

Project Name: Regional
Project Code: REG **Site ID:** T107 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Site Information

Desc. By:	G.G. Murtha	Locality:	3.7KM north of Hervey's Range Beef Road along track north from gate about .8KM east of Longons:
Date Desc.:	16/10/69	Elevation:	34 metres
Map Ref.:	Sheet No. : 8259 1:100000	Rainfall:	1020
Northing/Long.:	146.616666666667	Runoff:	Very slow
Easting/Lat.:	-19.3	Drainage:	No Data

Geology

ExposureType:	Undisturbed soil core	Conf. Sub. is Parent. Mat.:	No Data
Geol. Ref.:	QA	Substrate Material:	Undisturbed soil core, Unconsolidated material (unidentified)

Land Form

Rel/Slope Class:	Level plain <9m <1%	Pattern Type:	Alluvial plain
Morph. Type:	Flat	Relief:	No Data
Elem. Type:	Plain	Slope Category:	Level
Slope:	0 %	Aspect:	No Data

Surface Soil Condition (dry): Hardsetting

Erosion:

Soil Classification

Australian Soil Classification:	Mapping Unit:	N/A
Vertic Subnatric Grey Sodosol	Principal Profile Form:	DY2.33
ASC Confidence:	Great Soil Group:	Solodic soil

Analytical data are incomplete but reasonable confidence.

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

Vegetation: Low Strata - Tussock grass, 0.51-1m, Mid-dense. *Species includes - Heteropogon contortus
 Tall Strata - Tree, 12.01-20m, Very sparse. *Species includes - Eucalyptus drepanophylla, Eucalyptus papuana, Eucalyptus tessellaris

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1A2j	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); Dark grey (10YR4/1-Dry); ; Clay loam; Strong grade of structure, 2-5 mm, Angular blocky; Rough-ped fabric; Dry; Rigid consistence; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Sharp change to -
B21	0.1 - 0.2 m	Dark grey (10YR4/1-Moist); Dark grey (10YR4/1-Dry); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Smooth-ped fabric; Dry; Rigid consistence; Very few (0 - 2 %), Calcareous, Coarse (6 - 20 mm), Nodules;
B22	0.2 - 0.3 m	Dark greyish brown (2.5Y4/2-Moist); ; Heavy clay; Moderate grade of structure, 10-20 mm, Angular blocky; Dry; Rigid consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
B23	0.3 - 0.6 m	Dark grey (5Y4/1-Moist); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Rigid consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Nodules;
B24	0.6 - 0.9 m	Dark greyish brown (2.5Y4/2-Moist); ; Heavy clay; Moderate grade of structure, 5-10 mm, Angular blocky; Dry; Very strong consistence; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules; Many (20 - 50 %), Calcareous, Very coarse (20 - 60 mm), Nodules;
B24	0.9 - 1.2 m	Greyish brown (2.5Y5/2-Moist); ; Heavy clay; Moderate grade of structure, 5-10 mm, Angular blocky; Dry; Rigid consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Diffuse change to -
B25	1.2 - 1.5 m	Greyish brown (2.5Y5/2-Moist); ; 7.5YR54, 2-10% , 0-5mm, Faint; , 2-10% , 0-5mm, Faint; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Rigid consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, Coarse (6 - 20 mm), Nodules; Diffuse change to -
B25	1.5 - 1.8 m	Greyish brown (2.5Y5/2-Moist); ; 5YR46, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very firm consistence; Few (2 - 10 %), Calcareous, Very coarse (20 - 60 mm), Nodules;

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B25	1.8 - 2.1 m	Greyish brown (2.5Y5/2-Moist); , 5YR46, 10-20% , 0-5mm, Prominent; , 10-20% , 0-5mm, Prominent; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Rough-ped fabric; Many (>5 per 100mm ²) Fine (1-2mm) macropores, Dry; Very firm consistence;
BC	2.1 - 2.35 m	Dark greyish brown (10YR4/2-Moist); , 5YR56, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Rigid consistence;
BC	2.35 - 2.7 m	Brown (10YR4/3-Moist); , 10YR63, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy medium clay; Massive grade of structure; Many (>5 per 100mm ²) Fine (1-2mm) macropores, Dry; Rigid consistence; Moderately cemented, Massive;
	2.7 - 3 m	Brown (10YR4/3-Moist); , 10YR63, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Sandy medium clay; Massive grade of structure; Rigid consistence; Common (10 - 20 %), Ferromanganiferous, , Soft segregations;
D	3 - 3.45 m	Dark yellowish brown (10YR4/4-Moist); , 10YR52; , 10YR56; Sandy clay loam; Massive grade of structure; Many (>5 per 100mm ²) Fine (1-2mm) macropores, Dry; Rigid consistence; , Moderately cemented, Massive; Gradual change to -
	3.45 - 4.65 m	Dark yellowish brown (10YR4/4-Moist); , 10YR52; Sandy medium clay (Light); Moderate grade of structure, 2-5 mm, Angular blocky; Massive grade of structure; Firm consistence; 2-10%, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, , Soft segregations; Gradual change to -
	4.65 - 4.9 m	Light yellowish brown (10YR6/4-Moist); , 10YR53; , 10YR62; Fine sand; Massive grade of structure; Weak consistence;

Morphological Notes

Observation Notes

150-180CM SOME COARSE SLICKEN SIDES TO STRUCTURAL UNITS:465-490CM WELL SORTED VERY FINE SAND:

Site Notes

HERVEY'S RANGE

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations			Exchangeable	CEC	ECEC	ESP
m		dS/m	Ca	Mg	K	Na Cmol (+)/kg	Acidity		%
0 - 0.1	6.8A	0.08A							
0.1 - 0.2	7.6A	0.086A	14.7B	9.6	0.16	1.5		23.4C	6.41
0.2 - 0.3	8A	0.127A							
0.3 - 0.6	8.9A	0.41A							
0.6 - 0.9	9A	0.678A							
0.9 - 1.2	8.8A	0.72A							
1.2 - 1.5	8.5A	0.55A							
1.5 - 1.8	8.4A	0.416A							
1.8 - 2.1	8.4A	0.288A							
2.1 - 2.35	8.9A	0.258A							
2.35 - 2.7	8.9A	0.086A							

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle		Size	Analysis	
m	%	C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
		%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1		1.18D	4A 7B		0.1A							
0.1 - 0.2												
0.2 - 0.3												
0.3 - 0.6												
0.6 - 0.9												
0.9 - 1.2												
1.2 - 1.5												
1.5 - 1.8												
1.8 - 2.1												
2.1 - 2.35												
2.35 - 2.7			<2A									

[illegible]

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Laboratory Analyses Completed for this profile

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
2A1	Air-dry moisture content
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
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)