

Project Name: CL
Project Code: CL **Site ID:** B569 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By: C.H. Thompson	Locality:
Date Desc.: 03/11/66	Elevation: 15 metres
Map Ref.: Sheet No. : 9544 1:100000	Rainfall: 1632
Northing/Long.: 153.016666666667	Runoff: Moderately rapid
Easting/Lat.: -26.85	Drainage: Moderately well drained

Geology

Exposure Type: Soil pit	Conf. Sub. is Parent. Mat.: No Data
Geol. Ref.: Cze	Substrate Material: Auger boring, 3 m deep, Unconsolidated material (unidentified)

Land Form

Rel/Slope Class: No Data	Pattern Type: Low hills
Morph. Type: Crest	Relief: 8 metres
Elem. Type: Hillslope	Slope Category: No Data
Slope: 0 %	Aspect: 0 degrees

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification: Bleached-Mottled Magnesian Yellow Kurosol	Mapping Unit: N/A
ASC Confidence: All necessary analytical data are available.	Principal Profile Form: Gn2.74
	Great Soil Group: Yellow podzolic soil

Site Disturbance: Complete clearing. Pasture, native or improved, but never cultivated

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A11p	0 - 0.1 m	Dark grey (10YR4/1-Moist); ; Loamy sand; Weak grade of structure, 5-10 mm, Subangular blocky; Moist; Very weak consistence; Field pH 5.4 (pH meter); Many, fine (1-2mm) roots;
A1p	0.1 - 0.15 m	Dark grey (10YR4/1-Moist); ; Loamy sand; Weak grade of structure, 5-10 mm, Subangular blocky; Moist; Very weak consistence; Field pH 5.3 (pH meter); Many, fine (1-2mm) roots; Gradual change to -
A2p	0.15 - 0.2 m	Light yellowish brown (10YR6/4-Moist); ; 7.5R36, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Clayey sand; Massive grade of structure; Moist; Very weak consistence; Field pH 5.4 (pH meter); Few, fine (1-2mm) roots;
A2p	0.2 - 0.3 m	Light yellowish brown (10YR6/4-Moist); ; 7.5R36, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Clayey sand; Massive grade of structure; Moist; Very weak consistence; Field pH 5.3 (pH meter); FewDiffuse change to -
A3	0.3 - 0.4 m	Light yellowish brown (10YR6/4-Moist); ; Clayey sand; Massive grade of structure; Moist; Very weak consistence; Field pH 5.4 (pH meter); FewClear change to -
B1	0.4 - 0.5 m	Yellowish brown (10YR5/6-Moist); ; 7.5YR56, 10-20% , 0-5mm, Faint; , 5YR46, 10-20% , 0-5mm, Faint; Sandy clay loam; Massive grade of structure; Moist; Very weak consistence; 0-2%, medium gravelly, 6-20mm, Quartz, coarse fragments; Very few (0 - 2 %), , Coarse (6 - 20 mm), Nodules; Field pH 5.3 (pH meter); Few
B1	0.5 - 0.6 m	Yellowish brown (10YR5/6-Moist); ; 7.5YR56, 10-20% , 0-5mm, Faint; , 5YR46, 10-20% , 0-5mm, Faint; Sandy clay loam; Massive grade of structure; Moist; Very weak consistence; Very few (0 - 2 %), , Coarse (6 - 20 mm), Nodules; Field pH 5 (pH meter);
B1	0.6 - 0.75 m	Yellowish brown (10YR5/6-Moist); ; 7.5YR56, 10-20% , 0-5mm, Faint; , 5YR46, 10-20% , 0-5mm, Faint; Sandy medium clay; Massive grade of structure; Moist; Weak consistence; Very few (0 - 2 %), , Coarse (6 - 20 mm), Nodules; Field pH 4.8 (pH meter); Clear change to -
B21	0.75 - 0.9 m	Brownish yellow (10YR6/6-Moist); ; 7.5YR58, 10-20% , 5-15mm, Distinct; , 2.5YR36, 10-20% , 5-15mm, Distinct; Medium clay; Moderate grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moist; Firm consistence; 0-2%, medium gravelly, 6-20mm, Sandstone, coarse fragments; Very few (0 - 2 %), , Coarse (6 - 20 mm), Nodules; Field pH 4.8 (pH meter); Gradual change to -

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B22	0.9 - 1.04 m	Yellowish brown (10YR5/6-Moist); , 2.5YR36, 20-50% , 5-15mm, Distinct; , 2.5Y62, 20-50% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Smooth-ped fabric; Moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, Sandstone, coarse fragments; Very few (0 - 2 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations; Field pH 4.8 (pH meter);
B22	1.04 - 1.2 m	Yellowish brown (10YR5/6-Moist); , 2.5YR36, 20-50% , 5-15mm, Distinct; , 2.5Y62, 20-50% , 5-15mm, Distinct; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Firm consistence; 0-2%, fine gravelly, 2-6mm, Sandstone, coarse fragments; Very few (0 - 2 %), Manganiferous, Coarse (6 - 20 mm), Soft segregations; Field pH 5 (pH meter);
B22	1.2 - 1.5 m	Light grey (2.5Y7/2-Moist); , 2.5YR36, 20-50% , 15-30mm, Prominent; , 2.5Y64, 20-50% , 15-30mm, Prominent; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Firm consistence; Field pH 5.1 (pH meter); Diffuse change to -
B22	1.5 - 1.8 m	Light grey (2.5Y7/2-Moist); , 2.5YR36, 20-50% , 15-30mm, Prominent; , 2.5Y64, 20-50% , 15-30mm, Prominent; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Moist; Firm consistence; Field pH 5.1 (pH meter); Diffuse change to -
B31	1.8 - 2 m	Light grey (2.5Y7/1-Moist); , 2.5YR36, 20-50% , 15-30mm, Prominent; , 7.5YR66, 20-50% , 15-30mm, Prominent; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moist; Very firm consistence; Field pH 5.1 (pH meter);
B31	2 - 2.1 m	Light grey (2.5Y7/1-Moist); , 2.5YR36, 20-50% , 15-30mm, Prominent; , 7.5YR66, 20-50% , 15-30mm, Prominent; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moist; Very firm consistence; Field pH 5.1 (pH meter); Diffuse change to -
B32	2.1 - 2.4 m	Light grey (2.5Y7/1-Moist); , 2.5YR36, 10-20% , 30-mm, Prominent; , 7.5YR66, 10-20% , 30-mm, Prominent; Medium heavy clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moist; Very firm consistence; Field pH 4.9 (pH meter); Diffuse change to -
B32	2.4 - 2.7 m	Light grey (2.5Y7/1-Moist); , 2.5YR36, 10-20% , 30-mm, Prominent; , 7.5YR66, 10-20% , 30-mm, Prominent; Medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moist; Very firm consistence; Field pH 4.8 (pH meter);
B32	2.7 - 3 m	Light grey (2.5Y7/1-Moist); , 2.5YR36, 10-20% , 30-mm, Prominent; , 7.5YR66, 10-20% , 30-mm, Prominent; Sandy medium clay; Moderate grade of structure, 20-50 mm, Angular blocky; Moist; Firm consistence; Field pH 4.7 (pH meter);
B32	3 - 3.3 m	Light grey (2.5Y7/1-Moist); , 2.5YR36, 10-20% , 30-mm, Prominent; , 7.5YR66, 10-20% , 30-mm, Prominent; Sandy medium clay (Light); Moderate grade of structure, 20-50 mm, Angular blocky; Moist; Firm consistence; Field pH 4.7 (pH meter); Diffuse change to -
C	3.3 - 3.6 m	White (5Y8/1-Moist); , 2.5YR36, 2-10% , 30-mm, Prominent; , 7.5YR66, 2-10% , 30-mm, Prominent; Fine sandy medium clay; Moist; Weak consistence; Field pH 4.8 (pH meter);

Morphological Notes

Observation Notes

PARENT MATERIAL IS SANDY ALLUVIUM OVER MESOZOIC SANDSTONE:

Site Notes

BEERWAH

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Laboratory Test Results:

Depth m	pH	1:5 EC dS/m	Exchangeable Cations			Na Cmol (+)/kg	Exchangeable Acidity	CEC	ECEC	ESP %
			Ca	Mg	K					
0 - 0.1	5.4A	0.065A	1.6B	0.2	0.27	0.1	31.2D			
0.1 - 0.15	5.3A	0.038A	1.1B	0.24	0.12	0.14	32.7D			
0.15 - 0.2	5.4A	0.032A	0.47B	0.38	0.09	0.05	22D			
0.2 - 0.3	5.3A	0.022A	0.2B	0.15	0.04	0.04	30.8D			
0.3 - 0.4	5.4A	0.022A	0.31B	0.22	0.05	0.05	21.4D			
0.4 - 0.5	5.3A	0.019A	0.42B	0.66	0.06	0.06	22.5D			
0.5 - 0.6	5A	0.022A								
0.6 - 0.75	4.8A	0.024A	0.1B	0.42	0.04	0.08	22D			
0.75 - 0.9	4.8A	0.03A	0.2B	1.4	0.06	0.13	25.7D			
0.9 - 1.04	4.8A	0.035A	0.14B	2.3	0.08	0.22	27.5D			
1.04 - 1.2	5A	0.032A								
1.2 - 1.5	5.1A	0.032A	0.14B	3.4	0.06	0.19	26.2D			
1.5 - 1.8	5.1A	0.024A								
1.8 - 2	5.1A	0.027A								
2 - 2.1	5.1A	0.027A								
2.1 - 2.4	4.9A	0.027A								
2.4 - 2.7	4.8A	0.027A								
2.7 - 3	4.7A	0.027A								
3 - 3.3	4.7A	0.027A	0.21B	2.1	0.09	0.14	7.6D			
3.3 - 3.6	4.8A	0.027A								

Depth m	CaCO3 %	Organic C %	Avail. P mg/kg	Total P %	Total N %	Total K %	Bulk Density Mg/m3	Particle Size Analysis				
								GV	CS	FS %	Silt Clay	
0 - 0.1		1.86A	28A 52B	0.02A	0.085B	0.07A	1.36		51C	32	6	3
0.1 - 0.15		1.34A	11A 10B	0.009A	0.48B	0.05A		1	50C	34	8	6
0.15 - 0.2		0.76A		0.006A	0.033B	0.05A	1.72	1	50C	32	8	6
0.2 - 0.3				0.003A	0.016B	0.05A			50C	33	9	8
0.3 - 0.4				0.002A	0.011B	0.05A	1.63		51C	30	9	9
0.4 - 0.5				0.003A	0.016B	0.07A	1.65	1	44C	26	7	20
0.5 - 0.6												
0.6 - 0.75				0.005A	0.013B	0.09A			40C	24	10	23
0.75 - 0.9				0.003A	0.014B	0.14A	1.52		38C	14	8	44
0.9 - 1.04				0.004A	0.013B	0.2A		1	32C	9	12	48
1.04 - 1.2							1.56					
1.2 - 1.5				0.002A	0.008B	0.27A			30C	12	13	46
1.5 - 1.8							1.62					
1.8 - 2									14C	12	12	62
2 - 2.1												
2.1 - 2.4												
2.4 - 2.7									30C	10	21	39
2.7 - 3												
3 - 3.3									31C	10	24	35
3.3 - 3.6									30C	10	25	34

Depth m	COLE	Gravimetric/Volumetric Water Contents						K sat mm/h	K unsat mm/h
		Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar		

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0 - 0.1	0.19F	0.08H
0.1 - 0.15		
0.15 - 0.2	0.18F	0.08H
0.2 - 0.3		
0.3 - 0.4	0.19F	0.07H
0.4 - 0.5	0.27F	0.2H
0.5 - 0.6		
0.6 - 0.75		
0.75 - 0.9	0.38F	0.31H
0.9 - 1.04		
1.04 - 1.2	0.4F	0.33H
1.2 - 1.5		
1.5 - 1.8	0.42F	0.34H
1.8 - 2		
2 - 2.1		
2.1 - 2.4		
2.4 - 2.7		
2.7 - 3		
3 - 3.3		
3.3 - 3.6		

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
15_NR_H	Hydrogen Cation - meq per 100g of soil - Not recorded
15A2_CA	Exchangeable bases (Ca ²⁺ ,Mg ²⁺ ,Na ⁺ ,K ⁺) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_K	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_MG	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_NA	Exchangeable bases- 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
17A1	Total potassium - X-ray fluorescence
2_LOI	Loss on Ignition (%)
2A1	Air-dry moisture content
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
5A2	Chloride - 1:5 soil/water extract, automated colour
6A1	Organic carbon - Walkley and Black
7_NR	Total nitrogen (%) - Not recorded
9A1	Total phosphorus - X-ray fluorescence
9B_9C	Available P (mg/kg) - Bicarbonate P - 0.5M NaHCO ₃ extractable
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H ₂ SO ₄ (BSES)
P10_GRAV	Gravel (%)
P10_NR_C	Clay (%) - Not recorded
P10_NR_CS	Coarse sand (%) - Not recorded
P10_NR_FS	Fine sand (%) - Not recorded
P10_NR_Z	Silt (%) - Not recorded
P3A1	Bulk density - g/cm ³
P3B3VLe004	0.04 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on suction plate
P3B3VLe01	0.1 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on suction plate
P3B3VLe03	0.3 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on suction plate
P3B3VLe06	0.6 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate
P3B3VLe15	15 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate
P3B3VLe2	2 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate
P3B3VLe7	7 BAR Moisture m ³ /m ³ - Volumetric using undisturbed 60mm diameter and 34mm height core on pressure plate