



BUTE B 23 (DH 30054) drillhole report

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

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



Government
of South Australia

Department for
Energy and Mining



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

2 CSIRO (*now FMG)

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Report Book 2023/00006



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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.

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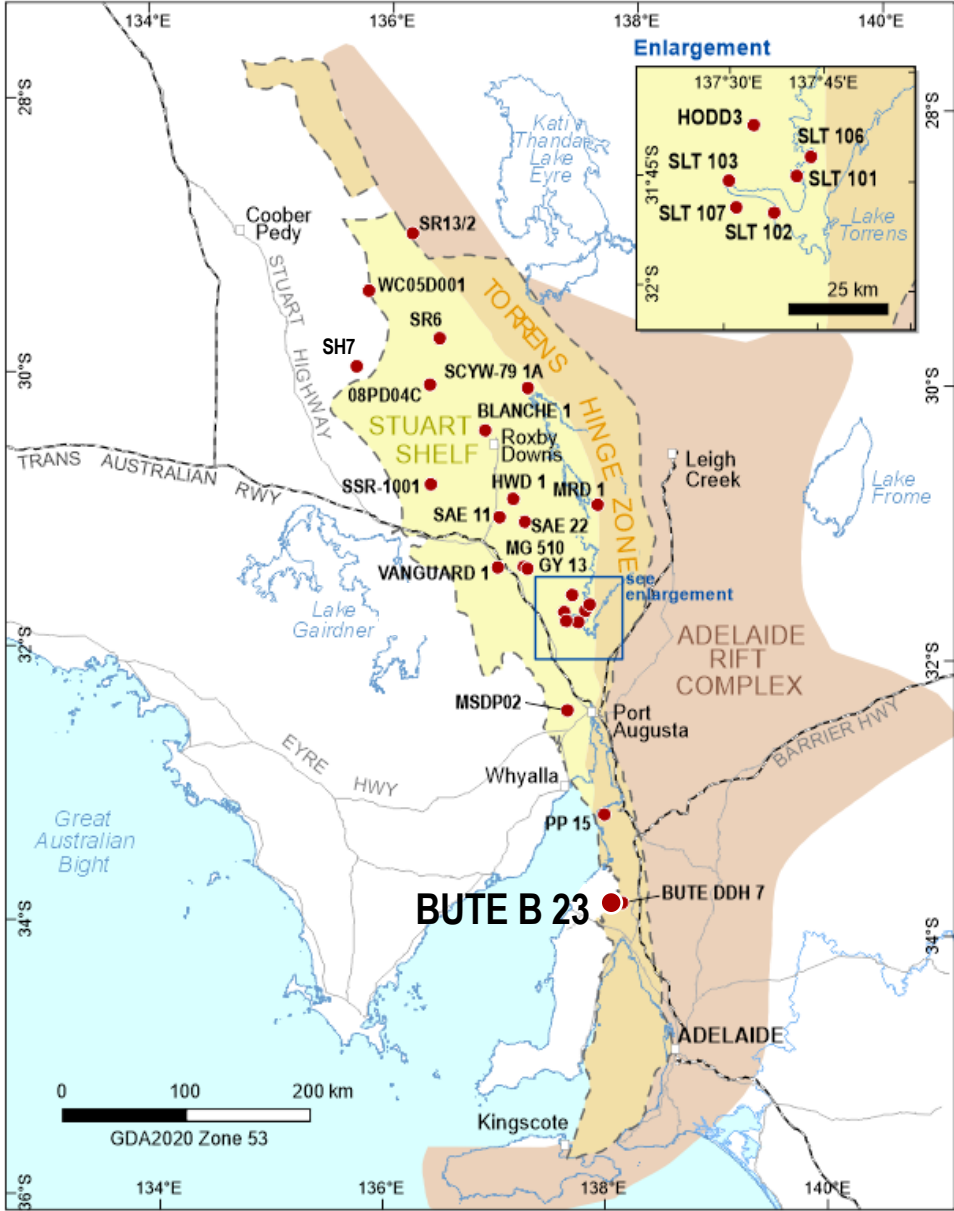
Drillhole information

Drillhole name	BUTE B 23	
Drillhole number	30054	
Tenement	EL 577	
Location	138.0073644 Long -33.8725394 Lat	223176.46E 6247944.95N GDA2020, Zone 52
Date Drilled	21/07/1980	
Drillhole depth	866.80 m	
Cored interval	855.30 m	
Azimuth/Dip	n. a.	-90
Reference	ENV03767 , RB88/00067	

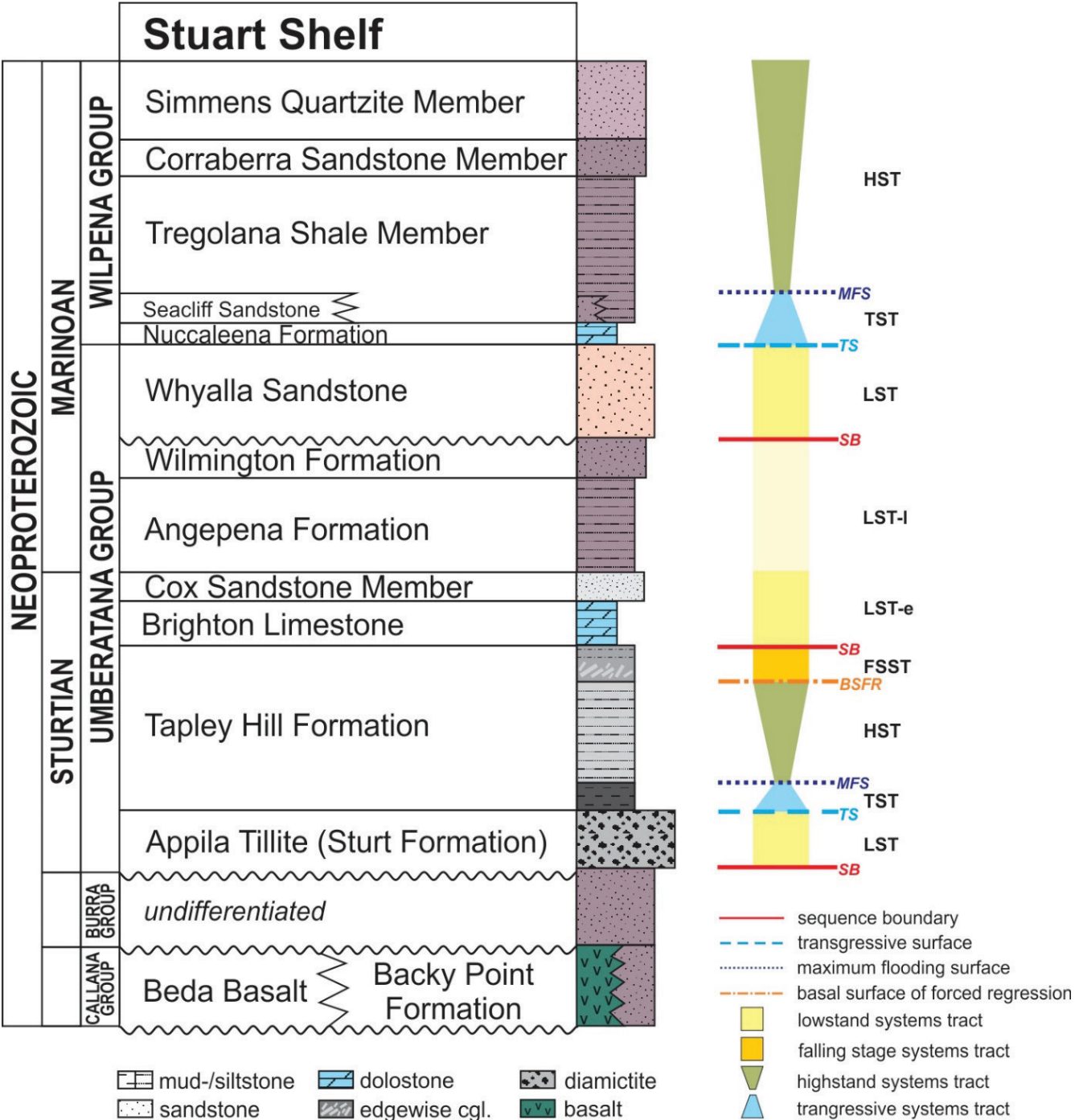
This drillhole report provides a summary of new logging and data collection undertaken as part of the Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA-CSIRO project.

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

Drillhole location



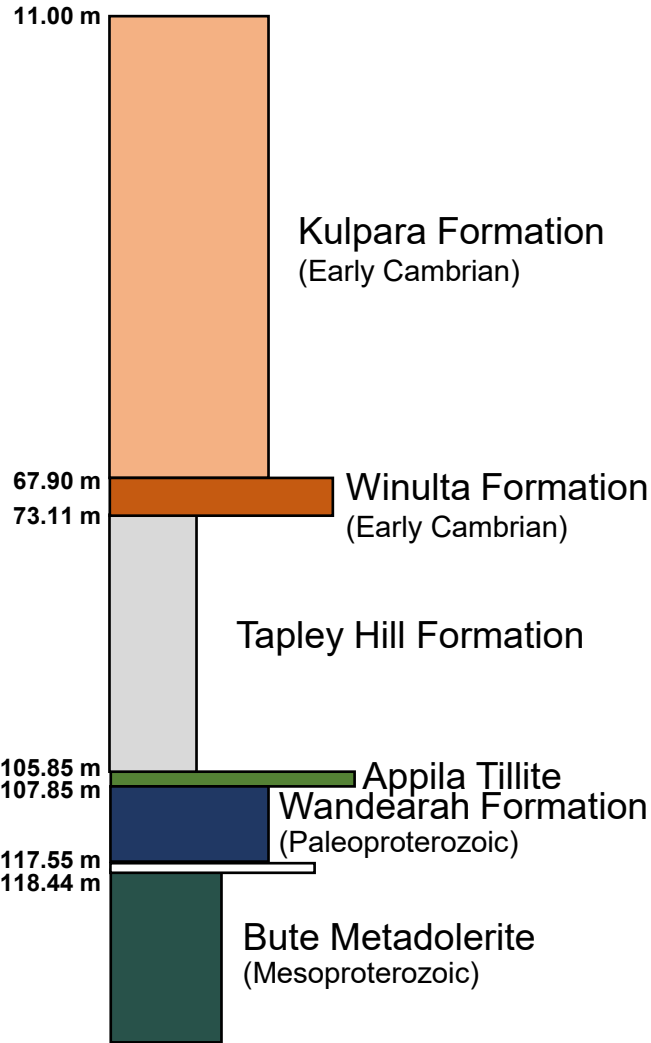
Generalised stratigraphy and sequence stratigraphy of the Stuart Shelf*



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

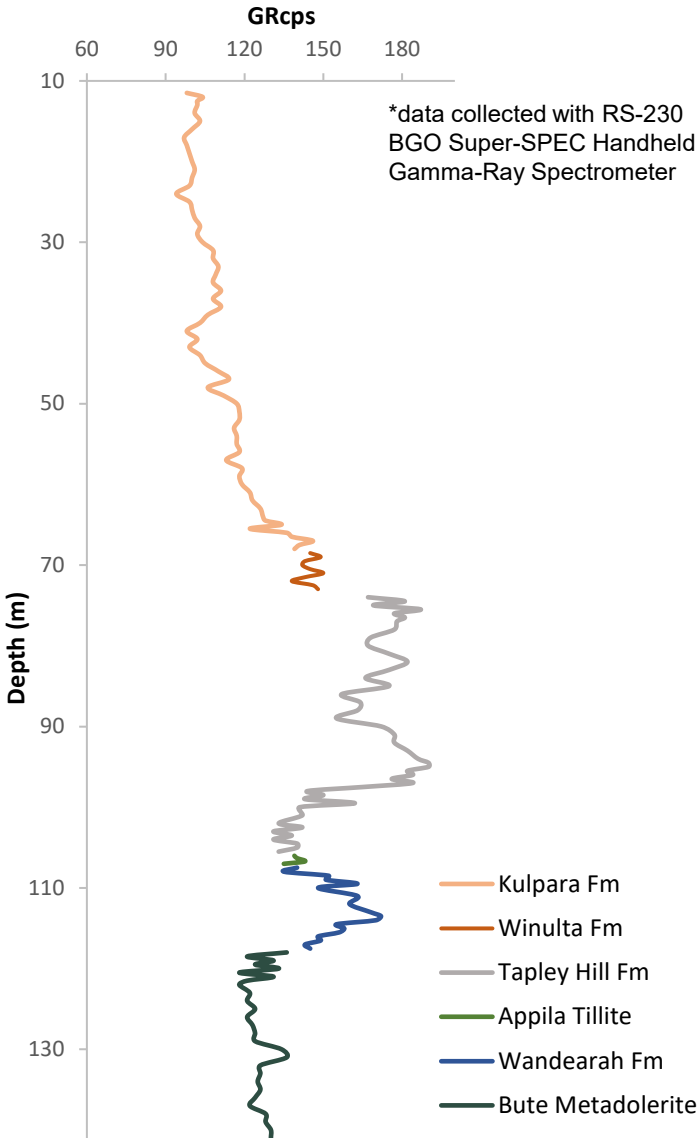
BUTE B 23

generalised stratigraphic log
(depth interval 11 – 141 m)



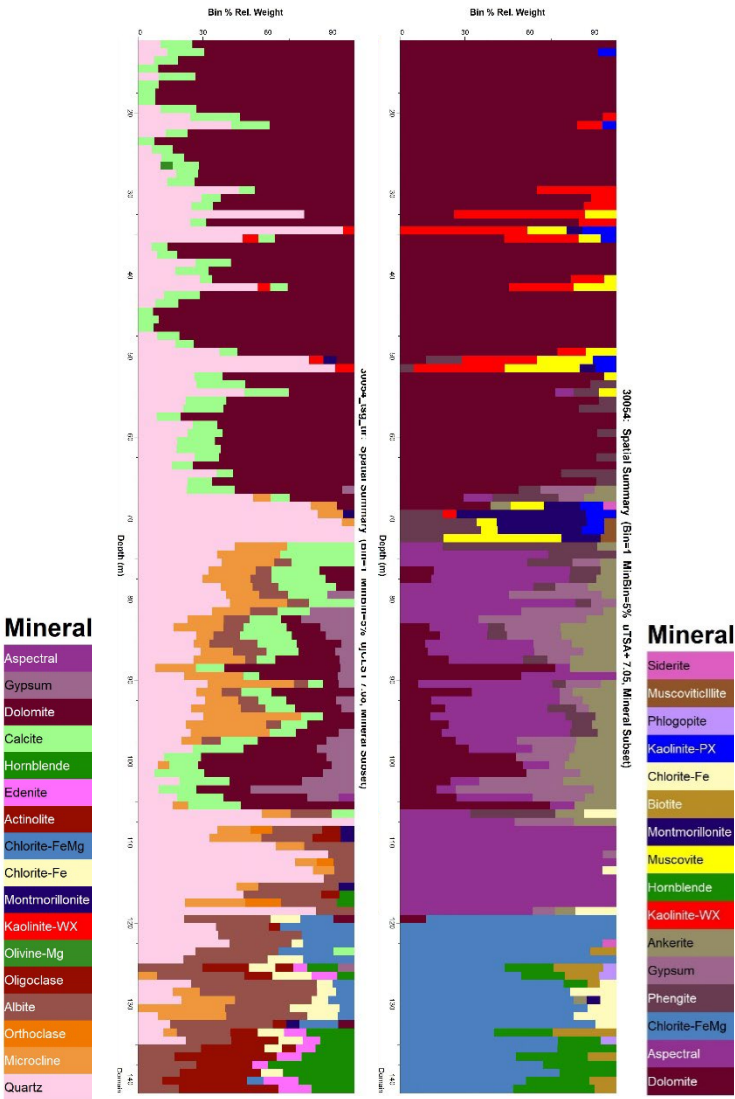
Handheld gamma*

[Download
gamma data](#)



HyLogger™

[Download
HyLogger™ data](#)

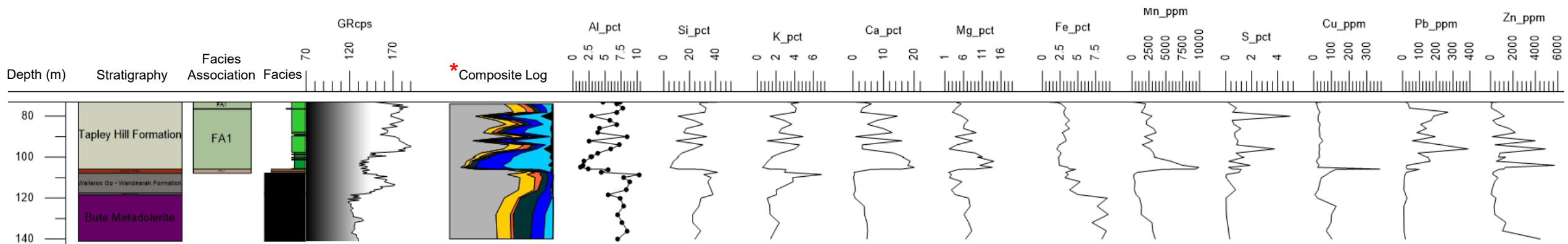


Combined STRATER log (stratigraphy, facies, gamma and handheld pXRF* - corrected)

BUTE B 23 (depth interval 11 – 141 m)



[Download pXRF 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

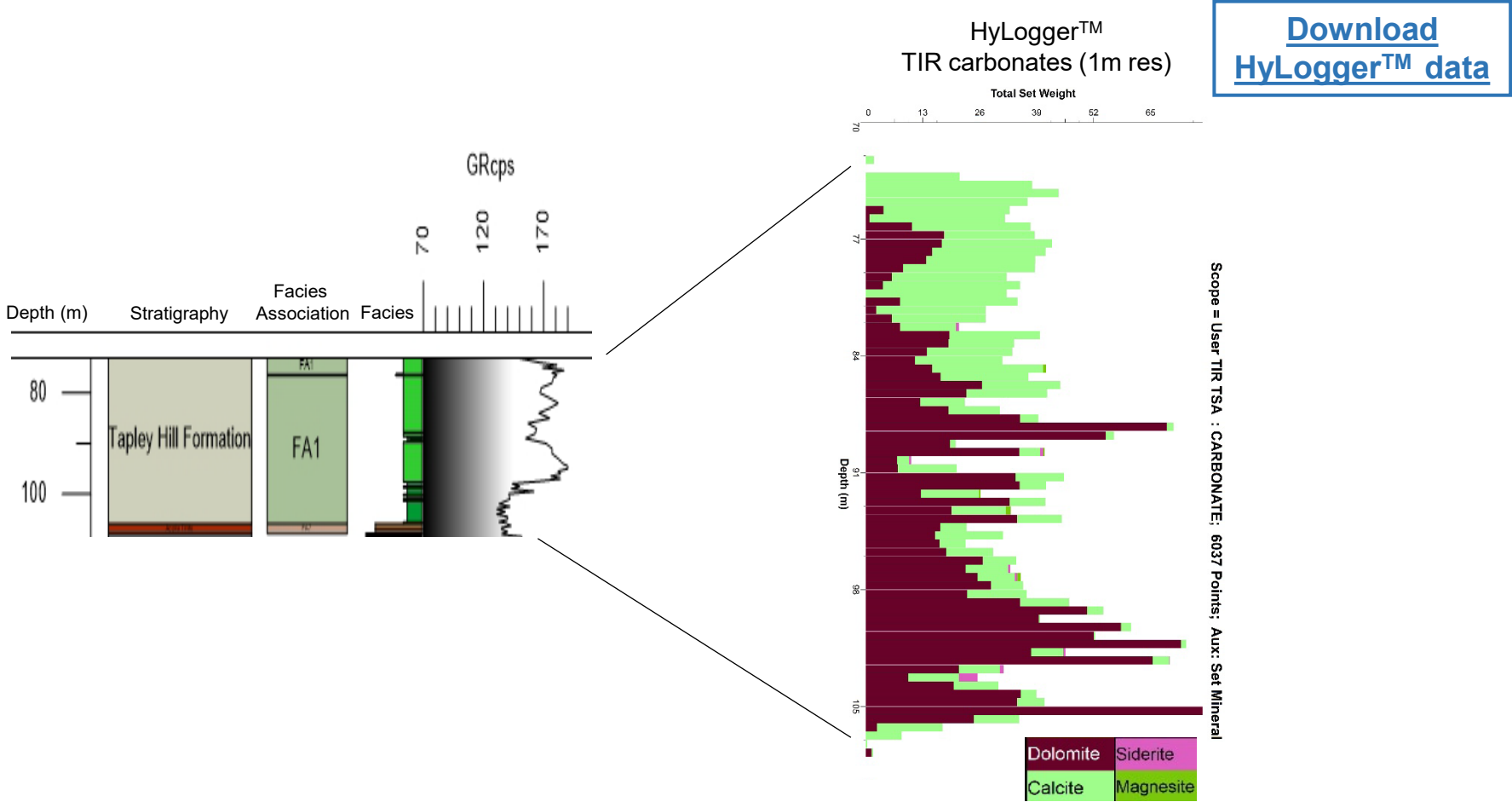
*

- 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

BUTE B 23 Carbonate Content

Tapley Hill Formation interval (73.11 – 105.85 m)

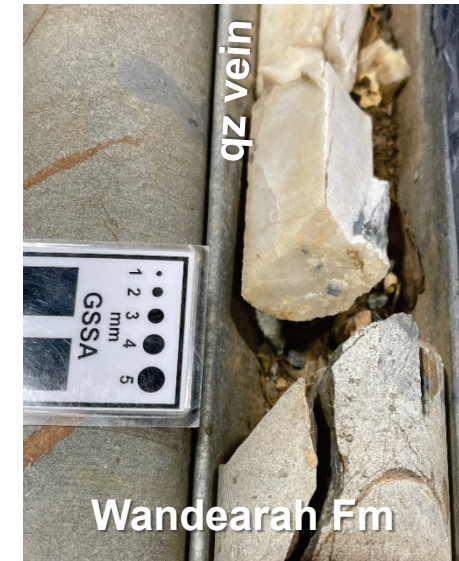


- Facies Association (FA)**
- FA1: offshore
 - FA2: offshore transition
 - FA3: lower shoreface - prodelta
 - FA4: shoreface to delta front
 - FA5: shallow subtidal to subtidal
 - FA6: intertidal to supratidal
 - FA7: glacial to fluvio-glacial

Transition Wandearah Formation – Appila Tillite – Tapley Hill Formation (THF)



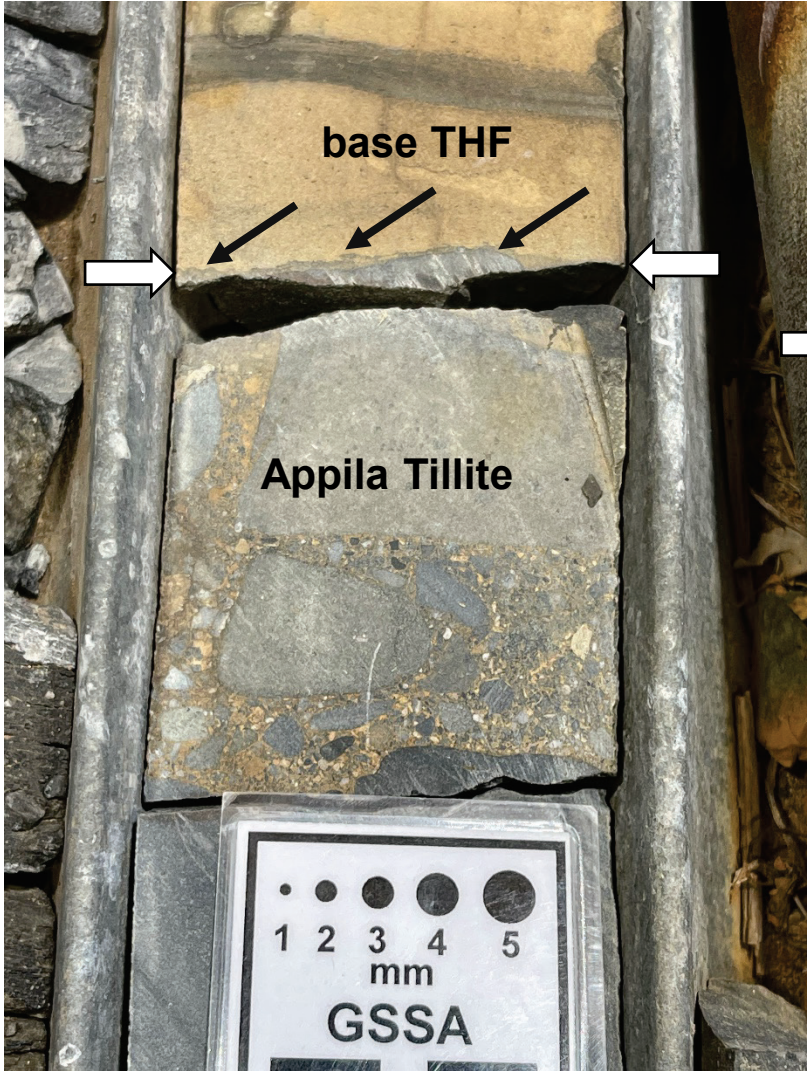
Wandearah Formation (depth 107.85 – 117.55 m)



Appila Tillite (depth 105.85 – 107.85 m)



Contact Appila Tillite – Tapley Hill Formation (depth 73.11 – 105.85 m)



basal Tapley Hill Formation

Tapley Hill Formation

offshore marine – below wave storm base

interbedded dolomitic siltstones and dark grey siltstones



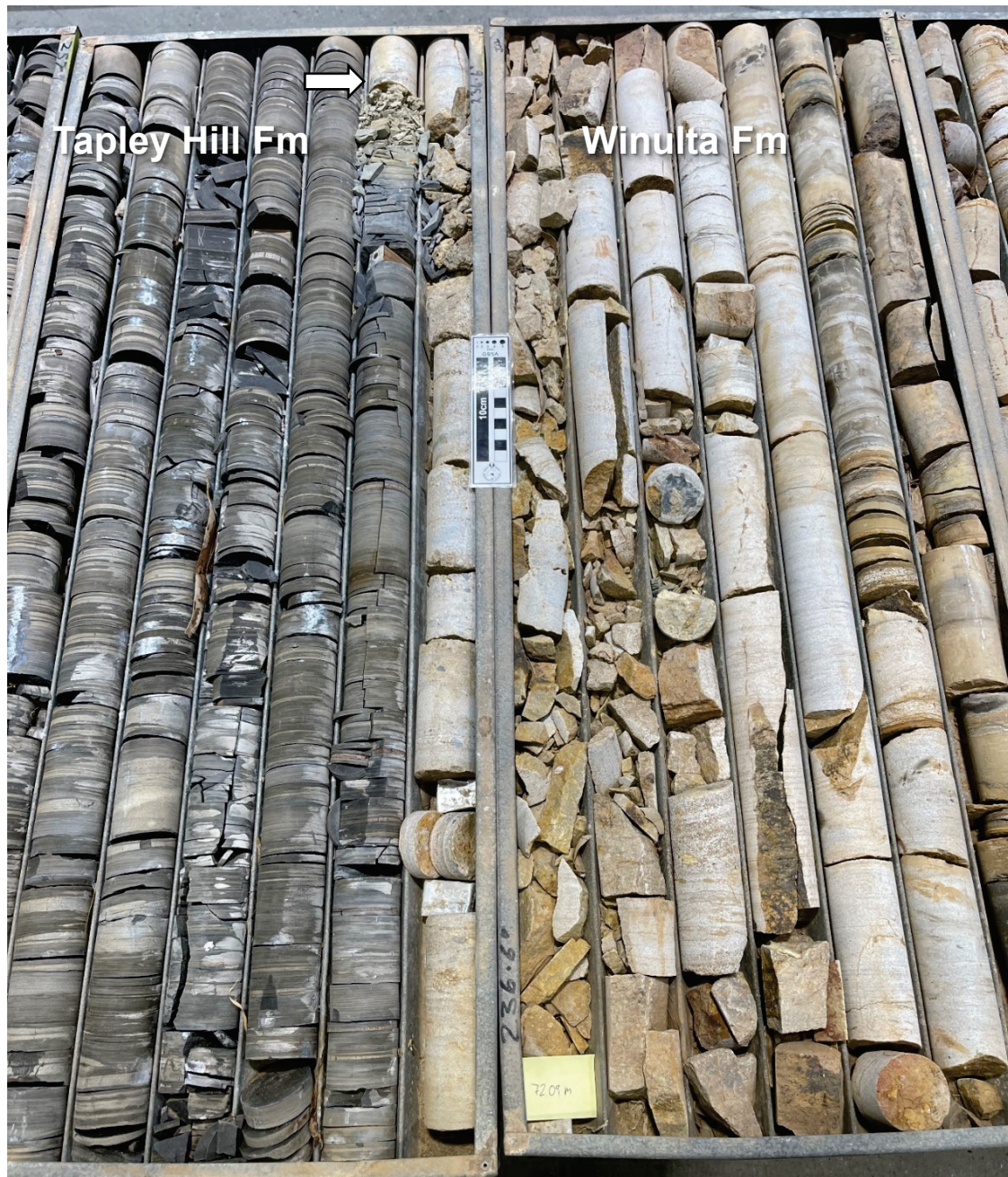
Tapley Hill Formation

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

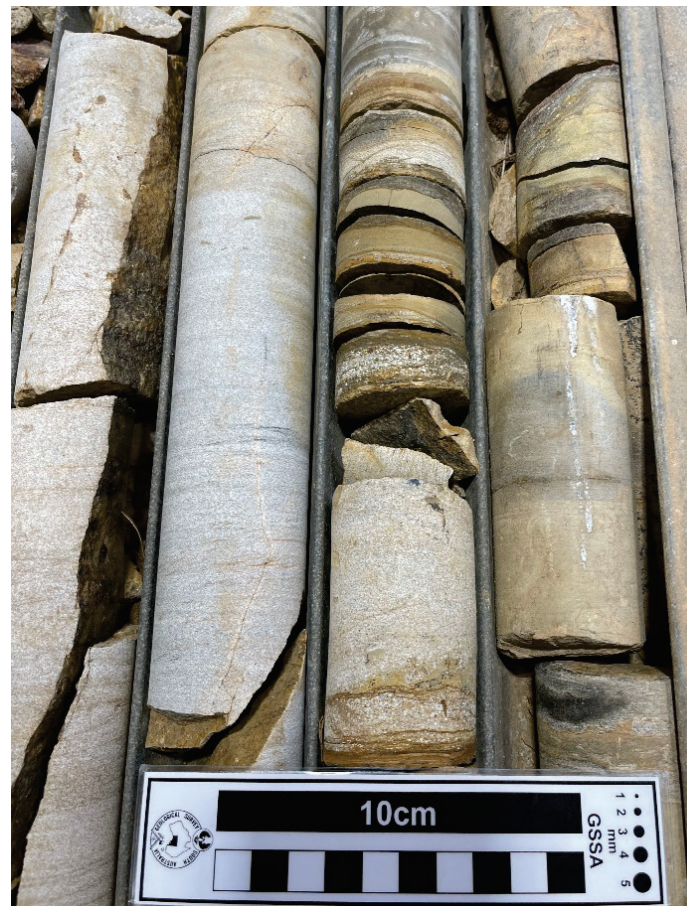
→ edgewise conglomerate



Transition Tapley Hill Formation – Cambrian succession



Winulta Formation
(depth 67.9 – 73.11 m)



Kulpara Formation
(depth 9.1 – 67.9 m)

