

Tebrakunna soil – uniform soil in gravelly quartz sand with a cemented A2 horizon and humus pan

Site description

Occurrence: In northeast Tasmania on low-altitude sites where mean annual rainfall is <1000 mm

Parent Material: Tertiary outwash from Devonian adamellite/granite

Landform: Rolling land and hills

Drainage Class: Poorly drained

Vegetation: Dry forest with *Eucalyptus amygdalina*, *Leptospermum scoparium* and heathy shrubs



Distinguishing Soil Properties

Profile Features:

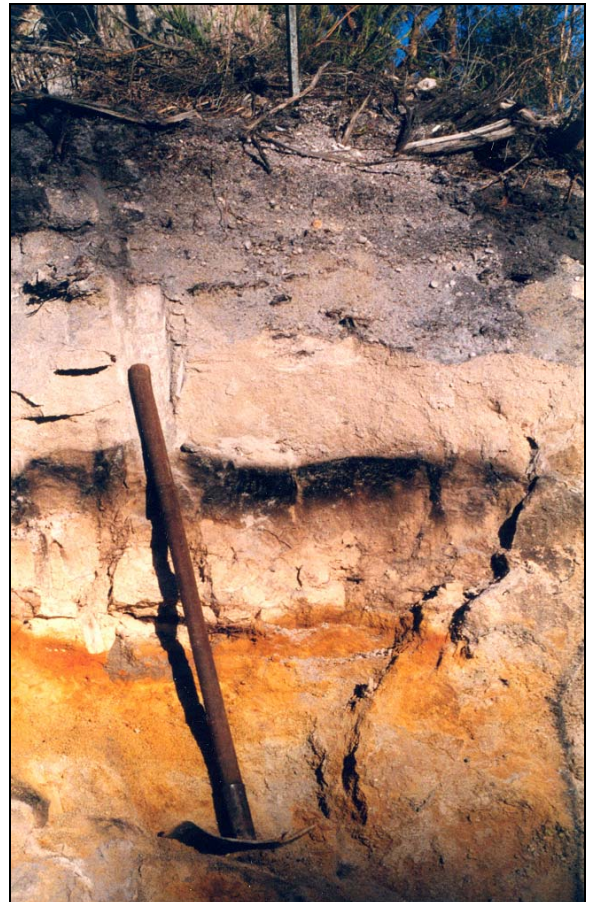
- Massive cemented A2 horizon
- Humus pan within 1 m depth
- Iron pan

Chemical and physical features

- Extremely low nutrients

Similar soils

- Duncraggen soils (Laffan et al. 1995) – A2 horizon is uncemented



Soil Degradation Potential

FACTOR	RATING OF DEGRADATION POTENTIAL
Erodibility:	Moderate to Moderate-high
Compaction and puddling:	Low
Mixing:	Low
Nutrient depletion:	High
Landslides:	Negligible
Flooding:	Negligible

Site Productivity

Very low due to very low moisture availability and low nutrient status

Soil Management

Surface horizons contain most of the available and reserve nutrients and must be left intact as far as possible. Excessive disturbance and burning must be avoided.

Native Forest Logging and Regeneration

LOGGING AND CLEARING: The necessity to maintain nutrients in the long term limits the harvest options on these soils; low-volume timber removal for firewood may be the best long-term land use.

PREPARATION FOR REGENERATION: Light head burns and machine disturbance should be adequate for regeneration. Hot burns should be avoided.

SILVICULTURAL CONSIDERATIONS: Low nutrient status will limit long-term productivity and necessitate long rotations.

Suitability for Plantations

Unsuitable for plantations due to very low site productivity.

Profile

Authors: P.D. McIntosh and M.D. Laffan

Date: 10 September 2002

Location: Gravel pit on old Garibaldi Road

Map reference (AGD): Sheet 5645 (Pioneer) 579800 5451200

Landform: Rolling landscape

Vegetation: Dry sclerophyll forest – *Eucalyptus amygdalina*, *Leptospermum scoparium* and heathy understorey

Parent material: Tertiary quartz gravels and sands – fan outwash from granite

Drainage: Poorly drained

Slope: 5°

Aspect: North

Altitude: 100 m

Photographs: PDM 9-02-13 (site); 9-02-9, 9-02-11 (profile)

Australian Soil Classification: **Humic/Sesquic Semiaquic Podosol**

A1	0–35 cm	Black (10YR2/1) (moist) moderately gravelly loamy coarse sand; loose; very weak 3 mm granular peds; 40% rounded quartz gravels 2-20 mm diameter; common medium and coarse roots; NaF 0/5.
A21	35–75 cm	Light grey (10YR7/2) (moist) slightly gravelly loamy coarse sand; massive, cemented (very strong); 10% rounded quartz gravels; few coarse roots; NaF 1/5.
Bh	75–85 cm	Very dark grey (10YR3/1) (moist) loamy fine sand; massive, cemented (very strong) breaking to coarse prismatic; few fine roots; NaF 2/5.
A22	85–110 cm	Pale yellow (2.5Y8/2) (moist) silty clay loam; very firm; moderately developed prismatic peds 18 cm diameter; few fine roots; NaF 2/5.
Bs	110+ cm	Yellowish red (5YR5/8) (moist) loamy coarse sand becoming strong brown (7.5YR5/8) with increasing depth; 40% subrounded quartz gravels 5 mm diameter; no roots; NaF 2/5.

Tebrakunna soils have not been chemically analysed. They are likely to have similar chemical properties to Duncraggen soils (Laffan et al. 1995).

Reference

Laffan, M.; Grant, J.; Hill, R. 1995. Soils of Tasmanian State Forests 1. Pipers Sheet. Soils Bulletin 1. Forestry Tasmania, Hobart.

Citation

McIntosh, P.D. and Laffan, M.D. 2005. Tebrakunna soil. *Tasmanian forest soil fact sheet no. 29*. Forest Practices Board, Hobart and Forestry Tasmania, Hobart. 3 p.



A Tebrakunna profile showing the extreme variation in depth of the A2 horizon.