

MHO Mount Hope Land System

- Area:** 246.5 km²
- Landscape:** Undulating rises and low hills formed over Tertiary sediments, variably capped by alluvium and windblown calcareous materials which are commonly calcreted.
- Annual rainfall:** 430 – 565 mm average
- Main soils:**
- Vanilla - **J2** (Ferric, Eutrophic, Brown Chromosol)
30 cm sandy loam with a bleached A2 layer containing abundant ironstone gravel, overlying a yellowish brown mottled clay grading to Tertiary sediments.
 - Ness - **D6** (Eutrophic / Calcic, Red Chromosol)
Thin loamy sand to sandy loam with ironstone gravel, over a brown to orange weakly structured clay and (with depth) carbonate nodules, grading to Tertiary or alluvial clay.
 - Calcrete - **B2** (Petrocalcic, Lithocalcic Calcarosol)
Thin calcareous sandy loam to clay loam over hard calcrete, associated with abundant surface calcrete and sheet rock.
- Minor soils:**
- Wharminda - **G4** (Hypercalcic, Brown Sodosol)
Medium to thick sand with a bleached A2 layer abruptly overlying a hard columnar structured dispersive brown mottled clay, highly calcareous with depth, grading to alluvial or Tertiary sediments.
 - Wiabuna - **A5** (Regolithic, Hypercalcic Calcarosol)
Calcareous loam becoming more clayey and calcareous with depth, grading to a very highly calcareous clay (Class I carbonate) over Tertiary clay.
 - Vanilla (sodic) - **J1** (Eutrophic, Brown Sodosol / Chromosol)
30 cm sandy loam with a bleached A2 layer containing abundant ironstone gravel, overlying a yellowish brown poorly structured mottled sodic clay.
 - Lowan - **H3** (Basic, Arenic, Bleached-Orthic Tenosol)
Thick bleached sand with a thin organically darkened surface layer, grading to a yellowish sand (often with darker lamellae), continuing below 150 cm.
 - Skeletal soil - **L1** (Lithic / Petroferric, Leptic Tenosol / Rudosol)
Variable gravelly loamy sand to sandy clay loam over basement rock or massive ironstone at depths usually less than 50 cm.
- Summary:** The characteristic ironstone soils are deep and moderately fertile, although prone to acidification and waterlogging. The red sandy loam soils are more fertile, although acidic, and better drained - they have high production potential. Water erosion of both these soils is a potential problem on moderate slopes. The calcareous soils have restricted waterholding capacities and slight erosion potential. The very rocky (calcrete) slopes are non arable.



Soil Landscape Unit summary: 10 Soil Landscape Units (SLUs) mapped in the Mount Hope Land System:

SLU	% of area	Component	Main soils	Prop#	Notes	
AKC	0.3	Moderately steep rocky slopes	Skeletal / Ness	D	Shallow, stony soils with some deeper sandy loam over clay, but too steep for cultivation.	
FEB	14.9	Very gentle slopes	Wanilla	E	Deep, moderately fertile soils (prone to acidification) Some waterlogging and water erosion potential. Minor saline seepages. Shallow stony soil - non arable.	
			Ness	C		
	Rocky slopes	Calcrete	C			
FOB	12.1	Very gentle slopes	Wanilla	E	Wanilla / Ness soils are deep, moderately fertile but prone to acidification. Minor to moderate susceptibility to waterlogging. Erosion potential on steeper slopes (FOC). Calcrete soils are shallow, stony and non arable.	
			Ness	C		
		Rocky slopes	Calcrete	E		
FOC	38.2	Gentle slopes	Wanilla	E		
			Ness	E		
		Rocky slopes	Calcrete	L		
FRA	12.7	Flats	Wanilla (sodic) / Wanilla	D	Impeded drainage and minor saline seepage.	
GYA	10.9	Sandy flats	Wharminda	V	Impeded drainage, root growth restriction, low fertility, water repellence and susceptibility to wind erosion. Restricted waterholding capacity. Very low fertility, water repellence and wind erosion potential.	
			Wiabuna	C		
			Lowan	L		
HKT	0.1	Depression	Ness	D		Deep and fertile, but moderately saline.
QVB	4.3	Slopes	Wiabuna	V		Restricted waterholding capacity. Shallow stony soil - non arable.
		Rocky slopes	Calcrete	C		
QdB	5.4	Slopes	Wiabuna / Calcrete / Wharminda	D	Mixture of calcareous soil and shallow calcrete (as for QVB), and sand over clay (as for GYA).	
ZA-	1.1	Marginally saline flats	Saline soil	D	Generally too saline for cropping, but with potential for salt tolerant pastures	

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

D	Dominant in extent (>90% of SLU)	C	Common in extent (20–30% of SLU)
V	Very extensive in extent (60–90% of SLU)	L	Limited in extent (10–20% of SLU)
E	Extensive in extent (30–60% of SLU)	M	Minor in extent (<10% of SLU)

Further information: [DEWNR Soil and Land Program](#)

