Project Name: **Cooloola**
Project Code: **Cooloola** **Site ID:** **B843** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: C.H. Thompson
Locality: Cooloola SF 451, 272m W of Peg No. 0, Kabali West Hole 1. 4m out from E.racemos trunk and under canopy.
Date Desc.: 04/09/74
Elevation: 60 metres
Map Ref.: Sheet No. : 9545-IV 1:50000
Rainfall: No Data
Northing/Long.: 153.0755583
Runoff: No Data
Easting/Lat.: -26.01997583
Drainage: Imperfectly drained

Geology

ExposureType: No Data
Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: No Data
Substrate Material: No Data

Land Form

Rel/Slope Class: No Data
Pattern Type: No Data
Morph. Type: Crest
Relief: 15 metres
Elem. Type: Dune
Slope Category: Level
Slope: %
Aspect: No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
Podosol
ASC Confidence:
Confidence level not specified

Mapping Unit: N/A
Principal Profile Form: Uc2.21
Great Soil Group: Podzol

Site Disturbance:

Vegetation:

Low Strata - , 3.01-6m, . *Species includes - Leptospermum stellatum
Mid Strata - , 3.01-6m, . *Species includes - Banksia serrata
Tall Strata - , 12.01-20m, . *Species includes - Angophora costata, Eucalyptus racemosa

Surface Coarse Fragments:

Profile Morphology

A11	0 - 0.03 m	Grey (10YR5/1-Moist); Grey (10YR6/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 6.2 (Raupach); Wavy change to -
A11	0.03 - 0.1 m	Dark grey (10YR4/1-Moist); Very dark grey (10YR3/1-Moist); ; Sand; Single grain grade of structure; Weak consistence; Field pH 5.3 (Raupach); Diffuse change to -
A12	0.1 - 0.2 m	Dark grey (10YR4/1-Moist); Very dark grey (10YR3/1-Moist); ; Sand; Single grain grade of structure; Weak consistence; Field pH 5.3 (Raupach);
A12	0.2 - 0.3 m	Dark grey (10YR4/1-Moist); Very dark grey (10YR3/1-Moist); ; Sand; Single grain grade of structure; Weak consistence; Field pH 5.3 (Raupach);
A13	0.3 - 0.4 m	Grey (10YR5/1-Moist); Dark grey (10YR4/1-Moist); , 10YR82; Sand; Single grain grade of structure; Weak consistence; Field pH 5.3 (Raupach);
A14	0.4 - 0.6 m	Grey (10YR6/1-Moist); , 10YR82; Sand; Single grain grade of structure; Very weak consistence; Field pH 5.7 (Raupach);
A15	0.6 - 0.9 m	Light grey (10YR7/1-Moist); Grey (10YR6/1-Moist); , 10YR91; Sand; Single grain grade of structure; Very weak consistence; Field pH 6.8 (Raupach);
A15	0.6 - 0.9 m	Light grey (10YR7/1-Moist); Grey (10YR6/1-Moist); , 10YR91; Sand; Single grain grade of structure; Field pH 6.8 (Raupach);
A21	0.9 - 1.2 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A21	1.2 - 1.5 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A21	1.5 - 1.8 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);

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A21	1.8 - 2.1 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A21	2.1 - 2.4 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	2.4 - 2.7 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	2.7 - 3 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	3 - 3.3 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	3.3 - 3.6 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	3.6 - 3.9 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	3.9 - 4.2 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	4.2 - 4.5 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	4.5 - 4.8 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	4.8 - 5.1 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	5.1 - 5.4 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	5.4 - 5.7 m	(10YR9/1-Moist); ; Sand; Loose consistence; Field pH 7 (Raupach);
A2	5.7 - 6 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	6 - 6.6 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	6.6 - 7.2 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	7.2 - 7.8 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	7.8 - 8.4 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	8.4 - 9 m	(10YR9/1-Moist); ; Sand; Single grain grade of structure; Loose consistence; Field pH 7 (Raupach);
A2	9 - 9.6 m	White (10YR8/1-Moist); , 7.5YR74; Sand; Loose consistence; Field pH 7 (Raupach);
A23	9.6 - 10.2 m	White (10YR8/1-Moist); , 7.5YR74; Sand; Single grain grade of structure; Loose consistence;
A23	10.2 - 10.8 m	White (10YR8/1-Moist); , 7.5YR74; Sand; Single grain grade of structure; Loose consistence;
A23	10.8 - 11.4 m	White (10YR8/1-Moist); , 7.5YR74; Sand; Single grain grade of structure; Loose consistence;
A23	11.4 - 11.9 m	White (10YR8/1-Moist); , 7.5YR74; Sand; Single grain grade of structure; Loose consistence;
B	11.9 - 12 m	Brown (10YR4/3-Moist); ; Clay loam, sandy; Single grain grade of structure; Firm consistence;
B	12 - 12.1 m	Strong brown (7.5YR5/6-Moist); , 2.5YR63; Sandy clay loam; Single grain grade of structure; Very firm consistence; Field pH 5 (Raupach);
B	12.1 - 12.2 m	Red (2.5YR5/6-Moist); ; Clay loam, sandy; Single grain grade of structure; Firm consistence; Field pH 5.5 (Raupach);
B	12.2 - 12.3 m	Pink (7.5YR7/4-Moist); ; Sand; Single grain grade of structure; Firm consistence;

Project Name: **Cooloola**
Project Code: **Cooloola** **Site ID:** **B843** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

B	12.3 - 12.6 m	Light brownish grey (10YR6/2-Moist); ; Sand; Single grain grade of structure; Firm consistence; Field pH 6.5 (Raupach);
B	12.6 - 12.9 m	Light grey (10YR7/2-Moist); ; Sand; Firm consistence; Field pH 7 (Raupach);
B	12.9 - 13.2 m	Light grey (10YR7/2-Moist); ; Sand; Single grain grade of structure; Firm consistence; Field pH 7 (Raupach);
B	13.2 - 13.3 m	Red (2.5YR5/6-Moist); , 5YR33; Clay loam, sandy; Single grain grade of structure; Firm consistence;
B	13.3 - 13.5 m	Red (2.5YR5/6-Moist); , 5YR74; Clay loam, sandy; Single grain grade of structure; Firm consistence;

Morphological Notes

A11	Discrete OM, Non-wetting patches
A11	Many roots binding sand together.
A12	Diffuse OM.
A13	Diffuse OM.
A14	Diffuse OM.
A21	Pale YB root surrounds in 150 - 210 zone.

Observation Notes

Parent Material: Quaternary silica sand. Kabali Formation over Maibin Form. Literature: Coaldrake J.E. (1961): CSIRO Bull. No.283 p96. Thompson CH (1974): Proc. Roy. Soc. Qld.

Site Notes

State Forest Reserve. Contolled burning every 3rd year - burnt in 1972

Project Name: Cooloola
Project Code: Cooloola **Site ID:** B843 **Observation ID:** 1
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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations Ca	Mg	K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m	Cmol (+)/kg							%
0 - 0.03	4.9H	<0.02B								
0.03 - 0.1	4.6H	<0.02B								
0.1 - 0.2	4.5H	<0.02B	<0.1K	<0.1	<0.1	<0.1	1.2D		1.3F	
0.2 - 0.3										
0.3 - 0.4	4.6H	<0.02B								
0.4 - 0.6										
0.6 - 0.9	5.2H	<0.02B								
0.9 - 1.2										
1.2 - 1.5	5.1H	<0.02B								
1.5 - 1.8										
1.8 - 2.1										
2.1 - 2.4										
2.4 - 2.7										
2.7 - 3										
3 - 3.3										
3.3 - 3.6										
3.6 - 3.9										
3.9 - 4.2										
4.2 - 4.5	5.3H	<0.02B								
4.5 - 4.8										
4.8 - 5.1										
5.1 - 5.4										
5.4 - 5.7										
5.7 - 6	5.2H	<0.02B	<0.1K	<0.1	<0.1	<0.1			0.1F	
6 - 6.6										
6.6 - 7.2										
7.2 - 7.8										
7.8 - 8.4										
8.4 - 9	5.5H	<0.02B								
9 - 9.6										
9.6 - 10.2										
10.2 - 10.8										
10.8 - 11.4										
11.4 - 11.9	6.6H	<0.02B	<0.1K	<0.1	<0.1	<0.1			0.1F	
11.9 - 12	5.2H	<0.02B	<0.1K	<0.1	<0.1	<0.1			0.5F	
12 - 12.1										
12.1 - 12.2	4.6H	<0.02B								
12.2 - 12.3	5.5H									
12.3 - 12.6										
12.6 - 12.9	6.4H	<0.02B								
12.9 - 13.2										
13.2 - 13.3	4.7H	<0.02B								
13.3 - 13.5										

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 - 0.03		0.52E	2B		0.013B							
0.03 - 0.1		0.73E	3B		0.021B							
0.1 - 0.2		0.81E	4B		0.023B				96I		1	2
0.2 - 0.3												

Project Name: Cooloola
Project Code: Cooloola **Site ID:** B843 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

0.3 - 0.4	0.24E	2B	0.008B			
0.4 - 0.6						
0.6 - 0.9	0.03E	1B	0.001B			
0.9 - 1.2						
1.2 - 1.5	<0.02E	2B	<0.001B	95I	5	0
1.5 - 1.8						
1.8 - 2.1						
2.1 - 2.4						
2.4 - 2.7						
2.7 - 3						
3 - 3.3						
3.3 - 3.6						
3.6 - 3.9						
3.9 - 4.2						
4.2 - 4.5	<0.02E	1B	0.001B			
4.5 - 4.8						
4.8 - 5.1						
5.1 - 5.4						
5.4 - 5.7						
5.7 - 6	0.01E	3B	<0.001B	98I	0	0
6 - 6.6						
6.6 - 7.2						
7.2 - 7.8						
7.8 - 8.4						
8.4 - 9	<0.02E	1B	0.003B			
9 - 9.6						
9.6 - 10.2						
10.2 - 10.8						
10.8 - 11.4						
11.4 - 11.9	<0.02E	1B	0.003B	99I	0	0
11.9 - 12	0.09E	3B	0.005B	81I	8	13
12 - 12.1				76I	8	17
12.1 - 12.2	0.14E	2B	0.009B	92I	2	6
12.2 - 12.3						
12.3 - 12.6						
12.6 - 12.9	<0.02E	2B	0.001B			
12.9 - 13.2						
13.2 - 13.3	0.12E	2B	0.006B	94I	2	4
13.3 - 13.5						

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 - 0.03										
0.03 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.4										
0.4 - 0.6										
0.6 - 0.9										
0.9 - 1.2										
1.2 - 1.5										
1.5 - 1.8										
1.8 - 2.1										
2.1 - 2.4										
2.4 - 2.7										
2.7 - 3										
3 - 3.3										

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3.3 - 3.6
3.6 - 3.9
3.9 - 4.2
4.2 - 4.5
4.5 - 4.8
4.8 - 5.1
5.1 - 5.4
5.4 - 5.7
5.7 - 6
6 - 6.6
6.6 - 7.2
7.2 - 7.8
7.8 - 8.4
8.4 - 9
9 - 9.6
9.6 - 10.2
10.2 - 10.8
10.8 - 11.4
11.4 - 11.9
11.9 - 12
12 - 12.1
12.1 - 12.2
12.2 - 12.3
12.3 - 12.6
12.6 - 12.9
12.9 - 13.2
13.2 - 13.3
13.3 - 13.5

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Laboratory Analyses Completed for this profile

15_NR_CA	Exch. basic cations (Ca++) - meq per 100g of soil - Not recorded
15_NR_H	Hydrogen Cation - meq per 100g of soil - Not recorded
15_NR_K	Exch. basic cations (K++) - meq per 100g of soil - Not recorded
15_NR_MG	Exch. basic cations (Mg++) - meq per 100g of soil - Not recorded
15_NR_NA	Exch. basic cations (Na++) - meq per 100g of soil - Not recorded
15J1	Effective CEC
2_LOI	Loss on Ignition (%)
2A1	Air-dry moisture content
3_NR	Electrical conductivity or soluble salts - Not recorded
4_NR	pH of soil - Not recorded
5_NR	Water soluble Chloride - Cl(%) - Not recordede
6Z	Organic carbon (%) - Not recorded
7_NR	Total nitrogen (%) - Not recorded
8A1	Total organic carbon/total nitrogen ratio
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
P10_NR_C	Clay (%) - Not recorded
P10_NR_S	Sand (%) - Not recorded
P10_NR_Z	Silt (%) - Not recorded