Project Name: **Warren Reservoir Catchment Survey**
Project Code: **WRN** **Site ID:** **400** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (SA)**

Site Information

Desc. By: I. Hollingsworth
Date Desc.: 31/12/91
Map Ref.: 1:10000
Northing/Long.: 6155425 AMG zone: 54
Easting/Lat.: 319840 Datum: AGD66
Locality:
Elevation: 436 metres
Rainfall: No Data
Runoff: Very slow
Drainage: Very poorly drained

Geology

ExposureType: Soil pit
Geol. Ref.: No Data
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Soil pit, 0.4 m deep,Non-porous, dense, Silcrete

Land Form

Rel/Slope Class: Undulating low hills 30-90m 3-10%
Morph. Type: Open depression (vale)
Elem. Type: Drainage depression
Slope: 3 %
Pattern Type: Alluvial fan
Relief: 5 metres
Slope Category: Very gently sloped
Aspect: 300 degrees

Surface Soil Condition (dry): Hardsetting

Erosion: Minor (sheet)

Soil Classification

Australian Soil Classification:
Sodosol
ASC Confidence:
Confidence level not specified
Mapping Unit: N/A
Principal Profile Form: Dy3.41
Great Soil Group: Soloth

Site Disturbance: Extensive clearing, for example poisoning, ringbarking

Vegetation: Low Strata - Sod grass, <0.25m, Mid-dense. *Species includes - None recorded

Tall Strata - Tree, 20.01-35m, Isolated plants. *Species includes - Eucalyptus camaldulensis

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11	0 - 0.04 m	Very dark greyish brown (10YR3/2-Moist); Greyish brown (10YR5/2-Dry); , 7.5YR46, 2-10% , 0-5mm, Distinct; Sandy loam; Strong grade of structure, 2-5 mm, Granular; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Weak consistence; Non-plastic; Non-sticky; Field pH 7 (Raupach); Abundant, very fine (0-1mm) roots; Abrupt, Smooth change to -
A21	0.04 - 0.1 m	Dark greyish brown (10YR4/2-Moist); Light brownish grey (2.5Y6/2-Dry); , 7.5YR46, 2-10% , 0-5mm, Distinct; Sandy loam; Massive grade of structure; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Firm consistence; Non-plastic; Non-sticky; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Abrupt, Smooth change to -
A22	0.1 - 0.2 m	Greyish brown (2.5Y5/2-Moist); White (10YR8/1-Dry); , 10YR58, 2-10% , 5-15mm, Distinct; Sandy clay loam; Massive grade of structure; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; Non-plastic; Non-sticky; 0-2%, coarse gravelly, 20-60mm, rounded tabular, dispersedstrong, Schist, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Abrupt, Smooth change to -
AB	0.2 - 0.3 m	Greyish brown (2.5Y5/2-Moist); White (10YR8/1-Dry); , 10YR58, 10-20% , 5-15mm, Distinct; Clay loam; Massive grade of structure; Fine, (0 - 5) mm crack; Common (1-5 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; Slightly plastic; Normal plasticity; Moderately sticky; 0-2%, coarse gravelly, 20-60mm, rounded tabular, dispersedstrong, Quartz, coarse fragments; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
Bt	0.3 - 0.35 m	Brown (10YR5/3-Moist); , 10YR58, 20-50% , 5-15mm, Distinct; Medium clay; Strong grade of structure, 20-50 mm, Prismatic; Moderate grade of structure, 20-50 mm, Angular blocky; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Very firm consistence; Very plastic; Normal plasticity; Moderately sticky; Common cutans, 10-50% of ped faces or walls coated, prominent; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Abrupt, Tongued change to -

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Bt	0.35 - 0.4 m	Brown (10YR5/3-Moist); , 7.5YR58, 20-50% , 5-15mm, Distinct; , 10YR42; Heavy clay; Strong grade of structure, 20-50 mm, Prismatic; Strong grade of structure, 20-50 mm, Angular blocky; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Moderately moist; Very firm consistence; Very plastic; Normal plasticity; Moderately sticky; Many cutans, >50% of ped faces or walls coated, prominent; Many cutans, >50% of ped faces or walls coated, prominent; Field pH 6 (Raupach); Few, very fine (0-1mm) roots; Abrupt, Wavy change to -
Bqm	0.4 - m	; Massive grade of structure; Fine, (0 - 5) mm crack; Few (<1 per 100mm2) Very fine (0.075-1mm) macropores, Dry; Rigid consistence; Non-plastic; Non-sticky; Duripan, Very strongly cemented, Continuous, Massive; Field pH 6 (Raupach);

Morphological Notes

Observation Notes

Site Notes

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.04	5.1C 4.9A	0.25A	7.8D	1.77	0.82	0.77		15.1K	11.2D	5.10
0.04 - 0.1	4.4C 4.9A	0.09A	2.73D	0.97	0.17	0.32		8.3K	4.2D	3.86
0.1 - 0.2	4.5C 4.2A	0.05A	1.75D	0.82	0.2	0.3		5.1K	3.1D	5.88
0.2 - 0.3	4.7C 4.4A	0.04A	1.35D	1.08	0.24	0.29		4.4K	3D	6.59
0.3 - 0.35	4.6C 5.4A	0.05A	2.01D	2.11	0.29	0.49	0.21A	7.2K	4.9D	6.81
0.35 - 0.4	4.6C 5.4A	0.06A	3.12D	3.59	0.39	0.67	0.23A	10.3K	7.8D	6.50

Depth	CaCO3	Organic C	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis			
								GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.04		5.85C							29B	47	12	11
0.04 - 0.1		2.32C							27B	47	14	13
0.1 - 0.2		0.92C							30B	43	14	12
0.2 - 0.3		0.52C							33B	39	15	14
0.3 - 0.35		0.47C							25B	40	12	22
0.35 - 0.4		0.5C							33B	30	6	31

Depth	COLE	Gravimetric/Volumetric Water Contents						K sat	K unsat
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	
m		g/g - m3/m3						mm/h	mm/h
0 - 0.04									
0.04 - 0.1									
0.1 - 0.2									
0.2 - 0.3									
0.3 - 0.35									
0.35 - 0.4									

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Laboratory Analyses Completed for this profile

15B2_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_K	Exchangeable bases and CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_MG	Exchangeable bases and CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15B2_NA	Exchangeable bases and CEC - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15G1	Exchange acidity (hydrogen and aluminium) by 1M potassium chloride
15I3	CEC measurement - automated determination of ammonium and chloride ions
15J_BASES	Sum of Bases
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
4B2	pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1
5A2	Chloride - 1:5 soil/water extract, automated colour
6B3	Total organic carbon - high frequency induction furnace, infrared
P10A1_C	Clay (%) - Pipette
P10A1_CS	Coarse sand (%) - Pipette
P10A1_FS	Fine sand (%) - Pipette
P10A1_Z	Silt (%) - Pipette