

WIRELINE WORKSHOP

GEOTECHNICAL ANALYSIS

WELL ID: **ZND05**

ROCK MASS RATING

COMPANY: NORTHAM PLATINUM LIMITED

COUNTRY: SOUTH AFRICA

PROVINCE: LIMPOPO

RUN ID: MULTIPLE MERGED

FIELD: NORTHAM PLATINUM MINE

CONTRACTOR: WIRELINE WORKSHOP CC

LOG DATE: MAY 2019

WWS JOB REF: JOB CODE 729



Drill depth 1:	9.00 metres
Drill depth 2:	1,585.00 metres
Drill depth 3:	
Casing size 1:	NXC
Casing size 2:	
Casing size 3:	

Logger depth 1:	1,585.00 metres
Logger depth 2:	
Logger depth 3:	
Casing depth 1:	9.00 metres
Casing depth 2:	
Max rec temp:	52 deg Celcius

OH bit size 1:	4 inch
OH bit size 2:	NQ 76.4mm
OH bit size 3:	
Ops duration:	4 days approx.
Logger:	AM
Witness:	C. v Jaarsveld

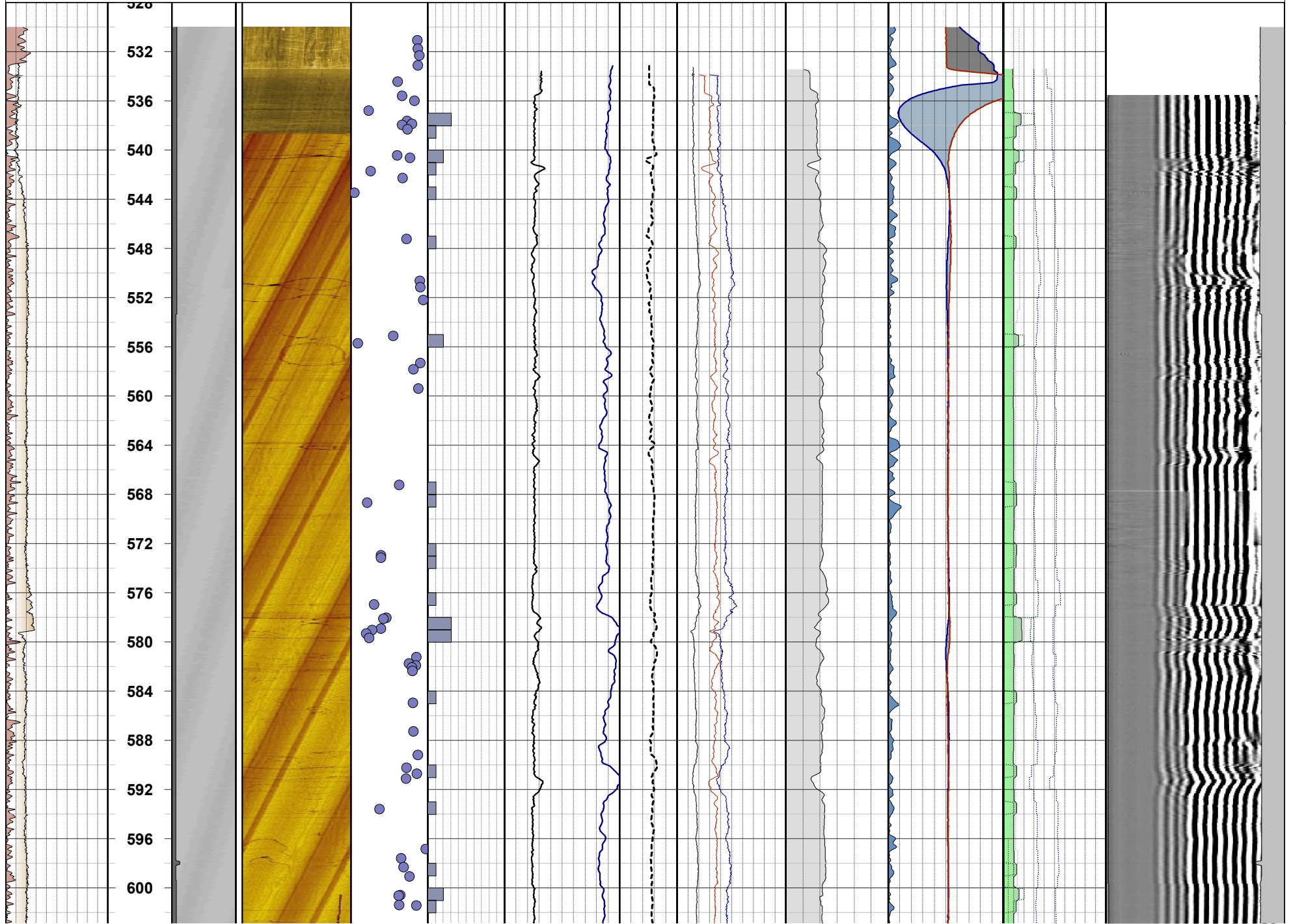
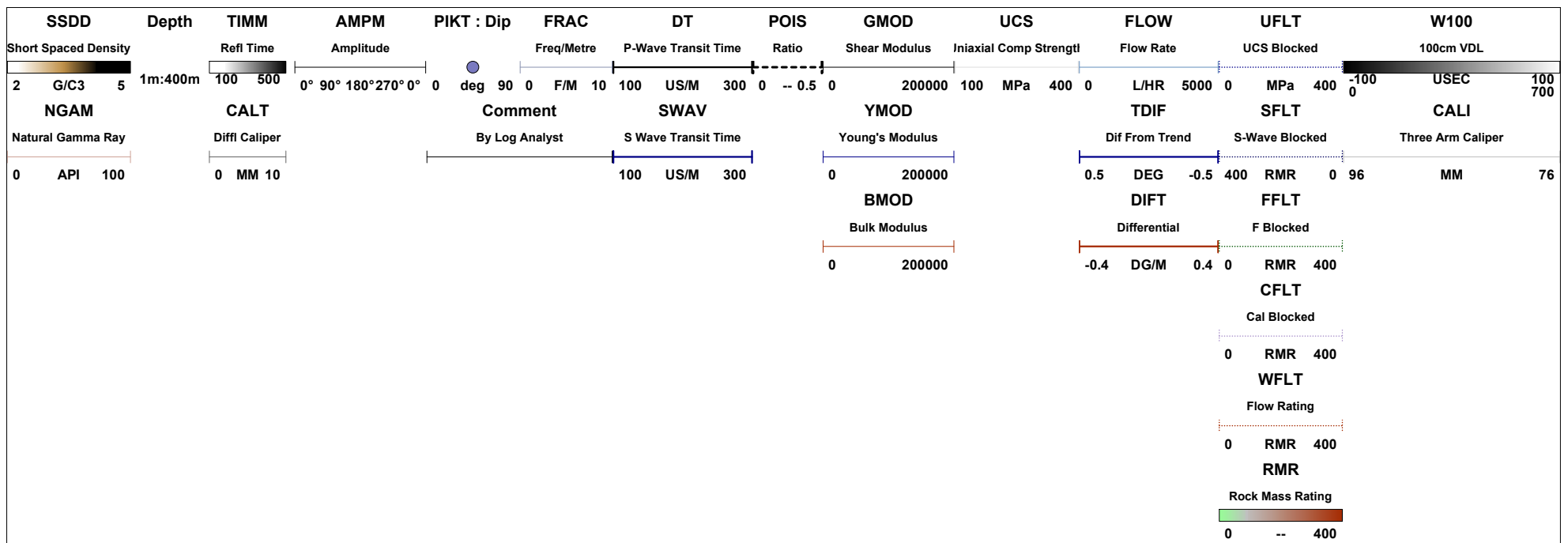
Fluid level:	Varying around 600 metres
Fluid type:	Water with black oil
Fluid weight:	1.0 GM/CC
Surface datum:	Ground level
First run:	Temp, cond, gamma, caliper
Other logs:	DD, ATV, FWS, Flowmeter

Comment 1: *IRS based on weighted (UCS + SWAV)/2*

Comment 2: *Fractures based on weighted (FRAC(*3) + CALI)/4*

Comment 3: *Fluid rating based on FLOW and DIFT (manually edited depending on scale and whether both indicators flag the event).*

Comment 4: *RMR = (IRS + FRAC + FLOW)/3*



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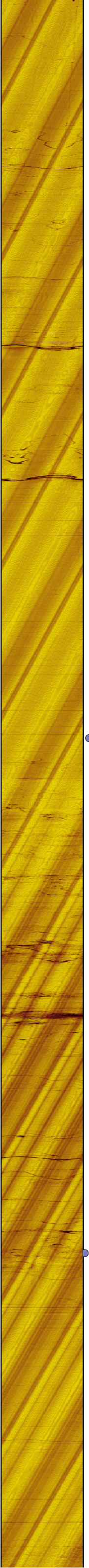
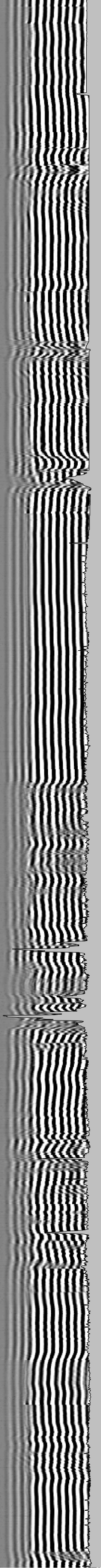
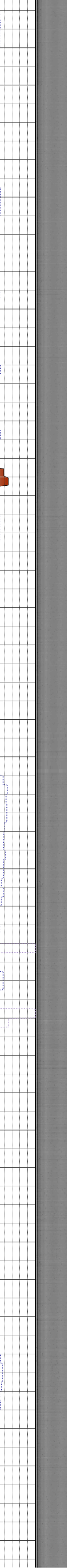
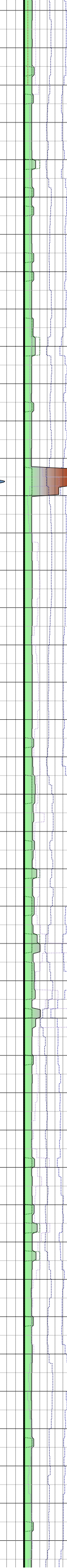
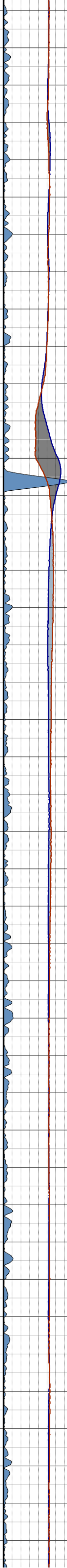
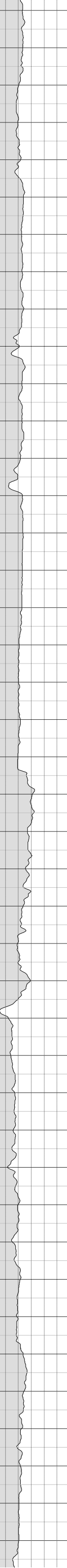
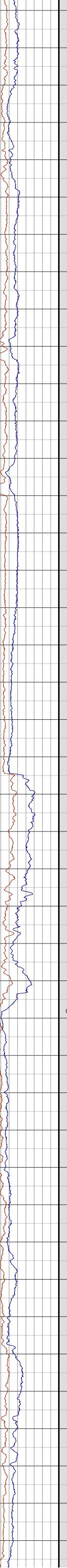
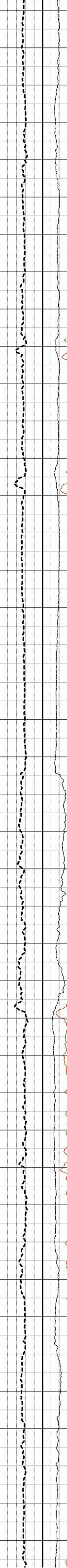
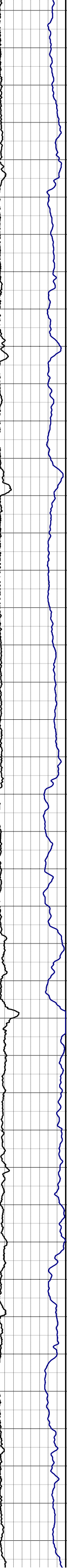
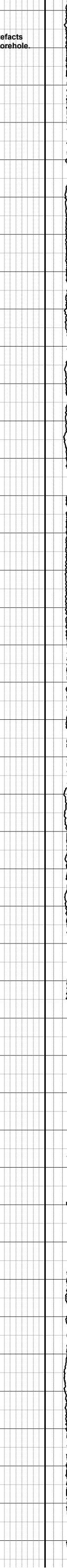
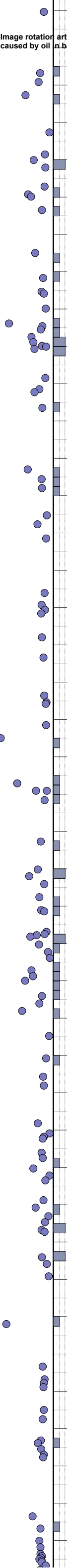
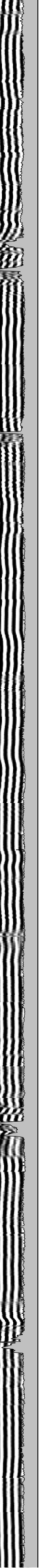
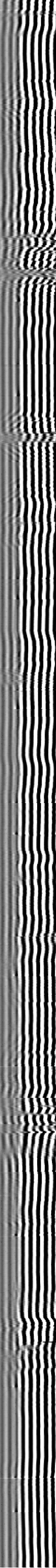
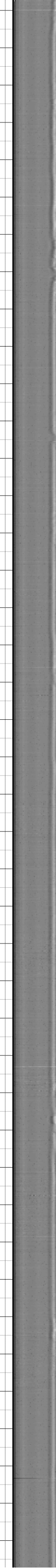
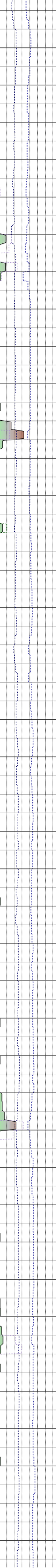
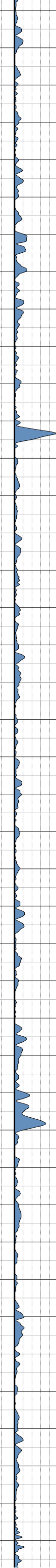
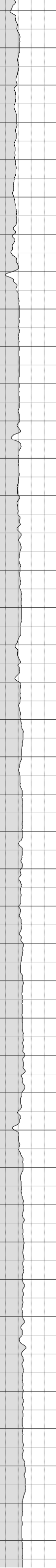
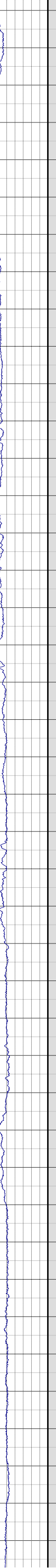
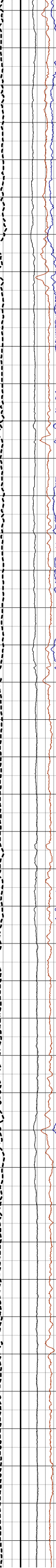
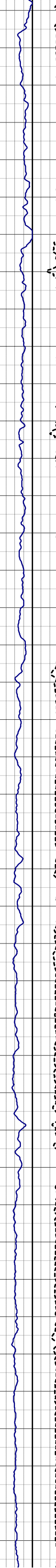
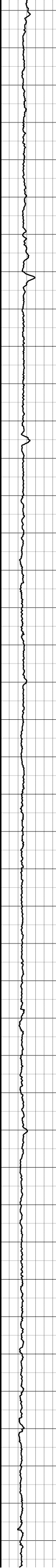
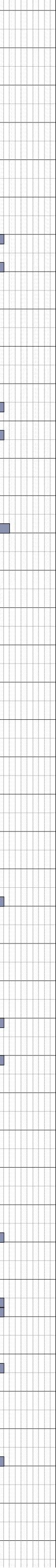
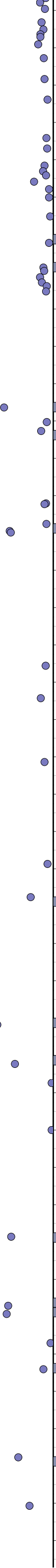
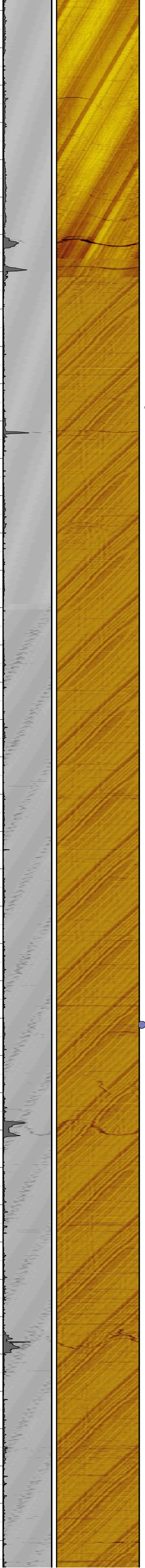
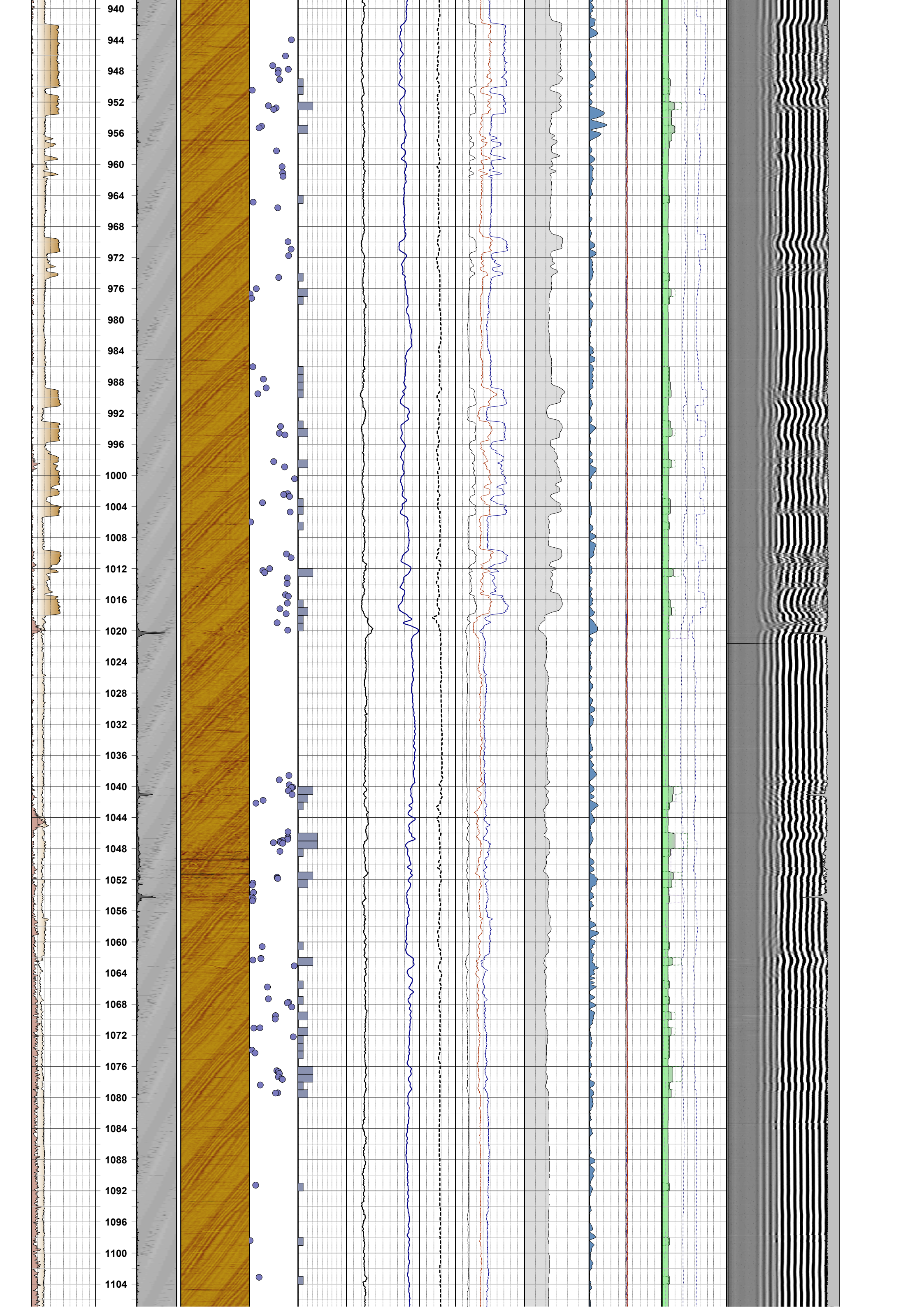


Image rotation artefacts caused by oil in borehole.

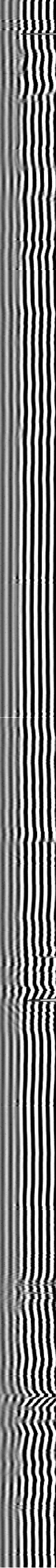
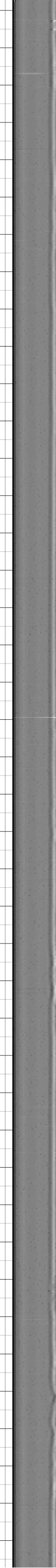
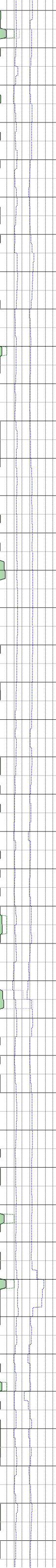
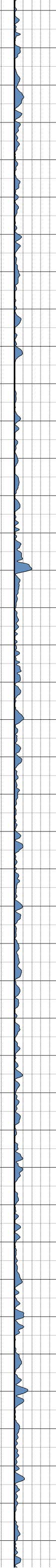
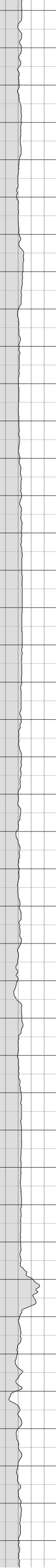
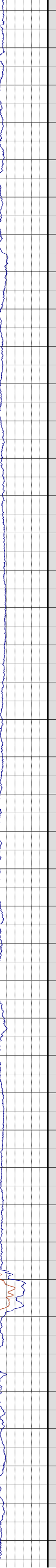
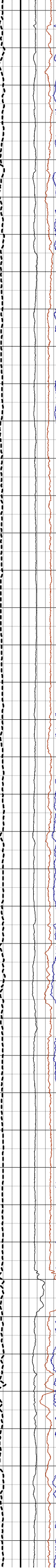
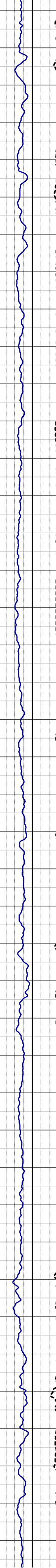
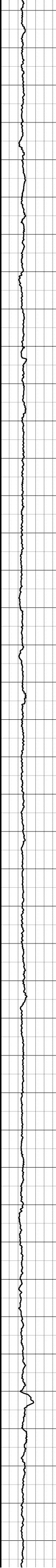
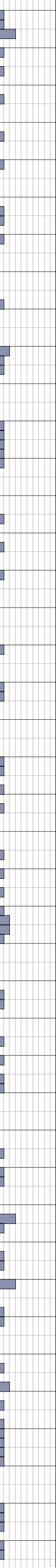
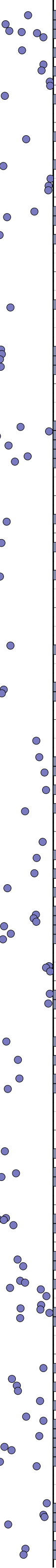


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