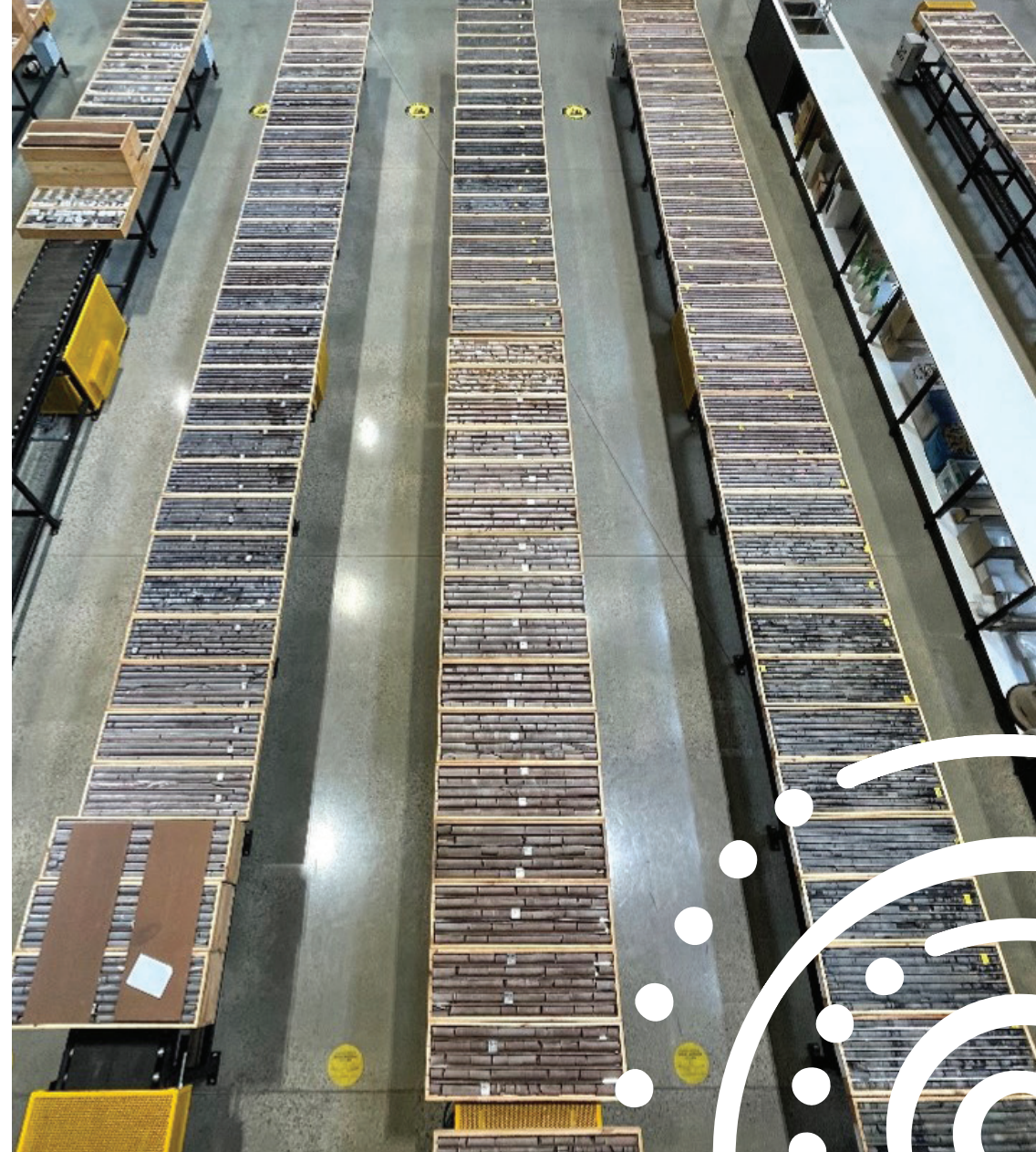




SLT 107 (DH 25357) drillhole report

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

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



SLT 107 (DH 25357) drillhole report

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

C Krapf¹, M Bockmann¹, A Fabris¹, G Gordon¹,
S Schmid² and V Crombez²

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

² CSIRO

April 2023

Report Book 2023/00022



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 and Crombez V 2023. *SLT 107 (DH 25357) drillhole report – Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA–CSIRO project*, Report Book 2023/00022. Department for Energy and Mining, South Australia, Adelaide.

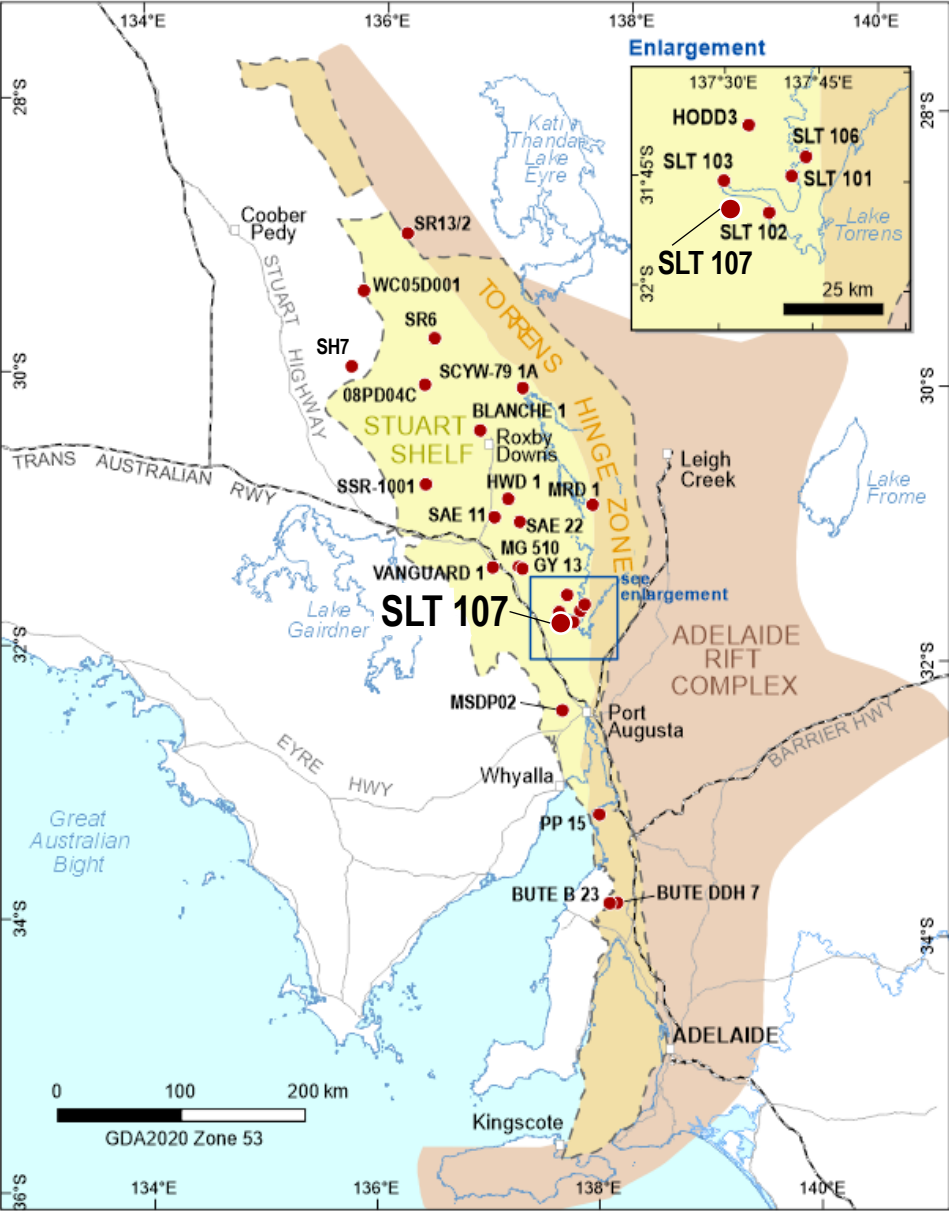
Drillhole information

Drillhole name	SLT 107	
Drillhole number	25357	
Tenement	EL 582	
Location	137.5258646 Long -31.8193224 Lat	739082.72E 6476811.13N GDA2020, Zone 53
Date drilled	23/01/1981	
Drillhole depth	1099 m	
Cored interval	1078.80 m	
Azimuth/Dip	n. a.	-90
Reference	ENV03769 , ENV06962	

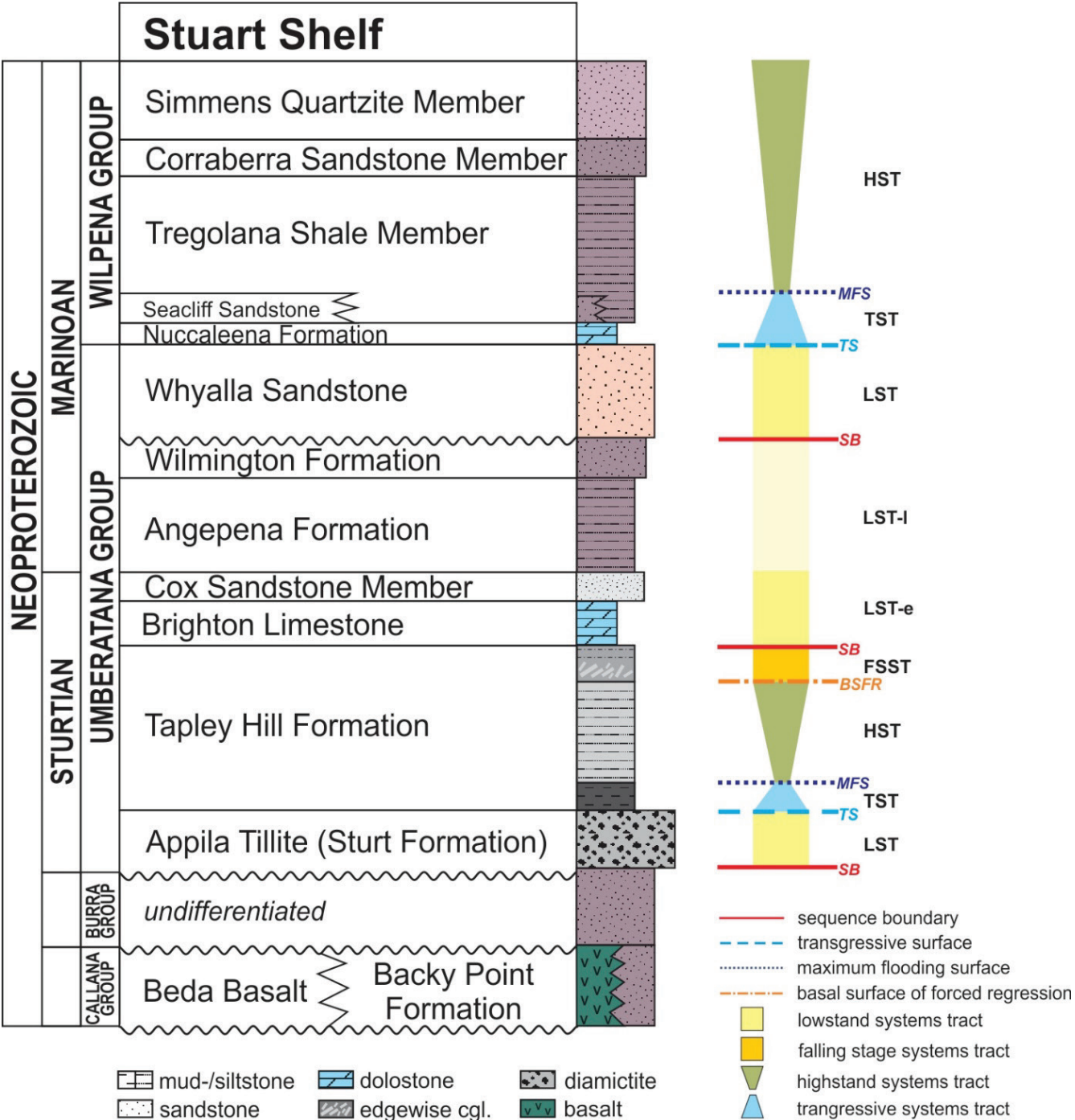
This drillhole report provides a summary of new logging and data collection undertaken as part of the Sedimentary Copper Mineral Systems of the Stuart Shelf GSSA-CSIRO project.

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

Drillhole location



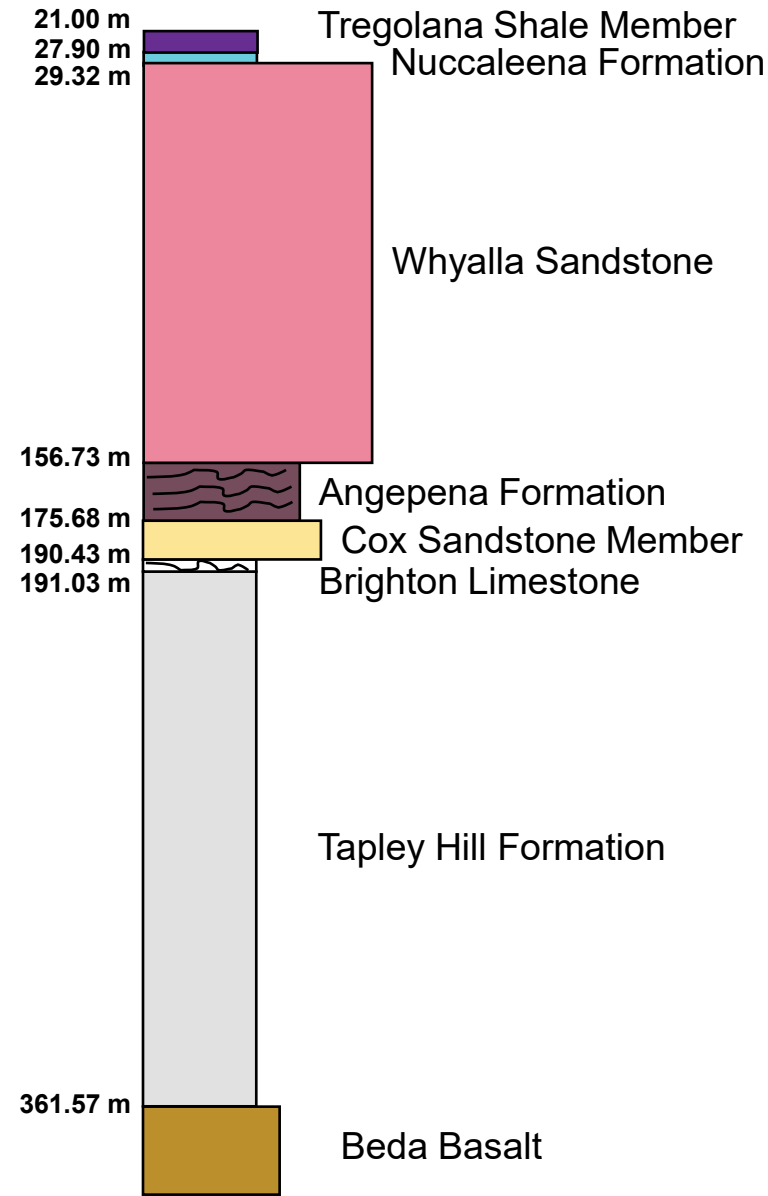
Generalised stratigraphy and sequence stratigraphy of the Stuart Shelf*



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

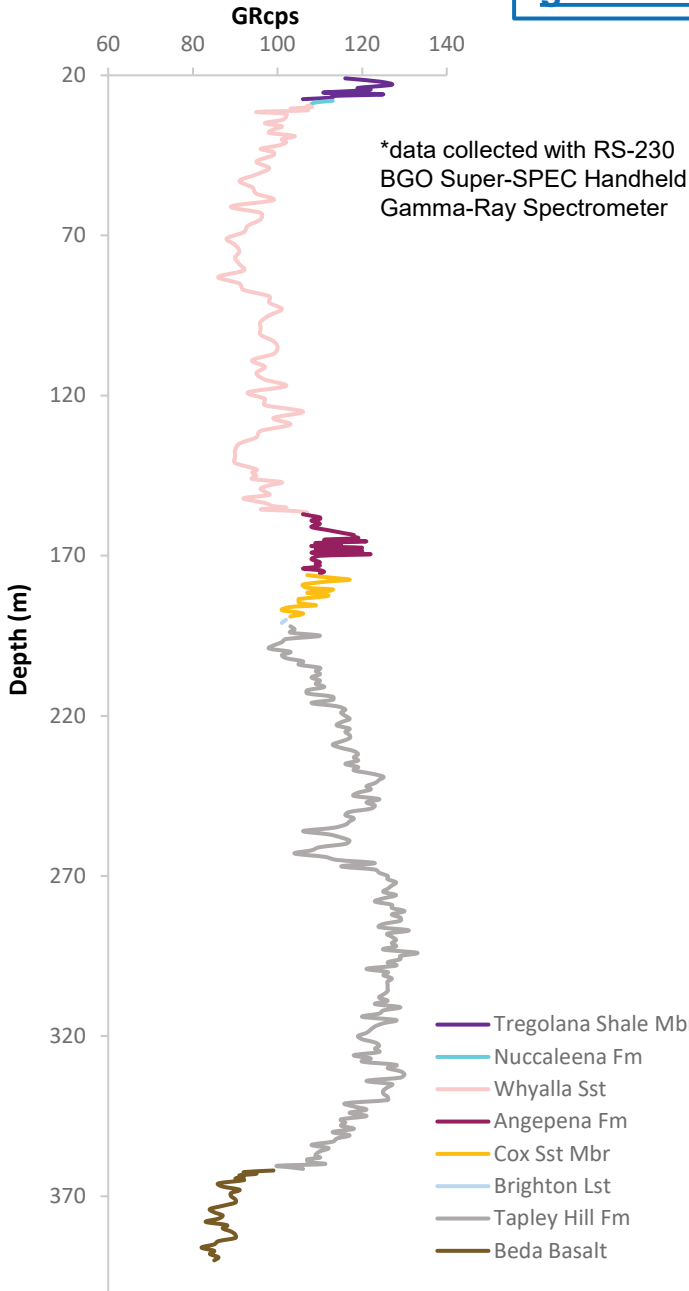
SLT 107

generalised stratigraphic log (depth interval 21 – 380 m)



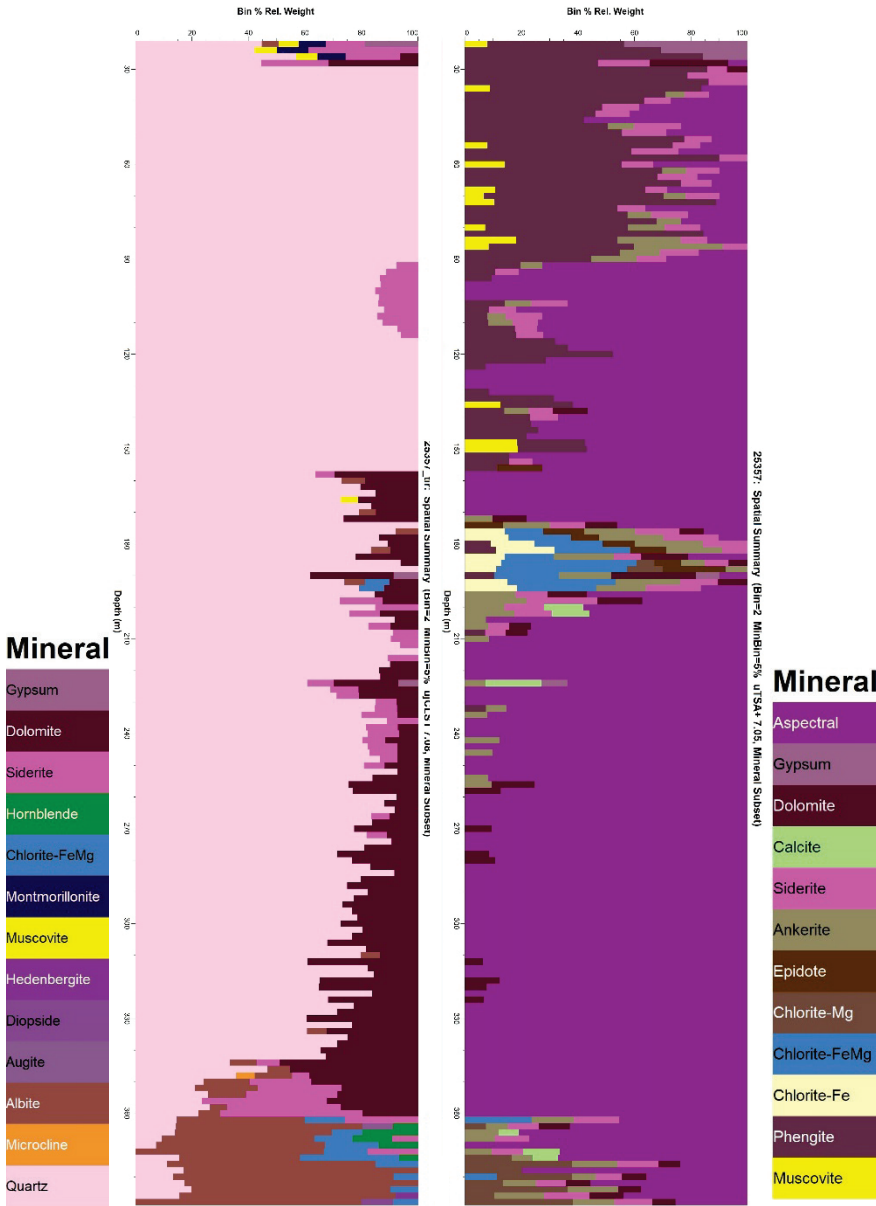
Handheld gamma*

[Download gamma data](#)



HyLogger™

[Download HyLogger™ data](#)

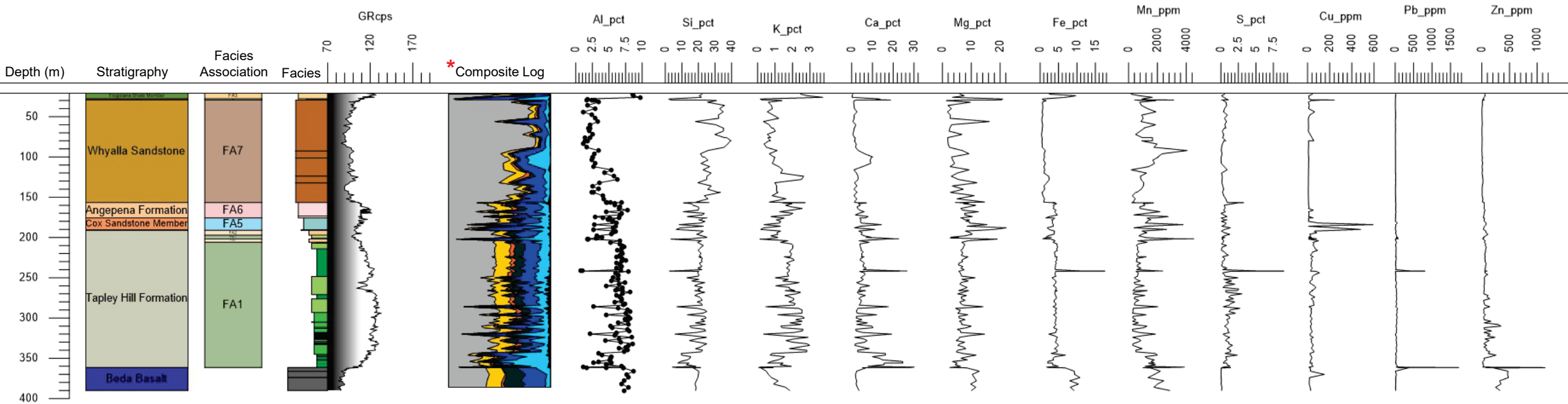


Combined STRATER log (stratigraphy, facies, gamma and handheld pXRF* - corrected)

SLT 107 (depth interval 21 – 380 m)



[Download pXRF data](#)



Facies Association (FA)

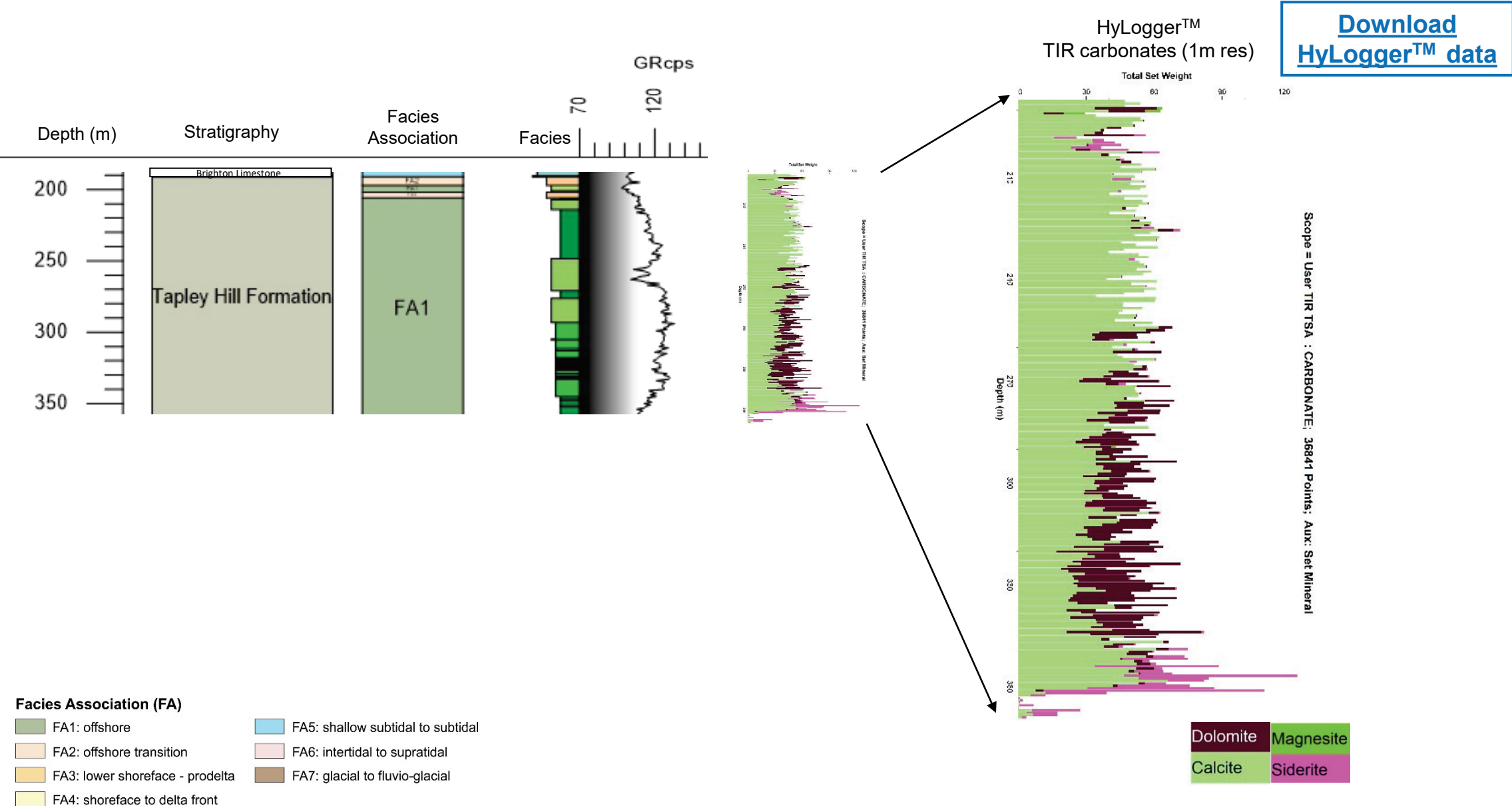
- | | |
|---------------------------------|-----------------------------------|
| FA1: offshore | FA5: shallow subtidal to subtidal |
| FA2: offshore transition | FA6: intertidal to supratidal |
| FA3: lower shoreface - prodelta | FA7: glacial to fluvio-glacial |
| FA4: shoreface to delta front | |

- *

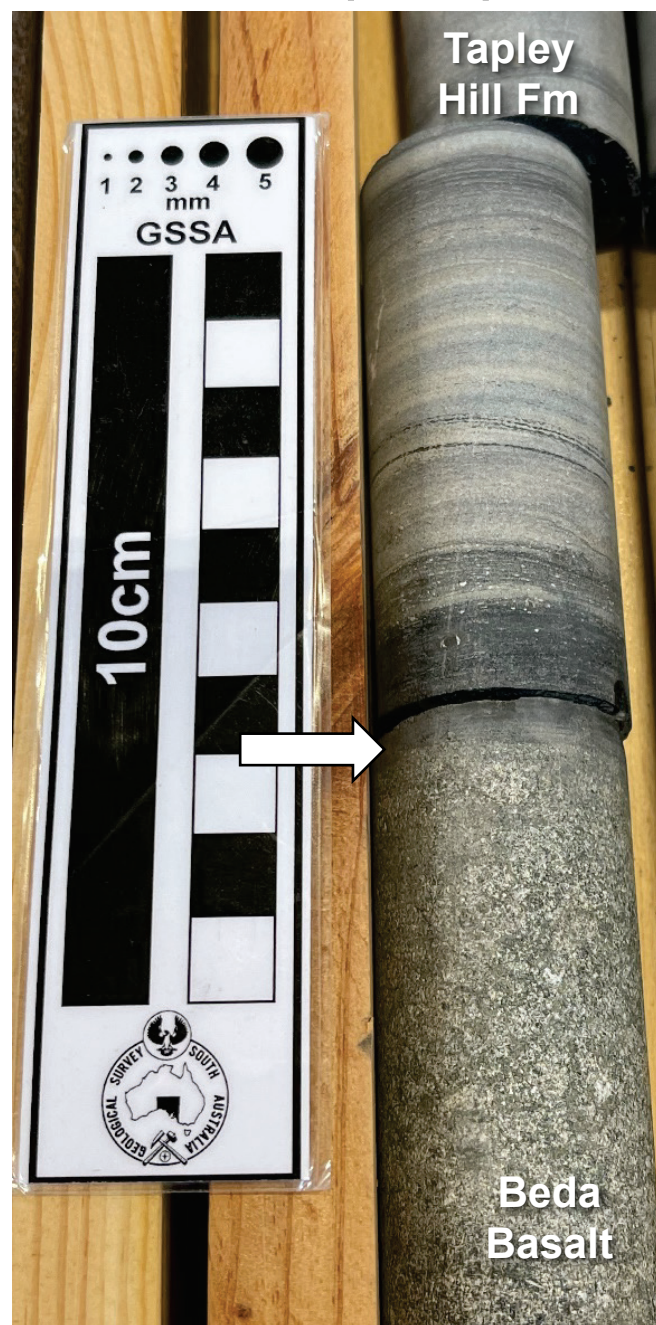
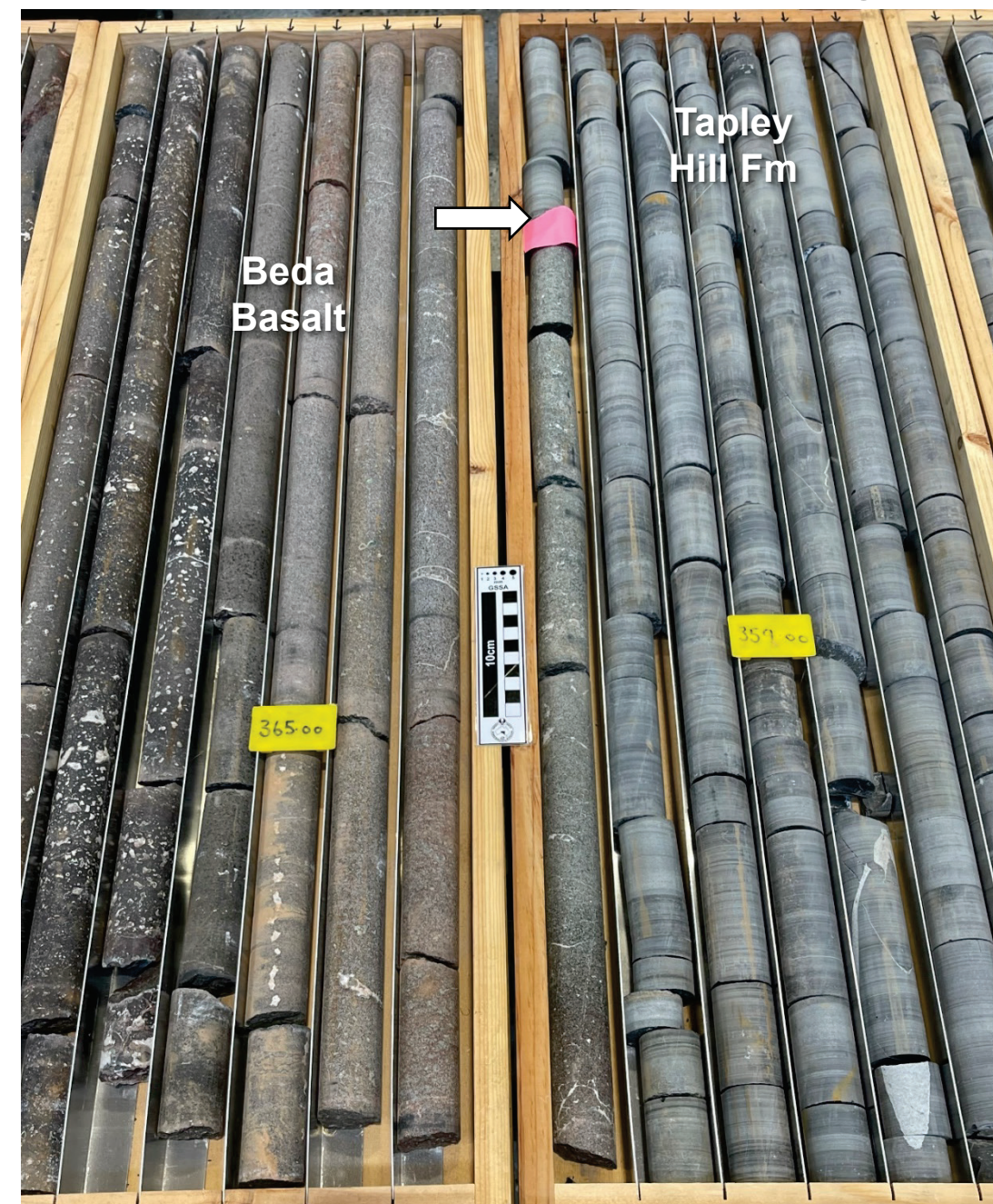
*data collected with Vanta™ Handheld XRF

SLT 107 Carbonate Content

Tapley Hill Formation and Brighton Limestone interval (190.43 – 361.57 m)



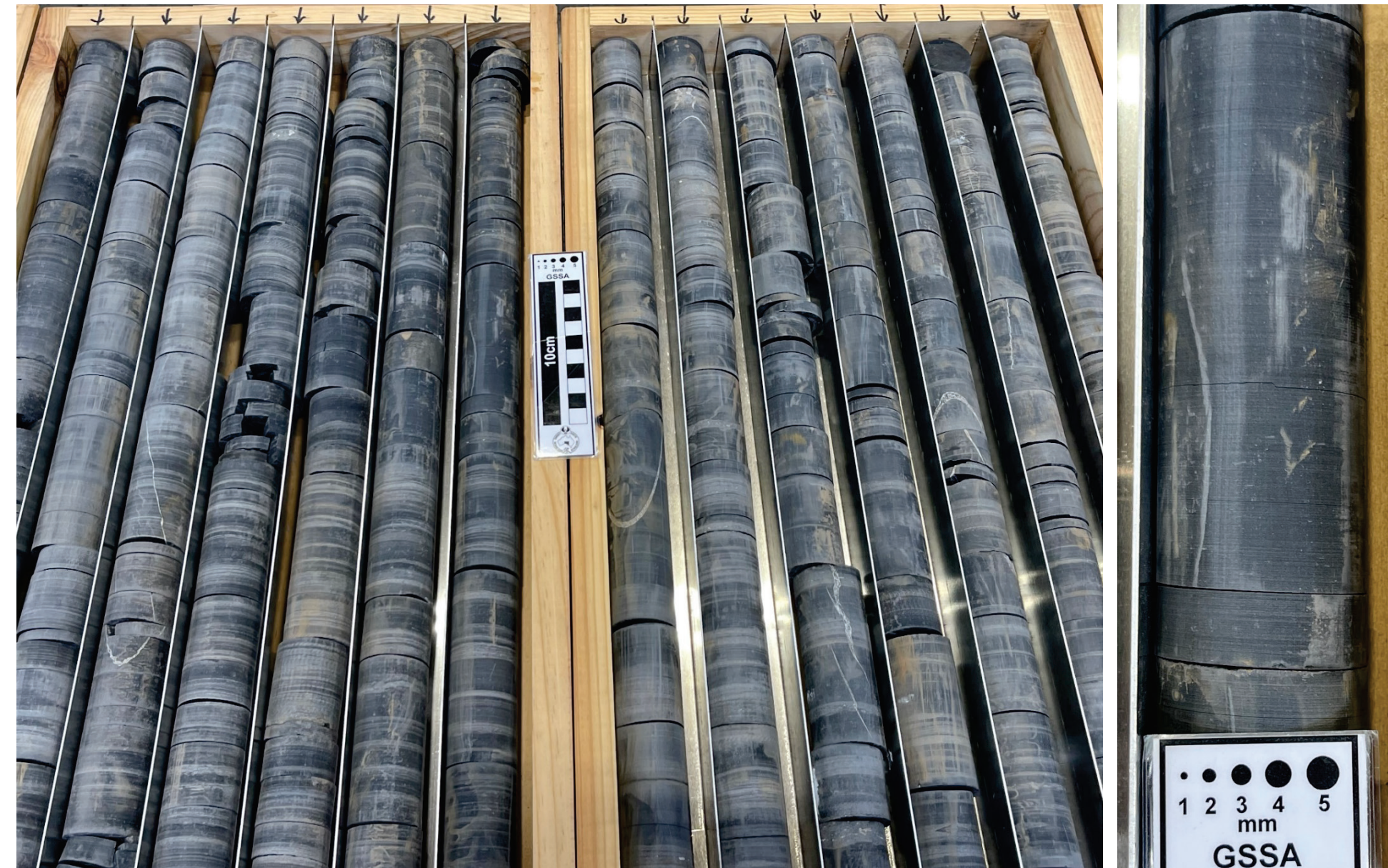
Transition Beda Basalt – Tapley Hill Formation (THF)



Tapley Hill Formation

offshore marine – below wave storm base

cm-scale interbedded carbonaceous and dolomitic siltstones, laminated siltstone, carbonaceous mudstone



Tapley Hill Formation

offshore marine – below wave storm base

cm-scale interbedded carbonaceous and dolomitic siltstones, laminated siltstone, carbonaceous mudstone



Tapley Hill Formation

offshore marine – below wave storm base

cm- to dm-scale interbedded carbonaceous and dolomitic siltstones



Tapley Hill Formation

offshore marine – below wave storm base
veining



Tapley Hill Formation

porous sandstone interval within Tapley Hill Formation



Tapley Hill Formation

offshore transition – between storm wave base and fair-weather wave base
edgewise conglomerates (ewc)



Transition Tapley Hill Fm – Brighton Limestone – Cox Sandstone Mbr – Angepena Fm

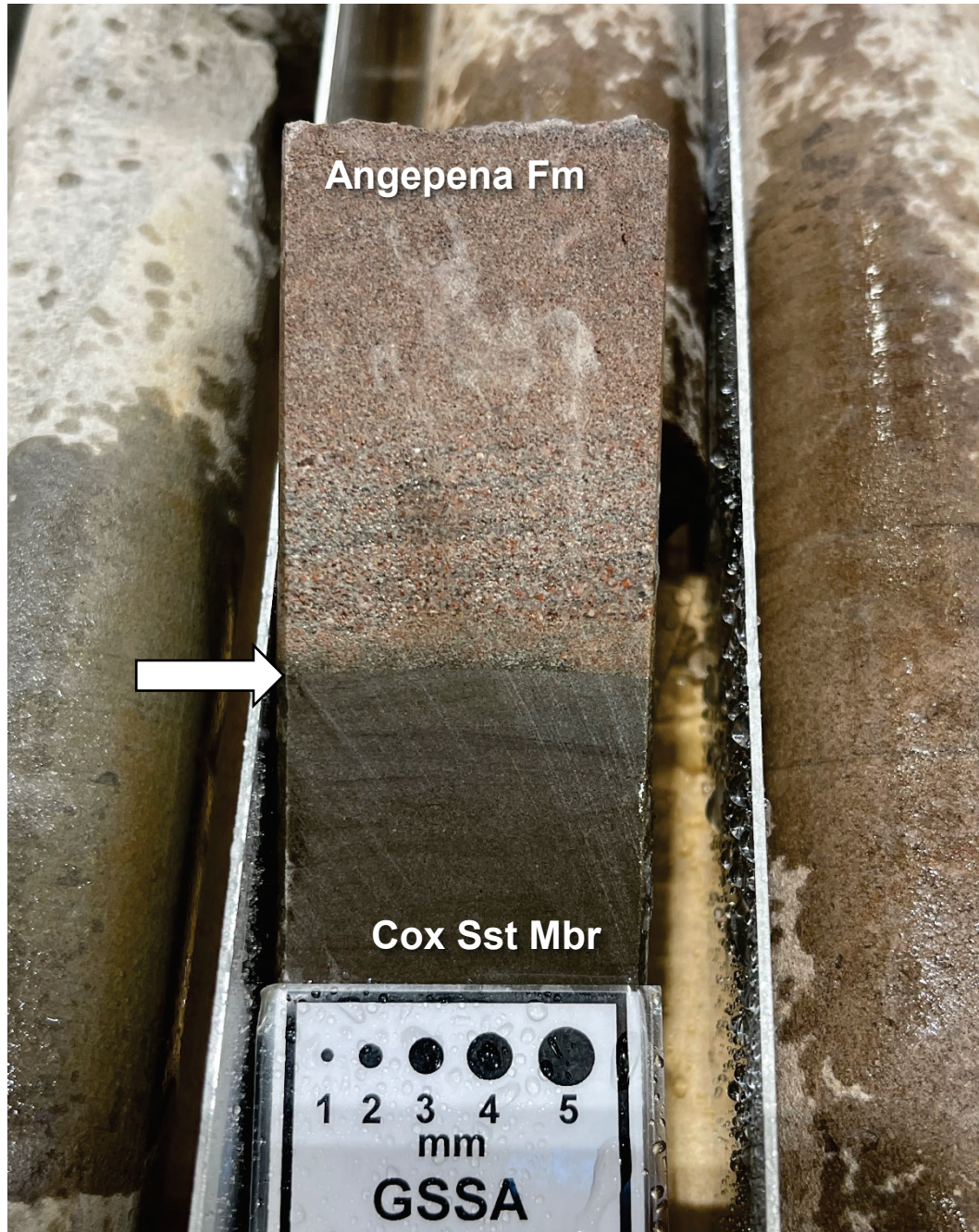


Brighton Limestone (depth 190.43 – 191.03 m)

microbiolaminite and reworked stromatolites



Transition Cox Sandstone Member – Angepena Formation



Angepena Fm

Angepena Formation
mud-/sandflats

Cox Sst Mbr

Cox Sandstone Member
well sorted medium-grained shallow subtidal to subtidal sandstone

Angepena Formation (depth 156.73 – 175.68 m)

mud-/sandflats



Angepena Fm

Whyalla Sst

10cm

159.20

159.55

159.50

159.51

159.52

159.53

159.54

159.55

159.56

159.57

159.58

159.59

159.60

159.61

159.62

159.63

159.64

159.65

159.66

159.67

159.68

159.69

159.70

159.71

159.72

159.73

159.74

159.75

159.76

159.77

159.78

159.79

159.80

159.81

159.82

159.83

159.84

159.85

159.86

159.87

159.88

159.89

159.90

159.91

159.92

159.93

159.94

159.95

159.96

159.97

159.98

159.99

160.00

160.01

160.02

160.03

160.04

160.05

160.06

160.07

160.08

160.09

160.10

160.11

160.12

160.13

160.14

160.15

160.16

160.17

160.18

160.19

160.20

160.21

160.22

160.23

160.24

160.25

160.26

160.27

160.28

160.29

160.30

160.31

160.32

160.33

160.34

160.35

160.36

160.37

160.38

160.39

160.40

160.41

160.42

160.43

160.44

160.45

160.46

160.47

160.48

160.49

160.50

160.51

160.52

160.53

160.54

160.55

160.56

160.57

160.58

160.59

160.60

160.61

160.62

160.63

160.64

160.65

160.66

160.67

160.68

160.69

160.70

160.71

160.72

160.73

160.74

160.75

160.76

160.77

160.78

160.79

160.80

160.81

160.82

160.83

160.84

160.85

160.86

160.87

160.88

160.89

160.90

160.91

160.92

160.93

160.94

160.95

160.96

160.97

160.98

160.99

161.00

161.01

161.02

161.03

161.04

161.05

161.06

161.07

161.08

161.09

161.10

161.11

161.12

161.13

161.14

161.15

161.16

161.17

161.18

161.19

161.20

161.21

161.22

161.23

161.24

161.25

161.26

161.27

161.28

161.29

161.30

161.31

161.32

161.33

161.34

161.35

161.36

161.37

161.38

161.39

161.40

161.41

161.42

161.43

161.44

161.45

161.46

161.47

161.48

161.49

161.50

161.51

161.52

161.53

161.54

161.55

161.56

161.57

161.58

161.59

161.60

161.61

161.62

161.63

161.64

161.65

161.66

161.67

161.68

161.69

161.70

161.71

161.72

161.73

161.74

161.75

161.76

161.77

161.78

161.79

161.80

161.81

161.82

161.83

161.84

161.85

161.86

161.87

161.88

161.89

161.90

161.91

161.92

161.93

161.94

161.95

161.96

161.97

161.98

161.99

162.00

162.01

162.02

162.03

162.04

162.05

162.06

162.07

162.08

162.09

162.10

162.11

162.12

162.13

162.14

162.15

162.16

162.17

162.18

162.19

162.20

162.21

162.22

162.23

162.24

162.25

162.26

162.27

162.28

162.29

162.30

162.31

162.32

162.33

162.34

162.35

162.36

162.37

162.38

162.39

162.40

162.41

162.42

162.43

162.44

162.45

162.46

162.47

162.48

162.49

162.50

162.51

162.52

162.53

162.54

162.55

162.56

162.57

162.58

162.59

162.60

162.61

162.62

162.63

162.64

162.65

162.66

162.67

162.68

162.69

162.70

162.71

162.72

162.73

162.74

162.75

162.76

162.77

162.78

162.79

162.80

Angepena Fm

Whyalla Sandstone (depth 29.32 – 156.73 m)



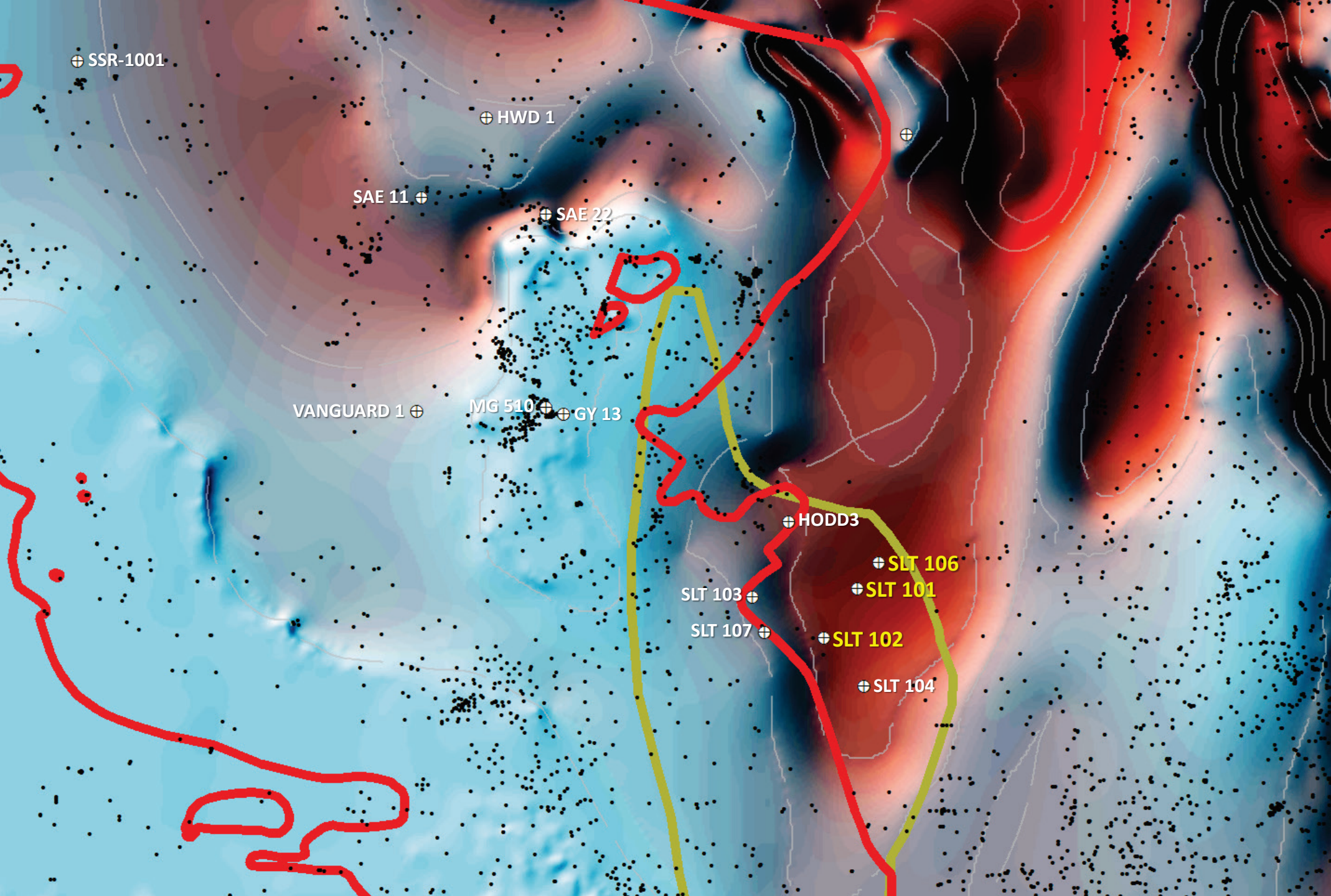
Transition Whyalla Sandstone – Nuccaleena Formation – Tregolana Shale Member



Nuccaleena Formation
(depth 27.9 – 29.32 m)
cap carbonate

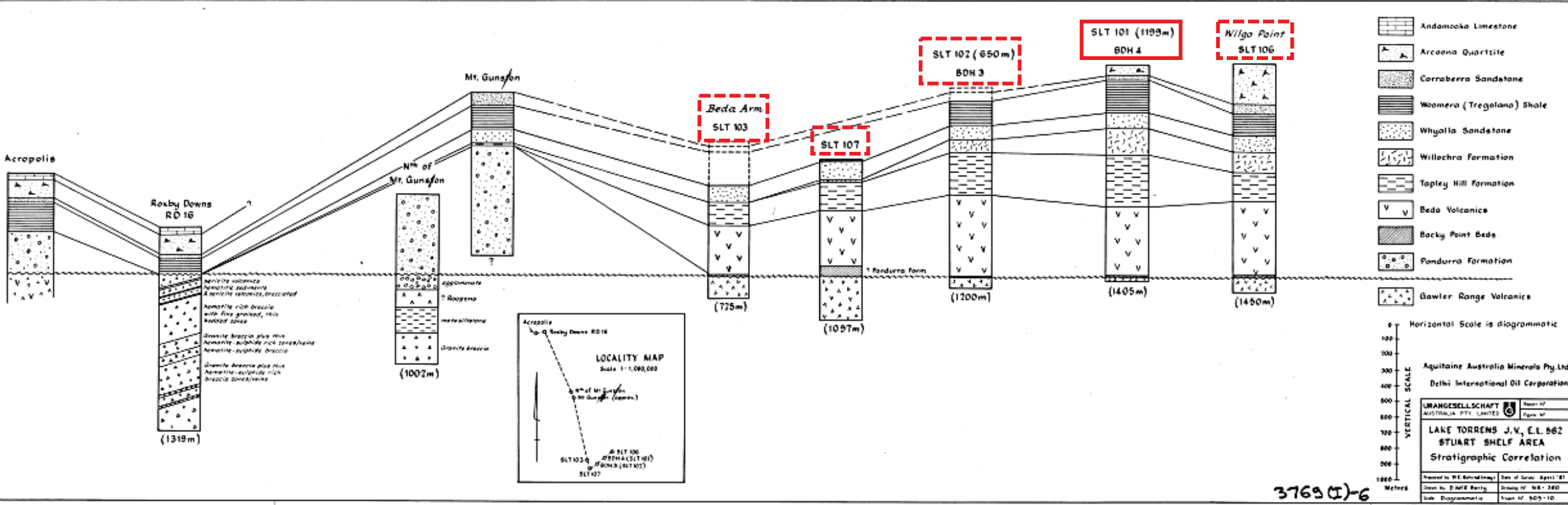


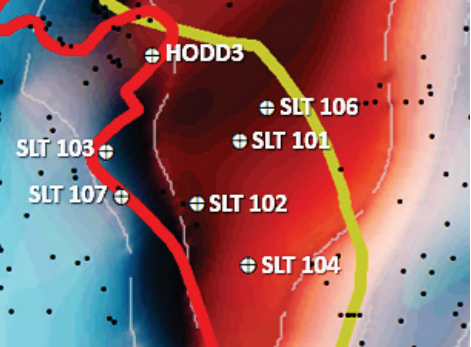
SEABASE Pernatty Upward



- Beda Basalt extent
- Pandurra Fm extent

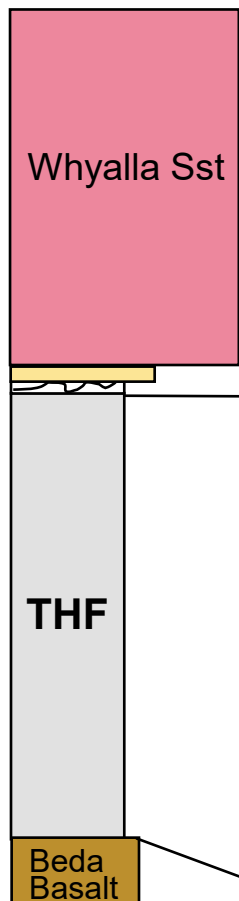
Original drillhole correlation from [ENV03769](#)



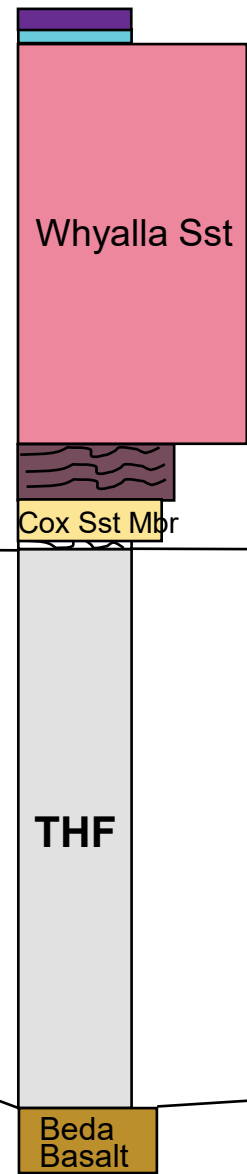


new correlation

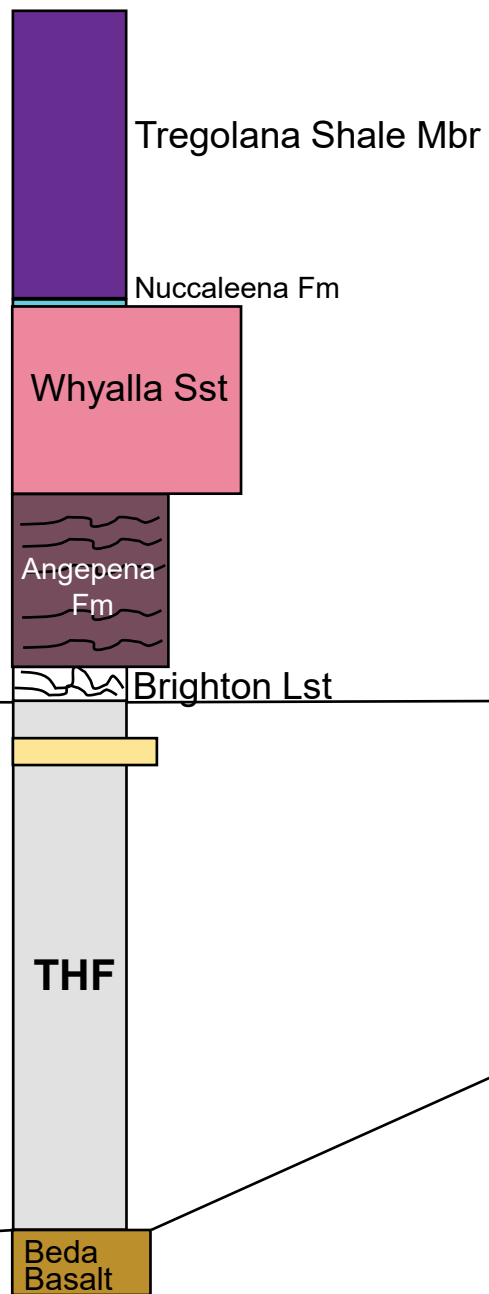
SLT 103



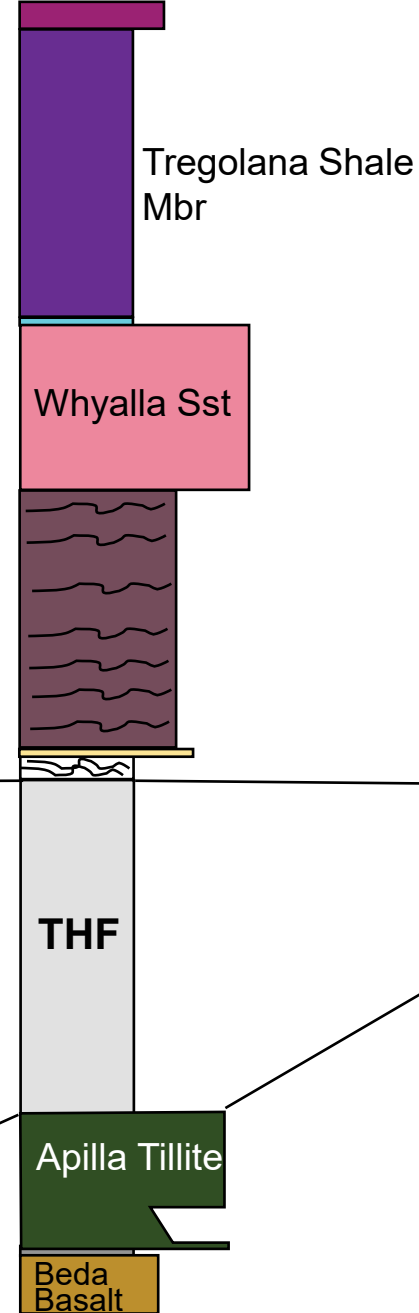
SLT 107



SLT 102



SLT 101



SLT 106

