

**Project Name:** Moora Wongan Hills land resources survey  
**Project Code:** MRA **Site ID:** 0184 **Observation ID:** 1  
**Agency Name:** Agriculture Western Australia

#### Site Information

**Desc. By:** Mir Frahmmand  
**Date Desc.:** 12/08/96  
**Map Ref.:**  
**Northing/Long.:** 6709817 AMG zone: 50  
**Easting/Lat.:** 448840 Datum: AGD84  
**Locality:**  
**Elevation:** No Data  
**Rainfall:** No Data  
**Runoff:** No Data  
**Drainage:** No Data

#### Geology

**ExposureType:** Soil pit  
**Geol. Ref.:** No Data  
**Conf. Sub. is Parent. Mat.:** No Data  
**Substrate Material:** No Data

#### Landform

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

**Morph. Type:** Lower-slope  
**Elem. Type:** Hillslope  
**Slope:** 2.5 %  
**Relief:** No Data  
**Slope Category:** No Data  
**Aspect:** 135 degrees

**Surface Soil Condition** Soft

#### Erosion

#### Soil Classification

**Australian Soil Classification:**  
 Eutrophic Petroclitic Red Sodosol  
**ASC Confidence:**  
 Confidence level not specified  
**Mapping Unit:** N/A  
**Principal Profile Form:** N/A  
**Great Soil Group:** N/A

#### Site Disturbance

#### Vegetation

#### Surface Coarse Fragments

#### Profile Morphology

A1	0 - 0.1 m	Dark reddish brown (5YR3/4-Moist); ; Coarse sandy loam; , Granular; Dry; 2-10%, angular, Quartz,
		coarse fragments; Field pH 7.1 (pH meter); Clear change to -
B1t	0.1 - 0.25 m	Dark red (2.5YR3/6-Moist); ; Medium clay; , Angular blocky; Moist; Firm consistence;
	Field pH 8.3 (pH	meter); Clear change to -
B2t	0.25 - 0.4 m	Red (2.5YR4/8-Moist); ; Light medium clay; , Angular blocky; Moist; Firm consistence;
	Field pH 8.5 (pH	meter); Clear change to -
BC	0.4 - 0.65 m	Red (2.5YR4/6-Moist); ; Clayey sand; , Polyhedral; 2-10%, Calcarenite, coarse fragments;
	Field pH 8.5	(pH meter); Sharp change to -
C	0.65 - 0.7 m	Red (2.5YR4/6-Moist); ; Calcrete, Strongly cemented, Massive;

#### Morphological Notes

#### Observation Notes

#### Site Notes

4th horizon: chunk of manganese/hard setting cracking surface

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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				Na Cmol (+)/kg				%
0 - 0.1	5.5B 7H	5B	2.41A	1.34	0.51	0.42			4.68D	
0.1 - 0.25	6.8B 8.4H	8B	6.97E	3.5	0.58	2.22		17B	13.27D	13.06

0.25 - 0.4	7.3B 8.9H	10B	9.1E	5.91	1.1	5.26		24B	21.37D	21.92
0.4 - 0.65	7.9B 9.2H	25B	9.3E	7.27	1.61	7.92		29B	26.1D	27.31
0.65 - 0.7	8.3B 9.5H	28B	7.6E	6.66	1.78	8.13		26B	24.17D	31.27

Depth	CaCO <sub>3</sub>	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle GV	Size CS	Analysis FS	Silt
m	%	%	mg/kg	%	%	%	Mg/m <sup>3</sup>			%	
0 - 0.1 12.1		0.88D		160B	0.056E						6.5
0.1 - 0.25 45.5		0.67D									6.9
0.25 - 0.4 29.4		0.31D									19.9
0.4 - 0.65 9.9		0.14D									9.6
0.65 - 0.7 8.4	4C	0.09D									5.8

#### **Laboratory Analyses Completed for this profile**

15_NR_BSa	Exchangeable bases (Ca++) - meq per 100g of soil - Auto calculated from available
15_NR_CMdR	Exchangeable bases (Ca/Mg ratio) - Not recorded
15A1_CA for soluble	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_CEC	salts
15A1_K for soluble	Exchangeable bases (CEC) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts
15A1_MG for soluble	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_NA for soluble	salts
15C1_CA pretreatment for	Exchangeable bases (Ca <sup>2+</sup> ,Mg <sup>2+</sup> ,Na <sup>+</sup> ,K <sup>+</sup> ) - 1M ammonium chloride at pH 7.0, no pretreatment
15C1_CEC	salts
15C1_K soluble 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_MG soluble salts	soluble salts
15C1_NA soluble salts	CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for soluble salts
15J_BASeS	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15L1_a Sum of Cations	Exchangeable bases and CEC - alcoholic 1M ammonium chloride at pH 8.5, pretreatment for
15N1_a	Sum of Bases
15N1_b	Exchangeable bases Base saturation percentage (BSP) - Auto calculated from available using
18A1_NR	and measured clay
19B_NR	Exchangeable sodium percentage (ESP) - Auto calculated from available using CEC
3_NR	Exchangeable sodium percentage (ESP) - Auto calculated from available using Sum of Cations
4_NR	Bicarbonate-extractable potassium (not recorded)
4B_AL_NR	Calcium Carbonate (CaCO <sub>3</sub> ) - Not recorded
	Electrical conductivity or soluble salts - Not recorded
	pH of soil - Not recorded
	Aluminium in 1:5 soil/0.01M calcium chloride extract - method not recorded

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4B1	pH of 1:5 soil/0.01M calcium chloride extract - direct
6A1_UC	Organic carbon (%) - Uncorrected Walkley and Black method
7A1	Total nitrogen - semimicro Kjeldahl, steam distillation
9A3	Total Phosphorus (ppm) - semimicro kjeldahl, automated colour
9B_NR	Bicarbonate-extractable phosphorus (not recorded)
9H1	Anion storage capacity
P10_1m2m	1000 to 2000u particle size analysis, (method not recorded)
P10_20_75	20 to 75u particle size analysis, (method not recorded)
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)