



SR6 (DH 16759) drillhole report

Sedimentary Copper Mineral Systems of the Stuart Shelf
GSSA–CSIRO project

C Krapf, M Bockmann, A Fabris, G Gordon,
S Schmid, V Crombez and M Kunzmann



SR6 (DH 16759) drillhole report

Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA–CSIRO project

C Krapf¹, M Bockmann¹, A Fabris¹, G Gordon¹,
S Schmid², V Crombez² and M Kunzmann^{2*}

1 Geological Survey of South Australia,
Department for Energy and Mining

2 CSIRO (*now FMG)

April 2023

Report Book 2023/00023



Department for Energy and Mining

Level 4, 11 Waymouth Street, Adelaide

GPO Box 320, Adelaide SA 5001

Phone +61 8 8463 3000

Email dem.minerals@sa.gov.au

dem.petroleum@sa.gov.au

www.energymining.sa.gov.au

South Australian Resources Information Gateway (SARIG)

SARIG provides up-to-date views of mineral, petroleum and geothermal tenements and other geoscientific data. You can search, view and download information relating to minerals and mining in South Australia including tenement details, mines and mineral deposits, geological and geophysical data, publications and reports (including company reports).

map.sarig.sa.gov.au



© Government of South Australia 2023

With the exception of the piping shrike emblem and where otherwise noted, this product is provided under a [Creative Commons Attribution 4.0 International Licence](https://creativecommons.org/licenses/by/4.0/).

Disclaimer

The contents of this report are for general information only and are not intended as professional advice, and the Department for Energy and Mining (and the Government of South Australia) make no representation, express or implied, as to the accuracy, reliability or completeness of the information contained in this report or as to the suitability of the information for any particular purpose. Use of or reliance upon the information contained in this report is at the sole risk of the user in all things and the Department for Energy and Mining (and the Government of South Australia) disclaim any responsibility for that use or reliance and any liability to the user.

Acknowledgement of Country

As guests on Aboriginal land, the Department for Energy and Mining (DEM) acknowledges everything this department does impacts on Aboriginal country, the sea, the sky, its people, and the spiritual and cultural connections which have existed since the first sunrise. Our responsibility is to share our collective knowledge, recognise a difficult history, respect the relationships made over time, and create a stronger future. We are ready to walk, learn and work together.

Preferred way to cite this publication

Krapf C, Bockmann M, Fabris A, Gordon G, Schmid S, Crombez V and Kunzmann M 2023.
SR6 (DH 16759) drillhole report – Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA–CSIRO project, Report Book 2023/00023. Department for Energy and Mining, South Australia, Adelaide.

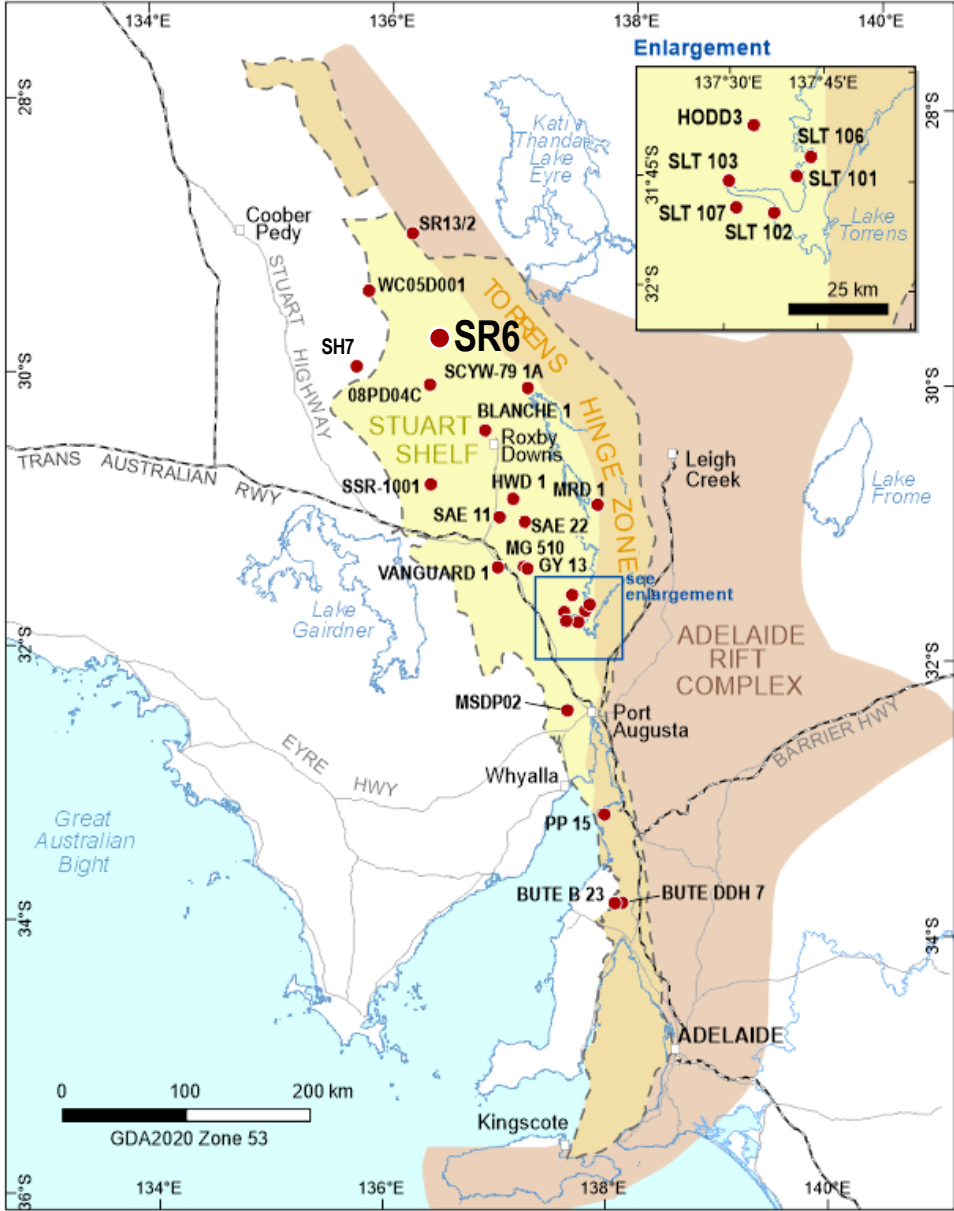
Drillhole information

Drillhole name	SR6	
Drillhole number	16759	
Tenement	EL 335	
Location	136.4091718 Long - 29.7708554 Lat	636229.53E 6705773.36N GDA2020, Zone 53
Date drilled	25/04/1979	
Drillhole depth	889.55 m	
Cored interval	811.55 m	
Azimuth/Dip	n. a.	-90
Reference	ENV03031 , ENV03090 , ENV03804	

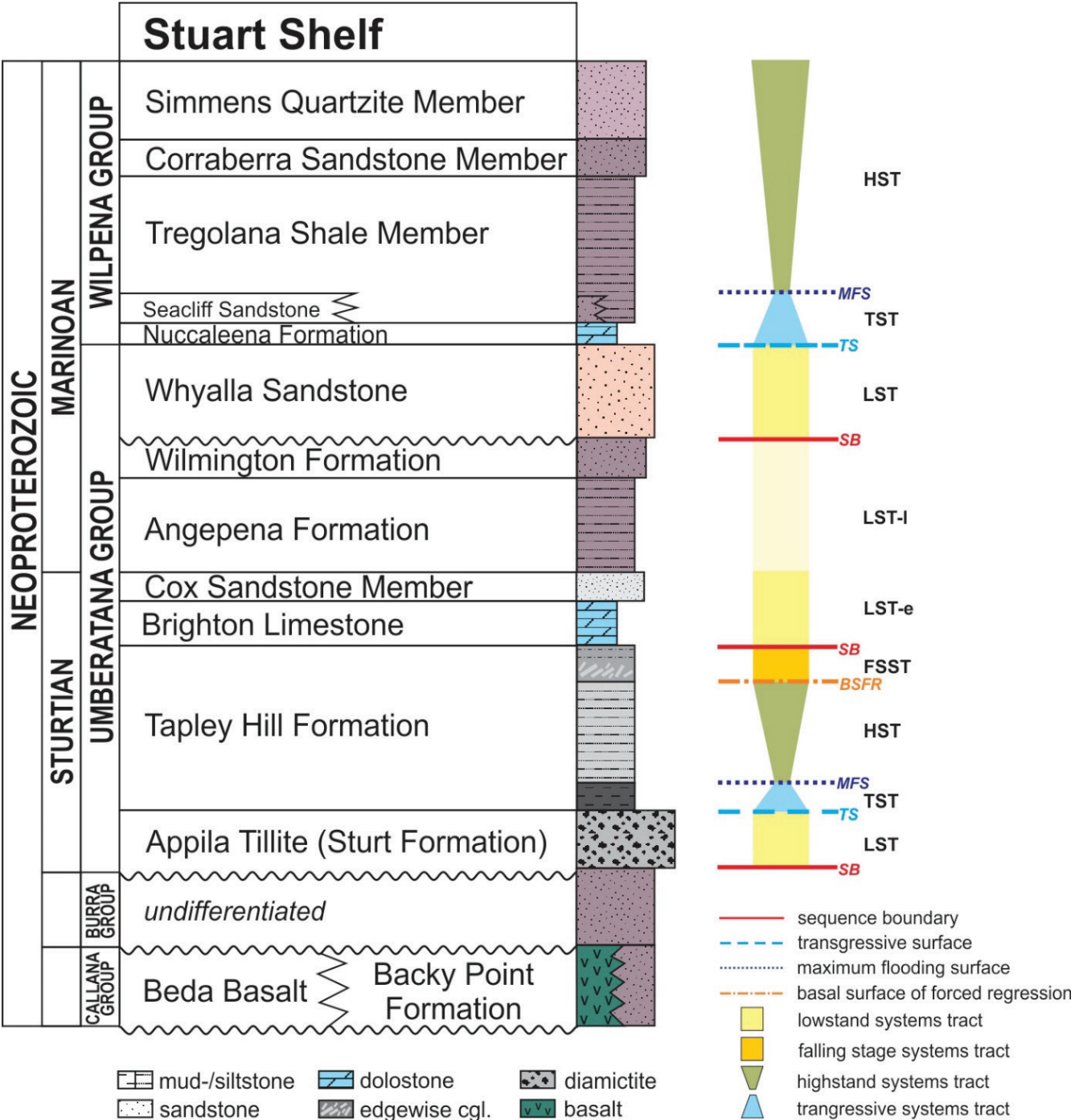
This drillhole report provides a summary of new logging and data collection undertaken as part of the Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA-CSIRO project.

Associated newly collected handheld gamma, portable XRF and HyLogger™ data are available for download via the [blue hyperlinks](#) in this report.

Drillhole location



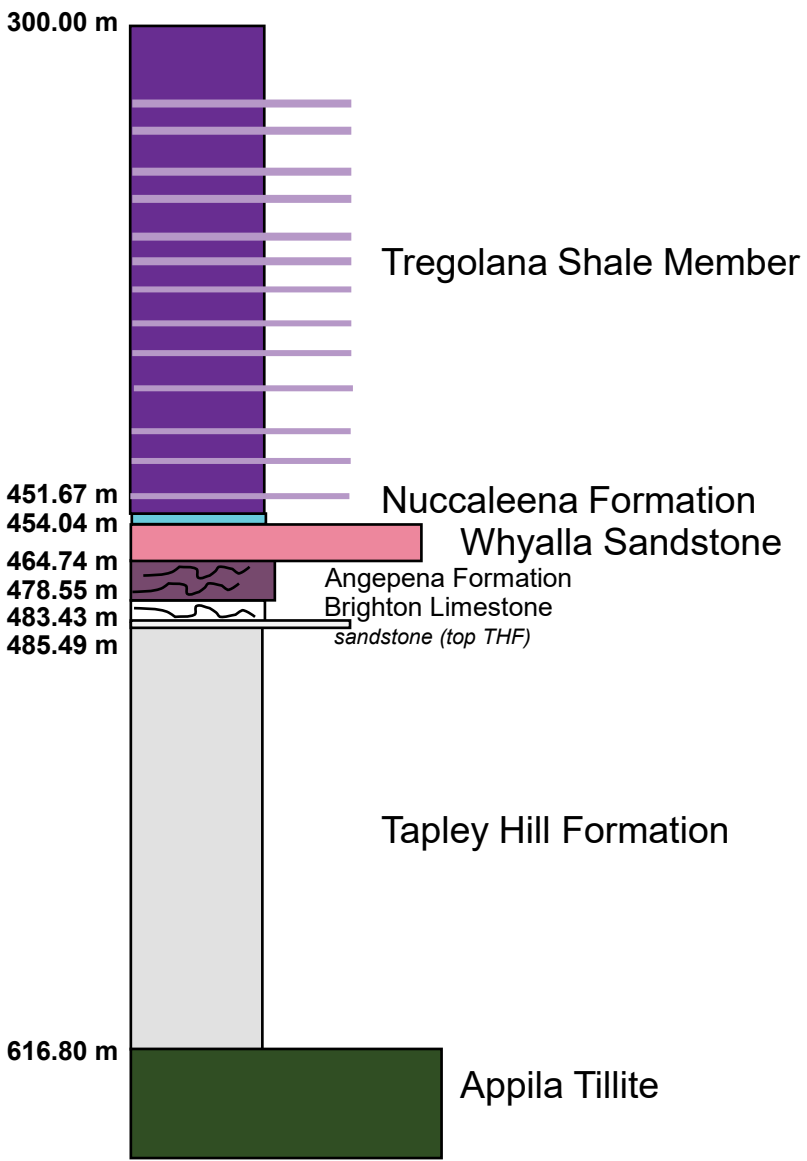
Generalised stratigraphy and sequence stratigraphy of the Stuart Shelf*



*Note: not all stratigraphic units were deposited or preserved throughout the Stuart Shelf

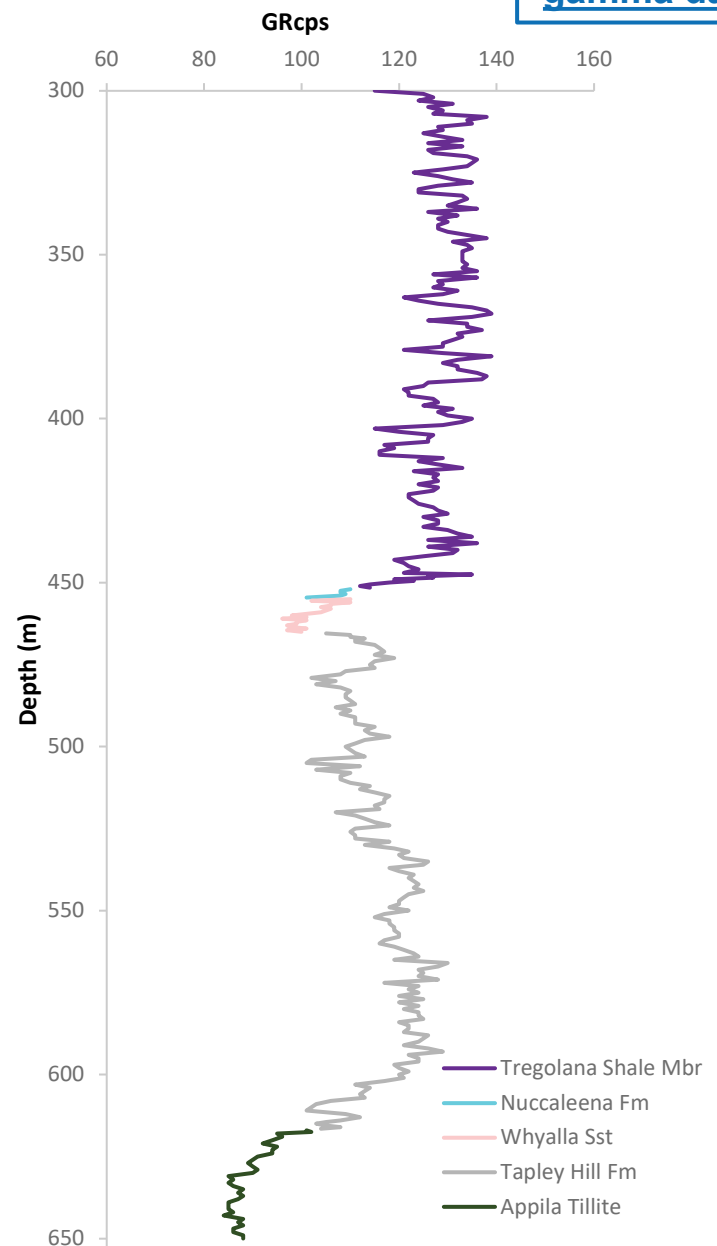
SR6

generalised stratigraphic log
(depth interval 300 – 650 m)



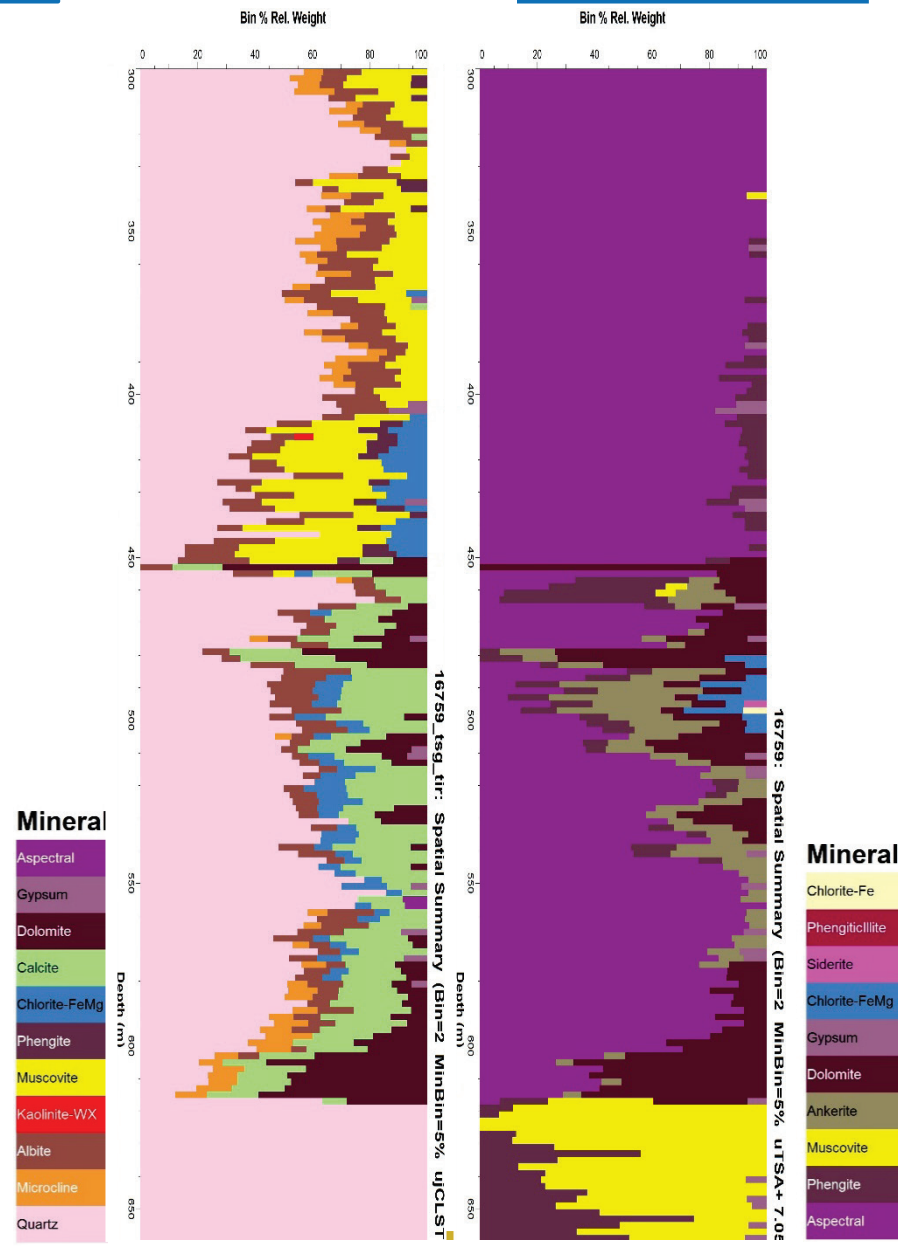
Handheld gamma*

[Download gamma data](#)



HyLogger™

[Download HyLogger™ data](#)

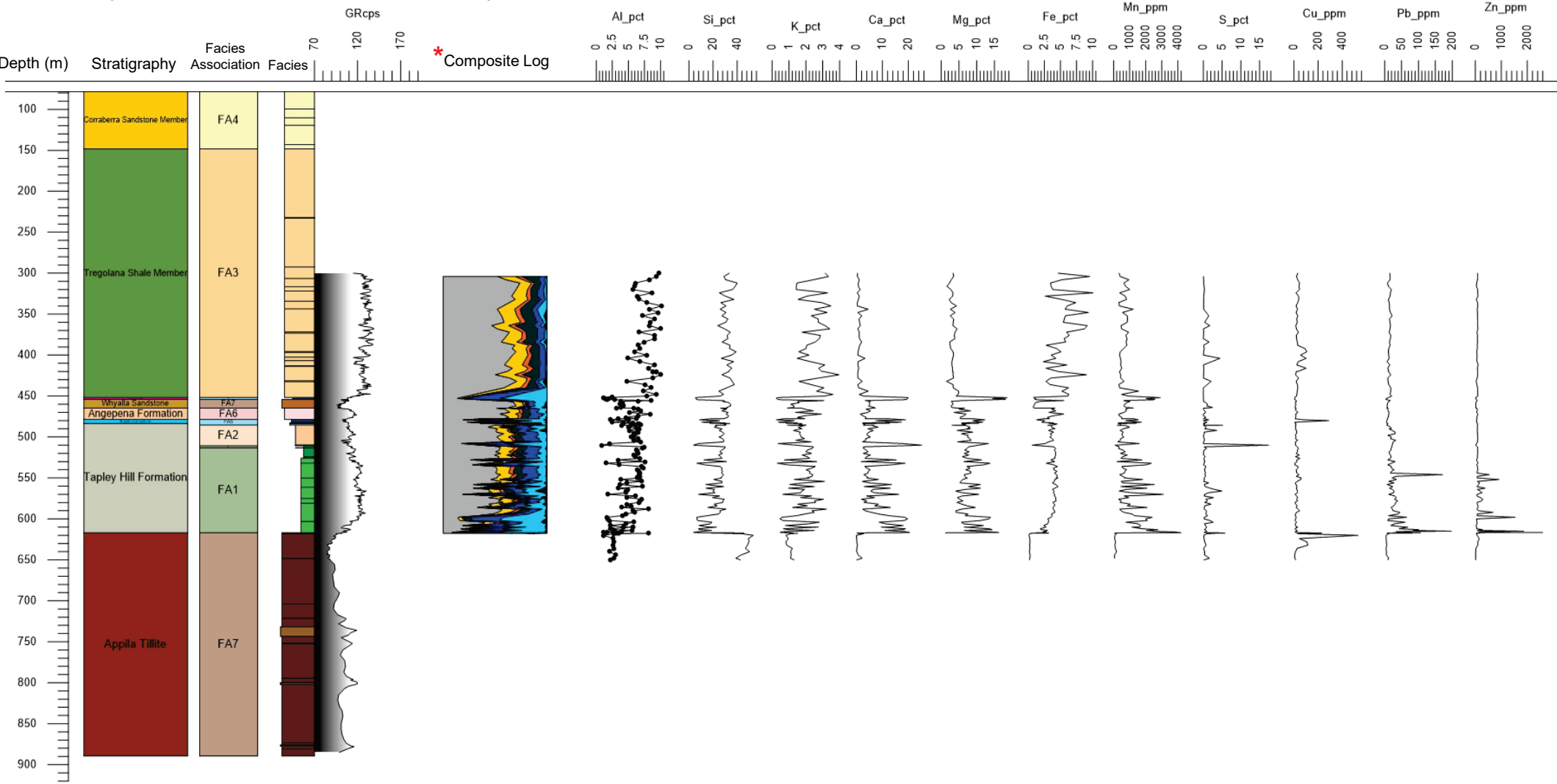


Combined STRATER log (stratigraphy, facies, gamma and handheld pXRF* - corrected)



[Download pXRF data](#)

SR6 (depth interval 300 – 650 m)



Facies Association (FA)

- FA1: offshore
- FA2: offshore transition
- FA3: lower shoreface - prodelta
- FA4: shoreface to delta front
- FA5: shallow subtidal to subtidal
- FA6: intertidal to supratidal
- FA7: glacial to fluvio-glacial

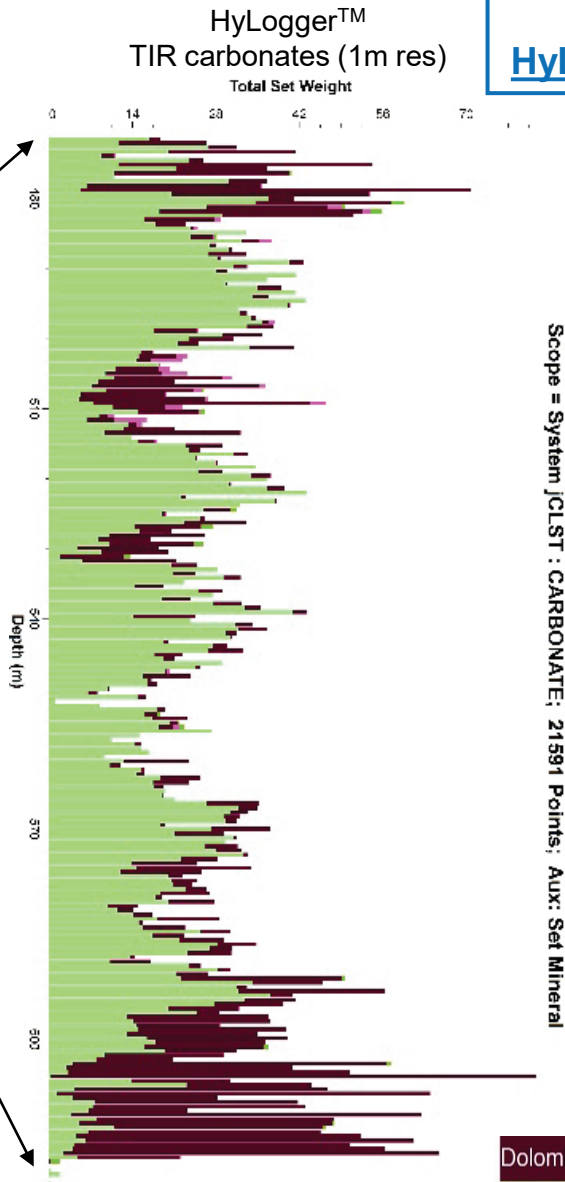
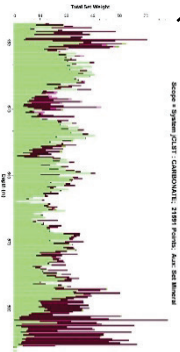
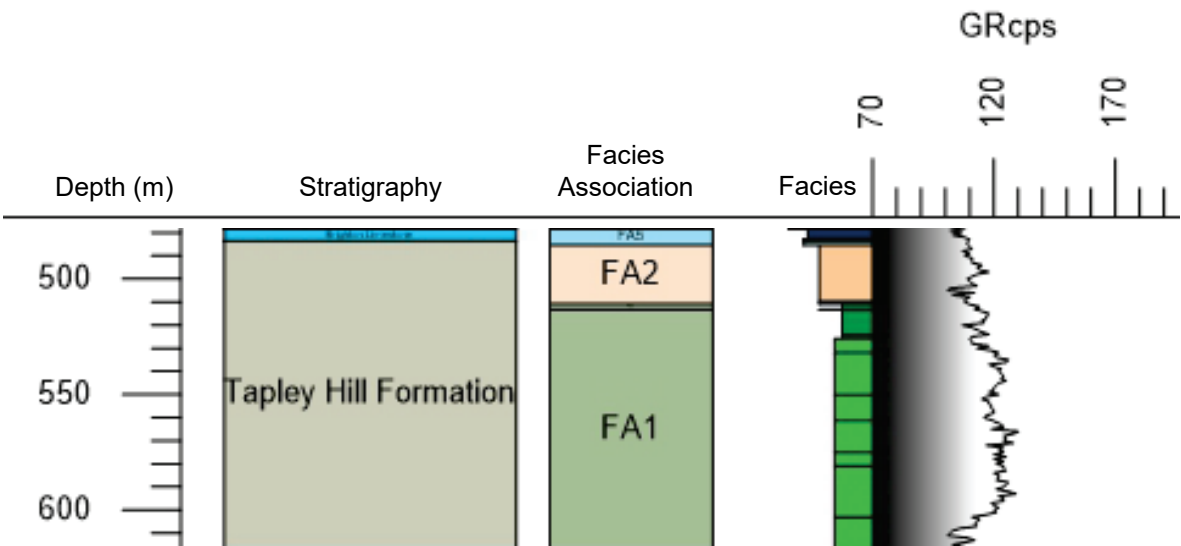
*

- Mg_pct
- Al_pct
- Si_pct
- S_pct
- K_pct
- Ca_pct
- Fe_pct
- Cu_ppm
- Pb_ppm
- Zn_ppm

*data collected with Vanta™ Handheld XRF

SR6 Carbonate Content Tapley Hill Formation and Brighton Limestone interval (478.55 – 616.8 m)

[Download HyLogger™ data](#)



- Facies Association (FA)**
- FA1: offshore
 - FA2: offshore transition
 - FA3: lower shoreface - prodelta
 - FA4: shoreface to delta front
 - FA5: shallow subtidal to subtidal
 - FA6: intertidal to supratidal
 - FA7: glacial to fluvio-glacial

Dolomite Magnesite
Calcite Siderite

Transition Appila Tillite – Tapley Hill Formation (THF)



Tapley Hill Formation

offshore transition – between storm wave base and fair-weather wave base

cm-scale interbedded carbonaceous and dolomitic siltstones



Tapley Hill Formation

offshore transition – between storm wave base and fair-weather wave base

edgewise conglomerates with calcite vugs

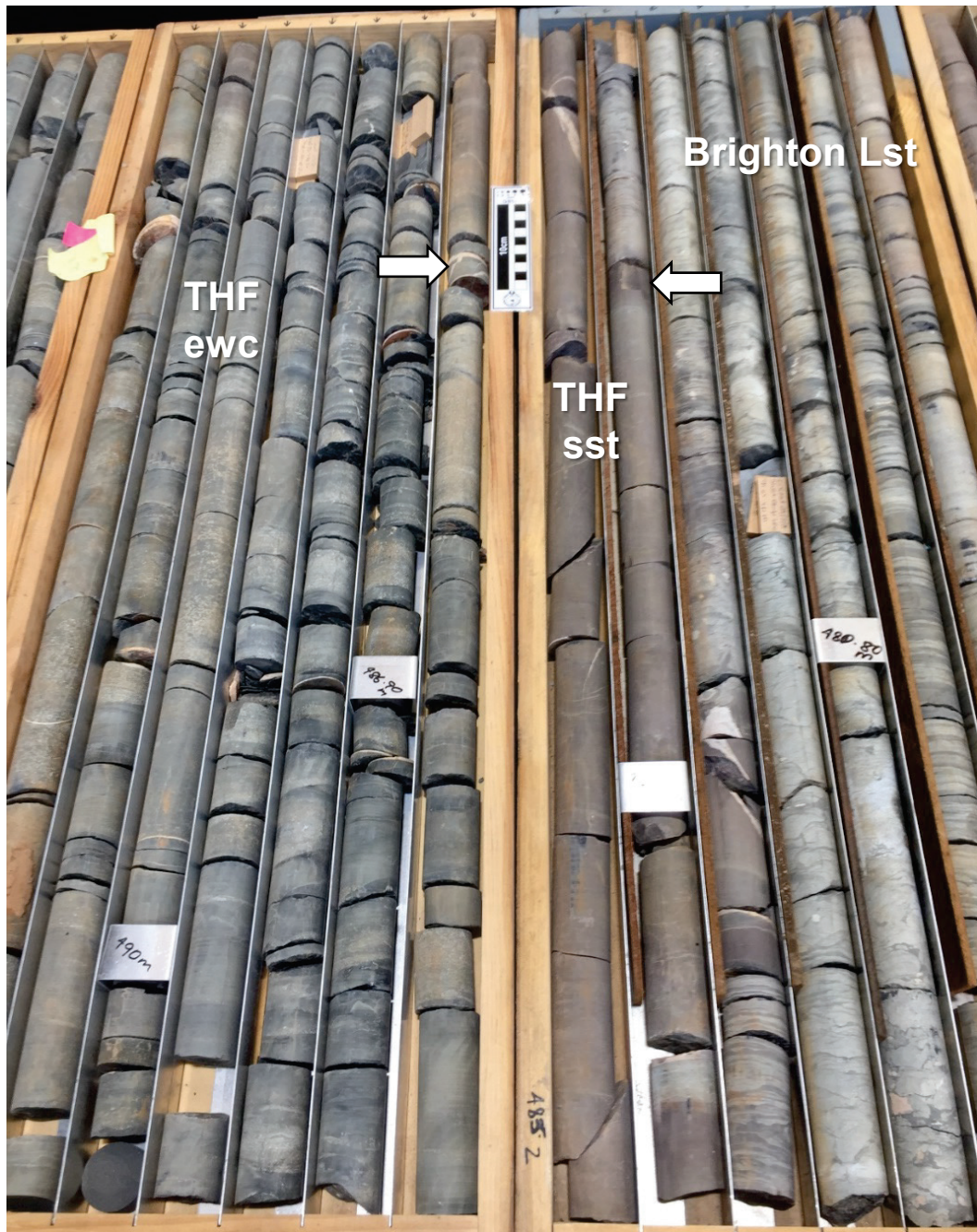


Tapley Hill Formation

offshore transition – between storm wave base and fair-weather wave base
slumps



Transition Tapley Hill Formation *ewc* → *massive sst* → Brighton Limestone



Brighton Limestone (depth 478.55 – 483.43 m)

microbiolaminites and stromatolites



Transition Brighton Limestone – Angepena Formation

Brighton Lst

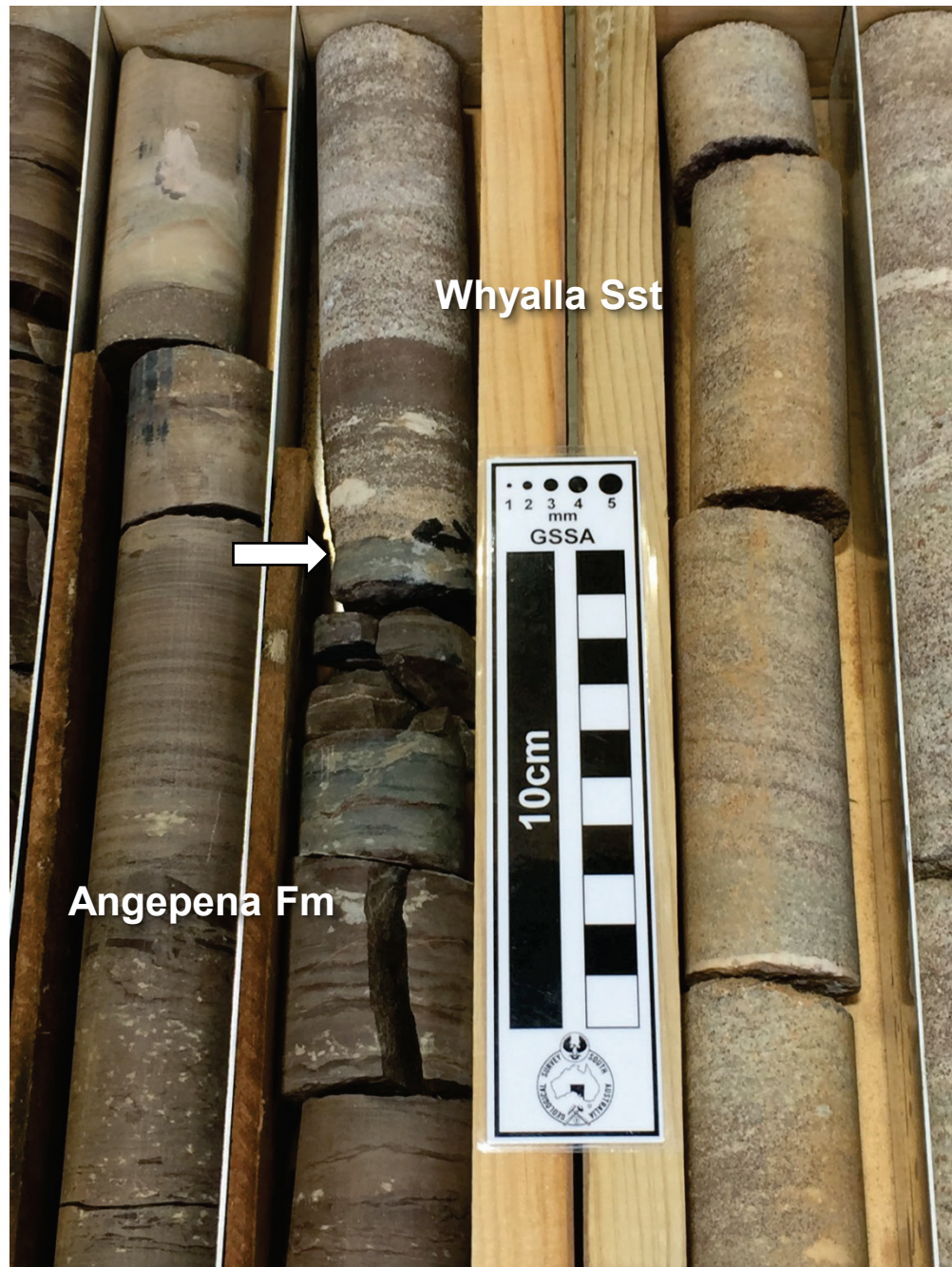
Angepena Fm

Angepena Fm (depth 464.74 – 478.55 m)

mud-/sandflats



Transition Angepena Fm – Whyalla Sst



Whyalla Sandstone (depth 454.04 –464.74 m)



[illegible]

Tregolana Shale Member (depth 148.27 – 451.67 m)

horizontal to ripple cross-bedded silt- and sandstone, some soft sediment deformation



Tregolana Shale Member



Transition Tregolana Shale Member – Corraberra Sandstone Member



Corraberra Sandstone Mbr (depth 2 – 148.27 m)

