

**LOCKYER VALLEY STUDY AREA**  
**TENTHILL CREEK - LOCKYER CREEK ALLUVIA**  
**SOILS**

SCALE 1:50 000  
 0 1 2 3 4 5 kilometres

MAPPING UNIT	MAJOR SOIL ATTRIBUTES	LANDSCAPE POSITION	GREAT SOIL GROUP*	ppp**
<b>SOILS OF THE MAJOR STREAM FLOODPLAINS AND LEVEES</b>				
<b>Ro</b> Robinson	Dark or brown sandy loam to clay loam 0.1 to 0.4 m deep over layers of soil, sediment or coarse bedload (gravel, cobble, stone).	Flood plains, flood plain splays, point bars, channel benches	Alluvial soil	Um6.11, Um6.11
<b>Lo</b> Lockyer	Dark clay loam to light clay with dark or brown neutral to alkaline structured subsoil to 0.4 to 1.0 m deep, over dark or brown layers, palaeosols or coarse bedload.	Flood plains, levees	Prairie soil	Um6.11, Uf6.32
<b>Ca</b> Cavendish	Dark clay loam to light clay with calcareous structured light clay to medium clay subsoil.	Levee banks and backlopes	Chernozem	On3.43, Uf6.32
<b>SOILS OF THE MAJOR STREAM TERRACES AND PLAINS</b>				
<b>Lw</b> Lases	Dark self-mulching, cracking medium clay with dark or brown calcareous subsoil to 0.1-1.4 m over brown friable lighter textured layers.	Alluvial plains adjacent to relic levees	Black earth	Ug5.15
<b>Rl</b> Blenheim	Dark self-mulching, cracking medium to heavy clay with dark, brown or grey calcareous subsoil to 1.5 m deep or over medium to heavy clay palaeosol.	Extensive back plains	Black earth	Ug5.11, Ug5.15, Ug5.16, Ug5.17
<b>Cl</b> Clarendon	Light textured variant: light clay surface texture	Infilled channels of prior streams and levee backlopes	Chernozem - black earth	Uf6.32, Ug5.15
<b>Ci</b> Clarendon	Humic mottled surface horizon over mottled dark or grey medium to heavy clay with grey calcareous subsoil to 1.5 m deep.	Backswamps	Wiesenboden - grey clay	Ug5.16, Ug5.25, Ug5.24
<b>F1</b> Flagstone	Grey self-mulching, cracking clay with grey calcareous subsoil to 1.5 m deep or over brown friable lighter textured layers.	Backplains	Grey clay	Ug5.24, Ug5.25, Ug5.28
<b>Si</b> Sippel	Hardsetting texture contrast soil with dark fine sandy loam to fine sandy clay loam surface soil to 0.15 to 0.45 m over brown or grey brown neutral to alkaline clay subsoil.	Alluvial plains	Affinities with red-brown earth	Db2.12, Dy2.13
<b>Te</b> Tenthill	Dark brown weakly self-mulching cloddy light to light-medium clay with brown calcareous subsoil to 0.4 to 0.7 m over brown friable lighter textured layers.	Relict levees, terraced plains, prior streams	Chernozem - black earth red-brown earth (light variant)	Ug5.15, Uf6.31, On3.43
<b>Ho</b> Hooper	Dark brown weakly self-mulching cloddy light to light-medium clay with brown calcareous subsoil to 0.7 to 1.4 m over brown friable lighter textured layers.	Relict levees, prior streams	Chernozem	Ug5.15, Uf6.31
<b>SOILS OF THE MAJOR STREAM ELEVATED TERRACES, FANS AND PEDIMENTS</b>				
<b>Le</b> Leachke	Grey, hardsetting, crusting light to medium clay with grey subsoil to 1.5 m. Subsoils are alkaline but may become neutral with depth.	Elevated terraces, pediments, local alluvial plains	Grey clay	Ug5.24, Uf6.33
<b>Wo</b> Woodbine	Grey or dark self-mulching, cracking medium clay with grey subsoil to 1.5 m. Subsoils are alkaline but may become neutral to acid with depth.	Elevated terraces, pediments, local alluvial plains	Grey clay	Ug5.28, Ug5.24
<b>Th</b> Thornton	Dark cobbly self-mulching cracking light to medium clay with dark or brown medium to heavy clay subsoil to 0.5 to 1.3 m over brown layers or coarse bedload.	Elevated terraces, alluvial fans, and adjacent pediments	Black earth - brown clay	Ug5.15, Ug5.17
<b>To</b> Tomson	Dark self-mulching cracking medium to heavy clay with dark, grey brown or brown subsoil to 1.5 m.	Elevated alluvial fans and adjacent pediments	Black earth - brown clay	Ug5.1, Ug5.15, Ug5.16
<b>Ry</b> Ryan	Brown hardsetting sandy loam with massive red brown neutral sandy clay subsoil.	Pediments	Affinities with red earth	On2.12
<b>SOILS OF THE ALLUVIAL FANS DERIVED FROM BASALT (UPPER REACH TRIBUTARIES)</b>				
<b>Pe</b> Peacock	Dark stony loam to light clay with stichous dark or brown neutral subsoil to 0.4 to 1 m over brown layers or coarse bedload.	Alluvial fans	Prairie soil	Um6.11, Uf6.31, Uf6.32
<b>Sp</b> Spellman	Dark or grey brown cobbly clay loam to light clay with dark or brown alkaline medium clay subsoil to 0.4 to 0.7 m over brown layers, palaeosols or coarse bedload.	Alluvial fans	Prairie soil - chernozem	Ug5.15, Ug5.17, Uf6.32
<b>SOILS OF THE ALLUVIAL FANS AND PLATS DERIVED FROM UPPER MARBURG BEDS (MIDDLE REACH TRIBUTARIES)</b>				
<b>Su</b> Sutton	Brown hardsetting sandy clay loam to sandy clay with neutral to alkaline red brown sandy clay to sandy medium clay subsoil to 0.7 to 1.0 m over brown to red brown layers.	Alluvial fans, local alluvial plains	Affinities with red-brown earth	Dp2.13, Dp2.33
<b>Ab</b> Abell	Grey brown to brown hardsetting sandy clay with yellow or brown, neutral, sandy clay to sandy medium clay subsoil to 0.7 to 1.0 m over yellow to brown layers.	Alluvial fans, local alluvial plains, pediments	Brown earth	Uf6.31, Uf6.32, Uf6.33
<b>Ge</b> Geismann	Brown hardsetting sandy clay loam with brown or yellow brown acid to neutral sandy clay loam to sandy clay subsoil to 0.7 to 1.0 m over seasonally saturated mottled grey, ferromangiferous sandy clay and other layers.	Mid and lower slopes of alluvial fans	Brown earth	On2.22, On3.91, On4.53
<b>Ld</b> Laidley	Grey brown hardsetting sandy clay loam to sandy medium clay with variable A <sub>2</sub> horizon development and yellow to brown sandy medium to heavy clay subsoils. Deep subsoils are alkaline and non-calcareous and overly buried layers.	Lower slopes of alluvial fans and local alluvial plains	No suitable group	Uf6.33, On3.06, Uf6.32, Uf6.31, Uf6.33
<b>SOILS OF THE ALLUVIAL FANS AND PLATS DERIVED FROM LOWER MARBURG BEDS (LOWER REACH TRIBUTARIES)</b>				
<b>St</b> Stockyard	Hardsetting texture contrast soil with dark to grey brown clay loam surface soil, with variable A <sub>2</sub> horizon development to 0.15 to 0.35 m over grey brown, yellow brown or brown neutral to alkaline clay subsoil to 0.7 m. Gravel and sediment layers occur below 0.7 m.	Local alluvial plains	Solodized solonetz and solodic soil	Dy2.13, Dy2.32, Dy2.43, Dy2.33, Db1.43, Db1.33, Dy3.43
<b>Ha</b> Hattowale	Hardsetting texture contrast soil with grey brown or brown sandy loam to sandy clay loam surface soil with variable A <sub>2</sub> horizon development to 0.15 to 0.45 m over grey brown or yellow brown alkaline clay subsoil to 0.6 m. Layers common below 0.6 m.	Local alluvial plains	Solodized solonetz and solodic soil	Dy2.43, Dy2.42, Dy2.33, Dy2.13, Dy2.42
<b>Gl</b> Glencairn	Loose or hardsetting texture contrast soil with dark or brown loamy sand to sandy loam surface soil with bleached A <sub>2</sub> horizon to 0.4 to 0.6 m over acid yellow and grey mottled sandy light to medium clay.	Local alluvial plains, minor alluvial fans	Soloth	Dy5.41, Dy3.41, Dy3.81, Dy5.42, Dy2.41
<b>Wh</b> Whitesay	Hardsetting texture contrast soil with dark loam to clay loam surface soil with apodically bleached A <sub>2</sub> horizon to 0.1 to 0.3 m over dark light-medium to heavy clay subsoil, calcareous at depth.	Major stream terraced plains adjacent to local alluvial plains	Solodic soil	Dd1.43, Dd1.33, Uf3

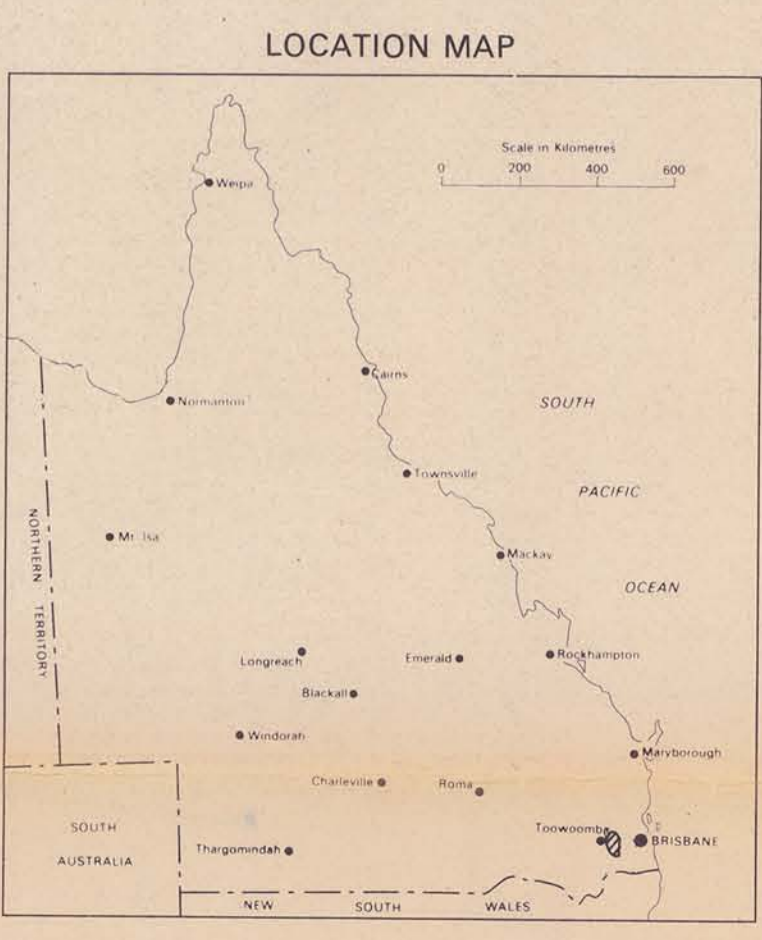
\* After Stace et al (1968) 'A Handbook of Australian Soils'  
 \*\* Principle Profile Form (Northcote 1979)

Soil phase symbols: (d) = depression phase (dg) = depression glistered phase (g) = glistered phase (r) = rise phase (opposite to depression) (at) = stony phase

Soil variant symbols: h = heavy textured variant l = light textured variant

Soil associations - associate soil profile classes are joined by a hyphen e.g. Lw-Ho. Where necessary, association mapping units are coloured in accordance with the first soil symbol listed.

\*1 Sample Site No. — Detailed Lockyer transect



Cadastral and hydrogeological information on base map supplied by the Department of Mines.