

## WET SALINE SAND OVER SANDY CLAY

**General Description:** *Thick sand over sandy clay with a saline water table at about 100 cm*

**Landform:** Flat to gently undulating plain with frequent sand hills and occasional swampy depressions.

**Substrate:** Clayey lagoonal sediments (Padthaway Formation).

**Vegetation:** Sparse samphire and patches of sea barley grass.



**Type Site:** Site No.: MM104  
 1:50,000 sheet: 6826-2 (Culburra)      Hundred: Richards  
 Annual rainfall: 485 mm      Sampling date: 10/03/93  
 Landform: Swampy flat  
 Surface: Soft and bare (salt affected) with no stones. Water table at 100 cm.

### Soil Description:

Depth (cm)	Description
0-12	Very dark greyish brown soft loamy sand. Abrupt to:
12-18	Brown soft sand. Clear to:
18-36	Pale brown soft sand. Sharp to:
36-55	Dark greyish brown and yellowish brown mottled firm slightly calcareous sandy clay with coarse columnar structure. Diffuse to:
55-80	Light olive brown and olive grey mottled firm massive calcareous sandy clay with 10-20% hard carbonate nodules. Diffuse to:
80-150	Yellowish brown and olive grey firm massive calcareous sandy clay, with a water table at 100 cm.



**Classification:** Sodosolic, Salic Hydrosol; medium, non-gravelly, sandy / clayey, moderate

### Summary of Properties

<b>Drainage</b>	Poorly drained to inundated due to water table and ponding after rainfall.
<b>Fertility</b>	Inherent fertility is low. Phosphorus fertilizer is essential for salt tolerant pasture species.
<b>pH</b>	Alkaline throughout.
<b>Rooting depth</b>	20 cm (sea barley grass).
<b>Barriers to root growth</b>	
<b>Physical:</b>	The sodic clay subsoil rarely dries out, so does not impose a significant barrier.
<b>Chemical:</b>	Very high salinity is the main barrier to root growth. Associated with the salt are high boron concentrations and extreme sodicity.
<b>Water holding capacity</b>	10 mm in root zone.
<b>Seedling emergence:</b>	Only salt tolerant species will establish.
<b>Workability:</b>	Soft surface is easily worked, but wet boggy conditions are usual, making any vehicular access hazardous.

### Erosion Potential

<b>Water:</b>	Low.
<b>Wind:</b>	Low to moderately low.

### Laboratory Data

Depth cm	pH H <sub>2</sub> O	pH CaCl <sub>2</sub>	CO <sub>3</sub> %	EC1:5 dS/m	ECe dS/m	Org.C %	Avail. P mg/kg	Avail. K mg/kg	Boron mg/kg	Trace Elements mg/kg (DTPA)				CEC cmol (+)/kg	Exchangeable Cations cmol(+)/kg				ESP
										Cu	Fe	Mn	Zn		Ca	Mg	Na	K	
Paddock	8.5	8.2	1	7.58	53.9	1.1	30	420	17	0.59	-	3.5	110	4.2	1.65	2.84	1.95	0.56	46.4
0-12	8.6	8.2	2	7.08	68.8	1.1	28	430	15	0.70	-	2.9	20	4.4	1.65	2.90	2.11	0.46	48.0
12-18	8.5	8.1	1	2.60	34.8	0.4	19	190	4.2	0.20	-	0.21	52	2.4	0.73	0.80	0.89	0.31	na
18-36	8.4	8.1	1	2.16	33.2	0.1	20	180	3.1	0.10	-	0.11	54	1.9	1.04	0.68	0.47	0.44	na
36-55	9.1	8.3	5	3.56	38.0	0.2	5	840	27	0.13	-	0.31	0.12	12.9	2.05	2.47	6.40	2.26	50.0
55-80	9.3	8.5	22	3.30	26.0	0.1	<2	820	27	0.19	-	0.18	10	12.4	2.56	2.70	6.36	2.32	51.3
80-100	9.2	8.5	6	3.30	32.2	<0.1	<2	830	24	0.19	-	0.14	<0.06	12.2	2.13	2.43	6.36	2.01	52.1

**Note:** Paddock sample bulked from cores (0-10 cm) taken around the pit.

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.