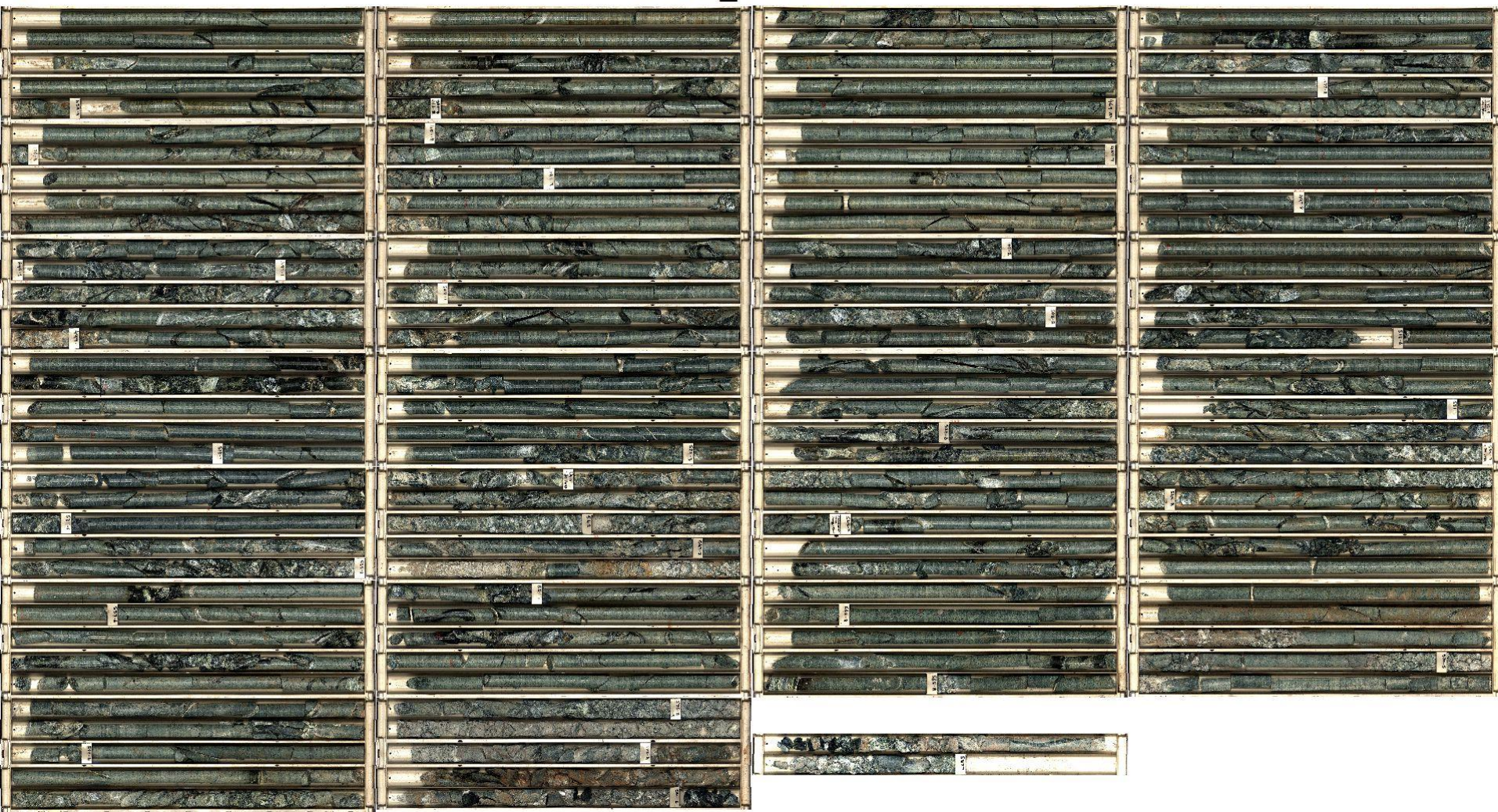


# TCG-A01 Huskisson Syncline

68438\_TCG-A01

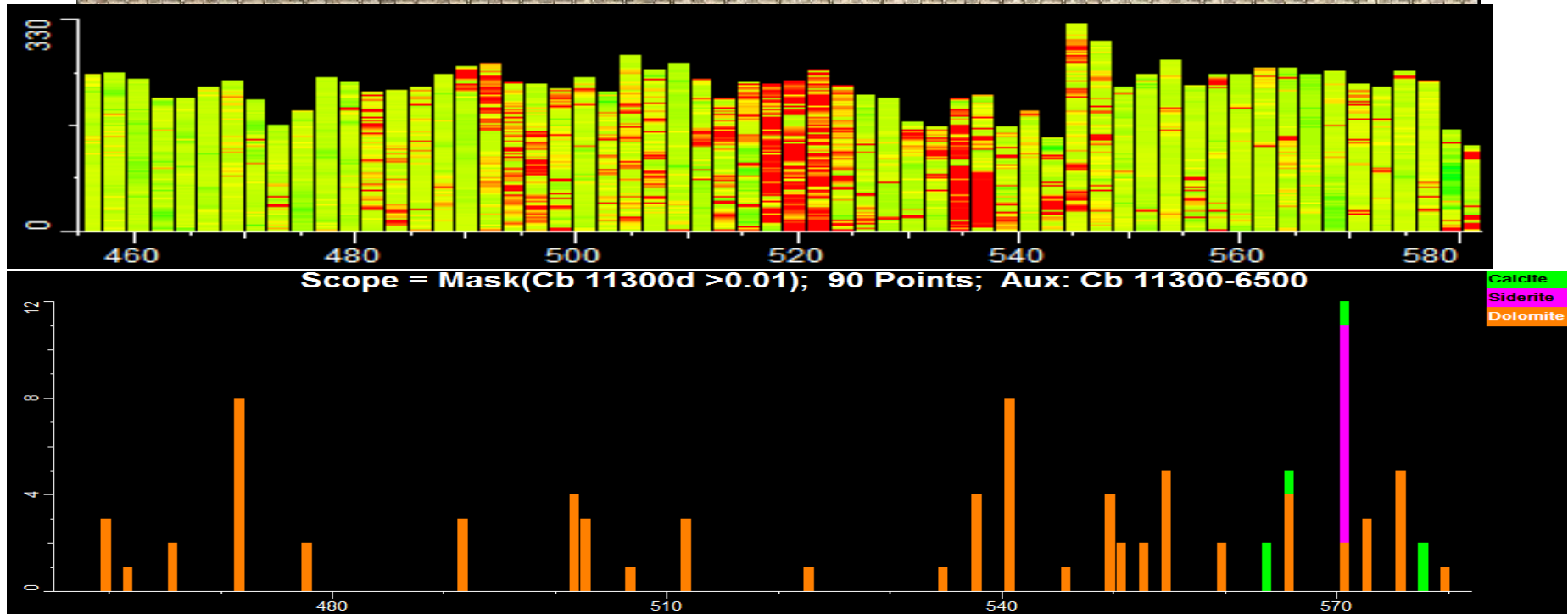




# TCG-A01 Huskisson Syncline

HyLogger-3 scan

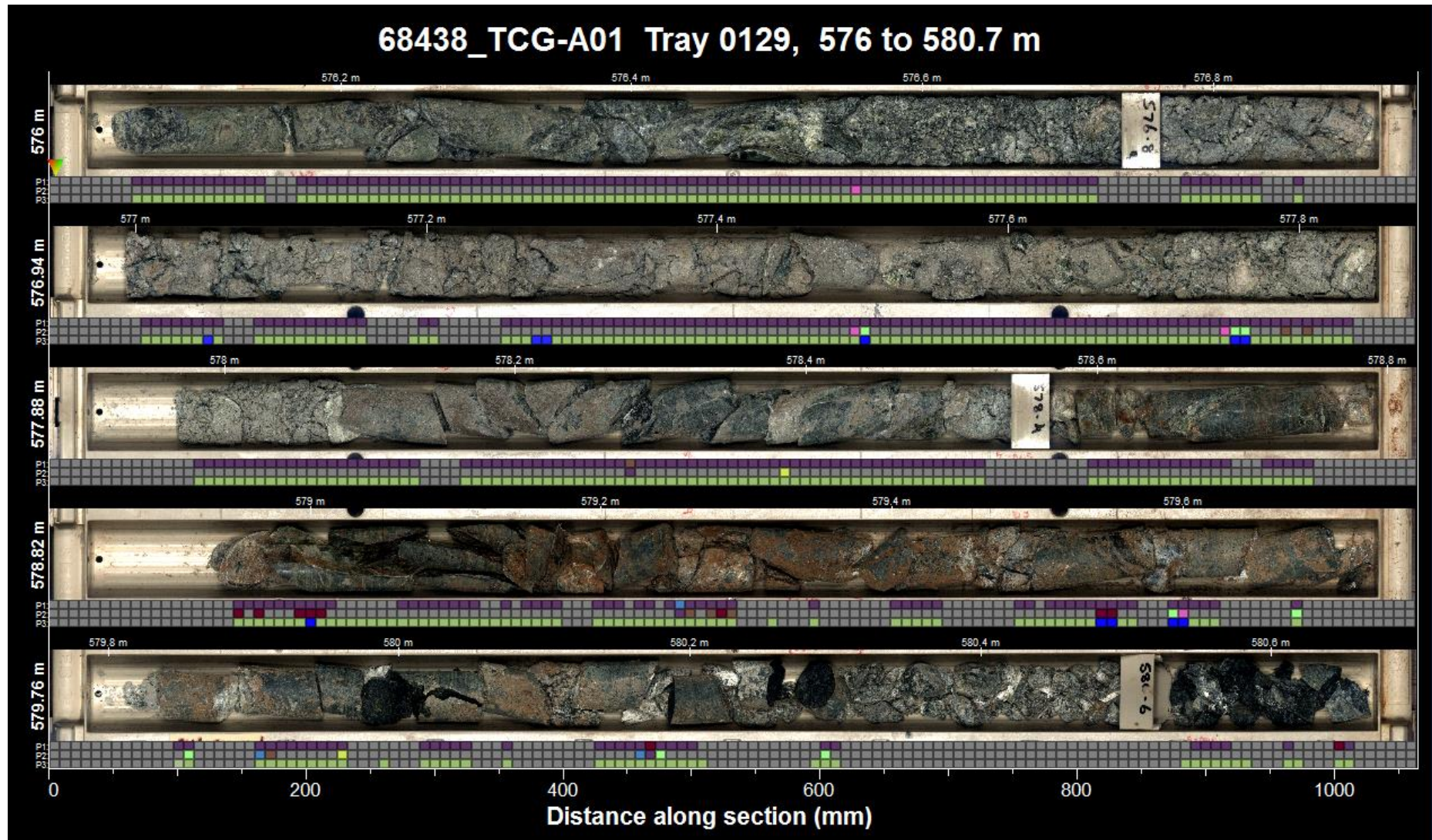
29 November 2017



# TCG-A01 Huskisson Syncline

HyLogger-3 scan

29 November 2017



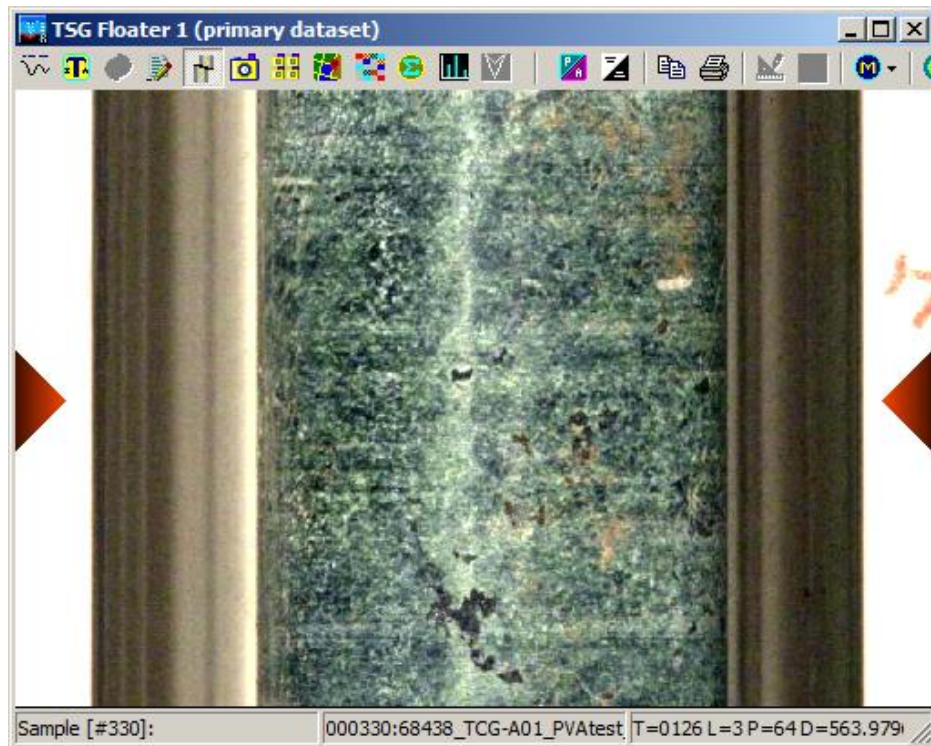


## TCG-A01: Last 2 trays (562-570m)

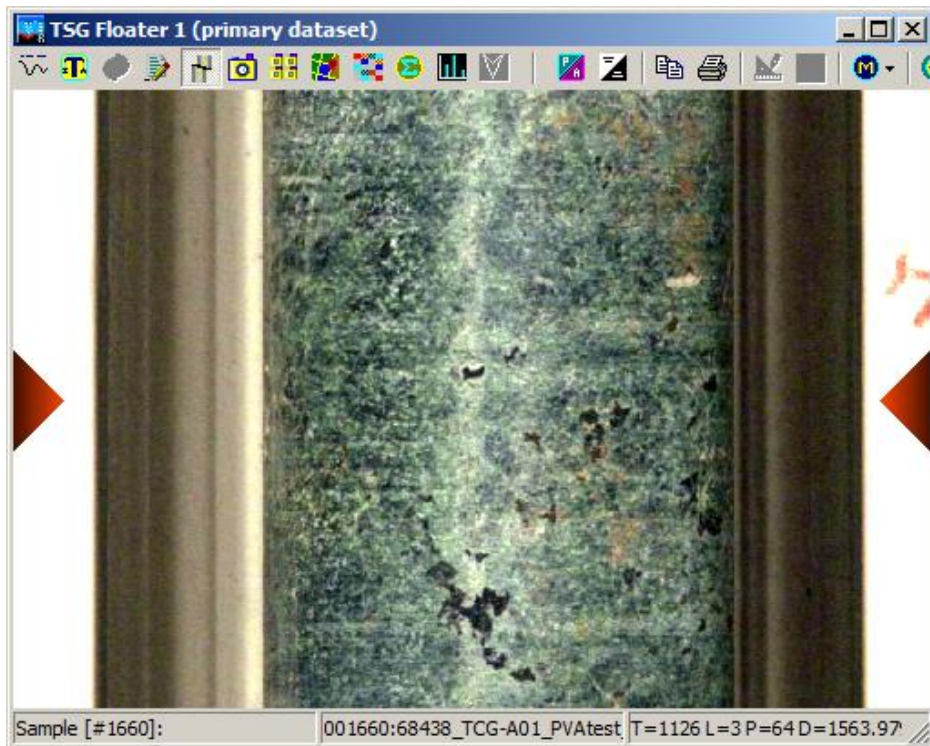
The core contains significant asbestiform material and therefore needed to be sealed. Current practice is to lightly spray with dilute PVA glue.

The last 2 trays were scanned before coating and then after coating to ascertain the effect of the coating.

**Uncoated core**



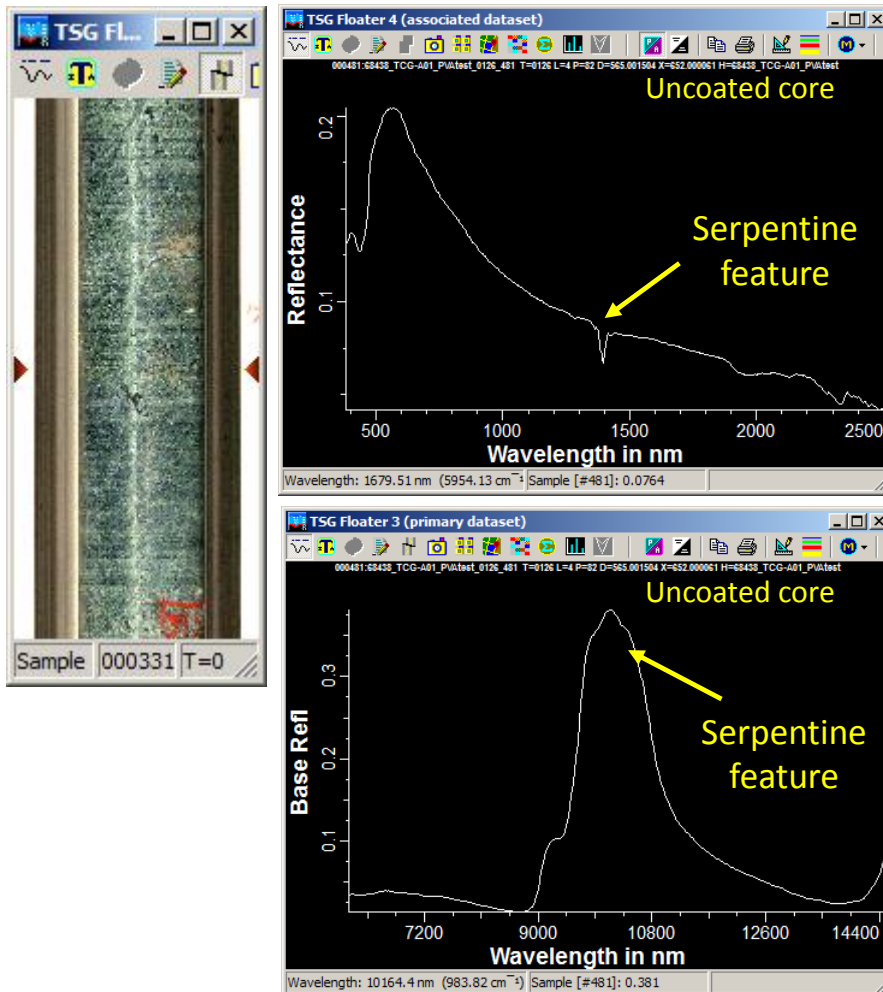
**PVA coated core**



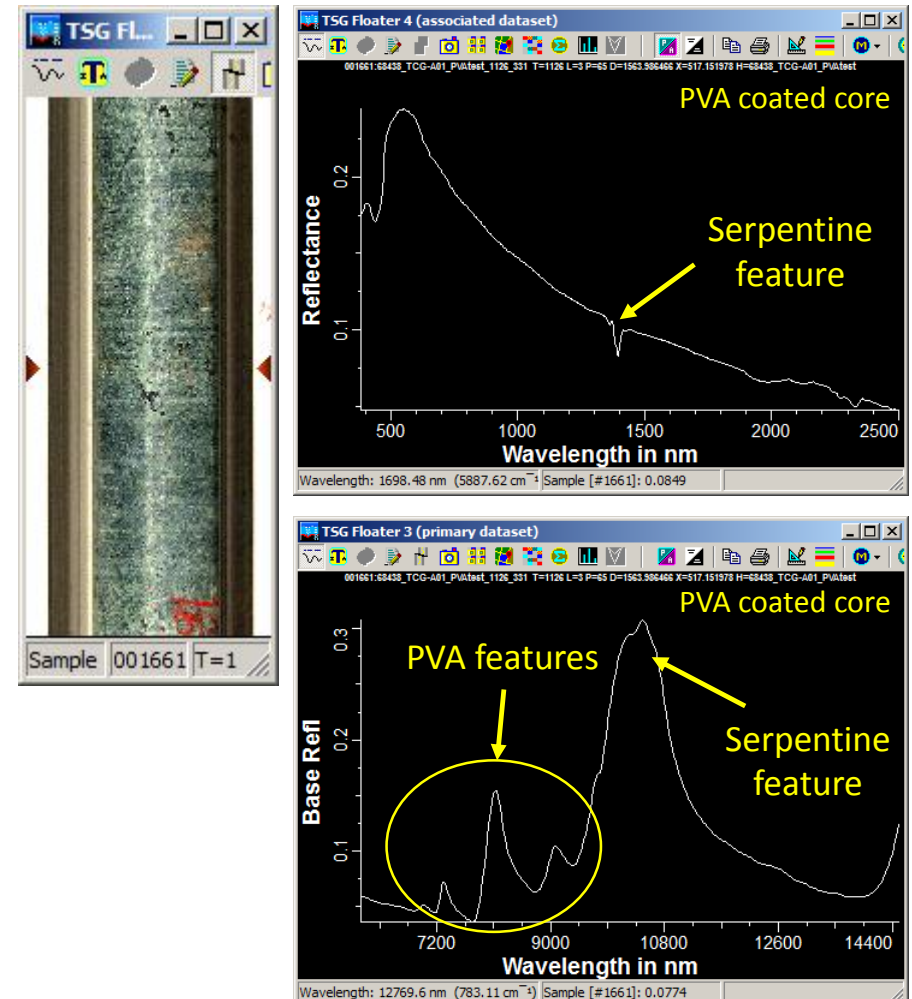
# TCG-A01: Last 2 trays (562-570m) PVA surface coating

The glue appears to have minimal impact on visible and SWIR spectra, but seriously impacts TIR spectra

## Uncoated core



## PVA coated core



# TCG-A01: Last 2 trays (562-570m) Automatic interpretation

The PVA coating confuses the automated mineral interpretation for TIR spectra

Uncoated core

PVA coated core

SWIR

Serpentine  
Carbonate

SWIR

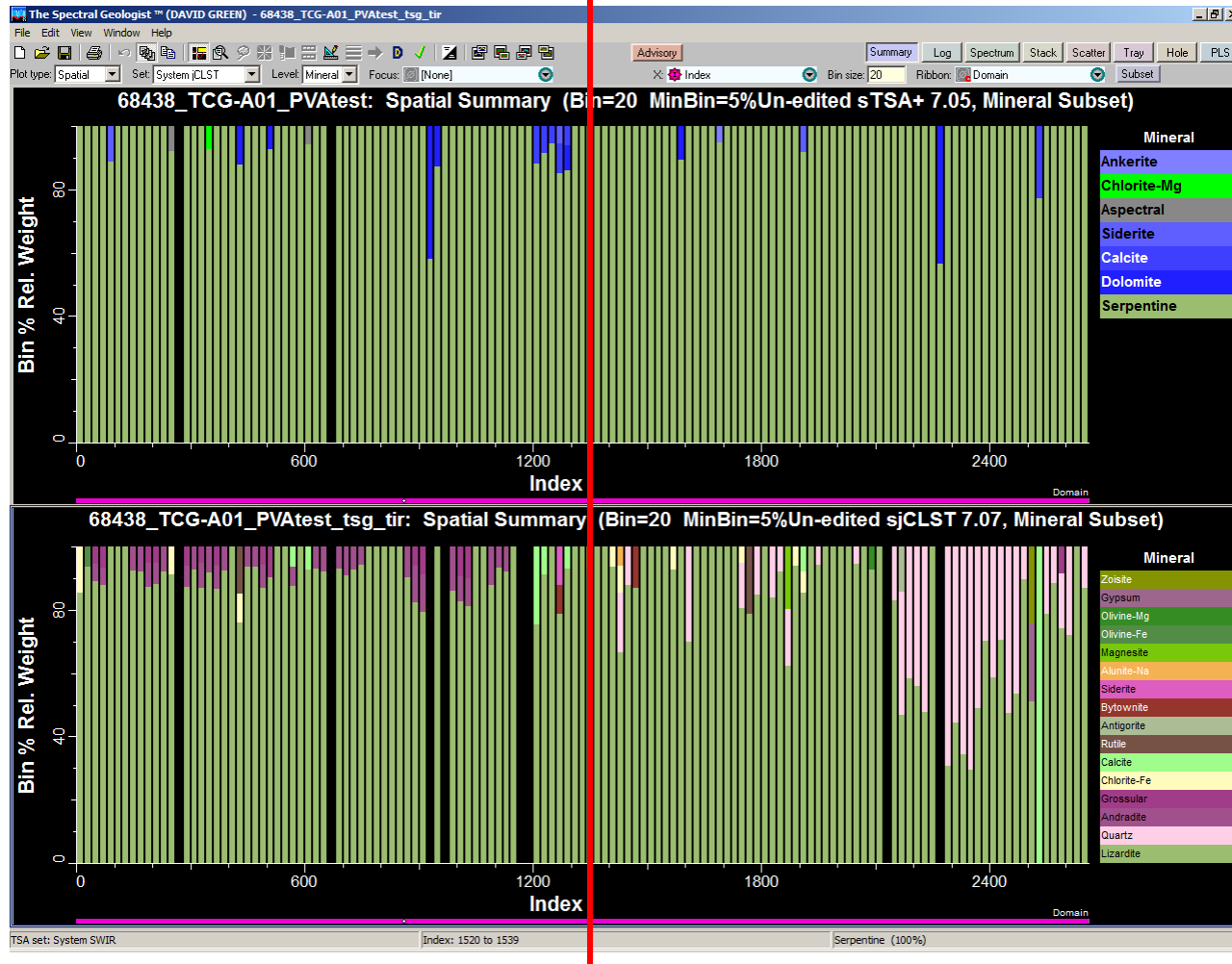
Serpentine  
Carbonate

TIR

Serpentine  
Garnet  
Chlorite

TIR

Serpentine  
Quartz  
Chlorite  
Plagioclase  
Alunite  
Gypsum  
Rutile  
Garnet  
Olivine



# TCG-A01: Last 2 trays (562-570m)

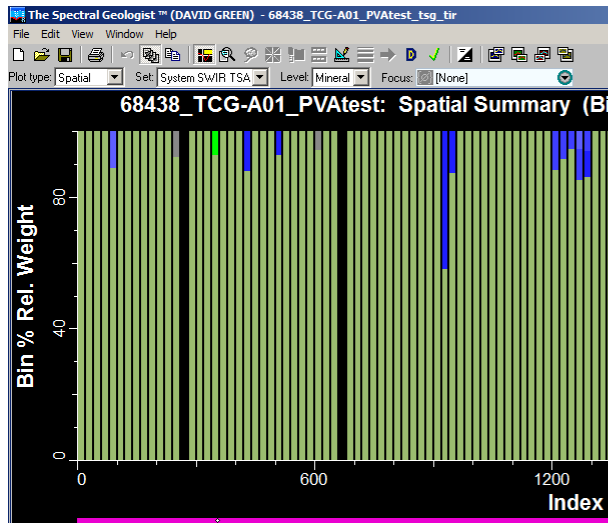
# Fully processed interpretation

Full interpretation on uncoated core gives a simple mineralogy: Lizardite + carbonate

## Uncoated core

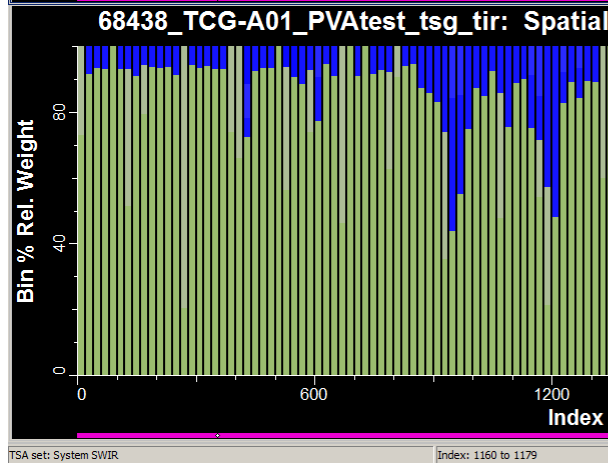
### SWIR

Serpentine  
Carbonate



### TIR

Serpentine  
Carbonate



### There is no:

Garnet  
Pyroxene  
Olivine  
Oxide  
Chlorite  
Amphibole  
Tourmaline  
Quartz  
Feldspar  
White or dark mica  
Epidote

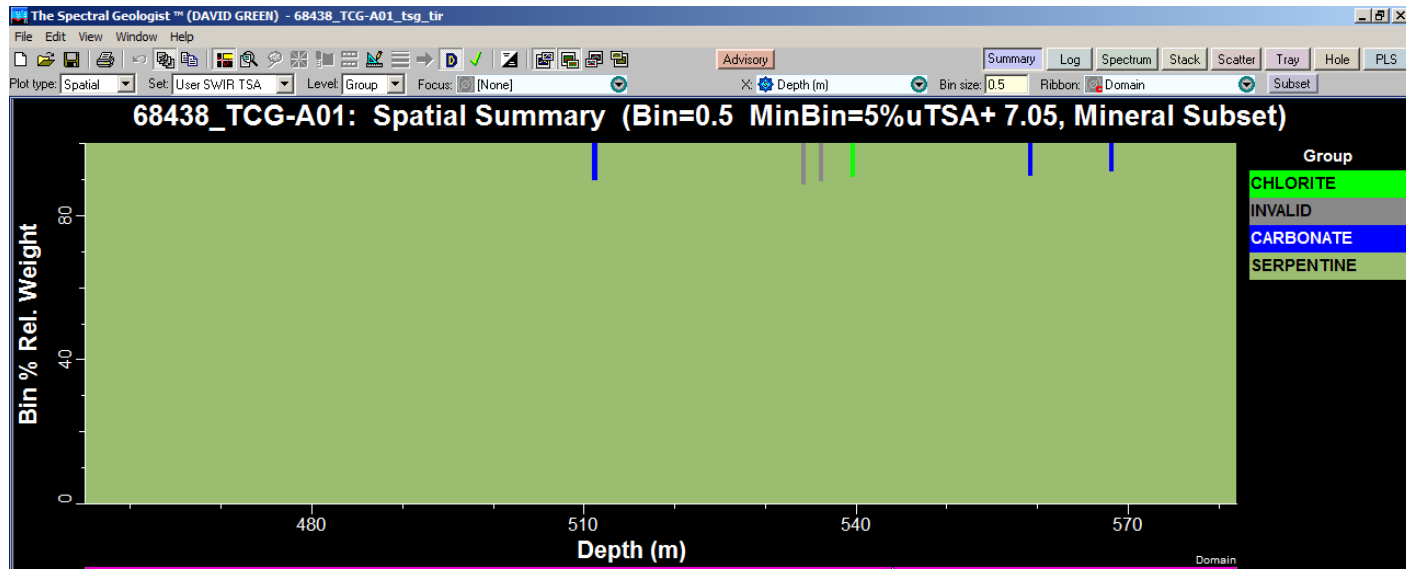
nb The detection limit for the HyLogger-3 is 5-15% depending on if the mineral has distinctive spectral features.

Interpretation uses the uTSAS + dCLST methods.

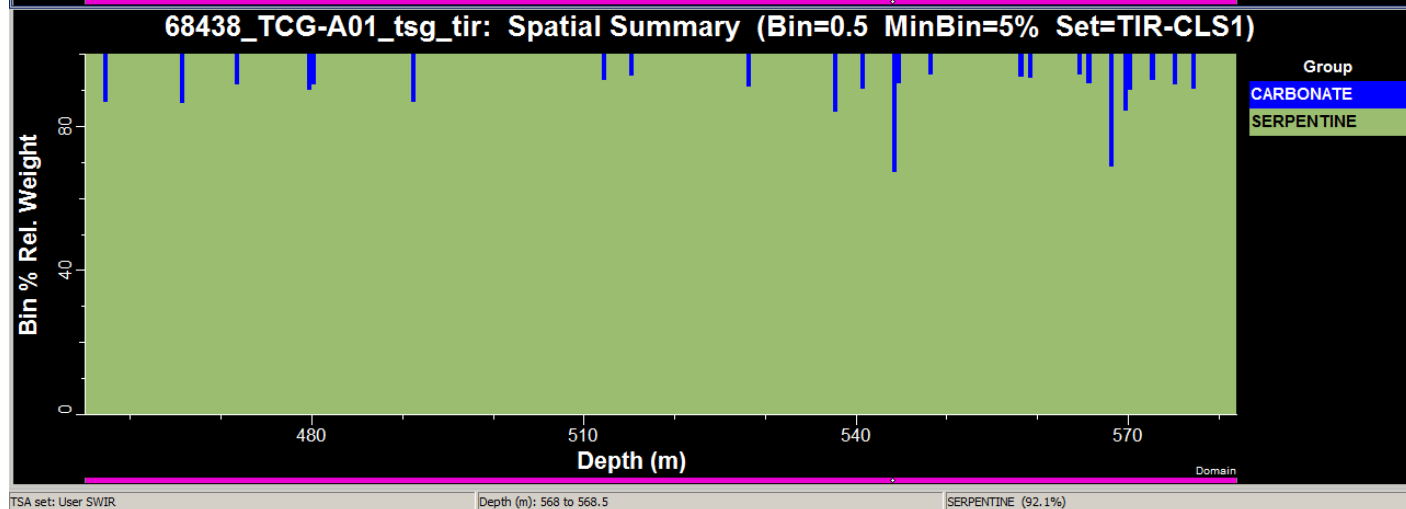
# TCG-A01: 455-570m

All core was lightly spray with dilute PVA glue which seriously affects the TIR spectra  
The mineralogy is serpentine with narrow zones containing carbonate

SWIR



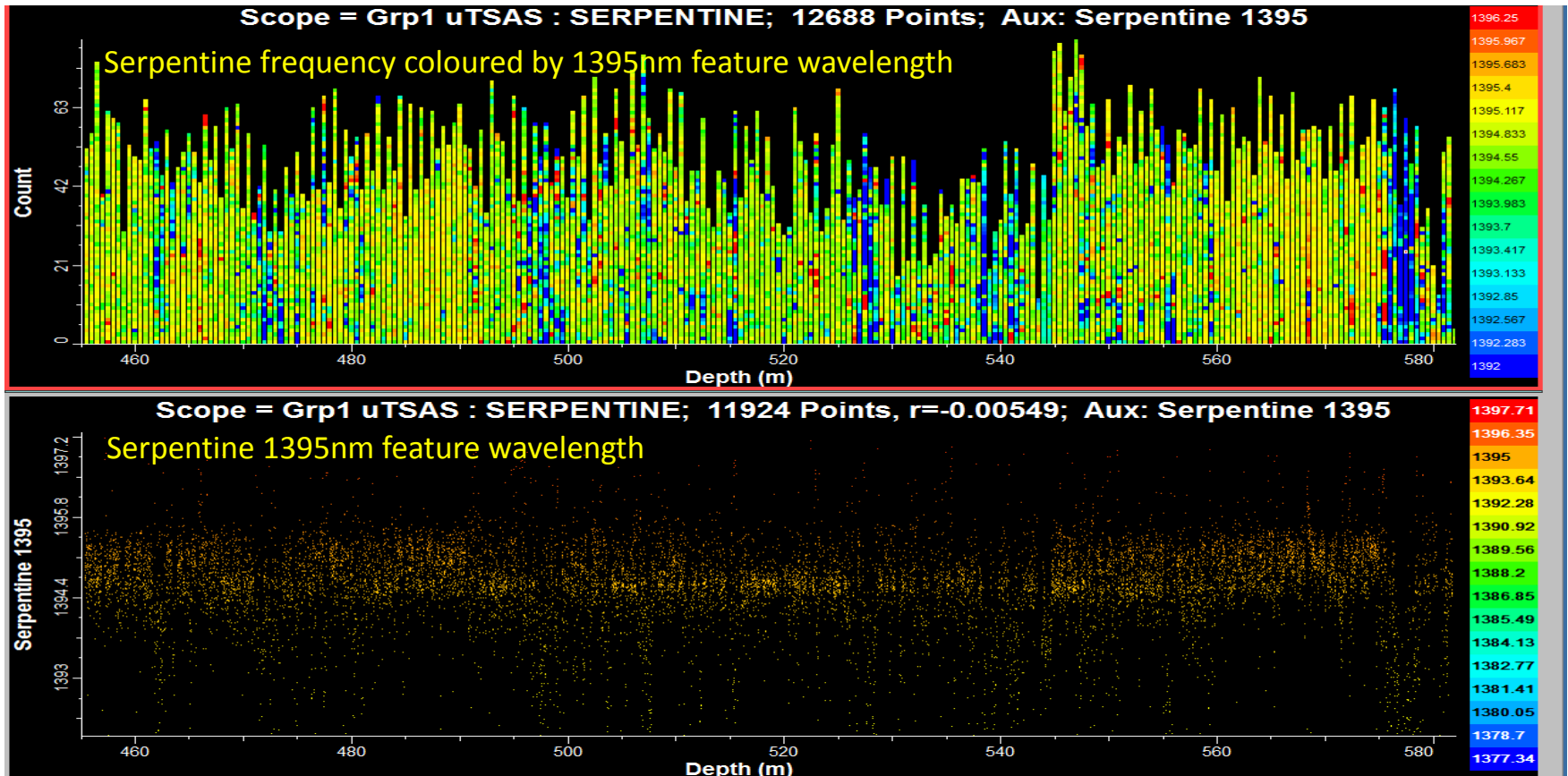
TIR





# TCG-A01: 455-570m Serpentine

The wavelength of the 1395nm feature varies down the hole.  
Zones of slightly lower wavelength correspond to broken or friable core.  
Slightly lower wavelengths occur near the bottom of the hole.

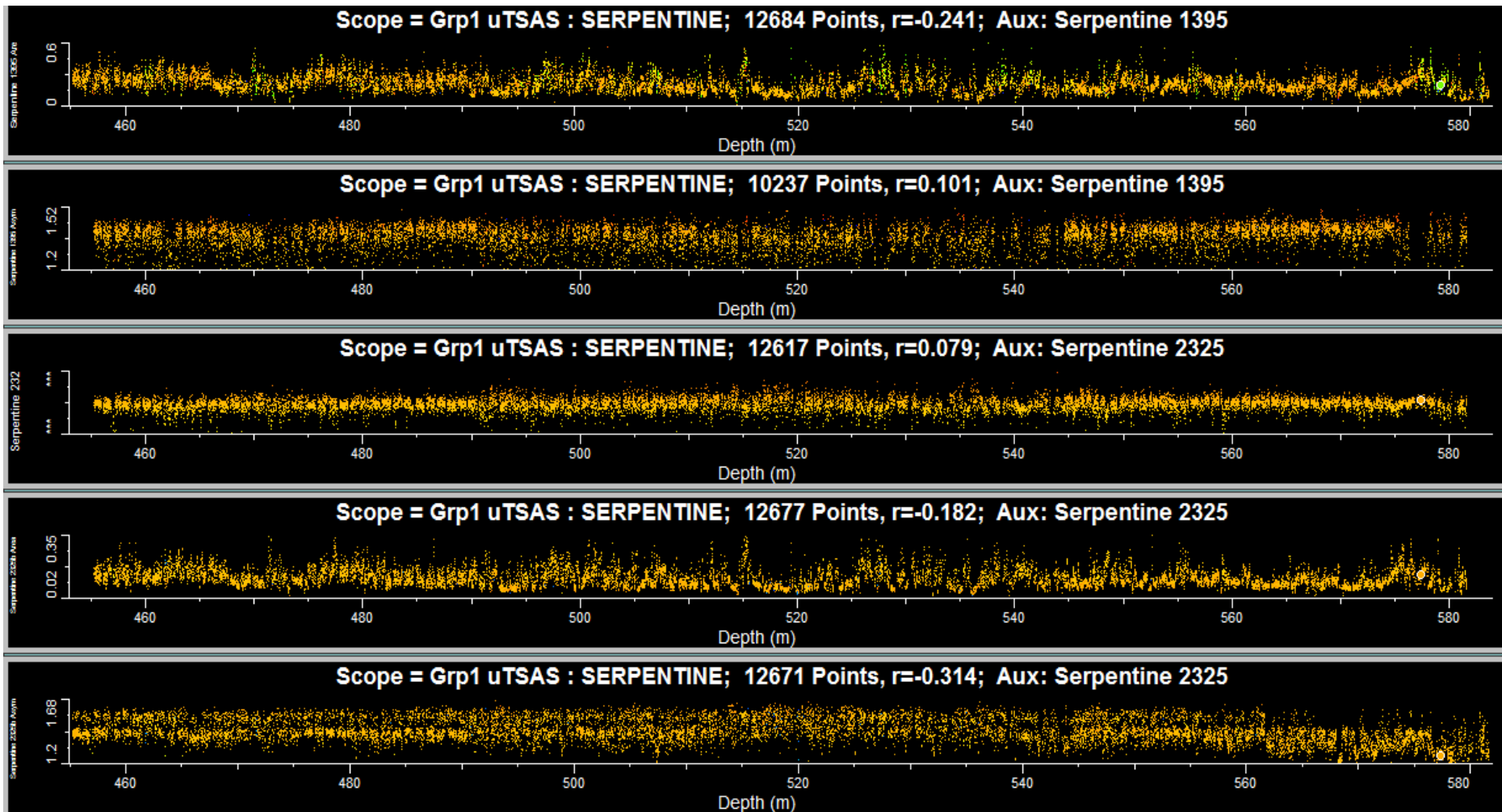


# TCG-A01: 455-570m Serpentine

Other SWIR serpentine features vary slightly down the hole:

1395nm area and asymmetry

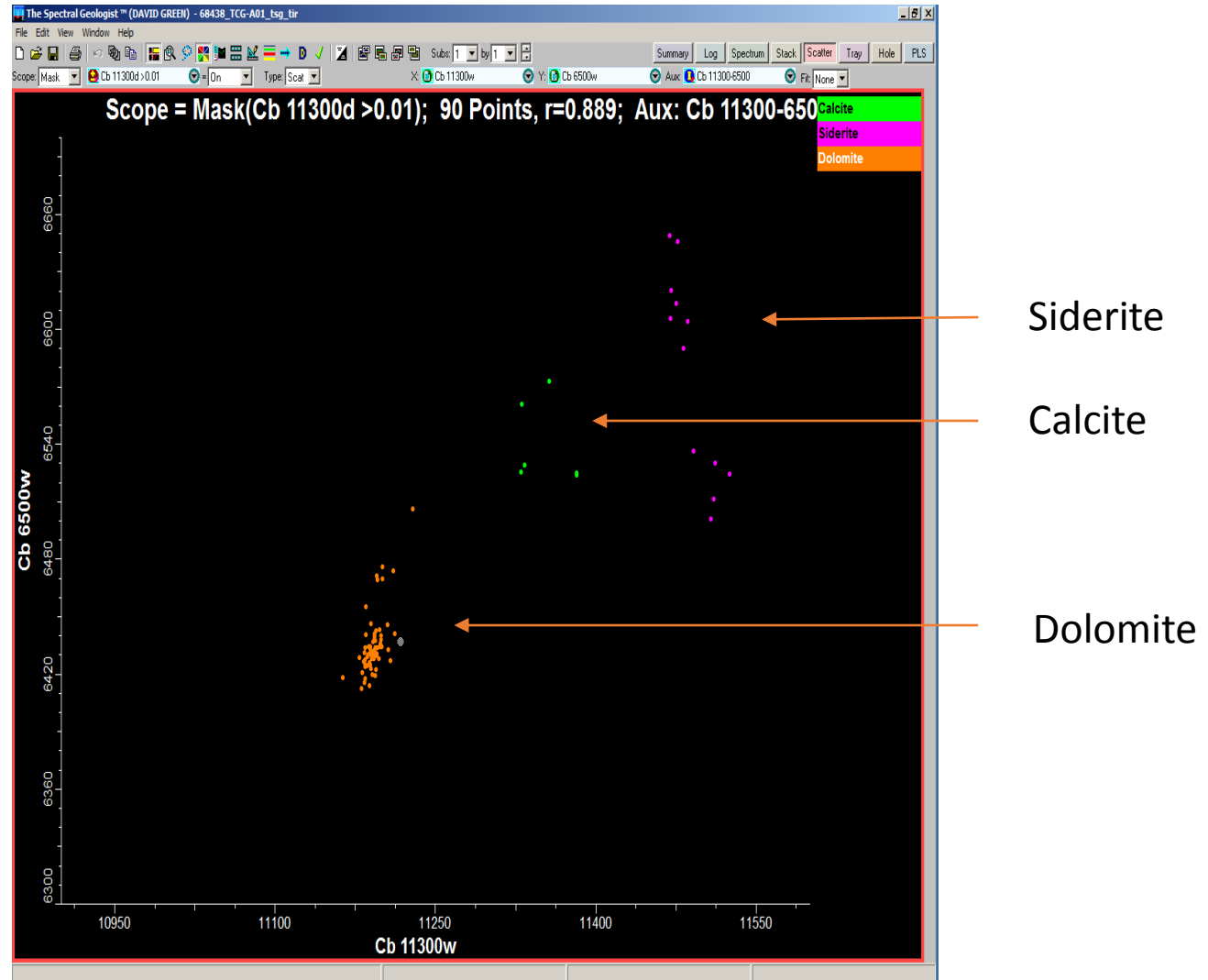
2325nm feature wavelength, area and asymmetry





# TCG-A01: 455-570m Carbonates

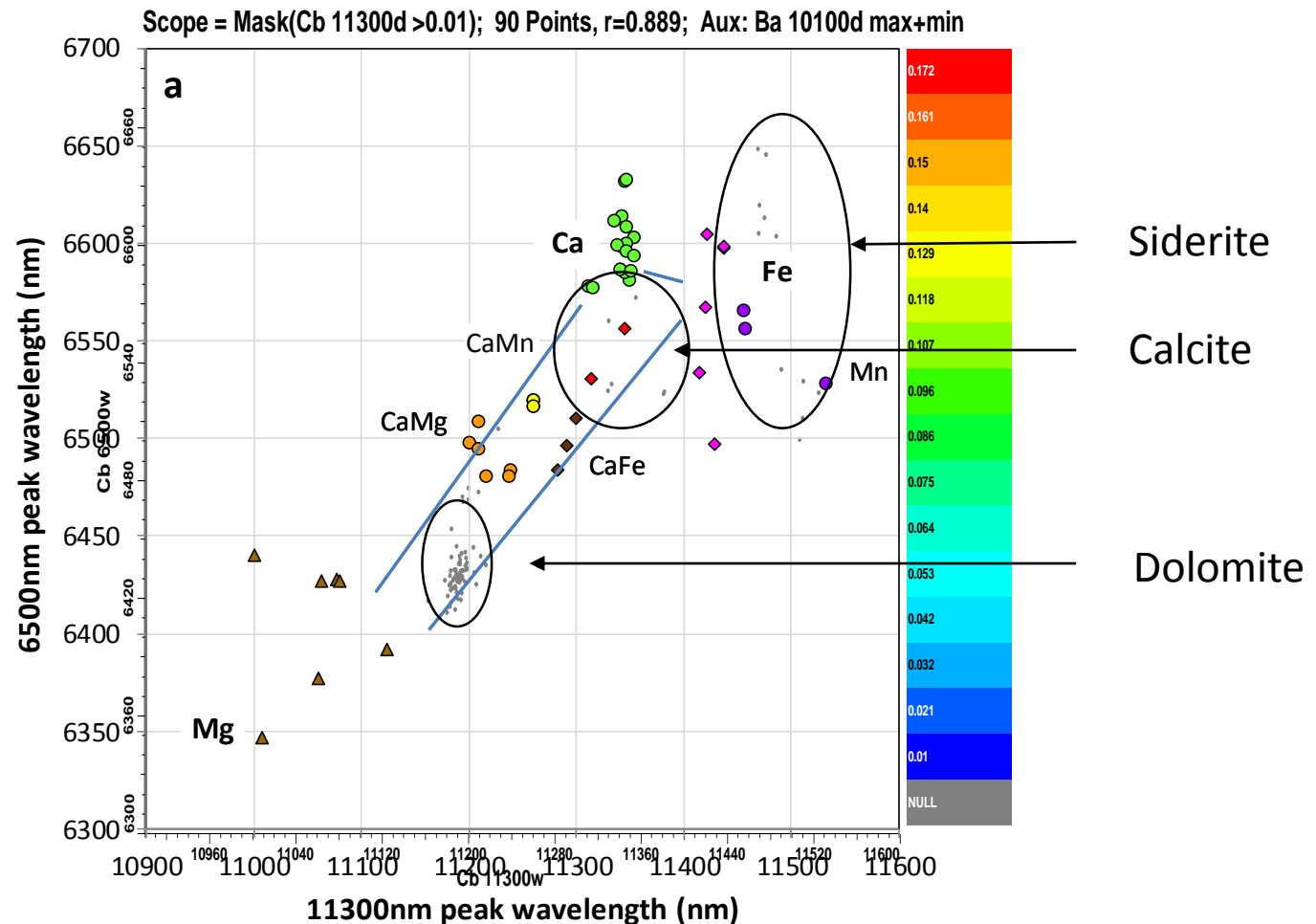
The distinctive TIR features at 11300 and 6500nm are not strongly influenced by the PVA spectral features and can be used to identify spectral populations ...



# TCG-A01: 455-570m Carbonates

... that can be identified by comparing with library spectra

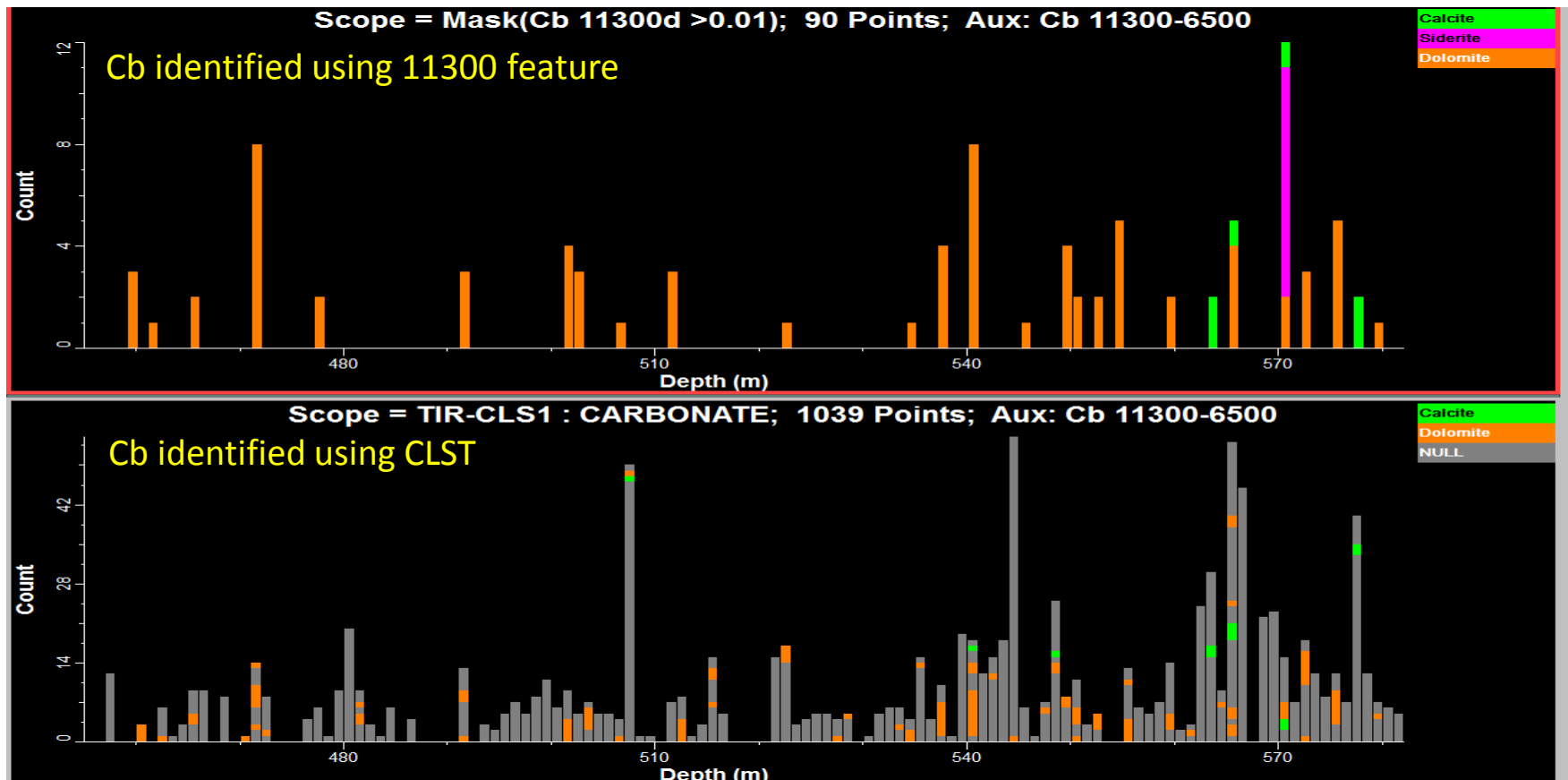
The identifications are not well matched with the library spectra but tentative identification of dolomite, siderite (/rhodochrosite) and calcite can be made.





# TCG-A01: 455-570m Carbonates

Downhole plot of carbonates shows that dolomite is the dominant species. Carbonates become slightly more common approaching the bottom of the hole. The only calcite and siderite occurs near the bottom of the hole.



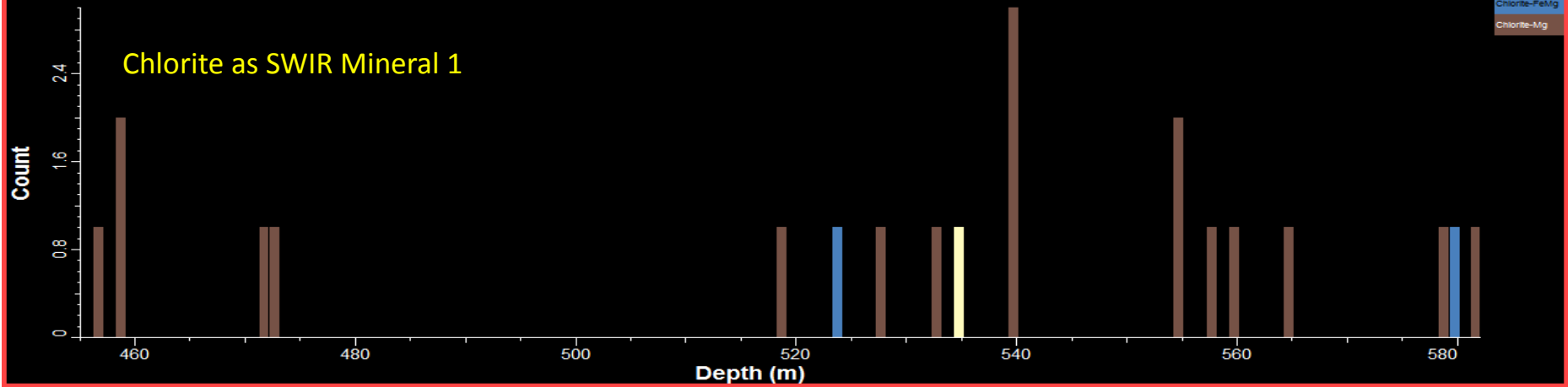
# TCG-A01: 455-570m Chlorite

Chlorite is not common, but chiefly occurs on broken faces  
The composition is dominated by the Mg end member



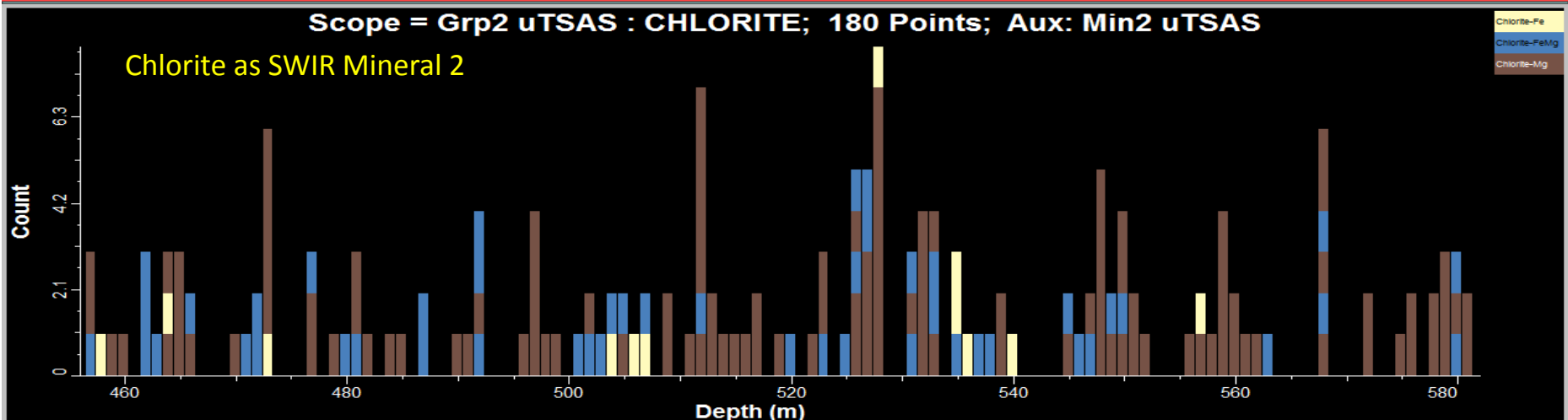
Scope = Grp1 uTSAS : CHLORITE; 21 Points; Aux: Min1 uTSAS

Chlorite as SWIR Mineral 1



Scope = Grp2 uTSAS : CHLORITE; 180 Points; Aux: Min2 uTSAS

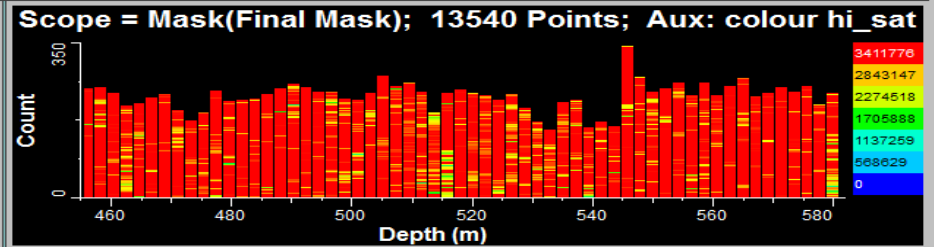
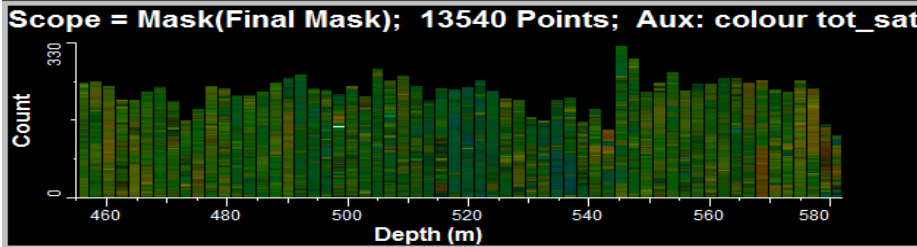
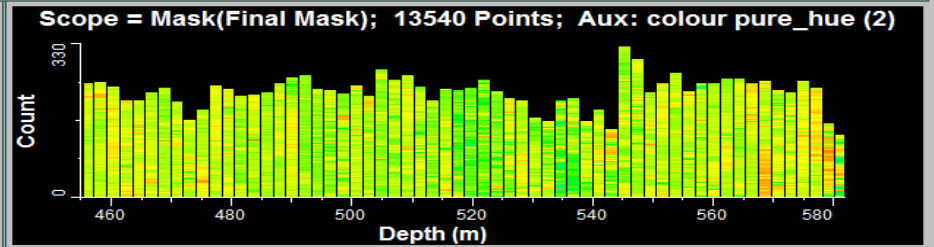
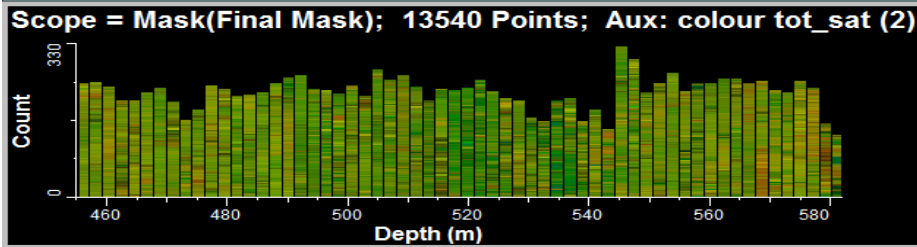
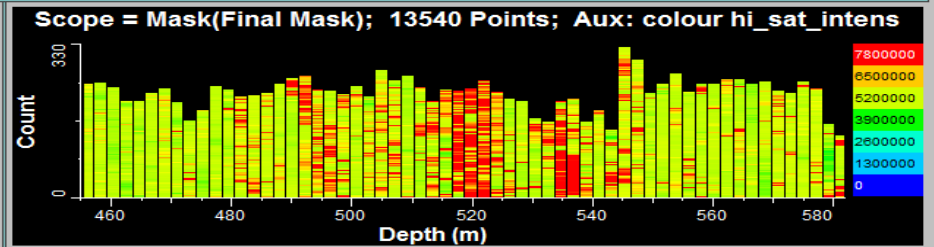
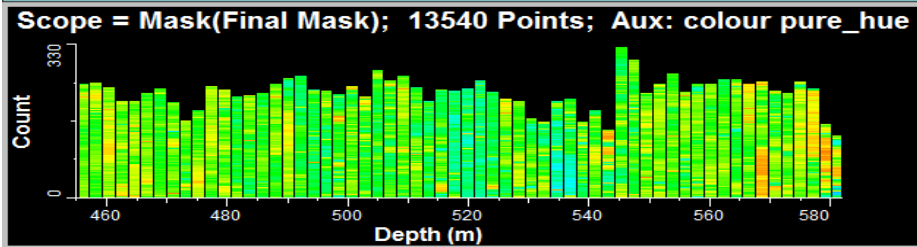
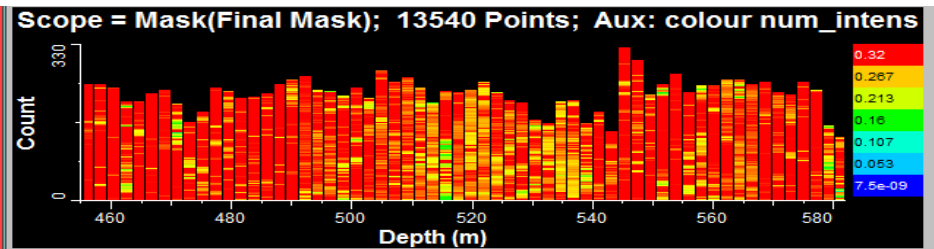
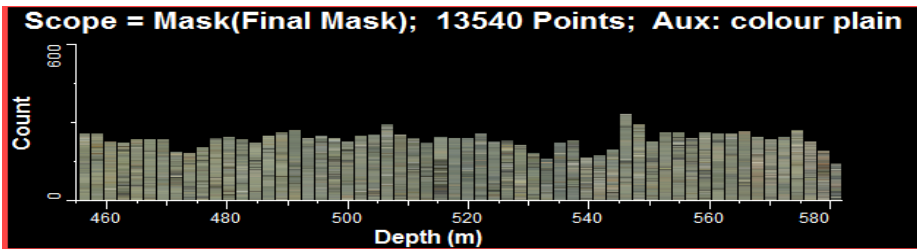
Chlorite as SWIR Mineral 2





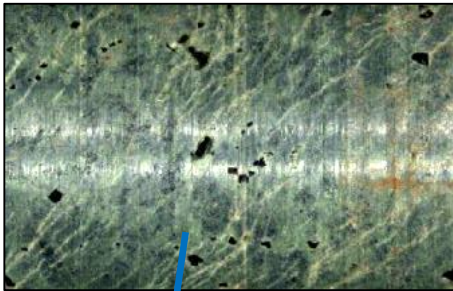
# TCG-A01: 455-570m Visible RGB core colour

Visible RGB colour enhancements highlight subtle variations

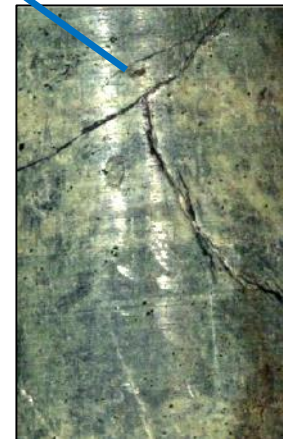
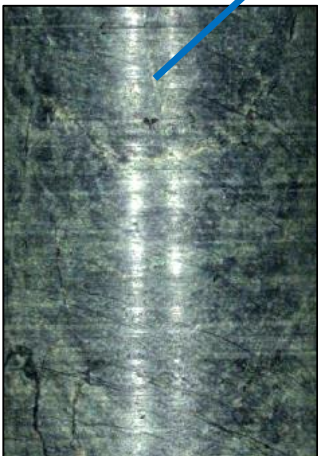
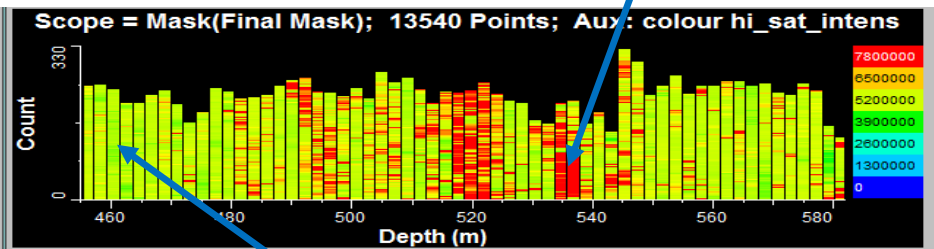
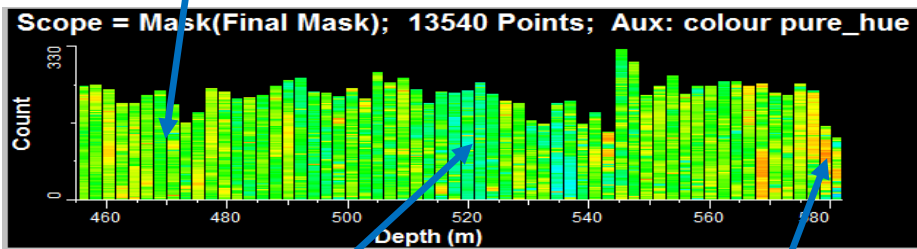
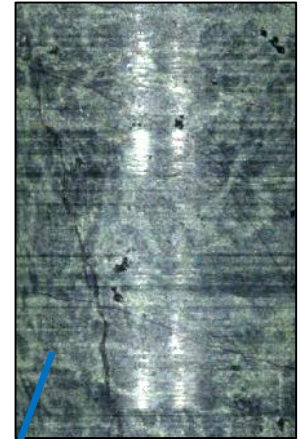


# TCG-A01: 455-570m Visible RGB core colour

e.g. Enhanced pure hue maps variation in colour: light green – dark green - brown



e.g. Enhanced colour saturation maps out variation in textures with lighter green “alteration”



# TCG-A01: 455-570m Profilometer

The profilometer measures the height of the core surface (above the HyLogger table surface) that is under the scanner. Broken or rough core has a noisy signal and a high std dev e.g. from 575.0m to EOH

