



MIDWEST WIRELINE

MICRORESISTIVITY
LOG

Company Cobalt Energy LLC Well Heilman Trust #1-30 Field Wildcat County Decatur State Kansas		Company Cobalt Energy LLC Well Heilman Trust #1-30 Field Wildcat County Decatur State Kansas		Location: API #: 15-039-21276-00-00 2085 FSL & 1604 FWL SW NW NE SW SEC 30 TWP 3S RGE 26W Permanent Datum Ground Level Elevation 2590 Log Measured From Kelly Bushing Drilling Measured From Kelly Bushing Other Services CNL/CDL DIL Elevation K.B. 2595 D.F. G.L. 2590	
Date	1/28/2022				
Run Number	One				
Depth Driller	3830				
Depth Logger	3828				
Bottom Logged Interval	3827				
Top Log Interval	3200				
Casing Driller	8.625 @ 248				
Casing Logger	243				
Bit Size	7.875				
Type Fluid in Hole	Chemical				
Salinity, ppm CL	3400				
Density / Viscosity	9.3 76				
pH / Fluid Loss	11.0 8.8				
Source of Sample	FLOWLINE				
Rm @ Meas. Temp	.75 @ 74				
Rmt @ Meas. Temp	.56 @ 74				
Rmc @ Meas. Temp	1.01 @ 74				
Source of Rmt / Rmc	CHARTS				
Rm @ BHT	.49 @ 114				
Operating Rig Time	2 Hours				
Max Rec. Temp. F	114				
Equipment Number	P-108				
Location	HAYS				
Recorded By	J. Henrickson				
Witnessed By	Larry Nicholson				

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

39.761400775 100.286364585
Jennings Kansas
5 North, East Into

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew	This Log Record Was Witnessed By
Engineer: J. Henrickson	Primary Witness: Larry Nicholson
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 114	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV 780	degF 50	Off	ft 3828

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (103)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (210)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (303-03)	8.50	4.00	250.00
ML-PSI STKBL ML (402)			ML-PSI STKBL ML (402)	7.58	4.00	65.00
MCAL MI MN	19.58 19.58 19.58					
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (504 HT)	18.25	3.50	220.00

CILM

4.50

SP

0.20

Dataset: cobalt_heilman_trust_1_30.db: field/well/stackml/pass3.1
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in



MIDWEST WIRELINE

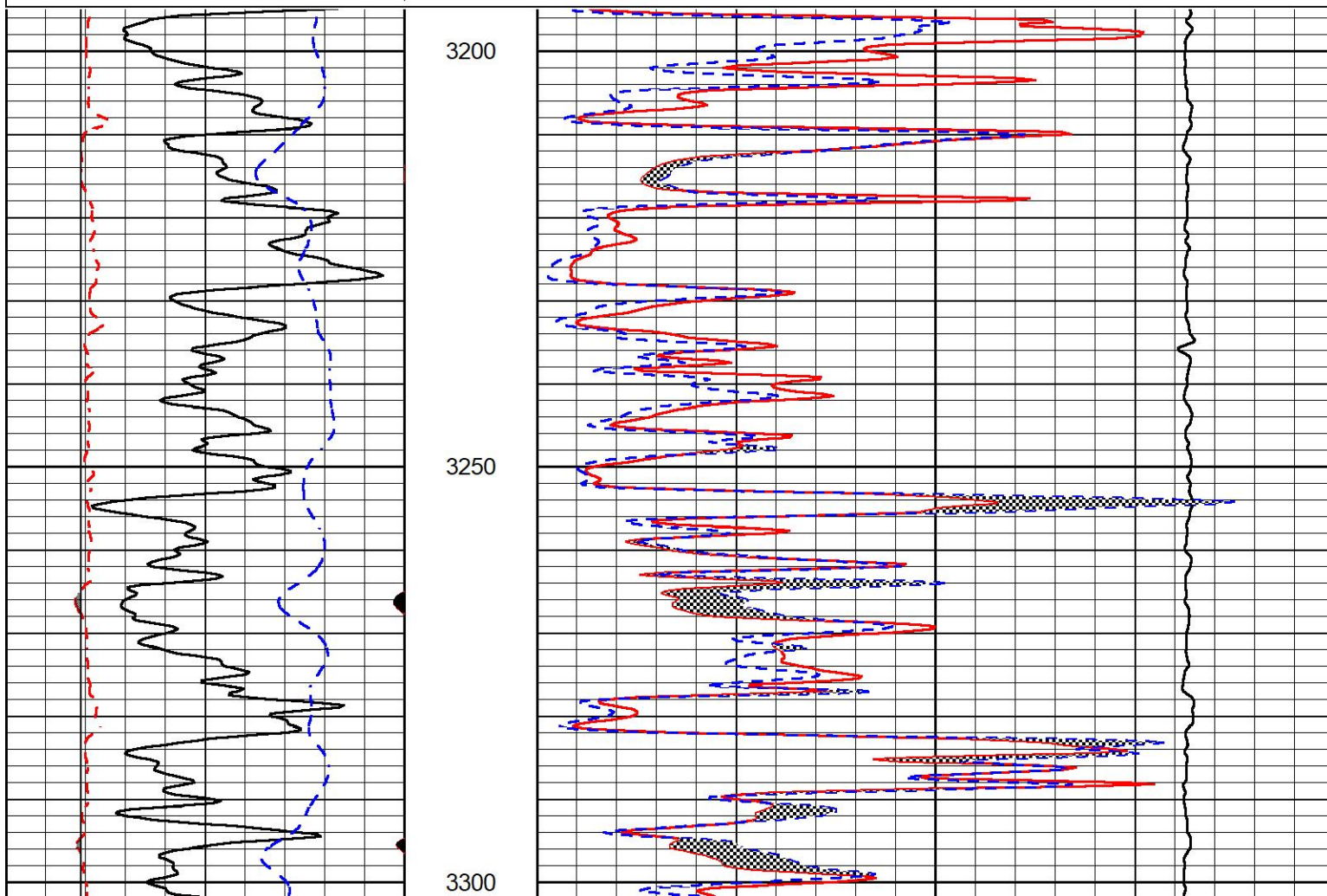
DETAIL SECTION

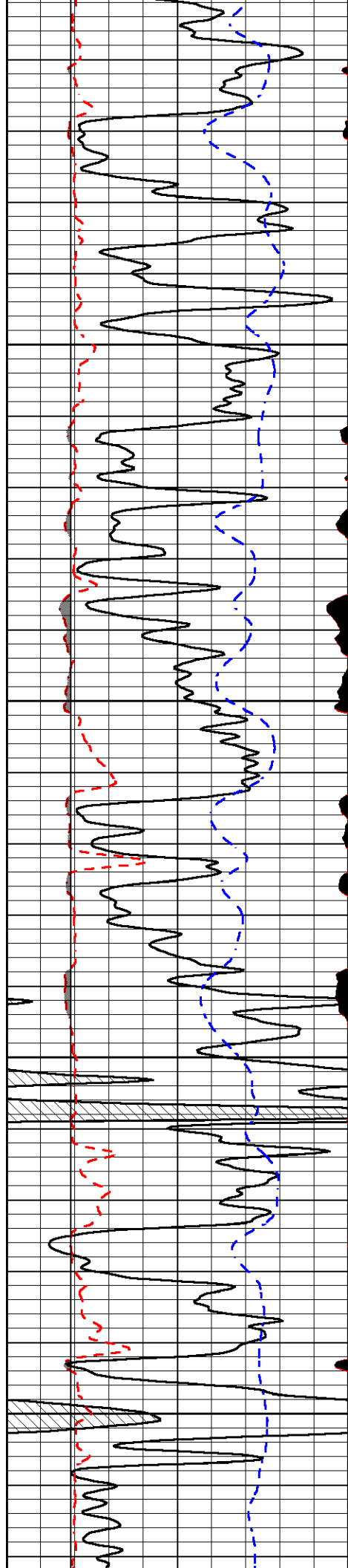
MAIN PASS

Database File cobalt_heilman_trust_1_30.db
 Dataset Pathname stackml/pass4.1
 Presentation Format _micro
 Dataset Creation Fri Jan 28 17:35:58 2022
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mccl (in)	7.875
-200	SP (mV)	0

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



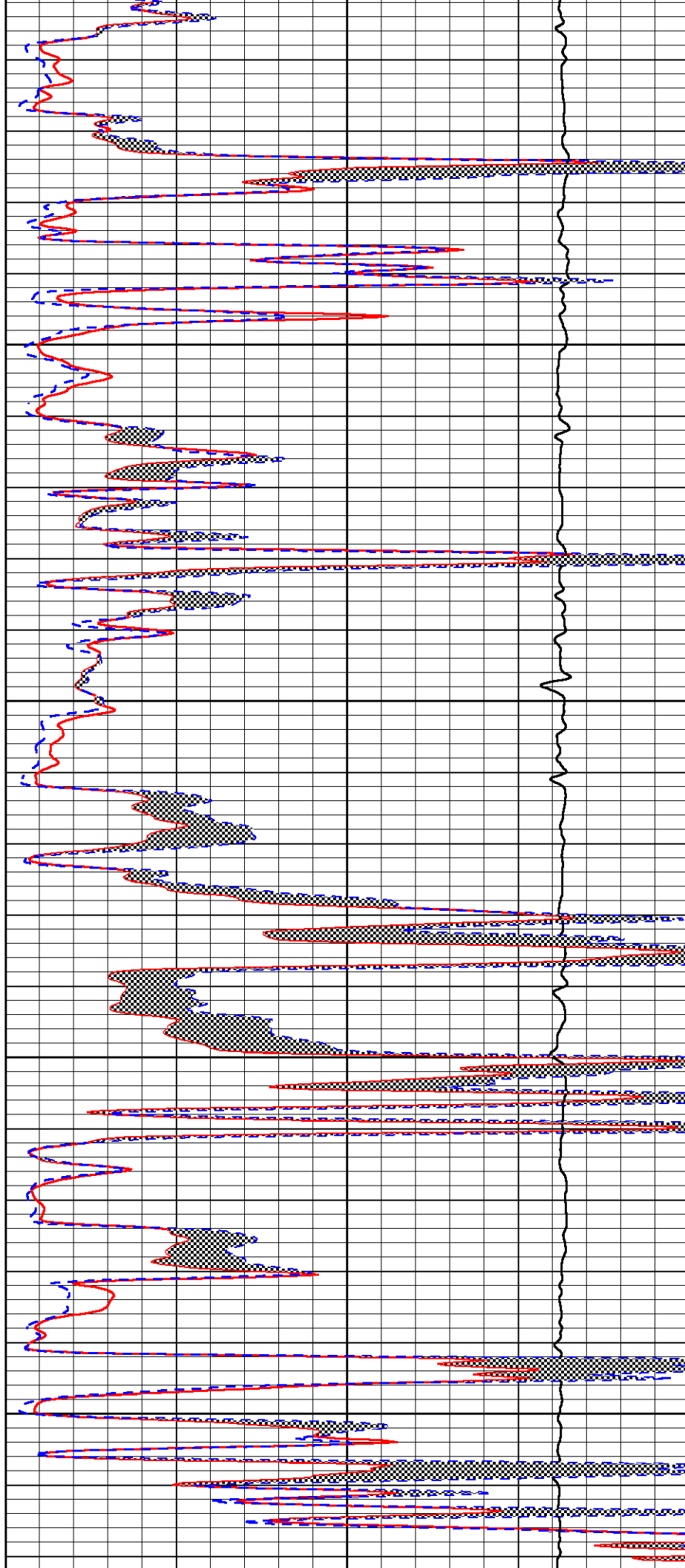


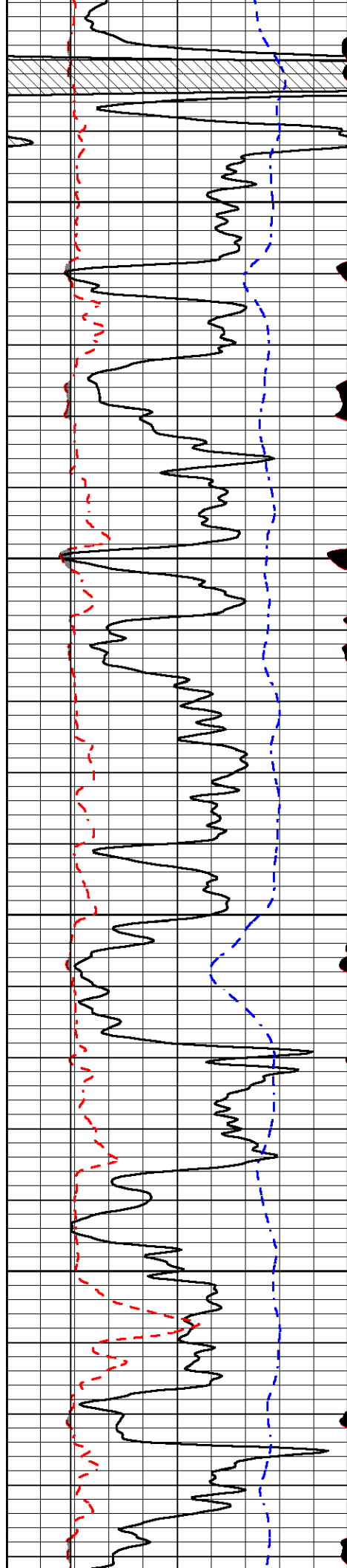
3350

3400

3450

3500



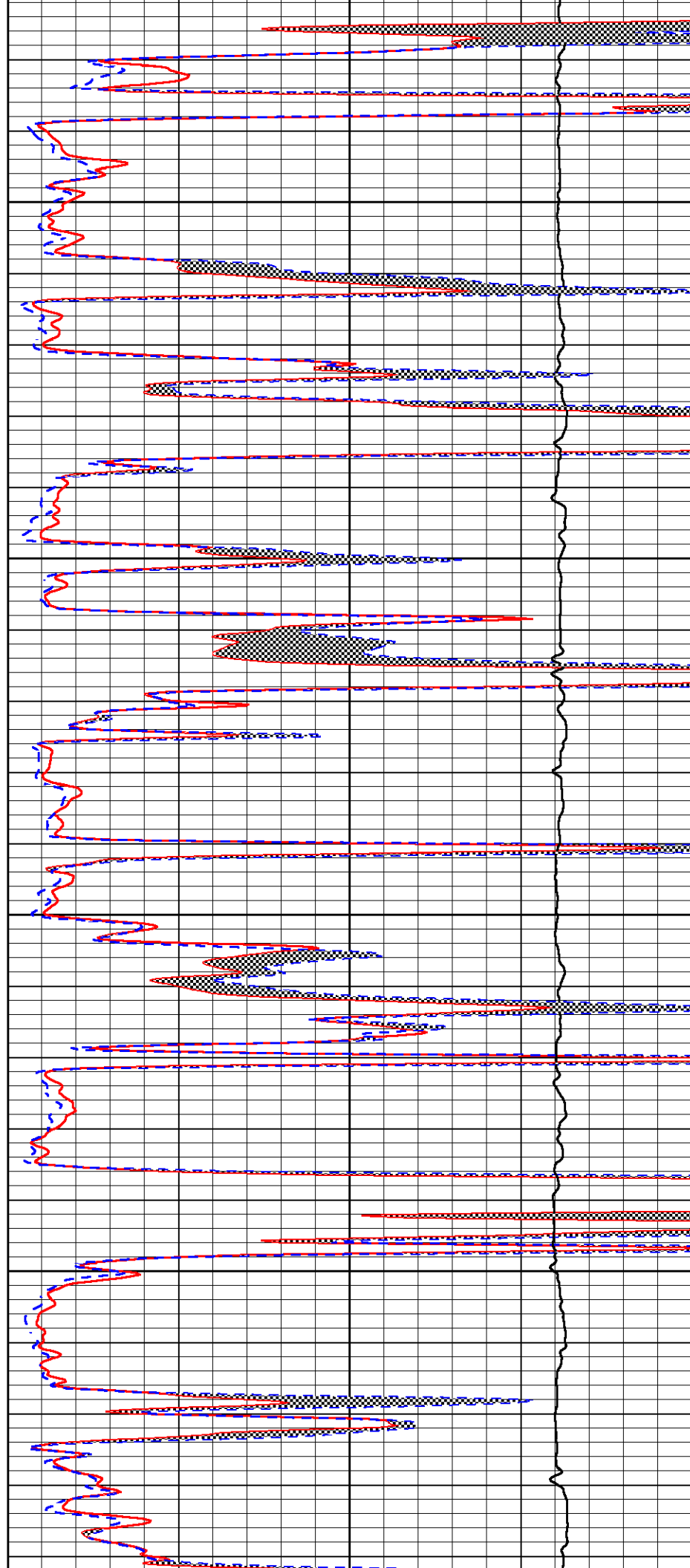


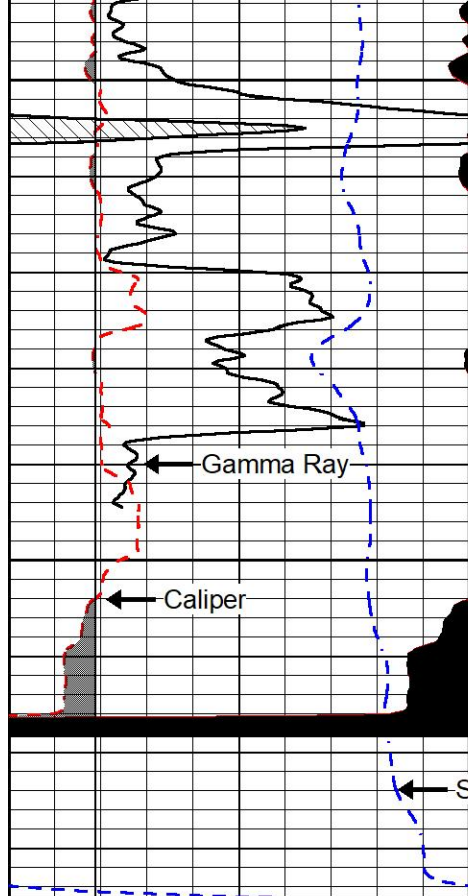
3550

3600

3650

3700

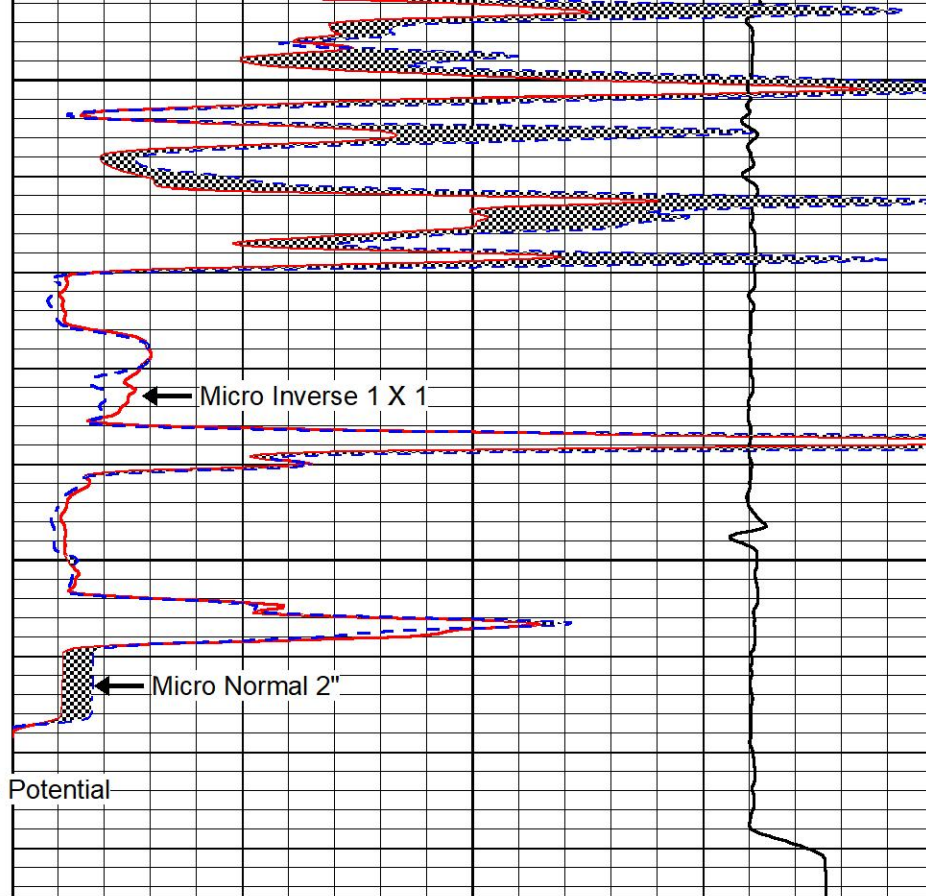




0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

3750

3800



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



MIDWEST WIRELINE

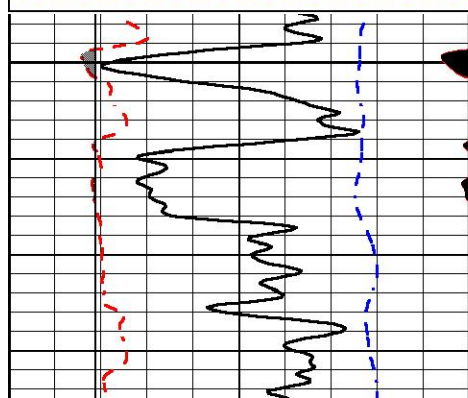
REPEAT SECTION

REPEAT PASS

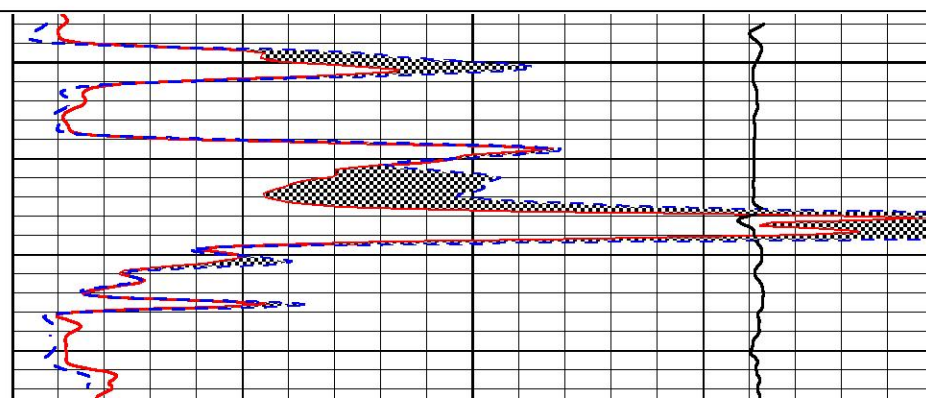
Database File cobalt_heilman_trust_1_30.db
 Dataset Pathname stackml/pass2.1
 Presentation Format _micro
 Dataset Creation Fri Jan 28 17:35:12 2022
 Charted by Depth in Feet scaled 1:240

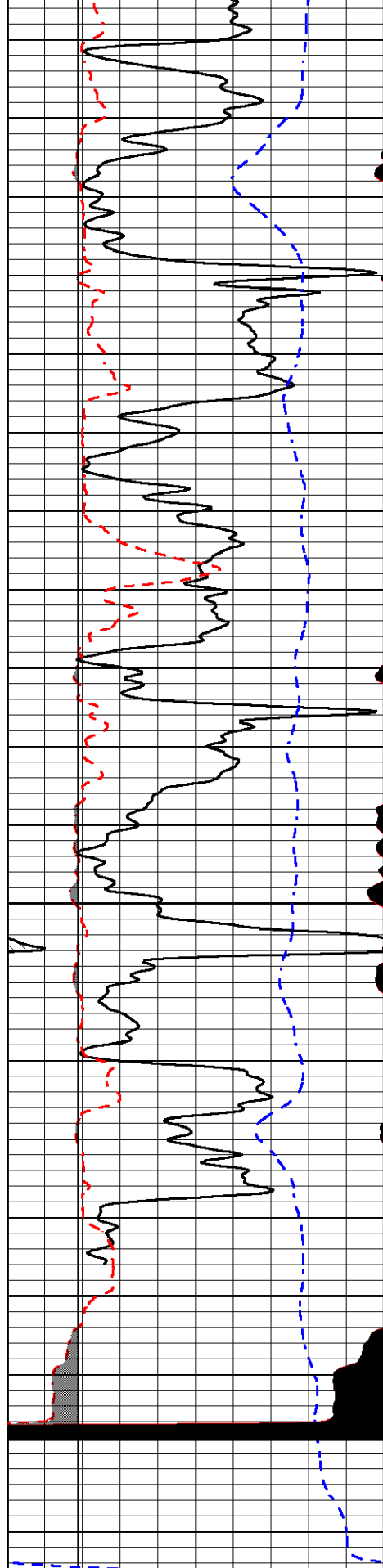
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

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



3600





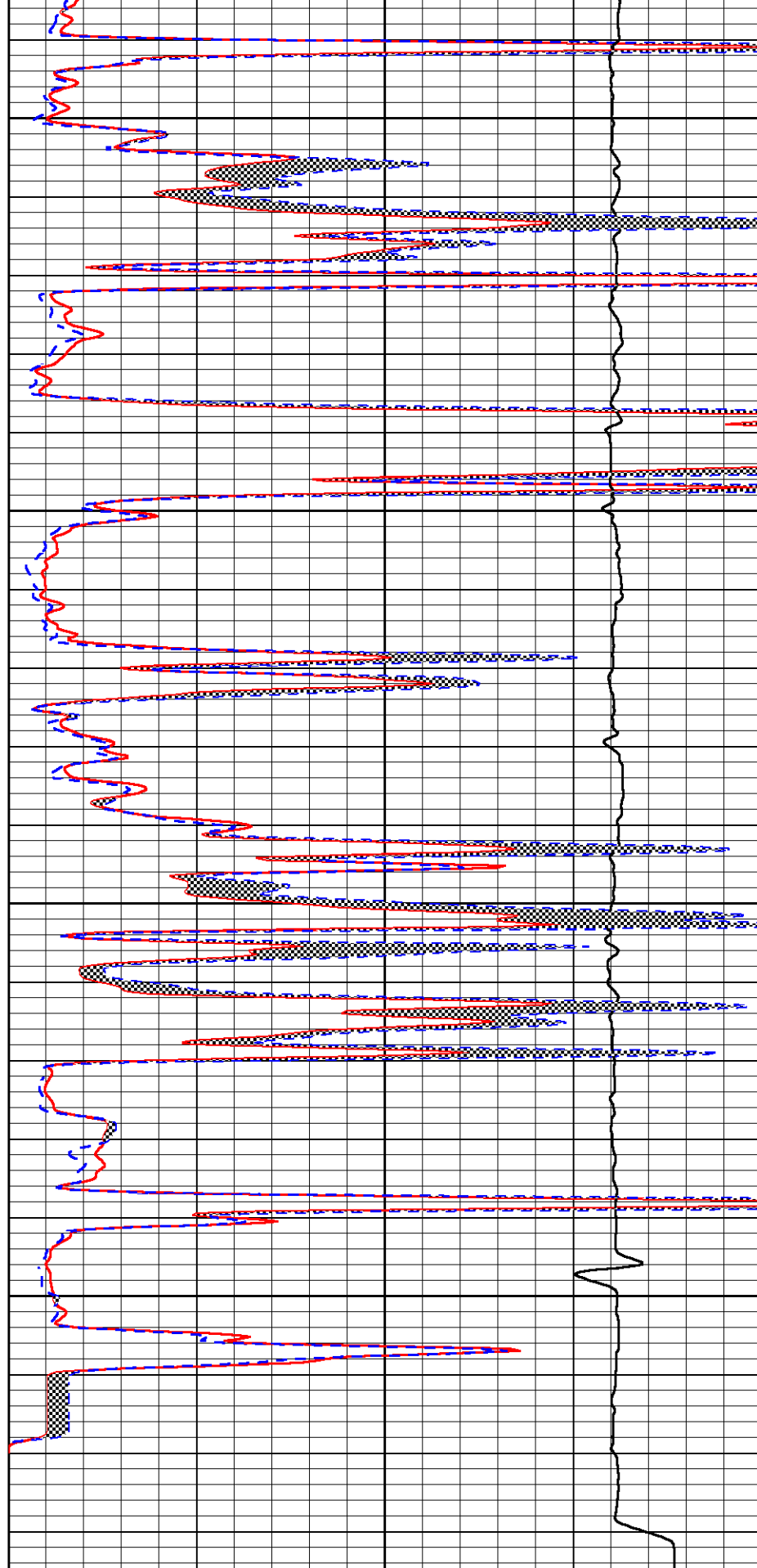
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

3650

3700

3750

3800



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

Calibration Report	
Database File	cobalt_heilman_trust_1_30.db
Dataset Pathname	stackml/pass4.1
Dataset Creation	Fri Jan 28 17:35:58 2022

Dual Induction Calibration Report

Serial-Model:	504 HT-M&W
Surface Cal Performed:	Thu Dec 16 22:32:49 2021

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.500

Microlog Calibration Report

Serial-Model:	402-PSI STKBL ML
Performed:	Thu Dec 16 22:29:48 2021

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	12000.0000	-1.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	10000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1520	-131.4000

Compensated Density Calibration Report

Serial-Model:	303-03-M&W
Source #:	21170B
Master Calibration Performed:	Thu Dec 16 23:28:34 2021

Master Calibration							
	Density			Far Detector		Near Detector	
Magnesium	1.755	g/cc		3841.78		5151.73	cps
Aluminum	2.670	g/cc		700.98		3068.49	cps
Spine Angle = 73.06				Density/Spine Ratio = 0.515			
	Size			Reading			
Small Ring	4.00	in		1.17			
Large Ring	14.00	in		1.05			

Compensated Neutron Calibration Report

Serial-Model:	210-M&W
Source #:	N-1238
Master Calibration Performed:	Fri Dec 3 09:16:24 2021

Master Calibration			
Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025

Long Space

460.00 cps

1000.00 cps

1.9500

Gamma Ray Calibration Report

Serial Number: 103
Tool Model: M&W
Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps



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Company Cobalt Energy LLC
Well Heilman Trust #1-30
Field Wildcat
County Decatur
State Kansas