

ENGINEERING GEOLOGY COMPILATION BLACKSTONE HEIGHTS SUBDIVISIONS

0 100 200 300 400 500m

Scale 1 : 5 000

Contour Interval 5m

TRAVERSE 1

5

W2

● BH 2

○ S 2

Magnetometer traverse

Seismic spread.

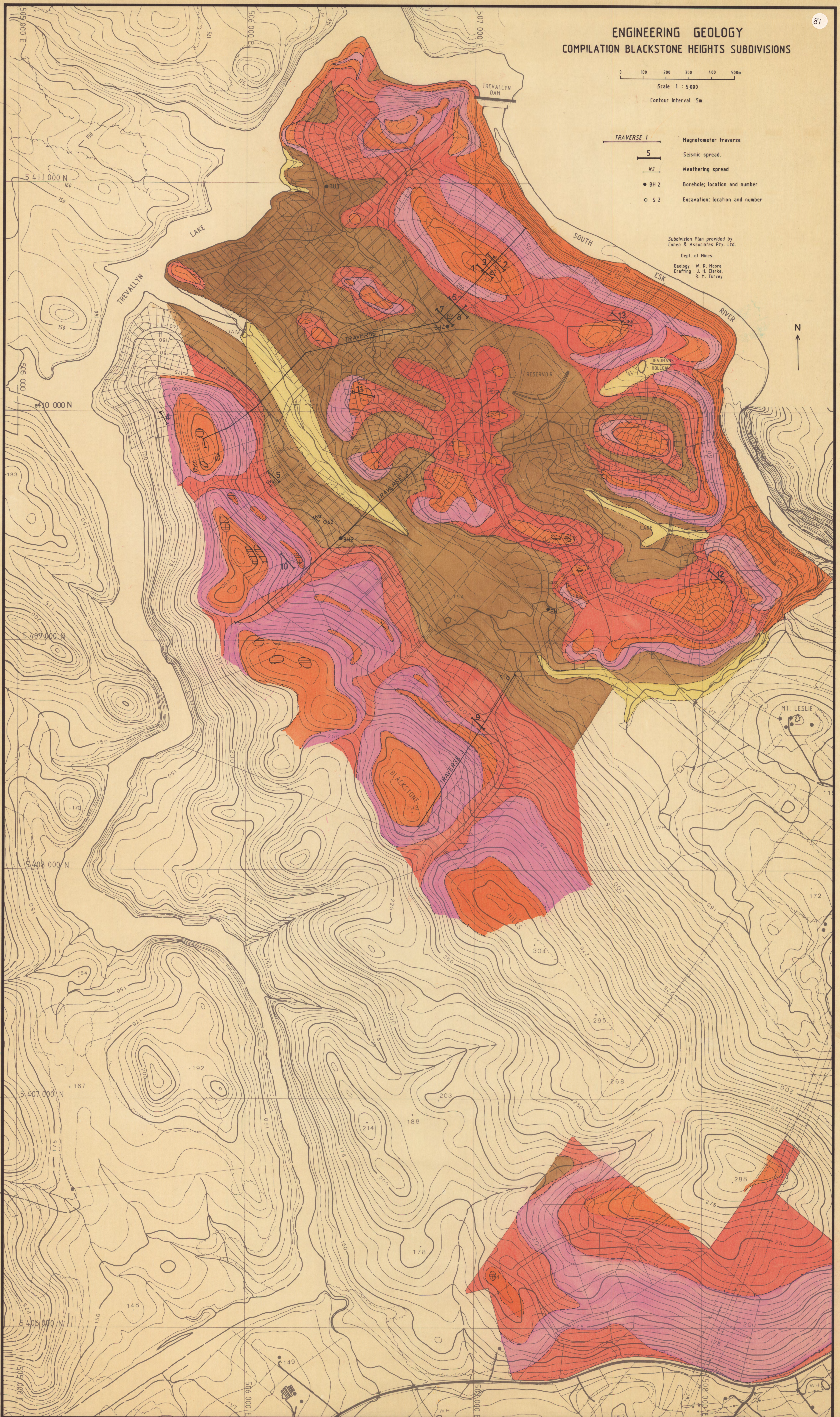
Weathering spread

Borehole; location and number

Excavation; location and number

Subdivision Plan provided by
Cohen & Associates Pty. Ltd.

Dept. of Mines.

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GEOLOGY

POTENTIAL ENGINEERING PROBLEMS

INVESTIGATION METHODS (Preferably not on individual blocks unless specified)

207 ALLUVIAL flood plain sediments. Dominantly organic clays (CH-OH)	Poorly drained, expansive clay soil - Poor bearing strength and ground cracking. Thickness of soil unknown.	→ Auger holes - If clay deep, highly plastic and expansive from field tests, clay should be tested in soil lab., and foundations designed on these results.
227-4 mixed DOMINANTLY CLAY. Clay (CH). Dark brown clay and white flecked clay. Both expansive	Expansive clay problem - Outcrops indicate clays are of an adequate thickness to create house cracking. Slope stability problem - See Slope Stability map. If slopes 14°, combined with poor drainage, potential risk high.	→ Auger holes and as above - for expansive clays - Soil lab. testing of clay. → Trench - Clay shear-box tested.
334 CLAY AND DOLORITE with small outcrops and boulders. Clay (CH) extremely weathered dolerite and highly weathered doleritic clay (GC and CL) Boulders and outcrops unweathered or slightly weathered.	Differential foundation movement problem. - Clay and dolerite, and dolerite boulders interchange within short distance, given certain conditions can cause house cracking. Slope stability problems - See Slope Stability map - as above if slopes 14°.	→ Geophysics - Seismic and magnetometer. Followed by trench or detail examination of foundation trenches. → Trench - clay shear-box tested.
578 TALUS. Dolerite boulders, often large, with lenses and pockets of clay.	Foundation problem. - (a) Of recognising if foundation is on dolerite or large dolerite boulders. (b) when clay pockets or lenses, and concentrically weathered boulders present, differential foundation movements. Slope stability problems and boulder topping - See Slope Stability map.	→ Careful house site selection - followed if required by seismic and magnetometer surveys and trenching. On steep slopes, houses founded on rock not fill on cut and fill sites. Consolidation and translational movement possible. As above for foundation problem. → Individual selection of house site preferably higher on slope - followed by magnetometer survey and possibly trenching.
237 DOLORITE outcrop and near outcrop.	Little soil cover and hard rock close to surface. Digging foundations and drains may require explosives. High run off and little soakage.	→ No problems. → probably not suitable for septic tank, soakage pits etc.