Project Name: **Regional**
Project Code: **REG** **Site ID:** **T261** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By:	G.G. Murtha	**Locality:**	4.9KM south Bingil Bay turnoff on Mission Beach Road:
Date Desc.:	31/05/78	**Elevation:**	40 metres
Map Ref.:	Sheet No. : 8162 1:100000	**Rainfall:**	0
Northing/Long.:	146.066666666667	**Runoff:**	Very slow
Easting/Lat.:	-17.85	**Drainage:**	Imperfectly drained

Geology

ExposureType:	Soil pit	**Conf. Sub. is Parent. Mat.:**	No Data
Geol. Ref.:	QA3	**Substrate Material:**	No Data

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	**Pattern Type:**	Alluvial plain
Morph. Type:	No Data	**Relief:**	0 metres
Elem. Type:	Valley flat	**Slope Category:**	Very gently sloped
Slope:	0 %	**Aspect:**	No Data

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Mesotrophic Dermosolic Redoxic Hydrosol
ASC Confidence:
All necessary analytical data are available.

Mapping Unit: N/A
Principal Profile Form: Gn3.7
Great Soil Group: Gleyed podzolic soil

Site Disturbance: No effective disturbance. Natural

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Brown (10YR4/3-Moist); ; Clay loam; Moderate grade of structure, 5-10 mm, Cast; Moist; Weak consistence; Abundant, medium (2-5mm) roots;
A1	0.1 - 0.2 m	Brown (10YR4/3-Moist); ; Clay loam (Heavy); Strong grade of structure, 5-10 mm, Granular; Moist; Weak consistence; Many, fine (1-2mm) roots; Clear change to -
B1	0.2 - 0.3 m	Yellowish brown (10YR5/8-Moist); ; Light medium clay; Weak grade of structure, 10-20 mm, Subangular blocky; Moist; Weak consistence; 2-10%, coarse gravelly, 20-60mm, subrounded, Substrate material, coarse fragments; Common, fine (1-2mm) roots;
B2	0.3 - 0.6 m	Yellowish brown (10YR5/8-Moist); ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moist; Weak consistence; 20-50%, coarse gravelly, 20-60mm, subrounded, Substrate material, coarse fragments; Gradual change to -
B2	0.6 - 0.9 m	Yellowish red (5YR4/6-Moist); , 7.5YR58, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Light clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Moist; Weak consistence; Few (2 - 10 %), Manganiferous, , Soft segregations;
B2	0.9 - 1.2 m	Strong brown (7.5YR5/8-Moist); , 2.5YR36, 20-50% , 5-15mm, Distinct; , 20-50% , 5-15mm, Distinct; Light clay; Moist; Weak consistence; Gradual change to -
	1.2 - 1.5 m	Light grey (10YR7/1-Moist); , 10YR58, 20-50% , 5-15mm, Distinct; , 5YR58, 20-50% , 5-15mm, Distinct; Light clay; Weak consistence; Clear change to -
	1.6 - 1.8 m	Light grey (10YR7/1-Moist); , 2.5YR48, 20-50% , 5-15mm, Prominent; , 20-50% , 5-15mm, Prominent; Heavy clay; Slightly plastic; Normal plasticity;

Morphological Notes

Observation Notes

Site Notes

BINGIL BAY

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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 - 0.1	4.9A	0.074A	0.61B	0.52	0.13	0.07	4.8F	3.65A	6.1F	1.92
0.1 - 0.2	5.2A	0.029A								
0.2 - 0.3	5.3A	0.023A	0.07B	0.41	0.09	0.02	2.4F	2.08A	3F	0.96
0.3 - 0.6	5.4A	0.017A								
0.6 - 0.9	5.7A	0.02A	0.8H	0.18	<0.01	0.02	0.6F	2A	1.6F	1.00
0.9 - 1.2	5.3A	0.017A								
1.2 - 1.6	4.7A	0.029A	0.01B	0.05	0.05	0.02	0.6F	1.95A	0.7F	1.03
1.6 - 1.8	4.6A	0.026A								

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 - 0.1		2.86D	33B	0.035A	0.54A	1.64A		0	35A	21	21	24
0.1 - 0.2		0.94D	14B		0.22A			2	48A	14	16	22
0.2 - 0.3		0.51D	3B	0.019A		1.58A		12	41A	17	16	25
0.3 - 0.6		0.27D						34	38A	19	21	23
0.6 - 0.9		0.15D	4B	0.028A		2A		10	40A	25	16	20
0.9 - 1.2								0	33A	34	16	18
1.2 - 1.6								4	33A	33	16	18
1.6 - 1.8												

Depth	COLE	Gravimetric/Volumetric Water Contents Sat.	0.05 Bar	0.1 Bar	0.5 Bar	1 Bar	5 Bar	15 Bar	K sat	K unsat
m		g/g - m3/m3							mm/h	mm/h
0 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.6										
0.6 - 0.9										
0.9 - 1.2										
1.2 - 1.6										
1.6 - 1.8										

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
12_HF_CU	Total element - Cu(mg/kg) - HF/HClO4 Digest
12_HF_FE	Total element - Fe(%) - HF/HClO4 Digest
12_HF_MN	Total element - Mn(mg/kg) - HF/HClO4 Digest
12_HF_ZN	Total element - Zn(mg/kg) - HF/HClO4 Digest
13C1_FE	Citrate/dithionite-extractable iron, aluminium, Manganese and Silicon
15A2_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, pretreatment for soluble salts
15A2_CEC	Exchangeable bases- 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
15E1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
15E1_K	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_MG	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15G_C	Exchange acidity (hydrogen and aluminium) - meq per 100g of soil - By 1M KCl exch. acidity by titration to pH 8.4
15J1	Effective CEC
17A1	Total potassium - X-ray fluorescence
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
6A1_UC	Organic carbon (%) - Uncorrected Walkley and Black method
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
9A1	Total phosphorus - X-ray fluorescence
9G_BSES	Available P (mg/kg) - Acid P - 0.005M H2SO4 (BSES)
MIN_EC	Exchange Capacity - Minerology
P10_CF_C	Clay (%) - Coventry and Fett pipette method
P10_CF_CS	Coarse sand (%) - Coventry and Fett pipette method
P10_CF_FS	Fine sand (%) - Coventry and Fett pipette method
P10_CF_Z	Silt (%) - Coventry and Fett pipette method
P10_GRAV	Gravel (%)
XRD_C_Ch2	Chloritized 2:1 minerals - X-Ray Diffraction
XRD_C_Gt	Geothite - X-Ray Diffraction
XRD_C_Il	Illite - X-Ray Diffraction
XRD_C_K2O	K2O - X-Ray Diffraction or Clay Fraction (air dry)
XRD_C_Ka	Kaolin - X-Ray Diffraction