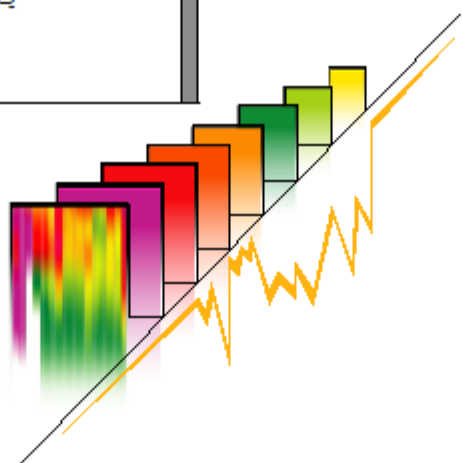


SPECTRA
SCAN

Company	Laredo Petroleum, Inc.	Logs Processed	SpectraScan
Well	Sugg A 171 #5SM	Date Logged	Dec/29/2015
Field	Spraberry (Trend Area)	Type Fluid In Hole	Fresh Water
County	Reagan	Location	Midland
State	Texas	Computer Processed Product	
Location	API #42-383-39423		
Elevations	KB 2,696 DF 2,695' GL 2,670'		
Date Processed	Jan/05/2016		
Job Number	616023		
Interval Processed	7,710' - 18,330		
Processed By	M. Wells		
Processed At	Houston		

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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:

Recorded by: G. Prieto
Proposal ID #49697

Offset wells:

- Sugg A 171 #4SM - Traced with Antimony
- Sugg A 171 #6SM - Traced with Scandium
- Sugg A 171 #6SU - Traced with Iridium

Well Information	
Production String: 5.5 [in] 20 [lb/ft] Top: 0 [ft] Bottom: 18505 [ft]	
Tubing: 2 7/8 [in] 6.5 [lb/ft] Top: 0 [ft] Bottom: 6889 [ft]	
Tubing: 2 3/8 [in] 4.6 [lb/ft] Top: 6889 [ft] Bottom: 18430 [ft]	
Tracer Information	
Stage 1 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 18275.5-18277; 18330-18331.5; 18384.5-18386; 18439-18440.5; 18493.5-18495 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 2 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 18003-18005.5; 18093.5-18096; 18184-18186.5 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 3 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 17730.5-17733; 17821-17823.5; 17911.5-17914 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 4 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 17458-17460.5; 17548.5-17551; 17639-17641.5 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 5 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 17185.5-17188; 17276-17278.5; 17366.5-17369 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 6 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 16913-16915.5; 17003.5-17006; 17094-17096.5 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 7 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 16640.5-16643; 16731-16733.5; 16821.5-16824 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	
Stage 8 (Not Traced)	
Formation: Middle Wolfcamp	
Perforations: 16368-16370.5; 16458.5-16461; 16549-16551.5 ft	
Treatment Date: N/A	
Service Company:	
Treatment: N/A	

Service Company:
Treatment: N/A

Stage 9 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 16095.5-16098; 16186-16188.5; 16276.5-16279 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 10 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 15823-15825.5; 15913.5-15916; 16004-16006.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 11 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 15550.5-15553; 15641-15643.5; 15731.5-15734 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 12 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 15278-15280.5; 15368.5-15371; 15459-15461.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 13 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 15005.5-15008; 15096-15098.5; 15186.5-15189 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 14 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 14733-14735.5; 14823.5-14826; 14914-14916.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 15 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 14460.5-14463; 14551-14553.5; 14641.5-14644 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 16 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 14188-14190.5; 14278.5-14281; 14369-14371.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 17 (Not Traced)

Stage 17 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 13915.5-13918; 14006-14008.5; 14096.5-14099 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 18 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 13643-13645.5; 13733.5-13736; 13824-13826.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 19 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 13370.5-13373; 13461-13463.5; 13551.5-13554 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 20 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 13098-13100.5; 13188.5-13191; 13279-13281.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 21 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 12825.5-12828; 12916-12918.5; 13006.5-13009 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 22 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 12553-12555.5; 12643.5-12646; 12734-12736.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 23 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 12280.5-12283; 12371-12373.5; 12461.5-12464 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 24 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 12008-12010.5; 12098.5-12101; 12189-12191.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 25 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 11735.5-11738; 11826-11828.5; 11916.5-11919 ft
Treatment Date: N/A

Service Company:
Treatment: N/A

Stage 26 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 11463-11465.5; 11553.5-11556; 11644-11646.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 27 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 11190.5-11193; 11281-11283.5; 11371.5-11374 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 28 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 10918-10920.5; 11008.5-11011; 11099-11101.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 29 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 10645.5-10648; 10736-10738.5; 10826.5-10829 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 30 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 10373-10375.5; 10463.5-10466; 10554-10556.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 31 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 10100.5-10103; 10191-10193.5; 10281.5-10284 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 32 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 9828-9830.5; 9918.5-9921; 10009-10011.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 33 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 9555.5-9558; 9646-9648.5; 9736.5-9739 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 34 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 9283-9285.5; 9373.5-9376; 9464-9466.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 35 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 9010.5-9013; 9101-9103.5; 9191.5-9194 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

Stage 36 (Not Traced)

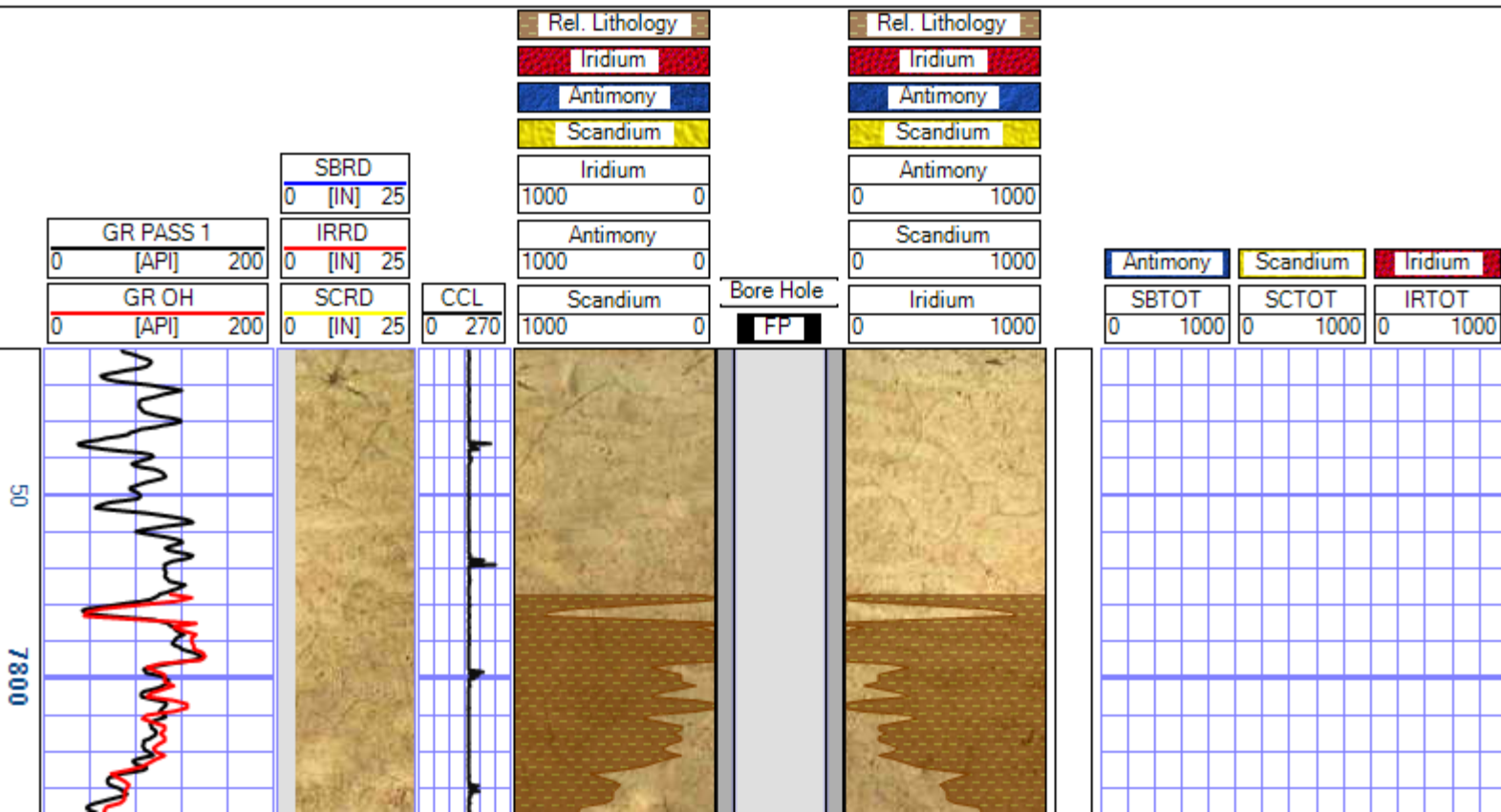
Formation: Middle Wolfcamp
Perforations: 8738-8740.5; 8828.5-8831; 8919-8921.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

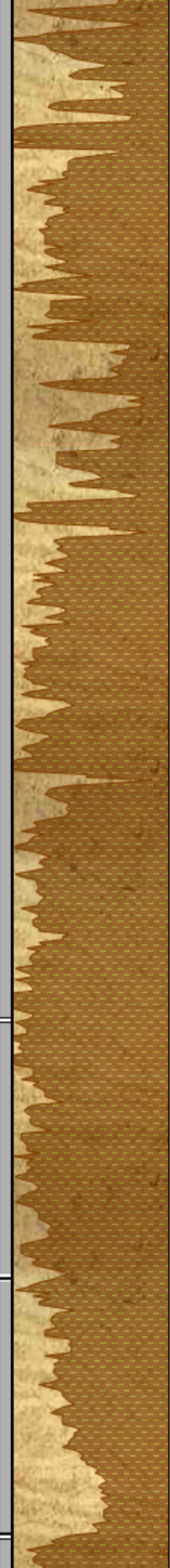
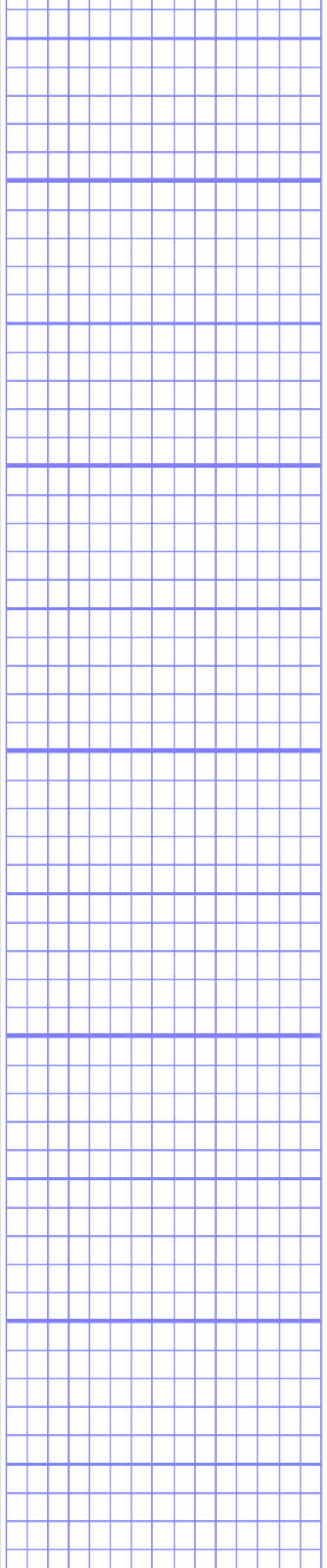
Stage 37 (Not Traced)

Formation: Middle Wolfcamp
Perforations: 8465.5-8468; 8556-8558.5; 8646.5-8649 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

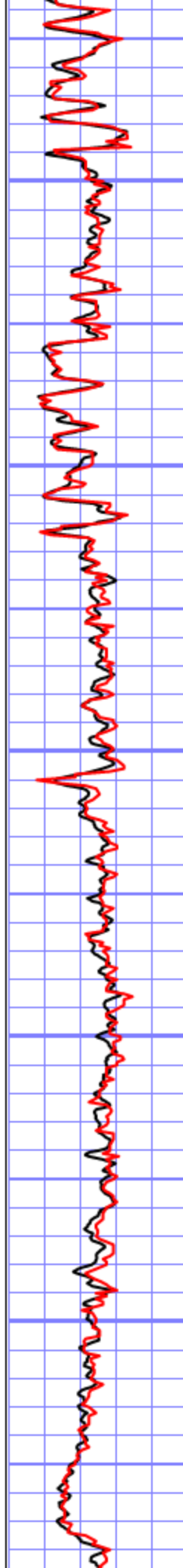
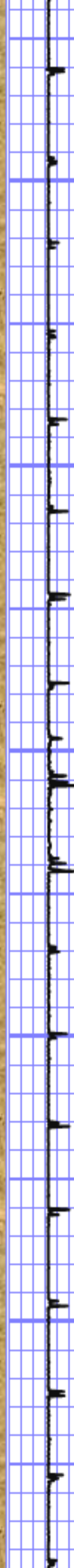
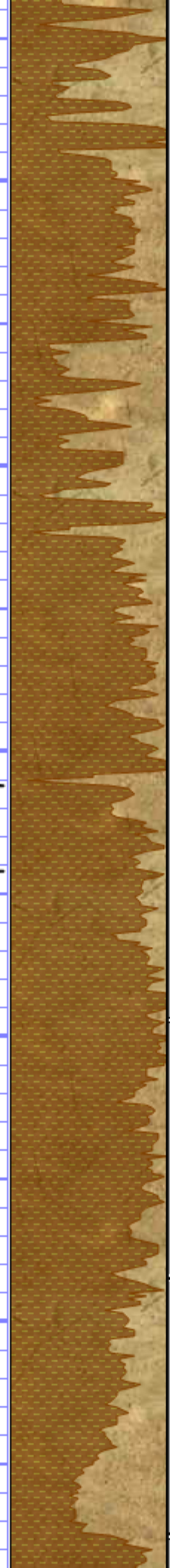
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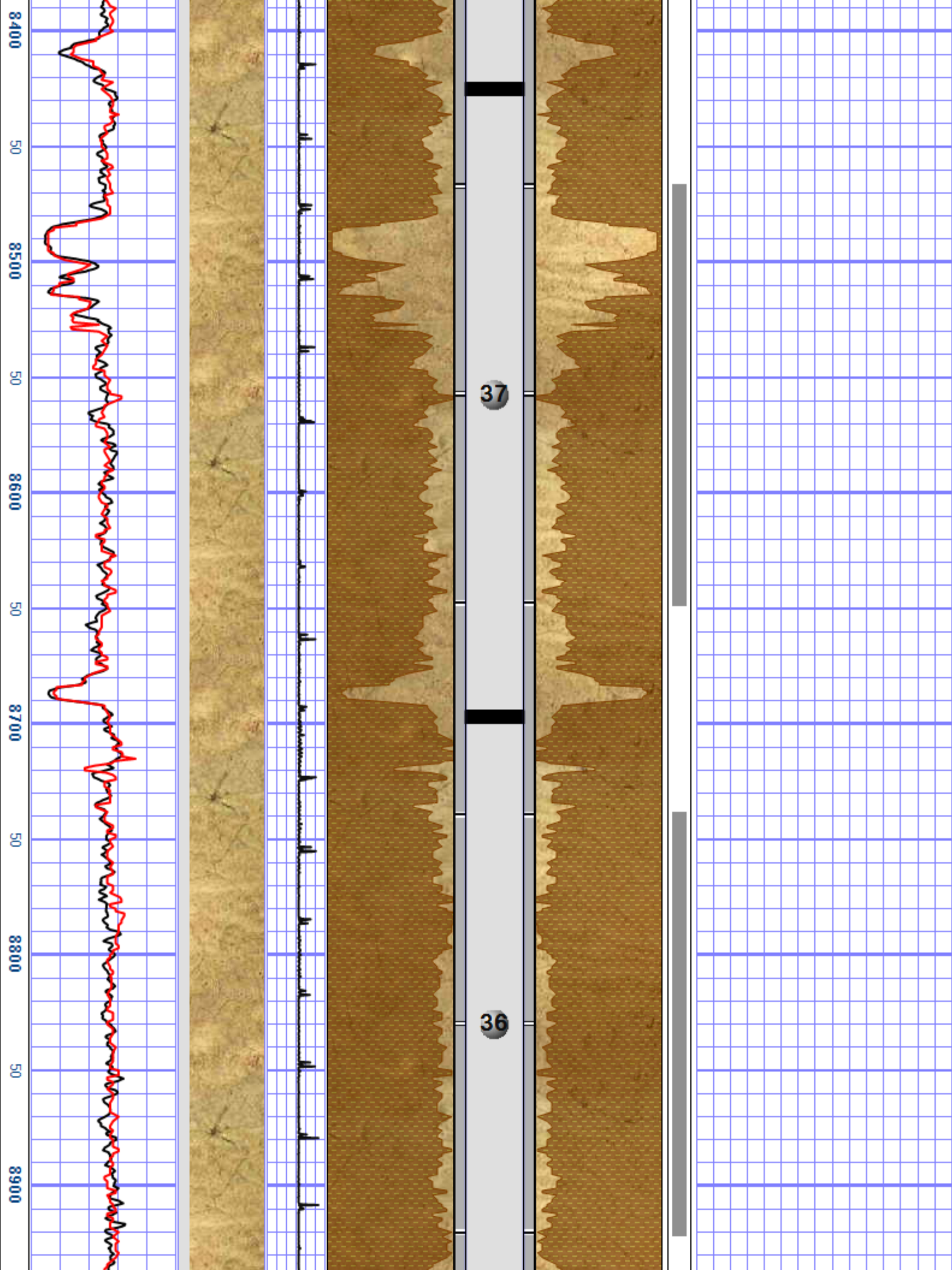
Formation: Middle Wolfcamp
Perforations: 8193-8195.5; 8283.5-8286; 8374-8376.5 ft
Treatment Date: N/A
Service Company:
Treatment: N/A

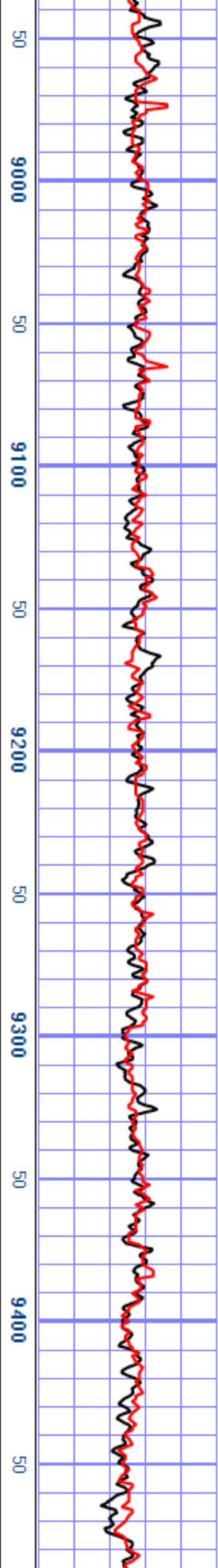
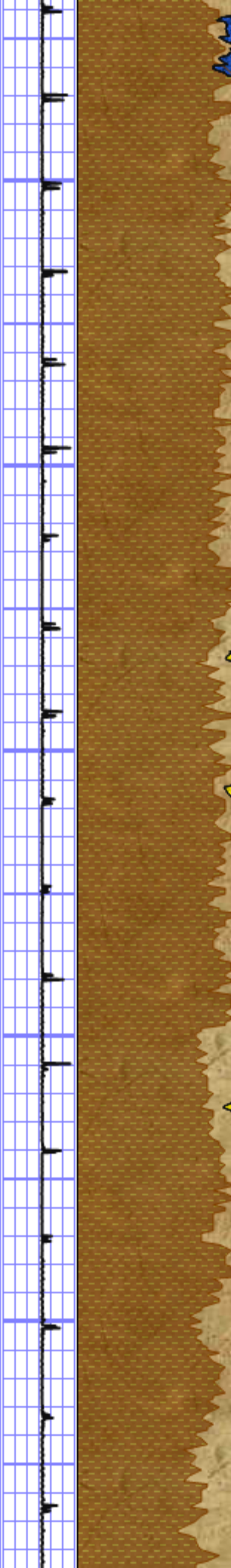
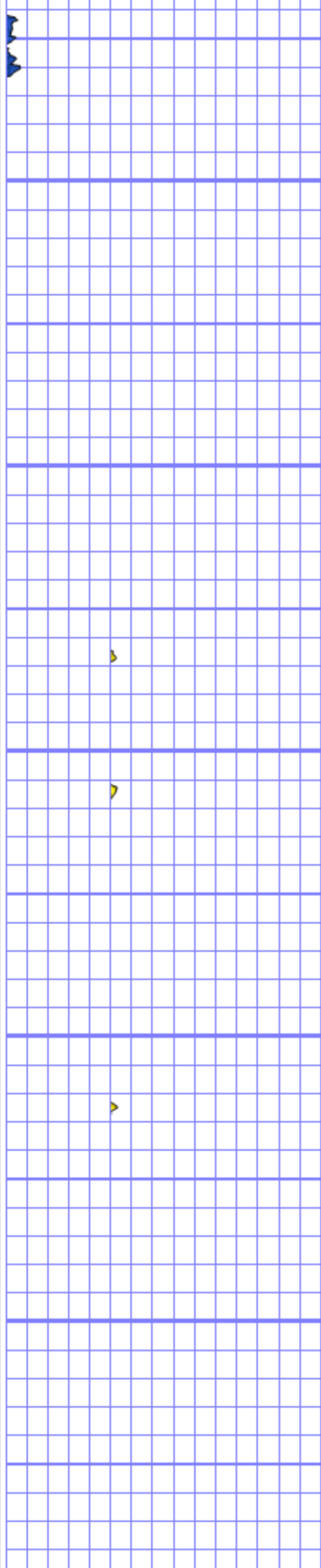




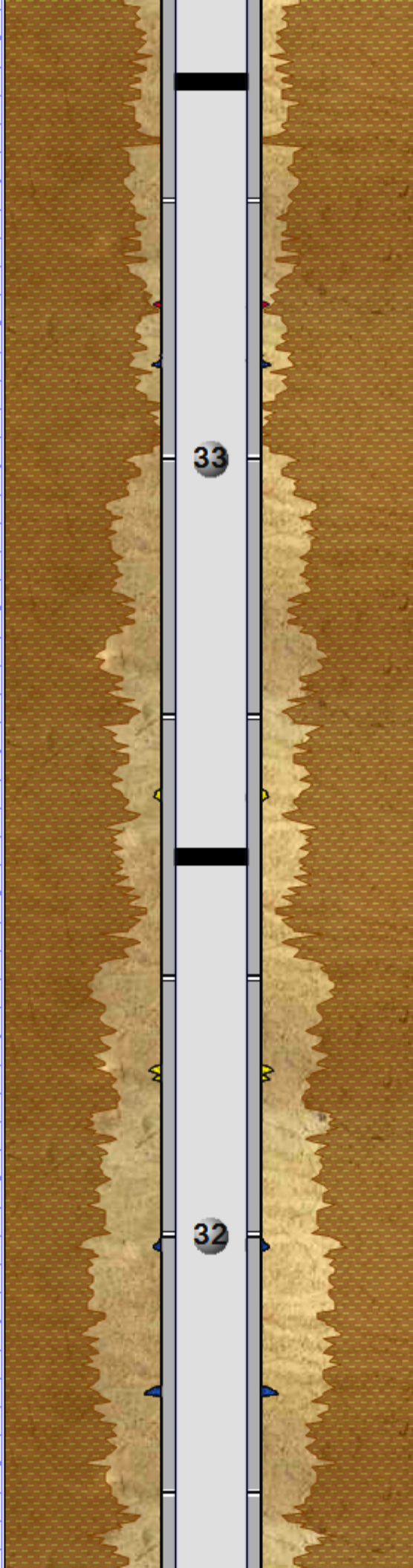
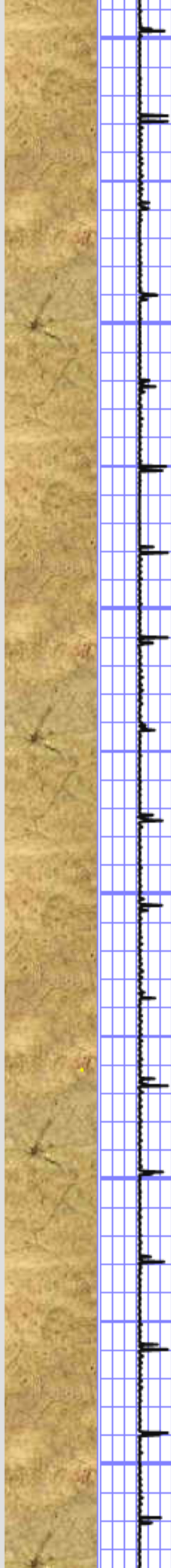
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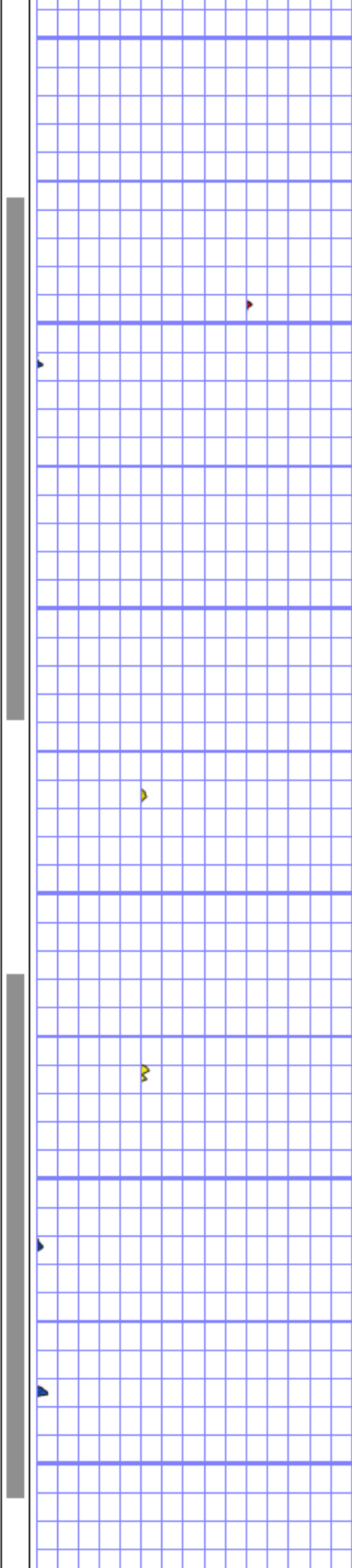


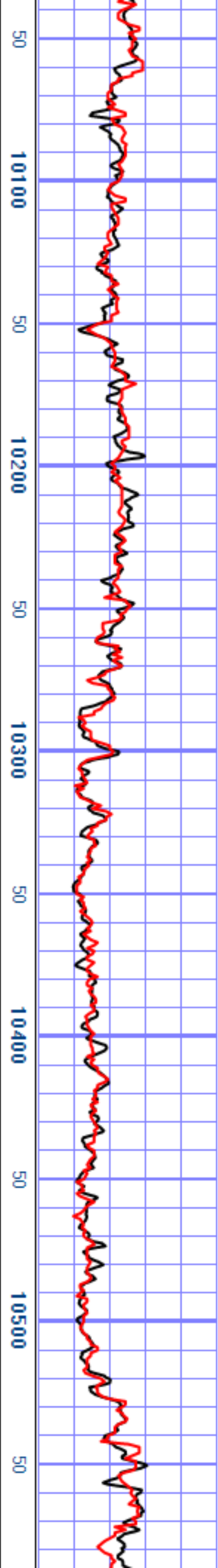
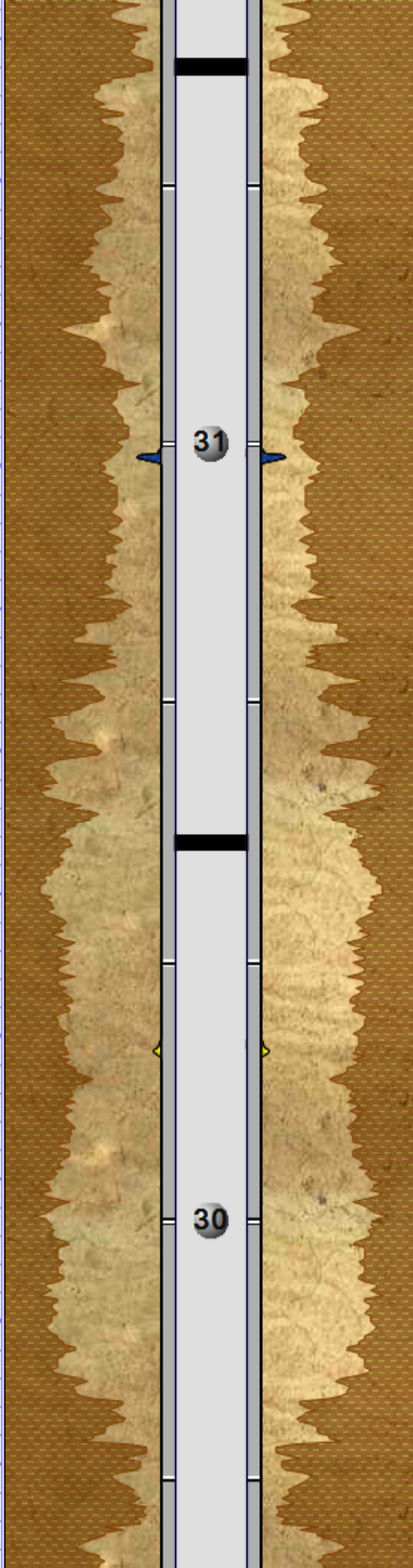
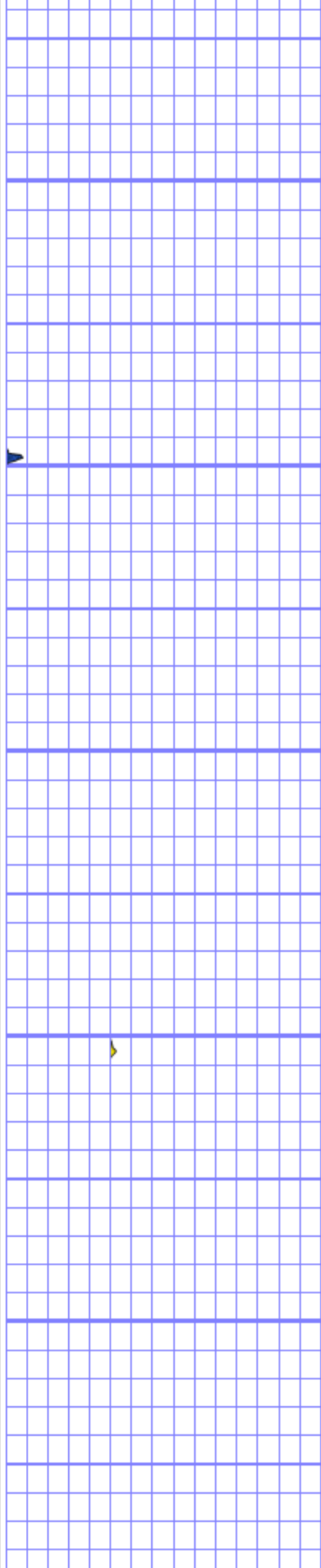
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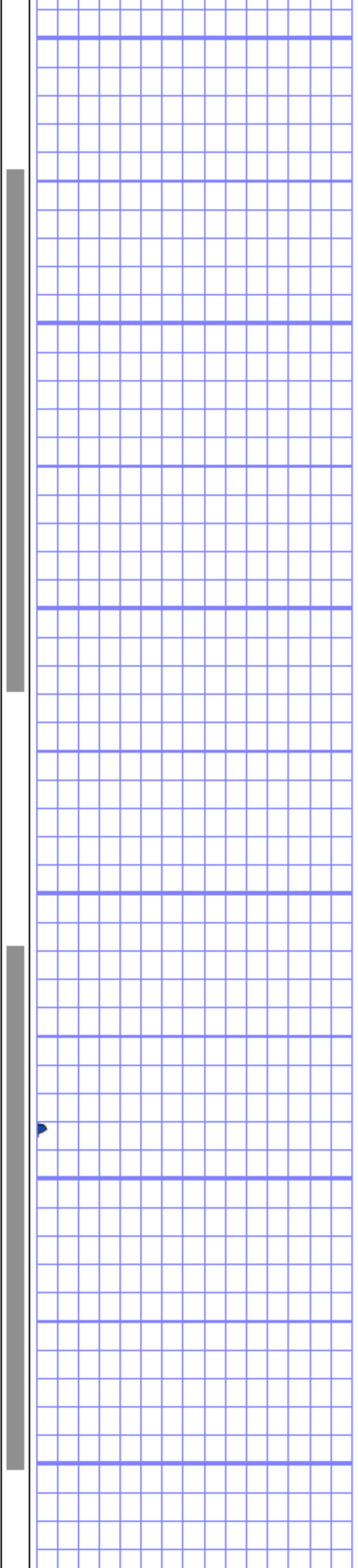
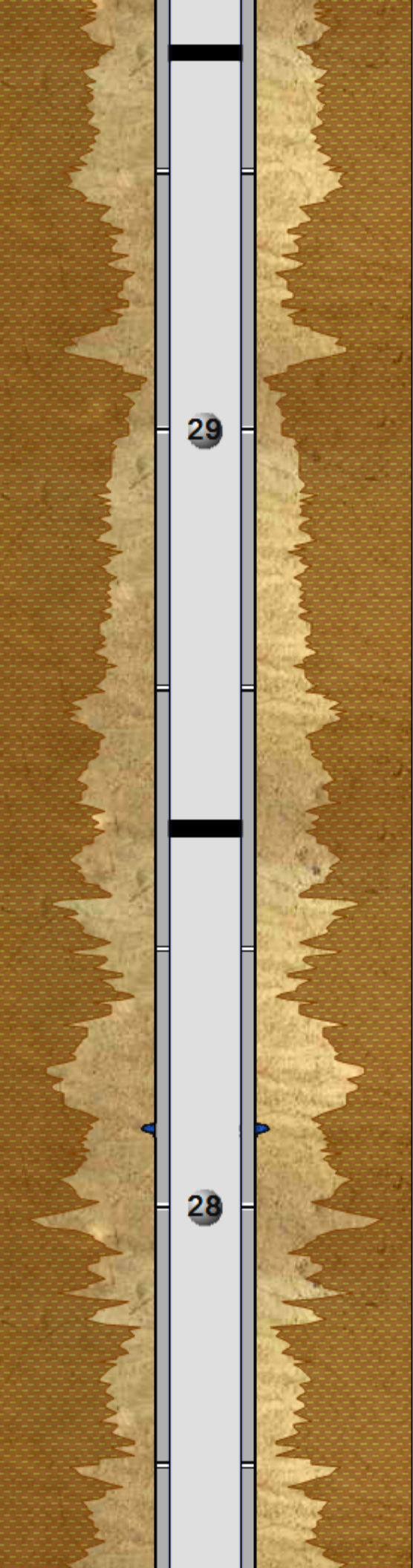
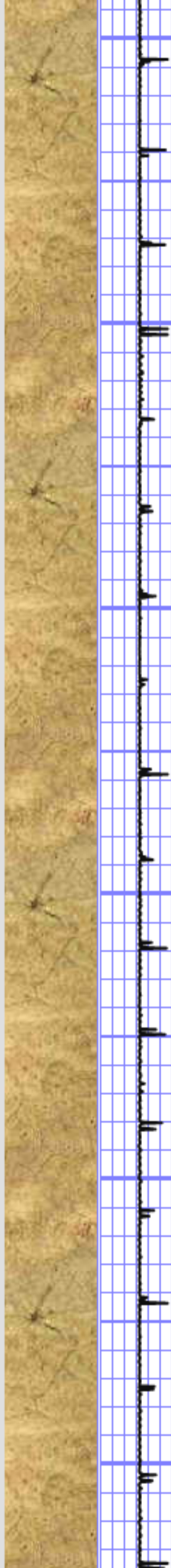
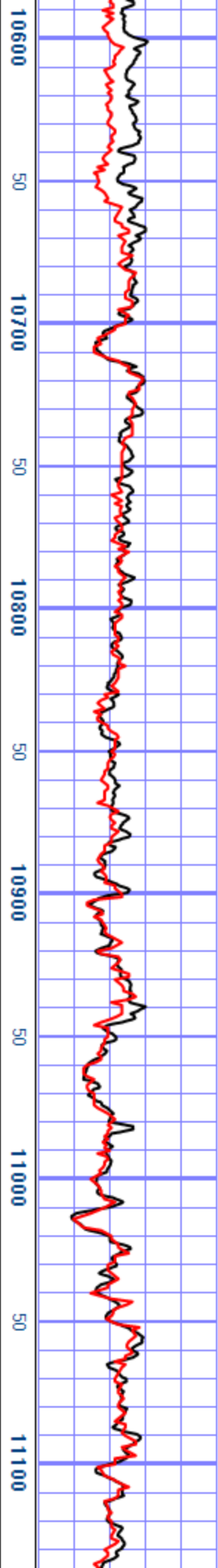


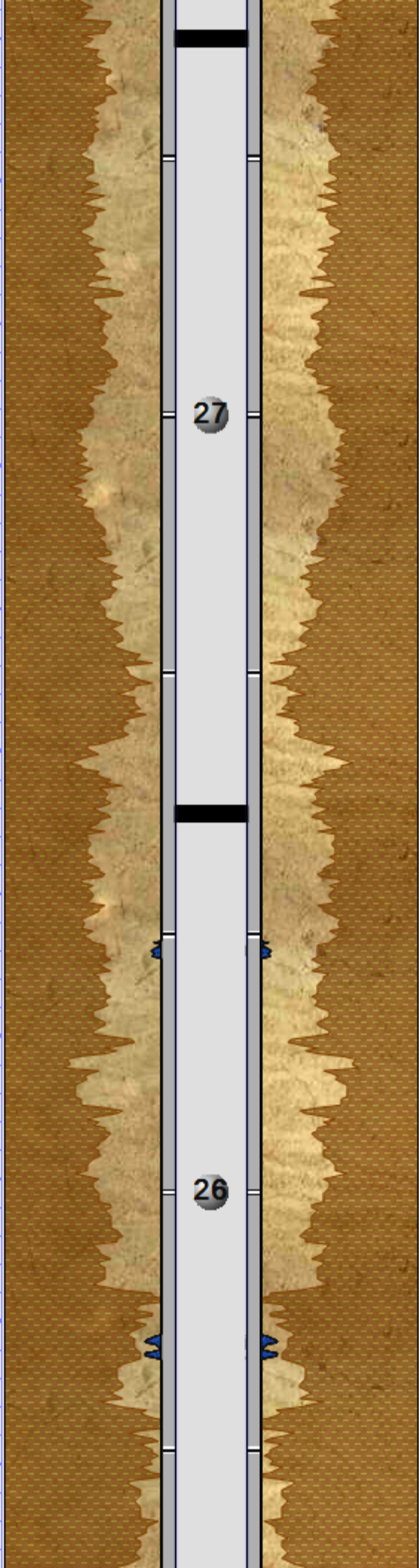
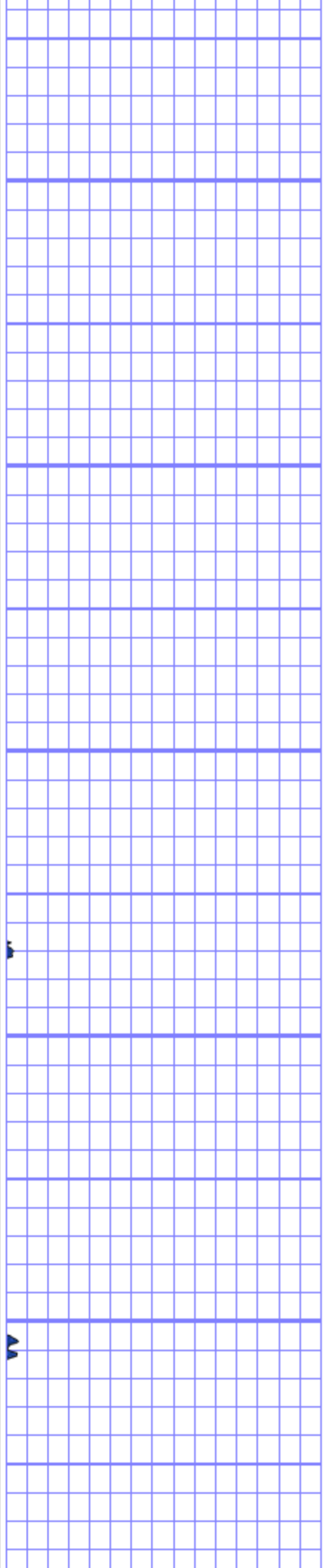
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32

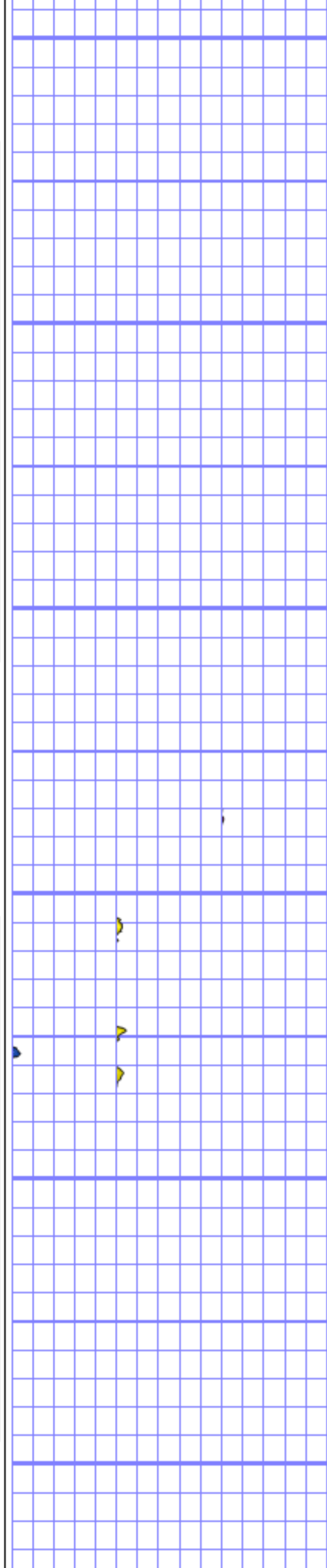
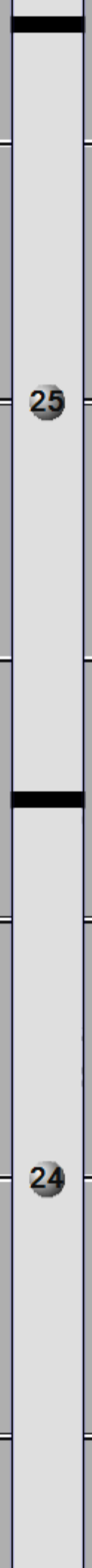
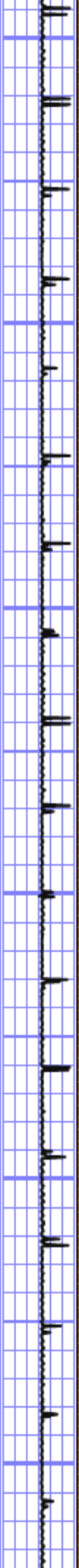
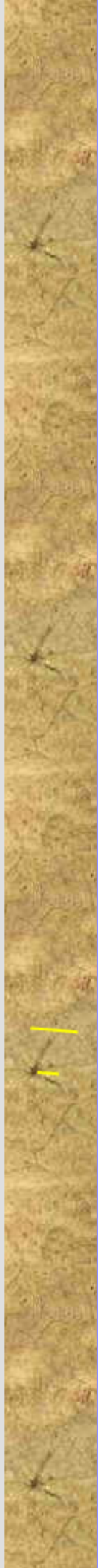


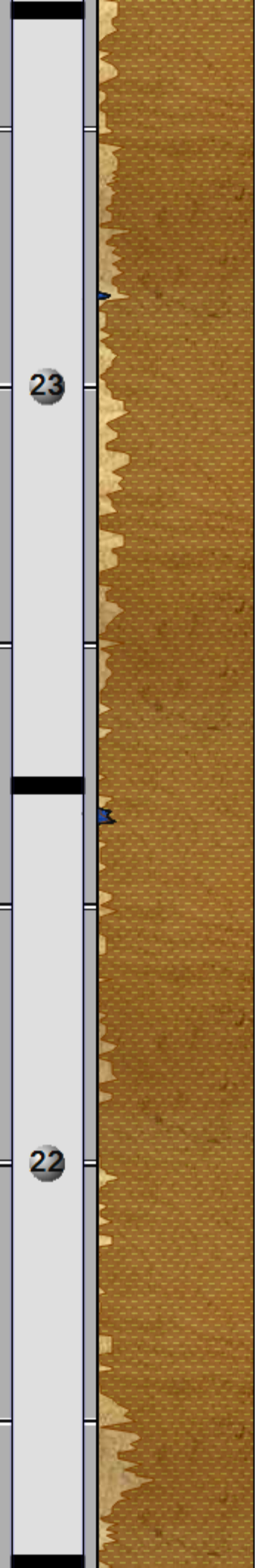
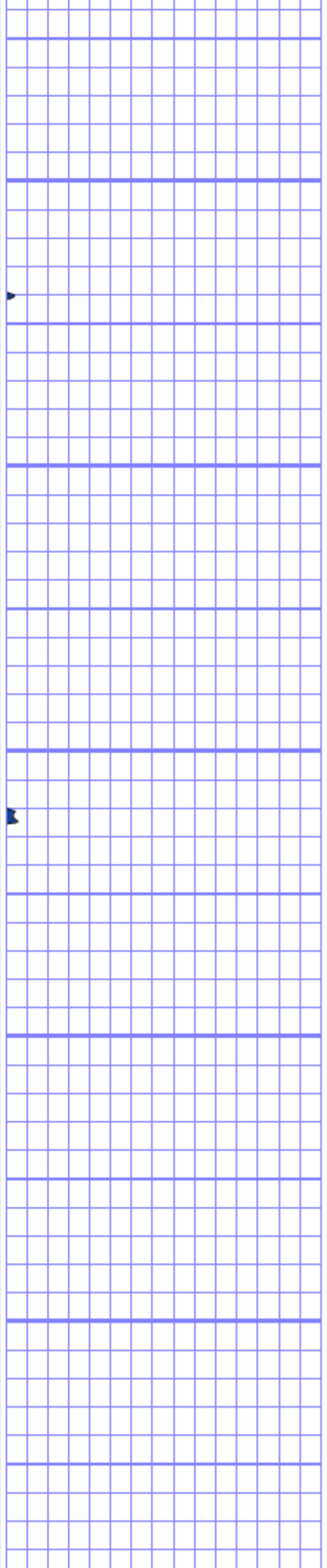






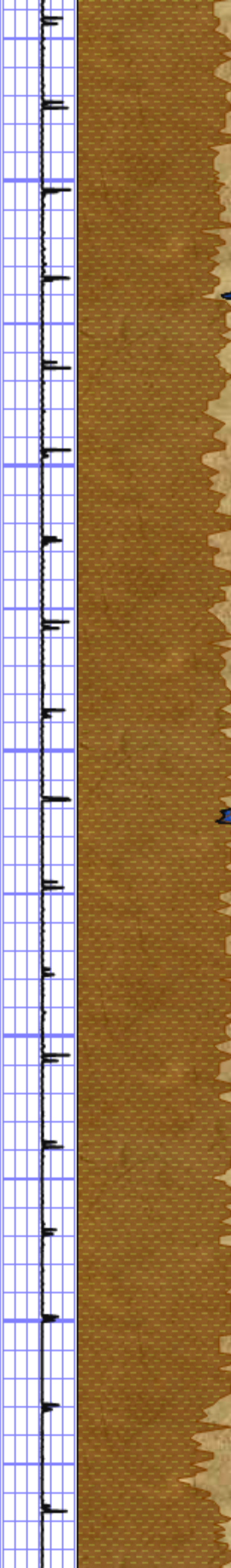
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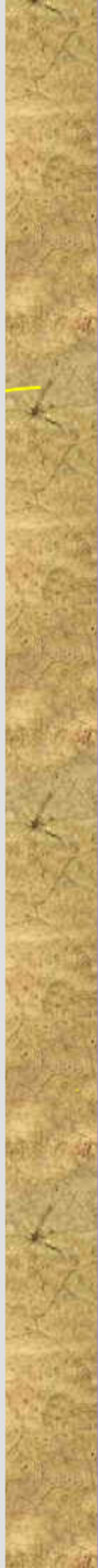
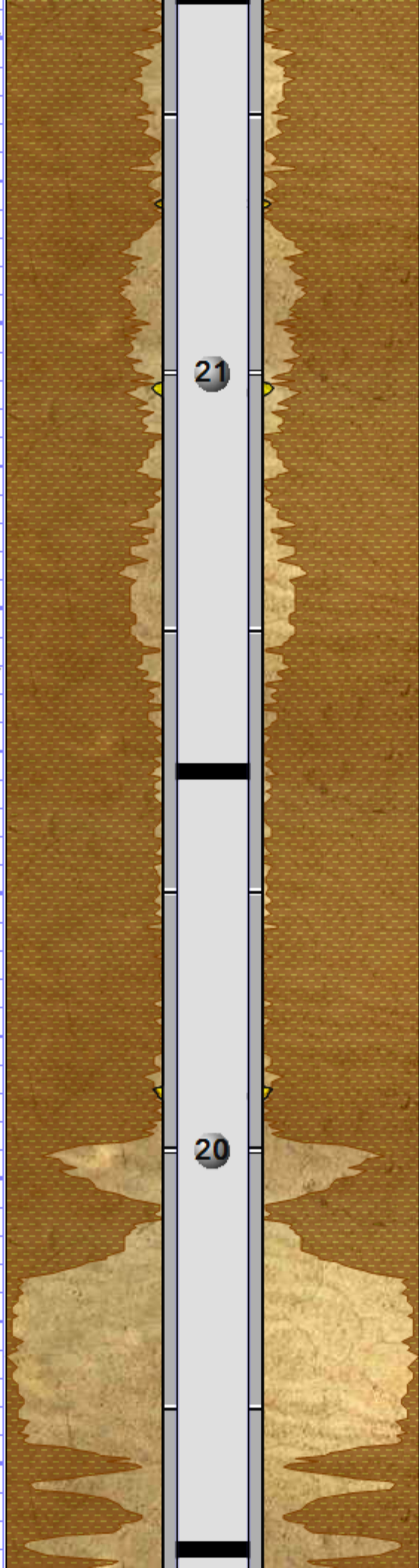
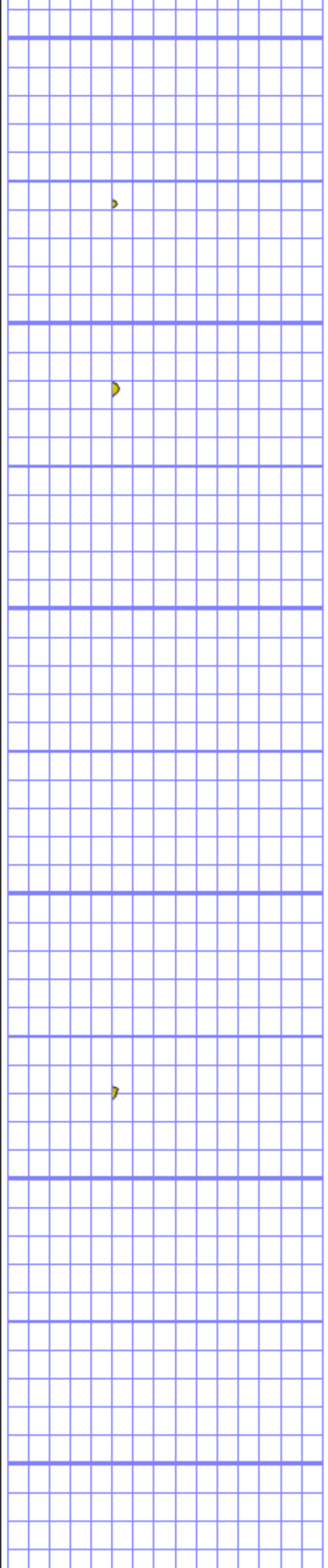


23

22

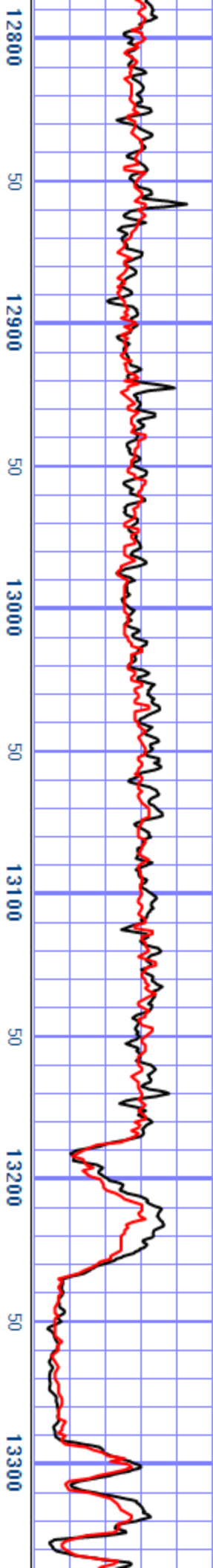


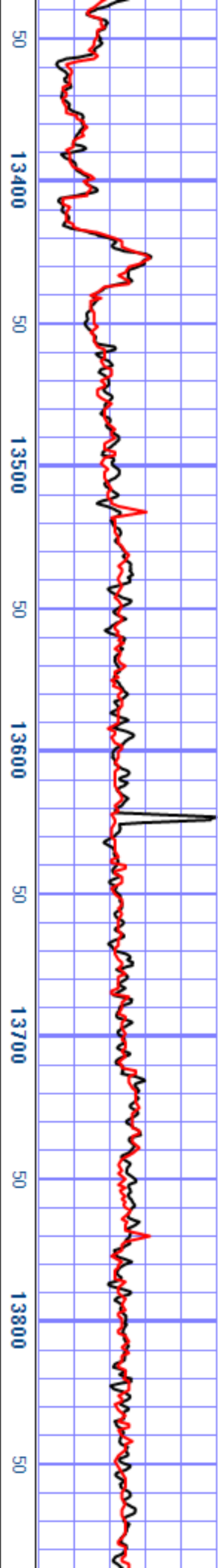
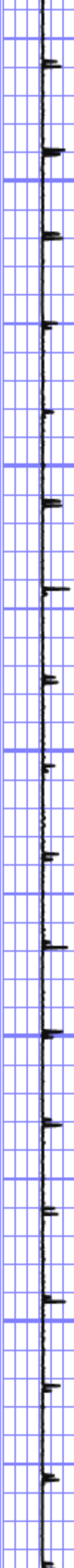
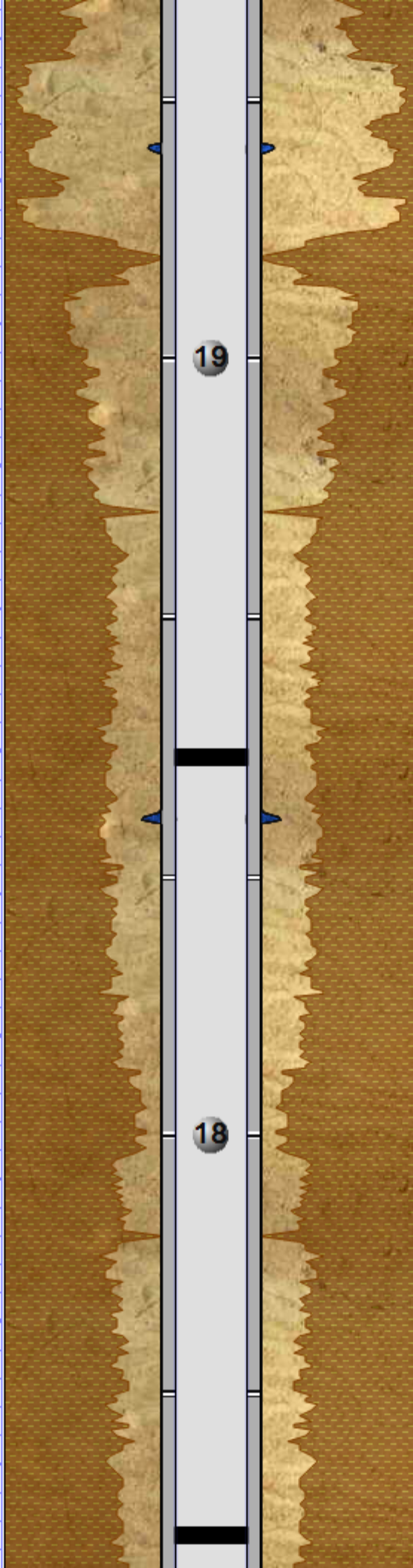
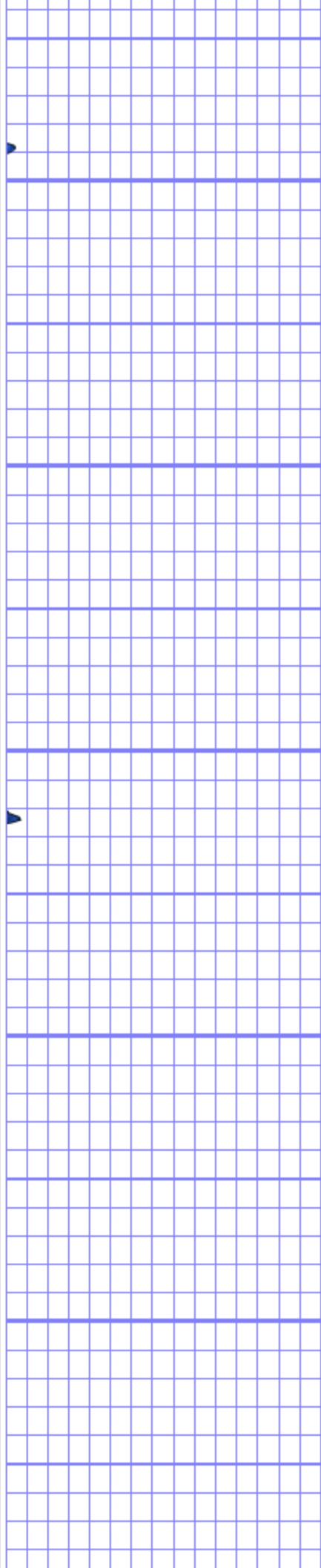
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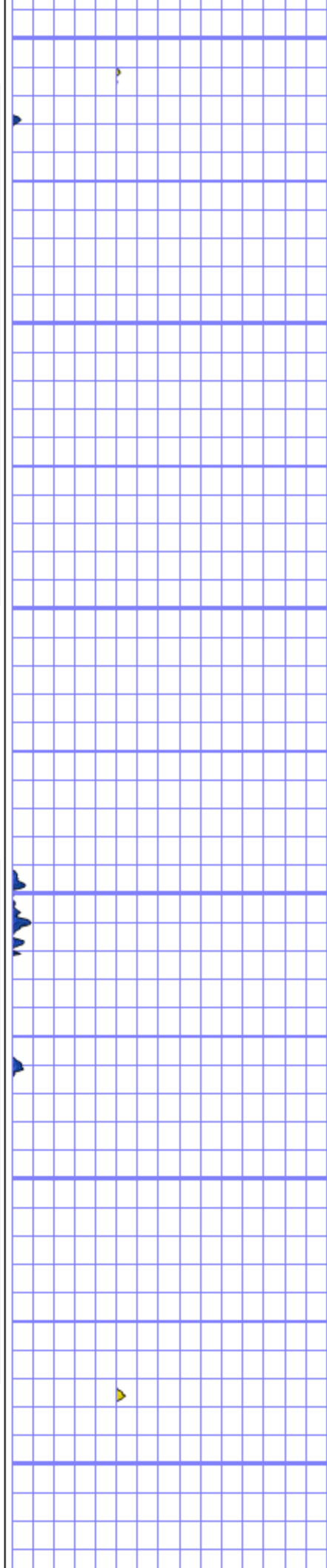
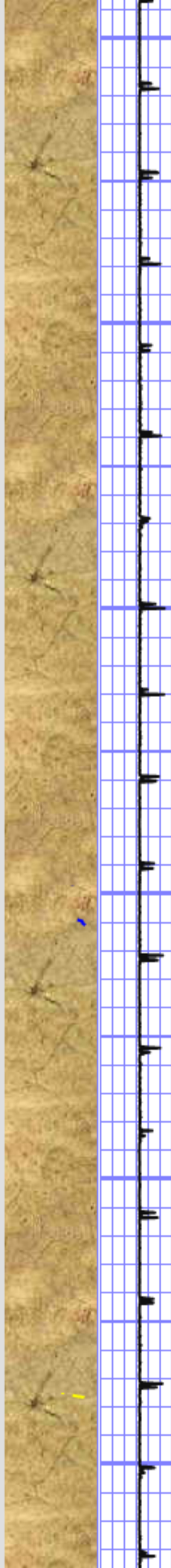
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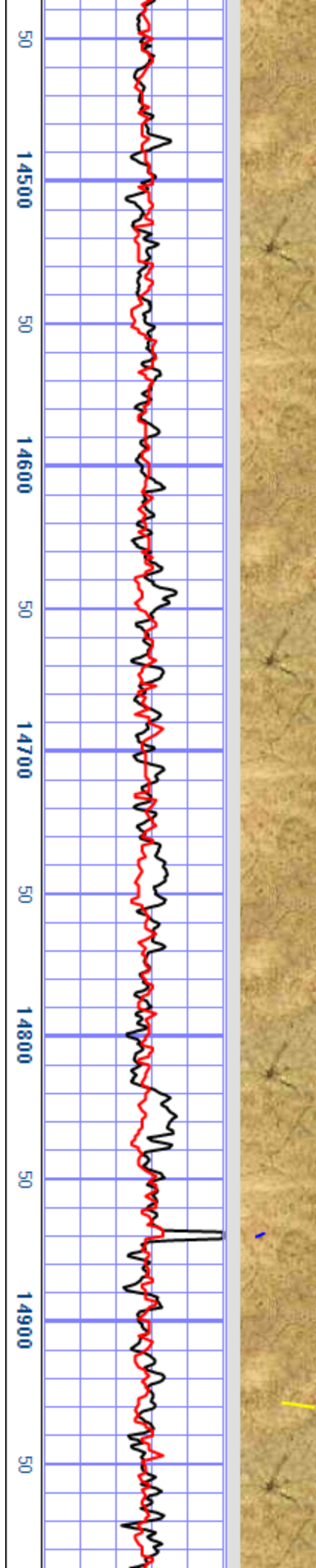
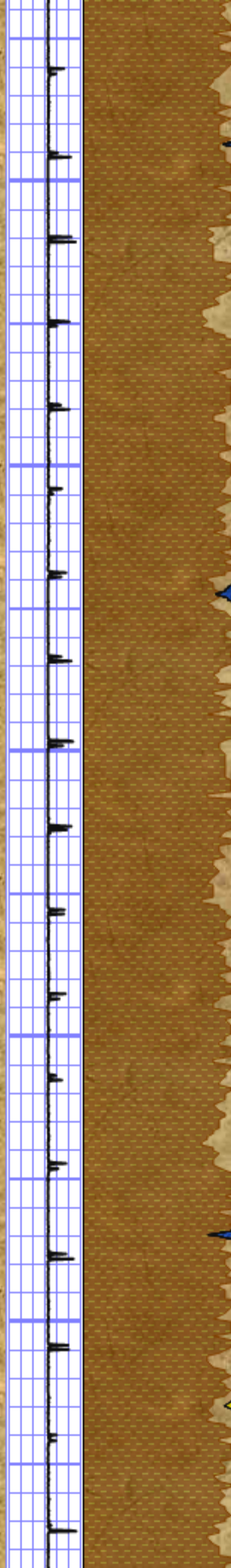
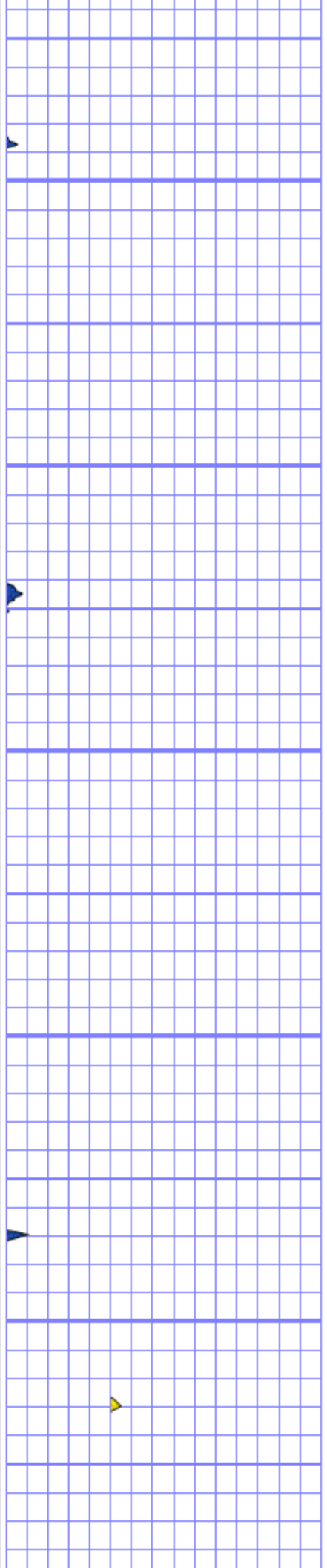
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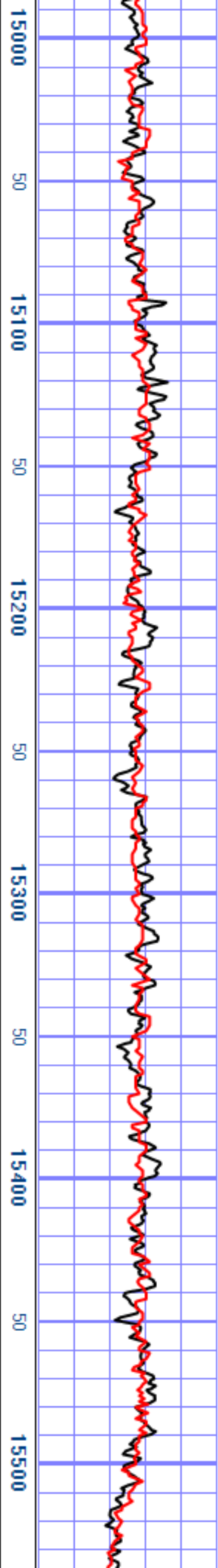
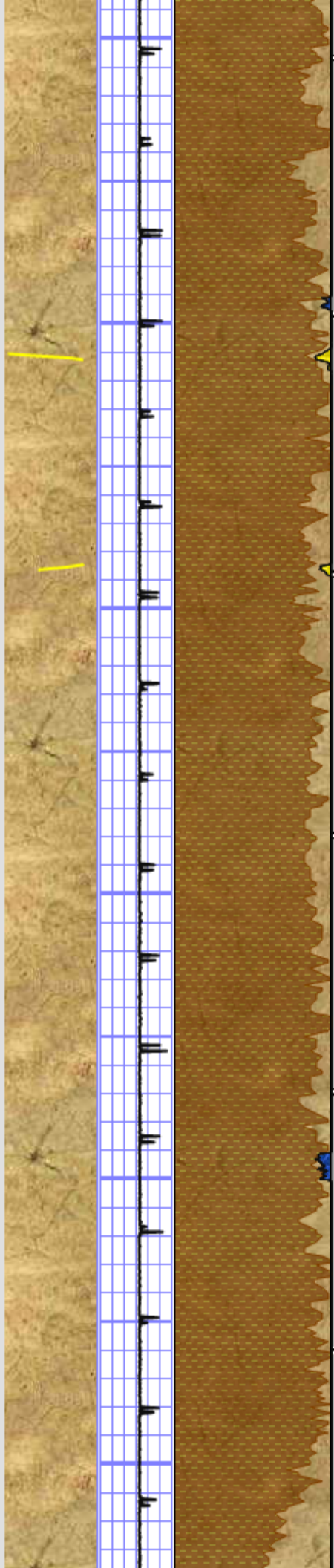
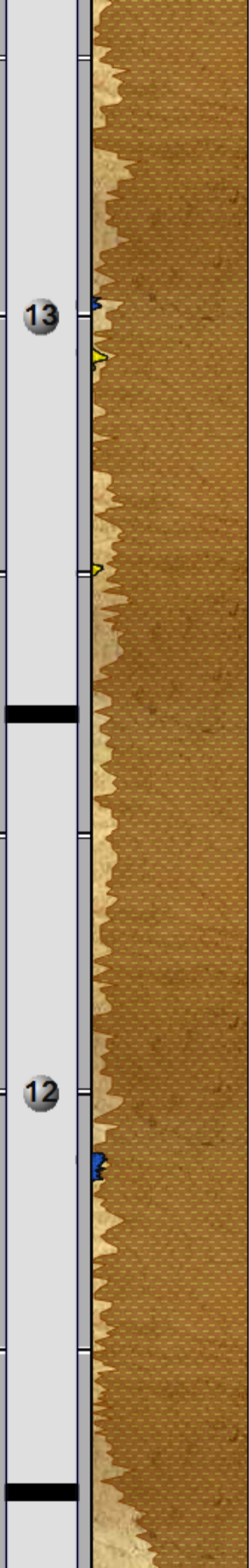
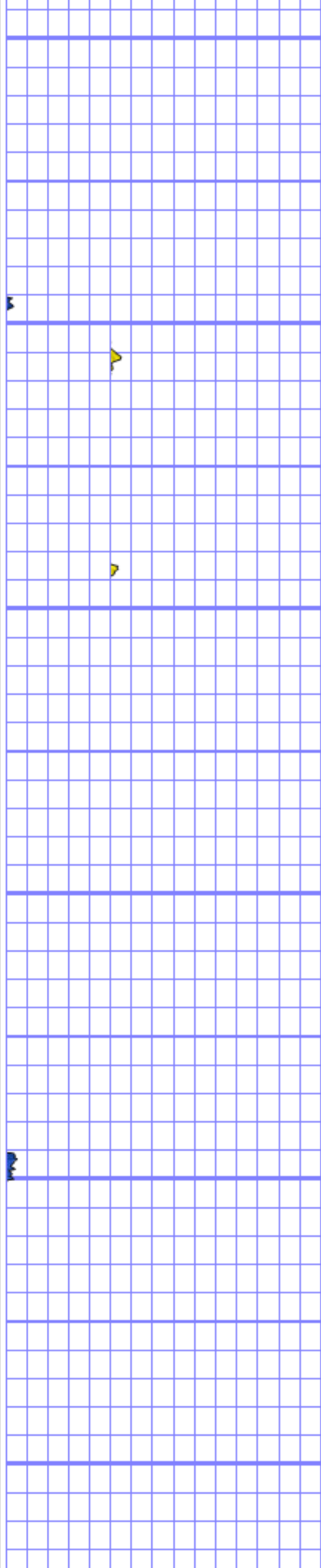


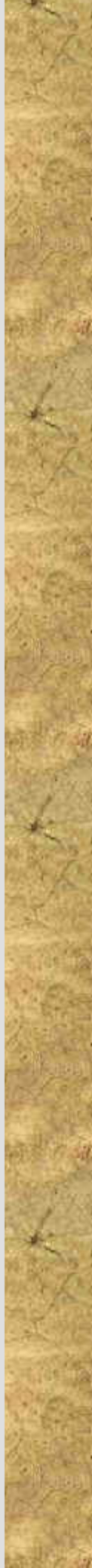
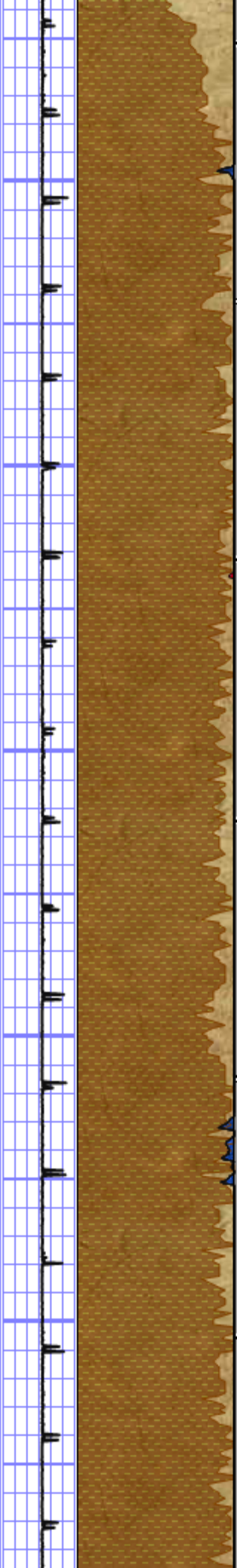
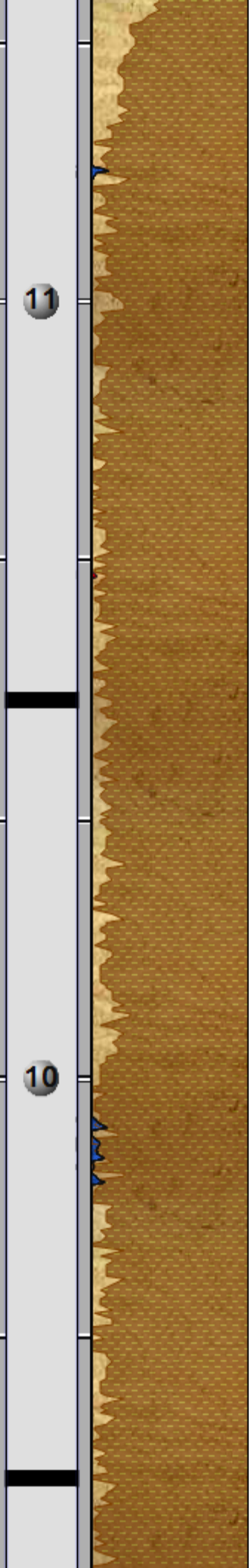
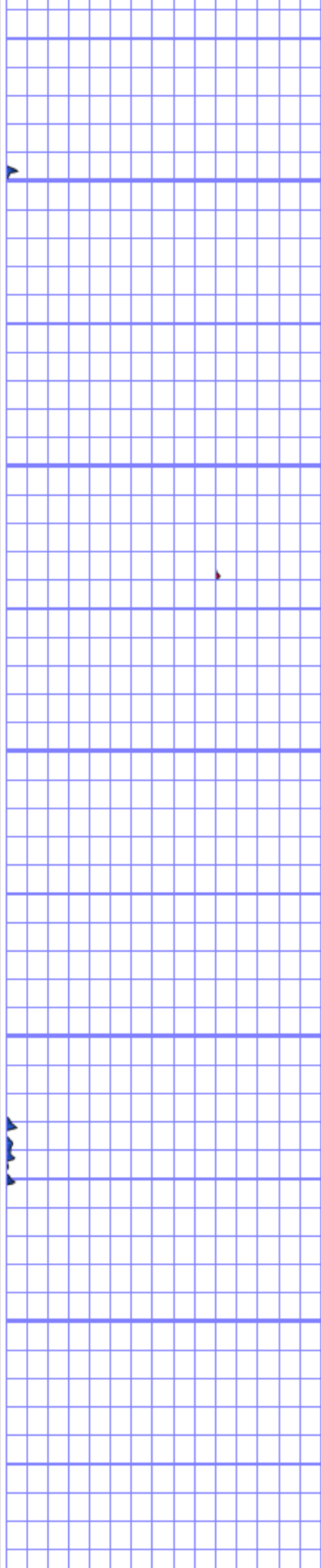


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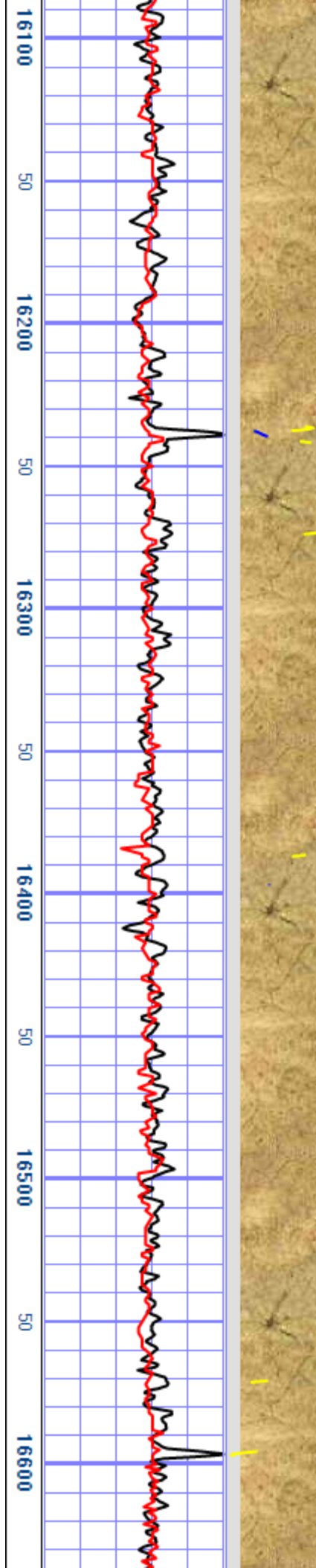
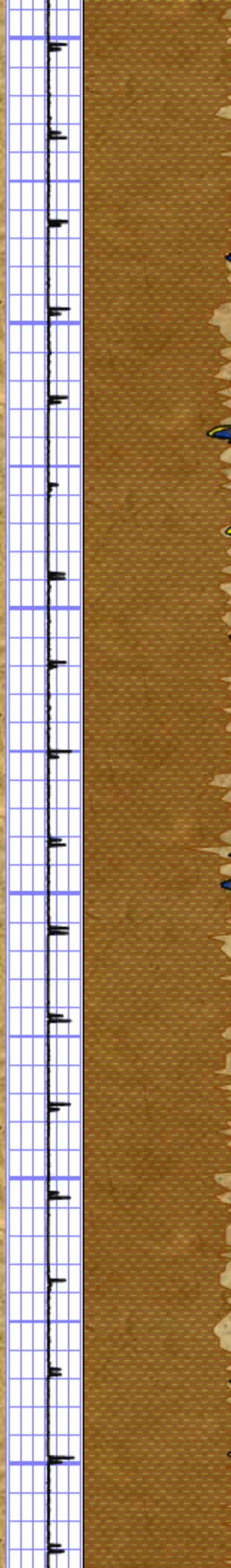
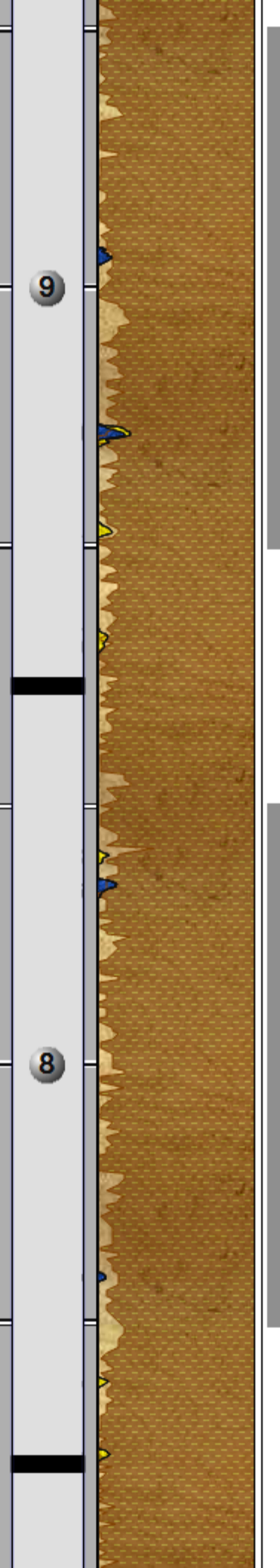
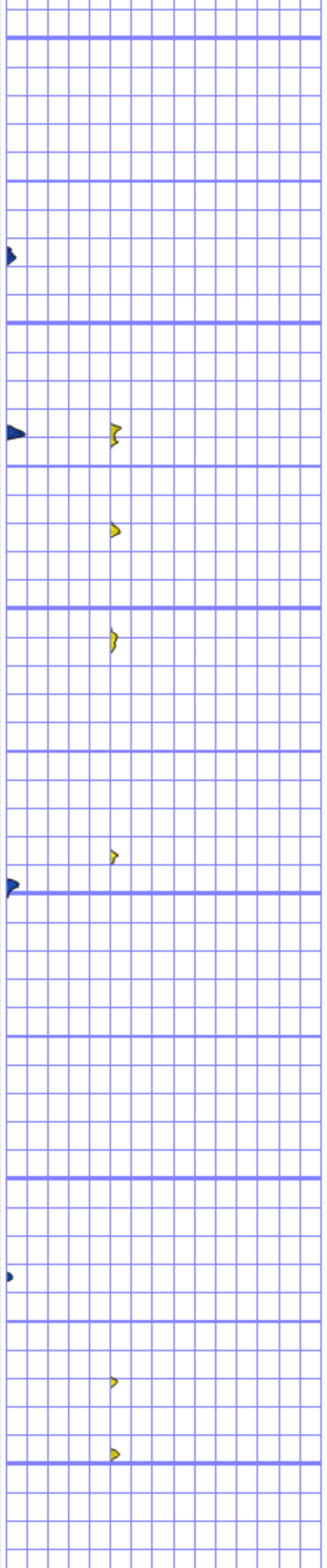


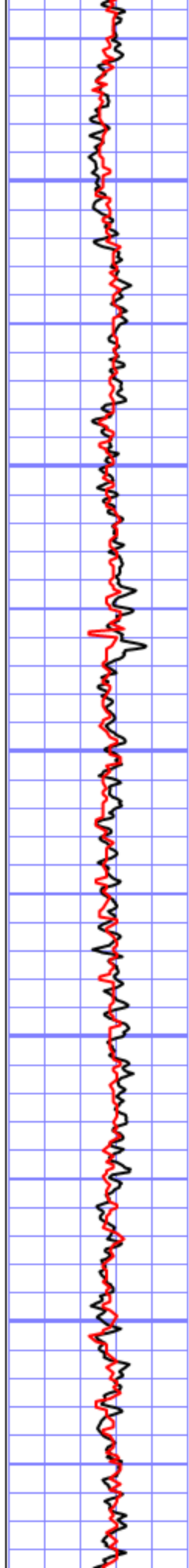
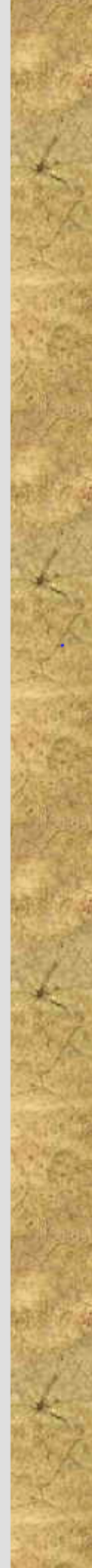
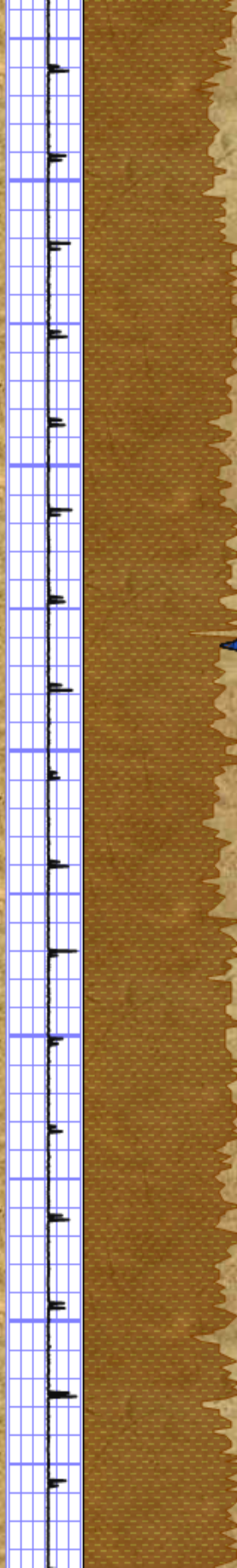
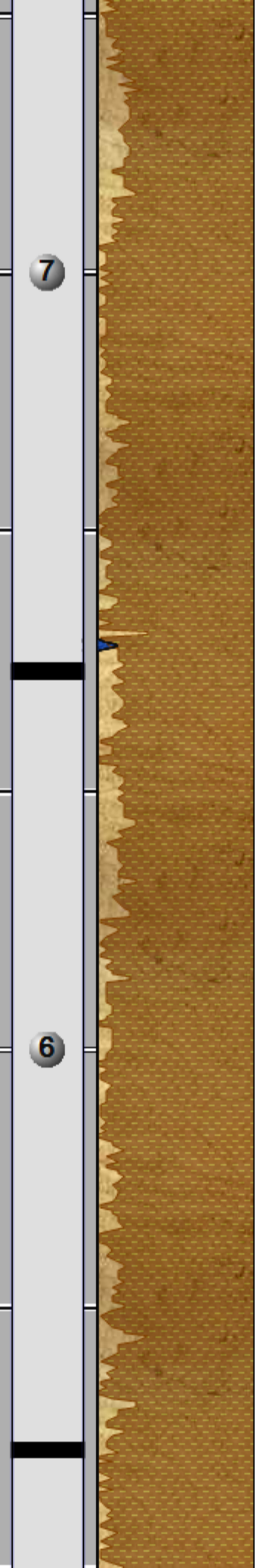
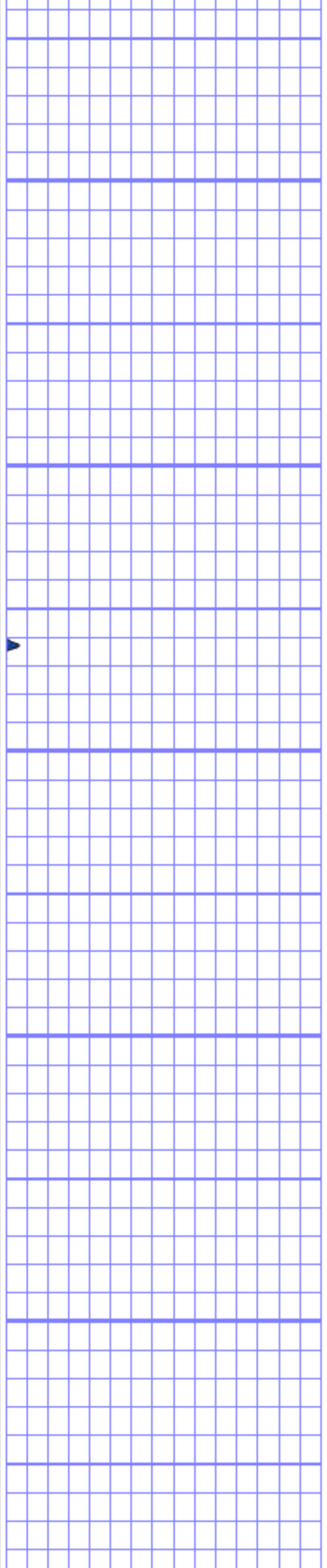


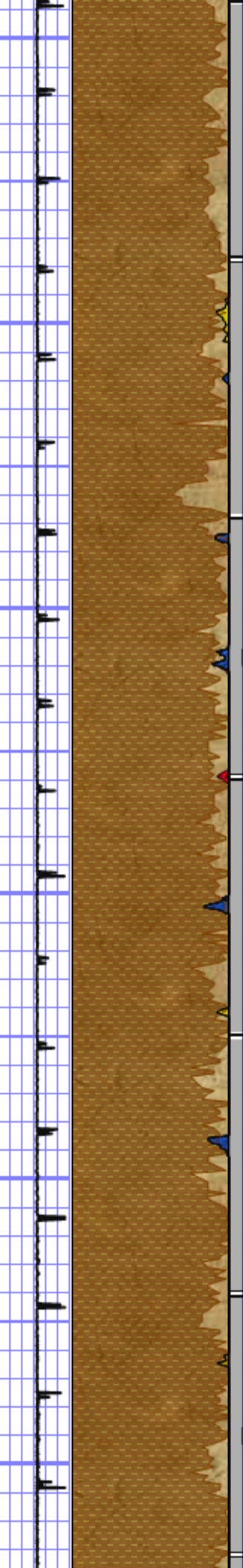
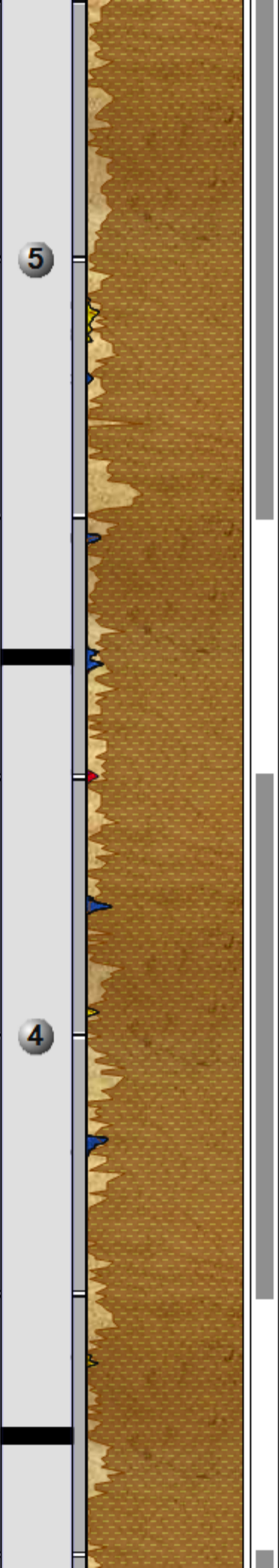
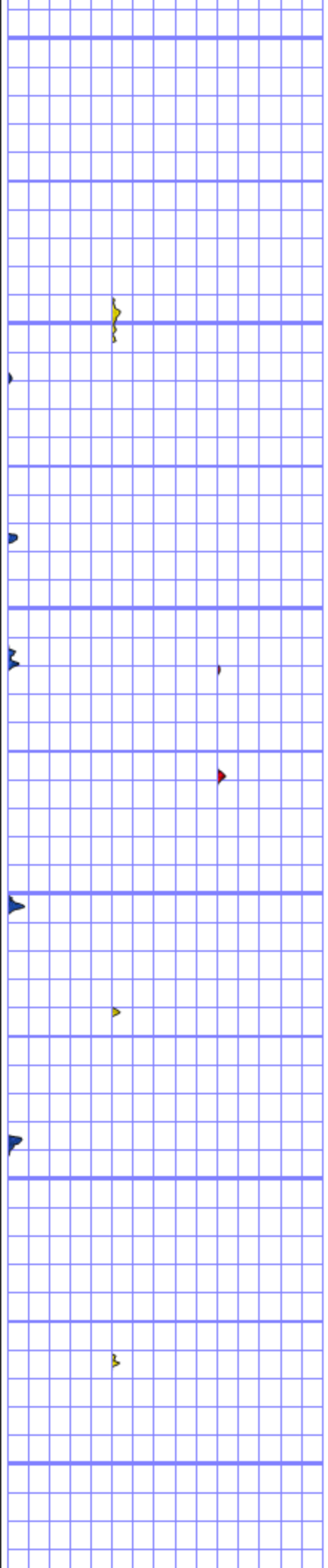




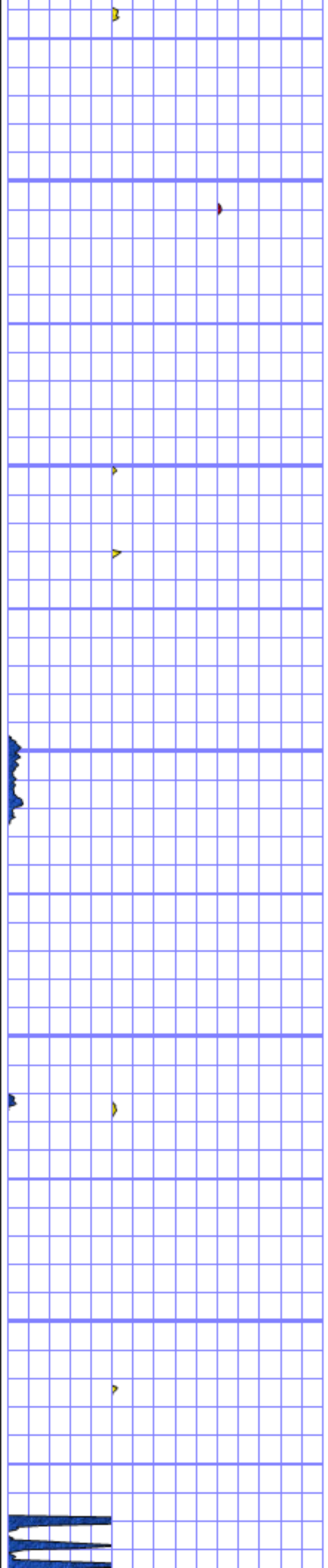
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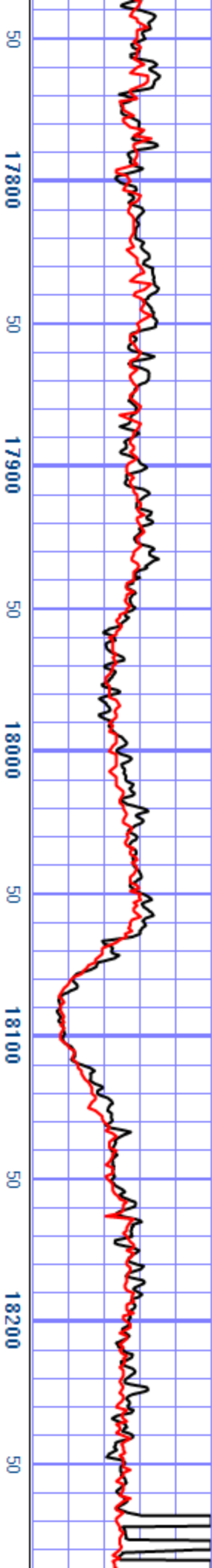
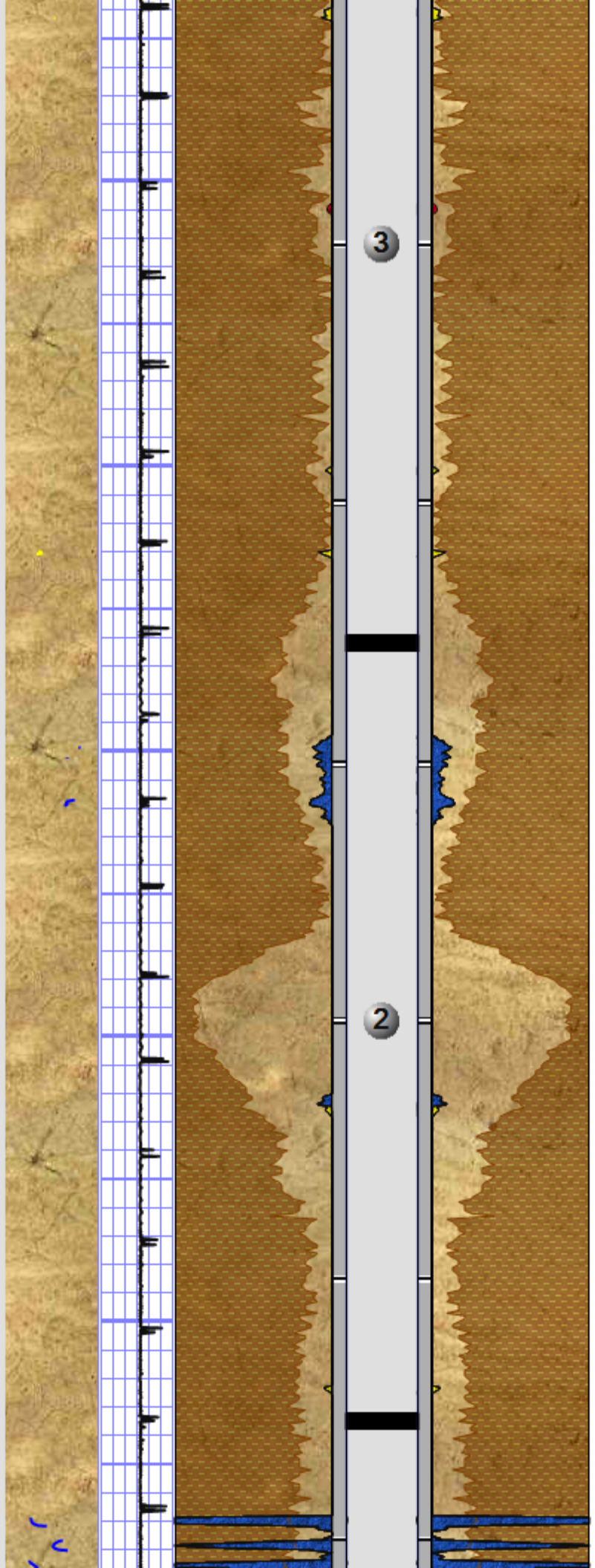


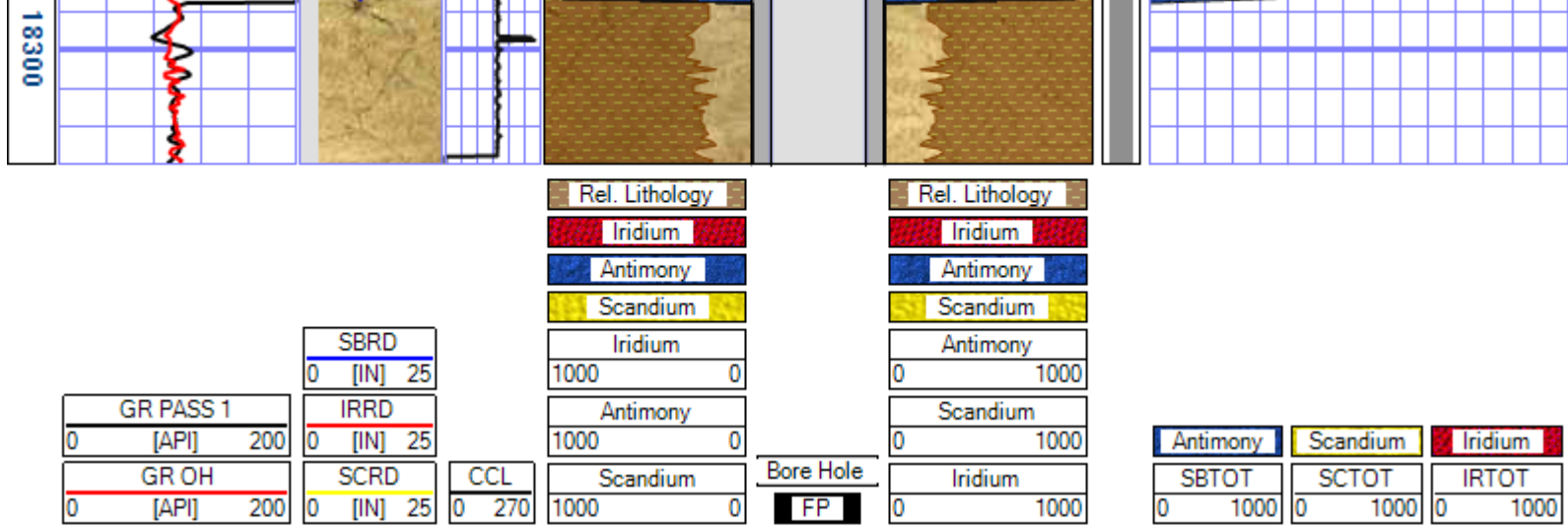
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3

2





Company: Laredo Petroleum, Inc.

Well: Sugg A 171 #5SM

Field: Spraberry (Trend Area)

County: Reagan

State: Texas