

**Project Name:** Moora Wongan Hills land resources survey  
**Project Code:** MRA **Site ID:** 0516 **Observation ID:** 1  
**Agency Name:** Agriculture Western Australia

#### Site Information

<b>Desc. By:</b>	Mir Frahmmand	<b>Locality:</b>	
<b>Date Desc.:</b>	24/03/97	<b>Elevation:</b>	No Data
<b>Map Ref.:</b>		<b>Rainfall:</b>	No Data
<b>Northing/Long.:</b>	6670269 AMG zone: 50	<b>Runoff:</b>	No Data
<b>Easting/Lat.:</b>	426902 Datum: AGD84	<b>Drainage:</b>	Moderately 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

<b>Rel/Slope Class:</b>	Gently undulating plains <9m 1-3%	<b>Pattern Type:</b>	Rises
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<b>Morph. Type:</b>	Lower-slope	<b>Relief:</b>	No Data
<b>Elem. Type:</b>	Footslope	<b>Slope Category:</b>	No Data
<b>Slope:</b>	1 %	<b>Aspect:</b>	135 degrees

**Surface Soil Condition** Soft

#### Erosion

#### Soil Classification

<b>Australian Soil Classification:</b>		<b>Mapping Unit:</b>	N/A
Mottled-Sodic Mesotrophic Brown Kandosol		<b>Principal Profile Form:</b>	N/A
<b>ASC Confidence:</b>		<b>Great Soil Group:</b>	N/A
Confidence level not specified			

#### Site Disturbance

#### Vegetation

#### Surface Coarse Fragments

#### Profile Morphology

A1	0 - 0.15 m	Dark yellowish brown (10YR4/4-Moist); ; Clayey sand; Massive grade of structure; Sandy (grains prominent) fabric; Dry; Field pH 5.6 (pH meter); Clear change to -
B1tc	0.15 - 0.45 m	Yellowish brown (10YR5/8-Moist); ; Fine sandy loam; Massive grade of structure; Earthy fabric; Dry; 20-50%, subrounded, Ironstone, coarse fragments; Field pH 4.8 (pH meter); Diffuse change to -
B2c	0.45 - 1 m	Yellowish brown (10YR5/8-Moist); ; Fine sandy loam; ; ; Earthy fabric; Dry; 50-90%, subrounded, Ironstone, coarse fragments; Field pH 5.8 (pH meter); Diffuse change to -
B21	1 - 1.4 m	Yellowish brown (10YR5/8-Moist); , 5YR58, 2-10% ; Fine sandy loam; ; ; Earthy fabric; Moist; 10-20%, subrounded, Ironstone, coarse fragments; Field pH 5.7 (pH meter); Diffuse change to -
B22	1.4 - 1.7 m	Yellowish brown (10YR5/8-Moist); , 5YR58, 20-50% ; Fine sandy loam; Earthy fabric; Moist; Field pH 5.9 (pH meter); Diffuse change to -
B23	1.7 - 2 m	Yellowish brown (10YR5/8-Moist); , 5YR58, 20-50% ; Fine sandy loam; , Polyhedral; Earthy fabric; 2-10%, Ironstone, coarse fragments; Few (2 - 10 %), Sulphurous, Medium (2 -6 mm), Concretions; Field pH 6.3 (pH meter);

#### Morphological Notes

A1	f-m
B1tc	f-m
B2c	f-m
B21	f-m

#### Observation Notes

#### Site Notes

Brown loamy earth. Some mottled are soft gravel. Had 1-2 tonnes of lime 2-3 years ago the pH was 4.6

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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 - 0.17	5.3B 6.2H	12B	1.57H	0.65	0.21	0.31	0.02J		2.74D	
0.17 - 0.55	4.7B 5.4H	5B	0.75H	0.25	0.04	0.07			1.11D	
0.55 - 0.9	5.7B 6.1H	9B	1.2H	0.77	<0.02	0.25			2.23D	
0.9 - 1.6	5.7B 6.1H	27B	0.78H	0.97	<0.02	0.33			2.09D	
1.6 - 1.9	5.9B 6.5H	20B	0.71A	1.14	0.05	0.69			2.59D	

Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis
m	%	%	mg/kg	%	%	%	Mg/m3	GV CS FS Silt
0 - 0.17		0.88D		160B	0.067E			5.8
7.7								
0.17 - 0.55		0.14D						5.4
17.2								
0.55 - 0.9		0.11D						5.3
18.2								
0.9 - 1.6		0.1D						6.3
18.2								
1.6 - 1.9		0.07D						6.6
17.3								

**Laboratory Analyses Completed for this profile**

15_NR_AL	Aluminium Cation - meq per 100g of soil - Not recorded
15_NR_BSa	Exchangeable bases (Ca++) - meq per 100g of soil - Auto calculated from available
15_NR_CM	Exchangeable bases (Ca/Mg ratio) - Not recorded
15_NR_K	Exch. basic cations (K++) - meq per 100g of soil - Not recorded
15_NR_MN	Exchangeable bases (Mn++) - meq per 100g of soil - Not recorded
15A1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_CEC	Exchangeable bases (CEC) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts
15A1_K	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_MG	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15A1_NA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
for soluble	salts
15E1_AL	Exchangeable Al - by compulsive exchange, no pretreatment for soluble salts
15E1_CA	Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble salts
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_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

18A1_NR	Bicarbonate-extractable potassium (not recorded)
3_NR	Electrical conductivity or soluble salts - Not recorded
4_NR	pH of soil - Not recorded
4B_AL_NR	Aluminium in 1:5 soil/0.01M calcium chloride extract - method not recorded
4B1	pH of 1:5 soil/0.01M calcium chloride extract - direct

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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)