Project Name: **Regional**
Project Code: **REG** **Site ID:** **T279** **Observation ID:** **1**
Agency Name: **CSIRO Division of Soils (QLD)**

Site Information

Desc. By: G.G. Murtha
Date Desc.: 01/07/80
Map Ref.: Sheet No. : 8062 1:100000
Northing/Long.: 145.9
Easting/Lat.: -17.5666666666667
Locality: 1.1KM from Palmerston Highway on Nerada Road:
Elevation: 80 metres
Rainfall: 3500
Runoff: No runoff
Drainage: Well drained

Geology

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

Land Form

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

Surface Soil Condition (dry): Firm

Erosion:

Soil Classification

Australian Soil Classification:
Acidic Dystrophic Red Ferrosol
ASC Confidence:
Analytical data are incomplete but reasonable confidence.
Mapping Unit: N/A
Principal Profile Form: Gn3.11
Great Soil Group: Krasnozem

Site Disturbance: Cultivation. Rainfed

Vegetation:

Surface Coarse Fragments: No surface coarse fragments

Profile Morphology

A1	0 - 0.1 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam; Strong grade of structure, 5-10 mm, Cast; Moist; Very firm consistence; 2-10%, coarse gravelly, 20-60mm, angular, Basalt, coarse fragments; Many, fine (1-2mm) roots;
A1	0.1 - 0.2 m	Dark reddish brown (5YR3/4-Moist); ; Clay loam (Heavy); Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Fine (0 - 2 mm), Nodules; Common, fine (1-2mm) roots; Diffuse change to -
B1	0.2 - 0.3 m	Reddish brown (5YR4/3-Moist); ; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Few, fine (1-2mm) roots;
B1	0.3 - 0.45 m	Reddish brown (5YR4/3-Moist); ; Light clay; Weak grade of structure, 10-20 mm, Subangular blocky; Earthy fabric; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Diffuse change to -
B2	0.45 - 0.6 m	Reddish brown (5YR4/4-Moist); ; Light clay (Heavy); Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Weak consistence; Few (2 - 10 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;
B2	0.6 - 0.9 m	Reddish brown (5YR4/4-Moist); ; Light clay (Heavy); Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Weak consistence; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;
B2	0.9 - 1.2 m	Reddish brown (5YR4/4-Moist); ; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Weak consistence; Common (10 - 20 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Diffuse change to -
B3	1.2 - 1.5 m	Reddish brown (5YR4/4-Moist); , 2.5YR58, 10-20% , 5-15mm, Distinct; , 5YR61, 10-20% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Moist; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;
	1.5 - 1.8 m	Reddish brown (5YR4/4-Moist); , 2.5YR58, 10-20% , 5-15mm, Distinct; , 5YR61, 10-20% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;

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1.8 - 2.1 m	Reddish brown (5YR4/4-Moist); , 2.5YR58, 10-20% , 5-15mm, Distinct; , 5YR61, 10-20% , 5-15mm, Distinct; Light medium clay; Moderate grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules; Diffuse change to -
2.1 - 2.5 m	Brown (7.5YR5/4-Moist); , 2.5YR34, 10-20% , 5-15mm, Distinct; , 10-20% , 5-15mm, Distinct; Medium clay; Strong grade of structure, 10-20 mm, Subangular blocky; Smooth-ped fabric; Weak consistence; Very few (0 - 2 %), Ferromanganiferous, Coarse (6 - 20 mm), Nodules;

Morphological Notes

Observation Notes

Site Notes

NERADA

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Laboratory Test Results:

Depth	pH	1:5 EC	Exchangeable Cations				Exchangeable	CEC	ECEC	ESP
			Ca	Mg	K	Na	Acidity			
m		dS/m	Cmol (+)/kg							%
0 - 0.1	5.8A	0.071A	3.19H	2.41	0.17	0.16	1.2F	7.93A	7.1F	2.02
								11C		1.45
0.1 - 0.2	5.5A	0.047A	1.45H	1.04	0.14	0.11	0.76F	5.04A	3.5F	2.18
0.2 - 0.3	5.3A	0.032A	0.84H	0.62	0.09	0.1	2F	2.32A	3.7F	4.31
								10.7C		0.93
0.3 - 0.45	5.4A	0.023A								
0.45 - 0.6	5.4A	0.02A	0.95H	0.4	0.06	0.1	4F	2.8A	5.5F	3.57
								11.3C		0.88
0.6 - 0.9	5.3A	0.014A								
0.9 - 1.2	5.3A	0.017A	0.06H	0.71	0.07	0.06	10.8F	3.3A	11.7F	1.82
								8.9C		0.67
1.2 - 1.5	5.3A	0.017A								
1.5 - 1.8	5.2A	0.014A								
1.8 - 2.1	5.2A	0.017A								
2.1 - 2.5	5.2A	0.017A								

Depth	CaCO3	Organic	Avail.	Total	Total	Total	Bulk	Particle Size Analysis				
		C	P	P	N	K	Density	GV	CS	FS	Silt	Clay
m	%	%	mg/kg	%	%	%	Mg/m3			%		
0 - 0.1		3.42D	23B	0.26A	0.29A	0.1A		2	13A	10	17	61
0.1 - 0.2		2.22D	14B		0.3A			<2	10A	10	18	63
0.2 - 0.3		1.15D		0.21A	0.11A	0.08A		<2	10A	11	18	62
0.3 - 0.45			16B					6	10A	11	18	61
0.45 - 0.6								6	12A	11	17	60
0.6 - 0.9								6	8A	11	16	65
0.9 - 1.2				0.16A		0.08A						
1.2 - 1.5												
1.5 - 1.8								4	11A	14	13	62
1.8 - 2.1												
2.1 - 2.5								0	9A	14	14	63

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 - 0.45									
0.45 - 0.6									
0.6 - 0.9									
0.9 - 1.2									
1.2 - 1.5									
1.5 - 1.8									
1.8 - 2.1									
2.1 - 2.5									

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Laboratory Analyses Completed for this profile

10A1	Total sulfur - X-ray fluorescence
15A2_CEC	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
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
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
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_Gb	Gibbsite - X-Ray Diffraction
XRD_C_Gt	Geothite - X-Ray Diffraction
XRD_C_K2O	K2O - X-Ray Diffraction or Clay Fraction (air dry)
XRD_C_Ka	Kaolin - X-Ray Diffraction