Project Name: **Regional**
Project Code: **REG** **Site ID:** **T108** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: G.G. Murtha
Locality: 1.3KM north along track 1.9KM west of trucking yards on Hervey's RangeBeef Road:
Date Desc.: 20/10/69
Elevation: 30 metres
Map Ref.: Sheet No. : 8259 1:100000
Rainfall: 1020
Northing/Long.: 146.65
Runoff: Very slow
Easting/Lat.: -19.3166666666667
Drainage: Very poorly drained

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:
Gypsic Mottled-Mesonatric Grey Sodosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: DY3.43
Great Soil Group: Solodic soil

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, Stylosanthes humilis

Tall Strata - Tree, 12.01-20m, Very sparse. *Species includes - Eucalyptus alba, Eucalyptus papuana, Eucalyptus drepanophylla

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1A21	0 - 0.1 m	Very dark greyish brown (10YR3/2-Moist); ; Fine sandy loam; Massive grade of structure; Dry; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules;
A22e	0.1 - 0.17 m	Greyish brown (10YR5/2-Moist); White (10YR8/2-Dry); ; Fine sandy loam; Massive grade of structure; Dry; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Abrupt change to -
B21	0.17 - 0.3 m	Dark greyish brown (10YR4/2-Moist); , 10YR33, 10-20% , 0-5mm, Faint; , 10-20% , 0-5mm, Faint; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Rigid consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;
B22	0.3 - 0.5 m	Dark greyish brown (2.5Y4/2-Moist); , 10YR41, 10-20% , 0-5mm, Faint; , 10-20% , 0-5mm, Faint; Medium heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Firm consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Few (2 - 10 %), Calcareous, , ; Few (2 - 10 %), Gypseous, Coarse (6 - 20 mm), Concretions;
	0.5 - 0.6 m	; Diffuse change to -
B23	0.6 - 0.9 m	Greyish brown (2.5Y5/2-Moist); ; Heavy clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Firm consistence; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Many (20 - 50 %), Calcareous, , ; Many (20 - 50 %), Gypseous, Very coarse (20 - 60 mm), Concretions; Diffuse change to -
B24	0.9 - 1.2 m	Dark greyish brown (2.5Y4/2-Moist); , 10YR58, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Common (10 - 20 %), Calcareous, , ; Common (10 - 20 %), Gypseous, Coarse (6 - 20 mm), Concretions;
B24	1.2 - 1.38 m	Dark greyish brown (2.5Y4/2-Moist); , 10YR58, 2-10% , 0-5mm, Distinct; , 2-10% , 0-5mm, Distinct; Medium clay; Strong grade of structure, 5-10 mm, Angular blocky; Dry; Very firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Common (10 - 20 %), Calcareous, , ; Common (10 - 20 %), Gypseous, Coarse (6 - 20 mm), Concretions;

Project Name: **Regional**
Project Code: **REG** **Site ID:** **T108** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

B25	1.38 - 1.5 m	Greyish brown (2.5Y5/2-Moist); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Firm consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
B25	1.5 - 1.8 m	Greyish brown (2.5Y5/2-Moist); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Firm consistence; 0-2%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
BC	1.8 - 1.95 m	Greyish brown (2.5Y5/2-Moist); ; Heavy clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Firm consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments; Very few (0 - 2 %), Ferromanganiferous, Medium (2 -6 mm), Nodules;
C	1.95 - 2.2 m	Greyish brown (2.5Y5/2-Moist); , 10YR33, 2-10% ; , 2-10% ; Clayey sand; Massive grade of structure; Many (>5 per 100mm2) Fine (1-2mm) macropores, Dry; Very firm consistence; Clear change to -
D	2.2 - 2.5 m	Greyish brown (10YR5/2-Moist); , 10YR33, 10-20% , 0-5mm, Faint; , 10-20% , 0-5mm, Faint; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Dry; Firm consistence; 2-10%, medium gravelly, 6-20mm, Quartz, coarse fragments; Few (2 - 10 %), Ferromanganiferous, Coarse (6 - 20 mm), Soft segregations; Gradual change to -
	2.5 - 2.75 m	Greyish brown (2.5Y5/2-Moist); ; Medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Very strong consistence; Few (2 - 10 %), Ferromanganiferous, Coarse (6 - 20 mm), Soft segregations;
	2.75 - 3.7 m	Greyish brown (10YR5/2-Moist); , 10YR33, 10-20% , 0-5mm, Distinct; , 10-20% , 0-5mm, Distinct; Sandy medium clay; Strong grade of structure, 10-20 mm, Angular blocky; Rigid consistence;
	3.7 - 4.5 m	Light brownish grey (2.5Y6/2-Moist); ; Sandy loam; Massive grade of structure; Weak consistence;
	4.5 - 5 m	Light brownish grey (2.5Y6/2-Moist); ; Coarse sandy loam; Massive grade of structure; Weak consistence; 2-10%, fine gravelly, 2-6mm, Quartz, coarse fragments;

Morphological Notes

Observation Notes

0-2CM VERY THIN ORGANIC A1 HORIZON:A21 2-10CM (10YR52 M AND 10YR82 D) 250-370CM STRONGLY CEMENTED:

Site Notes

HERVEY'S RANGE

Project Name: Regional
Project Code: REG **Site ID:** T108 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (QLD)

Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable Acidity	CEC	ECEC	ESP
			Ca	Mg	K	Na				
m		dS/m	Cmol (+)/kg							%
0 - 0.1	5.6A	0.092A	2.7B	1.9	0.43	0.45		8.2C		5.49
0.1 - 0.17	6.1A	0.059A	2.9B	2.6	0.4	0.82		9.3C		8.82
0.17 - 0.3	7.1A	0.098A	5B	5.4	0.11	3		13.2C		22.73
0.3 - 0.5	9.3A	0.41A	7.2B	6.8	0.12	6.8		16.6C		40.96
0.5 - 0.6	9.5A	0.729A								
0.6 - 0.9	9.6A	0.86A	7.9B	7.1	0.13	8.2		14.7C		55.78
0.9 - 1.2	9.6A	0.88A								
1.2 - 1.38	9.1A	0.75A								
1.38 - 1.5	9.3A	0.8A								
1.5 - 1.8	8.8A	0.672A								
1.8 - 1.95	9.1A	0.663A								
1.95 - 2.2	9.6A	0.38A								

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		0.91D	11A 12B	0.018A	0.12A	2A		<2	16A	28	34	17
0.1 - 0.17		0.3D	3B	0.012A	0.03A	1.9A		<2	18A	29	21	27
0.17 - 0.3		0.32D	4B	0.012A	0.03A	1.7A		<2	10A	28	31	36
0.3 - 0.5	0.1A	0.2D		0.013A		1.9A						
0.5 - 0.6	2.4A											
0.6 - 0.9	1.5A							19	25A	30	18	32
0.9 - 1.2	0.7A											
1.2 - 1.38	0.2A											
1.38 - 1.5	0.1A											
1.5 - 1.8	0.2A											
1.8 - 1.95												
1.95 - 2.2												

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 - 0.17									
0.17 - 0.3									
0.3 - 0.5									
0.5 - 0.6									
0.6 - 0.9									
0.9 - 1.2									
1.2 - 1.38									
1.38 - 1.5									
1.5 - 1.8									
1.8 - 1.95									
1.95 - 2.2									

Project Name: **Regional**
Project Code: **REG** **Site ID:** **T108** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
15A2_CA	Exchangeable bases (Ca2+,Mg2+,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 NaHCO3 extractable
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_Il	Illite - X-Ray Diffraction
XRD_C_Is	Interstratified clay minerals - X-Ray Diffraction
XRD_C_Ka	Kaolin - X-Ray Diffraction
XRD_C_Qz	Quartz - X-Ray Diffraction