



**RADIAL CEMENT BOND
GAMMA RAY / CCL / VDL**

Company ANTERO RESOURCES
Well NUGGETS UNIT 2H
Field N/A
County TYLER
State W.V.

Company ANTERO RESOURCES
Well NUGGETS UNIT 2H
Field N/A
County TYLER State W.V.

Location: API #: 47-095-02657

SEC	TWP	RGE	Elevation 748'	Other Services
Permanent Datum	G.L.		Elevation 748'	
Log Measured From	G.L.		Elevation 763'	Elevation
Drilling Measured From	K.B. OF 15'		D.F. 763'	
			G.L. 748'	

Date	2/5/20			
Run Number	ONE			
Depth Driller	3220'			
Depth Logger	3116'			
Bottom Logged Interval	3116'			
Top Log Interval	SURFACE			
Open Hole Size	N/A			
Type Fluid	H2O			
Density / Viscosity	N/A			
Max. Recorded Temp.	92 DEG			
Estimated Cement Top	SURFACE			
Time Well Ready	N/A			
Time Logger on Bottom	N/A			
Equipment Number	340			
Location	BRIDGEPORT, WV			
Recorded By	J. BOGGS			
Witnessed By	MR. ERP			

Borehole Record		Casing Record					
Run Number	Bit	From	To	Size	Weight	From	To

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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 KLX ENERGY SERVICES
LOG WAS RAN ON 9 5/8" CASING

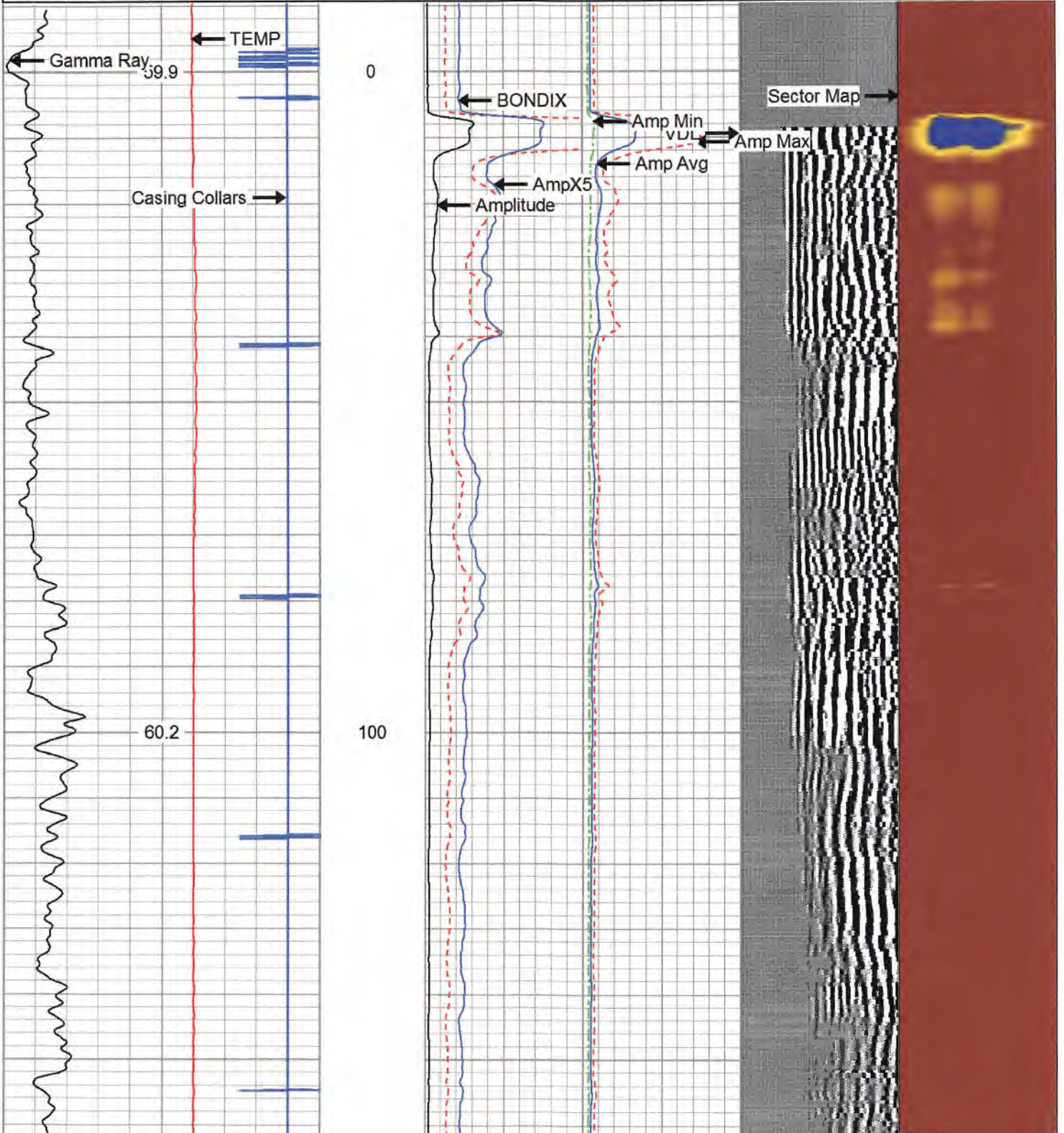


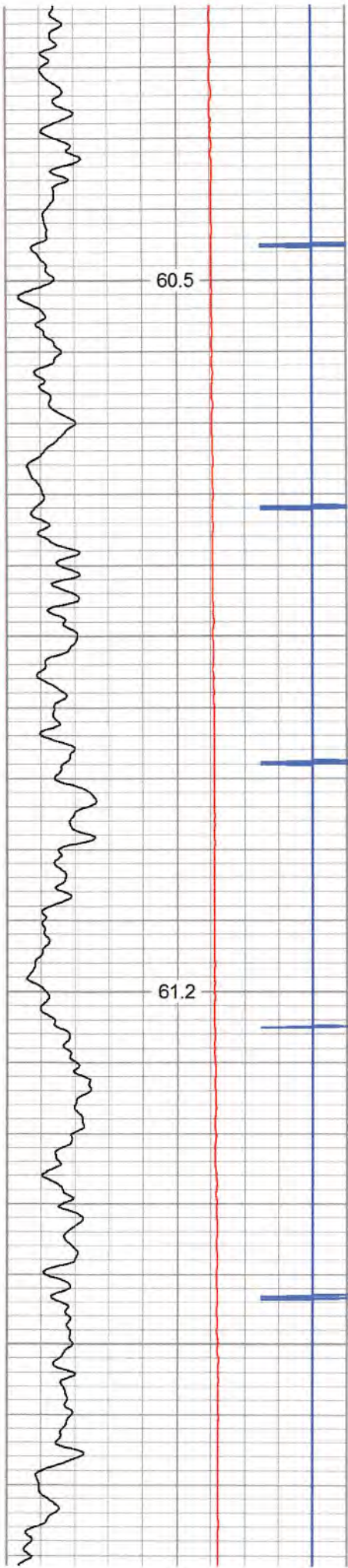
MAIN LOG 5"/100'

Handwritten initials

Database File: h:\antero 2-5\nugget 2h.db
 Dataset Pathname: pass3
 Presentation Format: antero
 Dataset Creation: Wed Feb 05 11:03:41 2020 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

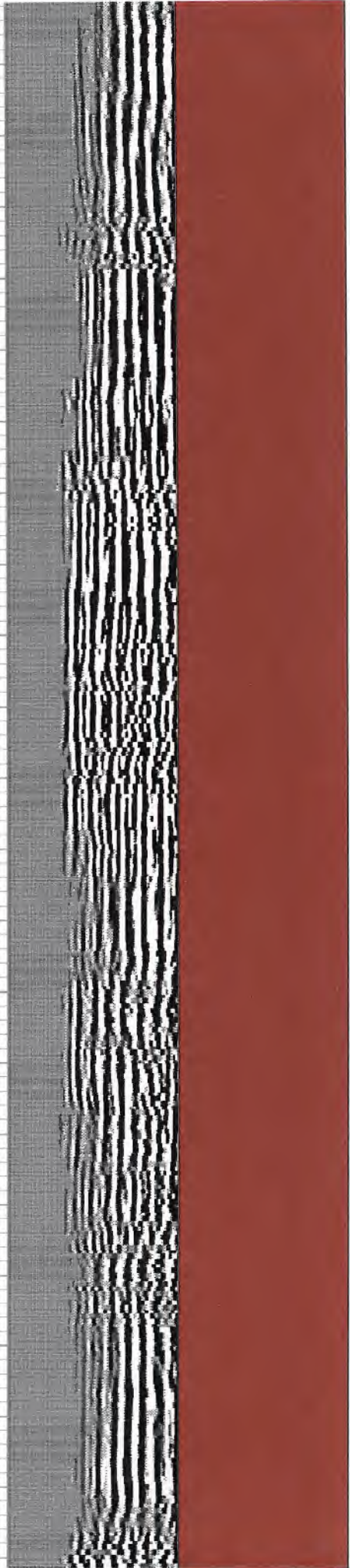
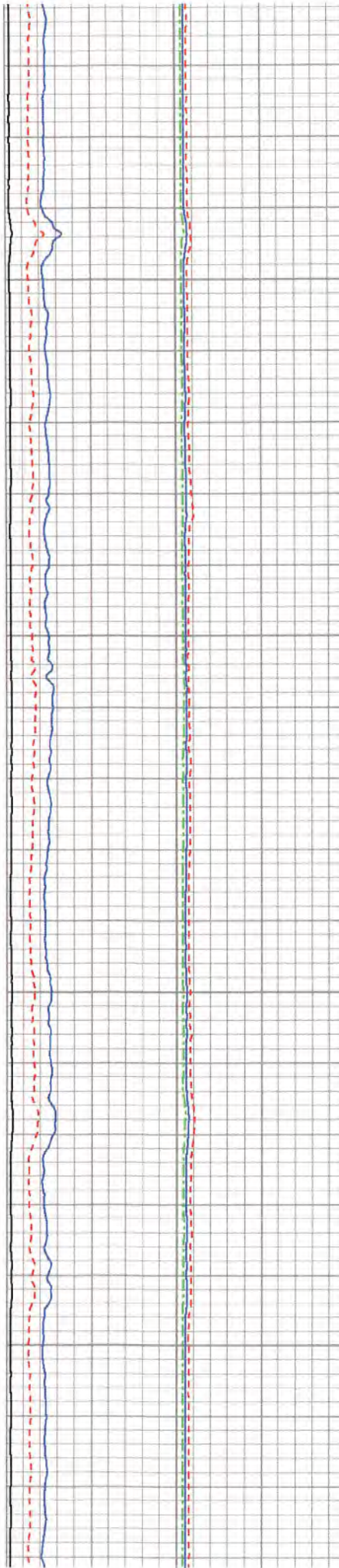
280	Travel Time (usec)	180	Amplitude	0	Amp Avg	150	200	VDL	1200	1	Sector Map	12
9	Casing Collars	-1	(mV)	100	Amp Max	150				20		80
0	Gamma Ray	180	AmpX5 (mV)	20	Amp Min	150						
0	TEMP (degF)	100	BONDIX	0								

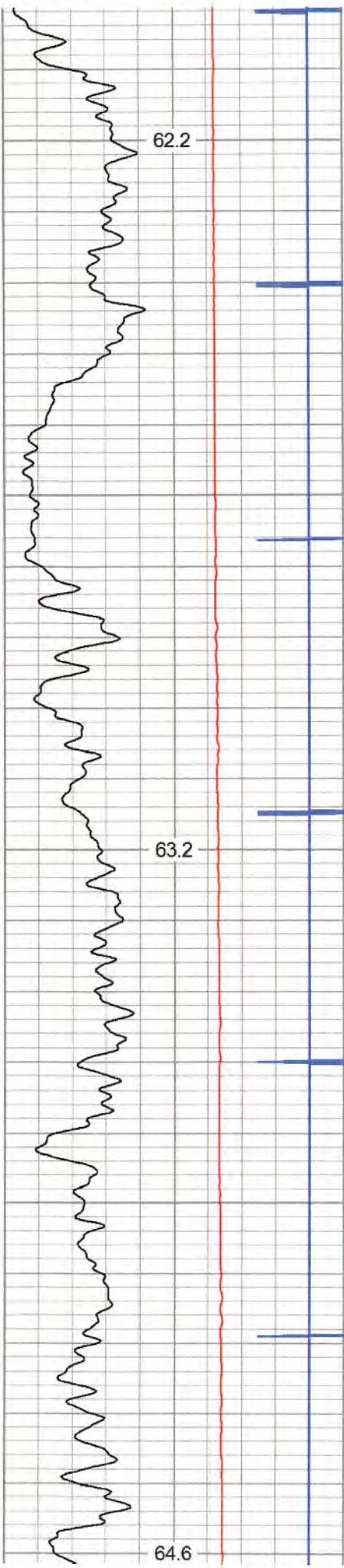




200

300

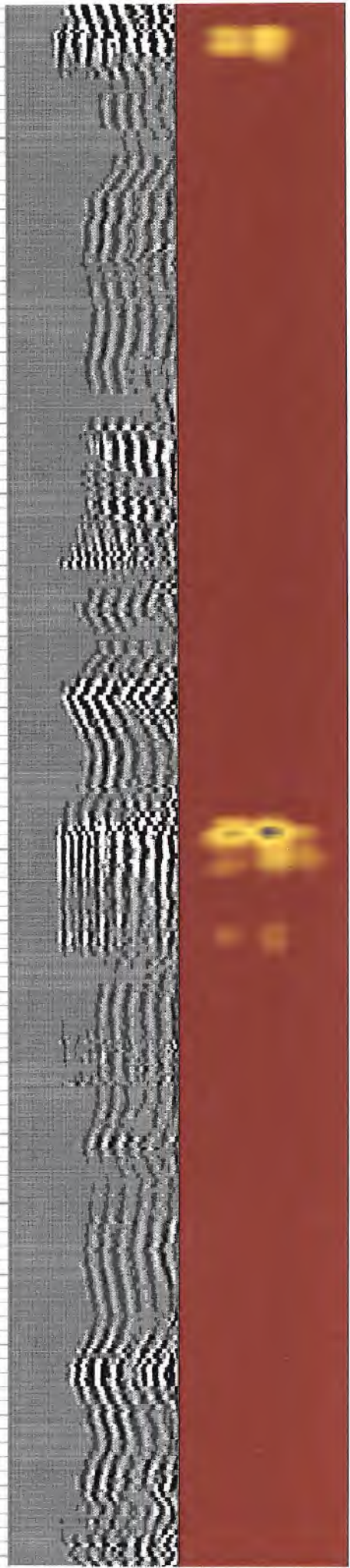
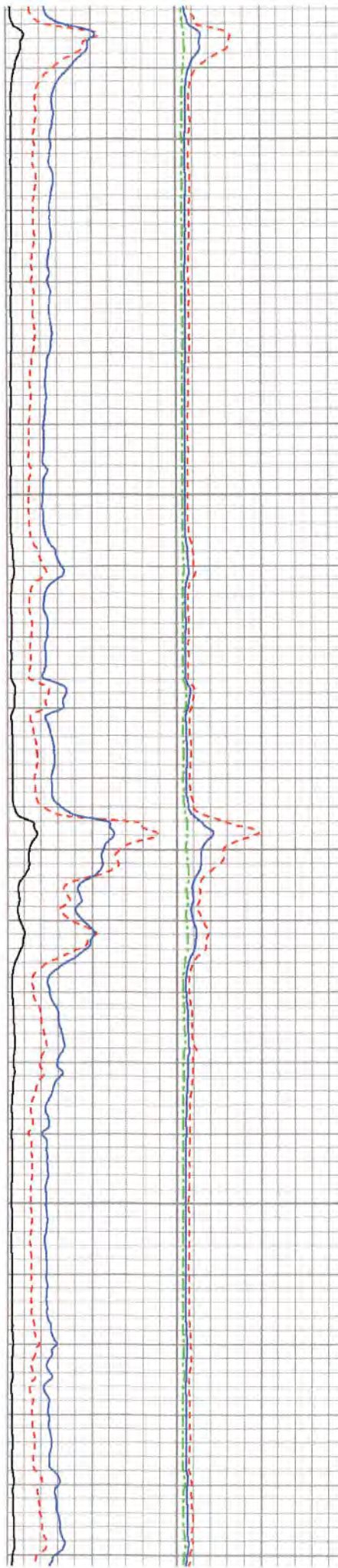


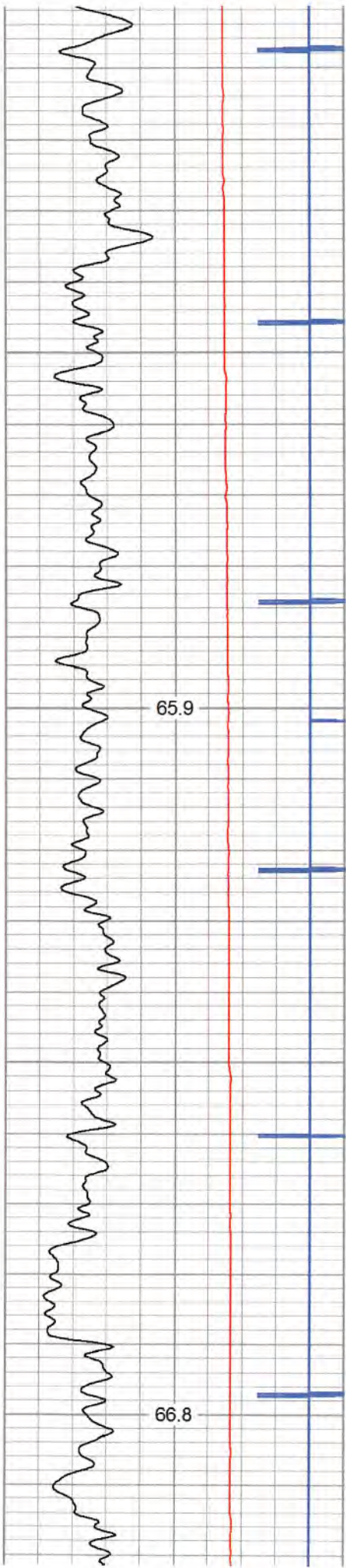


400

500

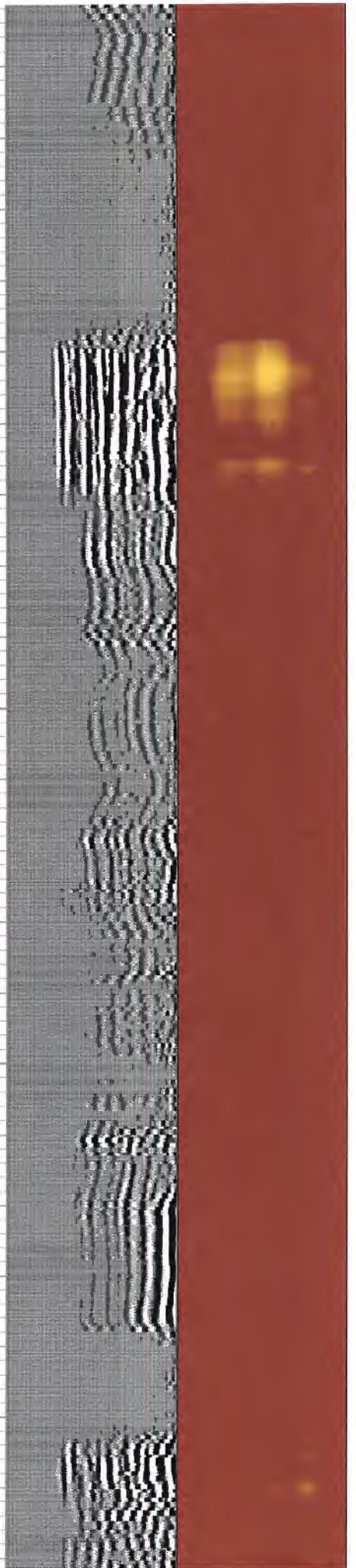
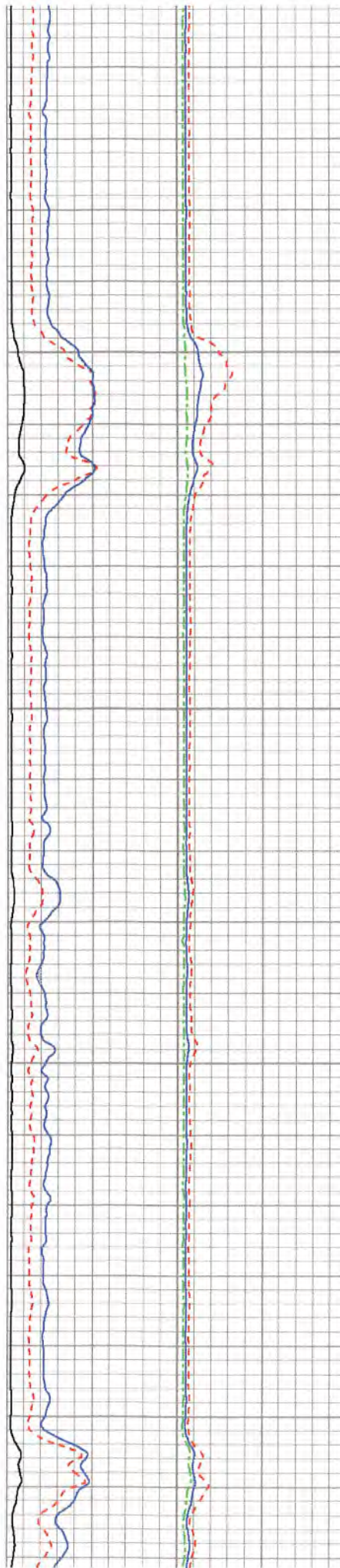
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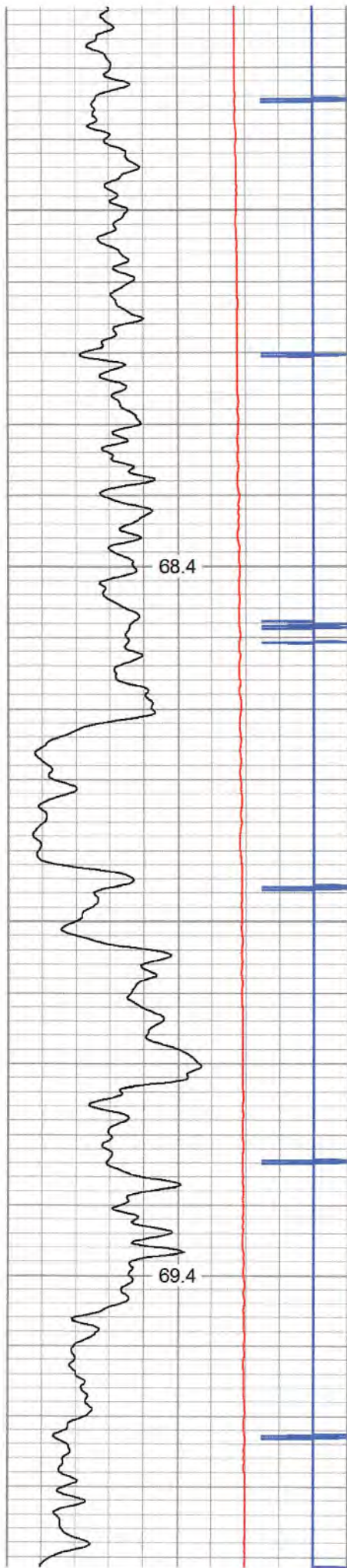




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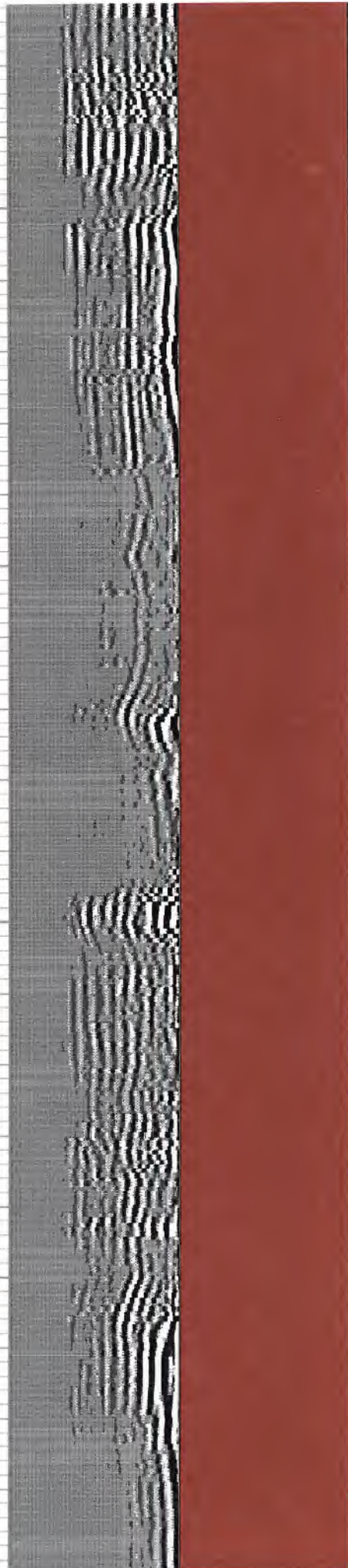
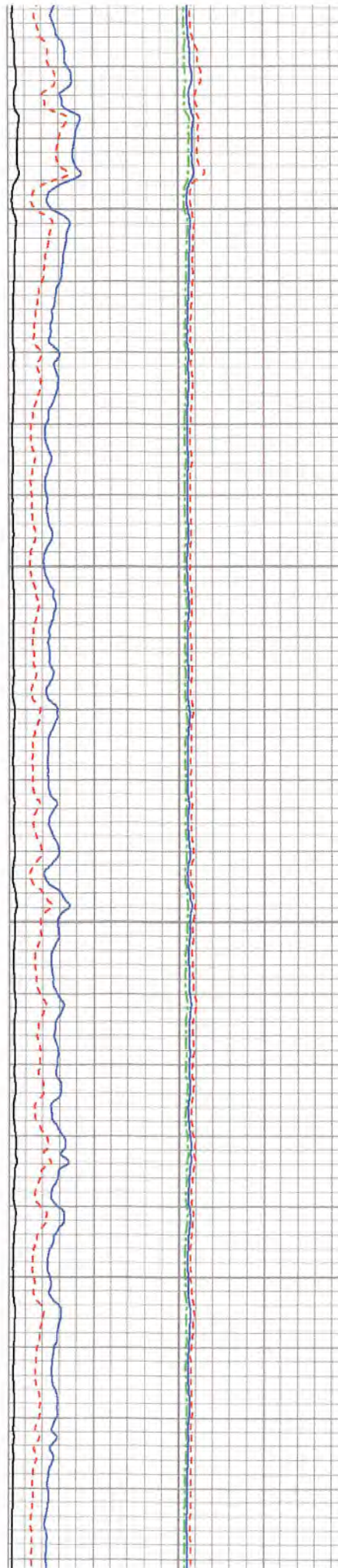
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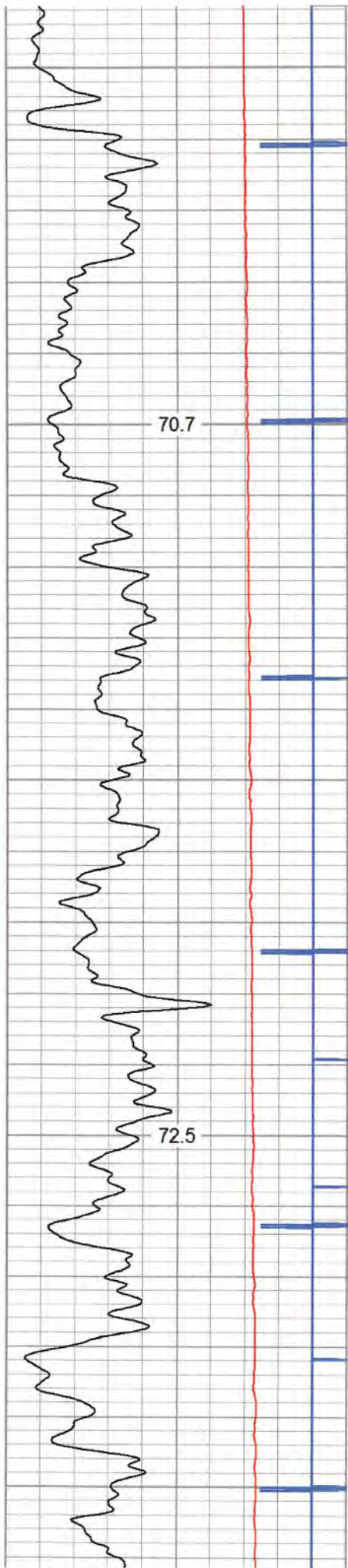




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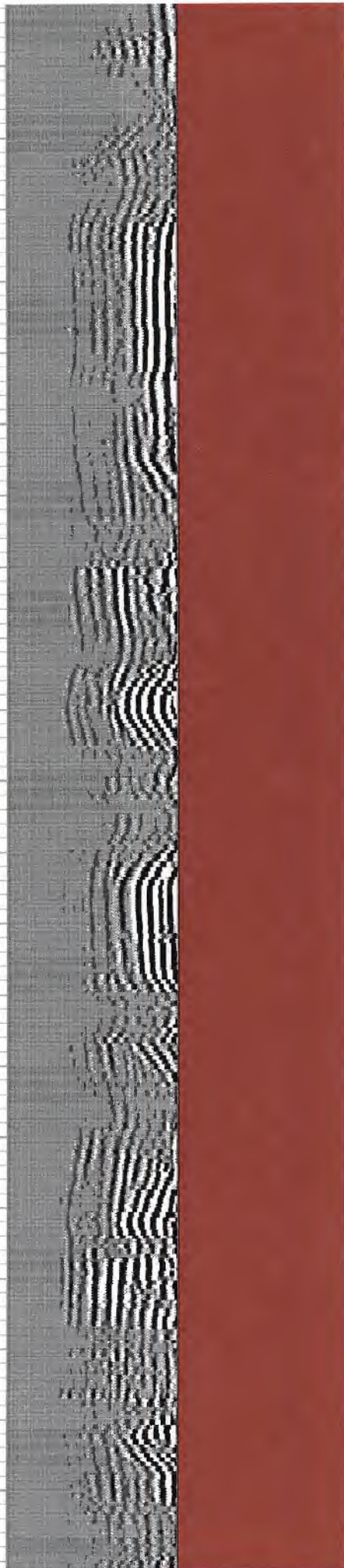
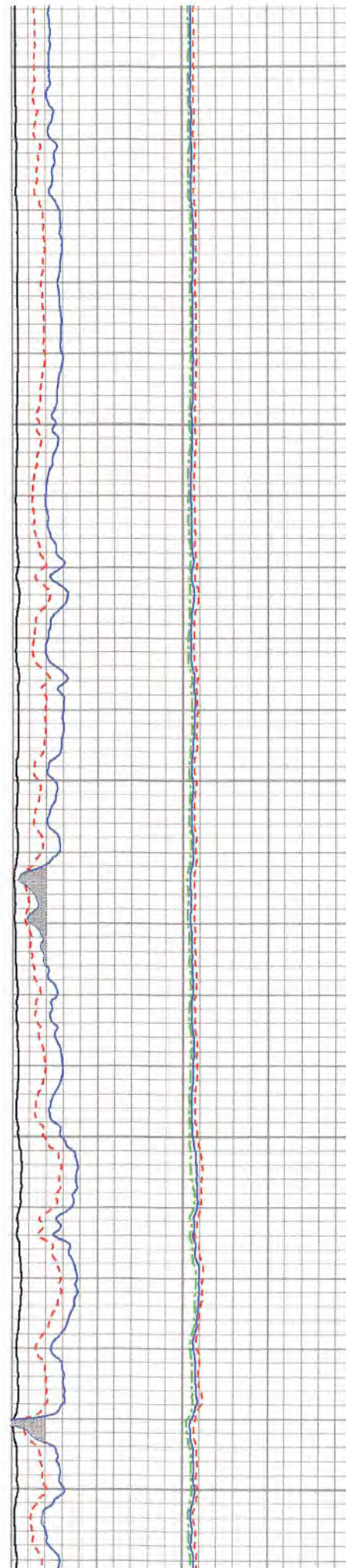
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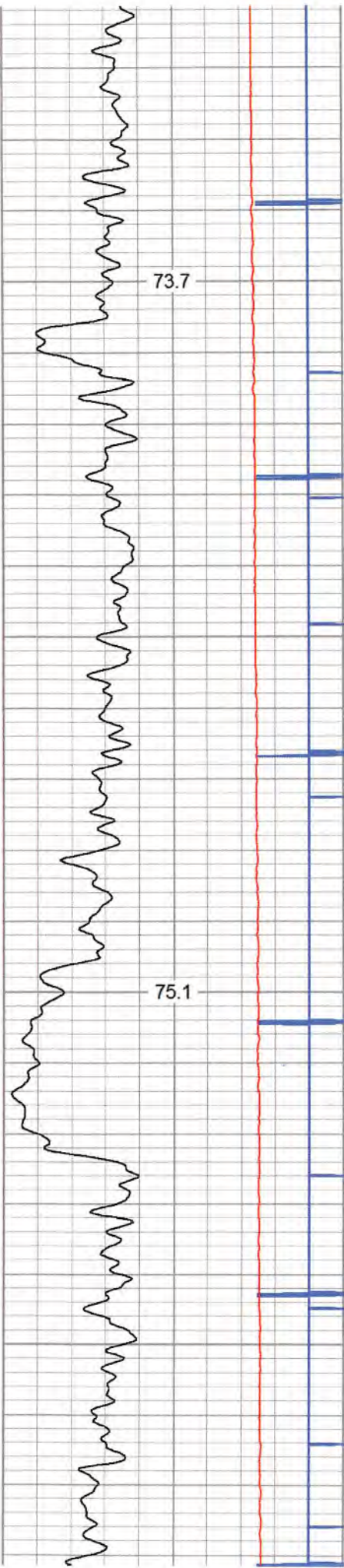




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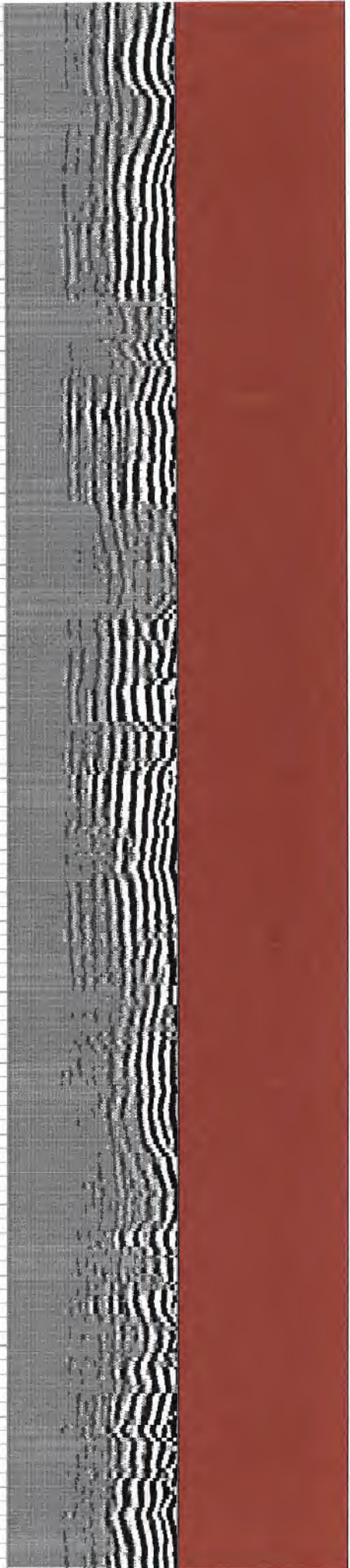
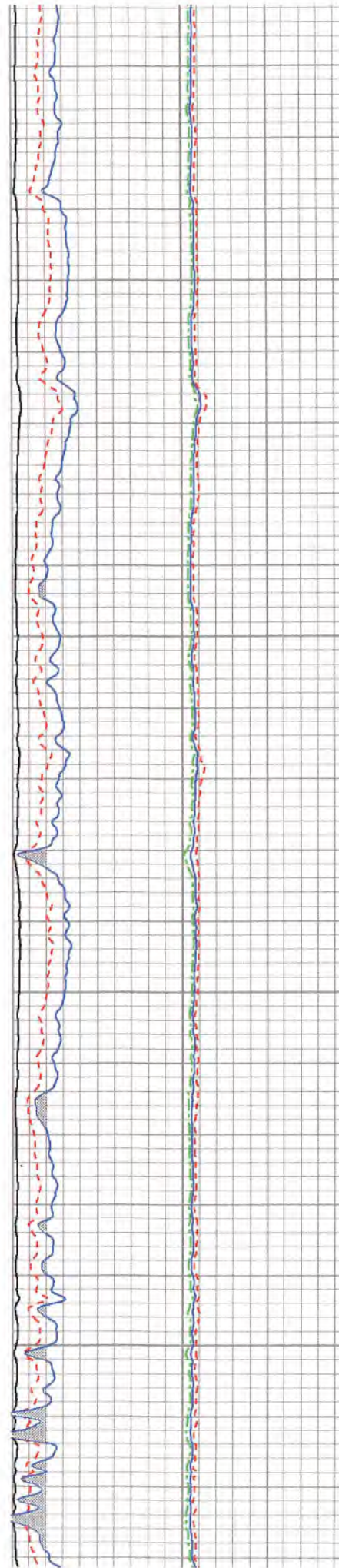
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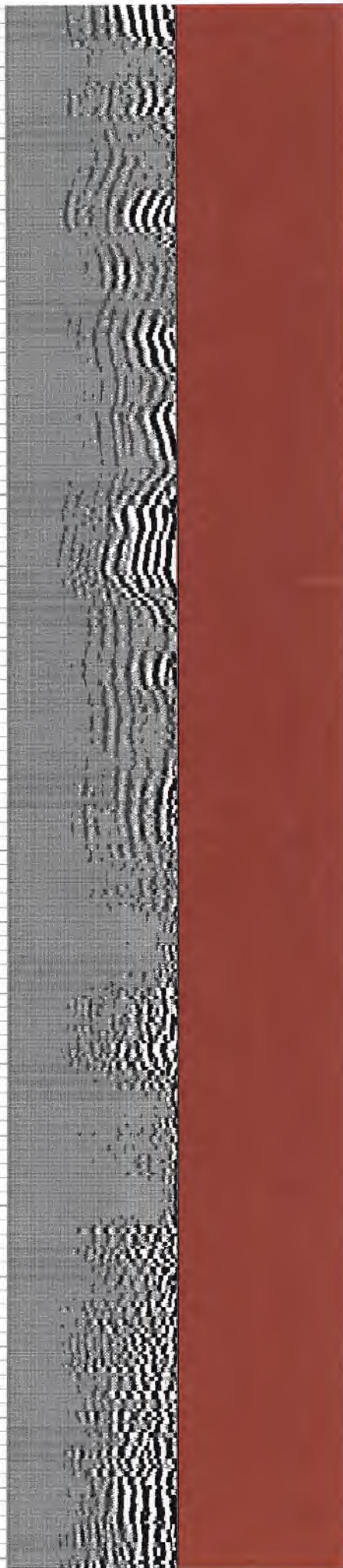
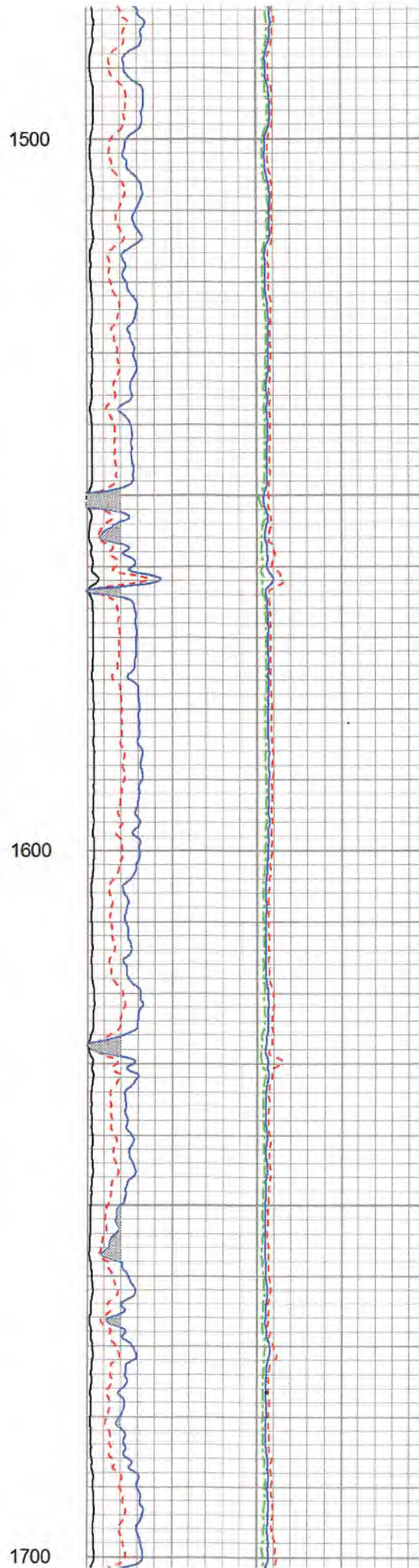
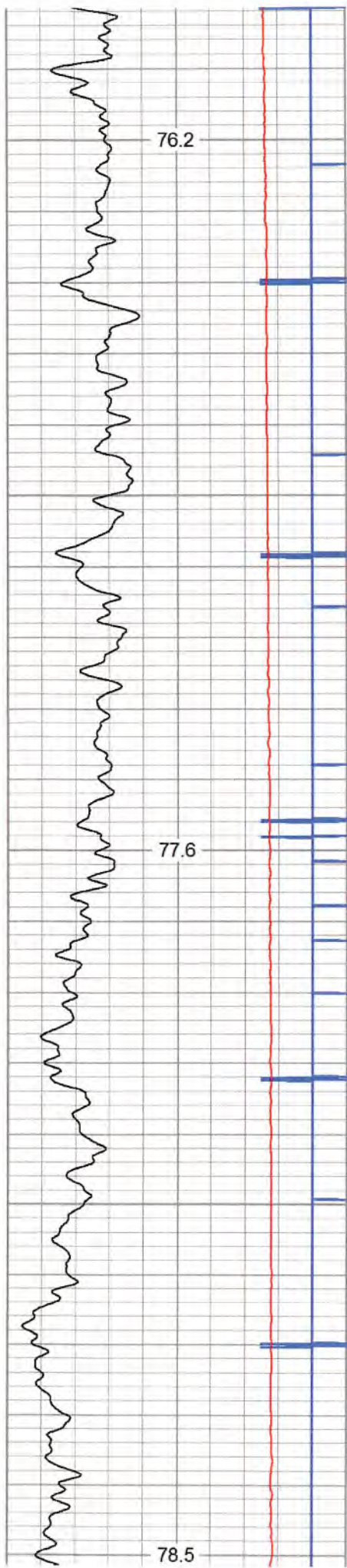


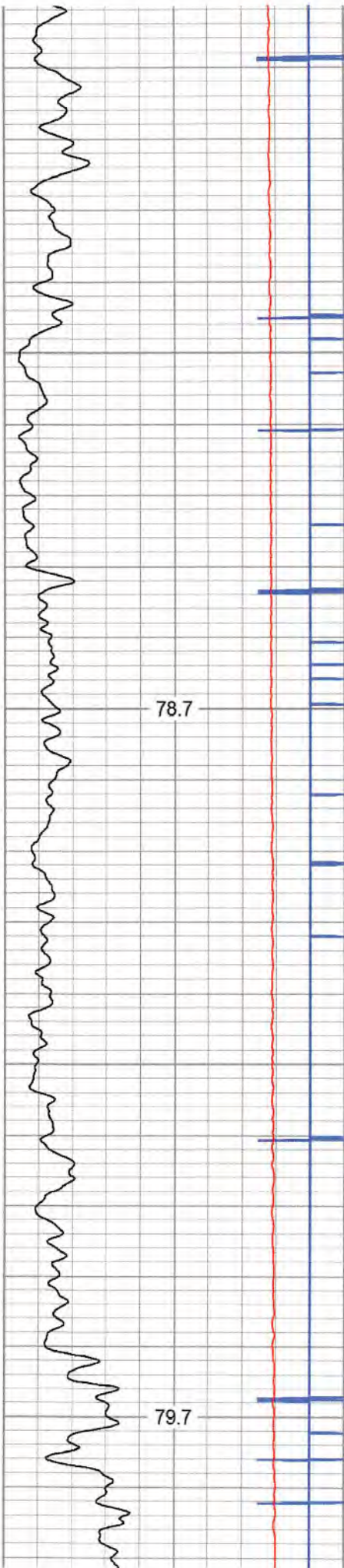


1300

1400

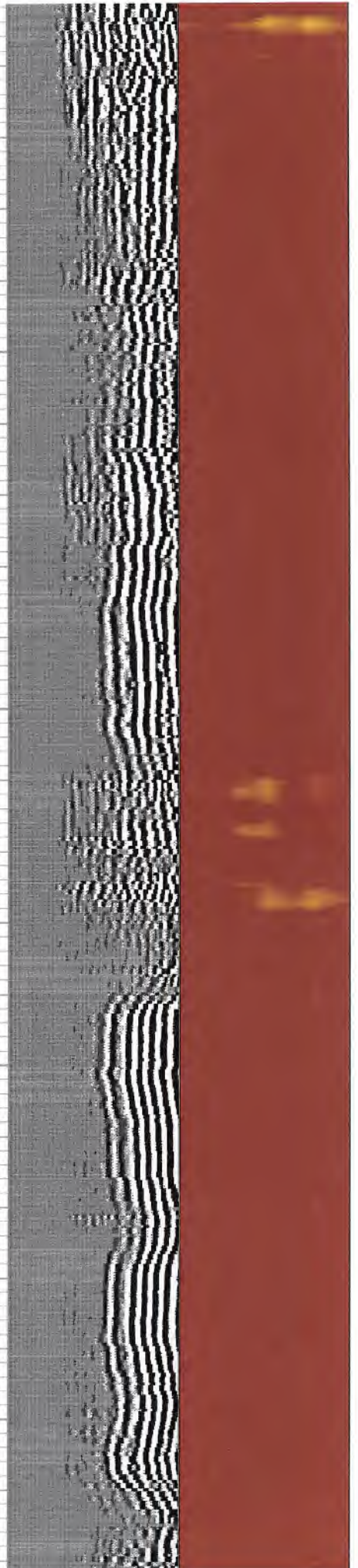
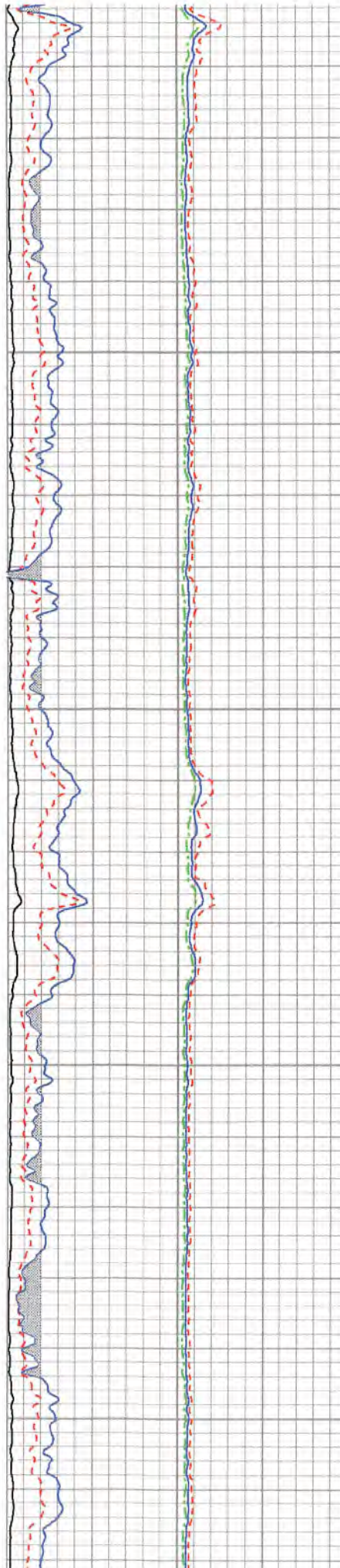


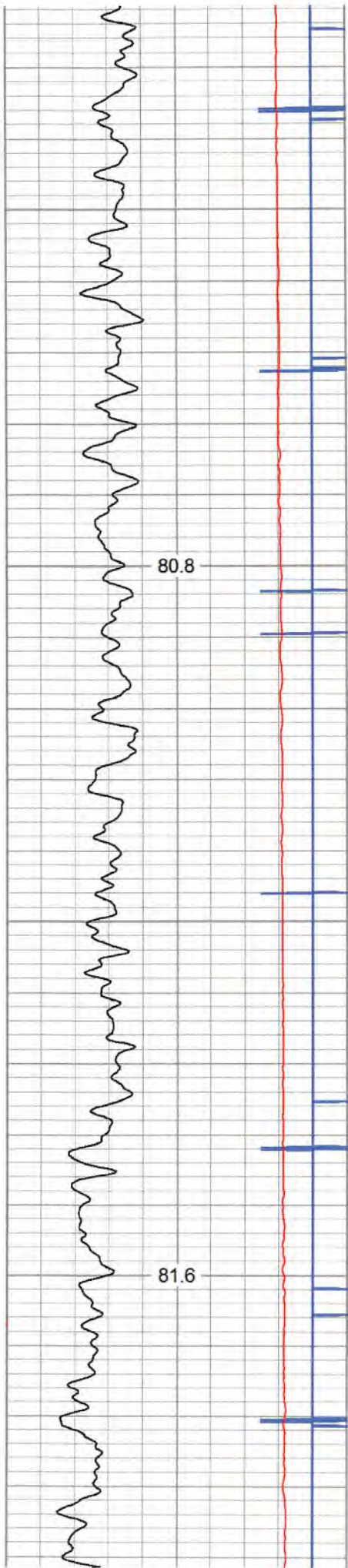




1800

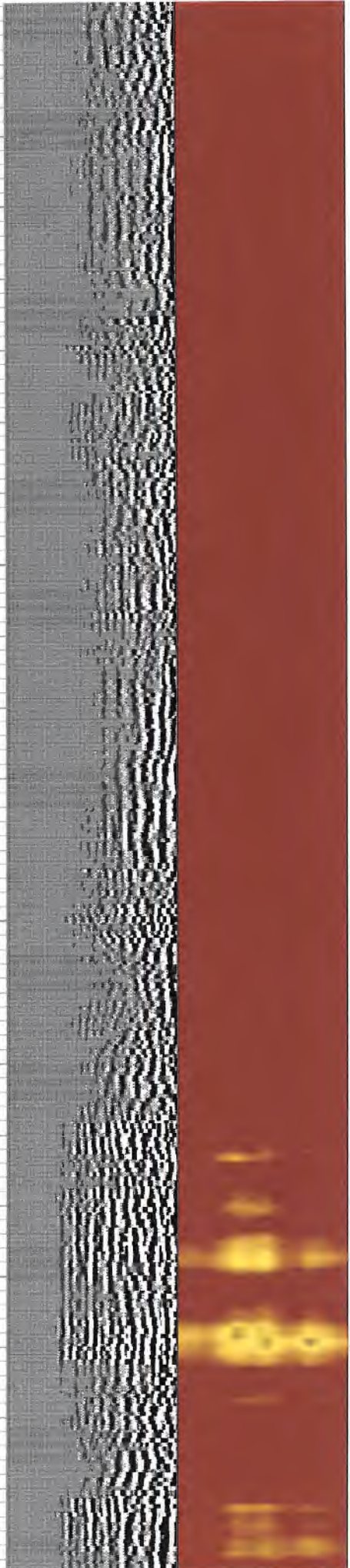
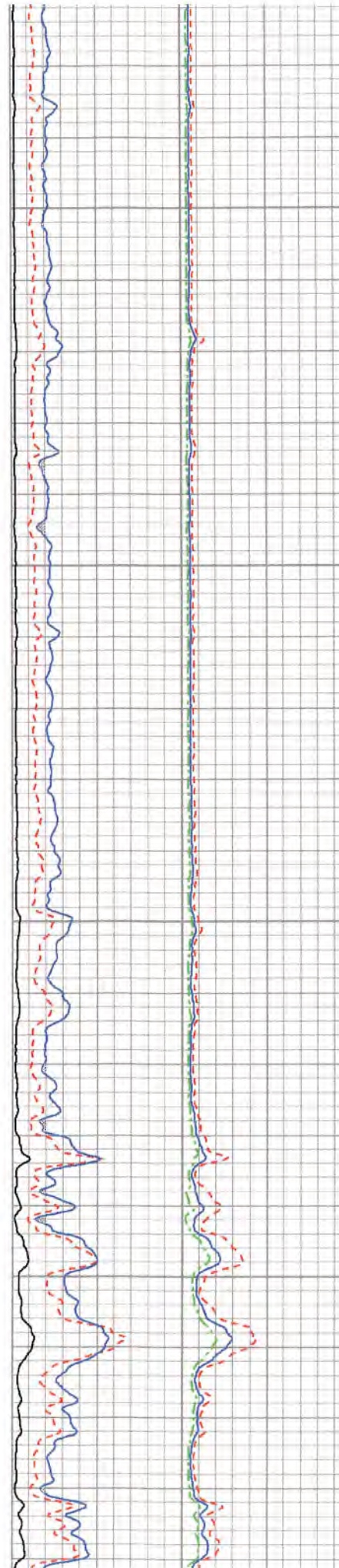
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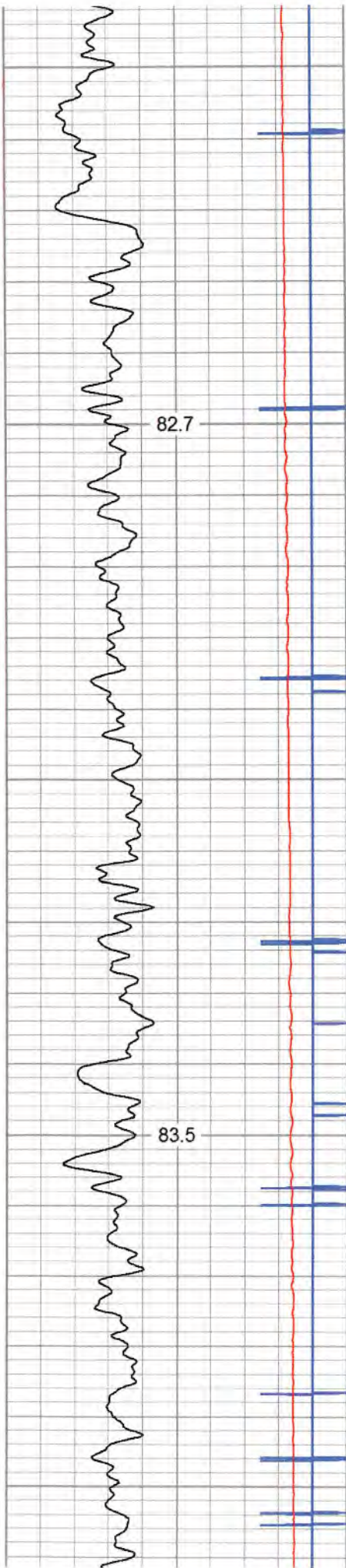




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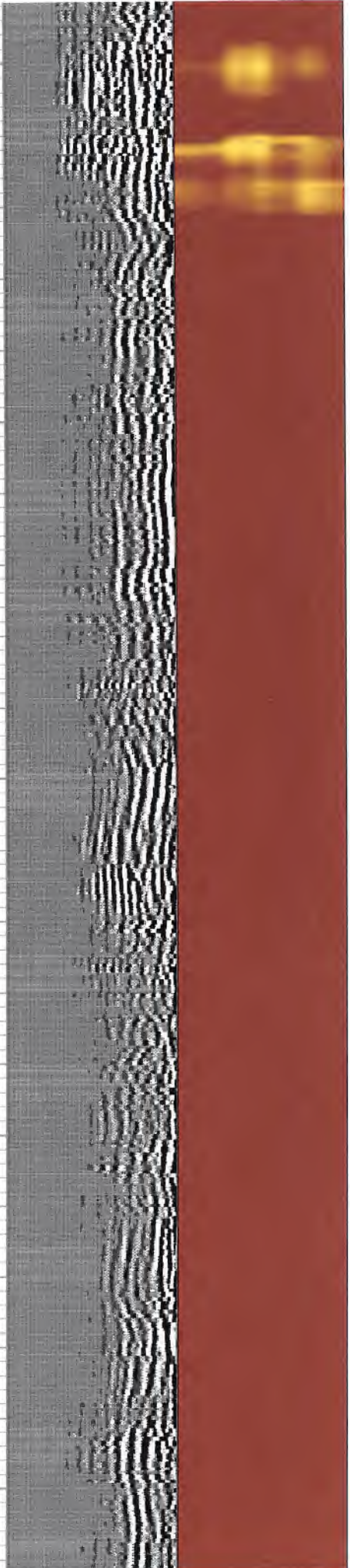
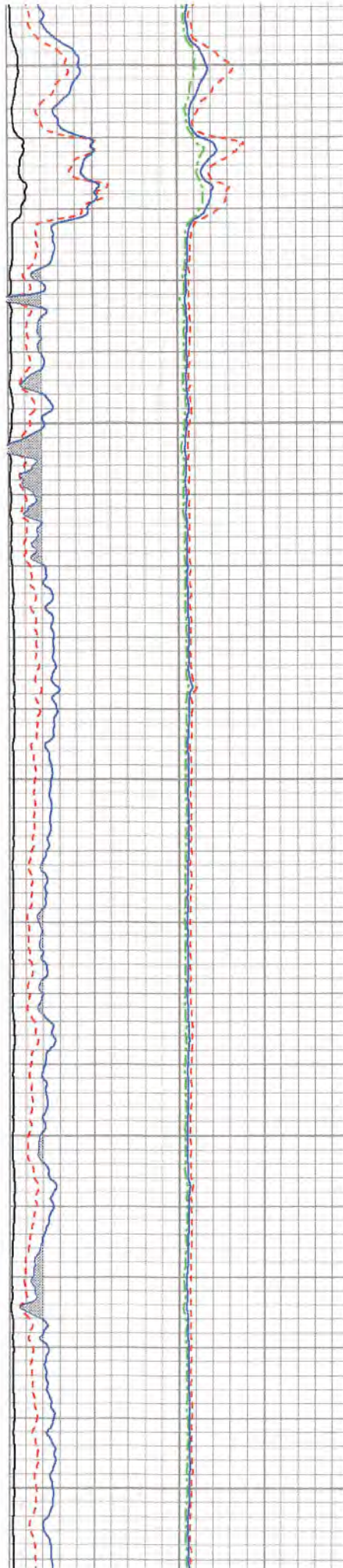
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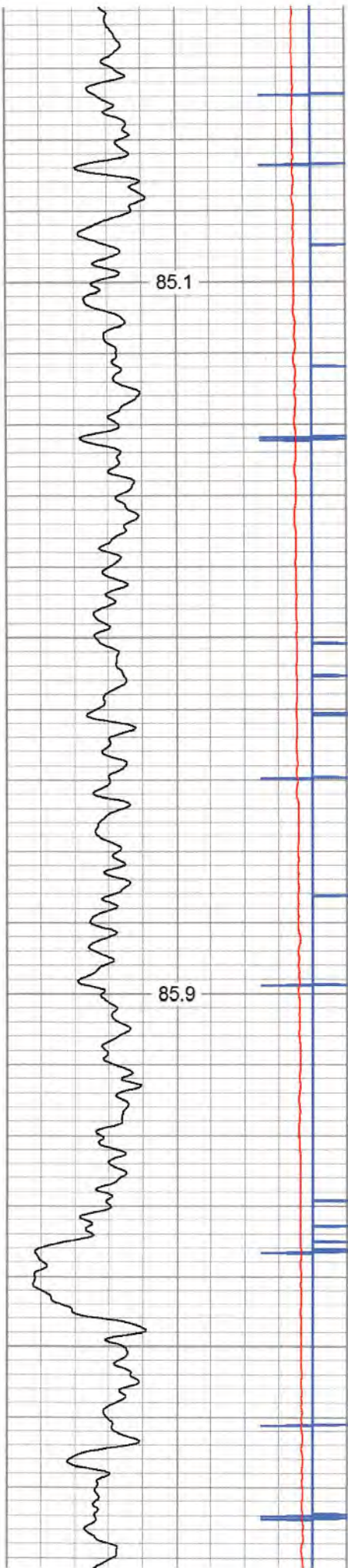




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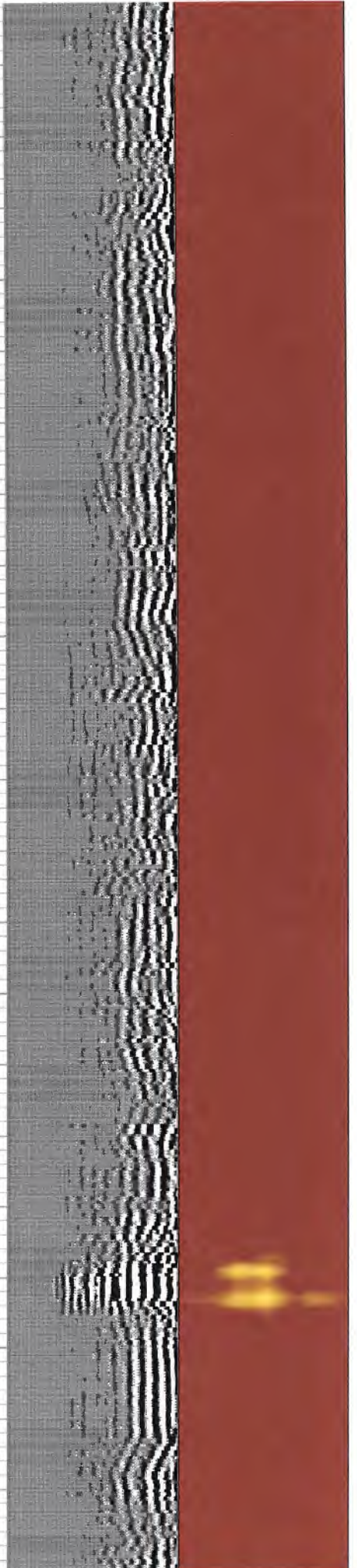
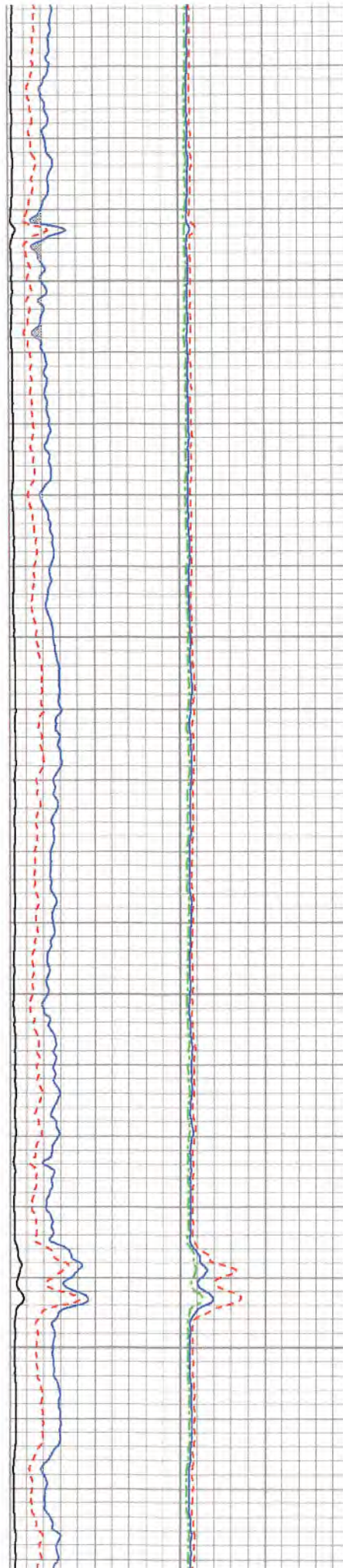
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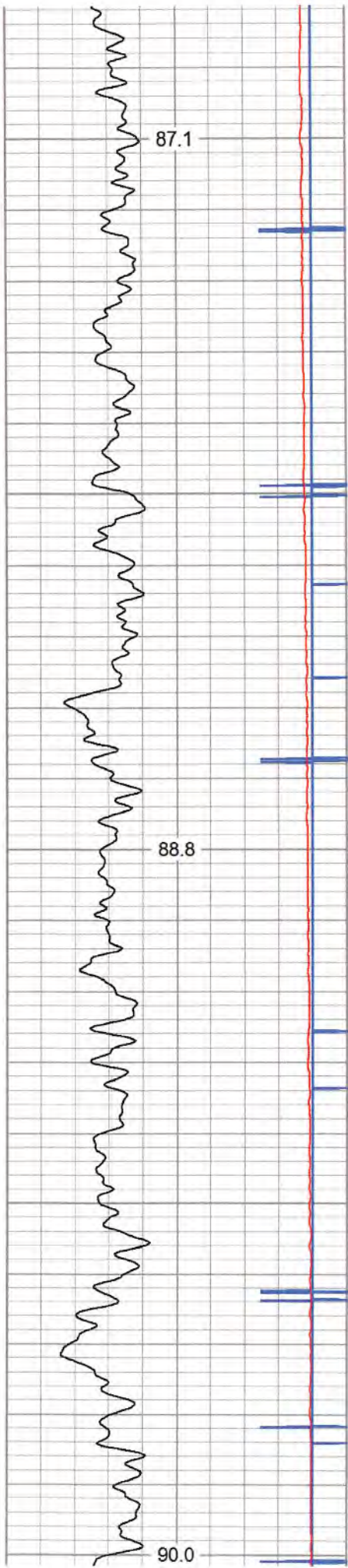




2400

2500

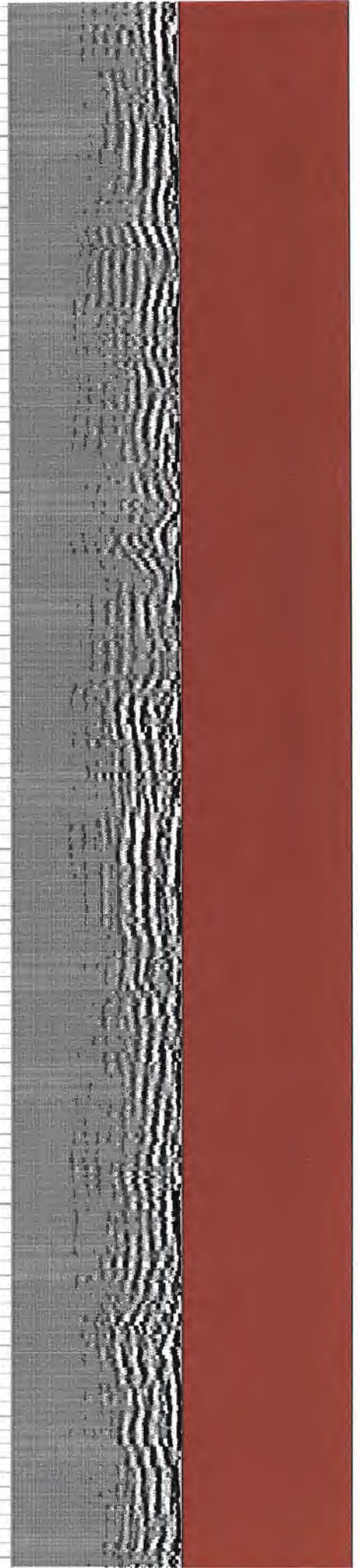
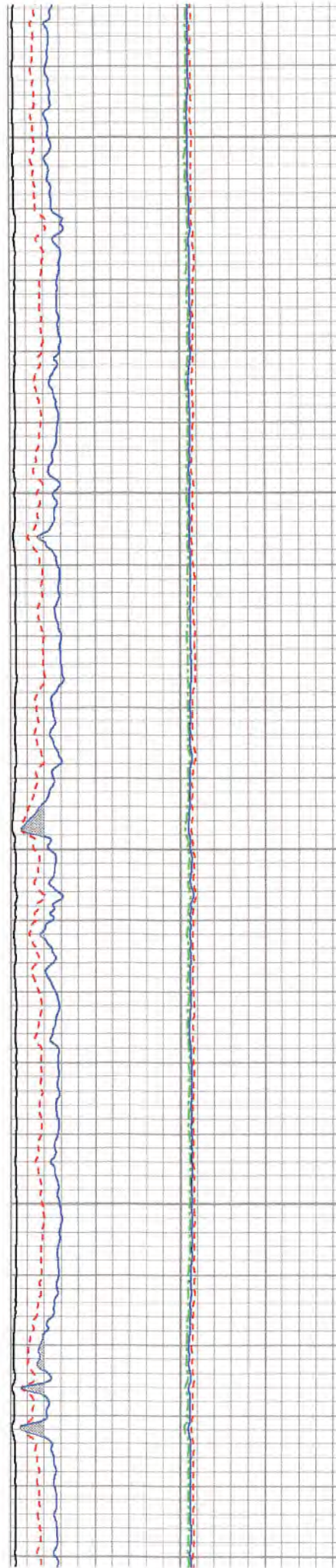


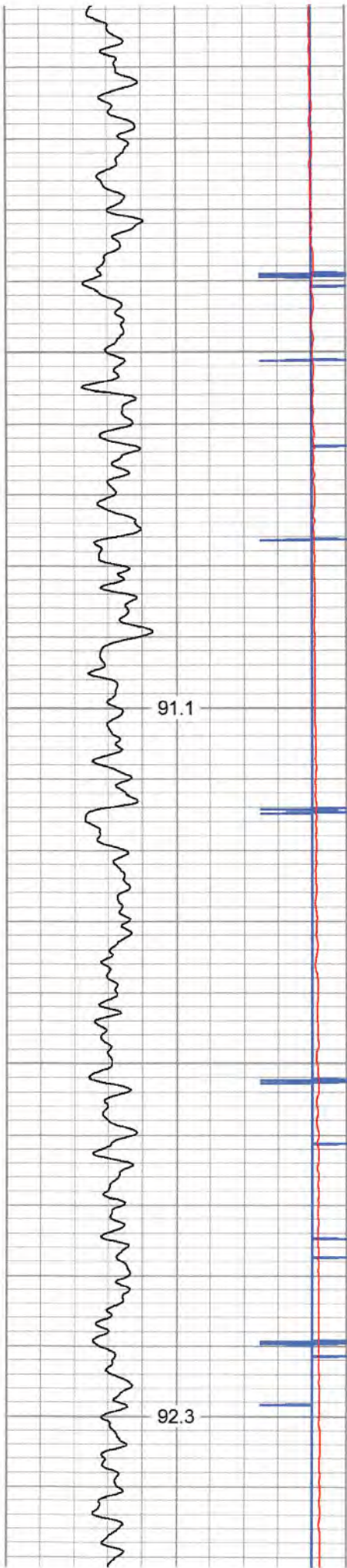


2600

2700

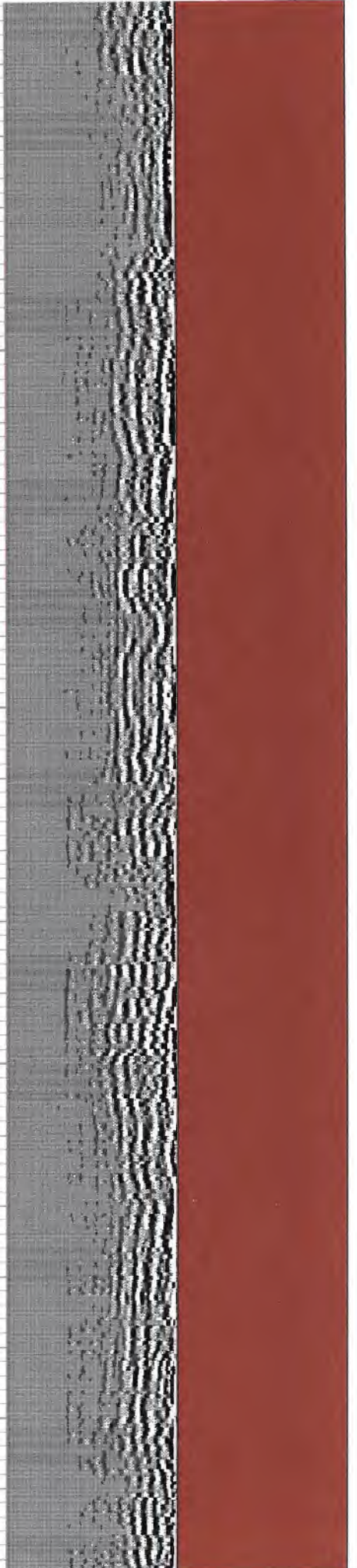
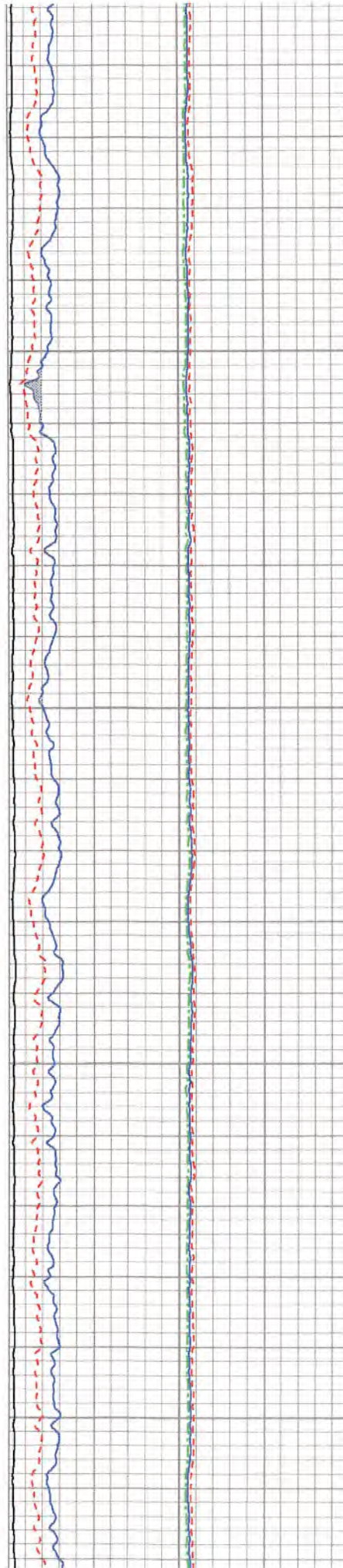
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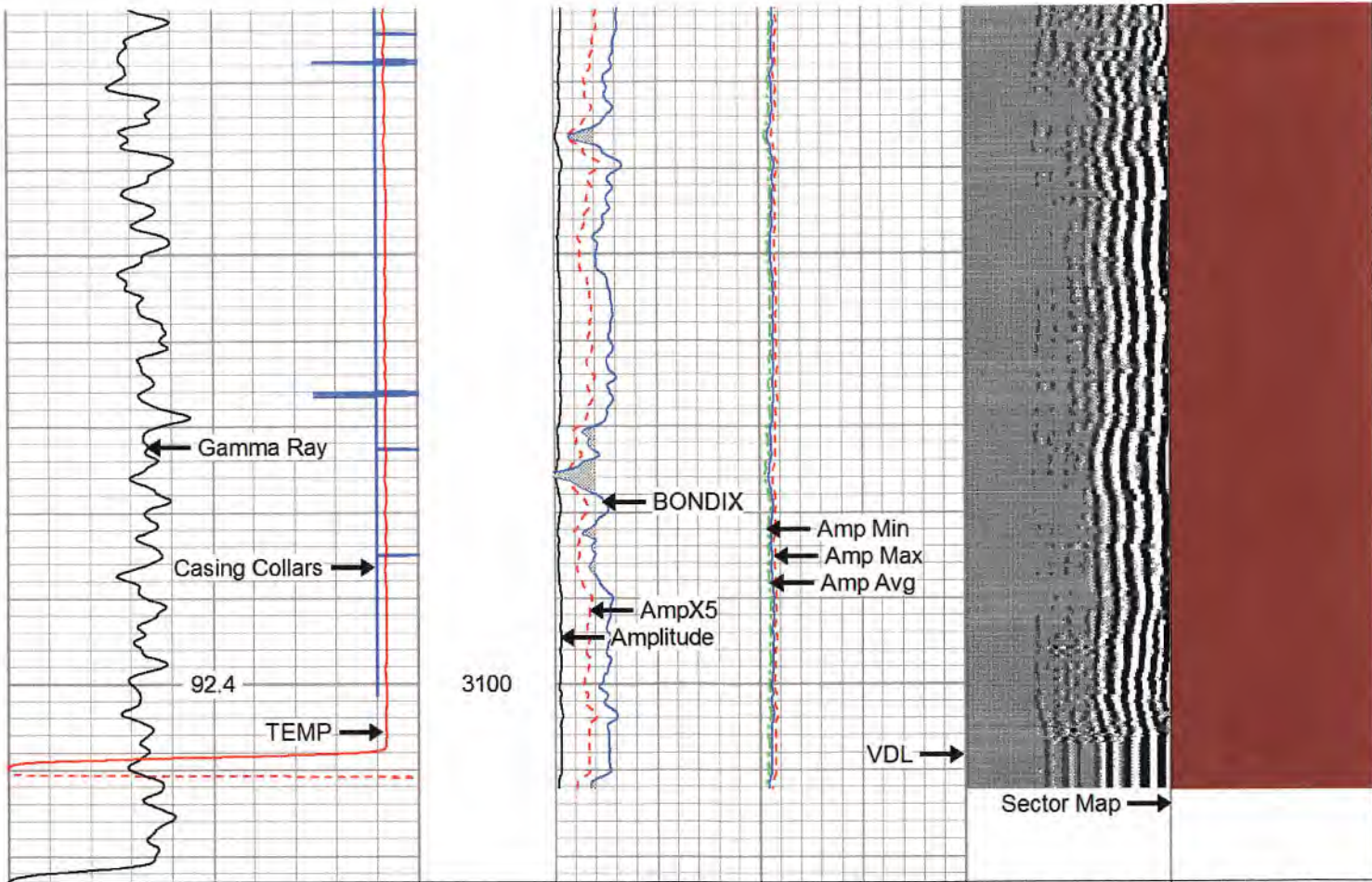




2900

3000





280	Travel Time (usec)	180	Amplitude	0	Amp Avg	150	200	VDL	1200	1	Sector Map	12
9	Casing Collars	-1	(mV)	100	Amp Max	150				20		80
0	Gamma Ray	180	AmpX5 (mV)	20	Amp Min	150						
0	TEMP (degF)	100	BONDIX	0								

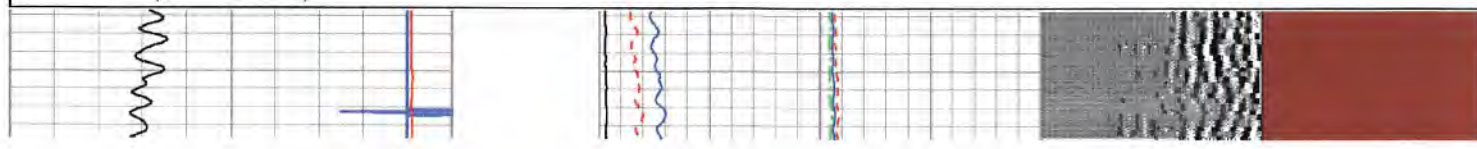
TEMP
(degF)

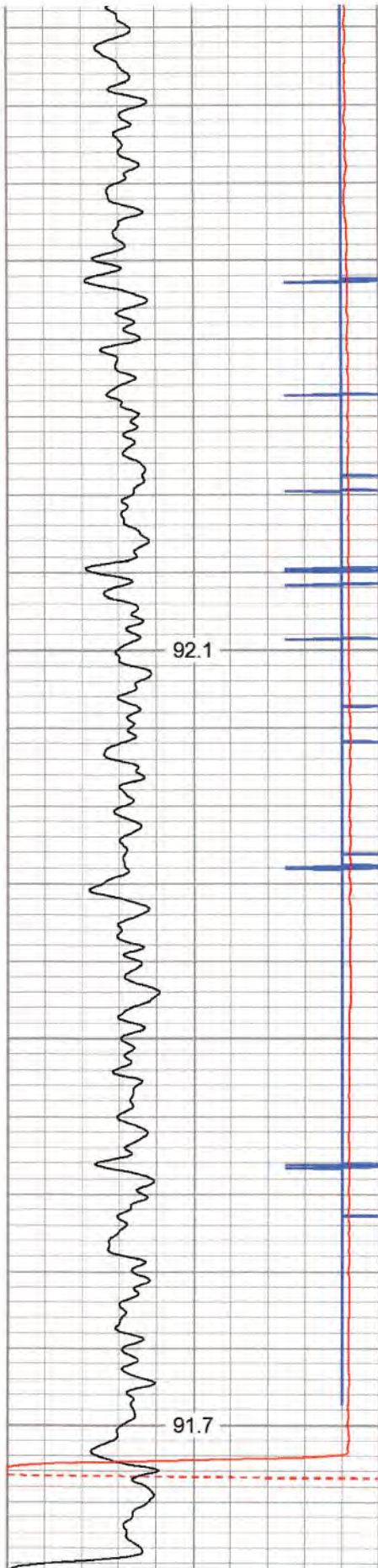
REPEAT SECTION

Database File: h:\antero 2-5\nugget 2h.db
 Dataset Pathname: pass2
 Presentation Format: antero
 Dataset Creation: Wed Feb 05 10:57:42 2020 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

280	Travel Time (usec)	180	Amplitude	0	Amp Avg	150	200	VDL	1200	1	Sector Map	12
9	Casing Collars	-1	(mV)	100	Amp Max	150				20		80
0	Gamma Ray	180	AmpX5 (mV)	20	Amp Min	150						
0	TEMP (degF)	100	BONDIX	0								

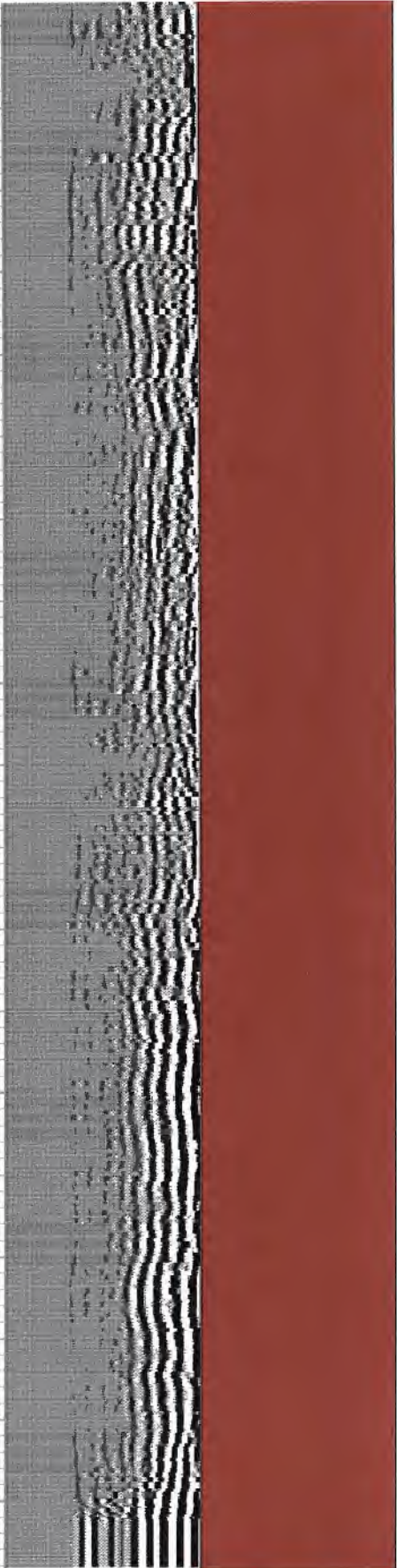
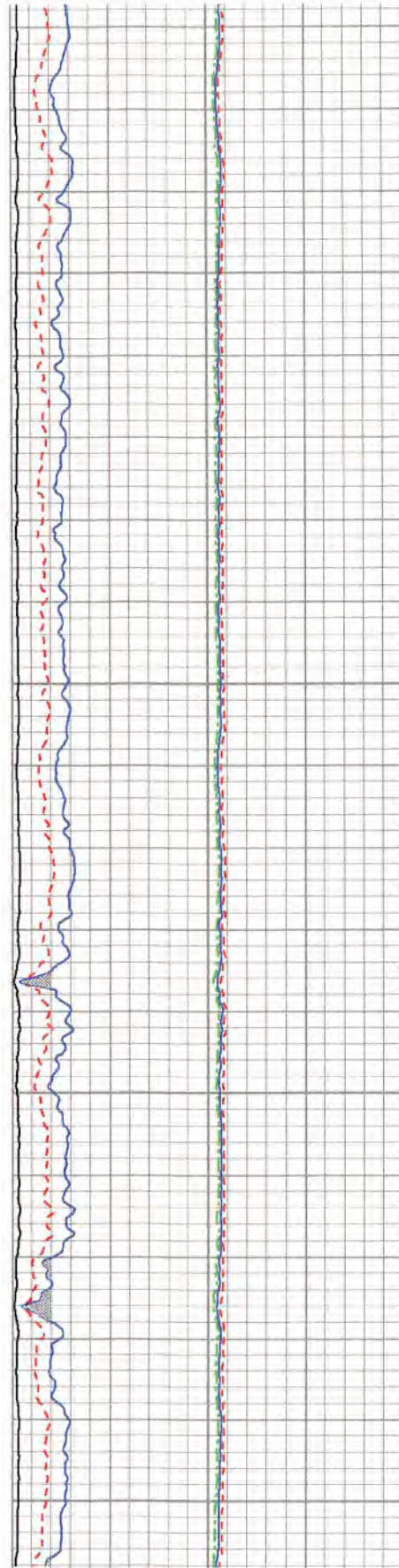
TEMP
(degF)





3000

3100




280	Travel Time (usec)	180
9	Casing Collars	-1
0	Gamma Ray	180
0	TEMP (degF)	100

Amplitude	0	Amp Avg	150
(mV)	100	Amp Max	150
AmpX5 (mV)	20	Amp Min	150
BONDIX	0		

200	VDL	1200	1	Sector Map	12
			20		80



	TEMP (degF)	
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Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	21.55		CCL-450tekco (450) Tekco 4 1/2" 450 Deg. "F" SmCo Logging CCL	1.87	4.50	80.00
			3.125 3 1/8" Titan Adjustable Centralizer	3.42	3.13	50.00
TEMP	14.42					
WVFS11	12.35					
WVFS10	12.35					
WVFS9	12.35					
WVFS8	12.35					
WVFS7	12.35					
WVFS6	12.35					
WVFS5	12.35					
WVFS4	12.35					
WVFS3	12.35					
WVFS2	12.35					
WVFS1	12.35					
WVFCAL	12.35					
WVF3FT	12.35					
			SCBL-Tek16_Ex_Temp (Tek16_EX_03_10.29) TEKCO 4.5" 400 Deg F 16 Sector RIB w Ext. Temp	10.29	4.50	202.00
			3.125 3 1/8" Titan Adjustable Centralizer	3.42	3.13	50.00
WVF5FT	10.85					
WVFTEMP	7.08					
WVFSYNC	7.08					
			GR-Tek-Co 2 3/4 (0111) Tekco 2 3/4" 400 Deg. F Logging Gamma Ray	3.67	2.75	40.00
GR	1.04					

Dataset: nugget 2h.db: field/well/run1/pass3
 Total Length: 22.66 ft
 Total Weight: 422.00 lb
 O.D. 4.50 in

Calibration Report

Database File: H:\antero 2-5\nugget 2h.db
 Dataset Pathname: pass3
 Dataset Creation: Wed Feb 05 11:03:41 2020 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number: 0111
 Tool Model: Tek-Co 2 3/4
 Performed: Sat Nov 23 11:27:38 2019
 Calibrator Value: 1.0
 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps
 Sensitivity: 0.5000 /cps

Segmented Cement Bond Log Calibration Report

Serial Number: Tek16_EX_03_9_625
 Tool Model: Tek16_Ex_Temp
 Calibration Casing Diameter: 5.500 in
 Calibration Depth: 41.850 ft

Master Calibration, performed Wed Feb 05 10:41:00 2020:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.150	1.692	2.000	54.000	28.237	2.237
CAL	0.004	0.757				
5'	-0.167	0.266	2.000	54.000	120.063	22.076
SUM						
S1	-0.128	2.333	0.000	100.000	40.633	5.201
S2	-0.125	2.061	0.000	100.000	45.746	5.715
S3	-0.124	1.685	0.000	100.000	55.259	6.865
S4	-0.163	1.342	0.000	100.000	66.430	6.837
S5	-0.533	1.428	0.000	100.000	50.996	6.174
S6	-1.088	1.347	0.000	100.000	41.067	6.675
S7	-0.576	0.914	0.000	100.000	67.129	6.646
S8	-0.086	0.831	0.000	100.000	69.058	9.331
S9	-0.050	0.776	0.000	100.000	61.094	6.024
S10	-0.095	1.364	0.000	100.000	68.531	6.527
S11	-0.259	1.859	0.000	100.000	47.229	9.213
S12	-0.255	2.123	0.000	100.000	42.057	9.714
S13	-0.266	2.094	0.000	100.000	42.370	9.269
S14	-0.425	2.135	0.000	100.000	39.059	7.601
S15	-0.140	2.202	0.000	100.000	42.706	5.980
S16	-0.207	2.355	0.000	100.000	39.035	8.081

Internal Reference Calibration, performed Wed Dec 31 19:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	0.757	1.000	0.000

Air Zero Calibration, performed Wed Dec 31 19:00:00 1969:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000
S9	0.000	0.000	0.000
S10	0.000	0.000	0.000
S11	0.000	0.000	0.000
S12	0.000	0.000	0.000
S13	0.000	0.000	0.000
S14	0.000	0.000	0.000

Temperature Calibration Report

Serial Number: Tek16_EX_03_9_625
 Tool Model: Tek16_Ex_Temp
 Performed: Wed Jun 20 04:34:48 2018

	Reference	Reading
Low Reference:	0.00 degF	0.00 usec
High Reference:	1.00 degF	1.00 usec
Gain:	0.33	
Offset:	0.00	
Delta Spacing	2	



Company ANTERO RESOURCES
 Well NUGGETS UNIT 2H
 Field N/A
 County TYLER
 State W.V.

Country