Agency Name:	-	riculture Western	Australia				
Site Informatio Desc. By:		rahmand	Locality:				
Date Desc.: Map Ref.:	07/03	8/97	Elevation: Rainfall:	No Data No Data			
Northing/Long.:	6682	771 AMG zone: 50	Runoff:	No Data			
Easting/Lat.:	5116	41 Datum: AGD84	Drainage:	Imperfec	tly draine	ed	
<u>Geology</u> ExposureType:	Soil p		Conf. Sub. is Pa	ont Mat	No Data	2	
Geol. Ref.:	No D		Substrate Materi		No Data		
Landform Rel/Slope Class:	Gent	ly undulating plains <	9m 1-3%	Pattern	Гуре:	Rises	
Morph. Type:	Mid-	slope	Relief:	No Data			
Elem. Type:	Hillsl	•	Slope Category:				
Slope: Surface Soil C	2 % onditi	on Soft	Aspect:	No Data			
Erosion	onun	<u>on</u> 301					
Soil Classificat	tion						
Australian Soil C		cation:	Мар	oing Unit:		N/A	
Haplic Duric Red	Kando	sol	Princ	cipal Profile		N/A	
ASC Confidence Confidence level		acified	Grea	t Soil Grou	o:	N/A	
Site Disturban		ecilied					
Vegetation	00						
Surface Coarse	e Frag	ments					
Profile Morpho	ology						
A1 0 - 0.1 m		Dark reddish brown (2.5YR3/4-Moist); ; Sandy loam; Moist; Field pH 5.8 (pH meter);					
	n	Dark reddish brown	(2.5YR3/4-Moist); ; Sandy	loam; Moist	Field pH	I 5.8 (pH meter	
	n	Dark reddish brown change to -	(2.5YR3/4-Moist); ; Sandy	loam; Moist	Field pH	1 5.8 (pH meter	
Clear, Smooth A2t 0.1 - 0.3		change to -	(2.5YR3/4-Moist); ; Sandy Moist); ; Sandy clay loam;		·	u	
Clear, Smooth A2t 0.1 - 0.3		change to - Dark red (2.5YR3/6-			·	u	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4	m	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad	Moist); ; Sandy clay loam;	Weak grade	of struct	ure, Angular bl	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4	m	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea	Weak grade	of struct	ure, Angular bl	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0.	5 m 5 m 65 m	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea	Weak grade k grade of s	of struct	ure, Angular bl Angular blocky	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH	5 m 5 m 65 m	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to -	Weak grade k grade of s loam; Mode	of struct	ure, Angular bl Angular blocky	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m	5 m 5 m 65 m y;	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me	-Moist); ; Sandy clay loam; dual, Wavy change to - ·Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy	Weak grade k grade of s loam; Mode ge to -	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry	5 m 5 m 65 m y;	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m	5 m 5 m 65 m y;	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang loareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is	5 m 65 m y; n	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter cemented, Platy;	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk	5 m 5 m 65 m y; n Notes	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter cemented, Platy;	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N	5 m 5 m 65 m y; n Notes	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter cemented, Platy;	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N Site Notes	5 m 65 m y; n <u>Notes</u>	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter cemented, Platy;	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ture, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N	5 m 65 m y; n <u>Notes</u>	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter cemented, Platy;	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ure, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N Site Notes	5 m 65 m y; n <u>Notes</u>	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang- bus; Field pH 8.6 (pH meter cemented, Platy;	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, ,	ure, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N Site Notes Red loamy earth of Project Name:	5 m 5 m 65 m y; n <u>Notes</u> over pa Mo	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2 n	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang bus; Field pH 8.6 (pH meter cemented, Platy; 2012 land resources survey	Weak grade k grade of s loam; Mode ge to - aniferous pa);	of struct tructure, , rate grad	ure, Angular bl Angular blocky le of structure, gly cemented, F	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N Site Notes Red loamy earth of Project Name: Project Code:	5 m 5 m 65 m y; n <u>Notes</u> over pa MG	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2 n	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang bus; Field pH 8.6 (pH meter cemented, Platy; 2012	Weak grade k grade of s loam; Mode ge to - aniferous pa	of struct tructure, , rate grad	ure, Angular bl Angular blocky le of structure,	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Cmk 0.65 - m Morphological Cmk Observation N Site Notes Red loamy earth of Project Name: Project Code: Agency Name:	5 m 5 m 65 m y; n <u>Notes</u> over pa Mo MF : Ag	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2 n Pora Wongan Hills CA Site riculture Western	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang bus; Field pH 8.6 (pH meter cemented, Platy; 2012	Weak grade k grade of s loam; Mode ge to - aniferous pa);	of struct tructure, , rate grad	ure, Angular bl Angular blocky le of structure, gly cemented, F	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Soil matrix is - m Morphological Cmk Observation N Site Notes Red loamy earth of Project Name: Project Code: Agency Name: Laboratory Tes	5 m 5 m 65 m y; n <u>Notes</u> over pa over pa MC St Res	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2 n ora Wongan Hills A Site riculture Western	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular change alcareous, , Crystals; Mange bus; Field pH 8.6 (pH meter cemented, Platy; 2012	Weak grade k grade of s loam; Mode ge to - aniferous pa); Observatio	of struct tructure, , rate grad n, Strong	ture, Angular bl Angular blocky le of structure, gly cemented, F	
Clear, Smooth A2t 0.1 - 0.3 Moist; Field pH B1 0.3 - 0.4 Field pH 4.8 (pH B2 0.45 - 0. Angular blocky; Dry Cmk 0.65 - m Cmk 0.65 - m Morphological Cmk Observation N Site Notes Red loamy earth of Project Name: Project Code: Agency Name:	5 m 5 m 65 m y; n <u>Notes</u> over pa over pa MC St Res	change to - Dark red (2.5YR3/6- 4.7 (pH meter); Grad Dark red (2.5YR3/6- meter); Gradual, W Dark reddish brown Field pH 5.4 (pH me ; Few (2 - 10 %), Ca Very highly calcared ; Calcrete, Strongly Added LD TG April 2 n ora Wongan Hills A Site riculture Western	Moist); ; Sandy clay loam; dual, Wavy change to - Moist); ; Sandy loam; Wea avy change to - (2.5YR3/4-Moist); ; Sandy eter); Sharp, Irregular chang alcareous, , Crystals; Mang bus; Field pH 8.6 (pH meter cemented, Platy; 2012 land resources survey b ID: 0524 Australia	Weak grade k grade of s loam; Mode ge to - aniferous pa);	of struct tructure, , rate grad n, Strong	ure, Angular bl Angular blocky le of structure, gly cemented, F	

0 - 0.1	5.4B 6.5H	5B	1.84A	0.56	0.1	0.54		3.04D
0.1 - 0.3	4.3B 5.5H	3B	1.73H	0.59	0.17	0.12	0.27J	2.61D
0.3 - 0.45	4.5B 6.2H	4B	1.48H	1.04	0.44	0.1	0.06J	3.06D
0.45 - 0.65	5.5B 6.8H	13B	3.57A	5.89	3.86	0.73		14.05D
Depth	CaCO3	Organic C Clay	Avail. P	Total P	Total N	Total K	Bulk Density	Particle Size Analysis GV CS FS Silt

m	%	%	mg/kg	%	%	%	Mg/m3	%
0 - 0.1 10.5		0.67D		170B	0.055E			2.4
0.1 - 0.3		0.29D						2.9
22.1 0.3 - 0.45 17.6		0.16D						3.4
0.45 - 0.65 11.1		0.09D						11.6

Laboratory Analyses Completed for this profile

15_NR_BSa 15_NR_CMR 15_NR_MN 15A1_CA for soluble	Exchangeable bases (Ca++) - meq per 100g of soil - Auto calculated from available Exchangeable bases (Ca/Mg ratio) - Not recorded Exchangeable bases (Mn++) - meq per 100g of soil - Not recorded Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_CEC 15A1_K for soluble	salts Exchangeable bases (CEC) - 1M ammonium chloride at pH 7.0, no pretreatment for soluble salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_MG for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment
15A1_NA for soluble	salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) - 1M ammonium chloride at pH 7.0, no pretreatment salts
15E1_AL 15E1_CA salts	Exchangeable AI - by compulsive exchange, no pretreatment for soluble salts Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble
15E1_K 15E1_MG 15E1_NA 15E1_NA 15J_BASES	Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts Sum of Bases
15L1_a Sum of Cations	Exchangeable bases Base saturation percentage (BSP) - Auto calculated from available using
15N1_a 15N1_b 18A1_NR 3_NR 4_NR	and measured clay Exchangeable sodium percentage (ESP) - Auto calculated from available using CEC Exchangeable sodium percentage (ESP) - Auto calculated from available using Sum of Cations Bicarbonate-extractable potassium (not recorded) Electrical conductivity or soluble salts - Not recorded pH of soil - Not recorded
4B_AL_NR 4B1 6A1_UC 7A1 9A3 9B_NR 9H1	Aluminium in 1:5 soil/0.01M calcium chloride extract - method not recorded pH of 1:5 soil/0.01M calcium chloride extract - direct Organic carbon (%) - Uncorrected Walkley and Black method Total nitrogen - semimicro Kjeldahl, steam distillation Total Phosphorus (ppm) - semimicro kjeldahl, automated colour Bicarbonate-extractable phosphorus (not recorded) Anion storage capacity
P10_1m2m	1000 to 2000u particle size analysis, (method not recorded)

Project Name:	Moora Wongan	Hills land ı	esources surve	эу
Project Code:	MRA	Site ID:	0524	Observation
Agency Name:	Agriculture Western Australia			

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)
P10300_600	300 to 600u particle size analysis, (method not recorded)
P106001000	600 to 1000u particle size analysis, (method not recorded)