Project Name: ESK
Project Code: ESK **Site ID:** H193 **Observation ID:** 1
Agency Name: CSIRO Division of Soils (TAS)

Site Information

Desc. By: K.D. Nicholls
Date Desc.: 28/01/60
Map Ref.:
Northing/Long.: 147.0766667
Easting/Lat.: -41.73166667
Locality: Cressy research farm:2CH from east fence:6.3CH from south fence of paddock:
Elevation: 147 metres
Rainfall: 690
Runoff: Slow
Drainage: Very poorly drained

Geology

ExposureType: Soil pit
Geol. Ref.: No Data
Conf. Sub. is Parent. Mat.: No Data
Substrate Material: Auger boring, 2.4 m deep,Unconsolidated material (unidentified)

Land Form

Rel/Slope Class: Level plain <9m <1%
Morph. Type: Flat
Elem. Type: Bench
Slope: 0 %
Pattern Type: Terrace (alluvial)
Relief: 5 metres
Slope Category: Level
Aspect: No Data

Surface Soil Condition (dry):

Erosion:

Soil Classification

Australian Soil Classification:
Eutrophic Mottled-Subnatric Brown Sodosol
ASC Confidence:
All necessary analytical data are available.
Mapping Unit: N/A
Principal Profile Form: Db2.41
Great Soil Group: Soloth

Site Disturbance: Cultivation. Irrigated, past or present

Vegetation:

Surface Coarse Fragments:

Profile Morphology

A1	0 - 0.1 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Loamy sand (Heavy); Single grain grade of structure; Dry; Very weak consistence; 2-10%, Gravel, coarse fragments; Diffuse change to -
A1A2	0.1 - 0.18 m	Dark brown (7.5YR3/2-Moist); Brown (7.5YR4/2-Dry); ; Loamy sand (Heavy); Single grain grade of structure; Dry; Very weak consistence; 2-10%, Gravel, coarse fragments; Diffuse change to -
A2	0.18 - 0.28 m	Pale brown (10YR6/3-Moist); Light grey (10YR7/2-Dry); ; Sand; Single grain grade of structure; Common (1-5 per 100mm2) Fine (1-2mm) macropores, Dry; Weak consistence; 10-20%, coarse gravelly, 20-60mm, rounded, Quartz, coarse fragments; Common (10 - 20 %), Ferruginous, Medium (2 -6 mm), Soft segregations; Diffuse change to -
B	0.29 - 0.37 m	Dark yellowish brown (10YR4/4-Moist); , 10R44; , 10YR63; Heavy clay; Moderate grade of structure, Prismatic; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderately moist; Very firm consistence; 2-10%, Gravel, coarse fragments; Diffuse change to -
B	0.37 - 0.44 m	Dark yellowish brown (10YR4/4-Moist); , 10R44, 2-10% ; , 10YR63, 2-10% ; Heavy clay; Moderate grade of structure, Prismatic; Moderate grade of structure, 10-20 mm, Subangular blocky; Moderately moist; Very firm consistence; 0-2%, Quartz, coarse fragments; Diffuse change to -
	0.46 - 0.58 m	Dark yellowish brown (10YR4/4-Moist); , 2.5YR36; Heavy clay; Weak grade of structure, Prismatic; Moderate grade of structure, 20-50 mm, Subangular blocky; Fine, (0 - 5) mm crack; Very firm consistence; 0-2%, Quartz, coarse fragments; Diffuse change to -
	0.58 - 0.76 m	Dark yellowish brown (10YR4/4-Moist); , 2.5YR36; Heavy clay; Weak grade of structure, Prismatic; Weak grade of structure, 20-50 mm, Subangular blocky; Fine, (0 - 5) mm crack; Very firm consistence; Diffuse change to -
	0.76 - 0.94 m	Dark yellowish brown (10YR4/4-Moist); , 2.5YR36; Heavy clay; Weak grade of structure, 20-50 mm, Subangular blocky; Fine, (0 - 5) mm crack; Very firm consistence; Diffuse change to -
	0.99 - 1.14 m	Dark yellowish brown (10YR4/4-Moist); , 2.5Y62; , 2.5YR36; Heavy clay (Light); Very firm consistence; Diffuse change to -
	1.32 - 1.4 m	Dark yellowish brown (10YR4/4-Moist); , 2.5Y52; Sandy medium clay; Weak consistence; Sharp change to -

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1.78 - 1.9 m	Strong brown (7.5YR5/8-Moist); , 10YR64; , 2.5YR52; Clayey sand; Weak consistence; Diffuse change to -

Morphological Notes

Observation Notes

PLOW LINE AT 13CM:GRAVEL STOPPED AUGER AT 234CM:>191CM >60% R <60MM QZ GRAVEL:46-94CM MOTTLE INSIDE AGGREGATES:

Site Notes

LONGFORD

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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	5.8A	0.086A	4.8H	0.51	0.35	0.13	3.2H 6E		11.8B	
0.1 - 0.18	5.7A	0.048A								
0.18 - 0.28	6.2A	0.021A	1.4H	0.17	0.09	0.06	0.6H 1E		3B	
0.29 - 0.37	5.9A	0.068A							30.9B	
0.37 - 0.44	5.7A	0.074A	6.8H	9.9	0.34	1.1	6.1H 12.8E			
0.46 - 0.58	5.9A	0.068A							29.9B	
0.58 - 0.76	6.1A	0.057A	5H	10.3	0.27	1.7	8.1H 12.6E			
0.76 - 0.94	6.1A	0.065A								
0.99 - 1.14	5.8A	0.095A								
1.32 - 1.4	5.5A	0.143A								
1.78 - 1.9	5.6A	0.143A								

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		1.95D		0.029D	0.169A			3	13B	53	17	12
0.1 - 0.18		1.1D		0.014D	0.088A							
0.18 - 0.28		0.24D		0.007D	0.023A			27	16D	57	20	10
0.29 - 0.37		0.75D		0.01D	0.072A							
0.37 - 0.44		0.76D			0.071A			5	4D	17	8	72
0.46 - 0.58												
0.58 - 0.76								0	2D	23	12	64
0.76 - 0.94												
0.99 - 1.14												
1.32 - 1.4												
1.78 - 1.9												

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 - 0.18										
0.18 - 0.28										
0.29 - 0.37										
0.37 - 0.44										
0.46 - 0.58										
0.58 - 0.76										
0.76 - 0.94										
0.99 - 1.14										
1.32 - 1.4										
1.78 - 1.9										

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Laboratory Analyses Completed for this profile

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_H1	Exchangeable hydrogen - meq per 100g of soil - Hydrogen By back titration of A or B
15G1_H	Hydrogen Cation - meq per 100g of soil - 1M KCl Exch. Acidity By titration to pH 8.0
15J_H	Sum of Ex. cations + Ex. acidity - Sum of basic exch. cations and exch. (Hydrogen)
2_LOI	Loss on Ignition (%)
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
9A_HCL	Total element - P(%) - By boiling HCl
P10_GRAV	Gravel (%)
P10_PB_C	Clay (%) - Plummet balance
P10_PB_CS	Coarse sand (%) - Plummet balance
P10_PB_FS	Fine sand (%) - Plummet balance
P10_PB_Z	Silt (%) - Plummet balance
P10A1_C	Clay (%) - Pipette
P10A1_CS	Coarse sand (%) - Pipette
P10A1_FS	Fine sand (%) - Pipette
P10A1_Z	Silt (%) - Pipette
XRD_C_Ch2	Chloritized 2:1 minerals - X-Ray Diffraction
XRD_C_Hm	Hematite - X-Ray Diffraction
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