

Project Name: Regional
Project Code: REG **Site ID:** T109 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.G. Murtha	Locality:	3.8KM south of Nightjar on highway north of Bohle River: 1.1KM south offirst gate:
Date Desc.:	21/10/69	Elevation:	18 metres
Map Ref.:	Sheet No. : 8259 1:100000	Rainfall:	1020
Northing/Long.:	146.683333333333	Runoff:	Moderately rapid
Easting/Lat.:	-19.2833333333333	Drainage:	Very poorly drained

Geology

ExposureType:	Undisturbed soil core	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	Qa	Substrate Material:	Auger boring, No Data

Land Form

Rel/Slope Class:	Gently undulating plains <9m 1-3%	Pattern Type:	Alluvial plain
Morph. Type:	No Data	Relief:	6 metres
Elem. Type:	Plain	Slope Category:	Very gently sloped
Slope:	<3 %	Aspect:	No Data

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:		Mapping Unit:	N/A
Calcic Mottled-Hypernatric Grey Sodosol		Principal Profile Form:	DY3.43
ASC Confidence:		Great Soil Group:	Solodized solonetz
All necessary analytical data are available.			

Site Disturbance: No effective disturbance other than grazing by hoofed animals

Vegetation: Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - None recorded
 Mid Strata - Tree, 3.01-6m, Isolated plants. *Species includes - None recorded
 Tall Strata - Tree, 6.01-12m, Very sparse. *Species includes - Melaleuca viridiflora, Eucalyptus drepanophylla

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1A2	0 - 0.1 m	Greyish brown (10YR5/2-Moist); ; Loamy sand; Massive grade of structure; Moist; Very weak consistence; 2-10%, medium gravelly, 6-20mm, rounded, Gravel, coarse fragments; Abrupt, Irregular change to -
B21	0.1 - 0.2 m	Pale brown (10YR6/3-Moist); , 10YR42, 10-20% , 0-5mm, Distinct; , 10YR58, 10-20% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, Columnar; Strong grade of structure, 5-10 mm, Angular blocky; Medium, (5 - 10) mm crack; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments;
B21	0.2 - 0.3 m	Pale brown (10YR6/3-Moist); , 10YR42, 10-20% , 0-5mm, Distinct; , 10YR58, 10-20% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, Columnar; Strong grade of structure, 5-10 mm, Angular blocky; Medium, (5 - 10) mm crack; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Gradual change to -
B22	0.3 - 0.48 m	Greyish brown (2.5Y5/2-Moist); ; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Strong consistence; 2-10%, medium gravelly, 6-20mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Gradual change to -
B22	0.48 - 0.6 m	Greyish brown (2.5Y5/2-Moist); ; Sandy medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Dry; Very firm consistence; 2-10%, coarse gravelly, 20-60mm, rounded, Gravel, coarse fragments; Common (10 - 20 %), Calcareous, Coarse (6 - 20 mm), Concretions;
BC	0.6 - 0.9 m	Greyish brown (2.5Y5/2-Moist); ; Sandy medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Dry; Very firm consistence; 2-10%, coarse gravelly, 20-60mm, rounded, Gravel, coarse fragments; Many (20 - 50 %), Calcareous, Coarse (6 - 20 mm), Concretions;
D	0.95 - 1.2 m	Greyish brown (2.5Y5/2-Moist); , 10YR43, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Very strong consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;

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D	1.2 - 1.5 m	Greyish brown (2.5Y5/2-Moist); , 10YR33; , 10YR82; Sandy medium clay; Massive grade of structure; Many (>5 per 100mm ²) Fine (1-2mm) macropores, Dry; Very strong consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments;
D	1.5 - 1.9 m	Greyish brown (2.5Y5/2-Moist); , 10YR33; , 10YR82; Sandy medium clay (Light); Massive grade of structure; Dry; Firm consistence; 20-50%, fine gravelly, 2-6mm, Quartz, coarse fragments;
D	1.9 - 2.3 m	Greyish brown (2.5Y5/2-Moist); , 10YR33; , 10YR82; Sandy clay loam; Massive grade of structure; Diffuse change to -
	2.3 - 3.4 m	Yellowish brown (10YR5/4-Moist); ; Sandy clay loam; Massive grade of structure; Weak consistence; Clear change to -
	3.4 - 3.9 m	Grey (10YR6/1-Moist); , 10YR82, 2-10% ; , 10YR33, 2-10% ; Clayey sand; Massive grade of structure; Many (>5 per 100mm ²) Fine (1-2mm) macropores, Very firm consistence; Abrupt, Irregular change to -
	3.9 - 4.7 m	Light brownish grey (2.5Y6/2-Moist); , 10YR44, 10-20% , 5-15mm, Prominent; , 10YR54, 10-20% , 5-15mm, Prominent; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Very firm consistence; Gradual change to -
	4.7 - 5.2 m	Light brownish grey (2.5Y6/2-Moist); , 10YR44, 10-20% , 5-15mm, Prominent; , 10YR54, 10-20% , 5-15mm, Prominent; Sandy medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Firm consistence; 10-20%, fine gravelly, 2-6mm, Granite, coarse fragments; Few (2 - 10 %), Ferromanganiferous, , Soft segregations; Abrupt change to -
	5.2 - 5.4 m	Pale brown (10YR6/3-Dry); ; Sand; Single grain grade of structure; Loose consistence; Abrupt change to -
	5.4 - 5.8 m	Greyish brown (2.5Y5/2-Moist); , 10YR33; Sandy clay loam; Massive grade of structure; Firm consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Gradual change to -
	5.8 - 6 m	Light brownish grey (2.5Y6/2-Moist); , 10YR44; Sandy medium clay; Strong grade of structure, 2-5 mm, Angular blocky; Very firm consistence; 2-10%, coarse gravelly, 20-60mm, Gravel, coarse fragments;

Morphological Notes

Observation Notes

A2 2-10CM (10YR82 D) SANDY MA DRY LOOSE:A2 MATERIAL DOWN BETWEEN COL'S

Site Notes

BOHLE RIVER

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Laboratory Test Results:

Depth m	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
		dS/m	Ca	Mg	K	Na Cmol (+)/kg			
0 - 0.1	6.6A	0.023A	0.2B	0.5	0.05	0.23			
0.1 - 0.2	6.3A	0.172A	2.1B	4.4	0.11	4.2	12.1C		34.71
0.2 - 0.3	6.5A	0.279A							
0.3 - 0.48	7.4A	0.392A	1.2B	4.2	0.08	7.6	9.9C		76.77
0.48 - 0.6	9.6A	0.8A							
0.6 - 0.95	9.6A	0.717A							
0.95 - 1.2	9.4A	0.898A	2.5B	5.5	0.15	16.2	15.9C		101.89
1.2 - 1.5	9.2A	0.494A							

[illegible]

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 - 0.1										
0.1 - 0.2										
0.2 - 0.3										
0.3 - 0.48										
0.48 - 0.6										
0.6 - 0.95										
0.95 - 1.2										
1.2 - 1.5										

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
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
15D1_CEC	CEC - 1M ammonium acetate at pH 7.0, pretreatment for soluble salts; manual leach
17A1	Total potassium - X-ray fluorescence
19A1	Carbonates - rapid titration
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_UC	Organic carbon (%) - Uncorrected Walkley and Black method
7A2	Total nitrogen - semimicro Kjeldahl , automated colour
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)
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_Ka	Kaolin - X-Ray Diffraction
XRD_C_Qz	Quartz - X-Ray Diffraction