2.46 VB VOLCANIC HILLS, BASALTIC

Volcanic hills, derived from partially dissected volcanic cones, and vents, are widespread throughout the basaltic terrain in the south of the study area. They are cone-shaped with rounded crests, and frequently asymmetrical; presumably due to the direction of the lava flow, the prevailing winds at the time of eruption and the degree of dissection since eruption. A few have craters in their centres, the most notable being Mount Franklin nor of Daylesford. They are mostly composed of scoria-ash or lave, the latter often having rock exposed on the steeper slopes.

Babbington Hill, near Lyonville in the south-east, varies from the norm by virtue of its geological composition and by the presence of a native vegetation cover. Its geology includes the more acidic trachytes, phonolites and solvsbergites, which are higher in monovalent cations such as Mg and Ca compared with the extensive olivine basalt flows and numerous volcanic hills throughout the study area. The retention of a native vegetation cover indicates that the soils of this unit are probably shallower and less fertile than soils on other volcanic hill in the study area.

Also included in this unit are a few hilly basaltic areas that, although not actual extrusion points, have similar soils and slopes to the volcanic hills.

Red or brown gradational soils predominate, usually stony on the steeper upper slopes, but often red and deep on the lower colluvial slopes.

Geology Qvn – Quaternary olivine basalts; Qvt – Quaternary acidic basalts – phonolite, trachyte, solvsbergite (Babbington Hill)

Rainfall 450-900 mm per annum

Slope Slopes variable, averaging 10-15%; range 2-50%

Dominant landform element (95%) Crest, slope

Minor landform elements (5%) Crater, fan, slope failure

Soils Dominant: Gn3.1, Gn3.2, Gn4.11, Gn4.12. Red or occasionally brown gradational soils, typically strongly structured, non-mottled with silty loam-clay loam surface textures and clayey subsoils; fragments or floaters of basalt common throughout the profile; the soils range from shallow on the steeper slopes to deep on the lower colluvial slopes; they are fertile and highly permeable, and typically acidic or neutral throughout

Minor: Um. Shallow structured brown uniform loams on the steeper slopes in areas of rock outcrop

Native vegetation Although totally cleared on most volcanic hills, remnants trees indicate that *E. viminalis* was common species on the slopes and crests; other probable original species include *E. melliodora, E. rubida, E. obliqua* and *Casuarina stricta*: an open forest II to II of *E. obliqua* and *E. viminallis* clothes the slopes of Babbington Hill, with a ferny understorey of *Pteridium esculentum* and scattered understorey shrubs including *Acacia melanoxylon* and *A. dealbata*

Stone-rock outcrop 0-10%

Pans Nil or not observed

Land use Predominantly grazing, although some cropping occurs on the lower slopes where the soils are generally deeper and the slopes not too steep to prohibit cultivation

Observed land deterioration Minor slope failures and sheet erosion

Susceptibility to land deterioration
Slope failure (low)
Compaction (moderate)
Sheet erosion (low to moderate)

Numerous volcanoes protrude above the basaltic plains in the south.