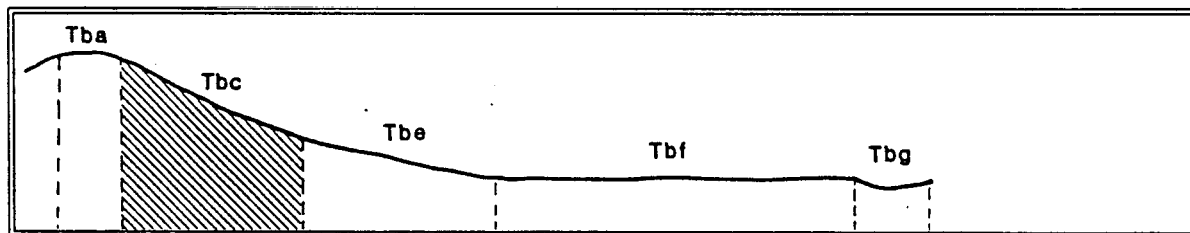


Map Unit:	TERTIARY BASALT, MODERATE SLOPE	Map Unit Symbol: Tbc
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General Description:

The moderate slopes in this unit are associated with volcanic extrusion points such as Golf Course Hill, Sugarloaf and the SW side of The Jim Jim. Soils have developed from the basalt parent material and small pockets of alluvium to produce dark brown duplex and red gradational soils. Little remains of *the original vegetation and grazing on introduced pastures is the major land use however these soils are some of the best in the Shire and some cropping also occurs.

Site characteristics: Site No. 20

Parent material Age: Lithology:	Tertiary Basalt	Depth seasonal watertable:	> 5 m
Landform Pattern:	Gently undulating plain with isolated volcanic cones	Potential recharge to groundwater:	High
Element:	Moderate slope		
Slope common range:	23% 10 – 32%	Flooding risk:	Nil
Rock outcrop:	10%	Drainage:	Rapidly drained
		Depth to hardrock:	1.5 – 2.0 m
		Proportion of Shire:	1.5%

Native vegetation: Manna Gum, Swamp gum (mostly cleared)

Present land use: Grazing (introduced pastures), recreation

Land degradation:	Water erosion		Wind	Salting	Acidification
	Sheet/rill	Gully			
Susceptibility	Very high	Very low	Moderate	Very low	Moderate
Incidence	Low	Nil	Nil	Nil	Low

Soil profile characteristics:

Permeability (measured - average, range): (estimated):	- Rapid
Available water capacity:	185 mm H ₂ O
Linear Shrinkage (B horizon):	Low (estimate)

Soil profile description:

- A₁** 0-15 cm Dark brown (7.5YR 3/2) loam, weak subangular blocky structure 2-5 mm, smooth fabric, very weak consistence, <2% medium subangular basalt fragment, pH 5.9. Clear transition to
- B₂₁** 15-30 cm Dark brown (7.5YR 3/2) clay loam, weak subangular blocky structure 5-10 mm, smooth fabric, moderately firm consistence, few medium subangular basalt fragments pH 6.0. Clear transition to
- B₂₂** 22-30 cm+ Dark reddish brown (5YR 3/3) light medium clay, massive structure, earthy fabric, moderately firm consistence, coarse basalt gravel fragments are common, pH 6.0.

Soil classification:

Factual Key (Northcote): Db 1.12
 Australian Soil Classification: Whole coloured, Eutrophic, Black Chromosol, very deep, medium, loamy, non-gravelly
 Unified Soil Group: NA

Interpretation of soil analyses*

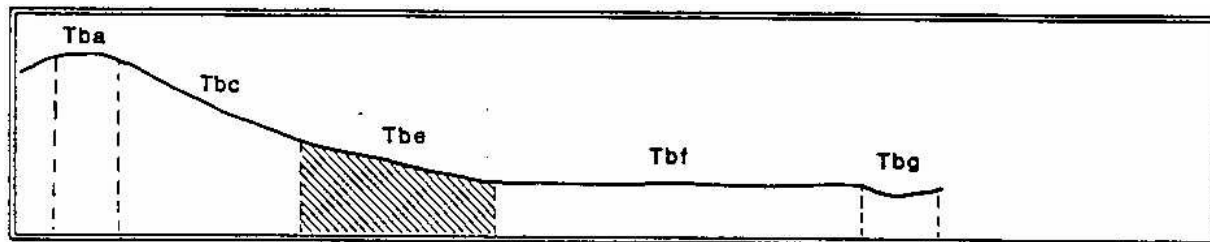
Horizon	pH	Gravel	E.C.	Nutrient status	P	K	Al	Org. matter	Dispersibility
A ₁	5.9	<2%	VL	L	S	S	S	H	M
B ₂₁	6.3	5%	VL	L	S	D	S	H	L
B ₂₂	6.5	11%	VL	L	S	D	S	M	M

VL : Very Low L : Low M : Moderate H: High VH : Very High
 D: Deficient S: Satisfactory T: Toxic ** Acid NA : Not available

Land capability assessment

Land use	Class	Major limiting feature (s)
Agriculture (CTS values)	C ₃ T ₄ 5 ₅	Very high susceptibility to sheet/rill erosion (Steep slopes = Class 4)
Effluent disposal (septic tanks)	4	Moderately steep slopes
Farm dams (earthen)	5	Steep slopes
Building foundations * slab * stumps/footings	4 3	Moderately steep slopes Moderate slopes

Map Unit:	TERTIARY BASALT, GENTLE SLOPE	Map Unit Symbol: Tbe
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General Description:

Situated on the lower slopes of volcanic cones, the red gradational soils represent some of the most versatile land in the Shire. For plant growth, the excessive permeability is counteracted by an average rainfall of at least 50 mm/month for eleven months of the year. The risk of sheet/rill erosion is minimised by maintaining a vegetative cover on the susceptible topsoil.

Site characteristics: Site No. 19

Parent material Age: Lithology:	Tertiary Basalt	Depth seasonal watertable:	> 4 m
Landform Pattern: Element:	Gently undulating plain Slope	Potential recharge to groundwater:	High
Slope common: range:	7% 4 – 10%	Flooding risk:	Nil
Rock outcrop:	0%	Drainage:	Well drained
		Depth to hardrock:	> 1.3 m
		Proportion of Shire:	6.6%

Native vegetation: Manna Gum, Swamp Gum (mostly cleared)
Present land use: Grazing (native and introduced pastures), residential

Land degradation:	Water erosion		Wind	Salting	Acidification
	Sheet/rill	Gully			
Susceptibility	Moderate	Low	Low	Low	Low
Incidence	Low	Nil	Nil	Nil	Low

Soil profile characteristics:

Permeability (measured - average, range): (estimated):	2800, 400 - 8000 mm/day -
Available water capacity:	120 mm H ₂ O
Linear Shrinkage (B horizon):	16%

Soil profile description:

A	0-12 cm	Dark brown (7.5YR 3/2) loam, strong subangular blocky structure 3 mm, smooth fabric, loose consistence (dry), <2% basaltic gravel, pH 6.7. Clear transition to
B21	12-34 cm	Reddish brown (5YR 4/4) clay loam, strong subangular blocky structure 3 mm, smooth fabric, very firm consistence (dry) pH 6.7. Clear transition to
B22	34-90 cm	Dark reddish brown (5YR) 3/4) medium clay, strong subangular blocky structure 5 mm, smooth fabric, pH 6.0. Gradual transition to
B3	90-130+ cm	Dark reddish brown (5YR 3/4) medium clay, strong subangular blocky structure 8 mm, smooth fabric, common basalt rock fragments and gravel pH 6.0.

Soil classification:

Factual Key (Northcote): Gn 3.11
 Australian Soil Classification: Haplic, Mesotrophic Red, Ferrosol, deep, medium, loamy, non-gravelly
 Unified Soil Group: NA

Interpretation of soil analyses*

Horizon	pH	Gravel	E.C.	Nutrient status	P	K	Al	Org. matter	Dispersibility
A	6.7	18	VL	H	S	S	S	H	L
B ₂₁	6.7	< 1	VL	M	S	S	S	M	L
B ₂₂	6.0	< 1	VL	M	S	S	S	M	L
B ₃	6.0	10	VL	L	S	S	S	L	L

VL : Very Low L : Low M : Moderate H: High VH : Very High
 D: Deficient S: Satisfactory T: Toxic ** Acid NA : Not available

Land capability assessment

Land use	Class	Major limiting feature (s)
Agriculture (CTS values)	C ₃ T ₃ S ₃	Moderate susceptibility to sheet/rill erosion
Effluent disposal (septic tanks)	2	Nil
Farm dams (earthen)	5	Excessive permeability
Building foundations * slab * stumps/footings	3 3	Moderate slopes Moderate linear shrinkage