## **FUR** Furner Land System

Area:	681.2 km <sup>2</sup>
Landscape:	Dune corridor, stony plains and swamps extending from Furner to east of Kingston, with mainly dark coloured, fine textured soils. Occasional stony banks.
Annual rainfall:	610 – 730 mm average
Geology:	Mostly Pleistocene Padthaway Formation calcareous clays, with Late Pleistocene Glanville Formation Clays and calcarenite in the north-western part.
Main soils:	<ul> <li>B5 (29%) Shallow dark clay loam on limestone (Petrocalcic Black-Grey Dermosol)</li> <li>B2 (10%) Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)</li> <li>C5 (10%) Gradational dark clay loam (Calcic-Hypercalcic Brown-Grey-Black Dermosol-Calcarosol)</li> </ul>
Minor soils:	<ul> <li>G3 (9%) Thick sand over clay (sandy Brown-Red Chromosol-Sodosol)</li> <li>B7 (6%) Shallow sand over clay on calcrete (sandy Petrocalcic Sodosol-Chromosol)</li> <li>N3 (5%) Wet soil (non to moderately saline) (Sodosolic-Calcarosolic-Dermosolic Hydrosol)</li> <li>A7 (5%) Calcareous clay loam on marl (Marly Calcarosol)</li> <li>M4 (4%) Deep hard gradational sandy loam (Hard BrownDark Kandosol- Dermosol)</li> <li>E1 (3%) Black cracking clay (Black Vertosol)</li> </ul>
Summary:	Soils are commonly heavy textured dark soils, often over calcrete. Drainage is slow and inundation is common seasonally. Soils are generally fertile. Salinity becomes noticeable in the northern parts.

## Soil Landscape Unit summary: Furner Land System (FUR)

SLU	% of area	Component	Main soils	Prop#	Notes
MAAA	0.1	Gently undulating plain	B3RR	D	MAAA Plains with very shallow sandy loam, occasionally over red clay, on calcreted calcarenite; often bare calcrete. Low dune-core topography.
MAB	0.1	Rise	<b>B</b> 3RR	D	MAB Gently sloping rises; with soils as above.
MAC	0.04	Rise	<b>B</b> 3RR	D	MAC Undulating rises; with soils as above.
					Main soils: <u>Shallow sandy loam on calcrete</u> - <b>B3</b> and <u>Rock or</u> exposed calcrete – <b>RR</b> .
M-B	0.2	Stony rise	B3RR	V	M-B Gently sloping stony rises with very shallow sandy loam,
		Swale	B7B6	L	occasionally over red clay, on calcreted calcarenite; often
M-C	0.00	Rise	RRB3	D	bare calcrete. 10-20% swales with shallow sand to loam on poorly structured brown clay on calcrete. M-C Undulating rises as above. Main soils: Rises: Shallow sandy loam on calcrete - B3 and Rock or exposed calcrete - RR.
					Swales: Sand over friable brown clay on calcrete - <b>B7</b> and Shallow sandy loam over red-brown clay on calcrete - <b>B6</b> .
MCK	0.1	Plain	B6B3	V	Plains with shallow sandy loam, mostly over red clay, on
		Swale	B7B6	L	calcrete; 10-30% with poorly structured clay subsoils. 10-20% swales with sandy loam, mostly over poorly structured brown clay, but often well structured red clay, on calcrete;





MIPB         0.2         Rise         B486         D         Gently unducting story loam on calcrete - 83.           MDB         0.02         Rise         B486         D         Gently unducting story red-brown clay on calcrete - 87 and Shallow sandy loam over red-brown clay on calcrete - 87 and Shallow sandy loam over red-brown clay on calcrete - 87 and Shallow sandy loam over red-brown clay on calcrete - 87 and Shallow sandy loam over red-brown clay on calcrete - 86.           MDB         0.02         Rise         B486         D         Gently unducting story red-brown clay on calcrete - 86.           MEB         0.1         Story rise         B3         V         Gently unducting story rises with shallow sandy loam over red-brown clay on calcrete - 86.           MEB         0.1         Story rise         B683         D         Gently unducting story rises with shallow sandy loam on calcrete - 81.           MEB         0.1         Low rise         B683         D         Min soils: Shallow sandy loam on calcrete - 83.           MFB         0.5         Low rise         B488         D         clay. but of the on odark yeal-ow-grey clay in wales. on clay red clay. Du of rise oreas have shallow calcreto us and rise.           MFB         0.1         Rise         B48R         D         Calcrete to bar red. shandy loam on calcrete - 83.           MFCB         0.1         Rise         B48R         D <th></th> <th></th> <th></th> <th>1</th> <th>T</th> <th></th>				1	T	
Main soils:         Main soils:         Plants: Shallow sandy loam over red-brown clay on calcrete - 83. Swales: Sand over fidble brown clay on calcrete - 84.           MDB         0.02         Rise         B486         D         Gently undulcting rises with mostly reddish clay on calcrete - 86.           MDB         0.02         Rise         B486         D         Gently undulcting rises with mostly reddish clay on calcrete - 86.           MEB         0.1         Story rise         B3         V         Gently undulcting story rises with shallow sandy loam.           MEB         0.1         Story rise         B3         V         Gently undulcting story rises with shallow sandy loam.         occassionally on red clarge on calcrete - 81.           MEB         0.1         Story rise         B663         D         Gently undulcting story rises with shallow sandy loam.         occassionally on red clarge on calcrete - 83.           MFB         0.5         Low rise         B683         D         calcrete - 10-30% of rise reas have shallow calcretes.         Gently undulcting rises: shallow sandy loam on calcrete - 83.           MFB         0.1         Rise         B48R         D         Gently wrises with shallow loam or sand, mostly over red clay, but offen on dark yellow-grey clay in swales.         Gently undulcting rises: medium height dune care to reas have shallow calcretes.           MFB         0.1						10-30% shallow bleached sand, often on poorly structured
MDB         0.02         Rise         B48         D         Centry unducting fies with mostly read brown clay on calcrete - 83. Swales: Sand over fidble brown clay on calcrete - 84.           MDB         0.02         Rise         B486         D         Cently unducting fies with mostly read brown clay on calcrete - 84.           MDB         0.02         Rise         B486         D         Cently unducting fies with mostly read brown clay on calcrete - 84.           MEB         0.1         Stony rise         B3         V         Gently unducting fies with mostly read brown clay on calcrete - 84.           MEB         0.1         Stony rise         B3         V         Gently unducting fies with shallow sandy loam.           June         IIH3         L         Gently unducting fies with shallow sandy loam.         Coccasionally on red clay.         coccasionally on red clay.         Course in the shallow sandy loam an calcrete - 83.           MFB         0.5         Low rise         B488         D         Calcrete. 10-30% of rise reas have shallow clay course of clay.         MFB Low rises with shallow sandy loam acalcrete - 83.           MFB         0.1         Rise         B487         D         Calcrete. 10-30% of rise reas have shallow clay loan the shallow sandy loam acalcrete.           MFB         0.1         Rise         B488         D         Calcrete. 10-30% of						yellow/brown clay, on calcrete.
MDB         0.02         Rise         B48         D         Centry unducting fies with mostly read brown clay on calcrete - 83. Swales: Sand over fidble brown clay on calcrete - 84.           MDB         0.02         Rise         B486         D         Cently unducting fies with mostly read brown clay on calcrete - 84.           MDB         0.02         Rise         B486         D         Cently unducting fies with mostly read brown clay on calcrete - 84.           MEB         0.1         Stony rise         B3         V         Gently unducting fies with mostly read brown clay on calcrete - 84.           MEB         0.1         Stony rise         B3         V         Gently unducting fies with shallow sandy loam.           June         IIH3         L         Gently unducting fies with shallow sandy loam.         Coccasionally on red clay.         coccasionally on red clay.         Course in the shallow sandy loam an calcrete - 83.           MFB         0.5         Low rise         B488         D         Calcrete. 10-30% of rise reas have shallow clay course of clay.         MFB Low rises with shallow sandy loam acalcrete - 83.           MFB         0.1         Rise         B487         D         Calcrete. 10-30% of rise reas have shallow clay loan the shallow sandy loam acalcrete.           MFB         0.1         Rise         B488         D         Calcrete. 10-30% of						
MDB         0.02         Rise         B486         D         Gently undulating rises with mostly reddish claval cours on colcrete - 80.           MDB         0.02         Rise         B486         D         Gently undulating rises with mostly reddish claval cours on colcrete - 80.           MEB         0.1         Stony rise         B3         V         Gently undulating rises with shallow sandy loam over red-brown clav on colcrete - 80.           MEB         0.1         Stony rise         B3         V         Gently undulating story rises with shallow sandy loam, occasionally on red clay, on calcreted calcarenite. 10-20% durps with water repellent, mostly bleached, acid, sliceous sand.           MFB         0.5         Low rise         B683         D         MFE Low rises with shallow loam or and, mostly over red clay, but offen on dark yellow-grey clay in swales, on calcreted red calcarenite. 10-20% durps with water repellent, mostly bleached, acid, sliceous sand +83.           MFB         0.5         Low rise         B586         D         MFE Low rises with shallow loam or and, mostly over red clay, but offen on dark yellow-grey clay in swales, on calcreted or bare rock.           MFBK         0.1         Rise         B48R         D         MFE Low rises with shallow loam or and, rest or solution holes and mainty very shallow sandy loam on calcrete - 83.         MFE Low rises with shallow clace rock.           MFEK         0.1         Rise         B48R						
MDB         0.02         Rise         B486         D         Genity unducting rises with mostly reddish clay loam over red-brown clay on calcrete - 85.           MDB         0.02         Rise         B486         D         Genity unducting rises with mostly reddish clay loam over red-brown clay on calcrete - 86.           MEB         0.1         Stany rise         83         V         Genity unducting rises with mostly reddish clay loam.           MEB         0.1         Stany rise         83         V         Genity unducting rises with shallow sandy loam.           MEB         0.1         Stany rise         83         V         Genity unducting rises with shallow sandy loam.           MEB         0.5         Low rise         B488         D         occassionally on red clay. on calcreted calcarenite.         0.020%           MFB         0.5         Low rise         B488         D         MET right/leached sand 11 and Bleached since.us sand.         Sand right red clay on an calcrete - 83.           MFB         0.01         Low rise         B488         D         MET right/leached sand 11 and Bleached since.us sand.         Sand right red clay on calcrete.           MFCB         0.1         Rise         B47R         D         MET right/leached sand 11 and Bleached since.us sand.         Sand rise.us right/leached since.us sand. <t< td=""><td></td><td></td><td></td><td></td><td></td><td>Plains: Shallow sandy loam over red-brown clay on calcrete</td></t<>						Plains: Shallow sandy loam over red-brown clay on calcrete
MDB         0.02         Rise         B486         D         Gently unducting rises with mash yredish clay loom over red clay on calcrete; 10-30% deep siliceous sand rises. Main soils: Shallow sandy loom over red-brown clay on calcrete - 84.           MEB         0.1         Stony rise         B3         V         Gently unducting rises with shallow sandy loom, occasionally on red clay, on calcreted calcarente. 10-20% dunes with water repellent, mostly bleached, acid, siliceous sand.           MEB         0.1         Stony rise         B683         D         Gently unducting rises with shallow sandy loam, occasionally on red clay, on calcreted - 83. Dunes: Hialayleached sand - 11 and Bleached, acid, siliceous sand.           MFB         0.5         Low rise         B683         D         MFE Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in avales, on calcrete - 10-30% often bleached, on calcrete.           MFDB         0.1         Low rise         B48R         D           MFB         0.1         Rise         B48R         D           MFBK         0.1         Rise         B48R         D           MFB         0.2         Low rise         B48R         D           MFBK         0.1         Rise         B48R         D           MFCB         0.2         Low rise         B44RR         D           MFBK						- <b>B6</b> and <u>Shallow sandy loam on calcrete</u> - <b>B3</b> .
MDB         0.02         Rise         B486         D         Genity undulating rises with mostly redisin clay loam over red clay on calcrete; 10-30% deep siliceous sand rises.           MEB         0.1         Stony rise         B3         V         Genity undulating rises with mostly redisin clay loam, shallow sandy loam, colcrete; 0.20% deep siliceous sand rises.           MEB         0.1         Stony rise         B3         V         Genity undulating stony rises with shallow sandy loam, out on colcrete d calcarenite.         0.02%           MEB         0.1         Now rise         B683         D         Genity undulating rises with shallow sandy loam on calcrete - 83.           MFB         0.01         Low rise         B388         D         MEB Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in svales, on calcrete.         Nor solits: Stony rises: Shallow sandy loam or sand, mostly over red clay, but often on dark yellow-grey clay in svales, on calcrete.         Nor solits: MECB         Nor solits: Nor size: Shallow sandy loam or calcrete - 83.         Nor MER Low rises a above, with kast or solution holes and mainly very shallow sand, blane claret or solution holes and mainly very shallow sand vice nor strown and clarete top accrete + 86.           MHB         0.2         Dune         H3         E         Genity sloping calcrenite + 89						Swales: Sand over friable brown clay on calcrete - B7 and
MDB         0.02         Rise         B486         D         Genity undulating rises with mostly redisin clay loam over red clay on calcrete; 10-30% deep siliceous sand rises.           MEB         0.1         Stony rise         B3         V         Genity undulating rises with mostly redisin clay loam, shallow sandy loam, colcrete; 0.20% deep siliceous sand rises.           MEB         0.1         Stony rise         B3         V         Genity undulating stony rises with shallow sandy loam, out on colcrete d calcarenite.         0.02%           MEB         0.1         Now rise         B683         D         Genity undulating rises with shallow sandy loam on calcrete - 83.           MFB         0.01         Low rise         B388         D         MEB Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in svales, on calcrete.         Nor solits: Stony rises: Shallow sandy loam or sand, mostly over red clay, but often on dark yellow-grey clay in svales, on calcrete.         Nor solits: MECB         Nor solits: Nor size: Shallow sandy loam or calcrete - 83.         Nor MER Low rises a above, with kast or solution holes and mainly very shallow sand, blane claret or solution holes and mainly very shallow sand vice nor strown and clarete top accrete + 86.           MHB         0.2         Dune         H3         E         Genity sloping calcrenite + 89						Shallow sandy loam over red-brown clay on calcrete - <b>B6</b> .
MEB         0.1         Story rise         B3         V         Gently undulding story rises with shallow sandy loam, occasionally on red clay, on calcreted-brown clay on calcrete - 86.           MEB         0.1         Story rise         B3         V         Gently undulding story rises with shallow sandy loam, occasionally on red clay, on calcreted calcarenite. 10-20% dunes with water repellent, mostly bleached, acid, siliceous sond.           MEB         0.5         Low rise         B683         D         Min solis: Shallow sandy loam on calcrete - 83.           MPBK         0.01         Low rise         B683         D         Occasionally com results shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in svales, on calcrete results.           MFCB         0.1         Rise         B4RR         D         MFEK Low rises with shallow sand, often bleached, on calcrete.           MFCB         0.1         Rise         B4RR         D         MFEK Low rises: Shallow sand, often bleached, on calcrete.           MFCB         0.1         Rise         B4RR         D         MFEK Low rises: Shallow sand, often bleached, on calcrete.           MFCB         0.1         Rise         B4RR         D         MFEK Low rises: Shallow sand, often bleached, on calcrete.           MFCB         0.1         Rise         B4RR         E         C         Certify soligin calcre	MDB	0.02	Rise	B4B6	D	
Mein solis: Shallow sandy loam over red-brown clay on calcrete - 84.           MEB         0.1         Stony rise         B3         V         Genity undulating stony rises with shallow sandy loam.           MEB         0.1         Stony rise         B1H3         L         occasionally on red clay, on calcreted calcarent 0-20%.           MEB         0.1         Low rise         B488         D         occasionally on red clay, on calcreted calcarent 0-20%.           MFB         0.5         Low rise         B488         D         Mein solis:         Stony rises: Shallow sandy loam on calcrete - 83.           MFBK         0.01         Low rise         B388         D         Ioam oclarete or bare rock.           MFCB         0.1         Rise         B48R         D         Ioam on calcrete or bare rock.         Ioam on calcrete or bare rock.           MFCB         0.1         Rise         B48R         D         Ioam on calcrete or bare rock.         Ioam on calcrete or bare rock.           MFCB         0.1         Rise         B48R         D         Ioam on calcrete or bare rock.         Ioam on calcrete or bare rock.           MFCB         0.1         Rise         B48R         D         Ioam rock.         Rise Shallow sandy loam on calcrete or bare rock.           MFCB         0.2		0.02		5.50	-	
MEB         0.1         Stony rise         B3         V           Dune         IIIH3         L         Cently undulating stony rises with shallow sandy loam. occasionally on red clay. on calcreted calcarenite. 10-20%. dunes with water repellent, mostly bleached, acid, siliceous sand.           MFB         0.5         Low rise         B683         D         Main soils: Stony rises: Shallow sandy loam on calcrete - 83. Dunes: Highly leached sand - 11 and Bleached siliceous sand - H3.           MFB         0.01         Low rise         B683         D         MFB Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D           MFCB         0.1         Rise         B4RR         D           MFBK         0.01         Low rise         B388         D           MFCB         0.1         Rise         B4RR         D           MFBK         0.01         Low rise         B388         D           Image:         B4RR         D         MFBK Low rises as above, with karst or solution holes and mainty very shallow sandy loam on calcrete.         MFBK Low rises as above, with karst or solution holes and mainty very shallow sandy loam on calcrete.           MHB         0.2         <						
MEB         0.1         Stony rise         B3         V           Dune         IIIH3         L         Cently undulating stony rises with shallow sandy loam. occasionally on red clay. on calcreted calcarenite. 10-20%. dunes with water repellent, mostly bleached, acid, siliceous sand.           MFB         0.5         Low rise         B683         D         Main soils: Stony rises: Shallow sandy loam on calcrete - 83. Dunes: Highly leached sand - 11 and Bleached siliceous sand - H3.           MFB         0.01         Low rise         B683         D         MFB Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D           MFCB         0.1         Rise         B4RR         D           MFBK         0.01         Low rise         B388         D           MFCB         0.1         Rise         B4RR         D           MFBK         0.01         Low rise         B388         D           Image:         B4RR         D         MFBK Low rises as above, with karst or solution holes and mainty very shallow sandy loam on calcrete.         MFBK Low rises as above, with karst or solution holes and mainty very shallow sandy loam on calcrete.           MHB         0.2         <						Main soils: Shallow red loam on limestone - <b>B4</b> and
MEB         0.1         Story rise         B3         V         Genthy undulating story rises with shallow sandy loam, occasionally on red clay, on calcreted calcarenite. 10-20% dunes with water repellent, mostly bleached, acid, siliceous sand.           MEB         0.5         Low rise         B6B3         D         Main soils:         Story rises: Shallow sandy loam on calcrete - B3.           MFB         0.5         Low rise         B6B3         D         MFE Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Low rise         B3B8         D         MFEK Low rises with shallow sandy loam or sand, mostly over red clay, but often on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         MFEK Low rises: shallow sandy loam over red-brown clay on red clay on calcrete. 10-30% rise: Shallow sandy loam over red-brown clay on red clay on calcrete - 64 Shallow sandy loam over red-brown clay on calcrete.           MFB         0.2         Dune         H3         E         Genthy sholing calcarenite ridges with deep bleached siliceous sand on calcrete - 64 Shallow sandy loam on red clay on calcrete - 63 Shallow sandy loam on red clay on calcrete - 64 Shallow sandy loam on red clay on calcrete - 64 Shallow sandy loam on red clay on calcreret - 78.           MHB <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
MFB         0.5         Low rise         B483         D         occasionally on red clay, on calcreted calcarenite. 10-20% duns with water repellent, mostly bleached, acid, siliceous sand.           MFB         0.5         Low rise         B683         D         Main soils:           Story rises:         Shallow sandy loam on calcrete - B3.         Dune: Highly leached sand I1 and Bleached siliceous sand - H3.           MFB         0.01         Low rise         B388         D         clay, but often on dark yellow-grey clay in swales, on calcrete or bare rock.           MFBK         0.01         Low rise         B487         D         MFB Low rises as above, with karst or sollow calcareous loom on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         MFBK Low rises as above, with karst or sollow calcrete.           MFCB         0.1         Rise         B4RR         D         Min solis:         Min solis:           MFBK Low rises as above, with shallow slow reddish sandy loam or calcrete.         MFCK Duduling rises: medium height dune core topography, with shallow reddish sandy loam or calcrete.         MFEK Low rises and holiow calcy loam one calcrete.           MHB         0.2         Dune         H3         E         Gently sloping calcrente - B1         Shallow sandy loam on calcrete - B3. Shallow sandy clay cocy or calcrete - B1           MHB	MED	0.1	Stopyrico	D.2	1/	
MIB         0.2         Dune         H3         E         Gently solar         Gently solar         Solar         Main solar           MIB         0.2         Low rise         8582         D         MFB Low rises with shallow loam on calcrete - 83. Dunes: Highly leached sand - 11 and Bleached siliceous sand - H3.         MFB Low rises with shallow loam or sand, mostly over red clay, but often on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareaus loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         MFB Low rises a above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete. NFCB Undulating rises: medium height dune core topography. with shallow reddish sandy loam grading to red clay on calcrete - 80. Shallow sandy loam on calcrete - 83. Shallow sandy loam on calcrete - 83. Nation or calcrete - 80. Shallow sandy loam on calcrete - 83. Shallow red loam on calcrete - 83. New: Shallow sandy loam on calcrete - 83. Shallow red loam on calcrete - 83. Not calcrete - 80. Shallow sandy loam on calcrete - 83. Not calcrete - 80. Nese: Shallow sandy loam on calcrete - 83. Not calcrete - 80. Nese: Shallow sandy loam on calcrete - 83. Not calcrete - 80. Nese: Shallow sandy loam on calcrete - 83. Not cocosed calcrete - 80. Nese: Shallow sandy loam on calcrete - 83. Not cocosed calcrete - 80. Not calcrete - 80. Not calcrete - 80. Not cocosed calcrete - 80. Not calcrete	MEB	0.1				
MIB         0.2         Dune         H3         E         Geneticity sponge         Sand.           MIB         0.2         Dune         H3         E         Sand.         Main soils: Stony rises: Shallow sandy loam on calcrete - 83. Dunes: Highly leached sand - 11 and Bleached siliceous sand - H3.           MFB         0.01         Low rise         B683         D         Calcrete. 10-30% of rise areas have shallow colcareous own on calcrete or bare rock.           MFCB         0.1         Rise         B4R         D         MFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete.           MFCB         0.1         Rise         B4RR         D         MFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete.           MFCB         0.1         Rise         B4RR         D         Main soils: Low rises: Shallow sandy loam over red-brown clay on calcrete - 86, shallow sandy loam on calcrete - 83, shallow sand on calcrete - 86, shallow sandy loam on calcrete - 83, shallow sand on calcrete - 86, shallow sandy loam on calcrete - 83, shallow sand on calcrete - 87.           MIIB         0.2         Dune         H3         E         Gentity sloping calcarenite ridges with shallow siliceous sand on calcrete - 88, shallow sandy loam on red calcrete - 88.         Shallow sandy clay. Co- dominant are shallow slopy rises with shallow siliceous sand on calcrete - 88.           MIIB<			Dune	TTH3	L	
Main soils: Stony rise::         Main soils:           MFB         0.5         Low rise         B388         D         MFB Low rises with shallow loam or sond, mostly over red clay, but often on dark yellow-grey clay in swales, on calcrete.         10.30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         MFB Low rises as above, with karst or solution holes and mainly very shallow readish sandy loam grading to red clay on calcrete?         Solution holes and mainly very shallow readish sandy loam over red-brown clay on calcrete?         Main soils: Low rises: Shallow sandy loam over red-brown clay on calcrete?         Main soils: Low rises: Shallow sandy loam on calcrete?         B3. Shalow sand on calcrete?           MHB         0.2         Dune         H3         E         Gently sloping calcrenite ridges with deep bleached on calcrete?         Shallow red shallow calc areous sand on calcrete?         Shallow sand on calcrete?         Shallow s						
MIB         0.2         Dune         H3         E         Story rises: Shallow sandy loam on calcrete - 83. Dunes: Highly leached sand - 11 and Bleached siliceous sand - H3.           MIFB         0.5         Low rise         B683         D         MIFB Low rises with shallow loam on calcrete - 83. Dunes: Highly leached siliceous calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MIFBK         0.01         Rise         B4RR         D         Ioam on calcrete or bare rock.           MIFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete.         MIFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete.           MIFB         0.2         Dune         H3         E         Coorrected calcarenite. Bare calcrete is co- dominant.           Main soils:         Low rises: Shallow sandy loam over red-brown clay on calcrete - 86. Shallow sandy loam on calcrete - 83. Shallow sand on calcrete - 88 and Shallow clay loam over brown or dark clay on calcrete - 80.           MIHB         0.2         Dune         H3         E         Gently sloping calcarenite ridges with deep bleached siliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow story rises with shallow siliceous sand on calcrete - 80.         H3.           MHB         0.4         Stony plain         BS82         V         Noin soiis: Dunes: Bleached siliceous sand - H3.						sand.
MIB         0.2         Dune         H3         E         Story rises: Shallow sandy loam on calcrete - 83. Dunes: Highly leached sand - 11 and Bleached siliceous sand - H3.           MIFB         0.5         Low rise         B683         D         MIFB Low rises with shallow loam on calcrete - 83. Dunes: Highly leached siliceous calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MIFBK         0.01         Rise         B4RR         D         Ioam on calcrete or bare rock.           MIFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete.         MIFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete.           MIFB         0.2         Dune         H3         E         Coorrected calcarenite. Bare calcrete is co- dominant.           Main soils:         Low rises: Shallow sandy loam over red-brown clay on calcrete - 86. Shallow sandy loam on calcrete - 83. Shallow sand on calcrete - 88 and Shallow clay loam over brown or dark clay on calcrete - 80.           MIHB         0.2         Dune         H3         E         Gently sloping calcarenite ridges with deep bleached siliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow story rises with shallow siliceous sand on calcrete - 80.         H3.           MHB         0.4         Stony plain         BS82         V         Noin soiis: Dunes: Bleached siliceous sand - H3.						
MFB         0.5         Low rise         B6B3         D         MTB Low rises with shallow loam or sand, mostly over red clay, but offen on dark yellow-grey clay in swales, on calcrete           MFBK         0.01         Low rise         B38B         D         calcrete. 10.30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         D         calcrete. 10.30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         D         MTB Low rises as above, with knallow loam or calcrete.           MFCB         0.1         Rise         B4RR         D         MTB Low rises as above, with knallow loam or calcrete.           MFDK         0.01         Low rise as above, with knallow clay on calcrete.         MTFB Low rises as above, with knallow and y loam on calcrete.           MTCB         Dune         H3         E         Calcrete - 66. Shallow sandy loam on calcrete - 63. Shallow sandy loam on calcrete - 64. Shallow sandy loam on calcrete - 64. Shallow sandy loam on calcrete - 83. Shallow sand clay. Co-dominant are shallow slong radius and clay. Co-dominant are shallow slong radius and y loam on red clay on calcrete - 87.           MHB         0.2         Dune         H3         E         Gently slong radius standy loam on calcrete - 83. Shallow sandy loam on red clay on calcrete - 88. and Shallow slinecous sand						Main soils:
MFB         0.5         Low rise         B6B3         D         MTB Low rises with shallow loam or sand, mostly over red clay, but offen on dark yellow-grey clay in swales, on calcrete           MFBK         0.01         Low rise         B38B         D         calcrete. 10.30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         D         calcrete. 10.30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         D         MTB Low rises as above, with knallow loam or calcrete.           MFCB         0.1         Rise         B4RR         D         MTB Low rises as above, with knallow loam or calcrete.           MFDK         0.01         Low rise as above, with knallow clay on calcrete.         MTFB Low rises as above, with knallow and y loam on calcrete.           MTCB         Dune         H3         E         Calcrete - 66. Shallow sandy loam on calcrete - 63. Shallow sandy loam on calcrete - 64. Shallow sandy loam on calcrete - 64. Shallow sandy loam on calcrete - 83. Shallow sand clay. Co-dominant are shallow slong radius and clay. Co-dominant are shallow slong radius and y loam on red clay on calcrete - 87.           MHB         0.2         Dune         H3         E         Gently slong radius standy loam on calcrete - 83. Shallow sandy loam on red clay on calcrete - 88. and Shallow slinecous sand						Stony rises: Shallow sandy loam on calcrete - B3.
MFB         0.5         Low rise         B6B3         D         MFB Low rises with shallow loam or sand, mostly over red B9           MFBK         0.01         Low rise         B388         D         calcr.but often on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         MFBK Low rises as above, with karst or solution holes and mainly very shallow sand, often bleached, on calcrete. MFCB Unduiting rises: medium height dune core topography, with shallow reddish sandy loam grading to red clay on calcrete d calcarenite. Bare calcrete is co- dominant.           MHB         D         Dune         H3         E         Gentty sloping calcarenite - B3. Shallow sand on calcrete - B4 and Rock or exposed calcrete - B7.           MHB         0.2         Dune         H3         E         Gentty sloping calcarenite ridges with deep bleached sliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow story rises with shallow sliceous sand on calcrete - B8.           MHB         0.2         Dune         H3         E         Gentty sloping calcarenite ridges with deep bleached sliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow story rises with shallow sliceous sand on calcrete - bar rock, occasionally sandy loam on red clay on calcrete.           MHB         0.4         Story plain         B582         V         Natin soils: Dunes: Bleached sliceous sand - H3.						
MFB         0.5         Low rise         B683 B9         D         MFB Low rises with shallow loam or sand, mostly over red clay, but offen on dark yellow-grey clay in swales, on calcrete.           MFBK         0.01         Low rise         B388         D         calcrete.         Low offen on dark yellow-grey clay in swales, on calcrete.           MFCB         0.1         Rise         B4RR         D         Calcrete.         Low rises a above, with karst or solution holes and mainly very shallow sand, offen bleached, on calcrete.           MFB         Low rise         Samp         Samp         Calcrete.         MFB Low rises: medium height dune core topography, with shallow reddish sandy loam grading to red clay on calcrete - 84, Shallow sandy loam on calcrete - 83, Shallow sand on calcrete - 84, Shallow sandy loam on calcrete - 83, Shallow sand on calcrete - 86, Shallow red loam on Limestone - 84 ond Rock or exposed calcrete - 88.           MHB         0.2         Dune         H3         E         Gently sloping calcarenite ridges with deep bleached dominant are shallow stony rises with shallow siliceous sand on calcrete or bare rock, occasionally sandy loam on red clay on calcrete.         Main soils: Dunes: Bleached siliceous sand - H3. Stony rises: Shallow sandy loam on calcrete - 83 and Rock or exposed calcrete - RR.           NBB         1.8         Stony plain         B582         V         Nain soils: Dunes: Bleached siliceous sand - H3. Stony rises: Shallow sandy loam on calcrete - 83 and Rock or exposed calcrete - RR.         NB Stony plain with fin						
MFBK         0.01         Low rise         B38         D         clay, but offen on dark yellow-grey clay in swales, on calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         Calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete.           MFCB         0.1         Rise         B4RR         D         Calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete.           MFDB         1.8         Farmer Street	MER	0.5	Lowrise	B4B3	D	
MFBK         0.01         Low rise         B388         D         calcrete. 10-30% of rise areas have shallow calcareous loam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         Image: State of the	MID	0.5	LOWING		D	
MFCB         0.1         Rise         B4RR         D         Ioam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         Ioam on calcrete or bare rock.           MFCB         0.1         Rise         B4RR         D         Ioam on calcrete or bare rock.           MFCB         Understand         Addition of the standy loam on calcrete.         MFCB Undulating rises; medium height dune core topography, with shallow reddish sandy loam or calcrete is co-dominant.           Merce understand         Main soils:         Low rises: Shallow sandy loam over red-brown clay on calcrete - 80. Shallow sandy loam on calcrete - 83. Shallow sandy loam on calcrete - 83. Shallow sandy loam on calcrete - 83. Shallow sand on calcrete - 80.           MHB         0.2         Dune         H3         E         Gently sloping calcarenite ridges with deep bleached sliceous sand on calcrete - 89.           MHB         0.2         Dune         H3         E         Gently sloping calcarenite ridges with deep bleached on calcrete - 80.           MHB         0.2         Dune         H3         E         Gently sloping calcarenite ridges with deep bleached on calcrete rate shallow slopy rises with shallow sliceous sand on calcrete - 80.           MB         1.8         Stony plain         B5B2         D         NBM stony rises: Shallow sandy loam on calcrete - 83 and Rock or exposed calcrete - R.	MEDIZ	0.01	1		<b>_</b>	
MHB         0.2         Dune         H3         E         Gently solar calcrete - 80, shallow sond, often bleached, on calcrete.           MHB         0.2         Dune         H3         E         Gently solar calcrete - 80, shallow sond, often bleached, on calcrete - 83, shallow sond, or calcrete - 84, shallow sond, loam on calcrete - 83, shallow sond, or calcrete - 89, shallow sond, or calcrete - 84, shallow sond, or calcrete - 89, shallow sond, or calcrete - 89, shallow sond, or calcrete - 89, shallow sond, or calcrete - 80, shallow sond, clay, or calcrete - 80, shallow sond, clay, or calcrete - 80, shallow sond, or calcrete - 80, shallow sond, clay, or calcrete - 80, shallow sond, clay, or calcrete - 80, shallow sond, loam on calcrete - 83, and Rock or exposed calcrete - 80, shallow sond, clay or calcrete - 80, shallow sond, clay or calcrete - 83, and Rock or exposed calcrete - 80, shallow sond, shallow, or exposed calcrete - 80, shallow calcare					-	
MHB       0.2       Dune       H3       E       Gentty sloping calcorente - B9.         MHB       0.2       Dune       H3       E       Gentty sloping calcorente - B9.         MHB       0.2       Dune       H3       E       Gentty sloping calcorente - B9.         MHB       0.2       Dune       H3       E       Gentty sloping calcorente - B9.         MHB       0.2       Dune       H3       E       Gentty sloping calcorente - B9.         MHB       0.2       Dune       H3       E       Gentty sloping calcorente - B9.         MHB       0.2       Dune       H3       E       Gentty sloping calcorente ridges with deep bleached siliceous sand on calcrete - B9.         MHB       0.4       Stony       B3RR       E       Gentty sloping calcorenite ridges with deep bleached siliceous sand on calcrete - B1.         NBB       1.8       Stony plain       B582       D       Main soils:         Dune::       Blached siliceous sand - H3.       Stony plain       B582       V         NBB       Stony plain       B582       V       NBB Stony plain with freshwater shells.       NBI Stony plain as dove; 20-30% swamps with shallow; 20-30% size with very	MFCB	0.1	Rise	B4RR	D	
MHB       0.2       Dune       H3       E       Gently sloping calcrete - B9, and slow sondy loam on calcrete - B3, Shallow sondy loam on calcrete - B3, Shallow sondy loam on calcrete - B3, Shallow sond vice red-brown clay on calcrete - B4, Shallow sondy loam on calcrete - B3, Shallow sond vice red-brown clay on calcrete - B9, Shallow sond vice red-brown clay on calcrete - B9, Shallow sond vice red-brown clay on calcrete - B9, Shallow sond vice red-brown sond vice red-brown or dark clay on calcrete - B9, Shallow sond vice red-brown sond vice red-brown or dark clay on calcrete - B9, Shallow sond vice red-brown sond vice red-brown or dark clay on calcrete - B9, Shallow sond vice red-brown sond vice, Co-dominant are shallow stony rises with shallow siliceous sond on calcrete - B4 and Rock or exposed calcrete - R8, Shallow sond vice red-brown sond vice, Co-dominant are shallow stony rises with shallow siliceous sond on calcrete - B3, Shallow sond vice red-brown sond vice, Co-dominant are shallow stony rises with shallow siliceous sond on calcrete - B3, Shallow sond vice red-brown sond vice, Co-dominant are shallow sony vises with shallow siliceous sond on calcrete - B3, Shallow sond vice red clay on calcrete.         MBB       1.8       Stony plain       B582       V         NBB       Stony plain       B582       V       NBB Stony plain with firsh black cracking clay or clay loam or calcrete with shallow, often with freshwater shells.         NBM       0.8       Stony plain       B582       V       NBB Stony plain as for NBB, with 20-30% rises with shallow, often wet, dark clay loam and alkaline peat soils.         NBM       0.8       Stony plain       B582       V       NBB Ston						
MHB       0.2       Dune       H3       E       Gently sloping calcrete e so.         MHB       0.2       Dune       H3       E       Gently sloping calcrete - B9.         MHB       0.2       Dune       H3       E       Gently sloping calcrete - B9.         MHB       0.2       Dune       H3       E       Gently sloping calcrete - B9.         MHB       0.4       Stony       B3RR       E       Gently sloping calcrete - B9.         MBB       1.8       Stony plain       B5B2       V       Main soils:       Dunes: Bleached siliceous sand - H3.         NBB       1.8       Stony plain       B5B2       V       NBB Stony plain sobs2.       V         NBB       0.8       Stony plain       B5B2       V       NBB Stony plain a sobe, 2.0-30% srse with shallow, and with shallow, offen over brown sandy clay or calcrete - RR.         NBB       0.8       Stony plain       B5B2       V         NBB       Stony plain       B5B2       V       NBB Stony plain as box, 2.0-30% srse with shallow, offen over brown sandy clay or calcrete - RR.         NBN       0.8       Stony plain       B5B2       V       NB Stony plain as box, 2.0-30% srse with very shallow, offen weth, dark clay loam and alkaline peat soils.       NBI Stony plain as choxe, 2.0-30% srse wi						
MHB       0.2       Dune       H3       E       Gently sloping calcarente and solar of the solar o						MFCB Undulating rises; medium height dune core
MHB       0.2       Dune       H3       E       Gently sloping calcarente and solar of the solar o						topography, with shallow reddish sandy loam grading to
MHB0.2DuneH3EGently sloping calcaretie - B3MHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.2DuneH3EMHB0.3StonyB3RREMBB1.8Stony plainB5B2DNBB1.8Stony plainB5B2DNBH0.6Stony plainB5B2VNBM0.8Stony plainB5B2VNBM2.0PlainB55VNBN2.0PlainB55VNBN2.0PlainB55VNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52MNBN2.0PlainB52M <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
MHB0.2DuneH3EMHB0.2DuneH3EStonyB3RRENBB1.8Stony plainB5B2DNBNBM0.8Stony plainStony plainB5B2NBM2.0PlainB5NBCNBN2.0PlainB5NBN2.0PlainB5Stony plainB5B2NBNNBStony plainB5B2NBNNBStony plainB5B2NBNNBStony plainB5B2NBNNBStony plainB5B2 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
MHB0.2DuneH3EGently sloping calcarente - B9. Rises: Shallow red loam on limestone - B4 and Rock or exposed calcrete - RR.MHB0.2DuneH3EStonyB3RREGently sloping calcarenite ridges with deep bleached sliceous sands on dunes, offen over brown sandy loam on red clay on calcrete - B9. Rises: Shallow red loam on limestone - B4 and Rock or exposed calcrete - RR.MHB0.2DuneH3EStonyB3RREGently sloping calcarenite ridges with deep bleached sliceous sands on dunes, offen over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete.NBB1.8Stony plainB5B2DNBB1.8Stony plainB5B2DNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBM2.0PlainB5VNBN2.0PlainB5VNBN2.0PlainB5VNBNSwampB5B2MNBN Poorty drained plain with shallow dark grey calcareous calcareous lago one calcrete, soils.NBN2.0PlainB5VNBNSwampB5B2M						
MHB0.2DuneH3EGently sloping calcarente - B9. Rises: Shallow red loam on limestone - B4 and Rock or exposed calcrete - RR.MHB0.2DuneH3EStonyB3RREGently sloping calcarenite ridges with deep bleached sliceous sands on dunes, offen over brown sandy loam on red clay on calcrete - B9. Rises: Shallow red loam on limestone - B4 and Rock or exposed calcrete - RR.MHB0.2DuneH3EStonyB3RREGently sloping calcarenite ridges with deep bleached sliceous sands on dunes, offen over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete.NBB1.8Stony plainB5B2DNBB1.8Stony plainB5B2DNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBM2.0PlainB5VNBN2.0PlainB5VNBN2.0PlainB5VNBNSwampB5B2MNBN Poorty drained plain with shallow dark grey calcareous calcareous lago one calcrete, soils.NBN2.0PlainB5VNBNSwampB5B2M						Main soils:
MHB0.2DuneH3EGently sloping calcarenite ridges with deep bleached sliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete - RR.MHB0.2DuneH3EGently sloping calcarenite ridges with deep bleached sliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete.MHB0.2DuneH3EMHB0.2DuneH3EStony rangeB3RRESliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete.MBB1.8Stony plainB5B2DNBB1.8Stony plainB5B2DNBH0.6Stony plainB5B2VNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBN2.0PlainB5VNBN2.0PlainB5VNBN2.0PlainB5VNBNSwampB5B2MNBNSwampB5B2MNBNNBStony plainB5E2VNBNCNBSStony plain as for NBB, with 20-30% swamps with shallow, often wet, dark clay loam and alkaline peat soils. NBM Stony plain as for NBB, with 20-30% ises with very shallow calcareous loam over calcrete, soils. NBN Poorly drained plain with shallow dark grey calcareous clay loam over dark clay on calcrete. <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
MHB0.2DuneH3ESand on calcrete - B8 and Shallow clay loam over brown or dark clay on calcrete - B9. Rises: Shallow red loam on limestone - B4 and Rock or exposed calcrete - RR.MHB0.2DuneH3EGently sloping calcarenite ridges with deep bleached siliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete or bare rock, occasionally sandy loam on red clay on calcrete.MHB0.2DuneH3EMHBStonyB3RRENBB1.8Stony plainB5B2DNBB1.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5VNBN2.0PlainB5VSwampB5B2MNBM Stony plain as dowe calcrete, soils.NBN2.0PlainB5VSwampB5B2MNBM Stony plain as dowe calcrete, soils.NBN2.0PlainB5VSwampB5B2MNBM Stony plain as dowe						
MHB0.2DuneH3EGently sloping calcarente - <b>B9</b> . <i>Rises:</i> Shallow red loam on limestone - <b>B4</b> and <u>Rock or exposed calcrete - <b>RR</b>.MHB0.2DuneH3EGently sloping calcarenite ridges with deep bleached siliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete or bare rock, occasionally sandy loam on red clay on calcrete.MHB0.2EMine soils: Dunes: Bleached siliceous sand - H3. Stony rises: Shallow sandy loam on calcrete - <b>B3</b> and <u>Rock or exposed calcrete - <b>RR</b>.NBB1.8Stony plainB5B2DNBB1.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBM0.8Stony plainB5B2VNBN2.0PlainB5B2VNBN2.0PlainB5VNBN2.0PlainB5VNBN2.0SwampB3B2MSwampB3B2MStony plain as torve calcareed plain with shallow dark grey calcareous clay loam over calcareed soils.NBN2.0FlainB5VNBN2.0FlainB5VNBN2.0FlainB5VNBN2.0FlainB5VNBN2.0FlainB5VNBN2.0FlainB5VNBN2.0FlainB5VNBN2.0FlainB5V</u></u>						
MHB0.2DuneH3EGently sloping calcarenite ridges with deep bleached siliceous sands on dunes, often over brown sandy clay. Co- dominant are shallow stony rises with shallow siliceous sand on calcrete or bare rock, occasionally sandy loam on red clay on calcrete.MHBMain soils: Dunes: Bleached siliceous sand - H3. Stony rises: Shallow sandy loam on calcrete - B3 and Rock or exposed calcrete - RR.NBB1.8Stony plainB5B2DNBB Stony plain with thin black cracking clay or clay loam over calcreted marl or calcareous lagoonal clayey sediments, often with freshwater shells. NB1Stony plainB5B2VNBM0.8Stony plainB5B2Vover calcreted marl or calcareous lagoonal clayey sediments, often with freshwater shells. NB1 Stony plain as above, 20-30% swamps with shallow, often wet, dark clay loam and alkaline peat soils.NBM0.8Stony plainB5B2VNBN2.0PlainB5VNBN2.0SwampB33CNBN8.5VNBN Stony plain as dove, 20-30% swamps with shallow, often wet, dark clay loam and alkaline peat soils. NBN Stony plain as for NBB, with 20-30% rises with very shallow calcareous loam over calcrete, soils.NBN2.0FlainB5VNBNStony plainB5B2MNBN Stony plain as dove, clay loam over calcrete, soils.NBN Stony plain as for NBB, with 20-30% rises with very shallow calcareous loam over calcrete.NBN8.5VNBN Stony plain as for NB						
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NBM       0.8       Stony plain       B5B2       V       NBI Stony plain as above, 20-30% swamps with shallow, often wet, dark clay loam and alkaline peat soils.         NBM       0.8       Stony plain       B5B2       V       often wet, dark clay loam and alkaline peat soils.         NBN       2.0       Plain       B5       V       NBM Stony plain as for NBB, with 20-30% rises with very shallow calcareous loam over calcrete, soils.         NBN       2.0       Plain       B5       V       shallow calcareous loam over calcrete, soils.         NBN Poorly drained plain with shallow dark grey calcareous clay loam over dark clay on calcrete. 10-30% wet       swamp       B5B2       M		0.0				
NBM         0.8         Stony plain         B5B2         V         often wet, dark clay loam and alkaline peat soils.           NBN         2.0         Plain         B5         V         NBM Stony plain as for NBB, with 20-30% rises with very shallow calcareous loam over calcrete, soils.           NBN         2.0         Plain         B5         V         shallow calcareous loam over calcrete, soils.           NBN         83         C         NBN Poorly drained plain with shallow dark grey calcareous clay loam over dark clay on calcrete. 10-30% wet           Swamp         B5B2         M         depressions containing variously, shallow, non-peaty, wet,			Stramp			
Rise       B3       C       NBM Stony plain as for NBB, with 20-30% rises with very shallow calcareous loam over calcrete, soils.         NBN       2.0       Plain       B5       V       shallow calcareous loam over calcrete, soils.         Rise       B3       C       NBN Poorly drained plain with shallow dark grey calcareous clay loam over dark clay on calcrete. 10-30% wet         Swamp       B5B2       M       depressions containing variously, shallow, non-peaty, wet,	NBM	<u>^ 0</u>	Stony plain		V	
NBN         2.0         Plain         B5         V         shallow calcareous loam over calcrete, soils.           Rise         B3         C         NBN Poorly drained plain with shallow dark grey calcareous clay loam over dark clay on calcrete. 10-30% wet           Swamp         B5B2         M         depressions containing variously, shallow, non-peaty, wet,	INDIVI	0.8				
Rise     B3     C     NBN Poorly drained plain with shallow dark grey calcareous clay loam over dark clay on calcrete. 10-30% wet       Swamp     B5B2     M     depressions containing variously, shallow, non-peaty, wet,						
NocDoClay loam over dark clay on calcrete. 10-30% wetSwampB5B2Mdepressions containing variously, shallow, non-peaty, wet,	NBN	2.0				
Swamp B5B2 M depressions containing variously, shallow, non-peaty, wet,			Rise	B3	С	
N3 dark, grey clay loam or peat. 20-30% rises with shallow loam			Swamp		М	
				N3		dark, grey clay loam or peat. 20-30% rises with shallow loam





NBU	0.3	Plain	B9	Е	over very thin red clay on calcrete; 10-30% very shallow
					calcareous loam on calcrete. 10-20% swamps with often
		Stony rise	B2	С	wet, shallow dark clay loam over dark clay on calcrete, or
		Swamp	N3M4	L	thin calcareous grey clay loam on calcrete.
					NBU Plains with dark clay loam over yellow-grey clay, on
					calcrete; 10-30% shallow calcareous clay loam on calcrete.
					20-30% stony rises with shallow grey calcareous clay loam
					on calcrete. 10-20% swamps with, often wet, dark cracking clay or clay loam over poorly structured dark clay.
					cidy of cidy fourth over poorly siructored dark cidy.
					Main soils:
					Stony plains: Shallow dark clay loam on limestone - B5 and
					Shallow calcareous loam on calcrete - <b>B2</b> .
					Swamps: Shallow calcareous loam on calcrete - B2, Wet
					<u>clay loam</u> - N3, <u>Peaty soil</u> – N1, <u>Shallow dark clay loam on</u>
					limestone - B5 and Deep hard gradational sandy loam - M4.
					Rises: <u>Shallow sandy loam on calcrete</u> - B3.
					Plains: Shallow clay loam over brown or dark clay on
NjA	0.4	Plain	B7	D	<u>calcrete</u> - <b>B9</b> . Plains with shallow sand, mostly over poorly structured
пјл	0.4	TIGIT	07	D	brown clay on calcrete.10-30% clay loam over dark brown
					clay on calcrete.
					Main soils: <u>Sand over friable brown clay on calcrete</u> - <b>B7</b> .
NJA	1.2	Plain	A7C5	D	NJA Plains with deep clayey mostly calcareous dark grey
NJF	1.0	Swampy	C5M2	D	soils over marl or dark calcareous clay; 10-30% shallow
		plain			black or grey cracking clay or calcareous loam, on
NJJ	0.5	Plain	C5B5	V	calcrete.
		Swamp	N3	L	NJF Swampy plains with deep dark cracking clay or clay loam over dark poorly structured clay with variable
NIC		Lunette	C5A7	M	amounts of carbonate.
NJS	3.0	Plain	A7C5	E	<b>NJJ</b> Plains with mostly deep dark cracking clay with slight to
		Swamp	N3N1 G3H3	L	high carbonate in subsoils, but often shallow dark cracking
		Sandy rise Stony rise	B3	M	clays on calcrete. 10-20% swamps with wet dark clay loam
		STOLIY LISE	00	101	on dark clay; 10-30% peat. <10% lunettes with deep dark
					clay loam becoming calcareous or marly with depth.
					NJS Plains with deep, mostly calcareous, grey clay loam
					over grey clay, on marl or calcareous dark grey clay. 10-
					20% swamps with wet soils as above as well as >30% peats.
					10-20% sandy rises with deep sand, mostly over brown clay,
					but often just deep, water repellent, bleached siliceous sand. <10% stony rises with shallow reddish loam,
					occasionally over red clay on calcreted calcarenite.
					Main soils:
					Plains: Calcareous clay loam on marl - A7, Shallow dark
					clay loam on limestone - <b>B5</b> and Gradational dark clay
					<u>loam</u> – <b>C5</b> .
					Swamps: <u>Wet clay loam</u> - N3 and <u>Peaty soil</u> - N1.
					Swampy plains: Gradational dark clay loam – C5 and Deep
					friable gradational clay loam - M2.
					Sandy rises: Thick sand over clay - G3 and <u>Bleached</u> siliceous sand - H3.
					Stony rises: Shallow sandy loam on calcrete - B3.
NkA	0.1	Plain	G3	D	Plains with deep sand over brown clay.
				·	Main soils: <u>Thick sand over clay</u> - <b>G3</b> .
NKA	6.8	Plain	C5A7	D	NKA Plains with mostly deep, dark grey, cracking clay, over
NKB	0.4	Stony plain	A6A7	D	dark calcareous clay, but often calcareous grey clay on
NKF	0.4	Undulating	F2M4	V	- marl.
TAIXI.	0.0	plain	1 21914	Ň	NKB Stony plains with pedal calcareous dark grey clay
		Swamp	N3	L	loam over rubbly clay or marl.
1 I			1 1 10	1 -	





NEC	0 5	Shu como a s	EQ. 4.4		NIZE lindulating plains with dark aloud and a second and
NKG	0.5	Swampy	F2M4	D	NKF Undulating plains with dark clay loam over poorly
NKS	0.2	plain	A7 F2M4	E	structured dark grey clay. 10-20% swamps with wet soils as above and 10-30% peat.
INKS	0.2	Plain		E	NKG Swampy plains with dark clay loam over poorly
		Cu curara	A7	<u> </u>	structured dark grey clay; or calcareous clay loam over
		Swamp	N3	С	calcareous clay on marl.
NIZU	0.4	Sandy rise	G3	L	NKS Plains with soils as above; 20-30% swamps with wet soils
NKU	0.4	Undulating	B5B7	$\vee$	as above and 10-30% peat. 10-20% sandy rises with deep
		stony plain			sand over brown clay.
		Swamp	N3	L	NKU Undulating stony plains with pedal, dark grey, clay
NKV	8.1	Plain	M4C5	V	loam grading to grey, often poorly structured, clay on
		Swamp	N3	L	
		Stony rise	B5B7	М	calcrete. 10-20% swamps with wet soils as above or
		Sandy rise	G3	М	occasionally, peat. NKV Plains with dark grey cracking clay over poorly
					structured dark clay, with variable carbonates. 10-20%
					swamps with wet clay loam on dark clay and occasionally
					peat or shallow soils on calcrete. <10% stony rises with
					pedal, dark grey, clay loam grading to grey, often poorly
					structured, clay on calcrete. <10% sandy rises with deep
					sand over brown clay.
					Main soils:
					Plains: <u>Gradational dark clay loam</u> – C5 and <u>Calcareous</u>
					<u>clay loam on marl</u> - A7.
					Stony plains: Gradational calcareous clay - A6 and
					<u>Calcareous clay loam on marl</u> - A7.
					Swampy plains: Sandy loam over poorly structured brown or
					dark clay - F2, Deep hard gradational sandy loam - M4 and
					<u>Calcareous clay loam on marl</u> - A7.
					Sandy rises: Thick sand over clay - G3.
					Swamps: <u>Wet clay loam</u> - N3.
					Undulating stony plains and rises: <u>Shallow dark clay loam on</u>
					limestone - B5 and Sand over friable brown clay on calcrete
NlA	1.0	Plain	E3E1		- <b>B7</b> . NIA Gilgaied plains with deep black or grey cracking clay.
NIA	1.2			D	NIA Gligaled plains with deep black of gley cracking clay. NIb Stony plains with mostly shallow black or grey cracking
-	3.4	Stony plain	B5	D	clay over calcrete, occasionally calcareous surface soils.
NIB	2.2	Stony plain	B5E1	D	
NIC	0.6	Plain	E3E1	D	Moderately saline, <2% patches of high salinity.
		Stony rise	B2B5	М	NIB Stony plains as above and with deep cracking clay
Nli	0.2	/ 1	B5E1	V	soils, non-saline.
		Swamp	N2N3	С	NIC Gilgaied plains with deep black or grey cracking clay.
			E1	l .	<10% stony rises with shallow grey cracking clay loam, often
NII	0.3	Stony plain	B5E1	V	calcareous, over calcrete.
		Swamp	N3E1	L	Nii Plains with mostly shallow, but often deep, black or grey
			M2		cracking clay over calcrete or calcareous clay. 20-30%
		Stony rise	B2B5	М	clayey swamps with slight to moderate salinity.
NIM	0.4	Plain	C5	V	NII Plains as above; 10-20% non-saline dark clayey swamps;
		Stony rise	B2RR	С	<10% stony rises with shallow, mostly calcareous cracking
NIP	0.2	Plain	E3E1	V	grey clay, mostly on calcrete, but also often deep.
			C5		NIM Plains with deep cracking grey clay grading to
		Sandy rise	I1H3	С	calcareous clay, occasionally marl. 20-30% stony rises with
		,			shallow calcareous grey clay loam on calcrete; or often,
					bare calcrete. NIP Gilgaied plains with deep black or grey cracking clay,
				1	THE GIQUED PIDITS WITH DEEP PIDCK OF GREY CLOCKING CIDY,
					often calcareous at depth. 20-30% sandy rises with deep
					often calcareous at depth. 20-30% sandy rises with deep siliceous, often bleached sand; 10-30% are moderately
					often calcareous at depth. 20-30% sandy rises with deep
					often calcareous at depth. 20-30% sandy rises with deep siliceous, often bleached sand; 10-30% are moderately drained with brown clay or coffee rock in subsoils.
					often calcareous at depth. 20-30% sandy rises with deep siliceous, often bleached sand; 10-30% are moderately drained with brown clay or coffee rock in subsoils. Main soils:
					often calcareous at depth. 20-30% sandy rises with deep siliceous, often bleached sand; 10-30% are moderately drained with brown clay or coffee rock in subsoils. Main soils: <b>Plains:</b> <u>Brown or grey cracking clay</u> – <b>E3</b> and <u>Black cracking</u>
					often calcareous at depth. 20-30% sandy rises with deep siliceous, often bleached sand; 10-30% are moderately drained with brown clay or coffee rock in subsoils. Main soils:





l	-				Discharge die eine <b>F</b>
					Black cracking clay - E1.
					Stony rises: <u>Shallow calcareous loam on calcrete</u> - <b>B2</b> and
					Shallow dark clay loam on limestone - <b>B5</b> .
					Swamps: <u>Wet clay loam</u> - N3, <u>Wet saline clay loam</u> – N2c,
					Black cracking clay - E1 and Deep friable gradational clay
					loam - <b>M2</b> .
					Sandy rises: Highly leached sand - 11 and Bleached siliceous
					<u>sand</u> - <b>H3</b> .
NMF	0.8	Plain	F2G3	V	Plains with deep loam or sand over poorly structured brown
		Swamp	N3M2	L	clay soils.
NMK	1.1	Plain	F2G3	V	NMF 10-20% swamps with clay loam to clay over dark
		Swamp	N3M2	1	brown or grey clay, soils.
		Sandy rise	G3H3	M	NMK As for NMF also with <10% sandy rises with sand over
		Sanayinse	12	141	brown clay soils.
			IZ		
					A 4 - 1 1
					Main soils:
					Plains: Sandy loam over poorly structured brown or dark
					<u>clay</u> - <b>F2</b> and <u>Thick sand over clay</u> - <b>G3</b> .
					Swamps: Wet clay loam - N3 and Deep friable gradational
					clay loam - M2.
					Sandy rises: Thick sand over clay - G3, Bleached siliceous
ND		DL	00		sand - H3 and Wet highly leached sand - I2.
NnD	4.0	Plain	G3	D	NnD Plains with deep sand over brown clay; 10-30% shallow
		Sandy rise	I1H3	М	dark clay loam over dark clay on calcrete. <10% sandy rises
			G3		with deep siliceous bleached sand, often over brown clay.
NnF	5.5	Plain	B7B5	V	NnF Plains with shallow sand over poorly structured brown
		Swamp	B7B5	L	clay on calcrete or shallow dark clay loam on dark clay on
NnG	0.8		B7B5	D	calcrete. 10-20% swamps with soils as above, often
		Depression			calcareous.
NnM	0.2	Plain	B5B2	V	
		Stony rise	B2	С	NnG Depression with soils as for NnF swamps.
					NnM Plains with shallow, often calcareous, dark, cracking
					clay on calcrete.
					Main soils:
					Plains and swamps: Thick sand over clay - G3, Sand over
					friable brown clay on calcrete - <b>B7</b> and Shallow dark clay
					loam on limestone - B5.
					Sandy rises: <u>Highly leached sand</u> - 11, <u>Bleached siliceous</u>
					sand - H3 and Thick sand over clay - G3.
					Stony rises: Shallow calcareous loam on calcrete - B2.
NpU	2.5	Plain	E1C5	V	NpU Plains with deep, black cracking clay; or clay loam
		Stony rise	B5B9	C	over dark clay. 20-30% stony rises with shallow dark clay
				-	loam over dark clay on calcrete. 10-20% swamps with often
		Swamp	N3E1	L	wet, black or grey clays; 10-30% peat.
	L		E3		
NpV	0.02	Plain	E1C5	E	NpV Plains with deep, black cracking clay; or clay loam
		Stony rise	B5B9	С	over dark clay. 20-30% stony rises with shallow dark clay
		Swamp	N3E1	L	loam over dark clay on calcrete. 10-20% swamps with often
		omanip	E3	-	wet, black or grey clays; 10-30% peat. 10-20% sandy rises
		Sandurica	G3I2	L	with deep sand over brown clay or deep bleached water
		Sandy rise	GSIZ	L	repellent siliceous sand.
					Main soils:
					Plains: Black cracking clay - E1 and Gradational dark clay
					<u>loam</u> – <b>C5</b> .
					Stony rises: Shallow dark clay loam on limestone - B5 and
					Shallow clay loam over brown or dark clay on calcrete - B9.
					Swamps: Wet clay loam - N3, Black cracking clay - E1 and
			1		Brown or grey cracking clay – E3.
					Sandy rises: Thick sand over clay - G3 and Wet highly
			0.775		Sandy rises: Thick sand over clay - G3 and Wet highly leached sand - 12.
NQF	0.3	Plain	C5E3	V	Sandy rises: Thick sand over clay - G3 and Wet highly leached sand - 12. NQF Plains with deep, black or dark grey cracking clay soils
NQF	0.3	Plain Swamp	C5E3 N3	V	Sandy rises: Thick sand over clay - G3 and Wet highly leached sand - 12.





NQU	0.2	Plain	C5E3	V	above.
ngo	0.2	Swamp	N3	L	NQU Plains with soils and swamps as above, but also with
		Stony rise	B5B6	L	10-20% stony rises with shallow grey clay loam over grey
			B4		clay; or shallow red clay loam over red clay; on calcrete.
					Main soils:
					Plains: Gradational dark clay loam – C5 and Brown or grey
					<u>cracking clay</u> – <b>E3</b> .
					Swamps: <u>Wet clay loam</u> - N3.
					Stony rises: Shallow dark clay loam on limestone - B5,
					Shallow sandy loam over red-brown clay on calcrete - B6
					and <u>Shallow red loam on limestone</u> - <b>B4</b> .
NSA	1.7	Plain	G3G5	V	NSA Plains with deep acid sand over, often acid, brown
		Sandy rise	I2H3 G3	L	clay; 10-30% deep dark clay loam over dark clay on non- swampy flats or depressions. 10-20% wet swamps, water
		Swamp	N3G3 E1	L	filled, with deep sand over brown clay, or with dark cracking clay soils.
NSO	0.6	Plain	G3	E	NSO Plains with deep acid sand over, occasionally acid,
1100	0.0	Stony rise	B7B4	1	brown clay. 10-20% stony rises with shallow sandy loam over
		Sandy rise	12H3	L	poorly structured brown clay, or red clay, on calcrete; 10-
		,	G3		30% bare calcrete or shallow sandy loam on calcrete. 10-
		Swamp	N3G3	М	20% sand rises with deep water repellent, bleached
NSQ	0.1	Plain	B5B7	D	siliceous sand, often over brown clay. <10% swamps with
		Swamp	N3G3	М	mostly wet, loam over poorly structured dark clay. NSQ Plains with shallow sandy loam over grey, or poorly
					structured brown, clay on calcrete. <10% swamps with
					mostly wet, loam or sandy loam over brown clay.
					Main soils:
					Plains: Thick sand over clay - G3 and Sand over acidic clay -
					G5 or <u>Shallow dark clay loam on limestone</u> - B5 and <u>Sand</u> over friable brown clay on calcrete - B7.
					Sandy rises: Wet highly leached sand - 12, Bleached
					siliceous sand - H3 and Thick sand over clay - G3.
					Swamps: Wet clay loam - N3, Thick sand over clay - G3 and
					Black cracking clay - E1.
					Stony rises: Sand over friable brown clay on calcrete - B7
					and <u>Shallow red loam on limestone</u> - <b>B4</b> .
NTA	0.03	Plain	G3	D	Plains with mostly deep acid sands over acid yellow-brown
					clay.
					Main soils:
	<b>.</b>		50110	_	Plains: Thick sand over clay - G3.
NuA	0.4	Plain	F2N3	D	Plains with wet non-cracking clay soils; 10-30% sand over brown clay on low rises.
					Main soils:
					Plains: Sandy loam over poorly structured brown or dark
					clay - F2 and Wet clay loam - N3.
NUP	5.5	Plain	G3B7	V	Plains with deep usually acid, sand over brown clay, often
		Sandy rise	H3I1	L	poorly structured and shallow on calcrete. 10-20% sandy
					rises with deep water repellent bleached siliceous sand.
					Main soils:
					Plains: Thick sand over clay - G3 and Sand over friable
					brown clay on calcrete - <b>B7</b> .
					Sandy rises: <u>Bleached siliceous sand</u> - <b>H3</b> and <u>Highly</u>
NT A	1.0	Disia	DEDO		leached sand - 11.
NxA NxB	1.3	Plain Stopy plain	B5B2	D	NxA Plains with shallow dark clay loam over dark clay on
NxB NxI	0.5	Stony plain Plain	B5B2 B5B2	DV	calcrete, or calcareous clay loam on calcrete. Occasionally soils are deep, overlying marl.
INÄI	3.3		N3N1	L	NxB Stony plains, with soils as above.
NxJ	3.6	Swamp Plain	B5B2	V	NxI Plains as for NxA; 10-20% swamps with wet dark clay
1177	0.0	Swamp	N3N1	C	loam over dark clay; or peat also with 10-30% dark clay
		Swamp	INICH		





FUR

			M2		loam over dark clay, often shallow on calcrete.
NxM	0.8	Swampy	B5B2	V	NxJ Plains as for NxA; 20-30% swamps with wet dark clay
1 1/1/1	0.0	plain	DUDZ	ľ	loam over dark clay; peat; or deep dark clay loam over
		Lunette	B3	С	dark clay.
NxN	0.3	Plain	B5B2	V	NxM Swampy plains as for NxA; 20-30% lunettes with shallow
INAIN	0.5	Stony rise	B3	L	loam, occasionally on red clay, on calcrete.
		STOLIA LISE	00	L	NxN plains as above, 10-20% stony rises withvery shallow
					loam, mostly calcareous on calcrete, but also occasionally
					on red clay on calcrete.
					Main soils:
					Plains: Shallow dark clay loam on limestone - B5 and
					Shallow calcareous loam on calcrete - B2.
					Swamps: <u>Wet clay loam</u> - N3, <u>Peaty soil</u> – N1 and <u>Deep</u>
					friable gradational clay loam - M2.
					Lunettes and stony rises: Shallow sandy loam on calcrete -
					B3.
NXP	0.3	Old lake	G3G2	$\vee$	Old lake bed with deep sand, often bleached, over brown
		bed			clay. 10-20% sandy rises with deep sand, mostly over brown
		Sandy rise	G3I2	L	clay but also deep bleached siliceous sand.
					Main soils:
					Old lake bed: Thick sand over clay - G3 and Bleached sand
					over sandy clay loam - G2. Sandy rise: Thick sand over clay - G3 and Wet highly
					leached sand - 12.
NYA	5.0	Plain	B5B2	D	NYA Plains with shallow to moderately deep, dark grey
NYB	2.6	Stony plain	B2B5	D	cracking clay on calcrete.
NYf	0.3	Swampy	B5	D	NYB Stony plains with very shallow, dark grey cracking clay
	0.0	plain	50	D	on calcrete. 10-30% bare calcrete.
NYG	0.7	Swampy	B5	V	NYf Swampy plains, moderately saline, with shallow to
		plain			moderately deep, dark grey cracking clay on calcrete. 10-
		Lunette	B3	С	30% deep cracking clay or clay loam over dark clay on
NYI	10.9	Stony plain	B5	V	moderately to highly calcareous clay.
		Swamp	N3M2	С	NYG Swampy plains, non-saline, as for NYf above. 20-30%
NYJ	0.4	Stony plain	B5	V	lunettes with shallow loam, occasionally over red clay on
		Swamp	N3M2	L	_ calcrete
		Stony rise	B5	М	NYI Stony plains with very shallow, dark grey cracking clay
		,			on calcrete. 20-30% swamps with deep, mostly wet, dark
					cracking clay soils.
					NYJ Stony plains as above; 10-20% swamps as above. <10%
					stony rises with soils as on plains.
					Main soils:
					Plains: Shallow dark clay loam on limestone - <b>B5</b> and
					Shallow calcareous loam on calcrete - <b>B2</b> .
					Lunettes and stony rises: Shallow sandy loam on calcrete -
					B3 and <u>Shallow dark clay loam on limestone</u> - B5.
					Swamps: Wet clay loam - N3 and Deep friable gradational
					<u>clay loam</u> - <b>M2</b> .
NzF	2.3	Plain	G4G3	V	NzF Plains with thin or thick sand over poorly structured dark
		Swamp	N3M4	L	brown clay. 10-20% swamps with, often wet, dark clay loam
			E3		to clay over dark clay or grey cracking clay soils.
NzP	0.2	Plain	G4F2	V	NzP Plains as above, but with 20-30% sandy rises with deep
		Sandy rise	G3	С	sand, mostly over brown clay, soils.
					Main soils:
					Plains: Sand over yellow and brown clay - G4, Thick sand
					over clay - G3 and Sandy loam over poorly structured
					brown or dark clay - F2.
					Swamps: Wet clay loam - N3, Deep hard gradational sandy
					loam - M4 and Brown or grey cracking clay – E3.





					Sandy rises: Thick sand over clay - G3.
NZK	0.4	Plain	G3	V	NZK Plains with deep, water repellent, acid sand over
		Sandy rise	G5l2	С	brown clay, occasionally poorly structured. 20-30% sandy
		Swamp	N3	L	rises with acid sand over acid brown clay, or weak coffee
NZP	0.6	Plain	G3	V	rock. 10-20% swamps with wet, sandy loam over clay soils,
		Sandy rise	G5l2	L	10-30% calcareous loam grading to calcareous clay on
					calcareous clay, marl or calcrete.
					NZP Plains as above, with 10-20% sandy rises as above.
					Main soils:
					Plains: Thick sand over clay - G3.
					Sandy rises: <u>Sand over acidic clay</u> - G5 and <u>Wet highly</u> leached sand - I2.
OHB	0.04	High dune	I1H3	D	High dunes with deep, water repellent, bleached, acid,
OIID	0.04	Stony rise	B3	M	siliceous sands. <10% stony rises with sandy loam on
		STOLLY LISE	DO	1~1	calcrete; 10-30% over red clay or bare calcrete.
					Main soils:
					High dunes: Highly leached sand - 11 and Bleached siliceous
					sand - <b>H3</b> .
					Stony rises: Shallow sandy loam on calcrete - B3.
PBi	0.1	Plain	H3I2	V	Sand plains with deep well to moderately drained
		Swamp	N3I2	L	bleached siliceous sand; occasionally wet in swales. 10-20%
					swamps with deep wet poorly drained siliceous sand over
					coffee rock or brown clay.
					Main soils:
					Plains: <u>Bleached siliceous sand</u> - H3 and <u>Wet highly leached</u>
					sand - 12.
					Swamps: <u>Wet clay loam</u> - N3 and <u>Wet highly leached sand</u> - 12.
VeP	0.6	Plain	B5	E	Plains with shallow dark cracking clay on calcreted
VeP	0.6	Plain Stony rise	В5 В3	E	Plains with shallow dark cracking clay on calcreted lagoonal sediments or marl. Co-dominant stony rises have
VeP	0.6	Plain Stony rise	B5 B3		Plains with shallow dark cracking clay on calcreted lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete.
VeP	0.6	-			lagoonal sediments or marl. Co-dominant stony rises have
VeP	0.6	-			lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils:
VeP	0.6	-			lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: <i>Plains:</i> <u>Shallow dark clay loam on limestone</u> - <b>B5</b> .
		Stony rise	B3	E	lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: <i>Plains: <u>Shallow dark clay loam on limestone</u> - <b>B5</b>. <i>Stony rises: <u>Shallow sandy loam on calcrete</u> - <b>B3</b>.</i></i>
VeP Xd-	0.6	-			lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: <u>Shallow dark clay loam on limestone</u> - <b>B5</b> . <u>Stony rises: <u>Shallow sandy loam on calcrete</u> - <b>B3</b>. Lunettes with shallow, mostly calcareous clay loam, often</u>
		Stony rise	B3	E	lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: <i>Plains: <u>Shallow dark clay loam on limestone</u> - <b>B5</b>. <i>Stony rises: <u>Shallow sandy loam on calcrete</u> - <b>B3</b>.</i></i>
		Stony rise	B3	E	lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: <i>Plains:</i> <u>Shallow dark clay loam on limestone</u> - <b>B5</b> . <u>Stony rises:</u> <u>Shallow sandy loam on calcrete</u> - <b>B3</b> . Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete.
		Stony rise	B3	E	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: <i>Plains:</i> <u>Shallow dark clay loam on limestone</u> - <b>B5</b> . <u>Stony rises:</u> <u>Shallow sandy loam on calcrete</u> - <b>B3</b> . Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils:
		Stony rise	B3	E	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - B5. Stony rises: Shallow sandy loam on calcrete - B3. Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - B2 and
Xd-	0.1	Stony rise Lunette	B3 B2B5	E	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - B5. Stony rises: Shallow sandy loam on calcrete - B3. Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - B2 and Shallow dark clay loam on limestone - B5.
Xd- XRC	0.1	Stony rise Lunette Swamp	B3 B2B5 N3	E D D	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - B5. Stony rises: Shallow sandy loam on calcrete - B3. Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - B2 and Shallow dark clay loam on limestone - B5. XRC Swamps with wet dark, cracking clay soils with minor
Xd- XRC XRD	0.1	Stony rise Lunette Swamp Swamp	B3 B2B5 N3 N3	E D D D	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - B5. Stony rises: Shallow sandy loam on calcrete - B3. Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - B2 and Shallow dark clay loam on limestone - B5. XRC Swamps with wet dark, cracking clay soils with minor peats.
Xd- XRC	0.1	Stony rise Lunette Swamp Swamp Swamp	B3 B2B5 N3 N3	E D D V	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - <b>B5</b> . Stony rises: Shallow sandy loam on calcrete - <b>B3</b> . Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - <b>B2</b> and Shallow dark clay loam on limestone - <b>B5</b> . XRC Swamps with wet dark, cracking clay soils with minor peats. XRD Swamps with marginally saline, cracking clay soils with
Xd- XRC XRD XRf	0.1 1.8 0.1 0.1	Stony rise Lunette Swamp Swamp Stony rise	B3 B2B5 N3 N3 B5B2	E D D V L	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: <u>Shallow dark clay loam on limestone</u> - <b>B5</b> . <u>Stony rises: Shallow sandy loam on calcrete</u> - <b>B3</b> . Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: <u>Lunettes: Shallow calcareous loam on calcrete</u> - <b>B2</b> and <u>Shallow dark clay loam on limestone</u> - <b>B5</b> . <u>XRC Swamps with wet dark, cracking clay soils with minor</u> peats. <u>XRD Swamps with marginally saline, cracking clay soils with</u> minor peats.
Xd- XRC XRD XRf XRJ	0.1 1.8 0.1 0.1 0.01	Stony rise Lunette Swamp Swamp Stony rise Creek flat	B3 B2B5 N3 N3 B5B2 N3	E D D V L D	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - <b>B5</b> . Stony rises: Shallow sandy loam on calcrete - <b>B3</b> . Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - <b>B2</b> and Shallow dark clay loam on limestone - <b>B5</b> . XRC Swamps with wet dark, cracking clay soils with minor peats. XRD Swamps with marginally saline, cracking clay soils with
Xd- XRC XRD XRf	0.1 1.8 0.1 0.1	Stony rise Lunette Swamp Swamp Stony rise	B3 B2B5 N3 N3 B5B2	E D D V L	Iagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete. Main soils: Plains: Shallow dark clay loam on limestone - <b>B5</b> . Stony rises: Shallow sandy loam on calcrete - <b>B3</b> . Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete. Main soils: Lunettes: Shallow calcareous loam on calcrete - <b>B2</b> and Shallow dark clay loam on limestone - <b>B5</b> . XRC Swamps with wet dark, cracking clay soils with minor peats. XRD Swamps with marginally saline, cracking clay soils with minor peats. XRf Swamps as above, with 10-20% stony rises with shallow
Xd- XRC XRD XRf XRJ	0.1 1.8 0.1 0.1 0.01	Stony rise Lunette Swamp Swamp Stony rise Creek flat	B3 B2B5 N3 N3 B5B2 N3	E D D V L D	<ul> <li>lagoonal sediments or marl. Co-dominant stony rises have shallow sand over calcrete.</li> <li>Main soils:</li> <li><i>Plains:</i> Shallow dark clay loam on limestone - <b>B5</b>.</li> <li><i>Stony rises:</i> Shallow sandy loam on calcrete - <b>B3</b>.</li> <li>Lunettes with shallow, mostly calcareous clay loam, often over dark clay, on calcrete.</li> <li>Main soils:</li> <li><i>Lunettes:</i> Shallow calcareous loam on calcrete - <b>B2</b> and Shallow dark clay loam on limestone - <b>B5</b>.</li> <li>XRC Swamps with wet dark, cracking clay soils with minor peats.</li> <li>XRD Swamps with marginally saline, cracking clay soils with minor peats.</li> <li>XRf Swamps as above, with 10-20% stony rises with shallow dark clay loam grading to clay on calcrete or calcareous</li> </ul>
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Xtf	0.2	Swamp	B5N3	V	<b>Xtf</b> Swamps with shallow, often wet, clay loam grading to
		Rise	B2B3	С	clay on calcrete. Minor peat soils. 20-30% rises with shallow
					calcareous loam or siliceous sand over calcrete.
					Main soils:
					Swamps: Peaty soil – N1, Shallow dark clay loam on
					limestone - B5 and Wet clay loam - N3.
					Rises: Shallow calcareous loam on calcrete - B2 and
					Shallow sandy loam on calcrete - B3.
XuC	0.1	Swamp	N3	D	XuC Swamps with non-peaty wet soils
Xue	0.4	Swamp	N3	V	Xue Swamps with wet, dark clay loam over dark clay, 10-
		Rise	M2M4	С	30% water filled. 20-30% rises and hummocks, with deep
Xuf	0.2	Swamp	N3	V	dark clay loam over, often poorly structured dark clay;
		Stony rise	B2B3	С	occasionally shallow on calcrete.
			B5		Xuf Swamps as above; 20-30% stony rises with shallow often
					calcareous, grey clay loam, often over dark grey clay, on
					calcrete.
					Main soils:
					Swamps: Wet clay loam - N3.
					<b>Rises:</b> <u>Deep friable gradational clay loam</u> - <b>M2</b> and <u>Deep</u>
					hard gradational sandy loam - M4. Stony rises: Shallow calcareous loam on calcrete - B2,
					Shallow sandy loam on calcrete - B3 and Shallow dark clay
					loam on limestone - <b>B5</b> .
XxC	0.01	Swamp	N1N3	D	<b>XxC</b> Swamps with deep acid peats, wet organic loam over
тис	0.01	ottamp	WW	D	clay, or water filled.
Xxe	0.1	Swamp	N1N3	V	<b>Xxe</b> Swamps as above; 20-30% lunettes with shallow loam,
	0.1		WW		occasionally over red clay, on calcrete.
		Lunette	B3	С	
		20110110	20	Ŭ	Main soils:
					Swamps: Peaty soil – N1 and Wet clay loam - N3.
					Lunettes: Shallow sandy loam on calcrete - B3.
ZD-	0.04	Salt lake	N2	D	Lake bed with bare salt crust. Highly saline clay loamy soils.
					10-30% inundated.
					Main soils: <u>Wet saline clay loam</u> - <b>N2c</b> .

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

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

## Detailed soil profile descriptions:

- A6 <u>Gradational calcareous clay loam (Pedal Hypercalcic-Lithocalcic Calcarosol</u> on clayey subsoil) Calcareous loams to clay loams grading into brown-red clay. Often rubbly.
- A7 <u>Calcareous clay loam on marl (Marly Calcarosol)</u> Dark calcareous clay with a marly subsoil (often saline in Upper SE). Often with shells and a peaty surface.
- B2 <u>Shallow calcareous sandy loam on calcrete (Petrocalcic Calcarosol)</u> Up to 40 cm calcareous loamy sand to sandy loam with variable calcrete rubble overlying calcreted calcarenite - rises.
- B3 <u>Shallow sandy loam on calcrete (Petrocalcic Rudosol)</u> Medium thickness non calcareous sandy loam, often having a slight clay increase with depth, over calcreted calcarenite shallower than 50 cm - rises.
- B4 <u>Red sandy loam over calcrete (Petrocalcic, Red Dermosol)</u> Medium thickness red sandy loam grading to friable red clay loam over calcreted calcarenite within 50 cm - rises.
- **B5** <u>Shallow dark clay loam on limestone (Petrocalcic, Black Dermosol)</u> Black clay loam to light clay over calcreted limestone at shallow depth, grading to highly calcareous clay - flats.





- **B6** <u>Shallow sandy loam over red-brown clay on calcrete (Petrocalcic, Red Kandosol)</u> Medium thickness sandy loam with slight ironstone gravel overlying a weakly structured reddish brown sandy clay on calcarenite within 50 cm - rises.
- B7 Shallow sand over sandy clay on calcrete (Petrocalcic, Brown Chromosol) Medium thickness sand overlying brown friable sandy clay to clay on limestone or calcreted sandy clay within 50 cm - flats.
- **B8** <u>Shallow sand on calcrete (Petrocalcic, Bleached-Leptic Tenosol)</u> Thick bleached sand over calcreted calcarenite within 50 cm - rises.
- **B9** <u>Shallow clay loam over brown or dark clay on calcrete (Clay loamy Petrocalcic Sodosol)</u> Poorly structured, often coarse prismatic, clay loam grading to brown or dark clay on calcrete.
- C5 <u>Gradational dark clay loam (Calcic-Hypercalcic Brown-Grey-Black Dermosol-Calcarosol)</u> Dark clay loam over abundant 'soft lime'. >10% carbonate is the cut off between this and M2 soils.
- E1 Black cracking clay (Black Vertosol)
- E3 Brown or grey cracking clay (Brown-Grey Vertosol)
- F2 Sandy loam over poorly structured brown or dark clay (Brown-Dark Sodosol-Chromosol) Topsoil <30 cm over a poorly structured subsoil. Loamy, often sandy loam, to clay loamy texture contrast soil with a sodic/dispersive/poorly structured brown clayey subsoil. Often sandy loam, usually with a bleached horizon, and thin topsoil over a poorly structured B.
- G2 <u>Bleached sand over sandy clay loam (sandy Brown-Red Chromosol)</u> Sandy texture contrast soil with a bleached A2 and a friable brown-red sandy clay loam to sandy loam subsoil.
- **G3** <u>Thick sand over clay (Hypercalcic, Brown Sodosol/ Chromosol)</u> Thick bleached sand with an organically darkened surface abruptly overlying a massive to coarsely structured brown to reddish yellow sandy clay to clay, calcareous with depth - rises.
- **G4** <u>Sand over poorly structured clay (Sandy Brown-Red Sodosol-Chromosol)</u> Topsoil <30 cm over a poorly structured subsoil. Thin sandy texture contrast soil with a sodic /dispersive /poorly structured brown or red clayey subsoil. Can have some ironstone.
- **G5** <u>Sand over acidic clay (Sandy Brown Kurosol)</u> Sandy texture contrast soil with a friable brown strongly acidic clayey to clay loamy subsoil. Very acidic soil; incipient Bh horizons; moderate depth topsoils. Some with ironstone.
- H3 <u>Deep bleached sand (Basic, Arenic, Bleached-Orthic Tenosol)</u> Grey sand over a very thick bleached sand grading to yellow sand continuing below 100 cm.
- Highly leached sand (Fragic, Pipey, Aeric Podosol) Grey sand with a very thick bleached A2 layer, over dark brown and yellow massive soft to semihard clayey sand (coffee rock), grading to softer yellow and brown sand to sandy clay loam from about 80 cm.
- 12 Wet highly leached sand (Fragic, Humic, Aquic Podosol) Grey sand with a thick bleached A2 horizon, overlying a thin to thick layer of coffee rock, grading to pale brown sand sharply overlying a grey, brown and yellow mottled sandy clay loam to light clay.
- M2 <u>Deep friable gradational clay loam (Red-Brown-Grey-Black Dermosol)</u> Deep well structured red clay loamy soil.
- M4 <u>Deep hard gradational sandy loam (Hard Brown-Dark Kandosol- Dermosol)</u> Deep dark brown loamy to clay loamy soil grading to clay at depth. Hardsetting surface often with prismatic structures in the subsoil.
- N1 Peat (Organosol) Peaty soil.
- N2c Wet saline clay loam (Dermosolic, Salic Hydrosol) Medium thickness dark grey to black clay loam to clay grading to well-structured dark grey clay with minor carbonates and a water table within 100 cm.
- N3 Seasonally waterlogged, non to marginally saline equivalents of soils listed above, viz.:
  - N3c Wet G3
  - N3d Wet B5
  - N3e Wet B7
- **RR** Bare rock
- WW Water

Further information: DEWNR Soil and Land Program



