cliff ss

6 1/

ss>sh with red sh beds

q Blake: *Tech.Rep.* 4:11

ss

ss

13 1/

ss

Very thin soils (>0.2 m)

ss>sh, md

Tb_v

ss cliffs

sh

sh

Tb_{ss} = 0.2-2

q

q

ss

ss

md

ss cliffs

jf_v = 3

dol talus

Very thin soils on ss

ss

Tb_v

Heat hardened ss

jf_v = 2-3

5 1/

6

jf_v = 2

6 1/

w dol
Much travertine derived from calcium rich dol soils. Travertine weathering product related to areas where dolerite is highly fractured - either near margins or faults

md>ss

11 1/

md>ss

q dol

Much outcrop

w dol

md

md

ss

Fault(?)

30 1/

ss>md

27 1/

md

ss

ss

md

Class 1/4 boundary position approximate. Few exposure controls

Possible fault parallel to Argyle St

ss

Form of dol in this part of the city obscure. Limited exposures

Fill overlying cemented gravels and class 4 ss

Dol. talus

Dol. talus

WT = 4

State Library

fault

WT = 4

t_e>4

ss

ss

ss

Many concealed cliffs in ss older building sites have been made level by filling with various materials including dol boulders, md etc.

Some gravel fill is to be expected along the course of the Hobart Rivulet and its tributaries

WT = 6

t_w>5

40 1/

Class 1/4 boundary position approximate due to limited exposure

md+ss

Lands Dept. Bldg

7/1/4

ss

ss>sh

"Hunter Is"

ss

some fill

Commth Bldg.

t_w>5

convict built drain

ss

Govt bldg

fill

fill

fill

Fill overlies some clay and basalt and ss about Sullivans Cove

Law Courts

ss>sh

Q = 900

WT = 2

fill

V_1(w) = 1600 (soils etc.)

V_1(unw) = 5500

t_w = 6-9

ss>md

w dol

V_1 = 5800

dol margin dips NW beneath ss

fill

jf = 3

V_1 = 5000

V_1 = 5000

V_1(w) = 1600

V_1(unw) = 5000

t_w = 10

sls heat hardened

jf = 12-12

8/4

t_8 = 19

Geological conditions in South Hobart are little known due to poor exposure and lack of information. Rock thickness unknown

Boulders in clay, up to 16-25 m thick overlying Class 3?

V_1(8) = 1300

V_1(3?)= 3600

t_8 = 25

ss

Boulders of dol. in clay

8/4

t_8 = 22

8/7 ?

dol, boulders (up to 1 m across) in clay. Proportion of boulders to clay, <3:1

Boulders in clay

jf = 4

small cliffs ss

F*

ss

ss

F*

The boulder beds are of variable thickness, but are surficial and probably represent landslides from the surrounding hills at a time when there was a thicker weathering cover

jf_v = 5-6

jf_n = 7

qd

Boulders of dol in clay

Much outcrop

High sub-vertical cutting in dolerite. Some rock bolts required. Such steep faces are subject to weathering and random rock falls and should be benched

md (class 3)

Irregular fragments of class 3 occur along the fault

8/7

q dol

q dol
road metal
[dd quarries: Material fresh, suitable for road surfaces and aggregate. Requires crushing. jf_v = 4-8]

Irreg fragments of class 3

<> 2500 ppm

University Life Science Bldg
Jennings & Matthews: *Tech.Rep.* 10:75

K - Medical Sci Bldg
Jennings & Matthews: *Tech.Rep.* 10:79

Life Sci

Med Sci

Zone of weathered dol showing considerable decomposition and shearing with green/brown clays

Life Sci Bldg: w dol, safe loading: 5500 kg/m^2

30 1/

Boulders dol in clay fill

clays

8/7

Fill

Univ. Tasm:
Clays containing dol boulders up to 6 m across
t_8 = ?
t_8 + t_7 >200
Clays also contain some gypsum

Much outcrop

60 1/

Wrest Pt: (class 8)
Variable thickness of clay containing dol boulders. Old landslide deposit, generally less than 3 m thick
(class 7)

5 1/

Clays and fine sands t_7 >200
cl predominant west side fault. Faults such as this - low angle (60°) lubricated by springs and in bimodal materials may initiate localised and near surface differential compaction under load Tb = 0.1, ρ = 1.9-2.0

Soft bedded ss

P = 2.1-2.2

Sandy Bay Basin:
Sediments predominantly clay stones with some sandstone overlain near the present surface by irregular boulder beds which represent old landslides from Mt Nelson. These sediments have never been loaded more than the equivalent of 40-50 m of their own weight. Point loadings in excess of this will induce compaction and settling. Few building problems will arise providing the load is broadly and evenly spread

Boulders of dol in ss

8/7

w dol or dol boulders

Very thin soils generally although there may be local accumulations of soil between the surface and the rock interface as a result of slope changes or differential weathering of the dolerite

dol

jf>6

Position of this fault not firmly established due to limited outcrop. There is a possibility that its trend is more E-W but no more than a line through Quamby Ave/Norfolk Cres.

F*

40 1/

Heat hardened ss

ss

w dol

dol talus

30 1/

F*

jf>6

md

All dol is coarse grained

jf = 10-15

Thin soils high clay component and subject to shrinkage effects

md

Tb = 0.2-0.3

Beach dunes

Windblown sand on clays

md

md

Erratic weathering

Massive dol, large joint blocks
jf=2-3

Much outcrop

Fault in clays sediments dip to north-east

Breccia, tuff beneath basalt

Tb = 0.1

md

PI(Class 7) = 59
LL = 41

1:10000

Previous course of river

Tasman Bridge: Trollope, Freeman & Peck, 1966
J.Inst.Engrs Aust. 38(6):117

t_{water} = 17
t_7 = 48

7/1

t_{water} = 18
t_7 = 60

t_{water} = 20
t_7 = 33
t_6 = 20

6/1

Valley cut in basalt on W side of present valley. Subsequently filled with cl, sand and some gravel sediment very variable both laterally and vertically. The basalt encountered on drilling was found to be much decomposed

Variable thickness of gravel (Class 8) between classes 6 and 7

t_{water} = 25
t_7 = 24
t_8 = 4
t_6 >13

t_{water} = 30
t_7 = 13
t_8 = 5
t_6 >15

6/1

Properties of class 7:
PI_{50} = 20-30
Void ratio = 0.4-0.6
App. cohesion 96 Pa at 30 m and 29 Pa at 50 m
Pier 5 showed a 5% decrease in app. coh. below 50 m.
Consolidation variable but there is normally a high degree over consolidation

q Building stone

ss

LL (non plastic PI sand)

fill

DETAIL OF SOME CITY BUILDING SITES

State Library: Longman, *Tech.Rep.* 13:85
Typical section : Fill 0-1.5 m, V_1 = 450
Clay + boulders (and cemented gravel) 0-8 m, V_1 = 850 (8-14 m in part)
ss: V_1(w) = 2000
V_1(unw) = 4000
Site contains buried cliff of ss. Dolerite in fault
WT = 3.5; unw ss at 9 m in NE and 6 m in SE

Government Bldg: Longman, *Tech.Rep.* 10:84
Typical section : Fill clay. Basalt (SE corner) interbedded with clay. Up to 8 m of fill, clay on ss
Q = 1000

Supreme Court Site: Moore, *Tech.Rep.* 14:111
Typical section : Fill t_8 = 1-3
ss
WT = 0.5-2

Lands Dept Bldg : Stevenson, *Tech.Rep.* 15
NW corner : t_7 = 7; 7/1/4
t_1 = 1
SW corner : t_7 = 8
t_1 = 1
t_4 = 2
SE corner : t_7 = 6
t_1 = 4
t_4>2
Small dolerite sill? Some fill also noted at surface

Commonwealth Bldg :
Deeply weathered, steeply dipping qz. ss. Presence of faulting