



MICRORESISTIVITY LOG

PIONEER
Pioneer Energy Services

Company **CHOLLA PRODUCTION, LLC**
Well **SCHLEGEL # 1-4**
Field **WILDCAT**
County **NESS**
State **KANSAS**

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Location: API #: 15-135-26054-00-00

Other Services

1080' FNL & 510' FEL
SEC 4 TWP 20S RGE 25W

CNL/CDL
DIL/BHCS

Permanent Datum **GROUND LEVEL** Elevation **2416'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 2423'
D.F. N/A
G.L. 2416'

Date	7/10/2019		
Run Number	TWO		
Depth Driller	4520'		
Depth Logger	4518'		
Bottom Logged Interval	4517'		
Top Log Interval	3600'		
Casing Driller	8.625" @ 260'		
Casing Logger	263'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	6000		
Density / Viscosity	9.5 48		
pH / Fluid Loss	8.0 9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.55 @ 79		
Rmt @ Meas. Temp	.41 @ 79		
Rmc @ Meas. Temp	.74 @ 79		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.36 @ 121		
Operating Rig Time	4 HOURS		
Max Rec. Temp. F	121 DEGF		
Equipment Number	P-108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	CLAYTON ERICKSON		

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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.

NESS CITY, KANSAS
WEST TO J ROAD, 8 SOUTH, 1 WEST, SOUTH INTO

Log Measured From: KELLY BUSHING 7 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:

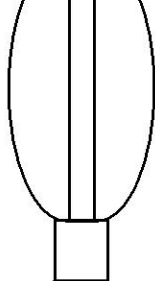
This Log Record Was Witnessed By

Primary Witness: CLAYTON ERICKSON
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 121	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 130	degF 62	Off	ft 4518

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL MI MN	22.50		ML-Armadillo (Armadillo-1) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
	22.50					
	22.50					
WVF4 WVF1	13.50 13.50		SLT-PENGO (0001)	16.00	3.50	300.00
WVF3 WVF2	11.50 11.50					



CENT-PENGO

5.50

3.00

70.00

Dataset: cholla_schlegel_1_4.db: field/well/SONMEL/pass2
Total length: 26.50 ft
Total weight: 470.00 lb
O.D.: 3.50 in

**PIONEER**

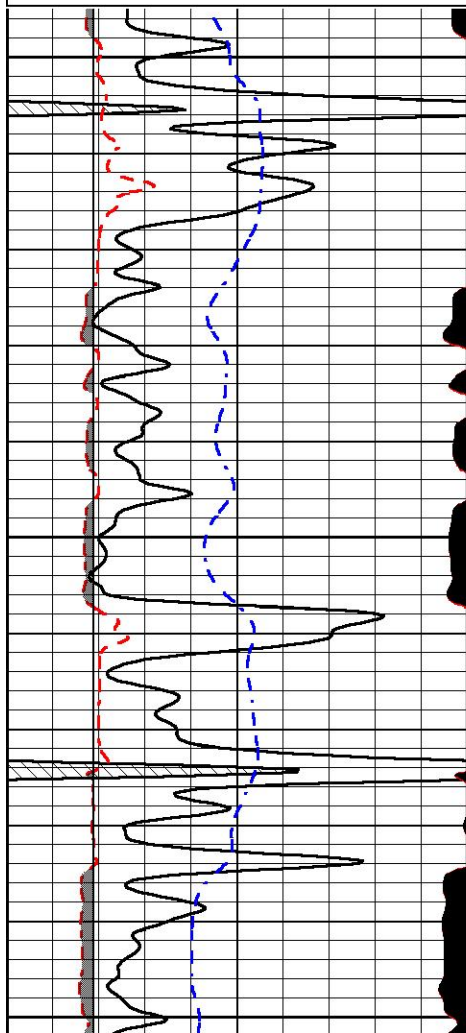
Pioneer Energy Services

MAIN PASS

Database File cholla_schlegel_1_4.db
Dataset Pathname stack/pass3.1
Presentation Format micro
Dataset Creation Wed Jul 10 03:24:34 2019
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

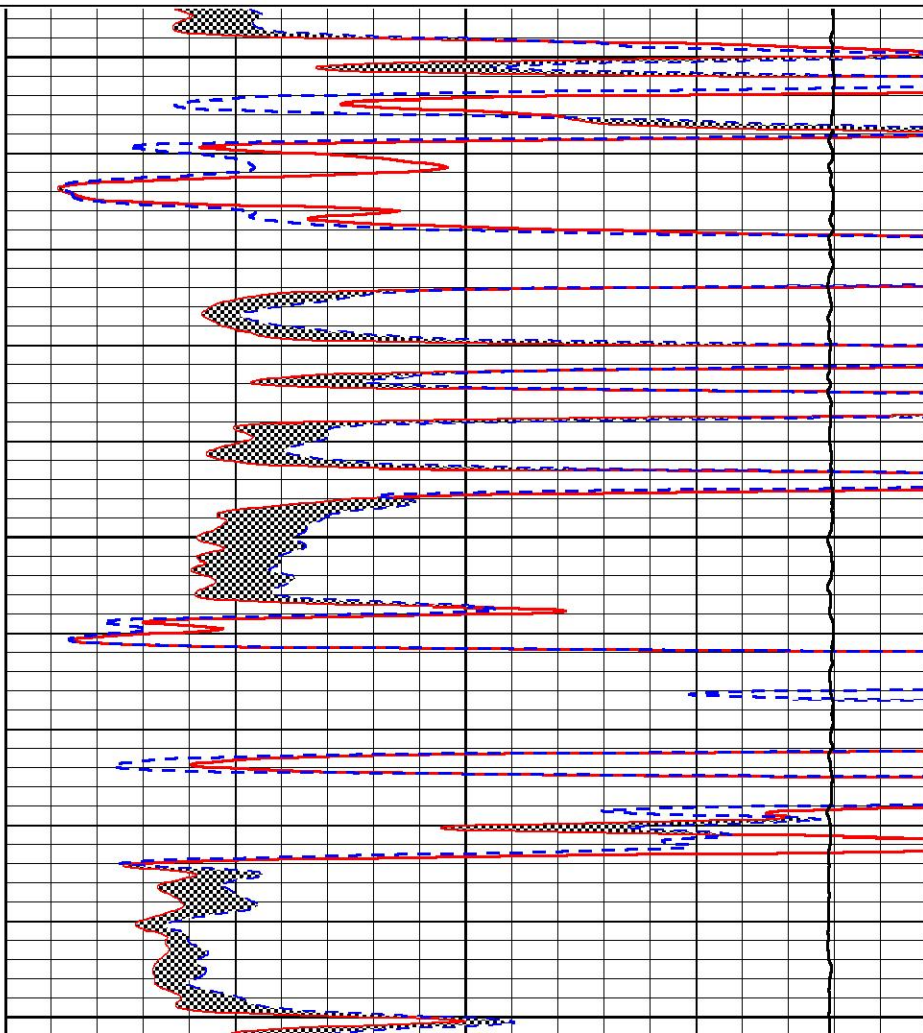
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0

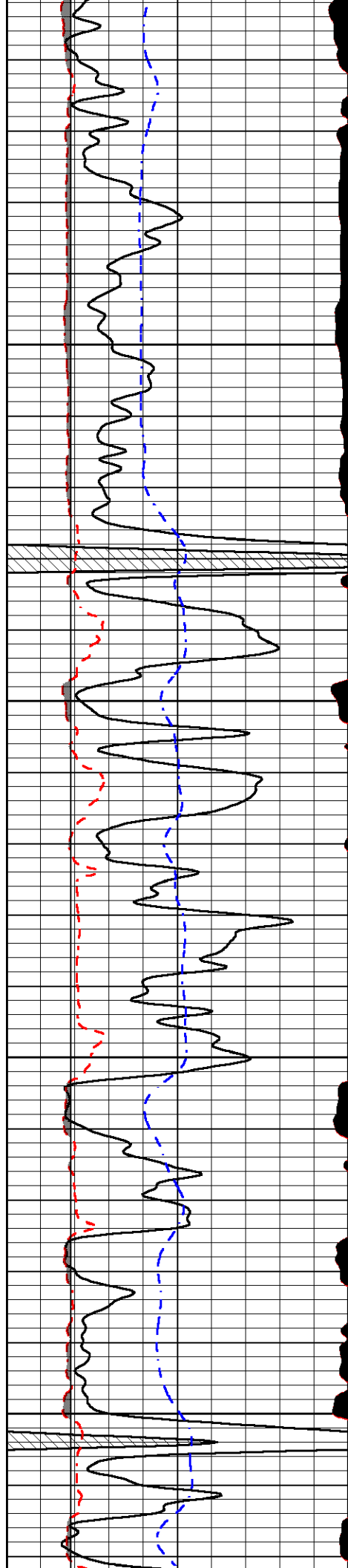


3600

3650

3700



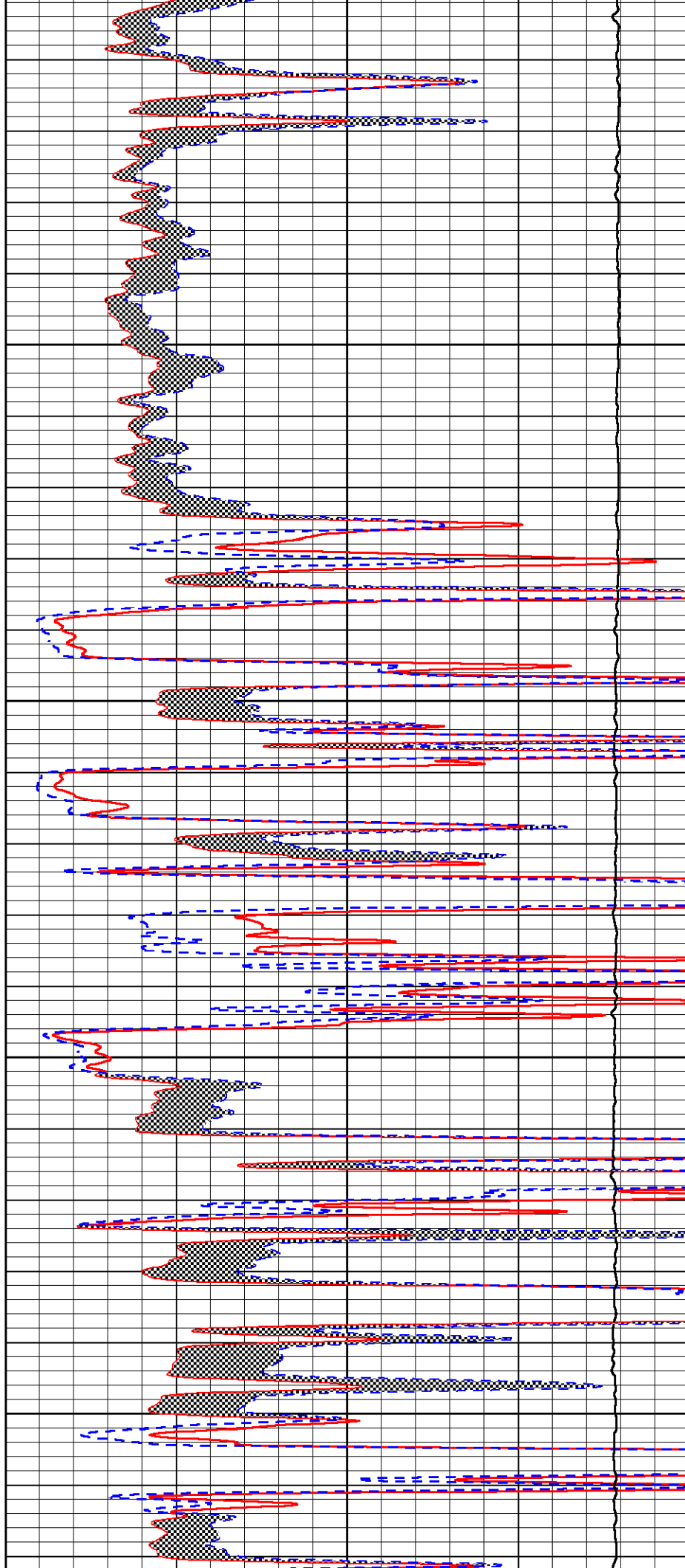


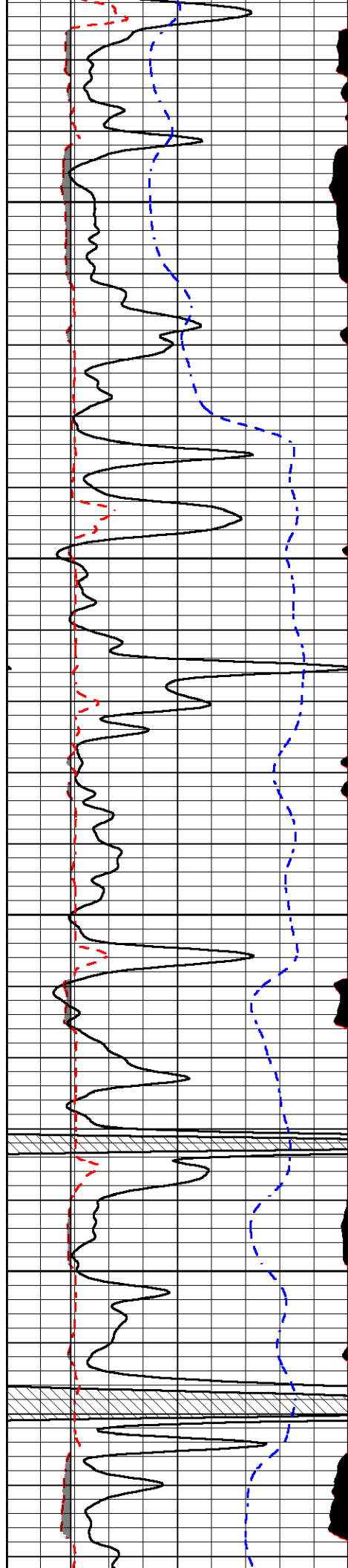
3750

3800

3850

3900



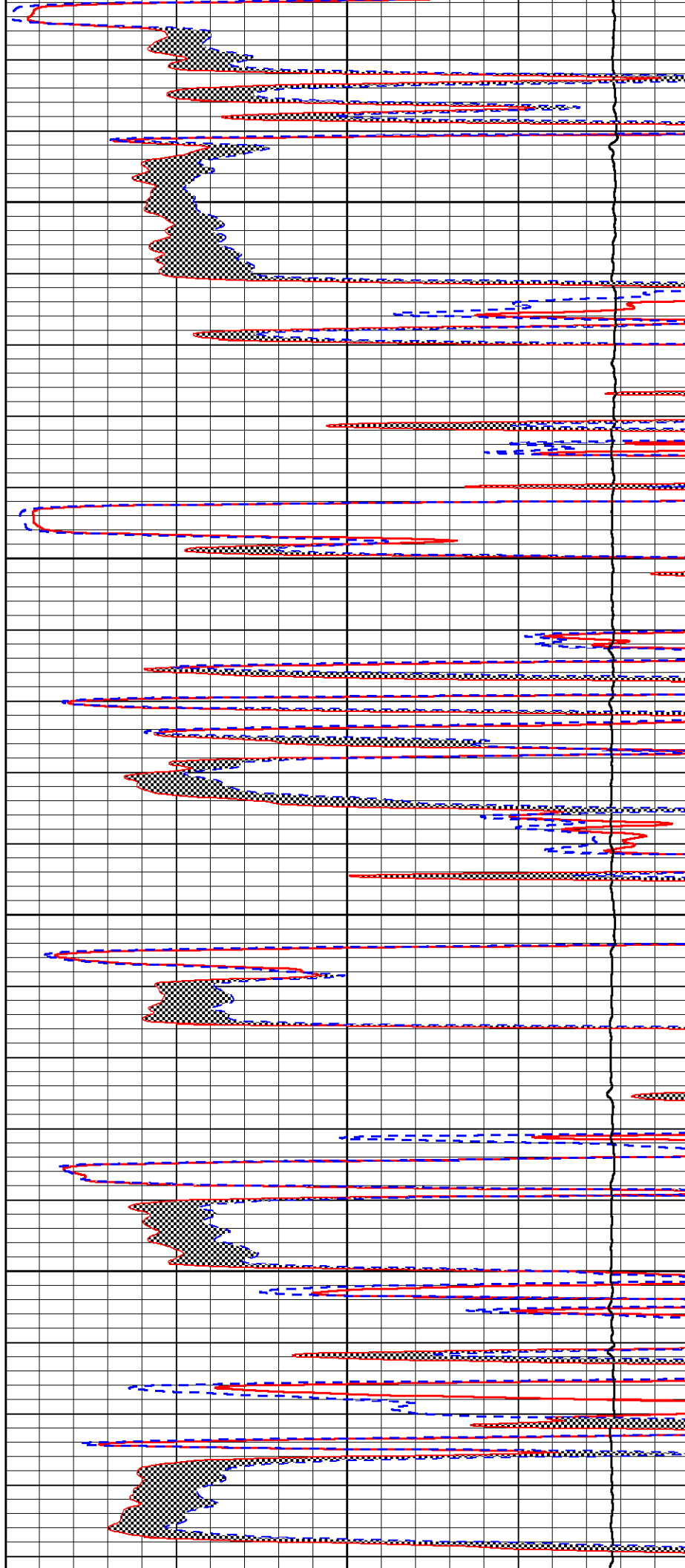


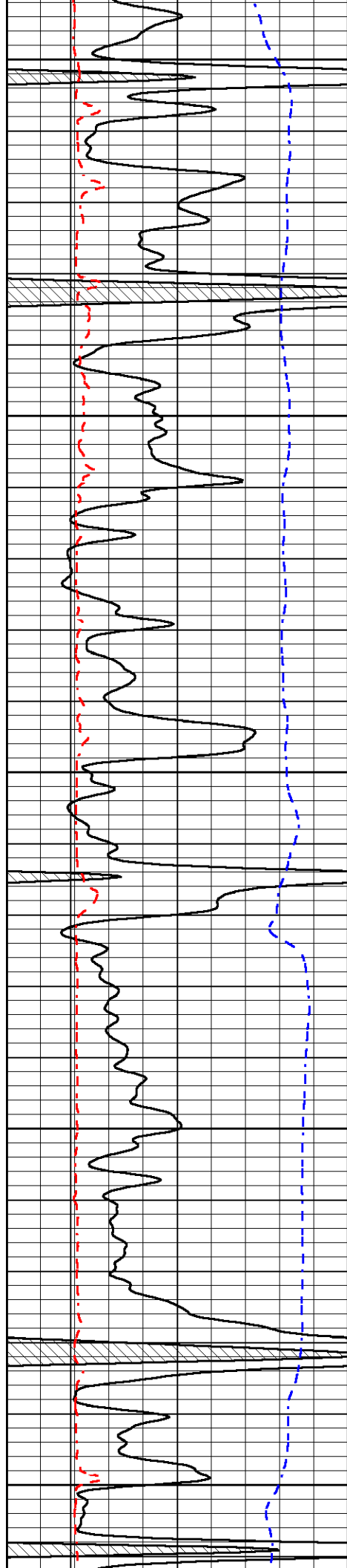
3950

4000

4050

4100





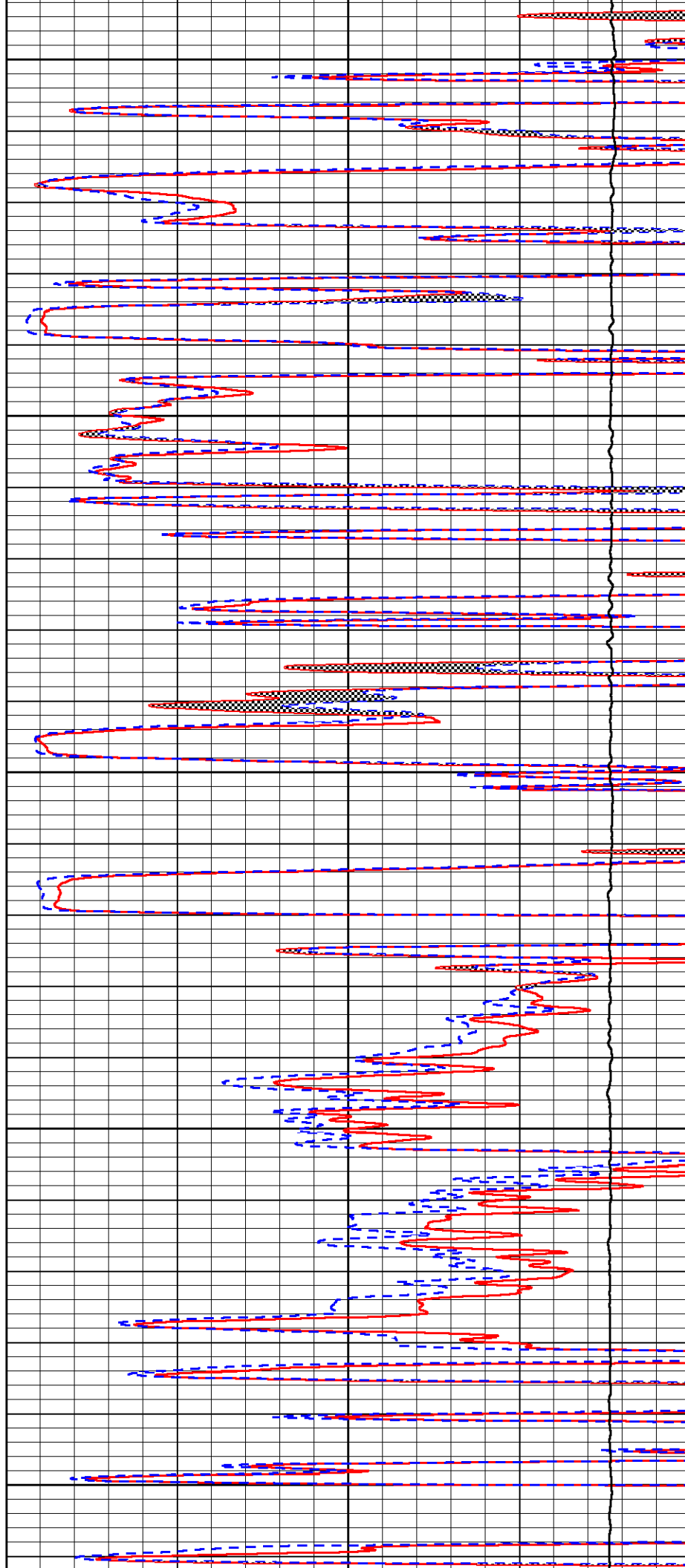
4150

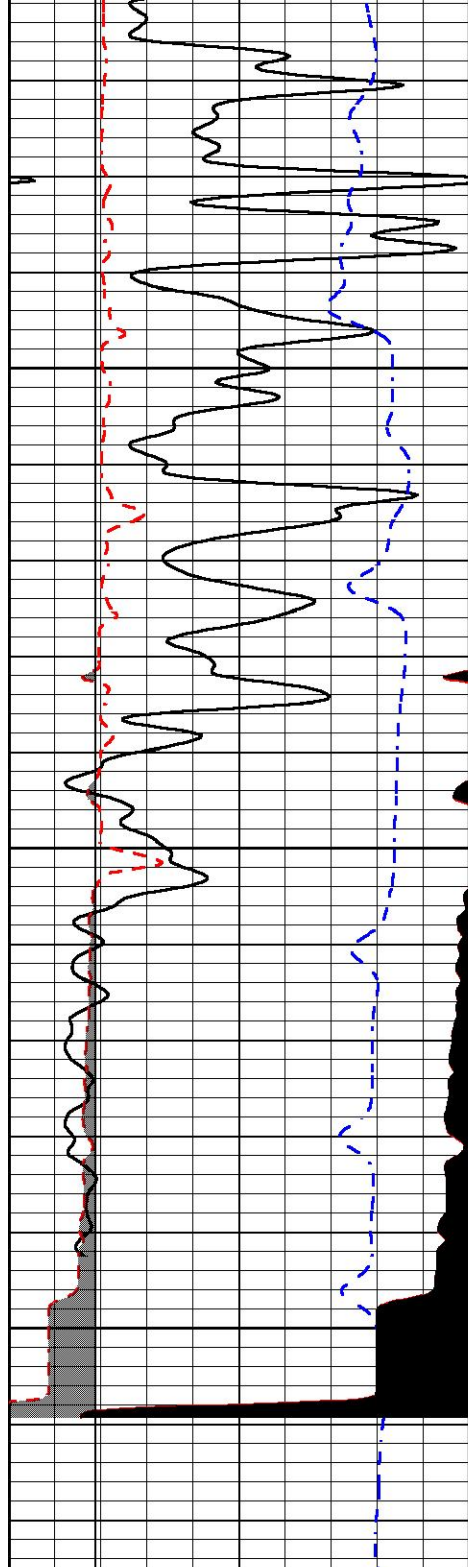
4200

4250

4300

4350



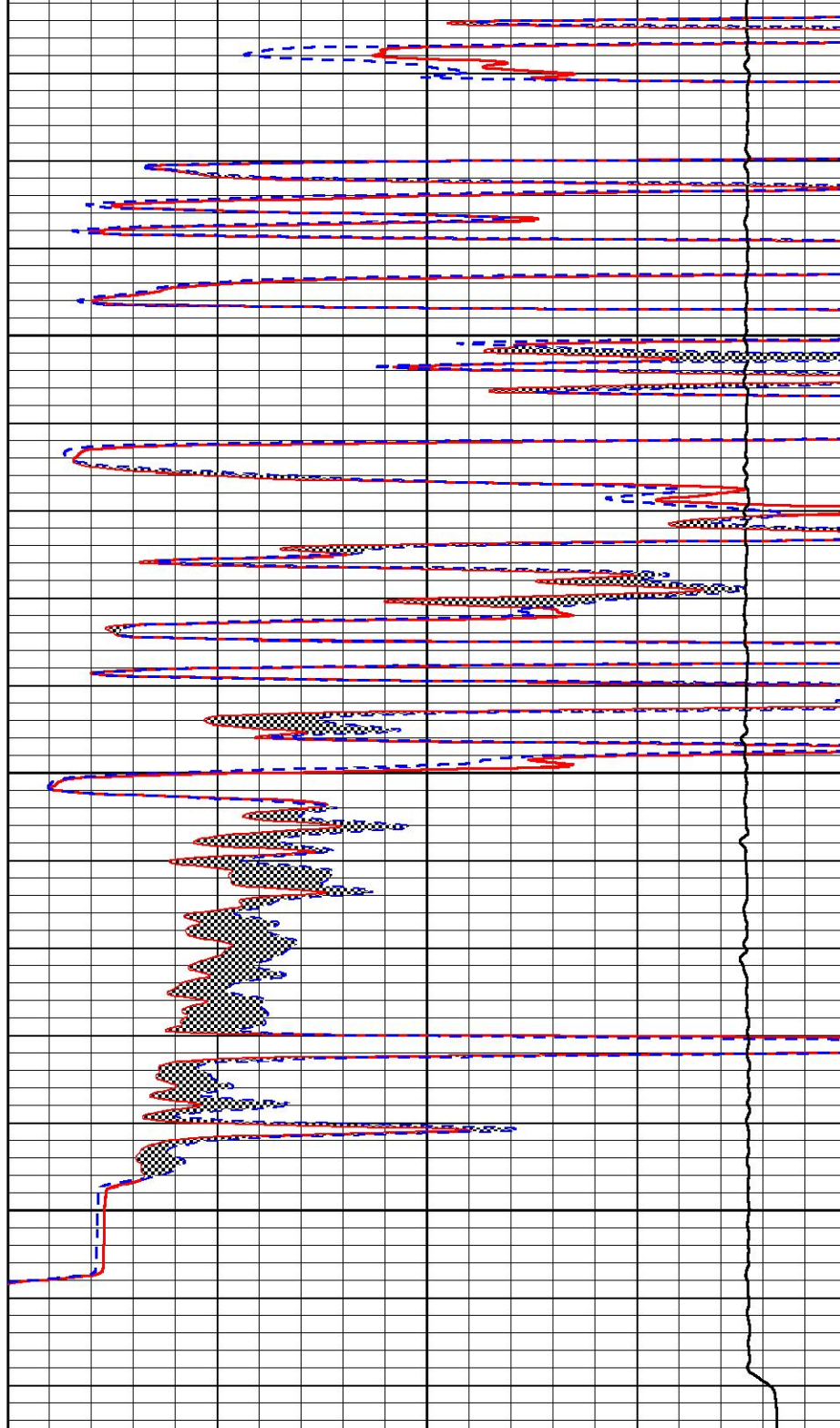


0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

4400

4450

4500



0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0

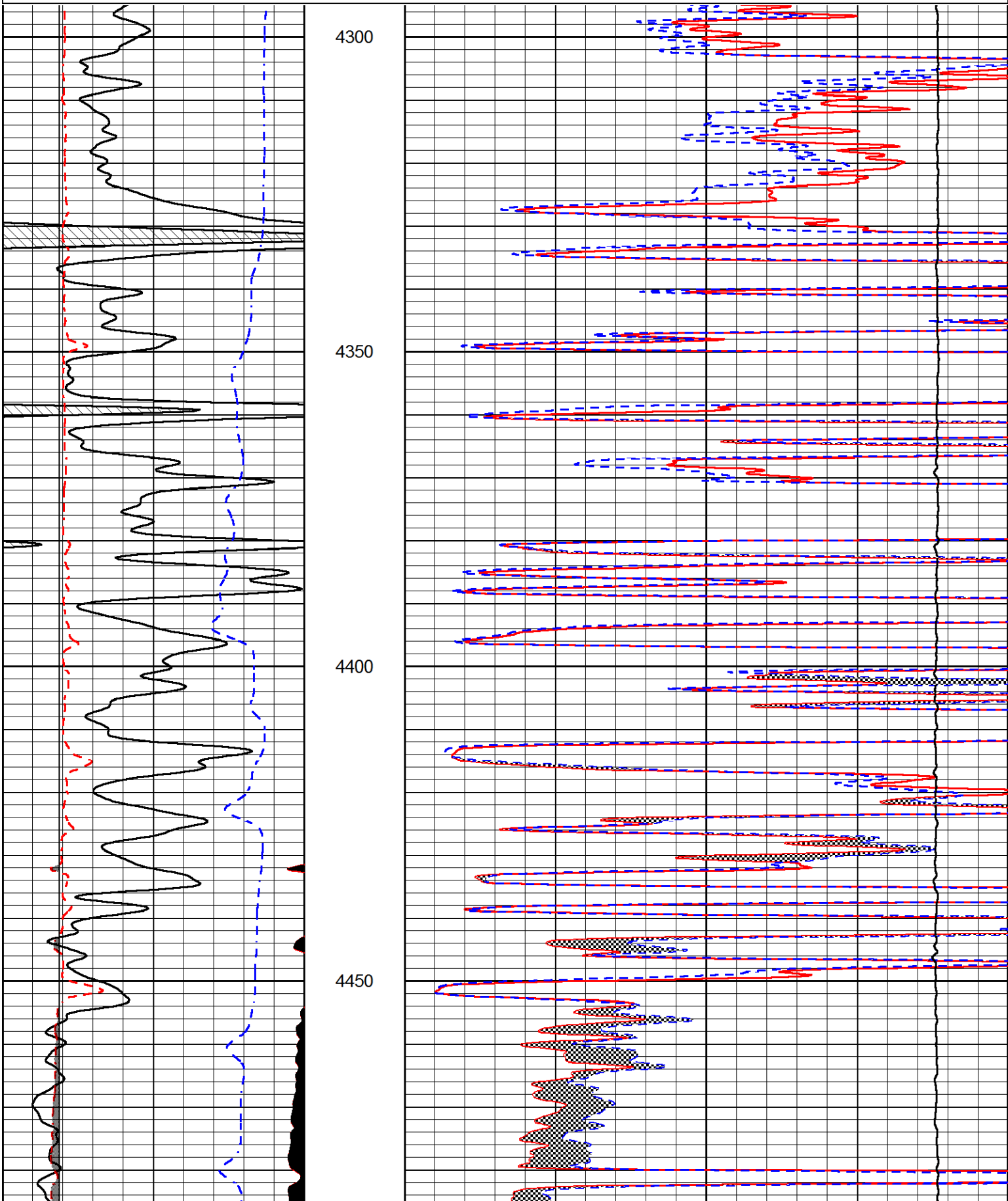


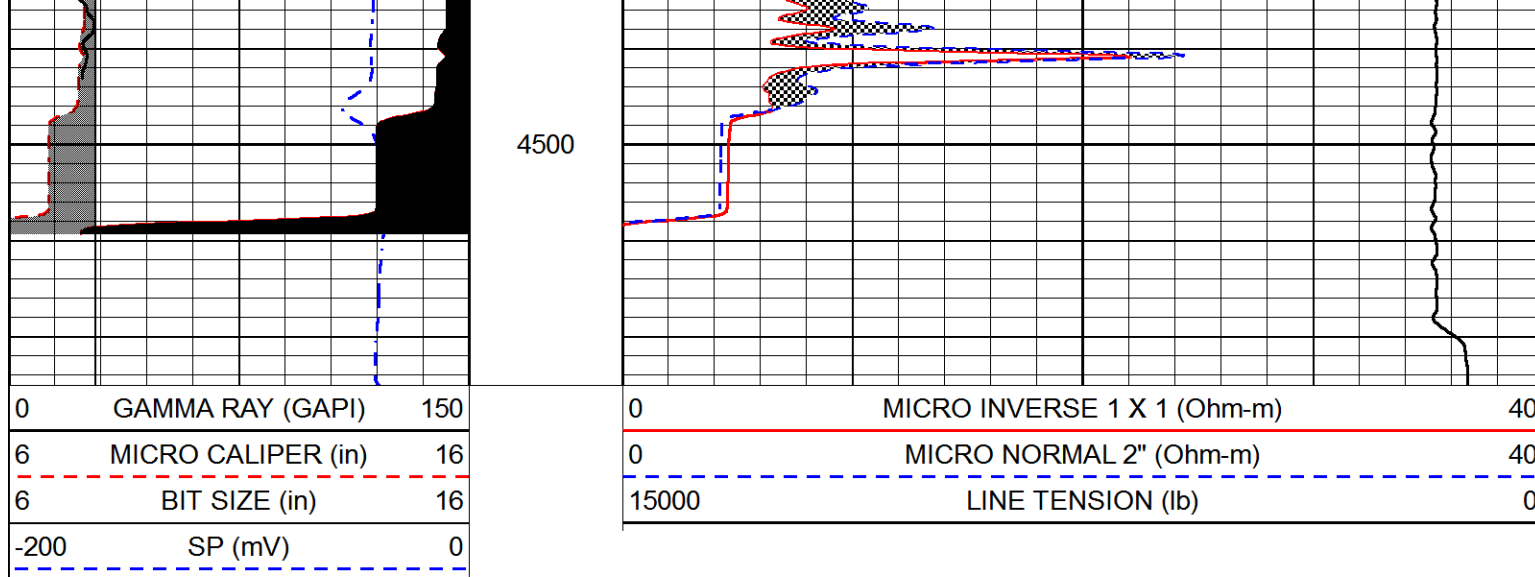
REPEAT SECTION

Database File cholla_schlegel_1_4.db
Dataset Pathname stack/pass2.1
Presentation Format micro

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0





Calibration Report

Database File cholla_schlegel_1_4.db
 Dataset Pathname stack/pass3.1
 Dataset Creation Wed Jul 10 03:24:34 2019

Dual Induction Calibration Report

Serial-Model: PSI 988-M&W
 Calibration Performed: Tue Nov 20 10:50:19 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.525	-44.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.380	-17.000

Compensated Density Calibration Report

Serial-Model: 144-84-M&W
 Source / Verifier: /
 Master Calibration Performed: Mon Jan 07 15:00:31 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4315.49	5309.89	cps
Aluminum	2.675	g/cc	825.26	3443.46	cps
Spine Angle = 75.33			Density/Spine Ratio = 0.538		
	Size		Reading		
Small Ring	4.00	in	0.69		
Large Ring	14.00	in	0.04		

Compensated Neutron Calibration Report

Serial Number: tk10-MW
 Tool Model: M&W
 Calibration Performed: Wed Nov 16 11:21:36 2016

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:	89-M&W		
Tool Model:	M&W		
Calibration Performed:	Tue Apr 11 17:08:01 2017		
Calibrator Value:	1000.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	6.2	cps	
Sensitivity:	0.5200	GAPI/cps	

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