

PIONEER
Pioneer Energy Services

**MICRORESISTIVITY
LOG**

CompanyBLACKSTONE OIL & GAS (KS), LLC	
Well	CROTINGER NO. 2-4
Field	OTIS-ALBERT
County	RUSH
State	KANSAS

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Well	CROTINGER NO. 2-4
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Location:	API # : 15-165-22,122-00-00	Other Services
	467' FSL & 2,173' FWL	CNL/CDL DIL
Permanent Datum	GROUND LEVEL	Elevation 1970'
Log Measured From	KELLY BUSHING	K.B. 1976'
Drilling Measured From	KELLY BUSHING	D.F. N/A
		G.L. 1970'

Date	2/27/2016
Run Number	ONE
Depth Driller	2450'
Depth Logger	2452'
Bottom Logged Interval	2451'
Top Log Interval	1800'
Casing Driller	8.625" @ 1048'
Casing Logger	1046'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity,ppm CL	9500
Density / Viscosity	9.0 55
pH / Fluid Loss	10.5 11.4
Source of Sample	Flowline
Rm @ Meas. Temp	.16 @ 58
Rmt @ Meas. Temp	.12 @ 58
Rmc @ Meas. Temp	.22 @ 58
Source of Rmt/ Rmc	Charts
Rm @ BHT	.09 @ 101
Operating Rig Time	2 HOURS
Max Rec. Temp. F	101 DEG F
Equipment Number	108
Location	Hays
Recorded By	J. LONG
Witnessed By	ROD ANDERSEN

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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.

OTIS, 1 WEST, 1 1/2 SOUTH TO N ROAD, 2 WEST, NORTH INTO

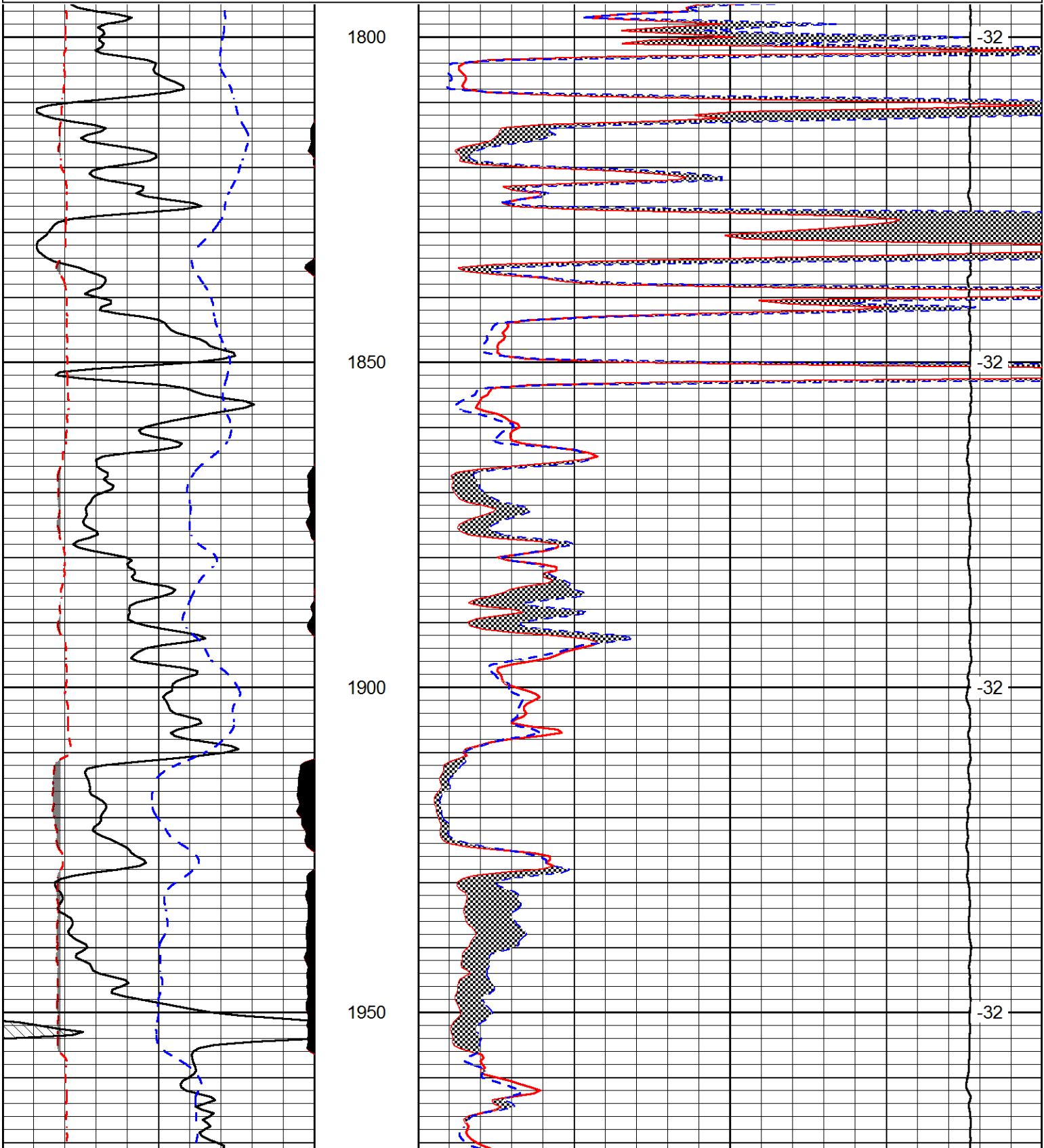
Log Measured From: KELLY BUSHING
6 Ft. Above Permanent Datum

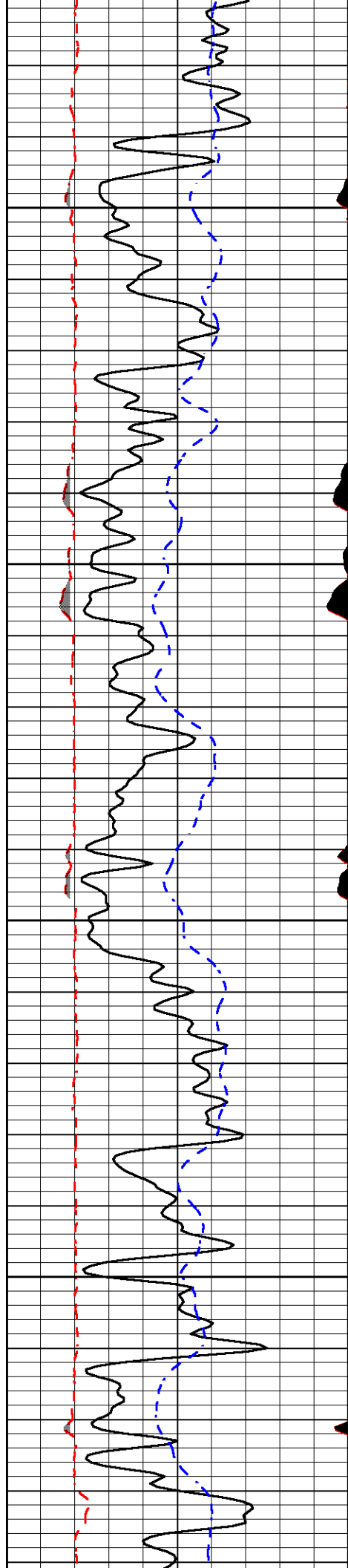
THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerres.com 785-625-3858

Your Pioneer Energy Services Crew Engineer: J. LONG Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: ROD ANDERSEN Secondary Witness: Secondary Witness: Secondary Witness:
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Database File	blackstone_crotinger_1-4hd.db
Dataset Pathname	DIL/bickstck
Presentation Format	micro
Dataset Creation	Sat Feb 27 05:39:12 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)		



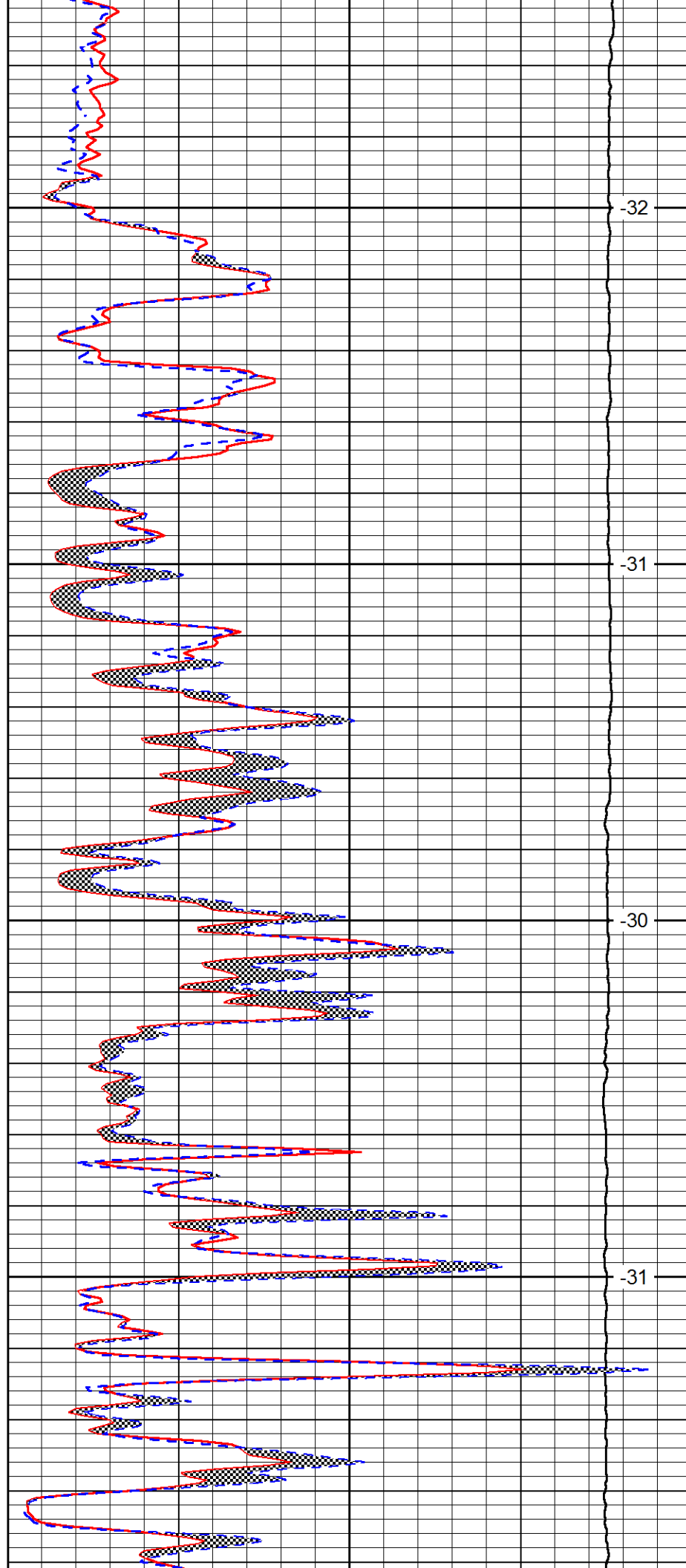


2000

2050

2100

2150

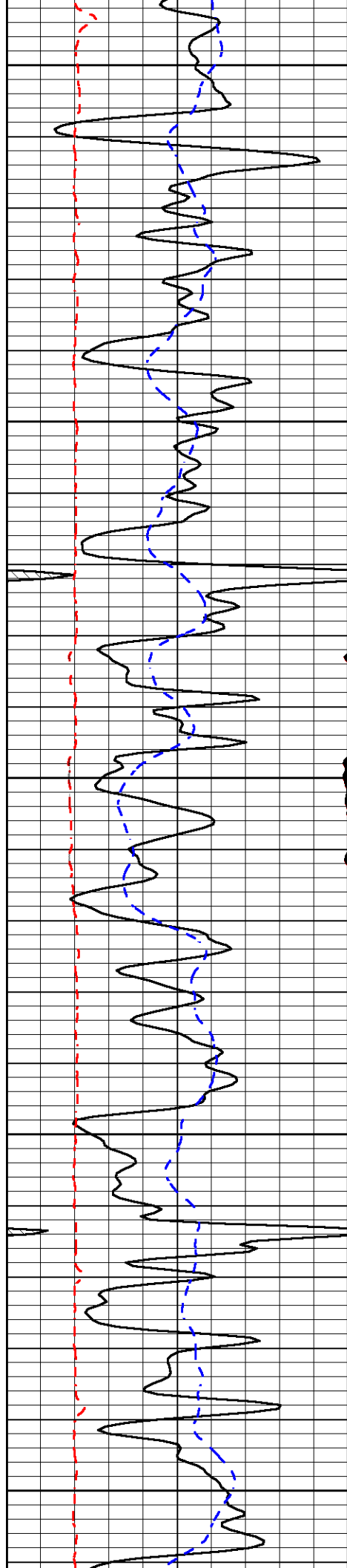


-32

-31

-30

-31



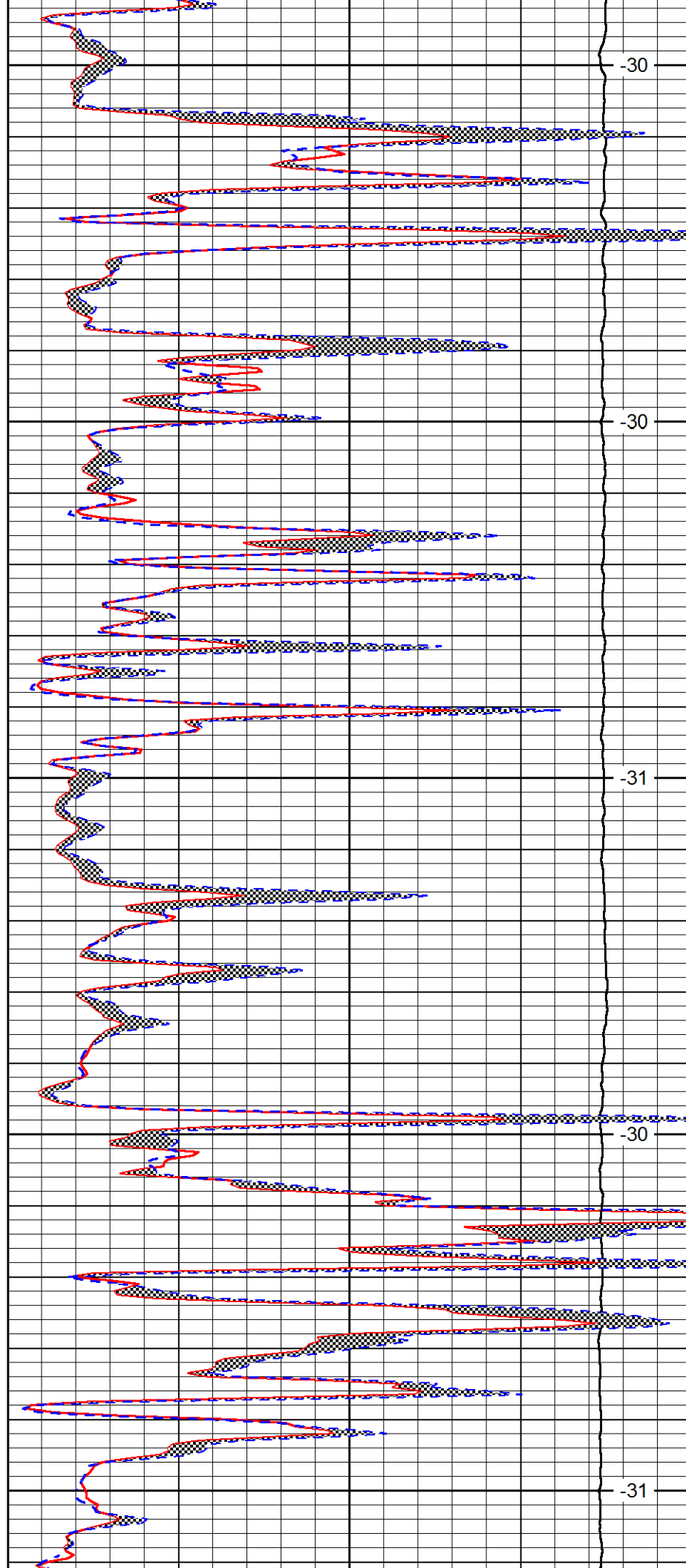
2200

2250

2300

2350

2400



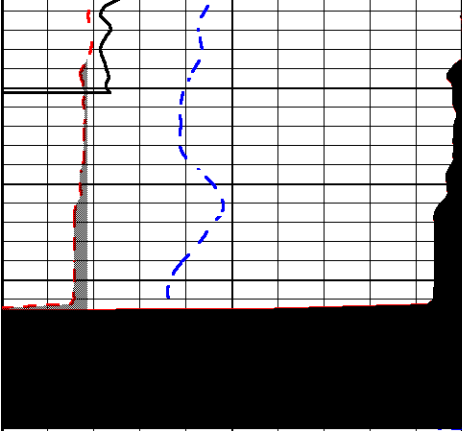
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-30

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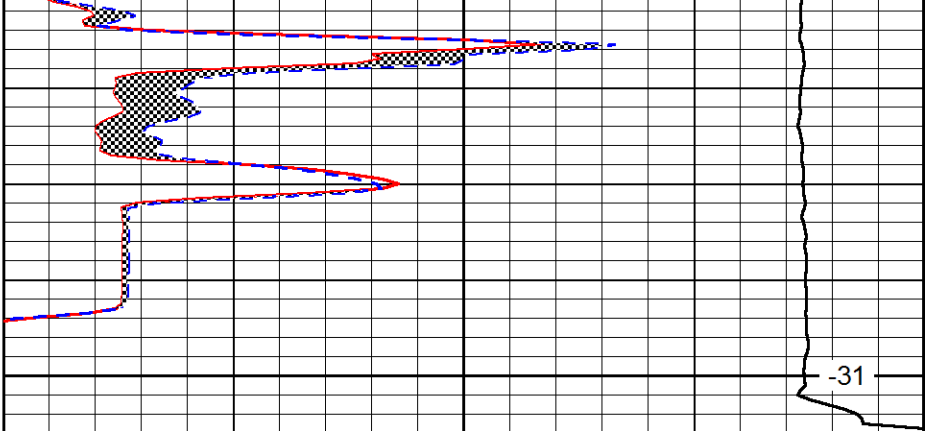
-30

-31



2450

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



-31

0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0

LSPD
(ft/min)