



MG 510 (DH 139752) drillhole report

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

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



Government
of South Australia

Department for
Energy and Mining



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C Krapf¹, A Fabris¹, G Gordon¹,
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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 2023/00010



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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.

Preferred way to cite this publication

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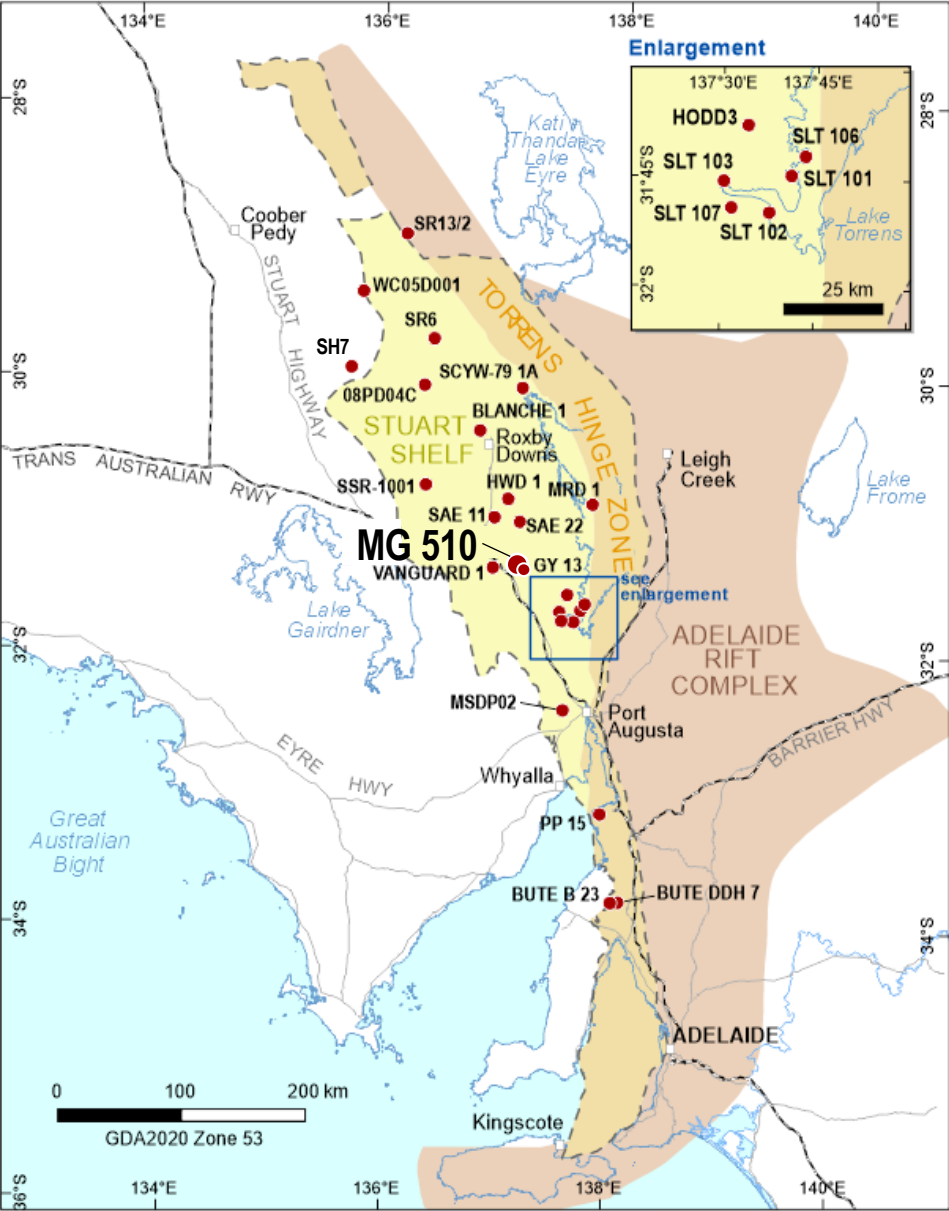
Drillhole information

Drillhole name	MG 510	
Drillhole number	139752	
Tenement	EL 951	
Location	137.1509637 Long -31.4337524 Lat	704430.76E 6520324N GDA2020, Zone 53
Date drilled	24/11/1983	
Drillhole depth	36.10 m	
Cored interval	16.10 m	
Azimuth/Dip	n. a.	-90
Reference	ENV06962	

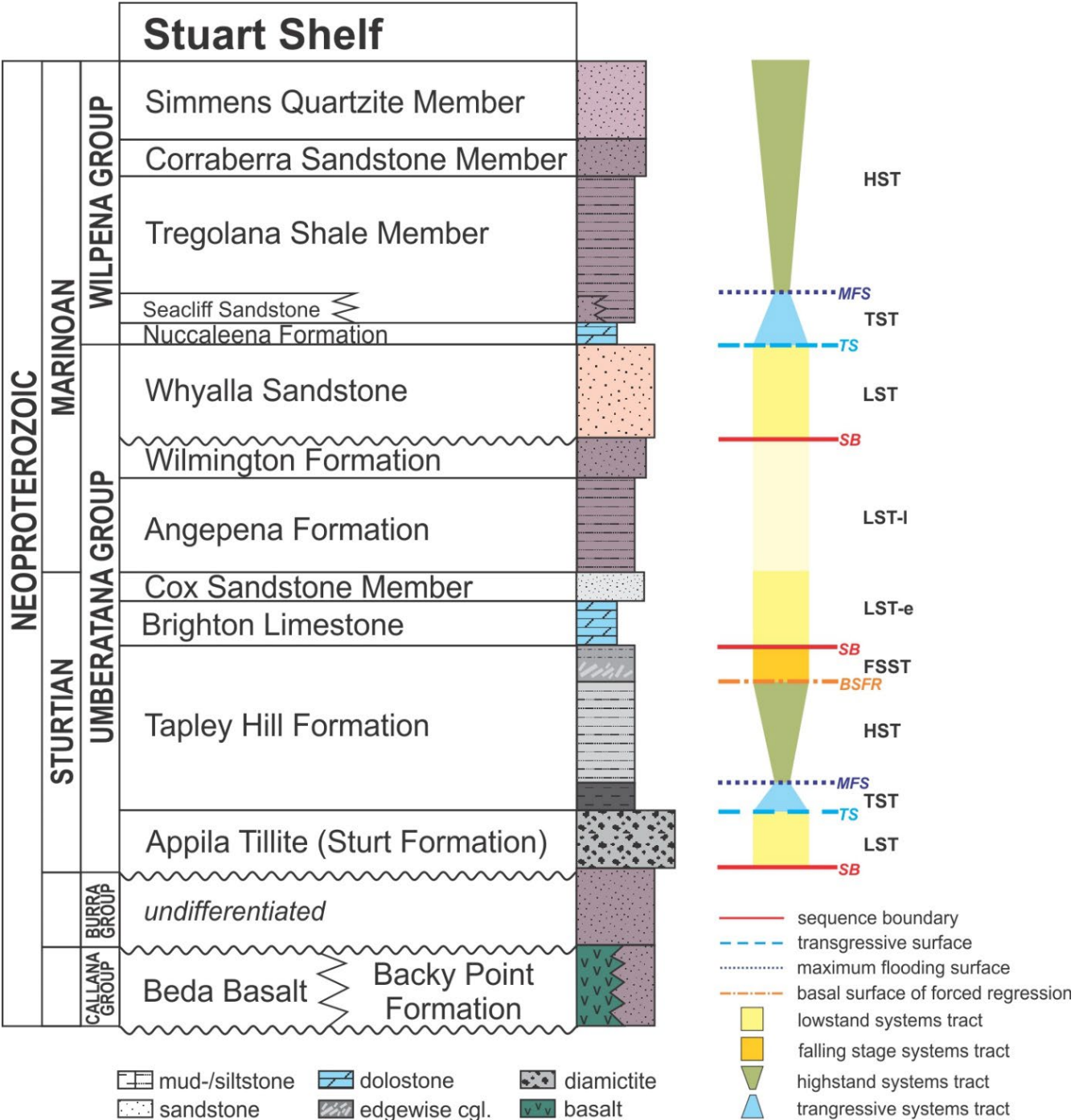
This drillhole report provides a summary of new logging and data collection undertaken as part of the Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA-CSIRO project.

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

Drillhole location



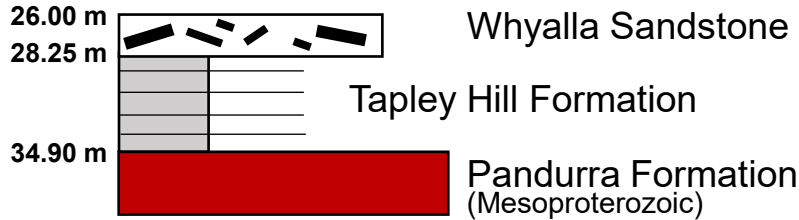
Generalised stratigraphy and sequence stratigraphy of the Stuart Shelf*



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

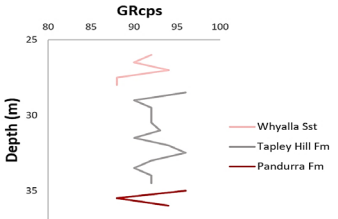
MG 510

generalised stratigraphic log
(depth interval 26 – 36.1 m)



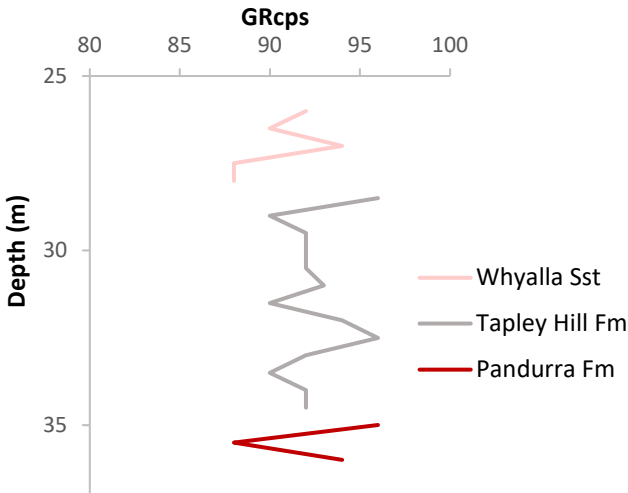
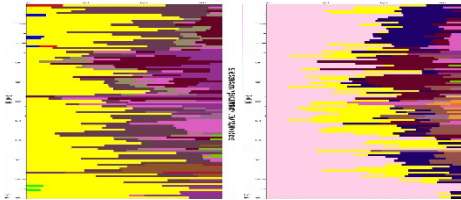
Handheld gamma*

[Download gamma data](#)

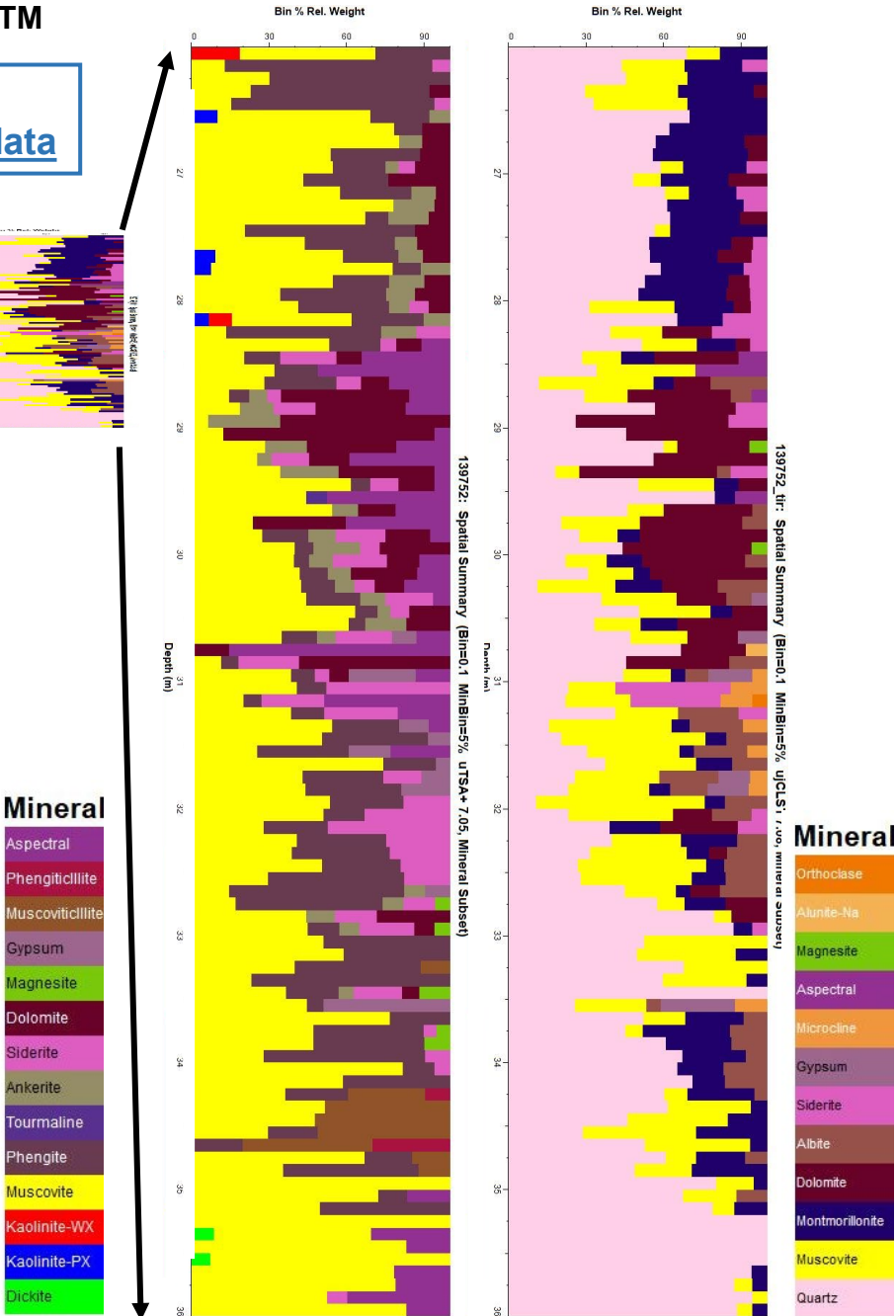


HyLogger™

[Download HyLogger™ data](#)



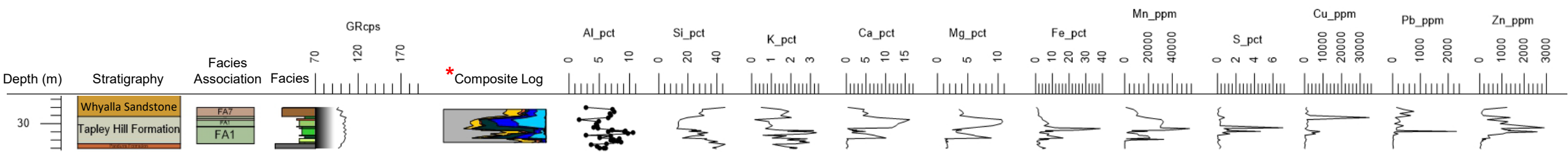
*data collected with RS-230
BGO Super-SPEC Handheld
Gamma-Ray Spectrometer



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



MG 510 (depth interval 26 – 36.1 m)



Facies Association (FA)

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

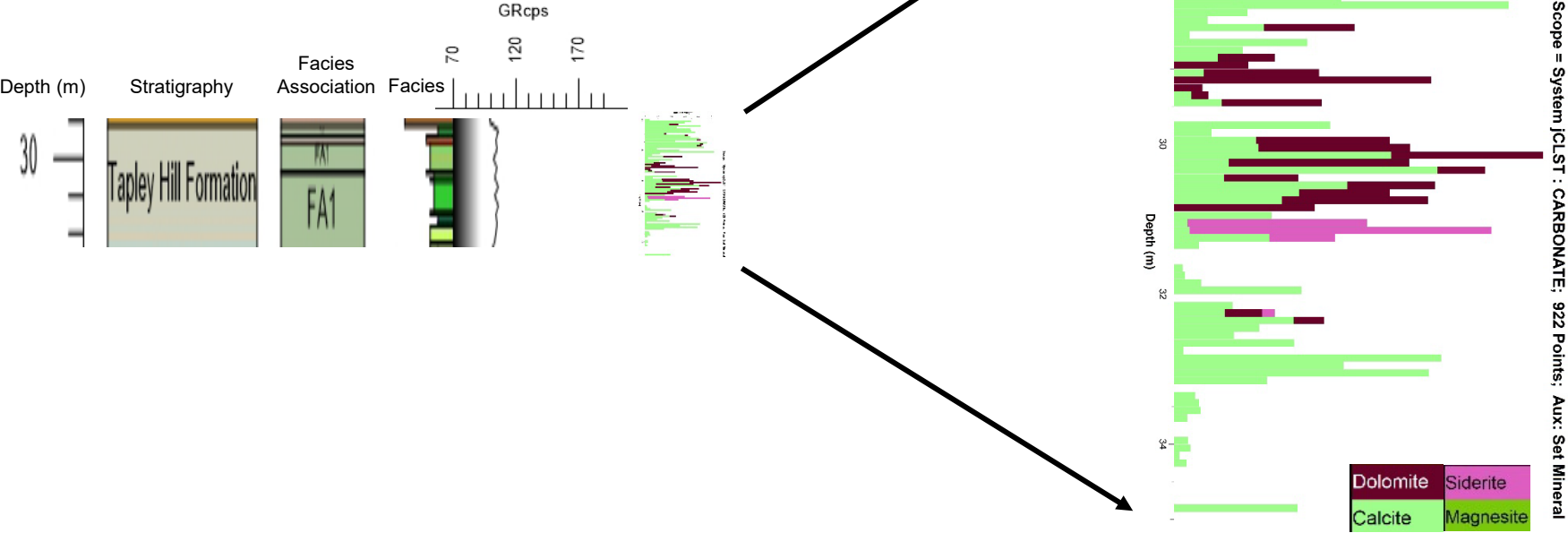
***Legend**

Mg_pct	Ca_pct
Al_pct	Fe_pct
Si_pct	Cu_ppm
S_pct	Pb_ppm
K_pct	Zn_ppm

*data collected with Vanta™ Handheld XRF

MG 510 Carbonate Content Tapley Hill Formation (28.25 – 34.9 m)

[Download HyLogger™ data](#)



Facies Association (FA)

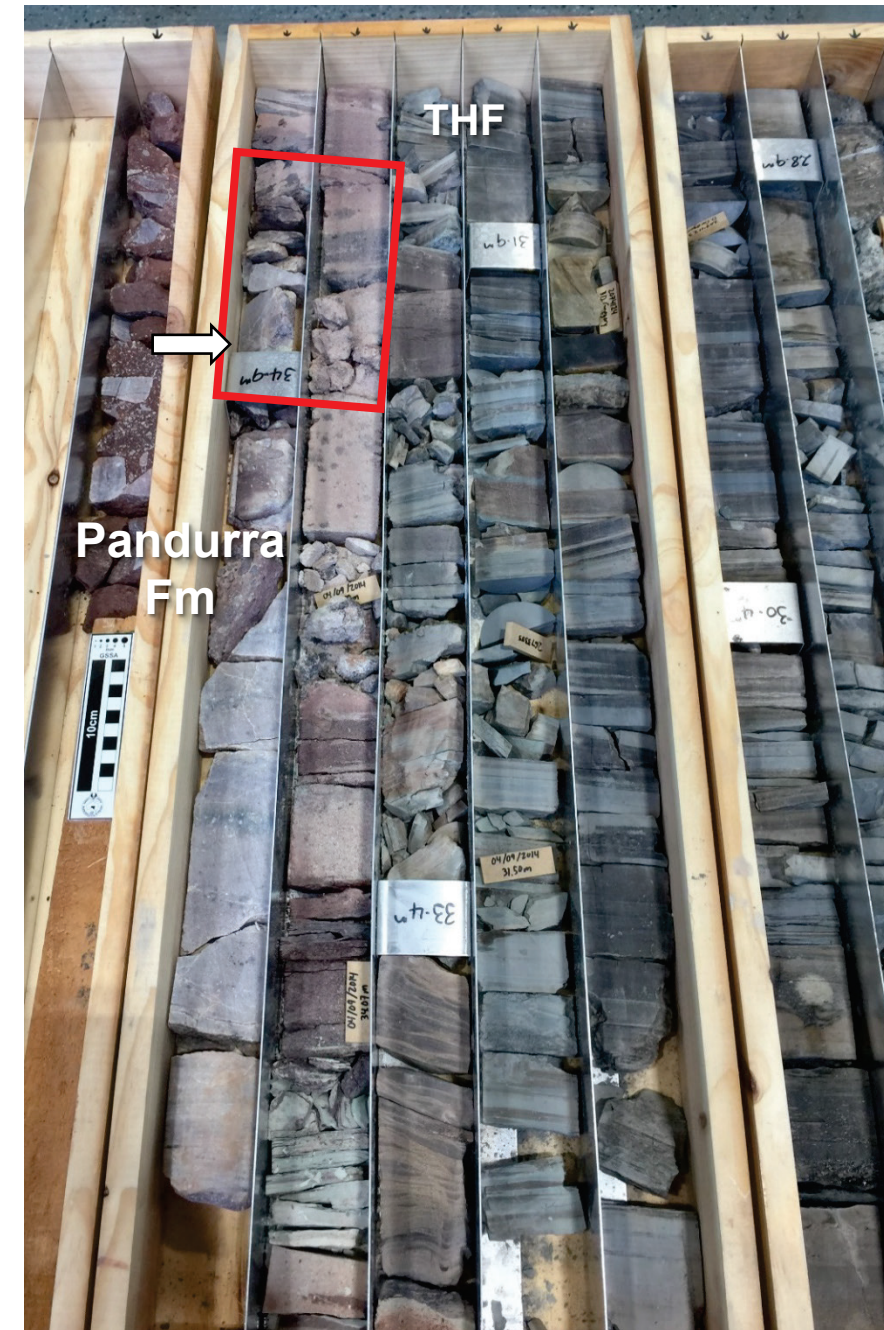
- | | |
|---------------------------------|-----------------------------------|
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| FA4: shoreface to delta front | |

Pandurra Formation (depth 34.9 – 36.1 m)

micaceous sandstones and conglomerates fining upward into siltstones (fluvial redbed deposits)



Transition Pandurra Formation – Tapley Hill Formation (THF)



Tapley Hill Formation

offshore marine – below wave storm base

laminated siltstones, rip up clasts, debrite, carbonaceous mudrock



Transition Tapley Hill Formation – Whyalla Sandstone



Whyalla Sandstone (depth 0 – 28.25 m)

