

**Project Name:** Tambellup Borden land resources survey  
**Project Code:** TBO **Site ID:** 1384 **Observation ID:** 1  
**Agency Name:** Agriculture Western Australia

#### Site Information

<b>Desc. By:</b>	Angela Stuart-Street	<b>Locality:</b>	
<b>Date Desc.:</b>	31/05/99	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>		<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6202397 AMG zone: 50	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	559902 Datum: AGD84	<b>Drainage:</b>	Well drained

#### Geology

<b>ExposureType:</b>	Soil pit	<b>Conf. Sub. is Parent. Mat.:</b>	No Data
<b>Geol. Ref.:</b>	No Data	<b>Substrate Material:</b>	No Data

#### Landform

**Rel/Slope Class:** Gently undulating rises 9-30m 1-3% **Pattern Type:** Rises

<b>Morph. Type:</b>	Mid-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Hillslope	<b>Slope Category:</b>	No Data
<b>Slope:</b>	1 %	<b>Aspect:</b>	0 degrees

#### Surface Soil Condition Soft

**Erosion** (wind); (scald) (sheet) (wave) (rill) (mass)  
(gully) (stbank) (tunnel)

#### Soil Classification

<b>Australian Soil Classification:</b>	Mesotrophic Mottled-Mesonatric Brown Sodosol	<b>Mapping Unit:</b>	N/A
<b>ASC Confidence:</b>	All necessary analytical data are available.	<b>Principal Profile Form:</b>	N/A
		<b>Great Soil Group:</b>	N/A

#### Site Disturbance Cultivation. Rainfed

#### Vegetation

#### Surface Coarse Fragments No surface coarse fragments; No surface coarse fragments

#### Profile Morphology

A1p	0 - 0.1 m	Dark brown (10YR3/3-Moist); ; Loamy fine sand; Single grain grade of structure; Sandy (grains prominent) fabric; Moderately moist; Loose consistence; 2-10%, fine gravelly, 2-6mm, subrounded, Unconsolidated material (unidentified), coarse fragments; Water repellent; Abrupt, Smooth change to -
A21	0.1 - 0.4 m	Yellowish brown (10YR5/6-Moist); ; Loamy fine sand; Single grain grade of structure; Sandy (grains prominent) fabric; Moist; Loose consistence; 10-20%, fine gravelly, 2-6mm, subrounded, Unconsolidated material (unidentified), coarse fragments; Sharp, Wavy change to -
B21	0.4 - 0.5 m	Light olive brown (2.5Y5/4-Moist); ; 2.5YR36, 20-50% , 5-15mm, Prominent; Fine sandy medium clay; Massive grade of structure; Moist; Weak consistence; Clear, Smooth change to -
B22	0.5 - 0.65 m	Light olive brown (2.5Y5/6-Moist); ; 5YR56, 20-50% , 15-30mm, Prominent; Fine sandy medium clay; Massive grade of structure; Moist; Weak consistence; Clear, Smooth change to -
B23	0.65 - 0.9 m	Yellowish brown (10YR5/6-Moist); ; 5YR58, 10-20% , 5-15mm, Faint; Fine sandy light clay; Moderate grade of structure, 5-10 mm, Polyhedral; Moist; Weak consistence; Gradual, Smooth change to -
B31t	0.9 - 1.3 m	Yellowish brown (10YR5/6-Moist); ; 7.5YR56, 2-10% , 5-15mm, Faint; Medium clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Moist; Firm consistence; Gradual, Smooth change to -
B32	1.3 - 1.75 m	Yellowish brown (10YR5/6-Moist); ; Medium clay; Moderate grade of structure, 2-5 mm, Subangular blocky; Moist; Firm consistence;

### Morphological Notes

### Observation Notes

### Site Notes

Soil influences appear to be from Stirling range geology. Site on slope of low, broad rise. Pit located where site TBO #1179 done.

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### Laboratory Test Results:

Depth	pH	1:5 EC	Ca	Exchangeable Mg	Cations K	Na	Exchangeable Acidity	CEC	ECEC	ESP
m		dS/m				Cmol (+)/kg				%
0 - 0.1	4.4B 5.3A	7A	1.74H	0.28	0.05	0.08	0.23J		2.15D	
0.1 - 0.4	4.6B 5.5A	2A	0.7H	0.18	0.02	0.06	0.14J		0.96D	
0.4 - 0.5	4.7B 6.4A	8A	2H	5.16	0.04	2.25	0.23J		9.45D	
0.5 - 0.65	5.2B 6.6A	13A	1.15A	5.66	0.07	2.94			9.82D	
0.65 - 0.9	8.5B 9.6A	48A	1.74E	9.81	0.12	6.07		19B	17.74D	31.95
0.9 - 1.3	8.3B 9.1A	91A	2.04E	15.36	0.23	12.59		31B	30.22D	40.61
1.3 - 1.7	7.7B 8.5A	140A	1.94E	15.92	0.2	16.01		33B	34.07D	48.52

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m3			%	
0 - 0.1		1.37A									2.9
2.4											
0.1 - 0.4		0.17A									2
3.3											
0.4 - 0.5		0.23A									3.9
29.5											
0.5 - 0.65		0.19A									2.8
26.9											
0.65 - 0.9	2C	0.09A									4.3
31.2											
0.9 - 1.3	2.6C	0.07A									8.4
45.6											
1.3 - 1.7	2.7C	0.1A									12.3
39.6											

### Laboratory Analyses Completed for this profile

15_NR_BSa	Exchangeable bases (Ca++) - meq per 100g of soil - Auto calculated from available
15_NR_CMRR	Exchangeable bases (Ca/Mg ratio) - Not recorded
15A1_CA for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_CEC	Exchangeable bases (CEC) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts
15A1_K for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_MG for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15A1_NA for soluble	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment

15C1_CA pretreatment for	salts Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - alcoholic 1M ammonium chloride at pH 8.5,
15C1_CEC	soluble salts CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15C1_K soluble salts	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15C1_MG soluble salts	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15C1_NA soluble salts	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15E1_AL	Exchangeable Al - by compulsive exchange, no pretreatment for soluble salts
15E1_CA salts	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) 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

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15E1_MN	Exchangeable bases (Mn2+) by compulsive exchange, no pretreatment for soluble salts
15E1_NA	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts
15J_BASES	Sum of Bases
15L1_a	Exchangeable bases Base saturation percentage (BSP) - Auto calculated from available using
Sum of Cations	and measured clay
15N1_a	Exchangeable sodium percentage (ESP) - Auto calculated from available using CEC
15N1_b	Exchangeable sodium percentage (ESP) - Auto calculated from available using Sum of Cations
19B_NR	Calcium Carbonate (CaCO3) - Not recorded
3A1	EC of 1:5 soil/water extract
4A1	pH of 1:5 soil/water suspension
4B_AL	Aluminium in 1:5 soil/0.01M calcium chloride extract - following Method 4A1
4B1	pH of 1:5 soil/0.01M calcium chloride extract - direct
6A1	Organic carbon - Walkley and Black
9A_S14	Total element - P(%) method S14 CCWA
9I1	Phosphate sorption index
P10_1m2m	1000 to 2000u particle size analysis, (method not recorded)
P10_20_75a	20 to 75u particle size analysis, (arithmetic difference)
P10_75_106	75 to 106u particle size analysis, (method not recorded)
P10_NR_C	Clay (%) - Not recorded
P10_NR_Saa	Sand (%) - Not recorded arithmetic difference, auto generated
P10_NR_Z	Silt (%) - Not recorded
P10106_150	106 to 150u particle size analysis, (method not recorded)
P10150_180	150 to 180u particle size analysis, (method not recorded)
P10180_300	180 to 300u particle size analysis, (method not recorded)
P10300_600	300 to 600u particle size analysis, (method not recorded)
P106001000	600 to 1000u particle size analysis, (method not recorded)