

DEEP GRADATIONAL CLAY LOAM (Elson soil – clayey variant)

General Description: *Dark coloured sandy clay loam to light clay grading to a grey or brown mottled sandy clay to clay, continuing below 100 cm*

Landform: Lower slopes, drainage depressions and valley flats between rolling low hills.

Substrate: Fine grained alluvium.

Vegetation: Euc. leucoxyton, Euc. odorata woodland



Type Site: Site No.: EL136

50,000 sheet:	6028-1 (Lincoln)	Hundred:	Wanilla
Annual rainfall:	550 mm	Sampling date:	1982
Landform:	Valley flat between undulating low hills		
Surface:	Firm to hard setting with no stones		

Soil Description:

<i>Depth (cm)</i>	<i>Description</i>
0-20	Black fine sandy clay loam with granular structure. Clear to:
20-40	Black fine sandy clay loam with granular structure. Clear to:
40-60	Dark grey sandy clay with granular structure. Gradual to:
60-90	Olive brown mottled sandy clay with crumb structure and gleying. Gradual to:
90-125	Olive brown mottled sandy clay with crumb structure and gleying. Gradual to:
125-200	Olive brown mottled medium clay with subangular blocky structure and gleying.



Classification: Melanic-Mottled, Eutrophic, Grey Dermosol; thick, non- gravelly, clay loamy / clayey, deep

Summary of Properties

Drainage Imperfectly to poorly drained. Fine texture and low lying position in the landscape restrict through flow of water, so the soil may remain wet for several weeks to months following heavy or prolonged rainfall.

Fertility Inherent fertility is high low due to high clay content of the surface layers. At the sampling site, there are no apparent deficiencies of the elements tested. Organic carbon levels are satisfactory.

pH Neutral throughout.

Rooting depth Not recorded. Estimate 125 cm in pit.

Barriers to root growth

Physical: The clayey layer at 125 cm appears to be the only significant barrier.

Chemical: Moderate salinity at the surface affects germination. This may be caused by impeded surface drainage at the site.

Water holding capacity Approximately 200 mm in the root zone.

Seedling emergence: Fair due to hard setting, sealing surface.

Workability: Fair. Wetness restricts the period over which the soil can be effectively cultivated.

Erosion Potential

Water: Low.

Wind: Low.

Laboratory Data

Depth cm	Sand %	Silt %	Clay %	pH H ₂ O	pH CaCl ₂	CO ₃ %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
											Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
0-20	70	12	18	6.9	-	1.3	1.63	16.0	1.84	23	1.32	8.0	9.4	0.40	22	14.0	6.8	4.8	0.53	21.8
20-40	68	7	25	7.4	-	1.8	1.26	13.1	0.88	5	1.38	3.4	2.8	0.20	23	16.0	7.8	4.6	0.51	20.0
40-60	73	3	24	7.6	-	1.5	0.64	5.70	0.18	2	0.58	3.8	0.4	0.20	20	7.5	7.8	4.0	0.68	20.0
60-90	67	6	27	6.8	-	2.0	0.54	4.24	0.21	1	0.54	15	0.9	0.22	27	9.5	11.0	4.5	0.67	16.7
90-125	62	9	29	6.9	-	1.8	0.55	4.05	-	-	-	-	-	-	23	7.8	9.2	3.5	0.62	15.2
125-	52	12	36	7.0	-	1.8	0.53	3.39	-	-	-	-	-	-	27	8.8	10.0	4.3	0.63	15.9

Note: CEC (cation exchange capacity) is a measure of the soil's capacity to store and release major nutrient elements.

ESP (exchangeable sodium percentage) is derived by dividing the exchangeable sodium value by the CEC.