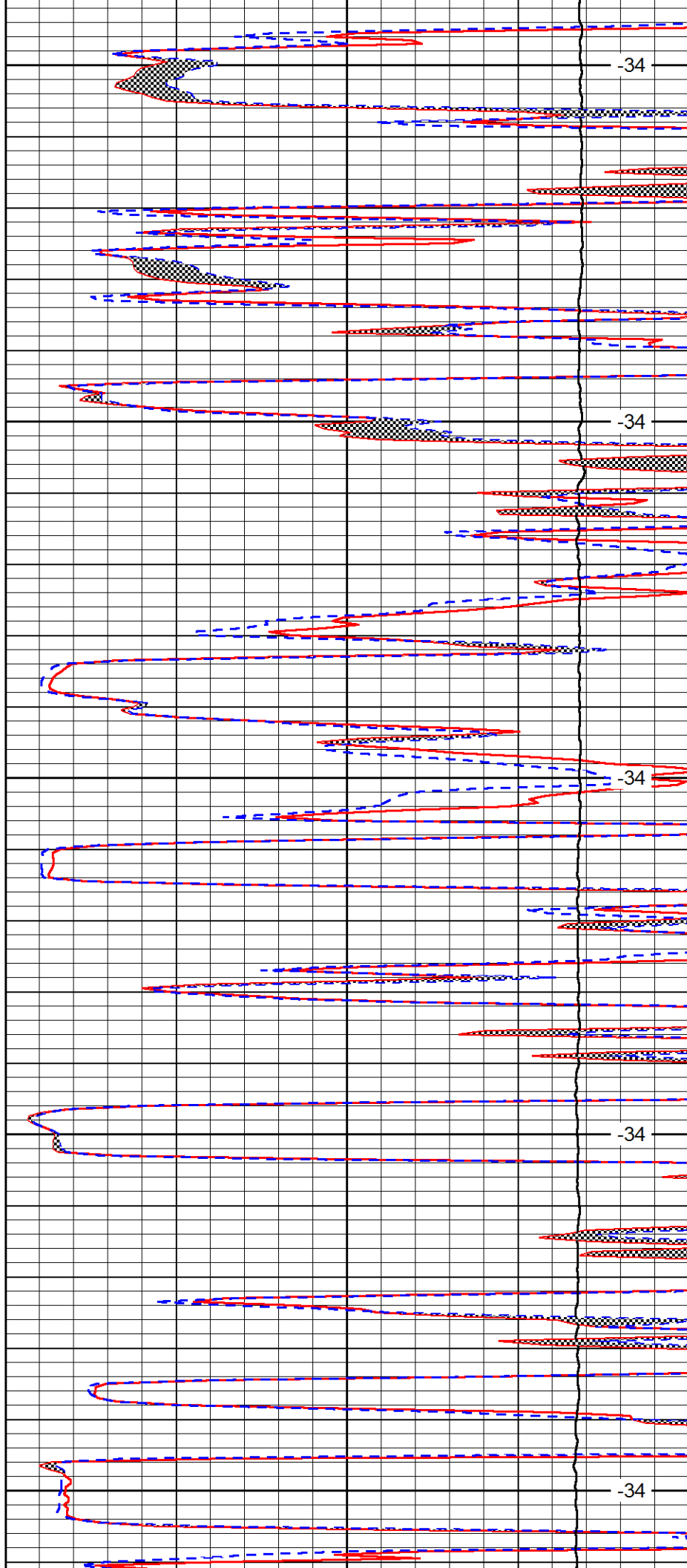
3350

3400

3450

3500

3550



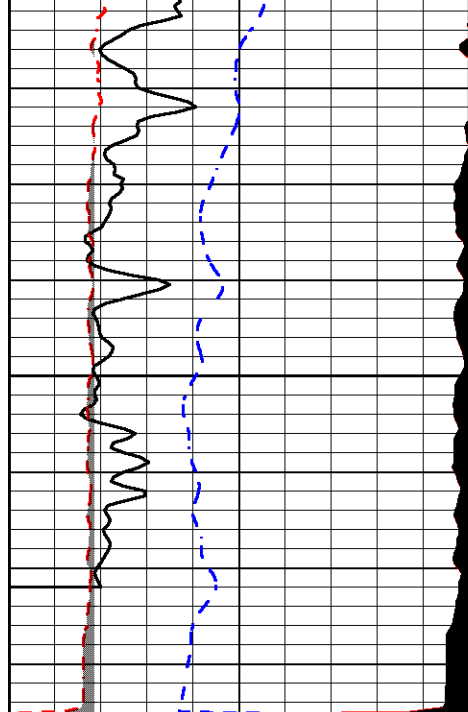
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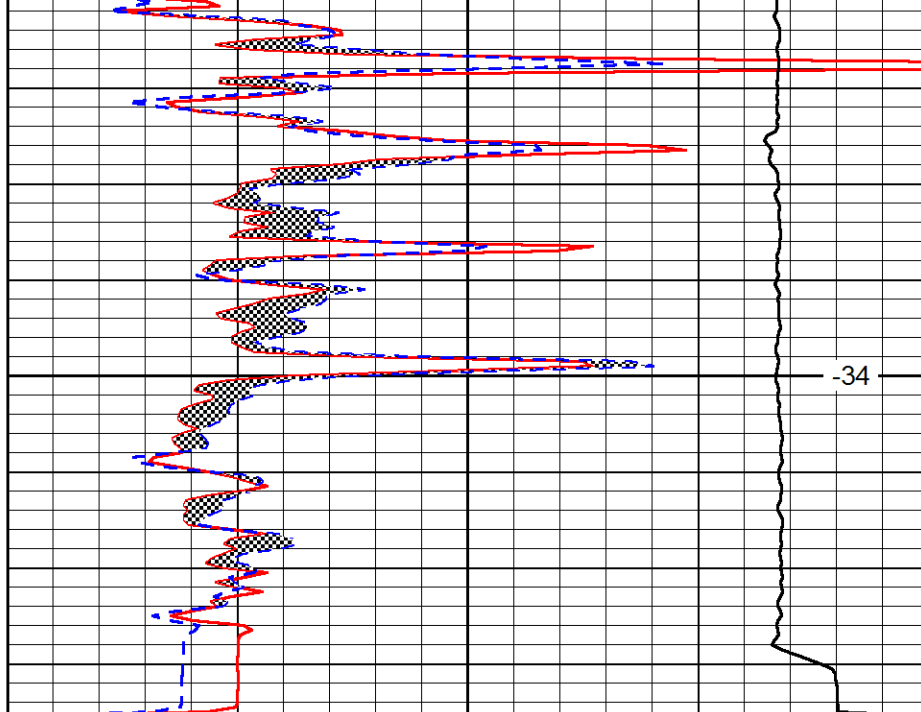
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-34



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LSPD
(ft/min)