Moreton Bay Regional Council Acid Sulfate Soils Pine Rivers Area

Volume 2

Appendix 3 MAS Borehole Descriptions

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References for Borehole Descriptions Project: MAS Site: 1 Observation: 1 A1S3 - AASS at 0.5-1m and PASS at 2-3m Soil Name: Acid Sulfate Soil Site Code: L64 Factsheet (2009) Using acid sulfate soil maps. Department of Environment and Resource Management Location: GDA 94 ZONE 56 502852mE 6990485mN Lat: -27.20837 Long: 153.0288 Location: measured by hand held GPS and recorded in GDA 94 Australian Map Grid (metric). Accuracy of site location not determined. Described By: Jonathan Walton (WALJ) Date: 14/APR/10 Landscape: Geology: Qha - Qha-SEQ: Clay, silt, sand; active stream channels and low terraces Geology: Cranfield LC, Donchalk PJT, Green PM, Grimes KG and Hutton LJ (2008). Brisbane Geology 100 000 scale. Department of Natural Resources, Mines and Energy, Brisbane. Element: drainage depression Landform Pattern: alluvial plain Permeability: Slowly permeable Slope: 0 % Drainage: Poorly drained Surface Condition: Soft

Disturbances: Limited clearing

Element to Disturbances: The National Committee on Soil and Terrain (2009). Australian Soil and Land Survey Field Handbook (3rd edn). CSIRO Publishing, Melbourne.

Classifications:

ASC: ACIDIC, SULFURIC, REDOXIC, Hydrosol, Medium, Non gravelly, Clayey, Clayey, Giant Classifications: Isbell RF (1996). The Australian Soil Classification. CSIRO Publishing, Collingwood, Victoria, Australia

Profile Morphology:

i ionio m	orphology.	
Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (10YR31) moist; medium clay; subangular blocky moderate 2-5mm structure; very weak moderately moist; many <1mm roots; moderately permeable; moderately well drained; clear to
B21	.1 to .7	Very dark greyish brown (2.5Y32) moist; few 2-10% fine <5mm distinct orange mottles, few 2- 10% fine <5mm prominent red mottles; medium heavy clay; subangular blocky weak 10-20mm structure; firm moderately moist; slowly permeable; imperfectly drained; gradual to
B22ia	.7 to 1.2	Grey (10YR51) moist; common 10-20% fine <5mm distinct orange mottles, very few <2% fine <5mm distinct yellow jarosite (from pyrite) mottles; heavy clay; subangular blocky weak 10- 20mm structure; firm moderately moist; slowly permeable; poorly drained; gradual to
B3ia	1.2 to 1.6	Grey (10YR51) moist; very few <2% fine <5mm distinct orange mottles; medium clay; massive structure; firm moist; common <1mm roots; slowly permeable; poorly drained; gradual to
C1i	1.6 to 2.67	Dark grey (N40) moist; medium clay; very few <2% subrounded quartz small pebbles 2-6 mm; massive structure; weak moist; slowly permeable; poorly drained; gradual to
2C2	2.67 to 3.4	Greenish grey (5GY61) moist; coarse sand; single grain structure; loose moist; highly permeable; poorly drained; abrupt to
3C3	3.4 to 3.85	Dark grey (N40) moist; light clay; massive structure; weak wet; slowly permeable; poorly drained; abrupt to
4C4u	3.85 to 5.3	Grey (5Y61) moist; loamy sand; single grain structure; very weak moist; highly permeable; poorly drained; clear to
4C5u	5.3 to 5.97	Grey (5Y61) moist; clay loam, sandy; massive structure; weak wet; highly permeable; poorly drained; abrupt to
D1	5.97 to 6.3	Greenish grey (5GY61) moist; light medium clay; massive structure; firm moderately moist; slowly permeable; poorly drained; gradual to
D2	6.3 to 7.5	Yellow (2.5Y76) moist; sandy light medium clay; massive structure; firm moderately moist; slowly permeable; poorly drained

Profile Morphology:

Colour: Munsell (2000). Munsell Soil Colour Charts. Gretag Macbeth, Little Britain road, New Windsor, NY

Colour Moisture; Mottles; Texture; Coarse Fragments; Structure; Segregations; Pans; Soil Water Status; Horizon Boundary Distinctness : The National Committee on Soil and Terrain (2009). Australian Soil and Land Survey Field Handbook (3rd edn). CSIRO Publishing, Melbourne.

References for Borehole Descriptions

Project:	MAS	Site: 1	Observation: 1				
Field Tests:							
Depth	H2O2-	PH-2	PH-3				
.1	1	4.7	2.5				
.3	1	4.4	2.6				
.6		4.5	2.6				
.8		4.5	2.6				
1		4.6	2.4				
1.25	1	4.6	2.6				
1.5	3	4.4	3.0				
1.75	4	4.6	3.1				
2	4	4.6	2.6				
2.25	4	4.4	2.1				
2.5	4	4.4	2.0				
2.75	4	4.6	1.7				
3	4	4.4	1.5				
3.25	4	4.3	1.4				
3.5	4	4.3	1.6				
3.75	4	5.4	1.7				
4	4	5.8	2.0				
4.25	4	6.2	2.3				
4.5	4	6.2	2.1				
4.75	4	6.1	1.8				
5	4	6	1.9				
5.25		6.2	5.2				
5.5	4	6.4	1.3				
5.75	4	6.5	1.0				
6	1	6.7	7.4				
6.25	1	6.7	5.8				
6.5	1	7.3	6.7				
6.75	1	6.9	6.5				
7	1	6.8	5.9				
7.25		7.1	6.9				
7.5		7	6.2				
	PH-2:	pH using electrode	e probe				
	PH-3:	pH of hydrogen p	eroxide extract				

Field Tests: Depth	Depth at which	h pH test was conducted (m)
H2O2-	Reaction of so	il with Hydrogen Peroxide
	1 = Low 2	? = Medium
	3 = High -	4 = Extremely High
рН-2	pH Field (soil:ı probe	vater paste) using electrode
рН-3	pH Field (soil:) electrode prol	hydrogen peroxide mix) using De
Ahern CR, Al Sampling and	ern MR and Pow Analysis of Low	ell B (1998). Guidelines for land Acid Sulfate Soils (ASS)

Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998. Department of Natural Resources, Indooroopilly, Queensland, Australia

Observation Notes:

Observation	Gouge auger taken from teatree swamp (502851E, 6990537N). Surface sample (Number 19) taken from 0-0.2m Monosulfidic black ooze. Roots to approx 1.1m. H ₂ S smell when sampling.
Soil	Thin 1-2mm sand lens at 1.55, 2.0, 2.6, 2.2.
Vegetation	U(w1.0)6M <i>Melaleuca quinquenervia</i> , Pine spp M(w1.0)5S Acacia spp G(g1.0)3M Grass spp, lantana spp <i>(stratum, growth form, height class, cover class)</i>

Vegetation codes according to: The National Committee on Soil and Terrain (2009). Australian Soil and Land Survey Field Handbook (3rd edn). CSIRO Publishing, Melbourne. Project: MAS Site: 1 Observation: 1

Soil Name: A1S3 - AASS at 0.5-1m and PASS at 2-3m

oon name.	AT05 - AA0	0 at 0.5 mi a		- 0111			
Location	: GDA 94	ZONE	56	502852mE	6990485mN	Lat: -27.20837	Long: 153.0288
Describe	ed By: Jonathan	Walton (WAL	.J)			Date:	14/APR/10
Landscap	e:						
Geology	Qha - Qha-SE	Q: Clay, silt, s	and; active st	ream channels ar	nd low terraces		
Element:	drainage dep	ression		Landform	Pattern: alluvial	plain	
Permeat	oility: Slowly p	ermeable					
Slope:) %			Drainage:	Poorly drained		
Surface	Condition: Soft						
Disturbar	nces: Limited c	learing					
Classifica	tions:						
			Hydrosol Medi	ium Non aravelly	, Clayey, Clayey,	Giant	
//00. //		0, 11200/10, 1	iyarosol, mea	ani, non graveny	, olayoy, olayoy,	Clark	
Profile M	orphology:						
Horizon	Depth (m)	Description	n				
A1	0 to .1					blocky moderate 2-5r able; moderately well	nm structure; very weak drained; clear to
B21	.1 to .7			```		0	e mottles, few 2- 10% fine

BEI		<5mm prominent red mottles; medium heavy clay; subangular blocky weak 10-20mm structure; firm moderately moist; slowly permeable; imperfectly drained; gradual to
B22ia	.7 to 1.2	Grey (10YR51) moist; common 10-20% fine <5mm distinct orange mottles, very few <2% fine <5mm distinct yellow jarosite (from pyrite) mottles; heavy clay; subangular blocky weak 10- 20mm structure; firm moderately moist; slowly permeable; poorly drained; gradual to
B3ia	1.2 to 1.6	Grey (10YR51) moist; very few <2% fine <5mm distinct orange mottles; medium clay; massive structure; firm moist; common <1mm roots; slowly permeable; poorly drained; gradual to
C1i	1.6 to 2.67	Dark grey (N40) moist; medium clay; very few <2% subrounded quartz small pebbles 2-6 mm; massive structure; weak moist; slowly permeable; poorly drained; gradual to
2C2	2.67 to 3.4	Greenish grey (5GY61) moist; coarse sand; single grain structure; loose moist; highly permeable; poorly drained; abrupt to
3C3	3.4 to 3.85	Dark grey (N40) moist; light clay; massive structure; weak wet; slowly permeable; poorly drained; abrupt to
4C4u	3.85 to 5.3	Grey (5Y61) moist; loamy sand; single grain structure; very weak moist; highly permeable; poorly drained; clear to
4C5u	5.3 to 5.97	Grey (5Y61) moist; clay loam, sandy; massive structure; weak wet; highly permeable; poorly drained; abrupt to
D1	5.97 to 6.3	Greenish grey (5GY61) moist; light medium clay; massive structure; firm moderately moist; slowly permeable; poorly drained; gradual to

D2 6.3 to 7.5 Yellow (2.5Y76) moist; sandy light medium clay; massive structure; firm moderately moist; slowly permeable; poorly drained

Project:	MAS	Site: 1	Observation: 1
Field Te	sts:		
Depth	H2O2-	PH-2	PH-3
.1	1	4.7	2.5
.3	1	4.4	2.6
.6		4.5	2.6
.8		4.5	2.6
1		4.6	2.4
1.25	1	4.6	2.6
1.5	3	4.4	3.0
1.75	4	4.6	3.1
2	4	4.6	2.6
2.25	4	4.4	2.1
2.5	4	4.4	2.0
2.75	4	4.6	1.7
3	4	4.4	1.5
3.25	4	4.3	1.4
3.5	4	4.3	1.6
3.75	4	5.4	1.7
4	4	5.8	2.0
4.25	4	6.2	2.3
4.5	4	6.2	2.1
4.75	4	6.1	1.8
5	4	6	1.9
5.25		6.2	5.2
5.5	4	6.4	1.3
5.75	4	6.5	1.0
6	1	6.7	7.4
6.25	1	6.69	5.8

1	6.69	5.8
1	7.3	6.7
1	6.9	6.5
1	6.8	5.9
	7.1	6.9
	7	6.2
PH-2:	pH using electrode	orobe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

6.5 6.75 7 7.25 7.5

Observation	Gouge auger taken from teatree swamp (502851E, 6990537N). Surface sample (Number 19) taken from 0.0-0.2m
	Monosulfidic black ooze. Roots to approx 1.1m. H_2S smell when sampling.
Soil	Thin 1-2mm sand lenses at 1.55, 2.0, 2.2, 2.6m

Vegetation U(w1.0)6M *Melaleuca quinquenervia*, Pine spp M(w1.0)5S Acacia spp G(g1.0)3M Grass spp, lantana spp

Soil Name: A2S3 - AASS at 1-2m and PASS at 2-3m

Location:	GDA 94	ZONE	56	501801mE	6991010mN	Lat: -27.20363	Long: 153.01819
Described	By: Jonathan	Walton (WAL	l)			Date:	14/APR/10
Landscape	Landscape:						
Geology:	Geology: Qha - Qha-SEQ: Clay, silt, sand; active stream channels and low terraces						
Element:	valley-flat			Landform	Pattern: alluvial p	olain	
Permeabili	ty: Slowly pe	rmeable					
Slope: 1	%			Drainage:	Poorly drained		

Surface Condition:	Soft	Disturbances:	Limited clearing
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Classifications:

ASC: ACIDIC, SULFURIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Very Deep

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .15	Dark grey (2.5Y41) moist; very few <2% fine <5mm faint brown mottles; light clay; subangular blocky strong 2-5mm structure; weak moderately moist; moderately permeable; poorly drained; clear to
B21	.15 to .55	Grey (10YR51) moist; few 2-10% fine <5mm distinct brown mottles; sandy light medium clay; subangular blocky weak 2-5mm structure; weak moist; slowly permeable; poorly drained; clear to
B22	.55 to .85	Dark grey (10YR41) moist; very few <2% fine <5mm faint brown mottles; fine sandy light clay; subangular blocky weak 2-5mm structure; firm moist; slowly permeable; poorly drained; diffuse to
B23i	.85 to 1.75	Grey (2.5Y51) moist; very few <2% fine <5mm distinct brown mottles; heavy clay; subangular blocky weak 2-5mm structure; firm moist; slowly permeable; poorly drained; abrupt to
2C1	1.75 to 2.4	Light grey (2.5Y72) moist; sand; single grain structure; very weak moist; highly permeable; well drained; clear to
2C2	2.4 to 4.25	Grey (2.5Y51) moist; sand; single grain structure; very weak moist; highly permeable; well drained; abrupt to
D	4.25 to 4.3	Light greenish grey (5GY81) moist; very firm moderately moist; slowly permeable; poorly drained

Field Tests:

	513.			
Depth	H2O2-		PH-2	PH-3
.1	1		5.3	2.4
.3	1		5.1	2.6
.6			4.7	2.3
.8			4.4	3.1
1			4.2	2.9
1.25			4.0	2.9
1.5			3.9	2.3
1.75			4.6	2.4
2			5.1	2.7
2.25			4.9	2.8
2.5	3		4.6	2.1
2.75	4		4.7	1.7
3	4		5.2	1.9
3.25	4		5.4	1.7
3.5	4		5.7	1.7
3.75	4		5.8	1.7
4	4		6	1.6
4.25	4		6.5	1.4
		PH-2:	pH using	electrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation

U(w1.0)7M *Melaleuca quinquenervia*, Eucalyptus spp (moreton bay ash?) \ M(w1.0)6M Acacia spp, *Camphor laurel* \ G(w3.0)4MLantana and grass spp

Soil Name: a0LP - Low Probability of ASS in areas below 5m AHD and pH of 4- 5 at 0-0.5m

Location:	GDA 94	ZONE	56	504012mE	6989727mN	Lat: -27.21521	Long: 153.04051
Described	By: Fiona McC	Cartney (MCC	F)			Date:	15/APR/10
Landscape	:						
Geology:	Qpa - Qpa-SEC	ຊ: High level a	alluvium; silt, cl	ay, sand, gravel			
Element:	plain			Landform	Pattern: alluvial pl	ain	
Permeabil	ity: Very slov	vly permeable	e				
Slope: 1	%			Drainage:	Poorly drained		

Slope. 1 %		Dialilage. Pu	ony dramed
Surface Condition:	Firm	Disturbances:	Extensive clearing

Classifications:

ASC: MOTTLED-SODIC, NATRIC, GREY, Kurosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep

Profile Morphology:

	1	
Horizon	Depth (m)	Description
A1	0 to .15	Dark brown (10YR33) moist; heavy clay loam; angular blocky moderate <2mm structure; strong dry; few 1- 2mm roots; moderately permeable; moderately well drained; abrupt to
B21	.15 to .4	Olive grey (5Y42) moist; many 20-50% fine <5mm distinct orange sharp mottles; medium heavy clay; massive structure; very firm moderately moist; few <1mm roots; very slowly permeable; poorly drained; clear to
B22	.4 to .6	Grey (5Y51) moist; fine sandy light clay; massive structure; very firm moist; few <1mm roots; slowly permeable; imperfectly drained; abrupt to
B23	.6 to .95	Grey (5Y51) moist; heavy clay; massive structure; very firm moist; few 2-5mm roots; very slowly permeable; poorly drained; clear to
B24	.95 to 1.55	Greenish grey (10Y51) moist; common 10-20% coarse 15-30mm distinct orange sharp mottles; medium heavy clay; massive structure; firm moist; few 1-2mm roots; very slowly permeable; poorly drained; diffuse to
B25	1.55 to 2.05	Greenish grey (10Y51) moist; common 10-20% very coarse >30mm distinct red sharp mottles, few 2-10% coarse 15-30mm distinct orange sharp mottles; sandy light clay; massive structure; firm moist; slowly permeable; imperfectly drained; clear to
B26	2.05 to 2.3	Grey (10YR51) moist; very few <2% fine <5mm faint orange mottles; light medium clay; massive structure; very firm moist; very slowly permeable; poorly drained; abrupt to
B27	2.3 to 2.6	Grey (5Y51) moist; few 2-10% coarse 15-30mm distinct orange mottles; sandy light clay; massive structure; very firm moist; slowly permeable; imperfectly drained; clear to
B28	2.6 to 3.8	Dark grey (5Y41) moist; common 10-20% very coarse >30mm distinct red mottles, common 10- 20% very coarse >30mm distinct orange mottles; sandy light clay; massive structure; very strong moderately moist; slowly permeable; imperfectly drained

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	1	4.5	2.2
.3	2	4.3	2.5
.6		4.4	2.9
.8		4.6	3.1
1.25		4.7	3.2
1.5		4.9	3.4
1.75		4.8	3.4
2		4.9	3.5
2.25		5.9	4.7
2.5		5.7	4.6
2.75	4	6.4	6.2
3	4	6.6	6.7
3.25	4	6.4	6.5
3.5	4	6.5	6.3
3.75	4	5.8	5.2

Project: MAS	Site: 3	B Observation: 1			
PH	, ,	pH using electrode probe pH of hydrogen peroxide extract			
Observation Note	s:				
Vegetation	U(w1.0)7V E	Eucalyptus spp, G(g1.0) 2D Couc	h grass		
Horizon Notes:					
Texture	B23	sodic, stiff			
Texture	B24	sodic, stiff			
Texture	B26	sodic, soft			

Project: MAS	Site:	4	Observation:	1		
Soil Name: A1	- AASS at 0.5-1m					
Location: GD	A 94 ZONE	56	503945mE	6989626mN	Lat: -27.21612	Long: 153.03984
Described By:	Fiona McCartney (M	ACCF)			Date:	15/APR/10
Landscape:						
Geology: Qpa - Qpa-SEQ: High level alluvium; silt, clay, sand and gravel						
Element: sup	oratidal flat		Landform	Pattern: alluvial	plain	
Permeability:	Very slowly perme	eable				
Slope: 1 %			Drainage	Poorly drained		
Disturbances:	No effective distur	bance except	grazing by hoofed a	animals		

Classifications:

ASC: NO AVAILABLE CLASS, SULFURIC, EXTRATIDAL, Hydrosol, Thick, Non-gravelly, Clay Loamy, Clayey, Very Deep:

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .35	Very dark brown (10YR22) moist; sapric clay loam; massive structure; very weak dry; many 1-2mm roots; moderately permeable; moderately well drained; sharp to
B21	.35 to .55	Grey (2.5Y51) moist; many 20-50% coarse 15-30mm prominent orange mottles; light clay;massive structure; weak wet; few <1mm roots; very slowly permeable; poorly drained; clear to
B22ia	.55 to 1.2	Dark grey (2.5Y41) moist; very few <2% fine <5mm distinct orange mottles, very few <2% fine <5mm distinct yellow jarosite (from pyrite) mottles; light clay; massive structure; weak wet; common 1-2mm roots; very slowly permeable; poorly drained; sharp to
2B21i	1.2 to 1.6	Dark grey (2.5Y41) moist; many 20-50% very coarse >30mm prominent red mottles; light clay; massive structure; very strong dry; very slowly permeable; poorly drained; clear to
2B22	1.6 to 1.9	Grey (5Y61) moist; many 20-50% coarse 15-30mm prominent orange mottles; sandy light medium clay; massive structure; very firm dry; very slowly permeable; poorly drained; clear to
2B23	1.9 to 4	Grey (N50) moist; light medium clay; massive structure; very strong dry; very slowly permeable; poorly drained

Field Tests:

Depth	H2O2-	I	PH-2	PH-3
.1			4.5	3.3
.3			4.3	3.4
.6			4.1	2.3
.8			4.1	2.8
1			4.1	2.9
1.25			4	2.8
1.5			4.3	2.7
1.75	4		4.7	3.7
2	4		4.9	4.4
2.25	4		5.3	4.8
2.5	4		5.5	4.8
2.75	4		4.8	3.8
3	4		4.9	4.6
3.25	4		5.1	4.6
3.5			5.4	4.9
3.75	4		4.8	4.7
4			4.8	5
		PH-2:	pH using	electrode probe
		PH-3:	pH of hv	drogen peroxide extract

Observation Notes:

Vegetation U(w1.0)6M Casuarina spp, G(g1.0)1D Sporobolus virginicus (Salt couch)

Project: MAS Site: 5 Observation: 1

Soil Name: a0S1 - PASS At 0.5-1.0m with pH of 4-5 at 0-0.5m

Location:	GDA 94	ZONE	56	504051mE	6989431mN	Lat: -27.21788	Long: 153.04091
Described	By: Fiona McC	Cartney (MCC	F)			Date:	15/APR/10
Landscape	Landscape:						
Geology:	Qha - Qha-SEC	Q: Clay, silt, s	and; active stre	eam channels an	d low terraces		
Element:	tidal flat			Landform F	Pattern: alluvial pla	ain	
Permeabil	ty: Very slow	ly permeable	е				
Slope: 1	%			Drainage:	Poorly drained		
Depth to W	/ater: 0.3						

Classifications:

ASC: NO AVAILABLE CLASS, SULFIDIC, INTERTIDAL, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clay Loamy, Very Deep

Profile	Morphology:
FIOIIIE	worpriology.

Horizon	Depth (m)	Description
A1	0 to .2	Brown (7.5YR42) moist; fibric clay loam; massive structure; very weak wet; abundant 2-5mm roots; moderately permeable; moderately well drained; abrupt to
B21	.2 to .35	Dark grey (10YR41) moist; few 2-10% medium 5-15mm distinct orange mottles; sapric light clay; massive structure; very weak wet; many 1-2mm roots; very slowly permeable; poorly drained; clear to
B22	.35 to .6	Grey (10YR51) moist; many 20-50% medium 5-15mm prominent orange mottles; light clay; massive structure; very weak wet; many 1-2mm roots; very slowly permeable; poorly drained; gradual to
B23u	.6 to .95	Grey (10YR51) moist; light clay; massive structure; very few <2% fine <2mm ferruginous root linings; very weak wet; common <1mm roots; very slowly permeable; poorly drained; gradual to
B24u	.95 to 1.5	Dark grey (N40) moist; light clay; massive structure; very weak wet; common 1-2mm roots;very slowly permeable; poorly drained

Field Tests:

Depth	H2O2-	PH-2	PH-3
.01	1	4.5	3.4
.1	1	5.4	4.2
.3		5.7	3.8
.5		4.9	4.1
.6		5.1	3.8
.8	2	5.5	1.8
1	4	5.8	1.6
1.25	4	6	1.6
1.5	4	6	1.8

PH-2: pH using electrode probe

PH-3: pH of hydrogen peroxide extract

Soil	gouge auger in large mangroves
Vegetation	U(w1.0)6D, Avicennia marina, Casuarina glauca G(g1.0)2D Sporobolus virginicus (Salt couch)
	G(g1.0)2D Sporobolus virginicus (Salt couch)

Soil Name: A1S2 - AASS at 0.5-1.0m and PASS at 1-2m

Location: G	DA 94	ZONE	56	504036mE	698929	0mN I	Lat: -27.21916	Long: 153.04076
Described By	y: Fiona McC	artney (MCC	CF)				Date:	15/APR/10
Landscape:								
Geology: Qh	ia - Qha-SEC	2: Clay, silt, s	sand; active	stream channels a	nd low te	rraces		
Element: supratidal flat			Landform	Pattern:	alluvial plai	n		
Permeability: Very slowly permeable								
Slope: 1 %								
Drainage: P	oorly drained	I						
Depth to Wate	er: 0.4							

Classifications:

ASC: NO AVAILABLE CLASS, SULFURIC, EXTRATIDAL, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep

Profile Morphology:

	1 07	
Horizon	Depth (m)	Description
A1	0 to .1	Brown (7.5YR42) moist; fibric clay loam; massive structure; very weak wet; abundant >5mm roots; moderately permeable; moderately well drained; abrupt to
B21	.1 to .2	Grey (10YR51) moist; many 20-50% coarse 15-30mm prominent orange mottles; sapric light medium clay; massive structure; very weak wet; many 2-5mm roots; very slowly permeable; poorly drained; clear to
B22i	.2 to .6	Grey (10YR51) moist; common 10-20% coarse 15-30mm prominent orange mottles; medium clay; massive structure; very weak wet; common 2-5mm roots; very slowly permeable; poorly drained; clear to
B23u	.6 to 1	Dark grey (10YR41) moist; few 2-10% fine <5mm faint orange mottles; light medium clay; massive structure; very weak wet; common 2-5mm roots; very slowly permeable; poorly drained; gradual to
C1u	1 to 1.75	Dark grey (N40) moist; fine sandy light clay; massive structure; very weak wet; few 1-2mm roots; very slowly permeable; poorly drained; abrupt to
C2u	1.75 to 2.3	Very dark grey (N30) moist; sandy clay loam; massive structure; very weak wet; very slowly permeable; poorly drained

Field Tests:

Depth	H2O2-		PH-2	PH-3
.01	1		4.8	2.7
.11	1		5.1	3.9
.3	1		4.3	3.4
.6			4.1	2.7
.8	1		4.6	2.9
1	4		4.2	1.5
1.25	4		4.2	1.5
1.5	4		4.2	1.5
1.75	4		4.6	1.7
2	4		4.5	1.5
2.25	4		4.5	1.5
		PH-2:	pH using el	ectrode probe

PH-3:	pH of hydrogen peroxide extract
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Soil	Sand auger to 0.8m, gouge auger 0.8 - 2.3m
Vegetation	U(w1.0)6V Casuarina glauca
	G(g1.0)2D Sporobolus virginicus (Salt couch), reeds

Project: MAS	Site: 7	Observation:	1		
Soil Name: a2LP - Lo	w Probability of AS	SS in areas below 5m AHD	and pH of 4- 5 at ²	1-2m	
Location: GDA 94	ZONE	56 503568mE	6988868mN	Lat: -27.22297	Long: 153.03603
Described By: Fiona I	AcCartney (MCCF)			Date:	28/APR/10
Landscape:					
Geology: RJI - Lands marker	borough Sandstone	e: Lithofeldspathic labile an	d quartzose sands	stone, siltstone, shale,	minor coal, ferruginous oolite
Element: footslope		Landform	Pattern: rises		
Permeability: Slowly	permeable				
Microrelief: Zero or	none				
Slope: 3%		Drainage	: Poorly drained		
Surface Condition: S					
Disturbances: Comp	lete clearing - past	ure - cultivation at some sta	ige		
Classifications:					
ASC: MELANIC, MES	OTROPHIC, GREY	, Kurosol, Medium, Non-grav	elly, Clay Loamy, 0	Clayey, Very Deep	
Profile Morphology:					
Horizon Depth (m)	Description				
A1 0 to .04		own (10YR22) moist; heavly permeable; well drained;		n; massive structure;	weak wet; common 1-2mm
A2 .04 to .33		eyish brown (10YR32) moi neable; well drained; gradu		assive structure; firm	wet; common 1- 2mm roots;
A3 .33 to .76		0YR72) moist; few 2-10% r veak wet; few <1mm roots;			
B21 .76 to 1.31	prominent	0YR71) moist; few 2-10% orange mottles; sandy light s nodules; firm wet; few <1	medium clay; mas	ssive structure; few 2-	
B22 1.31 to 2.65	very coarse		mottles; sandy me	edium heavy clay; ma	nt red mottles, many 20-50% ssive structure; common 10- rmeable; poorly drained
Field Tests:					
Depth H2O2-	PH-2	PH-3			
.1	5.7	3.2			

.1			5.7	3.2
.3			5.8	4.6
.6			5.4	4.5
.8			5.3	4.1
1	1		5.3	4.3
1.25			5.3	4.1
1.5	1		5.3	3.7
1.75			4.9	3.7
2			4.8	3.6
2.25			4.7	3.6
2.5			4.7	3.6
		PH-2:	pH using elec	trode probe

PH-3:	pH of hydrogen peroxide extract	

Observation	Previously cultivated for sweet potato.
Vegetation	U(w1.0)5V Eucalyptus spp. Casuarina spp. \ G(g1.0)2D Grass

Project:	MAS	Site: 8 Observation: 1
Soil Name:	A0 - AASS at	D-0.5m
Locatior	: GDA 94	ZONE 56 504171mE 6988047mN Lat: -27.23038 Long: 153.04213
Describe	ed By: Fiona McC	rtney (MCCF) Date: 29/APR/10
Element Permeat Slope:	Qha - Qha-SEQ plain pility: Very slow 1 %	Clay, silt, sand; active stream channels and low terraces Landform Pattern: alluvial plain / permeable Drainage: Poorly drained
Surface	Water: 1.2 Condition: Firm nces: Limited cle	aring
Classifica ASC: F		FURIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Very Deep
Profile M	orphology:	
Horizon	Depth (m)	Description
A1	0 to .15	Dark brown (10YR33) moist; medium clay; subangular blocky moderate 2-5mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; abrupt to
B21i	.15 to .4	Dark yellowish brown (10YR34) moist; few 2-10% fine <5mm faint red mottles; heavy clay; massive structure; firm moist; wet when sampled; slowly permeable; imperfectly drained; clear to
B22i	.4 to 1.15	Greyish brown (2.5Y52) moist; few 2-10% medium 5-15mm prominent red mottles, few 2-10% medium 5- 15mm prominent orange mottles; heavy clay; subangular blocky weak 2-5mm structure; firm moist; wet when sampled; slowly permeable; imperfectly drained; clear to
B23ia	1.15 to 1.5	Olive grey (5Y42) moist; many 20-50% very coarse >30mm prominent red mottles, many 20- 50% very coarse >30mm prominent yellow jarosite (from pyrite) mottles; heavy clay; subangular blocky weak 2-5mm structure; weak wet; wet when sampled; slowly permeable; imperfectly drained; clear to
B24i	1.5 to 1.8	Dark grey (N40) moist; common 10- 20% very coarse >30mm prominent yellow jarosite (from pyrite) mottles common 10-20% medium 5-15mm distinct orange mottles, common 10- 20% medium 5-15mm distinct brown mottles; medium clay; massive structure; weak wet; wet when sampled; slowly permeable; imperfectly drained; clear to
B25i	1.8 to 2.4	Grey (2.5Y51) moist; common 10-20% medium 5-15mm distinct red mottles, common 10-20% medium 5- 15mm distinct orange mottles; light clay; massive structure; very weak wet; strong wet; wet when sampled; gradual to
B26	2.4 to 2.75	Grey (2.5Y51) moist; common 10-20% medium 5-15mm distinct red mottles, common 10-20% medium 5- 15mm distinct orange mottles; medium heavy clay; massive structure; very firm wet; wet when sampled; gradual to
D1	2.75 to 3.25	Grey (2.5Y51) moist; few 2-10% fine <5mm distinct red mottles, few 2-10% fine <5mm faint orange mottles; medium heavy clay; massive structure; firm wet; wet when sampled; clear to
D2	3.25 to 3.5	Greenish grey (10Y51) moist; few 2-10% medium 5-15mm distinct yellow mottles, many 20- 50% medium 5- 15mm prominent orange mottles; medium heavy clay; massive structure; many 20-50% fine <2mm ferruginous fragments; very firm wet; wet when sampled; clear to
D3	3.5 to 3.75	Greenish grey (5GY51) moist; fine sandy medium heavy clay; massive structure; very firm wet;wet when sampled; clear to
D4	3.75 to 3.95	Grey (N60) moist; sandy light clay; massive structure; weak wet; wet when sampled; clear to
D5	3.95 to 4.6	Grey (2.5Y61) moist; fine sandy medium heavy clay; massive structure; strong wet; wet when sampled; abrupt to
D6	4.6 to 4.85	Yellowish brown (10YR56) moist; many 20-50% very coarse >30mm distinct yellow mottles, many 20-50% medium 5-15mm prominent grey mottles; fine sandy medium clay; many 20-50% fine <2mm ferruginous fragments; wet when sampled

Field Te	sts:		
Depth	H2O2-	PH-2	PH-3
.1	1	4.8	3.4
.3	1	3.7	2.9
.6	1	3.5	2.6
.8		3.4	2.4
1		3.5	2.4
1.25		3.4	2.4
1.5		3.7	2.4
1.75		3.8	1.9
2		3.8	2.5
2.25		3.8	2.8
2.5		4.1	2.8
2.75		4.5	3.1
3	4	6.2	6.7
3.25	4	6.1	7.4
3.5	4	6.3	7.0
3.75	4	6.3	6.3
4	4	6.4	5.7
4.25	4	6.1	5.9
4.5	4	5.9	6.1
4.75	4	6.0	6.0
	PH-2:	pH using electrod	e probe
	PH-3:	pH of hydrogen p	eroxide extract

Observation Notes:

Observation 3.95-4.6m horizon - sodie	с.
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 $\label{eq:Vegetation} U(w1.0) 5 M \mbox{ Acacia spp.} \ \ \ G(g1.0) 2 D \mbox{ Grasses}$

Soil Name: a1S0 - PASS at 0.5-1.0m with pH of 4-5 at 0.5-1.0m

Location: GDA	24 ZONE	56	504146mE	6987933mN	Lat: -27.23141	Long: 153.04187
Described By: Jo	nathan Walton (WA	LJ)			Date:	29/APR/10
Landscape:						
Geology: Qha - Qha	Qha-SEQ: Clay, silt,	sand; active	e stream channels a	nd low terraces		
Element: swam	D		Landform	Pattern: alluvial	plain	
Permeability: V	ery slowly permeab	ole				
Slope: 1 %			Drainage:	Very poorly dra	lined	

Depth to Water: 0.01

Classifications:

ASC: HUMOSE-ACIDIC, SULFIDIC, OXYAQUIC, Hydrosol, Medium, Non-gravelly, Peaty, Clayey, Very Deep

Profile M	orphology:	
Horizon	Depth (m)	Description
P1	0 to .1	Red (10R46) moist; fibric peat; massive structure; very weak wet; highly permeable; poorly drained; abrupt to
A1u	.1 to .25	Black (10YR21) moist; clay loam; massive structure; weak wet; moderately permeable; poorly drained; abrupt to
B2u	.25 to .55	Greenish grey (10Y51) moist; few 2-10% fine <5mm distinct orange mottles; light clay; massive structure; weak wet; slowly permeable; poorly drained; abrupt to
B3u	.55 to 1.05	Dark greenish grey (10Y41) moist; light clay; massive structure; strong wet; slowly permeable; very poorly drained; gradual to
C1u	1.05 to 1.5	Dark greenish grey (5GY41) moist; light clay; massive structure; firm wet; slowly permeable; very poorly drained; abrupt to
2Cu	1.5 to 1.6	Dark greenish grey (10Y41) moist; clayey coarse sand; massive structure; weak wet; highly permeable; very poorly drained; abrupt to
2Du	1.6 to 1.8	Greenish black (10Y2.5/1) moist; sandy light clay; massive structure; strong wet; slowly permeable; very poorly drained; abrupt to
2D2u	1.8 to 2.08	Grey (N60) moist; few 2-10% medium 5-15mm prominent red mottles, few 2-10% medium 5- 15mm prominent orange mottles; sandy medium heavy clay; massive structure; strong moist; very slowly permeable; very poorly drained; clear to
2D3	2.08 to 2.6	Greenish grey (10Y51) moist; medium heavy clay; massive structure; strong moist; very slowly permeable; very poorly drained; abrupt to
2D4	2.6 to 2.72	Greenish grey (10Y51) moist; common 10-20% coarse 15-30mm prominent red mottles, few 2- 10% medium 5-15mm distinct orange mottles; heavy clay; massive structure; strong moist; very slowly permeable; very poorly drained

Field Tests:

Depth	H2O2-	I	PH-2	PH-3
.1	2		5.7	3.4
.3	2		5.9	4.1
.6	2		4.7	3.1
.8	1		4.8	3.1
1	4		5.3	3.5
1.25	4		5.1	1.3
1.5	4		5.4	1.3
1.75	4		5.9	4
2	4		6.4	4.1
2.25	4		6.3	5.3
2.5	3		6.2	5.2
		PH-2:	pH using ele	ectrode probe

PH-3: pH of hydrogen peroxide extract

Vegetation

U(g1.0)4D Phragmites australis (common reed)

Project:	MAS	Site: 10	Observation:	1				
Soil Name:	A0 - AASS	at 0-0.5m						
Location	n: GDA 94	ZONE 5	6 504227mE	6987696mN	Lat: -27.23355	Long: 153.04269		
Describ	ed By: Lauren C)Brien (OBRL)			Date:	29/APR/10		
Landsca Geology		Q: Clay, silt, sand	; active stream channels	and low terraces				
	: swamp hility: Vony do	why permechie		n Pattern: alluvial	•			
	bility: Very slo Water: 0.1	wiy permeable	÷	e: Very poorly drai Condition: Soft	ined			
Disturba	nces: Limited	clearing						
Classifica ASC: H		, SULFURIC, REDO	DXIC, Hydrosol, Medium, N	lon-gravelly, Peaty,	Clayey, Very Deep			
Profile M	lorphology:							
Horizon	Depth (m)	Description						
A1	0 to .2		wn (10YR22) moist; fibric drained; abrupt to	peat; massive stru	cture; abundant <1m	m roots; highly permeable;		
B21i	.2 to .4		red mottles; light medium			e mottles, very few <2% fine roots; very slowly permeable;		
B22ia	.4 to .7	few <2% ve	Olive grey (5Y42) moist; few 2-10% medium 5-15mm prominent yellow jarosite (from pyrite) mottles, very few <2% very coarse >30mm distinct dark mottles; medium clay; massive structure; few 2-10% medium 2-6mm ferruginous root linings; very slowly permeable; poorly drained; clear to					
2B21ia	.7 to 1.1	Light olive grey (5Y62) moist; few 2-10% medium 5-15mm prominent yellow jarosite (from pyrite) mottles; fine sandy light clay; massive structure; few 2-10% medium 2-6mm ferruginous root linings; very slowly permeable; poorly drained						
2B22i	1.1 to 1.7	Olive grey (5Y42) moist; very few <2% fine <5mm faint orange mottles; clay loam, fine sandy; massive structure; few 2-10% fine <2mm ferruginous root linings; slowly permeable; very poorly drained; gradual to						
2B3								
3C1	1.9 to 2.2					neable; very poorly drained;		
3C2	2.2 to 2.5	Grey (10YR6 ⁻	1) moist; light clay; massi	ve structure; very s	slowly permeable; ve	ry poorly drained		
Field Tes	sts:							
Depth	H2O2-	PH-2	PH-3					
.1	2	5.04	2.9					
.3	2	4.6	2.7					
.6	1	4.24	3.1					
.8	1	4.48	3.2					
1	2	4.42	3.15					
1.25	0	4.22	3.13					
1.5	2	4.4	3.19					
1.75	2	4.22	3.26					
2 2.25	1 1	4.34 4.69	3.1 3.66					
2.25	1	4.09	3.61					
2.0	PH-2							
	PH-2 PH-3	1 0	rode probe en peroxide extract					
	servation Notes:	Anna Lilli C						
C	Observation N	/ango Hill, Swamp						

Vegetation G(g1.0)3D Grasses

Project:	MAS	Site: 11	Observation:	1				
Soil Name:	a1LP - Low	Probability of ASS	in areas below 5m AHD	and pH of 4- 5 at	0.5-1.0m			
Locatior	n: GDA 94	ZONE 56	503424mE	6988583mN	Lat: -27.22554	Long: 153.03458		
Describ	ed By: Jonathan	Walton (WALJ)			Date:	11/MAY/10		
Landscap Geology		Residual soil, collu	vium; sand, soil, clay, roo	ck debris				
Element	: plain		Landform	Pattern: alluvial	plain			
Permeal	bility: slowly pe	ermable	Runoff:	Very slow				
Slope:	1 %		Drainage	: Poorly drained				
Depth to	Water: .01							
Surface	Condition: Soft	t						
Disturba	nces: Complete	e clearing - pasture	- cultivation at some sta	ge				
Classifica ASC: H		, KANDOSOLIC, O>	(YAQUIC, Hydrosol, Medi	um, Non-gravelly,	Clayey, Clayey, Very	Deep		
Profile M	orphology:							
Horizon	Depth (m)	Description						
0								
A11	.1 to .2		sh brown (2.5Y32) mois npled; slowly permeable;			blocky weak <2mm structure;		
A12	A12 .2 to .35 Very dark grey (2.5Y31) moist; sapric medium heavy clay; massive structure; wet when sampled; slowly permeable; imperfectly drained; abrupt to							
B21	B21 .35 to .52 Grey (2.5Y61) moist; many 20-50% coarse 15-30mm prominent orange mottles; fine sandy light clay; massive structure; wet when sampled; slowly permeable; imperfectly drained; abrupt to							
B22	.52 to .9	Light grey (2.5' poorly drained		ght clay; massive	structure; wet when s	sampled; slowly permeable;		
B23	.9 to 1.35	Grey (N60) mo clear to	st; medium clay; massiv	e structure; wet w	hen sampled; slowly p	permeable; poorly drained;		
2B24	1.35 to 1.6		grey (10Y71) moist; few cture; wet when sampled			mottles; fine sandy light clay; ar to		
2025	1 6 to 1 75	Light groonigh	(10)(71) moint find	oondy light days r	noncivo otructuro: mo	ist when compled: moderately		

2B25	1.6 to 1.75	Light greenish grey (10Y71) moist; fine sandy light clay; massive structure; moist when sampled; moderately
		permeable; poorly drained; abrupt to

3C	1.75 to 1.9	Light grey (2.5Y71) moist; sand; massive structure; moist when sampled; clear to
00	1.10 10 1.0	Light groy (Liett 1) molet, band, madente bitablate, molet mient bampied, obar te

4C1	1.9 to 2.05	Light grey (2.5Y71) moist; sandy loam; massive structure; moist when sampled; clear to
4C2	2.05 to 2.25	Light greenish grey (10Y71) moist; sandy loam; massive structure; moist when sampled

4C1	1.9 to 2.05	Light grey (2.5Y71) moist; sandy loam; massive structure; moist when sampled; clear to
4C2	2.05 to 2.25	Light greenish grey (10Y71) moist; sandy loam; massive structure; moist when sampled; clear to
400	0.05 to 0.0	One (0.5)(01) which and the second structure which when a second ad

4C3 2	.25 to 2.3	Grey (2.5Y61)	moist; sandy	loam; massive structure;	moist when sampled
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Fiel	d .	Tests:
-		

Depth	H2O2-	l	PH-2	PH-3
.11	2		5.8	2.1
.3	2		5.9	2.4
.5	1		5.2	3.3
.8	1		5.0	3.4
1	1		5.1	3.5
1.25			5.2	3.7
1.5			5.3	4.2
1.75			5.3	4.1
2			5.1	4.7
2.25			5.2	4.1
2.3			5.6	4.6
		PH-2:	pH using el	ectrode probe
		2012	nH of hydro	aon norovido o

PH-3: pH of hydrogen peroxide extract

Project: MAS	Site: 11	Observation: 1
Horizon Notes:		
Horizon	0	fibric organic horizon
Horizon	A11	organics in H202 test
Horizon	A12	organics in fox test

Vegetation U(g1.0)4S Phragmites australis (common reed)

Project:	MAS	Site: 12	Observation:	1			
Soil Name:	A0 - AASS a	at 0-0.5m					
Location	n: GDA 94	ZONE 56	504697mE	6988858mN	Lat: -27.22306	Long: 153.04744	
Describe	ed By: Jonathan	Walton (WALJ)			Date:	11/MAY/10	
	Landscape: Geology: Qr - Qr-9543: Residual soil, colluvium; sand, soil, clay, rock debris Element: plain						
Element: plain Permeability: Very slowly permeable Runoff: Slow Slope: 1 % Surface Condition: Soft Disturbances: Complete clearing - pasture - but never cultivated							
Classifica ASC: M		ED, MESOTROPHIC	, BROWN, Kandosol, Me	edium, Non-gravelly	r, Clay Loamy, Clayey	v, Very Deep	
Profile M Horizon	orphology: Depth (m)	Description					
A1	A1 0 to .22 Dark greyish brown (10YR42) moist; clay loam; subangular blocky weak 5-10mm structure; moist when sampled; highly permeable; well drained; abrupt to					nm structure; moist when	
B21i	.22 to .5 Dark brown (10YR33) moist; light medium clay; subangular blocky moderate 5-10mm structure; moist when sampled; slowly permeable; imperfectly drained; clear to						
B22ia	B22ia .5 to .65 Dark grey (N40) moist; common 10-20% medium 5-15mm distinct red mottles, few 2-10% medium 5-15mm distinct yellow jarosite (from pyrite) mottles; light medium clay; massive structure; moist when sampled; slowly permeable; imperfectly drained; clear to						
2B23ia	2B23ia .65 to .95 Olive grey (5Y52) moist; common 10-20% medium 5-15mm distinct red mottles, few 2-10% medium 5-15mm distinct yellow jarosite (from pyrite) mottles; sandy light clay; massive structure; few 2-10% medium 2-6mm ferruginous concretions; moist when sampled; slowly permeable; poorly drained; clear to					e; few 2-10% medium 2-6mm	
3B24ia	.95 to 1.4	distinct yellow		ottles; medium clay		s, very few <2% fine <5mm noist when sampled; very	
3B25	1.4 to 2.7		mottles; medium clay;			2-10% medium 5- 15mm ; very slowly permeable;	
Field Tes	ts:						
Depth	H2O2-	PH-2 PH	-3				
.1	2	5	2.7				
.3	2	4.4	2.5				
.6	1	4.1	2				
.8		4.2	2.5				
1		4.4	3				
1.25		4.3	3.2				
1.5		4.4	3.4				
1.75		4.4	3.2				
2		4.3	3.5				
2.25		4.3	3.5				
2.5		4.5	3.5				
	PH-2:	pH using electroe	de probe				
	PH-3	: pH of hydrogen	peroxide extract				

Project:	MAS	Site:	12	Observation:	1

Vegetation	Melaleuca along road, pasture grasses		
Horizon Notes:			
Horizon	A1	organics in pHfox test	
Horizon	B21i	organics in pHfox test	
Horizon	2B23ia	Jarosite patchy in horizon 4	
Horizon	3B24ia	Jarosite in top 0.2m of horizon 5.	
Horizon	3B25	patches of yellow mottle from 2.3m	

Project:	MAS	Site: 13	Observati	on: 1			
Soil Name:	Soil Name: A0 - AASS at 0-0.5m						
Locatior	n: GDA 94	ZONE	56 504583	nE 6988158mN	Lat: -27.22938	Long: 153.04629	
Describe	ed By: Jonathan	Walton (WAI	.1)		Date:	12/MAY/10	
			o)		Buto.		
Landscap		O: Clav silt s	and; active stream chan	als and low terraces			
Element:		Q. Oldy, Silt, Si		ndform Pattern: alluvia	l plain		
	piain pility: Slowly pe	ermeable	Ru	noff: Very slow			
	e: Poorly draine						
Depth to	Water: 0.8						
Surface (Condition: Firm						
Disturbar	nces: No effect	tive disturban	ce				
Classifica ASC: H		SULFURIC, R	EDOXIC, Hydrosol, Medi	um, Non-gravelly, Clay I	Loamy, Clayey, Very [Deep	
Profile M	orphology:						
Horizon	Depth (m)	Description	ı				
A1	0 to .15	Very dark permeab	brown (10YR22) moist; le; moderately well drai	sapric clay loam; angu ned	ılar blocky weak 2-5m	m structure; moderately	
B1i						0-20mm structure; moderately	
B21i	.22 to .4	Weak red	(7.5R44) moist; medium	heavy clay; slowly perr	meable; imperfectly dr	ained	
B22ia	B22ia .4 to .7 Grey (10YR51) moist; many 20-50% coarse 15-30mm prominent orange mottles, few 2-10% medium 5- 15mm distinct yellow jarosite (from pyrite) mottles; medium heavy clay; massive structure; slowly permeable; imperfectly drained						
B23ia	.7 to 1.75		Greenish grey (10Y51) moist; common 10-20% medium 5-15mm distinct yellow jarosite (from pyrite) mottles; medium heavy clay; massive structure; very slowly permeable; poorly drained				
B24i	1.75 to 2.9		grey (10Y51) moist; few tles; medium heavy clay		inct orange mottles, fe	ew 2-10% fine <5mm faint	
2B25	2.9 to 3.2		grey (10GY61) moist; co ssive structure	ommon 10-20% coarse	15-30mm distinct bro	wn mottles; sandy medium	
2B26	3.2 to 3.3	Light grey structure		0% coarse 15-30mm di	stinct brown mottles; s	andy medium clay; massive	
Field Tes	ts:						
Depth	H2O2-	PH-2	PH-3				
.1	1	3.9	3.2				
.2	1	3.7	2.4				
.3 .4		3.6 3.5	2.5 2.5				
.4 .6		3.5 3.6	2.5				
.8		3.7	2.6				
1		3.7	2.3				
1.25		3.6	2.2				
1.5		3.6	2.3				
1.75		4.4	1.9				
2	4	4.5	2.8				
2.25	4	5.9	4.1				
2.5	4	5.9	5.0				
2.75	4	6.1	6.1				
3	4	6.3	6.4				
3.25	4	6.0	6.1				
	PH-2:		lectrode probe				
	PH-3	. pri or nyar	ogen peroxide extract				

Project: MAS Observation: 1 Site: 14 Soil Name: A2S4 - AASS at 1-2m and PASS at 3-4m Location: GDA 94 ZONE 56 505147mE 6988175mN Lat: -27.22922 Long: 153.05198 Described By: Jonathan Walton (WALJ) Date: 12/MAY/10 Landscape: Geology: Qpa - Qpa-SEQ: High level alluvium; silt, clay, sand, gravel Element: hillslope Landform Pattern: rises Permeability: Slowly permeable Runoff: Verv slow Slope: 3 % Drainage: Poorly drained Depth to Water: 2.1 Surface Condition: Firm Disturbances: Extensive clearing Classifications: ASC: ACIDIC, KANDOSOLIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep Profile Morphology: Horizon Depth (m) Description A11 0 to .15 Very dark grey (10YR31) moist; sandy clay loam; weak structure; moderately moist when sampled; highly permeable; well drained; clear to A12 .15 to .3 Dark greyish brown (10YR42) moist; sandy clay loam; weak structure; moderately moist when sampled; highly permeable; well drained; gradual to A2 3 to .8 Pale brown (10YR63) moist; clayey sand; single grain structure; moderately moist when sampled; highly permeable; rapidly drained; gradual to Β1 .8 to 1.1 Very pale brown (10YR73) moist; very few <2% fine <5mm faint orange mottles; fine sandy loam; weak structure; moderately moist when sampled; highly permeable; well drained; clear to Very pale brown (10YR74) moist; common 10-20% medium 5-15mm faint orange mottles; fine sandy loam; B21 1.1 to 1.6 massive structure; moist when sampled; highly permeable; moderately well drained; clear to B22 1.6 to 2.32 Grey (10YR61) moist; common 10-20% medium 5-15mm distinct orange mottles; heavy fine sandy clay loam; massive structure; wet when sampled; moderately permeable; imperfectly drained; abrupt to Grey (5Y61) moist; many 20-50% medium 5-15mm distinct orange mottles, few 2-10% medium 5-15mm B23 2.32 to 2.6 prominent red mottles; fine sandy light clay; massive structure; wet when sampled; slowly permeable; poorly drained; abrupt to B24 2.6 to 3.18 Light grey (N70) moist; very few <2% fine <5mm faint yellow mottles; fine sandy light clay; massive structure; wet when sampled; slowly permeable; poorly drained; clear to 2B25u 3.18 to 3.45 Grey (N50) moist; light medium clay; massive structure; wet when sampled; clear to 2B26u 3.45 to 3.6 Grey (N50) moist; very few <2% fine <5mm faint yellow mottles; fine sandy light clay; common 10-20% subrounded sandstone medium pebbles 6-20 mm; massive structure; wet when sampled; abrupt to 3B27 3.6 to 4.1 Yellow (10YR76) moist; common 10-20% medium 5-15mm prominent red mottles, few 2-10% medium 5-

15mm distinct gley mottles; medium heavy clay; massive structure; wet when sampled

Project:	MAS	Site:	14	Observation:	1
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Field Tests:

nu -	10010.			
	Depth	H2O2-	PH-2	PH-3
	.1	1	5.4	2.1
	.3	1	5.4	3
	.6		5.1	4.1
	.8		5.1	4
	1		5.7	4.6
	1.25		5.8	4.8
	1.5		4.4	3.0
	1.75		3.7	2.7
	2		3.9	2.5
	2.25		3.7	2.7
	2.5		3.7	2.6
	2.75		4	2.4
	3		4.1	2.6
	3.25		4.8	2.4
	3.5	4	5.8	1.4
	3.75	1	5.9	3
	4	1	5.6	3.8
		PH-2:	pH using electrode	probe
		PH-3:	pH of hydrogen per	oxide extract

Observation Notes:

Vegetation U(w1.0) Ironbark ~10m, Casuarina ~8m, G(f1.0)3D Pteridium esculentum (bracken fern)

Soil Name: A0S3 - AASS at 0-0.5m and PASS at 2-3m

Locatior	n: GDA 94	ZONE	56 505356	698849	99mN	Lat: -27.22629	9 Long: 153.05409		
Describ	ed By: Kate Goul	ding (GOUK)				Dat	e: 12/MAY/10		
Landscap): Clay ailt aan	di activa atraam aha	nole and low tor					
Element:	Geology: Qha - Qha-SEQ: Clay, silt, sand; active stream channels and low terraces Element: plain Landform Pattern: alluvial plain								
	Permeability: Slowly permeable Runoff: Slow								
	e: Poorly drained								
0	Depth to Water: 1.65								
	Condition: Soft								
Disturba	nces: Limited cl	earing							
Classifica	ations:								
			Hydrosol, Medium, No	n-gravelly, Clav I	l oamv. Clav	ev. Giant			
			, a. eee,ea.a,e	i giarony, eiay i		oj, elan			
Horizon	orphology: Depth (m)	Description							
A1	0 to .25		21) moist: clay loam	week structure	· moist when	sampled: high	nly permeable; well drained;		
	010.20	abrupt to			, moist when	r sampicu, mgi	ny permeable, weir drained,		
B21i	B21i .25 to .55 Brownish yellow (10YR66) moist; few 2-10% fine <5mm distinct grey mottles, few 2-10% fine <5mm distinct orange mottles; medium clay; angular blocky moderate 10-20mm structure; moist when sampled; slowly permeable; moderately well drained; clear to								
2B22i	.55 to 1.05	orange mo					s, few 2-10% fine <5mm distinct led; slowly permeable;		
3B23ia	1.05 to 1.65		51) moist; common 1 ive structure; wet wh				site (from pyrite) mottles; medium ned; abrupt to		
3B24i	1.65 to 1.95		51) moist; few 2-10% sampled; gradual to	medium 5-15mr	n distinct bro	own mottles; m	edium clay; massive structure;		
3B25i	1.95 to 2.25	Grey (10YR	51) moist; medium he	avy clay; massi	ve structure	; wet when san	npled; gradual to		
3B26u	2.25 to 3.9	Grey (N50) r	moist; medium heavy	clay; massive s	tructure; we	t when sample	d; clear to		
3B27u	3.9 to 4.1	Grey (N50) r	moist; fine sandy ligh	t medium clay; n	nassive stru	cture; wet whe	n sampled; clear to		
4B28u	4.1 to 5.25	Light grey (N	170) moist; loamy fin	e sand; massive	e structure; v	wet when samp	oled; clear to		
5B29u	5.25 to 5.95		40) moist; common			tinct brown mo	ttles; medium heavy clay;		
6B30	5.95 to 6		ey (5G61) moist; mar tructure; moist when		e 15-30mm	distinct brown r	nottles; medium heavy clay;		
Field Tes	Field Tests:								

	515.		
Depth	H2O2-	PH-2	PH-3
.1		4.4	2.9
.3		3.9	2.8
.6		3.8	2.7
.8		3.6	2.7
1		3.6	2.4
1.25		3.3	2
1.5		3.4	2.3
1.75		3.4	2.1
2		3.6	2.2
2.25	4	4	1.4
2.5	4	4.2	1.4
2.75	4	5	1.5

Projec	ct: MAS		Site: 15	Observation: 1
	Depth	H2O2-	PH-2	PH-3
	3	4	5	1.5
	3.25	4	5.9	1.2
	3.5	4	6.3	1.4
	3.75	4	6.4	1.2
	4	4	6.7	1.3
	4.25	4	6.75	1.7
	4.5	4	6.8	1.6
	5.5	4	7.7	4.6
	5.75	4	8	7.3
	6	4	6.8	7.5
		PH-2:	pH using electro	de probe
		PH-3:	pH of hydrogen	peroxide extract
	Observatio	n Notes:		
	Vegetati	M(w	1.0)6M Eucaly (3.0)4D <i>Lantana</i> (1.0)2D Grass a	
	Horizon No	otes:		
	Horizon		3B24i	No sample collected for this horizon
	Horizon		3B26u	Few plant remains
	Horizon		3B27u	Few plant remains
	Horizon		4B28u	pushed through horizon and lost some sample
	Horizon		5B29u	Field tests indicate ANC in horizon?

Project:	MAS	Site: 16	Observation:	1		
Soil Name:	S5+ - PASS	at greater than 5m dep	th			
Location	n: GDA 94	ZONE 56	495782mE	6983681mN	Lat: -27.2698	Long: 152.95738
Describ	ed By: Jonathan	Walton (WALJ)			Date:	13/MAY/10
Element Permeal Drainage Depth to Surface	: Qha/1 - Qha/1 : valley flat bility: Highly pe e: Rapidly drain Water: 3 Coarse Fragment: Condition: Firm nces: Complete	ed s: Few 2-10%, Cobb	Landform Runoff: les 60-200 mm, Qua	Pattern: alluvial Slow	plain	
		CLASTIC, Rudosol, Moo	lerately Gravelly, Sa	ndy		
Profile M Horizon	orphology: Depth (m)	Description				
AC	0 to .4				% rounded quartz lar bermeable; rapidly dr	ge pebbles 20-60 mm; single ained; gradual to
C1	.4 to 1.1				6 rounded quartz larg	ge pebbles 20-60 mm; single ained; abrupt to
2C2	1.1 to 1.5					iartz medium pebbles 6-20 e; rapidly drained; gradual to
3C3	1.5 to 4.1		0YR56) moist; claye structure; wet when			l quartz large pebbles 20-60
4C4	4.1 to 4.4		OYR56) moist; loamy structure; wet when			uartz medium pebbles 6-20
5C5	4.4 to 7	Yellowish brown (1 wet when sample		se sand; abundant	50-90% subrounded	d quartz cobbles 60-200 mm;
R	7 to 7.2	Greenish grey (5G5	1) moist; gravel; stro	ong moderately mo	ist; moderately moist	t when sampled
Field Tes	ts:					

Depth	H2O2-	PH-2	PH-3
.1	2	5.2	3.8
.3	2	5.8	4.3
.6	1	6.3	4.3
.8	1	6	4.2
1	1	6.5	5.4
1.25	1	6.1	3.4
1.5	1	6.2	6.4
1.75	4	6.5	4.6
2	4	6.5	7.5
2.25	4	6.7	7.6
2.5	4	6.7	6.7
2.75	4	6.8	7.3
3	4	6.6	7.2
3.25	4	6.7	7.3
3.5	4	6.6	7.4
3.75	4	6.7	7.6

Project: N	MAS	Site: 16	Observation: 1	
Dep	th H2O2-	PH-2	PH-3	
4	4	6.7	7.7	
4.25	5 4	7	5.8	
4.5	4	6.9	2.8	
4.75	5 4	6.6	5.7	
5	4	6.5	6.1	
5.25	5	6.4	5.8	
5.5		6.5	5.8	
5.75	5	6.5	6.7	
6		6.5	6.1	
6.25	5	6.7	5.8	
6.5		6.9	5.7	
6.75	5	6.9	5.7	
7	4	6.9	1.7	
	PH-2:	pH using electro	ode probe	
	PH-3:	pH of hydrogen	n peroxide extract	
Obs	ervation Notes:			
Ve	getation U	(w3.0)7M unknow	in spp	
Hori	zon Notes:			
Hc	prizon	5C5	Extra horizon from 7-7.2 not described (probably weathered rock, most likel siltstone. pHfox test indicates ASS. Sample collected (15). Hit hard rock at 7.2m - couldn't penetrate.	у

Project: MAS Site: 17 Observation: 1

Soil Name: S5+ - PASS at greater than 5m depth

Location: G	DA 94	ZONE	56	497356mE	6983363mN	Lat: -27.2	27267	Long: 152.97329	
Described By	: Kate Goul	ding (GOUK)					Date:	13/MAY/10	
Landscape:	Landscape:								
Geology: Qh	Geology: Qha/1 - Qha/1-9543: Lowest river terrace; gravel, sand, silt, clay								
Element: pla	ain			Landform I	Pattern: alluvial pl	ain			
Permeability:	Slowly pe	ermeable		Runoff: S	low				

Depth to Water: 1.8

Surface Condition: Soft

Disturbances: Limited clearing

Classifications:

ASC: HAPLIC, MESOTROPHIC, BROWN, Kandosol, Thin, Non-gravelly, Clay Loamy, Clayey, Giant

Profile Morphology:

	0.0.0.097.	
Horizon	Depth (m)	Description
A1	0 to .05	Very dark greyish brown (10YR32) moist; clay loam; weak structure; moderately moist when sampled; moderately permeable; well drained; clear to
B21	.05 to .4	Brown (10YR43) moist; silty clay loam; subangular blocky weak 2-5mm structure; moderately moist when sampled; moderately permeable; well drained; gradual to
B22	.4 to .7	Brown (10YR43) moist; common 10-20% fine <5mm distinct pale mottles; silty clay loam; subangular blocky weak 2-5mm structure; moderately moist when sampled; moderately permeable; moderately well drained; clear to
B3	.7 to 1	Greyish brown (10YR52) moist; common 10-20% fine <5mm distinct brown mottles; heavy light clay; common 10-20% subangular quartz medium pebbles 6-20 mm; subangular blocky weak 2-5mm structure; moist when sampled; slowly permeable; imperfectly drained; abrupt to
C1	1 to 1.3	Yellowish brown (10YR54) moist; sand; abundant 50-90% subrounded quartz cobbles 60-200mm; single grain structure; moist when sampled; highly permeable; rapidly drained; gradual to
C2	1.3 to 1.6	Light yellowish brown (10YR64) moist; sand; abundant 50-90% subrounded quartz medium pebbles 6-20 mm; single grain structure; moist when sampled; highly permeable; poorly drained; gradual to
2C3	1.6 to 1.8	Greyish brown (10YR52) moist; clay loam; abundant 50-90% subrounded quartz large pebbles 20-60 mm; single grain structure; wet when sampled; gradual to
3C4	1.8 to 4.5	Pale brown (10YR63) moist; clayey sand; abundant 50-90% subrounded quartz cobbles 60-200 mm; single grain structure; wet when sampled; gradual to
4C5	4.5 to 7.3	Pale brown (10YR63) moist; coarse sand; abundant 50-90% subrounded quartz small pebbles 2-6 mm; many 20-50% subrounded quartz cobbles 60-200 mm; single grain structure; wet when sampled; clear to
5D	7.3 to 7.5	Greenish grey (5G51) moist; light clay; subangular blocky moderate 2-5mm structure; few 2-10% fine <2mm ferruginous laminae; wet when sampled

Project:	MAS	Site:	17	Observation:	1
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Field Tests:

110	,515.			
[Depth H	1202-	PH-2	PH-3
	1	2	5.4	3
	3	2	5.8	2.9
	6	4	6.1	3.6
	8	2	6.5	3
1	1	4	6.8	4
1	1.25	1	6.9	5
1	1.5	1	6.6	4.7
1	1.75	1	5.6	4.6
2	2	1	6.7	5.7
3	3.25	1	6.9	5.7
3	3.5	1	6.8	6.1
3	3.75	1	6.8	5.7
4	4	2	6.7	5.8
4	4.25	2	6.8	5.7
2	4.5	2	6.8	6.5
2	4.75	2	7	6.1
Ę	5	1	7	6.1
Ę	5.25	1	6.9	6
Ę	5.5	1	6.9	6.1
Ę	5.75	1	6.9	6.1
6	6	1	7.1	5.9
6	6.25	1	6.8	5.9
6	6.5	1	7	6
6	6.75	1	7	5.8
7	7	1	7	5.4
7	7.25	4	7.1	7.5
7	7.5	4	7.1	8.3
		PH-2: pH	using electrode	orobe
		PH-3: pH	of hydrogen per	oxide extract

Observation Notes:

Vegetation U(w1.0)7M Eucalyptus spp

Project: MAS	Site: 18	3 0	bservation: 1				
Soil Name: S1 - PASS a	t 0.5-1m						
Location: GDA 94	ZONE	56	497233mE	6983398mN	Lat: -27.27236	Long: 152.97204	
Described By: Kate Goul	ding (GOUK)				Date:	13/MAY/10	
Landscape:							
Geology: Qha/1 - Qha/1-	-9543: Lowes	st river terrace	; gravel, sand, s	ilt, clay			
Element: supratidal flat			Landform	Pattern: alluvial p	lain		
Permeability: Moderate	ly permeable	e	Runoff: Very slow				
Drainage: Moderately we	ell drained						
Surface Condition: Soft							
Disturbances: Limited cl	earing						
Classifications:							
ASC: MOTTLED, MESO	TROPHIC, BR	OWN, Kurosol,	Medium, Slightly	Gravelly, Clay Loa	my, Clayey, Deep		
Profile Morphology:							

	orpriology.							
Horizon	Depth (m)	Descript	on					
A11	0 to .1			y loam; few 2-10% rounded quartz large pebbles 20-60 mm; weak pled; moderately permeable; moderately well drained; clear to				
A12	.1 to .2			clayey sand; many 20-50% rounded quartz large pebbles 20-60 mm; n sampled; moderately permeable; well drained; clear to				
A2	.2 to .4		Yellowish brown (10YR54) moist; clayey sand; single grain structure; moderately moist when sampled; moderately permeable; well drained; clear to					
B21	.4 to .6		Yellowish brown (10YR54) moist; few 2-10% fine <5mm distinct red mottles; silty clay loam; weak structure; moist when sampled; moderately permeable; moderately well drained; abrupt to					
B22	.6 to .75	0	Dark grey (2.5Y41) moist; light clay; many 20-50% rounded quartz medium pebbles 6-20 mm; angular blocky moderate 5-10mm structure; moist when sampled; moderately permeable; moderately well drained; clear to					
2B23u	.75 to 1.3		Dark greyish brown (2.5Y43) moist; clayey sand; many 20-50% rounded quartz medium pebbles 6-20 mm; massive structure; moist when sampled; moderately permeable; well drained					
Field Tes	ts:							
Depth	H2O2-	PH-2	PH-3					
.1	2	6.4	3.6					

.3	2		6.4	5.1
.6	3		5.2	4.6
.8	4		6.4	7.2
1	4		6.5	5.2
1.25			7	5.8
		PH-2:	pH using e	electrode probe
		PH-3.	nH of hvd	rogen perovide extra

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation U(w1.0) Casuarina ~7m, black tea tree ~7m, G(g1.0)1D Sporobolus virginicus (Salt couch)

Project:	MAS	Site: 19	Observation:	1					
Soil Name:	A3S3 - AASS	and PASS at 2-3m							
Location	: GDA 94	ZONE 56	499950mE	6978844mN	Lat: -27.31347	Long: 152.99949			
Describe	ed By: Fiona McC	artney (MCCF)			Date:	20/MAY/10			
Element: Permeat Drainage Depth to	Qa - Qa-SEQ: (rmeable		n Pattern: flood pl	lain				
Disturbar	nces: Complete	clearing - pasture - bu	it never cultivated						
Classifica ASC: H		CHROMOSOLIC, REDO	XIC, Hydrosol, Thick	, Non-gravelly, Loa	my, Clayey, Giant				
Profile M	orphology:								
Horizon	Depth (m)	Description							
A1	0 to .3	Very dark brown (1 drained; gradual t		: loam; massive str	ucture; dry when sar	npled; highly permeable; well			
B21	.3 to .9				aint red mottles; light eable; imperfectly dra	medium clay; massive ained; clear to			
B22	.9 to 1.5	· · · · · · · · · · · · · · · · · · ·	, ,		mm faint red mottles; rfectly drained; clear	medium heavy clay; massive to			
B23	1.5 to 2.15				t red mottles, few 2-1 noist when sampled;	0% medium 5-15mm distinct clear to			
2B24ia	2.15 to 2.45					e (from pyrite) mottles, few 2- wet when sampled; abrupt to			
2C1	2.45 to 2.8	Dark greenish grey	(10Y31) moist; ligh	t clay; massive stru	ucture; wet when sar	npled; gradual to			
2C2u	2.8 to 3.5	Dark greenish grey	(5BG41) moist; ligh	t clay; massive stru	ucture; wet when san	npled; abrupt to			
3C4u	3.5 to 3.9	Dark grey (N40) mo	bist; loamy sand; ma	assive structure; we	et when sampled; gra	idual to			
3C5u	3.9 to 4.6	10-20% subangul	Dark grey (N40) moist; loamy sand; massive structure; wet when sampled; gradual to Greenish grey (10Y51) moist; loamy sand; very few <2% rounded quartz large pebbles 20-60 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; many 20-50% subangular quartz small pebbles 2-6 mm; massive structure; wet when sampled; clear to						
3C6u	4.6 to 5.65		quartz medium pebb			e pebbles 20-60 mm; very few Jlar quartz small pebbles 2-6			
3C7u	5.65 to 6.35	Very dark grey (2.5	Y31) moist; clay loa	am, fine sandy; ma	ssive structure; wet v	when sampled;clear to			
4Cu	6.35 to 7.45	common 10-20%		edium pebbles 6-2		rge pebbles 20-60 mm; 0% subangular quartz small			

Project:	MAS	Site:	19	Observation:	1
TTOJECI.	IVIA0	Olle.	13		

Field Te	sts:			
Depth	H2O2-	PH-2	PH-3	
.1	2	6.5	4	
.3	2	7	3.3	
.6	2	5.6	3	
.8	1	5	2.9	
1	3	5.5	2.9	
1.25	4	5.8	4.2	
1.5		5.6	4.3	
1.75		5.4	4.1	
2		5.1	3.8	
2.25	1	4.4	2.4	
2.5	4	5.1	2.4	
2.75	3	4.9	1.7	
3	4	5.9	2	
3.25	4	5.8	1.8	
3.5	4	6.1	1.3	
3.75	4	6.3	1.3	
4	4	6.5	1.7	
4.25		6.6	3.7	
4.5	4	6.7	2.2	
4.75		6.8	4.7	
5		6.8	5	
5.25	1	6.8	5.3	
5.5	1	6.6	6	
5.75	2	6.4	4	
6	1	6.5	3.6	
6.25	1	6.3	4.3	
6.5		6.9	5.5	
6.75	1	7.1	5.9	
7	1	6.9	5.4	
7.25	4	7.3	7.7	
7.45	3	7.6	7	
PH-2:		pH using electrode probe		
	PH-3:	pH of hydrogen peroxide extrac		
Horizon I	Notes:			
Horizon		4Cu	riverine material	

riverine material?

Project: MAS	Site: 20	Observation: 1					
Soil Name: S4 - PASS at 3-4m							
Location: GDA 94	ZONE 56	500129mE	6978411mN	Lat: -27.31738	Long: 153.0013		
Described By: Fiona Mc	Described By: Fiona McCartney (MCCF) Date: 20/MAY/10						
Landscape:							
Geology: Qa - Qa-SEQ: Clay, silt, sand, gravel; flood plain alluvium							
Element: plain Landform Pattern: alluvial plain							
Permeability: Moderately permeable							
Drainage: Imperfectly drained							
Depth to Water: 3.65							
Surface Condition: Soft							
Disturbances: Complete clearing - pasture - but never cultivated							
Classifications:							
ASC: MOTTLED, EUTROPHIC, BROWN, Kandosol, Thick, Non-gravelly, Clay Loamy, Clayey, Giant to 3.6m over							

ASC: EUTROPHIC, SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .3	Dark yellowish brown (10YR34) moist; clay loam, fine sandy; subangular blocky strong 5-10mm structure; moderately moist when sampled; moderately permeable; moderately well drained; gradual to
A12	.3 to 1	Brown (10YR43) moist; clay loam, fine sandy; subangular blocky moderate 5-10mm structure; moderately moist when sampled; moderately permeable; moderately well drained; gradual to
B21	1 to 1.9	Dark yellowish brown (10YR24) moist; common 10-20% coarse 15-30mm distinct brown mottles; light clay; massive structure; moist when sampled; moderately permeable; imperfectly drained; clear to
B22	1.9 to 2.45	Dark reddish brown (2.5YR24) moist; many 20-50% very coarse >30mm prominent orange mottles; light medium clay; massive structure; moist when sampled; clear to
B3	2.45 to 3	Greenish grey (10Y51) moist; few 2-10% medium 5-15mm faint orange mottles; sandy light clay; massive structure; moist when sampled; abrupt to
2B2	3 to 3.65	Dark greenish grey (10Y41) moist; common 10-20% very coarse >30mm prominent orange mottles, very few <2% medium 5-15mm distinct yellow mottles; clayey sand; few 2-10% rounded quartz large pebbles 20-60 mm; common 10-20% rounded quartz medium pebbles 6-20 mm; common 10-20% subangular quartz small pebbles 2-6 mm; single grain structure; wet when sampled; abrupt to
2Cu	3.65 to 4.5	Dark greenish grey (10Y41) moist; clayey sand; few 2-10% subangular quartz large pebbles 20-60 mm; common 10-20% rounded quartz medium pebbles 6-20 mm; common 10-20% subangular quartz small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
3Cu	4.5 to 5.65	Greenish grey (10Y51) moist; loamy sand; few 2-10% subangular quartz small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
4Cu	5.65 to 6.22	Greenish grey (10Y51) moist; loamy sand; few 2-10% subangular quartz large pebbles 20-60mm; common 10-20% subangular quartz medium pebbles 6-20 mm; common 10-20% subangular quartz small pebbles 2-6 mm; single grain structure; wet when sampled; abrupt to
5D	6.22 to 6.4	Olive grey (5Y52) moist; common 10-20% coarse 15-30mm faint yellow mottles; coarse sandy light clay; few 2-10% subangular quartz large pebbles 20-60 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; common 10-20% subangular quartz small pebbles 2-6 mm; massive structure; wet when sampled

Project:	MAS		Site:	20	0	bservation:	1
Fie	ld Tests						
Depth H2O2-		1202-	PH-2		PH-3		
.1				5.6		3.6	
.3		2		5.8		2.9	
.6		4		6.2		3.5	
.8		4		6.3		5.4	
1		4		6.8		5.6	
1.	25	4		6.3		5	
1.	5			6.6		4.7	
1.	75			6.0		3.5	
2				6		3.8	
2.	25			5.6		3.4	
2.	5			5.4		3.3	
2.	75			5.6		3.1	
3				5.3		3.6	
3.	25			5.7		4.6	
3.	5	2		5.2		2.2	
3.	75	4		6.1		2.4	
4		4		6.4		1.9	
4.	25	4		6.8		2.3	
4.	5	4		6.4		1.9	
4.	75	1		6.2		2.2	
5		1		6.4		2.3	
5.	25	1		6.3		2.3	
5.	5	1		6.4		2	
5.	75	4		6.7		2.1	
6		4		6.9		2.2	
PH-2:			pH using electrode probe				

PH-3: pH of hydrogen peroxide extract

Project:	MAS	Site: 21	Observation:	1				
Soil Name:	Soil Name: A2S2 - AASS at 1-2m and PASS at 1-2m							
Location	: GDA 94	ZONE 56	499898mE	6978350mN	Lat: -27.31793	Long: 152.99897		
Describe	ed By: Lauren OB	rien (OBRL)			Date:	20/MAY/10		
					2000	20,000,000		
Landscap		05/3: Lowest river terr	ce: gravel sand	silt clay				
07	Geology: Qha/1 - Qha/1-9543: Lowest river terrace; gravel, sand, silt, clay Element: s tream channel Landform Pattern: alluvial plain							
Permeab	ility: Slowly per	rmeable	Runoff:	Moderately rapid				
Drainage	Poorly drained							
	Water: 1.2							
	Condition: Firm	-laaning maatuma but	a au cara au déi cata al					
		clearing - pasture - but	never cultivated					
Classifica								
ASC: M	ELACIC, KANDOS	SOLIC, OXYAQUIC, Hyd	rosol, Medium, No	n-gravelly, Clayey,	Clayey, Giant			
	orphology:							
Horizon	Depth (m)	Description						
A11	0 to .1	Very dark greyish brown (2.5Y32) moist; silty light clay; granular moderate 2-5mm structure; moist when sampled; moderately permeable; moderately well drained; clear to						
A3	.1 to .4	to .4 Very dark greyish brown (2.5Y32) moist; very few <2% fine <5mm faint orange mottles; silty light clay; granular moderate <2mm structure; moist when sampled; slowly permeable; imperfectly drained; clear to						
B21	.4 to .7	Dark grey (2.5Y41) moist; few 2-10% fine <5mm faint brown mottles; fine sandy light clay;massive structure; moist when sampled; slowly permeable; imperfectly drained; clear to						
B22	.7 to 1.1	Very dark grey (2.5Y31) moist; very few <2% fine <5mm faint dark mottles; silty clay loam; massive structure; very few <2% fine <2mm manganiferous soft segregations; wet when sampled; slowly permeable; imperfectly drained; clear to						
B23i	1.1 to 1.65	Very dark greyish brown (2.5Y32) moist; few 2-10% medium 5-15mm distinct orange mottles, very few <2% medium 5-15mm distinct red mottles; silty clay loam; massive structure; few 2-10% fine <2mm ferruginous root linings; wet when sampled; very slowly permeable; poorly drained; clear to						
C1u	1.65 to 2.2							
C2u	2.2 to 2.5	D 2.5 Dark grey (N40) moist; silty light clay; massive structure; wet when sampled; clear to						
2C1u	2.5 to 3	3 Dark grey (N40) moist; clayey sand; single grain structure; wet when sampled; clear to						
2C2u	3 to 3.5	Dark grey (N40) moi			•			
3C1u	3.5 to 4.6					wet when sampled; clear to		
3C2u	4.6 to 5.3	20-50% subangula	quartz small pebl	oles 2-6 mm; single	e grain structure; wet	um pebbles 6-20 mm; many when sampled; clear to		
3C3u	5.3 to 5.6	Dark grey (N40) mois structure; wet when			brounded quartz sm	all pebbles 2-6mm; massive		
3C4u	5.6 to 7.2	Grey (N50) moist; loa structure; wet when			ar quartz medium peł	obles 6-20 mm; single grain		
4C1u	7.2 to 7.5	angular quartz med	ium pebbles 6-20	mm; single grain st	ructure; very many >	Il pebbles 2-6mm; few 2-10% 50% fine <2mm ferruginous- ft segregations; wet when		

Project:	MAS	Site: 2	:1	Observation:	1
Field Te	sts:				
Depth	H2O2-	PH-2	PH-3		
.1	2	5.19	2.6		
.3	2	5.32	3.0		
.6	4	6.15	3.5		
.8	4	6.39	4.3		
1	2	5.79	3.6		
1.25	4	4.68	2.8		
1.5	2	4.6	2.0		
1.75	4	5.89	1.7		
2	4	5.44	1.9		
2.25	4	5.29	1.7		
2.5	4	6.18	3.0		
2.75	2	6.27	2.6		
3	4	6.54	2.0		
3.25	4	5.93	1.7		
3.5	4	6.1	1.8		
3.75	4	6.09	2.0		
4	4	6.26	2.4		
4.25	4	6.42	1.9		
4.5	4	6.52	1.9		
4.75	4	6.28	1.7		
5	4	6.92	1.8		
5.25	4	7.08	1.7		
5.5	4	7.53	1.7		
5.75	3	7.56	2.2		
6	4	7.87	2.1		
6.25	4	7.08	1.9		
6.5	4	6.93	1.6		
6.75	4	7.01	1.9		
7	4	6.88	1.5		
7.25	4	7.6	2.2		
7.5	4	7.6	2.7		
	PH-2:	pH using electro	ode probe		
	011.0	all of hydrogoa	norovido ove	reat	

PH-3: pH of hydrogen peroxide extract

Location Soil	adjacent rail bridge between Strathpine and Bald hills extremely variable textures			
Horizon N	otes:			
Horizon		C1u	Preserved organic material	
Texture		3C1u	Clay lenses throughout	
Horizon		4C1u	some sorting in barrel 5	

Project:	MAS	Site: 22	2	Observation:	1		
Soil Name:	A3S4 - AAS	S at 2-3m an	d PASS at	3-4m			
Location	n: GDA 94	ZONE	56	499685mE	6978782mN	Lat: -27.31403	Long: 152.99682
Describ	ed By: Lauren E	yre (EYRL)				Date:	27/MAY/10
Landsca		0 1 11					
Geology	: Qa - Qa-SEQ:	Clay, silt, sar	nd, gravel; f	lood plain alluvium			
Element	: plain			Landform	Pattern: alluvial	l plain	
Permea	bility: Slowly p	ermeable					
Drainag	e: Poorly draine	d					
0	Condition: Firm						
Disturba	nces: Highly di	sturbed e.g. r	nining, urba	n			
Classifica	ations.						
		ED MESOTR	OPHIC GRI	=Y Kandosol Mediu	m Non-gravelly	Clayey, Clayey, Very	Deen
A00. N					in, non graveny,	Olaycy, Olaycy, Very	Беер
Profile M	orphology:						
Horizon	Depth (m)	Descriptio	n				
Μ	0 to .11		orown (5YR ; sharp to	44) moist; light clay	/; dry when sampl	led; moderately perm	eable; moderately well
A1	.11 to .34					prown mottles; light m derately well drained;	edium clay; subangular blocky gradual to
AB	.34 to .75	,	0,	(/			ange mottles; light medium erromanganiferous nodules;

slowly permeable; imperfectly drained; gradual to

Grey (2.5Y51) moist; sandy light clay; massive structure; clear to

Dark grey (N40) moist; silty medium clay; massive structure; abrupt to

subangular quartz medium pebbles 6-20 mm; single grain structure; abrupt to

few <2% subangular quartz medium pebbles 6-20 mm; single grain structure

poorly drained; gradual to

structure: gradual to

ferruginous soft segregations; clear to

Greyish brown (10YR52) moist; common 10-20% medium 5-15mm prominent orange mottles; light medium clay; massive structure; very few <2% medium 2-6mm manganiferous soft segregations; slowly permeable;

Greyish brown (2.5Y52) moist; common 10-20% medium 5-15mm prominent orange mottles; medium clay;

subangular blocky weak 20-50mm structure; slowly permeable; poorly drained; gradual to

weak 5-10mm structure; very few <2% fine <2mm ferruginous soft segregations; clear to

Grey (2.5Y51) moist; few 2-10% medium 5-15mm distinct orange mottles; sandy clay loam; massive

Grey (5Y51) moist; common 10-20% medium 5-15mm prominent orange mottles, few 2-10% fine <5mm distinct yellow jarosite (from pyrite) mottles; sandy light clay; massive structure; very few <2% fine <2mm

Greenish grey (5GY51) moist; sand; few 2-10% subangular quartz small pebbles 2-6 mm; very few <2%

Light brownish grey (2.5Y62) moist; sand; common 10-20% subangular quartz small pebbles 2-6 mm; very

Grey (10YR51) moist; few 2-10% medium 5-15mm prominent orange mottles; medium clay; subangular blocky

B21

B22

2B21

2B22

3B21ia

3B22

3C1u

4C1u

5C1

.75 to 1.15

1.15 to 1.8

1.8 to 2.1

2.1 to 2.3

2.3 to 2.55

2.55 to 3.4

3.4 to 3.65

3.65 to 3.98

3.98 to 4.2

36

Field Te	sts:		
Depth	H2O2-	PH-2	PH-3
.1	1	5.4	3.2
.3	4	6.8	5.2
.6	3	6.8	5.1
.8	3	6.9	5.3
1	1	7	5.4
1.25		6.7	5.3
1.5		5.3	4.1
1.75		5.2	3.9
2		5.2	4.0
2.25		4.8	4.1
2.5		4.7	3.7
2.75		4.9	4.1
3		5	4.0
3.25		5	3.7
3.5	1	5.5	4.3
3.75	4	6	1.8
4		6.6	5.5
	PH-2:	pH using electroo	le probe
	PH-3:	pH of hydrogen	peroxide extract

Horizon Notes:

Horizon	М	Top 11cm is fill
Horizon	B22	Roots present - rooting depth to 1.8m approx
Texture	B22	Sodic
Horizon	3B22	Mottles mainly in top half of this horizon
Texture	3B22	Sand lens at 3.38m - approx 1cm thick

Project:	MAS	Site: 23	Observation:	1		
Soil Name	: S2 - PASS at	t 1-2m				
Locatio	n: GDA 94	ZONE 56	499716mE	6979098mN	Lat: -27.31118	Long: 152.99713
Describ	ed By: Lauren Ey	vre (EYRL)			Date:	27/MAY/10
Landsca	pe:					
Geology Element Permea Drainag Depth to Surface Disturba	C Qha/1 - Qha/1- C drainage deprivent bility: Very slow de: Poorly drained b Water: 1.5 Condition: Firm ances: Extensive	vly permeable	ace; gravel, sand, s Landform		lain	
Classifica ASC: N		_ASS, SULFIDIC, EXTR/	ATIDAL, Hydrosol, I	Medium, Non-grave	lly, Clayey, Clayey, \	/ery Deep
Profile M	lorphology:					
Horizon	Depth (m)	Description				
A1	0 to .25					re; very few <2% fine <2mm y permeable; well drained;
B1	.25 to .7	mottles; light clay;	subangular blocky <2% fine <2mm m	moderate 5-10mm s	structure; subangula	% fine <5mm faint grey r blocky moderate 2-5mm bled; moderately permeable;
B21	.7 to 1.05	blocky weak 10-20	mm structure; very		m manganiferous so	ight medium clay; subangular ft segregations; moist when
B22	1.05 to 1.35	subangular blocky	weak 2-5mm struct		fine <2mm manganif	e sandy light medium clay; ferous soft segregations; wet
C1u	1.35 to 2.4	Dark grey (5YR41) n	noist; silty light clay	; massive structure;	; wet when sampled;	gradual to
2C2u	2.4 to 2.7					uartz small pebbles 2-6 mm; ture; wet when sampled;
3C3	2.7 to 3				% subangular quartz le grain structure; w	z small pebbles 2-6 mm; few et when sampled
Field Tes	sts:					
Depth	H2O2-	PH-2 PH-3				
.1	3	5.9 3.				
.3	2	5.7 3.				
.6	4	5.8 6.				
.8	4	6.4 6.				
1	1	6.4 5.				
1.25	4	6.4 5.				
1.5	4	6.5 1.				
1.75	4	6.6 1.				
2	4	6.6 1.				
2.25	4	6.7 1.				
2.5	4	6.9 1.				
2.75		7.1 4.				
3		7.2 5.				
	PH-2:	pH using electrode p				
	PH-3:	pH of hydrogen pero	xide extract			

Project: MAS	Site: 23	Observation: 1
Site Notes: Site	Gouge auger tal	ten from mangroves to north. See photo. 499730E 6979135N.
Observation Note	es:	
Soil	Roots down to water	table (1.5m)
Vegetation	U(w1.0)6V Avicennia	marina (grey mangrove), G(g1.0)1D Sporobolus virginicus (Salt couch)
Horizon Notes:		
Horizon	C1u	Organic material in this horizon

Soil Name: A0S2 - AASS at 0-0.5m and PASS at 1-2m

Soli Marrie.	AU32 - AA3	53 at 0-0.511	anu FASS a	at 1-2111			
Location	: GDA 94	ZONE	56	499648mE	6979865mN	Lat: -27.30425	Long: 152.99644
Describe	ed By: Lauren E	yre (EYRL)				Date:	27/MAY/10
Landscap	e:						
Geology:	Qha/1 - Qha/1	I-9543: Lowe	est river terra	ace; gravel, sand, s	silt, clay		
Element:	plain						
Landform	Pattern: alluv	vial plain					
Permeab	ility: Slowly p	ermeable					
Drainage	: Poorly draine	d					
Depth to	Water: 1.25						
Surface C	Condition: Firm	l					
Disturban	ces: Highly di	sturbed e.g.	mining, urbaı	n			
Classifica	tione						
					Madium Nan ara	velly, Clayey, Clayey,	
		LA33, 30LF	UNIC, LATR	ATIDAL, TIYUIUSUI,	Medium, Non-gra	velly, Clayey, Clayey,	very Deep
	orphology:						
Horizon	Depth (m)	Descripti					
A1	0 to .2	subang	ular quartz s mm mangar	small pebbles 2-6 r	nm; subangular bl	locky moderate 10-20	s; light clay; very few <2% mm structure; very few <2% permeable; well drained;
D1	.2 to .4			52) moist; sand; co sampled; highly pe			pebbles 2-6mm; single grain
D2ia	.4 to .55	yellow	arosite (from		ht medium clay; p	laty weak <2mm struc	ew <2% fine <5mm distinct ture; moderately moist when
2A1bi	.55 to .75	weak 1	0-20mm stru		% fine <2mm ma	nganiferous soft segre	n heavy clay; angular blocky egations; moderately moist
2B21	.75 to 1.3						medium clay; subangular

blocky weak 5-10mm structure; few 2-10% fine <2mm manganiferous root linings; moist when sampled; slowly permeable; poorly drained; gradual to

2C1u	1.3 to 2.1	Dark greenish grey (5GY41) moist; silty medium clay; massive structure; wet when sampled; abrupt to
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3C2u 2.1 to 3 Greenish grey (5GY51) moist; sand; single grain structure; wet when sampled

Depth	H2O2-		PH-2	PH-3
.1	4		5.6	3.9
.3			5.7	3.4
.5			3.8	1.5
.6			3.9	1.8
.8	4		4.6	3.3
1	4		5	4.8
1.25	2		6	4.6
1.5	4		4.9	1.7
1.75	4		5.9	1.9
2	4		6.4	1.3
2.25	4		7.3	1.2
2.5	4		7.3	1.4
2.75	1		7.4	1.4
3	4		7.1	1.6
		PH-2:	pH using	electrode probe
		PH-3:	pH of hy	drogen peroxide extract

Project: MAS	Site: 24	Observation: 1	
Observation Notes	s:		
Observation	Saline scald approx 2	20m north of site - extent 30m x 20)m

Soil	Rooting depth is approx 1.3m		
Horizon Notes:			
Horizon	D2ia	Horizon has lots of thin layers made up of jarosite, sand lenses and goethite	
Horizon	2A1bi	Mottles follow root linings	

Project:	MAS	Site: 25 Observation: 1
Soil Name:	LP - Low Prot	bability of ASS in areas below 5m AHD
Location	: GDA 94	ZONE 56 498422mE 6983348mN Lat: -27.27281 Long: 152.98406
Describe	ed By: Lauren OB	Brien (OBRL) Date: 08/JUN/10
Element: Permeat Drainage Depth to Surface (Qha/1 - Qha/1-9	ained
Classifica ASC: M		PHIC, GREY, Kandosol, Thick, Non-gravelly, Clay Loamy, Clayey, Giant
Profile Mo Horizon	orphology: Depth (m)	Description
A11	0 to .3	Dark greyish brown (2.5Y43) moist; very few <2% fine <5mm faint orange mottles, very few <2% fine <5mm faint dark mottles; silty clay loam; granular strong 2-5mm structure; firm dry; few 1-2mm roots; many <1mm roots; dry when sampled; moderately permeable; imperfectly drained; gradual to
A12	.3 to .6	Dark greyish brown (2.5Y42) moist; very few <2% fine <5mm faint brown mottles; clay loam; subangular blocky weak 2-5mm structure; firm dry; few <1mm roots; dry when sampled; moderately permeable; imperfectly drained; clear to
B21	.6 to 1.3	Greyish brown (2.5Y52) moist; common 10-20% medium 5-15mm distinct orange mottles, few 2-10% fine <5mm distinct dark mottles; clay loam; angular blocky weak 5-10mm structure; few 2-10% fine <2mm ferromanganiferous root linings; very firm moderately moist; few 1-2mm roots; few <1mm roots; moderately moist when sampled; slowly permeable; imperfectly drained; clear to
B22	1.3 to 1.7	Grey (5Y51) moist; very few <2% medium 5-15mm distinct orange mottles, very few <2% medium 5-15mm distinct dark mottles; light medium clay; massive structure; few 2-10% medium 2-6mm ferromanganiferous soft segregations; very firm moderately moist; few <1mm roots; moderately moist when sampled; slowly permeable; imperfectly drained; abrupt to
2B21	1.7 to 1.98	Grey (5Y51) moist; very few <2% fine <5mm faint orange mottles; clayey sand; massive structure; very few <2% fine <2mm ferruginous root linings; weak moderately moist; few <1mm roots; moderately moist when sampled; abrupt to
2B22	1.98 to 2.3	Grey (5Y61) moist; very few <2% medium 5-15mm faint orange mottles; clayey sand; massive structure; weak moderately moist; few <1mm roots; moderately moist when sampled; clear to
2B23	2.3 to 3.2	Light grey (5Y71) moist; many 20-50% very coarse >30mm prominent orange mottles, few 2- 10% medium 5-15mm distinct dark mottles; fine sandy clay loam; few 2-10% rounded gravel medium pebbles 6-20 mm; massive structure; very firm moderately moist; moderately moist when sampled; clear to
2B24	3.2 to 3.5	Grey (5Y51) moist; common 10-20% coarse 15-30mm prominent orange mottles; light medium clay; massive structure; few 2-10% medium 2-6mm ferromanganiferous soft segregations; firm moderately moist; moderately moist when sampled; clear to
3B21	3.5 to 4.55	Reddish brown (5YR44) moist; few 2-10% medium 5-15mm distinct gley mottles; sandy clay loam; massive structure; firm moderately moist; moderately moist when sampled; gradual to
3B22	4.55 to 4.9	Dark brown (7.5YR34) moist; very few <2% medium 5-15mm distinct gley mottles; sandy clay loam; very few <2% subrounded gravel small pebbles 2-6 mm; massive structure; very firm moist; moist when sampled; gradual to
3B23	4.9 to 5.4	Dark brown (10YR33) moist; very few <2% medium 5-15mm distinct gley mottles; sandy clay loam; very few <2% subangular gravel large pebbles 20-60 mm; few 2-10% subangular gravel medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; abrupt to
4B21	5.4 to 7.2	Dark yellowish brown (10YR44) moist; clayey coarse sand; abundant 50-90% subrounded quartz small pebbles 2-6 mm; few 2-10% subrounded gravel medium pebbles 6-20 mm; very few <2% subrounded gravel large pebbles 20-60 mm; single grain structure; loose wet; wet when sampled; clear to
4B22	7.2 to 8.2	Dark greyish brown (2.5Y43) moist; clayey coarse sand; many 20-50% subrounded gravel small pebbles 2- 6 mm; common 10-20% subrounded gravel medium pebbles 6-20 mm; very few <2% subrounded gravel large pebbles 20-60 mm; single grain structure; loose wet; wet when sampled; diffuse to
4B23	8.2 to 9.8	Dark yellowish brown (10YR44) moist; clayey coarse sand; few 2-10% subrounded quartz large pebbles 20-60 mm; common 10-20% subrounded quartz medium pebbles 6-20 mm; many 20-50% subrounded quartz small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled

Project:	MAS	Site:	25	Observation:	1
Field Te		D U a	2 11 a		
Depth	H2O2-	PH-2	PH-3		
.1	1	5.5	3.		
.3	3	6	3.		
.6	1	6.2	4.		
.8	1	6.4	4.		
1	1	6.1	4.		
1.25	1	6.6	4.		
1.5	2	6.7	5.		
1.75	1	6.7	5.		
2	1	6.8	5.		
2.25	4	7	6.	7	
2.5	4	6.8	7		
2.75		6.6	5.		
3	4	6.8	6.		
3.25	4	7.5	7.	5	
3.5	2	6.9	6		
3.75	4	6.7	6.	9	
4	2	6.6	5.	7	
4.25	1	6.4	5.	2	
4.5	1	6.6	5.	2	
4.75	1	6.6	5		
5		6.6	5.	4	
6.75		6.7	6.	4	
7		6.6	6.	3	
7.25		7	5.	9	
7.5		6.9	6.	3	
7.75		6.9	6.	1	
8		7.3	6.	2	
8.25		7.2	6.	2	
8.5		7.1	6.	2	
8.75	1	7	6.	7	
9		7	6.	1	
9.25		7	6.	1	
9.5		7.2	6		
9.75	1	7.1	6		
		PH-2: pH us	sing electrode pi	obe	
			f hydrogen pero		
c	ite Notes:				
	Site	Ame	or paper mill at F	Patria	
			or paper min at r	reine	
	bservation N				
	Vegetation		D Eucalyptus sp		
			5M Lantana spp		
			BD Grasses		
	orizon Notes				
	Horizon				rom 5.25 - 6.50m (Sample lost)
	Texture	4E	322 ba	nds of SCL	

Project:	MAS	Site: 2	6	Observation:	1		
Soil Name	: S0 - PA	SS at 0-0.5m					
Locatio	on: GDA 94	ZONE	56	498969mE	6984143mN	Lat: -27.26563	Long: 152.98958
Describ	bed By: Laure	en OBrien (OBRL	_)			Date:	02/JUN/10
Landsca	ipe:						
			nded river te		plain); clay, silt, sa	-	
	t: creek ter	race slowly permeat		Landforn	n Pattern: alluvial	plain	
	ability. Very ae: Very poo	21	JIE				
	o Water: .01	•					
Surface	e Condition:	Soft					
Disturba	ances: No e	effective disturba	ance				
Classific							
ASC:	NO AVAILABI	LE CLASS, SULF	IDIC, EXTRA	ATIDAL, Hydrosol,	Thin, Non-gravelly,	, Clay Loamy, Clayey,	Very Deep
	lorphology						
Horizon	Depth (m)				00.50%		and the second sector states
A1	0 to .05	loam; r		cture; loose wet; a		ots; wet when sample	nge mottles; sapric silty clay ed; slowly permeable;
B21	.05 to .12	clay loa	Dark greyish brown (2.5Y43) moist; many 20-50% medium 5-15mm distinct orange sharp mottles; sapric silty clay loam; massive structure; loose wet; abundant <1mm roots; wet when sampled; slowly permeable; poorly drained; sharp to				
C1u	.12 to .75		Black (2.5Y2.5/1) moist; sapric silty light clay; massive structure; very weak wet; few 1-2mm roots; many <1mm roots; wet when sampled; slowly permeable; poorly drained; clear to				
2C2u	.75 to 1.6		Dark grey (N40) moist; very few <2% fine <5mm faint orange mottles; fine sandy light clay; massive structure; very weak wet; wet when sampled; very slowly permeable; very poorly drained				
Field Tes	sts:						
Depth	H2O2-	PH-2	PH-3				
.1	2	6.3	4.				
.3 .6	2 4	6.8 6.4	1. 1.				
.8	4	6.6	1.				
1	4	6.8	2.	_			
1.25	2	6.8	2.	3			
1.5		6.7	1.	9			
	PH-2:	pH using electro					
	PH-3:	pH of hydrogen	peroxide ex	ktract			
	te Notes:						
ç	Site	Creek be	ehind Amcor	plant			
	bservation Not						
١	/egetation	U(w1.0)6D A M(w3.0)3D L G(g1.0)1D S	antana spp.	<i>ina</i> <i>irginicus</i> (Salt couc	:h)		
Но	orizon Notes:						
	Horizon	A1	org	anics			
ł	10112011			•			
	Horizon	B21	org	janics			

Project: MAS	Site: 27	Observation: 1			
Soil Name: S0 - PASS	at 0-0.5m				
Location: GDA 94	ZONE 56	498858mE 6984107mN	Lat: -27.26596	Long: 152.98846	
Described By: Lauren (OBrien (OBRL)		Date:	02/JUN/10	
Landscape:					
Geology: Qpa/1 - Qpa/	1-9543: Stranded river te	errace (above floodplain); clay, silt, sa	ind, gravel		
Element: creek terrac	e	Landform Pattern: alluvial	plain		
Permeability: Very slo	owly permeable	Runoff: No runoff			
Drainage: Very poorly	drained				
Depth to Water: 0.01					
Surface Condition: So	ft				
Disturbances: No effective disturbance					
Classifications:					
ASC: NO AVAILABLE CLASS, SULFIDIC, EXTRATIDAL, Hydrosol, Thin, Non-gravelly, Clay Loamy, Clayey, Deep					
Profile Morphology:					

Horizon	Depth (m)	Description
A1	0 to .05	Dark yellowish brown (10YR44) moist; clay loam; massive structure; weak wet; few <1mm roots; wet when sampled; slowly permeable; imperfectly drained; abrupt to
B2	.05 to .4	Olive brown (2.5Y44) moist; few 2-10% medium 5-15mm distinct orange mottles; clay loam; massive structure; weak wet; few <1mm roots; wet when sampled; slowly permeable; poorly drained; abrupt to
2C1u	.4 to .65	Black (2.5Y2.5/1) moist; clayey sand; massive structure; very weak wet; few <1mm roots; wet when sampled; slowly permeable; poorly drained; abrupt to
3C2u	.65 to .95	Dark grey (5Y41) moist; silty light clay; massive structure; very weak wet; wet when sampled; very slowly permeable; very poorly drained; abrupt to
3C3u	.95 to 1	Very dark grey (N30) moist; clayey sand; massive structure; very weak wet; wet when sampled; moderately permeable; very poorly drained

Depth	H2O2-	PH-2	PH-3
.1	1	5.6	4.9
.3	1	4.4	3
.6	1	6.4	2
.8	1	6.7	3
1	4	6.6	1.5
	PH-2:	pH using electrode p	orobe

PH-3: pH of hydrogen peroxide extract

Site Notes: Site

Creek behind Amcor, upstream from site 26

Vegetation	U(w1.0)6M Avicenna marina M(f1.0)4V Acrostichum speciosum (Mangrove fern) G(g1.0)2D Sporobolus virginicus (Salt couch)			
Horizon Notes:	-(3)=p	······		
Horizon	3C3u	Insufficient sample		
Horizon	3C3u	organics		

Project:	MAS	Site: 28 Observation: 1				
Soil Name:	S2 - PASS at	-2m				
Location	n: GDA 94	ZONE 56 499371mE 6983969mN Lat: -27.2672 Long: 152.99365				
Describ	ed By: Lauren Ey	e (EYRL) Date: 03/JUN/10				
Landscap	be:					
07		543: Lowest river terrace; gravel, sand, silt, clay				
	: stream chann bility: Slowly pe					
	e: Imperfectly dra					
	Water: 1.2					
	Condition: Soft nces: Limited clo	aring				
Classifica						
		SS, DERMOSOLIC, EXTRATIDAL, Hydrosol, Thin, Non-gravelly, Clay Loamy, Clayey, Giant				
Profile M	orphology:					
Horizon	Depth (m)	Description				
A1	0 to .03	Very dark grey (7.5YR31) moist; fibric clay loam; subangular blocky strong 2-5mm structure; very weak moderately moist; very weak moderately moist; moderately moist when sampled; moderately permeable; well drained; abrupt to				
B21	.03 to .65	Brown (10YR53) moist; very few <2% fine <5mm faint pale mottles; light medium clay; subangular blocky moderate 5-10mm structure; firm moist; moist when sampled; moderately permeable; moderately well drained; gradual to				
B22	.65 to 1	Brown (10YR53) moist; few 2-10% fine <5mm distinct red mottles, very few <2% fine <5mm faint pale mottles; silty light medium clay; subangular blocky weak 5-10mm structure; very few <2% fine <2mm manganiferous soft segregations; weak moist; moist when sampled; slowly permeable; imperfectly drained; gradual to				
B23	1 to 1.2	Olive grey (5Y52) moist; common 10-20% fine <5mm distinct brown mottles; fine sandy light medium clay; subangular blocky weak 5-10mm structure; firm moist; moist when sampled; slowly permeable; imperfectly drained; clear to				
C1u	1.2 to 1.45	Greenish grey (5GY51) moist; fine sandy light medium clay; massive structure; weak moist; moist when sampled; slowly permeable; imperfectly drained; clear to				
2C1	1.45 to 2.15	Dark greyish brown (10YR42) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; single grain structure; loose wet; wet when sampled; gradual to				
2C21	2.15 to 3.7	Yellowish brown (10YR54) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; single grain structure; loose wet; wet when sampled; gradual to				
3C1u	3.7 to 4	Greenish grey (5GY51) moist; coarse sandy light clay; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; gradual to				
4C1u	4 to 4.35	Olive grey (5Y52) moist; coarse sand; many 20-50% subangular quartz medium pebbles 6-20 mm; few 2- 10% subangular quartz small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled; clear to				
5C1u	4.35 to 5.75	Olive grey (5Y52) moist; many 20-50% medium 5-15mm prominent brown mottles; light medium clay; few 2- 10% subangular quartz large pebbles 20-60 mm; common 10-20% subangular quartz medium pebbles 6- 20 mm; common 10-20% subangular quartz small pebbles 2-6 mm; massive structure; firm wet; wet when sampled; abrupt to				

Project:	MAS	Site: 2	28 Observation: 1
Field Tes	sts:		
Depth	H2O2-	PH-2	PH-3
.1	2	6.8	5.4
.3	4	6.4	6.1
.6	4	6.4	6.7
.8	4	6.3	6.2
1	4	6.5	6.7
1.25		6.5	5.4
1.5	4	6.2	7.5
1.75	4	6.5	8.2
2	4	6.8	8.5
2.25		6.4	4.8
2.5	3	6.9	7.3
2.75		6.5	6.1
3		6.9	5.8
3.25		6.5	6.5
3.5		6.8	6.5
3.75		6.5	5.9
4	1	6.6	2.8
4.25		6.7	3.7
4.5	4	6.8	6.1
4.75	4	7.1	6.5
5	3	6.4	5.9
5.25	4	6.8	6.7
5.5	1	6.9	3.6
5.75	4	6.8	.9
	PH-2:	pH using electro	ode probe
	PH-3:	pH of hydroger	n peroxide extract
Site Note	s:		
Site		Amcor - inner	creek bend
Observat	ion Notes:		
Vegeta	•	w1.0)6M Casuar (w3.0)4D <i>Lantana</i>	
Horizon N	Notes:		
Horizor	ı	B21	Unsure if horizon is a A3/B1 horizon. Colour seems like A, but structure is moderate. This will change classification
Texture	9	B23	Thin sand lenses at 1.23, 1.32, 1.38, less than 1cm thick
Horizor	า	C1u	Old roots and organic matter in this horizon
Horizor	า	2C1	Organic layer at 2.22-2.25. Colour 10YR42
Horizor	ı	3C1u	Less gravel in this horizon

HUIIZUII	SCTU	Less graver in this holizon					

Horizon	4C1u	Fresh gravel, very little soil. Hard to determine colour
Horizon	5C1u	Mangrove tree? from 5.8-6.0

Project:	MAS	Site: 29 Observation: 1
Soil Name:	S5+ - PASS a	at greater than 5m depth
Location	: GDA 94	ZONE 56 499106mE 6983928mN Lat: -27.26757 Long: 152.99097
Describ	ed By: Lauren Ey	re (EYRL) Date: 03/JUN/10
Element: Permeal Drainage Depth to Surface Disturbar	Angle Constants	
Classifica ASC: M		SOLIC, OXYAQUIC, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Giant
Profile M	orphology:	
Horizon	Depth (m)	Description
A1	0 to .18	Very dark grey (10YR31) moist; light clay; subangular blocky strong 2-5mm structure; very firm moderately moist; moderately moist when sampled; moderately permeable; well drained; clear to
B21	.18 to .5	Very dark greyish brown (10YR32) moist; few 2-10% fine <5mm faint pale mottles; light clay; subangular blocky moderate 5-10mm structure; very few <2% fine <2mm manganiferous soft segregations; very firm moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; gradual to
B22	.5 to .9	Brown (10YR43) moist; few 2-10% fine <5mm distinct gley mottles, few 2-10% fine <5mm distinct orange mottles; light clay; subangular blocky moderate 5-10mm structure; very few <2% fine <2mm manganiferous soft segregations; very firm dry; dry when sampled; moderately permeable; moderately well drained; gradual to
B23	.9 to 1.2	Dark yellowish brown (10YR44) moist; few 2-10% fine <5mm distinct gley mottles, common 10-20% fine <5mm distinct orange mottles; fine sandy light clay; angular blocky weak 5-10mm structure; very few <2% fine <2mm manganiferous soft segregations; firm moderately moist; moderately moist when sampled; slowly permeable; imperfectly drained; gradual to
B24	1.2 to 1.5	Weak red (2.5YR52) moist; common 10-20% fine <5mm distinct red mottles, few 2-10% fine<5mm distinct orange mottles; fine sandy light medium clay; massive structure; few 2-10% medium 2-6mm manganiferous soft segregations; firm moist; moist when sampled; slowly permeable; imperfectly drained; gradual to
C1	1.5 to 1.7	Reddish grey (5YR52) moist; fine sandy light medium clay; very few <2% subangular quartz small pebbles 2-6 mm; massive structure; weak wet; wet when sampled; clear to
2C1	1.7 to 2	Grey (5Y51) moist; sandy light medium clay; abundant 50-90% subangular quartz small pebbles2-6 mm; weak wet; wet when sampled; gradual to
2C2	2 to 2.35	Brown (7.5YR44) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10- 20% subangular quartz medium pebbles 6-20 mm; single grain structure; loose wet; wet when sampled; clear to
2C3	2.35 to 2.6	Dusky red (2.5YR32) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; single grain structure; loose wet; wet when sampled; gradual to
2C4	2.6 to 2.9	Dark greyish brown (2.5Y42) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; single grain structure; loose wet; wet when sampled; gradual to
2C5	2.9 to 5.9	Dark yellowish brown (10YR46) moist; coarse sand; abundant 50-90% subangular quartz small pebbles 2-6 mm; many 20-50% subangular quartz medium pebbles 6-20 mm; few 2-10% subangular gravel medium pebbles 6-20 mm; single grain structure; weak wet; wet when sampled; clear to
3C1u	5.9 to 6.2	Dark greenish grey (10Y41) moist; light medium clay; few 2-10% subangular gravel large pebbles 20-60 mm; common 10-20% subangular gravel medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; clear to
4C1u	6.2 to 6.75	Light greenish grey (5GY71) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; single grain structure; loose wet; wet when sampled; clear to
5C1	6.75 to 7.45	Light greenish grey (10G71) moist; coarse sandy medium clay; few 2-10% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; few 2-10% subangular quartz large pebbles 20-60 mm; massive structure; firm wet; wet when sampled

Project:	MAS		Site:	29		Observation:	1
Field Tes	sts:						
Depth	H2O2-	Р	H-2	Р	H-3		
.1	4		7.9		7.7		
.3	4		7.9		7.9		
.6	4		8		7.8		
.8	4		7.9		6.8		
1	4		7.5		7.2		
1.25	4		7.7		7.5		
1.5			7.6		6.7		
1.6			7.5		6.5		
1.75			7.7		7.1		
2			7.2		6.3		
2.25			7.2		7.7		
2.5			7.9		8.7		
2.75	4		7.9		8.8		
3	3		8.1		8.1		
3.25			8		6.7		
3.5			7.6		6.5		
3.75			7.7		6.8		
4			7.1		6.6		
4.25			7.8		6.5		
4.5	1		7.8		7.2		
4.75	3		7.1		7.8		
5	3		7.2		7.8		
5.25			7.6		6.4		
5.5			7.6		6.5		
5.75			7.7		6.5		
6	4		7.6		1.8		
6.25	4		7.2		1.8		
6.5			8.5		6.8	3	
6.75			8.7		6.9)	
7			7.4		6.8	3	
7.25			7.2		6.2	2	
		PH-2:	pH us	ing electr	ode pro	be	

PH-3: pH of hydrogen peroxide extract

Vegetation	U(w1.0)7M Carya illinoinensis (Pecan orchard)		
Horizon Notes:			
Horizon	B22	Macropore evident in this horizon	
Horizon	B22	Large tree root at 60cm	
Horizon	2C1	Gravel lenses 5cm thick, lenses at 1.7-1.75, 1.83-1.87 - colour 7.5yr 4/4	
Horizon	2C5	This horizon has layers of different coloured gravels. Some parts are redder in colour	
Horizon	5C1	Sand lense between 7.3-7.38 - brown in colour (2.5Y6/6). 1cm thick lense at 6.82 and 7.0	

Project: MAS					
Soil Name: S1 - PASS a					
Location: GDA 94					
Described By: Lauren O					
Landscape:					
Geology: Qha/1 - Qha/1					
Element: channel bench Landform Pattern: alluvial plain					
Permeability: Very slowly permeable					
Drainage: Very poorly d					
Depth to Water: 0.5					
Surface Condition: Soft					
Disturbances: No effective disturbance					
Classifications:					
ASC: NO AVAILABLE C					
Profile Morphology:					
Location: GDA 94 Described By: Lauren O Landscape: Geology: Qha/1 - Qha/1 Element: channel benc Permeability: Very slow Drainage: Very poorly d Depth to Water: 0.5 Surface Condition: Soft Disturbances: No effect Classifications: ASC: NO AVAILABLE C					

Horizon	Depth (m)	Description
A1	0 to .1	Very dark greyish brown (2.5Y32) moist; clay loam; massive structure; weak wet; wet when sampled; very slowly permeable; very poorly drained; sharp to
B2	.1 to .6	Reddish brown (2.5YR43) moist; very few <2% fine <5mm faint gley mottles, very few <2% fine <5mm faint orange mottles; light clay; massive structure; weak wet; wet when sampled; very slowly permeable; very poorly drained; abrupt to
Cu	.6 to .8	Dark greenish grey (10Y31) moist; silty light clay; massive structure; very weak wet; wet when sampled; very slowly permeable; very poorly drained

Depth	H2O2-	PH-2	PH-3
.01	4	7.1	6.5
.1	4	7	7.2
.2	4	7	7.2
.3	4	7	7.2
.4	4	7.1	7.2
.5	4	6.8	5.7
.6	4	6.8	7.2
.7	4	7.2	5
.8	4	7.2	3.5
	PH-2:	pH using electrode p	orobe

PH-3: pH of hydrogen peroxide extract

Site Notes:

Site	Mangrove flat adjacent to Pecan orchard, Amcor.
Site	Hand augered, stopped by dense gravel/rock

Vegetation	U(w1.0)7D Avicennia marina
	U(w1.0)6M Excoecaria agallocha (milky mangrove)
	G(f1.0)4V Acrostichum speciosum (Mangrove fern)
	Bare ground

Project: MAS	Site: 31	Observation:	1		
Soil Name: A2 - AA	ASS at 1-2m				
Location: GDA 94	ZONE 56	500928mE	6981109mN	Lat: -27.29302	Long: 153.00938
Described By: Lau	ren Eyre (EYRL)			Date:	22/JUN/10
Landscape:					
	Qha/2-9543: Second river te	rrace; sand, silt, clay	gravel		
Element: plain		Landform		ain	
Drainage: Very po	derately permeable	Runoff:	SIOW		
Depth to Water: 1					
Surface Condition:	Firm				
Disturbances: Cor	nplete clearing - pasture - cu	ultivation at some sta	ge		
Classifications:					
ASC: MELANIC, SI	JLFURIC, REDOXIC, Hydroso	ol, Medium, Non-grave	elly, Clay Loamy, C	Clayey, Very Deep	
Profile Morphology	/:				
Horizon Depth (m	•				
A1 0 to .25		structure; firm mode			y loam; subangular blocky npled; moderately permeable;
B21 .25 to .6		structure; firm mode			um clay; subangular blocky npled; moderately permeable;
2B21 .6 to 1.05					mottles; sandy light medium ble; poorly drained; gradual to
2B22ia 1.05 to 1.	fine <5mm disting	Light olive grey (5Y62) moist; very few <2% fine <5mm faint yellow jarosite (from pyrite) mottles, few 2-10% fine <5mm distinct brown mottles; sandy light clay; massive structure; very weak wet; wet when sampled; moderately permeable; very poorly drained; diffuse to			
2C 1.6 to 2		st; sandy light clay; r boorly drained; clear		very weak wet; wet	when sampled; moderately
3C 2 to 2.2	Greenish grey (10) permeable; very p		; massive structur	e; very weak wet; we	t when sampled; slowly
Field Tests:					
Depth H2O2-	PH-2 PH-3				
.1 1 .25 2		3 3.8			
.5 1		3.9			
.75 1	4.1 ;	3.4			
1 1	4.2	3.3			
1.25		3.0			
1.5		3.1			
1.75 1 2.05 4		3 1.5			
	PH-2: pH using electrode				
F	PH-3: pH of hydrogen per				
Site Notes:					
Site	2-3m of water on s	surface during last flo	bod		
Observation No	ites:				
Observation	EC of water in auger hol				
Vegetation	pH of water in auger he G(g1.0)1D Sporobolus s		palum?		

Project:	MAS	Site: 32	Observation:	1		
Soil Name	: S1 - PAS	SS at 0.5-1m				
Locatio	on: GDA 94	ZONE	56 500236mE	6980338mN	Lat: -27.29998	Long: 153.00239
Descrit	oed By: Jonat	han Walton (WAL	J)		Date:	22/JUN/10
Landsca	ipe:					
	•	na/1-9543: Lowes	t river terrace; gravel, sand	, silt, clay		
Elemen	t: supratida	l flat	Landfo	rm Pattern: tidal fla	t	
		slowly permeable	9			
	ge: Very poo o Water: 0.6	rly drained				
	e Condition:	Soft				
			sture - but never cultivated			
Classific	ations					
		E CLASS, SULFID	DIC, EXTRATIDAL, Hydroso	, Thin, Non-gravelly.	Clayey, Clayey, Dee	р
	/lorphology:	,				
Horizon	Depth (m)	Descriptior	1			
A1	0 to .05		R21) moist; common 10-20 ructure; weak moist; moist			lty light clay; granular strong orly drained; abrupt to
B21	.05 to .23		R51) moist; many 20-50% f 5mm structure; firm moist; i			
B22	.23 to .72		51) moist; many 20-50% fi 5mm structure; very weak			
C1u	.72 to .85					t clay; subangular blocky eable; very poorly drained;
C2u	.85 to 1.1		(5Y41) moist; silty light cla le; very poorly drained; gra		; very weak wet; wet	when sampled; very slowly
C3u	1.1 to 1.4		(5Y41) moist; silty light cla le; very poorly drained	y; massive structure	; very weak wet; wet	when sampled; very slowly
Field Te	sts:					
Depth	H2O2-	PH-2	PH-3			
.01	1	6.1	5.2			
.1	1	6.3	4.9			
.3 .6	4 4	6.6 6.3	6.2 6.3			
.0 .8	4	6.2	5.4			
.0 1	4	6.4	1.4			
1.4	4	6.6	1.3			
	P	H-2: pH using el	ectrode probe			
			ogen peroxide extract			
Si	te Notes:					
	Site	Push tube	to 0.5m, then gouge auger	to 1.4m		
	bservation Not		, <u>j</u> . <u>j</u> .			
	Vegetation	U(w1.0)7V Avi	cennia marina			
	90 1011		porobolus virginicus (Salt co	uch)		

Project: MAS Site: 33 Observation: 1 Soil Name: a1S3 - PASS at 2-3m with pH of 4-5 at 0.5-1.0m Location: GDA 94 ZONE 56 499933mE 6980196mN Lat: -27.30127 Long: 152.99932 Date: 22/JUN/10 Described By: Lauren Eyre (EYRL) Landscape: Geology: Qpa/1 - Qpa/1-9543: Stranded river terrace (above floodplain); clay, silt, sand, gravel Element: scroll plain Landform Pattern: alluvial plain Permeability: Moderately permeable Drainage: Imperfectly drained Depth to Water: 2.3 Surface Condition: Firm Disturbances: Complete clearing - pasture - but never cultivated **Classifications:** ASC: HAPLIC, EUTROPHIC, BROWN, Dermosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep ASC: EUTROPHIC, RUDOSOLIC, OXYAQUIC, Hydrosol Profile Morphology:

Depth (m)	Description
0.44	
0 to .2	Dark grey (10YR41) moist; fine sandy clay loam; subangular blocky moderate 2-5mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; diffuse to
.2 to .5	Dark greyish brown (10YR42) moist; fine sandy light clay; subangular blocky strong 2-5mm structure; firm moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; diffuse to
.5 to 1.1	Brown (10YR43) moist; silty light clay; subangular blocky moderate 2-5mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; clear to
1.1 to 1.4	Brown (10YR53) moist; many 20-50% fine <5mm distinct brown mottles; silty light clay; subangular blocky moderate 5-10mm structure; very few <2% medium 2-6mm manganiferous soft segregations; weak moderately moist; moderately moist when sampled; moderately permeable; imperfectly drained; clear to
1.4 to 1.8	Light brownish grey (10YR62) moist; many 20-50% fine <5mm distinct brown mottles; silty medium clay; subangular blocky strong 2-5mm structure; very few <2% medium 2-6mm manganiferous soft segregations; firm moderately moist; moderately moist when sampled; moderately permeable; imperfectly drained; diffuse to
1.8 to 2.1	Greyish brown (10YR52) moist; common 10-20% medium 5-15mm prominent orange mottles; silty light medium clay; weak moist; moist when sampled; slowly permeable; poorly drained; clear to
2.1 to 2.3	Grey (2.5Y51) moist; sandy light clay; common 10-20% angular gravel medium pebbles 6-20 mm; very few <2% angular gravel large pebbles 20-60 mm; massive structure; very weak wet; wet when sampled; moderately permeable; very poorly drained; diffuse to
2.3 to 2.6	Grey (2.5Y51) moist; sandy clay loam; abundant 50-90% angular gravel medium pebbles 6-20 mm; few 2- 10% angular gravel large pebbles 20-60 mm; massive structure; very weak wet;wet when sampled; clear to
2.6 to 2.7	Grey (2.5Y51) moist; sand; abundant 50-90% angular gravel small pebbles 2-6 mm; few 2-10% angular gravel small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled
	.5 to 1.1 1.1 to 1.4 1.4 to 1.8 1.8 to 2.1 2.1 to 2.3 2.3 to 2.6

Project: MAS	Site: 33	Observation: 1
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Field Te	sts:		
Depth	H2O2-	PH-2	PH-3
.1	1	5.4	3
.3	1	5.6	2.8
.6		5.1	3.6
.8		4.8	3.7
1	1	4.7	3.5
1.25	4	5	4
1.5	4	5.5	5.9
1.75	2	5.2	3.6
2		5.1	3.8
2.25	1	5.6	3.7
2.5	4	6.4	1.6
2.7	4	6.5	1.5
	PH-2:	pH using electrod	le probe
	PH-3:	pH of hydrogen p	peroxide extract

Site Notes:

Site

Push tube to 1.6	6m then hand	auger to 2.7m

Observation Notes:

Australian Soil Classification Dermosol to 2.1m (alluvial sediments) over a hydrosol (estuarine sediments).

Vegetation G(g1.0)1D Sporobolus virginicus, Chloris gayana (rhodes grass), blue couch

Horizon Notes:

Horizon B25 Structure destroyed during hand augering

Project:	MAS	Site: 34	Observatio	n: 1		
Soil Name:	S2 - PASS a	at 1-2m				
Location	n: GDA 94	ZONE	56 499812m	E 6980313mN	Lat: -27.30021	Long: 152.9981
Describ	ed By: Jonathar	n Walton (WAL	J)		Date:	22/JUN/10
Landscape: Geology: Qha/2 - Qha/2-9543: Second river terrace; sand, silt, clay gravel Element: drainage depression Landform Pattern: alluvial plain Permeability: Very slowly permeable Drainage: Very poorly drained Depth to Water: 0.2 Surface Condition: Soft Disturbances: Complete clearing - pasture - but never cultivated						
	UTROPHIC, SUL	.FIDIC, REDOX	IC, Hydrosol, Medium, Noi	n-gravelly, Clay Loamy	v, Clayey, Very Deep	
Profile M Horizon	orphology:	Description				
A1	Depth (m) 0 to .1					; very weak moist; moist when
B21	.1 to .2		1) moist; many 20-50% f ructure; weak moist; mo			ım clay; lenticular moderate drained; clear to
B22	.2 to .35		(5Y41) moist; common 1 ; weak wet; wet when s			
2A1	.35 to .72	, ,	grey (2.5Y31) moist; com structure; weak wet; we			nottles; silty light medium clay; porly drained; clear to
2B1	.72 to 1		(5Y41) moist; common 1 ; very weak wet; wet wh			es; silty light clay; massive / drained; clear to
2B2	1 to 1.28		751) moist; silty light clay le; very poorly drained;		very weak wet; wet w	hen sampled; slowly
3Cu	1.28 to 1.65	50% ang		s 2-6 mm; very few <2	2% subrounded quartz	; sandy light clay; many 20- : large pebbles 20-60 mm; e; very poorly drained
Field Tes	ts:					
Depth	H2O2-	PH-2	PH-3			
.05	1	5.5	2.4			
.11	1	5.5	2.4			
.3	4	6.3	2.4			
.6	4	6.6	2.8			

.6	4		6.6	2.8	
.8	4		6.7	2.9	
1	4		6.7	2.6	
1.25	4		6.9	2.6	
1.5	4		6.6	2.7	
		PH-2:	pH using electrode	e probe	
		PH-3:	pH of hydrogen peroxide extract		

Project:	Project: MAS Site: 35 Observation: 1							
Soil Name:	a1LP - Low P	obability of ASS in areas below 5m AHD and pH of 4- 5 at 0.5-1.0m						
Location	n: GDA 94	ZONE 56 500052mE 6981453mN Lat: -27.28992 Long: 153.00053						
Describe	ed By: Jonathan V	/alton (WALJ) Date: 23/JUN/10						
Landscape: Geology: Qha/2 - Qha/2-9543: Second river terrace; sand, silt, clay gravel Element: plain Landform Pattern: alluvial plain Permeability: Slowly permeable Drainage: Poorly drained Depth to Water: 3 Surface Condition: Firm Disturbances: Complete clearing - pasture - cultivation at some stage								
	CIDIC-MOTTLED,	MESOTROPHIC, GREY, Dermosol, Medium, Non-gravelly, Clayey, Clayey, Very Deep						
	orphology:	Description						
Horizon A11	Depth (m) 0 to .1	Description						
ATT	010.1	Dark brown (7.5YR32) moist; light clay; granular strong 2-5mm structure; weak moist; moist when sampled; moderately permeable; imperfectly drained; abrupt to						
A12	.1 to .35	Dark greyish brown (10YR42) moist; light clay; subangular blocky strong 2-5mm structure; weak moist; moist when sampled; moderately permeable; imperfectly drained; clear to						
B21	.35 to .55	Grey (10YR61) moist; many 20-50% medium 5-15mm prominent red mottles; medium clay; subangular blocky strong 2-5mm structure; firm moist; moist when sampled; moderately permeable; imperfectly drained; abrupt to						
B22	.55 to 1	Light brownish grey (10YR62) moist; common 10-20% medium 5-15mm distinct yellow mottles, few 2-10% fine <5mm prominent red mottles; medium heavy clay; lenticular moderate 2-5mm structure; firm moist; moist when sampled; slowly permeable; poorly drained; gradual to						
B23	1 to 1.5	Light brownish grey (10YR62) moist; common 10-20% fine <5mm distinct yellow mottles; medium heavy clay; lenticular moderate 2-5mm structure; firm moist; moist when sampled; slowly permeable; poorly drained; clear to						
B24	1.5 to 2	Grey (10YR61) moist; many 20-50% fine <5mm prominent yellow mottles; heavy clay; massive structure; very firm moist; moist when sampled; clear to						
B25	2 to 2.4	Light brownish grey (10YR62) moist; many 20-50% coarse 15-30mm prominent yellow mottles, few 2-10% coarse 15-30mm prominent red mottles; sandy heavy clay; massive structure; very firm moist; moist when sampled; clear to						
B26	2.4 to 2.7	Light grey (2.5Y71) moist; common 10-20% medium 5-15mm distinct brown mottles; sandy heavy clay; massive structure; very firm moist; moist when sampled; clear to						
2B	2.7 to 3.2	Light grey (2.5Y71) moist; many 20-50% coarse 15-30mm prominent brown mottles; sandy medium clay; massive structure; firm wet; wet when sampled; clear to						
3B21	3.2 to 3.5	Grey (2.5Y61) moist; common 10-20% coarse 15-30mm prominent brown mottles, few 2-10% fine <5mm prominent red mottles; heavy clay; massive structure; very firm moist; moist when sampled; clear to						
3B22	3.5 to 4	Light grey (2.5Y71) moist; common 10-20% medium 5-15mm prominent red mottles, common 10-20% medium 5-15mm prominent brown mottles; sandy heavy clay; massive structure; very firm moist; moist when sampled						

Project:	MAS		Site:	35	Oł	oservation:	1
Fie	ld Tests:						
De	epth H	1202-	PI	H-2	PH-3		
.0	1	3		5.05		3.6	
.1		3		5.3		3.6	
.3		1		5.1		4.0	
.6				5		3.6	
.8				5.1		3.6	
1				5		4	
1.:	25			5.1		4	
1.	5			5.2		4.3	
1.	75			5.9		5.1	
2				5.9		5.3	
2.2	25			6.1		5.4	
2.	5			6		5.4	
2.	75			6.1		5	
3				6		5	
3.:	25			6.1		4.8	
3.	5			5.9		5.5	
3.	75			5.2		5	
4				5.4		5.1	
		PH-2:	pH usi	ng electrode	probe		
		PH-3:	pH of	hydrogen pei	roxide	extract	
Sit	e Notes:						
S	Site		Push	tube to 1.5m	then h	nand auger	
						-	

Horizon Notes:

Texture	3B21	Organic matter in horizon 10
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Project:	MAS	Site: 36	Observation: 1			
Soil Name	a0S0 - PAS	S at 0-0.5m with pH o	f 4-5 at 0-0.5m			
Locatio	on: GDA 94	ZONE 56	500148mE	6981365mN	Lat: -27.29071	Long: 153.0015
	bed By: Lauren (Date:	30/JUN/10
					Date.	30/0011/10
Landsca Geology	•	1-9543: Lowest river t	errace; gravel, sand, s	ilt, clay		
Element			Landform	Pattern: flood pla	ain	
Permea Slope:		owly permeable	Drainage:	Very poorly drai	ned	
	o Water: 0.01					
Surface	Condition: Sof	t				
Disturba	ances: No effect	ctive disturbance exce	pt grazing by hoofed a	nimals		
Classific						
		CLASS, SULFIDIC, SU	PRATIDAL, Hydrosol, N	/ledium, Non-grave	elly, Peaty, Clayey, √	ery Deep
	Iorphology:	Description				
Horizon	Depth (m)	Description				
A11	0 to .12	, ,,,	0YR31) moist; fibric pe permeable; poorly dra	,	ure; firm wet; abund	ant <1mm roots; wet when
A12	.12 to .2		noist; fibric peat; massi le; very poorly drained		wet; many <1mm r	oots; wet when sampled; very
B21	.2 to .8		 moist; fibric silty me roots; wet when samp 			eak wet; few 1-2mm roots; / drained; diffuse to
B22u	.8 to 2.5		noist; fibric fine sandy et when sampled; very			ak wet; few <1mm roots; few d; gradual to
C1u	2.5 to 3	Dark grey (N40) r structure; very v	noist; sandy light clay; veak wet; wet when sa	very few <2% sub ampled; clear to	prounded quartz sma	all pebbles 2-6mm; massive
2C2	3 to 3.6		6 subrounded quartz s			tles; loamy coarse sand; cture; loose wet; wet when
2C3	3.6 to 4.25		clayey coarse sand; c wet; wet when sample		ubrounded quartz sn	nall pebbles 2-6mm; massive
3C4	4.25 to 4.5	10% subrounde		s 2-6 mm; very few	/ <2% subrounded q	s; sandy clay loam; few 2- juartz medium pebbles 6-20
Field Tes	sts:	,	,			
Depth	H2O2-	PH-2 PH-3	1			
.1	2	5.2	4.4			
.2	2	6	4.3			
.3	1	7.1	4.6			
.6 .8	1 4	6.9 7.1	3.9 1.3			
1	4	6.6	1.6			
1.25	4	6.3	1.5			
1.5	4	6.4	1.7			
1.75	4	6.7	1.7			
2	4	6.9	1.9			
2.25	4	7.2	2.0			
2.5	4	7.9	2.9			
2.75 3	4	7 6	1.7			
3 3.25		б 6.6	5.9 5.9			
3.25		0.0	5.5			

58

3.5

6.5

5.7

Project: MAS	Site: 36	Observation: 1
Depth H2O2-	PH-2	PH-3
3.75	7.1	6.1
4	7.3	6.1
4.25	6.9	5.9
4.5	6.8	5.5
PH-2:	pH using electrod	le probe
PH-3:	pH of hydrogen p	peroxide extract
Site Notes:		
Site	Organics through	nout, bad smell (H2S)
Site	Raining	
Observation Notes:		
5	w1.0)6S Mangrove (g1.0)1D Sporoboli	spp <i>us virginicus</i> (Salt couch)

Project:	MAS	Site: 37	Observation:	1			
Soil Name:	LP - Low Pro	bability of ASS in area	s below 5m AHD				
Location:	GDA 94	ZONE 56	499390mE	6982261mN	Lat: -27.28262	Long: 152.99384	
Describe	d By: Lauren OE	Brien (OBRL)			Date:	30/JUN/10	
Landscape: Geology: Qpa/1 - Qpa/1-9543: Stranded river terrace (above floodplain); clay, silt, sand, gravel Element: plain Permeability: Slowly permeable Slope: 1 %							
	Condition: Firm						
	•	clearing - pasture - cu	ltivation at some sta	ge			
Classificat ASC: MA		OPHIC, BROWN, Kando	osol, Medium, Non-gi	avelly, Clay Loamy	, Clayey, Very Deep		
Profile Mo	orphology:						
Horizon	Depth (m)	Description					
A1	0 to .1					veak moderately moist; many tely well drained; abrupt to	
B1	B1 .1 to .3 Dark greyish brown (2.5Y43) moist; clay loam; granular strong <2mm structure; common 10-20% fine <2mm manganiferous nodules; strong dry; common <1mm roots; dry when sampled; moderately permeable; well drained; clear to						
B21	.3 to .5					ommon 10-20% fine <2mm ; moderately permeable; well	
B22	.5 to 1.1	prominent dark mo segregations; very	ottles; medium clay;	massive structure; pist; few <1mm root	very few <2% fine <	, very few <2% fine <5mm 2mm manganiferous soft when sampled; slowly	
B23	1.1 to 1.4	massive structure	common 10-20% fi	ne <2mm manganif		ttles; light medium clay; ons; firm moderately moist; r to	
B24	1.4 to 2	<5mm distinct dar	k mottles; light clay	; massive structure	; very few <2% fine	ale mottles, very few <2% fine <2mm manganiferous soft permeable; imperfectly	
B25	2 to 2.7					ale mottles, common 10-20% moist; moderately moist when	
2B21	2.7 to 3.25	0,(, ,		30mm distinct orang y moist when sample	e mottles; medium clay; ed	

Depth	H2O2-	PH-2	PH-3
.1	1	5.4	3.9
.3	4	6.1	5.2
.6	4	6.5	5.4
.8	1	6.7	5.8
1	4	7	6.6
1.25	4	7.4	8.5
1.5	4	7.4	8.1
1.75	4	7.4	8.1
2	4	7.6	8.1
2.25	4	7.6	8.4
2.5		7.6	6.6
2.75		7.9	6.5
3		7.7	6.3
3.25		7.4	6.3

Project:	MAS		Site:	37	Observation:	1
D	epth I	1202-	PI	H-2	PH-3	
.1		1		5.4	3.9	
.3	3	4		6.1	5.2	
.6	6	4		6.5	5.4	
.8	3	1		6.7	5.8	
1		4		7	6.6	
1.	.25	4		7.4	8.5	
1.	.5	4		7.4	8.1	
1.	.75	4		7.4	8.1	
2		4		7.6	8.1	
2.	.25	4		7.6	8.4	
2.	.5			7.6	6.6	
2.	.75			7.9	6.5	
3				7.7	6.3	
3.	.25			7.4	6.3	
		PH-2:	pH usi	ng electrod	e probe	
		PH-3:	pH of	hydrogen p	peroxide extract	
0	bservation	Notes:				
,	Vegetatior	n G(g	g3.0)3D	Grasses		
H	orizon Note	es:				
-	Texture		B22	2	Sodic	
	Texture		B23	3	Sodic	
-	Texture		B24	4	Sodic, subplastic	

B25

2B21

Sodic, subplastic

Sodic

Texture

Texture

Project:	MAS	Site: 38 Observation: 1						
Soil Name:	Soil Name: a0S3 - PASS at 2-3m with pH of 4-5							
Location	n: GDA 94	ZONE 56 499387mE 6981869mN Lat: -27.28616 Long: 152.99381						
Describe	ed By: Fiona McC	Cartney (MCCF) Date: 01/JUL/10						
Geology:	Landscape: Geology: Qha/1 - Qha/1-9543: Lowest river terrace; gravel, sand, silt, clay							
Element: Permeat		Landform Pattern: alluvial plain						
Slope: Depth to Surface	1 % Water: 1.6 Condition: Firm	Drainage: Poorly drained						
Classifica ASC: A		DLIC, REDOXIC, Hydrosol, Thick, Non-gravelly, Clayey, Clayey, Giant						
Profile M	orphology:							
Horizon	Depth (m)	Description						
A11	0 to .15	Very dark greyish brown (10YR32) moist; few 2-10% fine <5mm faint red sharp mottles, few 2-10% fine <5mm faint orange mottles; fibric light clay; granular strong 2-5mm structure; few 2-10% fine <2mm ferruginous-organic root linings; firm moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; gradual to						
A12	.15 to .3	Very dark brown (10YR22) moist; few 2-10% fine <5mm faint red sharp mottles, few 2-10% fine <5mm faint orange diffuse mottles; light medium clay; granular strong 2-5mm structure; few 2-10% fine <2mm ferruginous-organic root linings; firm moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; clear to						
B21	.3 to .6	Dark grey (10YR41) moist; few 2-10% fine <5mm faint red sharp mottles, common 10-20% medium 5-15mm distinct orange diffuse mottles; medium clay; massive structure; few 2-10% fine <2mm ferruginous-organic root linings; firm moist; moist when sampled; slowly permeable; imperfectly drained; clear to						
B22	.6 to .9	Very dark grey (2.5Y31) moist; few 2-10% fine <5mm faint red sharp mottles, few 2-10% medium 5-15mm distinct orange diffuse mottles; medium heavy clay; massive structure; few 2-10% fine <2mm ferruginous- organic root linings; firm moist; moist when sampled; slowly permeable; imperfectly drained; abrupt to						
B23i	.9 to 1.15	Dark grey (2.5Y41) moist; few 2-10% fine <5mm faint red sharp mottles, common 10-20% coarse 15-30mm distinct orange clear mottles; light medium clay; massive structure; firm moist; moist when sampled; slowly permeable; poorly drained; clear to						
B24i	1.15 to 1.3	Dark yellowish brown (10YR46) moist; few 2-10% fine <5mm faint red sharp mottles, common 10-20% coarse 15-30mm distinct grey clear mottles; medium clay; subangular blocky weak 2-5mm structure; firm moist; moist when sampled; slowly permeable; poorly drained; abrupt to						
B25	1.3 to 1.6	Dark grey (2.5Y41) moist; few 2-10% fine <5mm faint red sharp mottles, few 2-10% medium 5-15mm prominent orange clear mottles; medium clay; massive structure; firm moist; moist when sampled; slowly permeable; poorly drained; abrupt to						
С	1.6 to 2	Grey (2.5Y51) moist; coarse sandy light clay; few 2-10% angular quartz large pebbles 20-60 mm; common 10-20% angular quartz medium pebbles 6-20 mm; common 10-20% angular quartz small pebbles 2-6 mm; massive structure; loose wet; wet when sampled; clear to						
2C	2 to 2.7	Dark grey (5Y41) moist; coarse sand; very few <2% angular quartz large pebbles 20-60 mm; common 10- 20% angular quartz medium pebbles 6-20 mm; abundant 50-90% angular quartz small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled; abrupt to						
3Cu	2.7 to 4.8	Dark greenish grey (5GY41) moist; coarse sand; very few <2% angular quartz large pebbles 20-60 mm; common 10-20% angular quartz medium pebbles 6-20 mm; abundant 50-90% angular quartz small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled; abrupt to						
4B2	4.8 to 5.8	Grey (5Y61) moist; few 2-10% medium 5-15mm faint brown clear mottles, very few <2% fine <5mm faint red sharp mottles, many 20-50% very coarse >30mm prominent orange diffuse mottles; sandy heavy clay; very few <2% angular quartz small pebbles 2-6 mm; very few <2% angular quartz medium pebbles 6-20 mm; massive structure; very few <2% fine <2mm ferruginous-organic root linings; firm moist; moist when sampled						

Project:	MAS	Site:	38	Observation:	1
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Depth	H2O2-	PH-2	PH-3
.1	2	5.3	3.4
.3	2	4.5	3.1
.6	2	5	2.7
.8	2	5.1	2.8
1	1	5.3	2.6
1.25	1	4.6	3.0
1.5	4	5.8	3.3
1.75	4	6.4	3.5
2	2	6.7	2.8
2.25	4	6.7	3.2
2.5	1	6.6	2.7
2.75	1	7	2.7
3	4	6.2	4.0
3.25	4	6	1.5
3.5	4	6.1	1.6
3.75	4	6.3	1.4
4	4	5.8	2.0
4.25	4	6.2	1.8
4.5	4	5.8	2.0
5	4	5.7	3.5
5.25	4	5.8	4.0
5.5	4	6.2	2.3
5.75	3	6.4	4.4
	PH-2:	pH using electrode	probe

PH-3: pH of hydrogen peroxide extract

Vegetation	U(w1.0)7S Eucalyptus tereticornis G(g4.0)1D Pasture grass			
Horizon Notes:				
Horizon	B24i	Old oxidised zone? ex AASS?		
Texture	3Cu	Clay lenses		
Horizon	4B2	Coarse fragments at 5.4-5.6m.		

Project:	MAS	Site: 39 Observation: 1						
Soil Name:	Soil Name: A2S2 - AASS at 1-2m and PASS at 1-2m							
Location	: GDA 94	DNE 56 496533mE 6982705mN Lat: -27.27861 Long: 152.96497						
Describe	ed By: Fiona McC	ney (MCCF) Date: 01/JUL/10						
Landscape: Geology: Qha/2 - Qha/2-9543: Second river terrace; sand, silt, clay gravel Element: plain Landform Pattern: alluvial plain Permeability: Slowly permeable Drainage: Poorly drained Depth to Water: 1.3 Surface Condition: Firm Disturbances: Complete clearing - pasture - but never cultivated								
Classifica ASC: A		EDOXIC, Hydrosol, Thick, Non-gravelly, Clayey, Clayey, Very Deep						
Profile M	orphology:							
Horizon	Depth (m)	Description						
A1	0 to .3	Dark greyish brown (10YR42) moist; many 20-50% fine <5mm distinct red mottles, few 2-10% medium 5- 15mm distinct brown mottles; light clay; massive structure; firm moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; gradual to						
B21	.3 to .95	Dark grey (10YR41) moist; common 10-20% fine <5mm distinct red mottles, many 20-50% fine <5mm faint brown mottles; medium clay; massive structure; firm moist; moist when sampled; slowly permeable; imperfectly drained; clear to						
B22i	.95 to 1.3	Grey (2.5Y51) moist; very few <2% fine <5mm faint brown mottles, many 20-50% medium 5- 15mm prominent orange mottles; medium clay; angular blocky weak structure; firm wet; wet when sampled; slowly permeable; poorly drained; clear to						
B23i	1.3 to 1.7	Dark grey (5Y41) moist; very few <2% fine <5mm distinct brown mottles; medium clay; massive structure; weak wet; wet when sampled; very slowly permeable; very poorly drained; abrupt to						
C1i	1.7 to 1.85	Dark grey (5Y41) moist; very few <2% fine <5mm faint brown mottles; silty clay loam; massive structure; very weak wet; wet when sampled; clear to						
C2i	1.85 to 2.2	Dark grey (N40) moist; silty clay loam; massive structure; very weak wet; wet when sampled; abrupt to						
C3u	2.2 to 3.95	Dark grey (N40) moist; silty clay loam; massive structure; very weak wet; wet when sampled; clear to						
2C1u	3.95 to 4.25	Dlive (5Y53) moist; coarse sand; many 20-50% subangular quartz small pebbles 2-6 mm; common 10-20% subangular quartz medium pebbles 6-20 mm; few 2-10% subrounded quartz large pebbles 20-60 mm; single grain structure; loose wet; wet when sampled; clear to)					
2C2	4.25 to 4.5	Pale olive (5Y64) moist; coarse sand; many 20-50% angular quartz large pebbles 20-60 mm; common 10- 20% angular quartz medium pebbles 6-20 mm; common 10-20% subangular quartz small pebbles 2-6 mm single grain structure; loose wet; wet when sampled	1;					

Depth	H2O2-	PH-2	PH-3
.1	2	5.3	3
.3	4	6.1	4
.6	4	6.2	3.9
.8	1	5.4	2.7
1		4.9	2.7
1.25		4.6	2.7
1.5		4.6	3
1.75	1	4.4	2.4
2	4	5.1	1.6
2.25	4	5.8	1.4
2.5	4	6.2	1.7

Project:	MAS		Site:	39	Observation:	1
D	epth	H2O2-	Р	H-2	PH-3	
2.	5	4		6.2	1.7	
2.	75	4		6.2	1.6	
3		4		6.3	1.9	
3.	25	4		6.2	2	
3.	5	4		6.4	2	
3.	75	4		6.4	1.6	
4		4		6.8	1.4	
4.	25	3		6.7	5.2	
4.	5	2		6.4	5.7	
		PH-2:	pH usi	ng electrod	le probe	
		PH-3:	pH of	hydrogen p	peroxide extract	
Si	te Notes:					
:	Site		Ron 1	homason F	Park, Lawnton	
0	bservatior	Notes:				
,	Vegetatio	on G(g	g4.1)1D	Grass		
H	orizon No	tes:				
-	Texture		B22	2i	Slightly sodic	
I	Horizon		B23	Зі	preserved organics	

Project:	MAS	Site: 40	Observation:	1				
Soil Name:	LP - Low Prol	pability of ASS in area	is below 5m AHD					
Location	: GDA 94	ZONE 56	496461mE	6983487mN	Lat: -27.27155	Long: 152.96424		
Describe	ed By: Fiona McC	artney (MCCF)			Date:	01/JUL/10		
Landscap	Landscape:							
Geology	: Qha/2 - Qha/2-	9543: Second river te	rrace; sand, silt, clay	v gravel				
Element	: plain		Landform	Pattern: terrace)			
Slope:	1 %		Drainage	: Moderately wel	l drained			
Depth to	Water: 4.2							
	Condition: Firm							
Disturba	nces: Complete	clearing - pasture - bu	it never cultivated					
Classifica	tions:							
ASC: H	APLIC, MESOTRO	OPHIC, BROWN, Kand	osol, Very Thick, Nor	n-gravelly, Clayey,	, Clayey, Very Deep			
ASC: E	UTROPHIC, RUDO	DSOLIC, OXYAQUIC, H	lydrosol					
Profile M	orphology:							
Horizon	Depth (m)	Description						
M1	M1 0 to .3 Dark greyish brown (10YR42) moist; common 10-20% fine <5mm distinct brown mottles, very few <2% fine <5mm distinct orange mottles; light clay; subangular blocky strong 5-10mm structure; few 2-10% fine <2mm manganiferous nodules; firm moderately moist; moderately moist when sampled; moderately permeable; well drained; clear to							
M2	M2 .3 to .65 Very dark grey (10YR31) moist; common 10-20% fine <5mm distinct yellow mottles, very few <2% fine <5mm distinct orange mottles; sandy light clay; subangular blocky strong 5-10mm structure; few 2-10% fine <2mm manganiferous nodules; firm moderately moist; moderately moist when sampled; moderately permeable; well drained; clear to							
B21b	.65 to 1.25	weak <2mm struc		ine <2mm manga	niferous nodules; firm	y light clay; subangular blocky n moist; moist when sampled;		
B22b	1.25 to 2.25	blocky weak <2m		w <2% fine <2mm	manganiferous soft	ly light clay; subangular segregations; firm moist; moist		
B23b	2.25 to 3.35	mottles; sandy cla		ucture; very few <		<2% fine <5mm faint orange ganiferous soft segregations;		
B24b	3.35 to 3.7				rey mottles; fine sand t segregations; firm v	y light clay; massive vet; wet when sampled; clear		
B25b	3.7 to 4.15		; very few <2% fine			mottles; sandy light clay; hs; firm wet; wet when		
2C	4.15 to 4.35	subangular grave		20 mm; few 2-10%	% subangular gravel s	/ light clay; very few <2% small pebbles 2-6 mm;		
3C	4.35 to 6	20-50% subangul		bbles 6-20 mm; ab	oundant 50-90% suba	rge pebbles 20-60 mm; many ngular gravel small pebbles 2-		

Project:	MAS	Site:	40	Observation:
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1

Field Tes	sts:				
Depth	H2O2-	PH-2	PH-3		
.1	4	5.7	3.9		
.3	4	6.3	4.7		
.6	4	6.3	4.4		
.8	4	6.1	4.4		
1	4	6.1	4.1		
1.25	4	5.6	4.7		
1.5	4	5.6	5.1		
1.75	4	6	5.0		
2	4	6.1	4.1		
2.25	4	5.9	4.6		
2.5	4	5.8	4.5		
2.75	4	5.8	4.6		
3	4	6.2	4.4		
3.25	4	5.7	5.4		
3.5	4	5.7	4.8		
3.75	4	5.8	5.6		
4	1	6	4.3		
4.25	2	6.1	2		
4.5	4	6.1	1.3		
4.75	3	6.5	1.7		
5.5	1	6.5	3		
	PH-2:	pH using electroc	le probe		
	PH-3:	pH of hydrogen p	peroxide extract		
Site Note:	3:				
Site Mungarra reserve, Petrie					
		-			

Observation Notes:

Australian Soil Classification Kandosol from 0 - 4.35m, Hydrosol from 4.35 - 6.00m

Vegetation lawn

Project:	MAS	Site: 41	Observat	on: 1				
Soil Name:	S2 – PASS	at 1-2m						
Location	n: GDA 94	ZONE	56 499884	mE 6983671mN	Lat: -27.26989	Long: 152.99883		
Describ	ed By: Lauren C	Brien (OBRL)			Date:	13/JUL/10		
Landsca	pe:							
Geology	: Qha/1 - Qha/1	I-9543: Lowes	t river terrace; gravel, s	and, silt, clay				
Element	Element: supratidal flat Landform Pattern: alluvial plain							
Runoff:	Slow							
Slope:			Dra	iinage: Very poorly dra	ained			
	Water: 0.1							
Disturba	Condition: Firm		ce, No effective disturb	ance except grazing by	hoofed animals			
				ince except grazing by	nooled animals			
Classifica						_		
ASC: N	IO AVAILABLE C	LASS, SULFIL	DIC, EXTRATIDAL, Hydi	osol, Thick, Non-gravel	ly, Clayey, Clayey, Ve	ry Deep		
Profile M	orphology:							
Horizon	Depth (m)	Description						
A1	0 to .3	structure		6mm ferruginous root l		mottles; clay loam; massive nmon <1mm roots; wet when		
B21	.3 to .7	massive		6 fine <2mm manganife	erous soft segregation	liffuse mottles; light clay; s; weak wet; few <1mm		
B22	.7 to 1.05	structure		um 2-6mm manganifer	ous soft segregations;	ge mottles; light clay; massive weak wet; few <1mm roots;		
C1u	1.05 to 1.4	Greenish g		it clay; massive structu		en sampled; very slowly		
2C2u	1.4 to 2		(N40) moist; fine sand	clay loam; massive str	ructure; very weak we	t; few >5mm roots; wet when		
2C3u	2 to 2.4	Dark grey to	(N40) moist; clay loam	fine sandy; massive s	tructure; very weak w	et; wet when sampled; abrupt		
3C4u	2.4 to 2.6	Dark grey	(5Y41) moist; loamy sa	nd; massive structure;	loose wet; wet when s	sampled; clear to		
4C5	4C5 2.6 to 4 Dark grey (5Y41) moist; coarse sand; very few <2% subangular gravel large pebbles 20-60 mm; common 10-20% subangular gravel medium pebbles 6-20 mm; many 20-50% subangular gravel small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled							
Field Tes	its:							
Depth	H2O2-	PH-2	PH-3					
.1	2	6.5	4.7					
.3	4	6.4	6.2					

			=	
.1	2		6.5	4.7
.3	4		6.4	6.2
.6	4		6.3	7
.8	4		6.3	6.9
1			6.2	5.1
1.25	3		6.3	1.7
1.5	4		6.1	2.3
1.75	4		6.1	2
2	4		6.2	1.4
2.25	4		6.5	1.5
2.5	1		7.5	1.5
2.75			7.2	1.4
3.25			6.7	5.4
3.75			7.1	5.1
		PH-2:	pH using	electrode probe
		PH-3:	pH of hy	drogen peroxide extract

Location	STP, Murrumba Dov	ns. East of outfall pipe on salt couch flats				
Vegetation	U(w1.0)6I Eucalyptus tereticornis M(w1.0)5L Casuarina glauca G(g1.0)2D Sporobolus virginicus (Salt couch)					
Horizon Notes:						
Texture	2C2u	Clay content somewhat variable				
Horizon	4C5	Poor sample recovery from 3.0-4.5m				

Soil Name: a0LP - Low Probability of ASS in areas below 5m AHD and pH of 4- 5 at 0-0.5m

Location	: GDA 94	ZONE	56	502198mE	6984177mN	Lat: -27.265	532	Long: 153.02221	
Describe	Described By: Lauren OBrien (OBRL) Date: 13/JUL/10								
Landscap	Landscape:								
Geology: Qr - Qr-9543: Residual soil, colluvium; sand, soil, clay, rock debris									
Element: fill-top Landform Pattern: alluvial plain									
Permeab	oility: Very slov	vly permeable	9	Runoff: N	/ery slow				
Slope: 1	۱%			Drainage:	Poorly drained				
Surface Condition: Firm									
Disturbances: Highly disturbed e.g. mining, urban									
Classifica	Classifications:								
			ΟΧΥΑΟΙ.ΙΙC	Hydrosol Thick	Non-gravelly, Clay	vev Clavev Ve	rv De	en	
		, , ,	, 0/1/(2010,		Non graveny, oray	icy, Olaycy, Vol	y DC	op	
A30. 3	ASC: SPOLIC, Anthroposol								
Profile Morphology:									
Horizon	Depth (m)	Description	ı						
M1	M1 0 to .95 Dark grey (10YR41) moist; common 10-20% coarse 15-30mm distinct orange mottles, very few <2% medium 5-15mm distinct red mottles, few 2-10% medium 5-15mm faint gley mottles; clay loam; angular blocky weak structure; firm moderately moist; common <1mm roots; moderately moist when sampled; moderately permeable; imperfectly drained; abrupt to								
2A1	A1 .95 to 1.3 Black (N20) moist; silty medium clay; massive structure; firm moist; common <1mm roots; moist when sampled; very slowly permeable; poorly drained; gradual to								
2A2	1.3 to 1.55	to 1.55 Dark grey (5Y41) moist; light medium clay; massive structure; firm moist; few <1mm roots; moist when sampled; very slowly permeable; poorly drained; clear to							
2B2	1.55 to 2.3	Grey (5Y5	Grey (5Y51) moist; very few <2% fine <5mm distinct orange mottles; medium clay; massive structure; abrupt to						
3B2 2.3 to 3 Red (2.5YR46) moist; few 2-10% very coarse >30mm distinct gley sharp mottles, few 2-10% coarse 15- 30mm distinct orange diffuse mottles; medium heavy clay; massive structure; common 10-20% extremely coarse >60mm ferruginous soft segregations									

Depth	H2O2-		PH-2	PH-3		
.1	4		4.5		3	
.3	4		4.2		2.1	
.6	4		4.1		2.6	
.8	2		5.5		2.1	
1	4		5.7		1.9	
1.25	4		5.8		3.2	
1.5	1		4.5		3	
1.75	4		3.8		2.8	
2	4		3.8		2.9	
2.25	4		4		3.1	
2.5	1		3.5		2.5	
2.75	1		3.8		2.8	
3	1		4.1		3	
		PH-2:	pH using electrode probe			
		PH-3:	pH of hydrogen peroxide extract			

Project: MAS Site: 42 Observation: 1

Observation Notes:

Australian Soil Classification Anthroposol from 0 - 0.95m, Hydrosol from 0.95 - 3.00m

Location	Park on Jade Lane cnr Ultramarine Drive, Griffin		
Soil	Fill to 0.95m		
Horizon Notes:			
Horizon	3B2	Orange mottles possibly old jarosite?	

Soil Name: a0LP - Low Probability of ASS in areas below 5m AHD and pH of 4- 5 at 0-0.5m

Location:	GDA 94	ZONE	56	502547mE	6984092mN	Lat: -27.26609	Long: 153.02573
Described	By: Jonathan	Walton (WALJ))			Date:	13/JUL/10
Landscape	:						
Geology:	Qhc - Qhc-SEC	2: Undifferentia	ated coastal p	lains; mud, sand	, commonly with a	veneer of Qha	
Element:	drainage depi	ression		Landform F	attern: alluvial plate	ain	
Permeabil	ity: Slowly pe	rmeable					
Slope: 0	%			Drainage:	Poorly drained		
Depth to W	/ater: 0.01						
Surface Co	ondition: Soft						
Disturbanc	es: No effect	ive disturbanc	e				
Classificati ASC: HU		SULFIDIC, OX	YAQUIC, Hydr	osol, Thick, Non-	gravelly, Silty, Cla	yey, Very Deep	
Profile Mor	phology:						
Horizon	Depth (m)	Description					

A11 0 to .3 Black (5Y2.5/1) moist; sapric silty clay loam; subangular blocky weak 2-5mm structure; firm wet; wet when sampled; moderately permeable; poorly drained; clear to A12 .3 to .55 Dark grey (5Y41) moist; sapric sandy light clay; subangular blocky weak 2-5mm structure; firm wet; wet when sampled; moderately permeable; poorly drained; abrupt to 2B2 Light brownish grey (10YR62) moist; few 2-10% medium 5-15mm distinct brown mottles, very few <2% fine .55 to 1 <5mm faint orange mottles; sand; single grain structure; loose moist; moist when sampled; highly permeable; poorly drained; gradual to 3B21 Light grey (2.5Y71) moist; few 2-10% medium 5-15mm distinct brown mottles; clayey sand; very few <2% 1 to 1.32 subangular quartz medium pebbles 6-20 mm; massive structure; firm moist; moist when sampled; highly permeable; poorly drained; gradual to 3B22 Light grey (2.5Y71) moist; few 2-10% medium 5-15mm distinct brown mottles; sandy light clay; subangular 1.32 to 1.85 blocky weak 2-5mm structure; very firm moist; moist when sampled; slowly permeable; poorly drained; gradual to 3B24 1.85 to 2.9 Grey (2.5Y61) moist; many 20-50% very coarse >30mm prominent orange mottles, many 20-50% very coarse >30mm prominent red mottles, many 20-50% very coarse >30mm prominent yellow mottles; medium heavy clay, subangular blocky weak 2-5mm structure; common 10-20% coarse 6-20mm ferruginous nodules; strong moist; moist when sampled

Field Te	sts:			
Depth	H2O2-	F	PH-2	PH-3
.1	4		5.2	2.2
.3	4		5.6	2.9
.4	4		5.4	2.7
.6	1		4.9	1.9
.8	1		4.6	2.4
1	1		4.2	2.4
1.25	1		4.7	2.8
1.5	1		4.4	2.4
1.75	2		4.5	2.9
2.25	1		4.2	2.5
2.5	4		4.3	3
2.75	1		4.1	2.6
		PH-2:	pH using	electrode probe

PH-3: pH of hydrogen peroxide extract

Location	Adjacent powerlines
Vegetation	U(w1.0)7D Melaleuca quinquenervia
	G(f1.0)2I Pteridium esculentum (bracken fern), Sedges

Project:	MAS	Site: 44 Observation: 1				
Soil Name:	A0 - AASS a	at 0-0.5m				
Location	n: GDA 94	ZONE 56 503043mE 6983162mN Lat: -27.27449 Long: 153.03075				
Describ	ed By: Lauren OB	Brien (OBRL) Date: 14/JUL/10				
Landsca	De:					
		Q: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha				
Element	: blackplain	Landform Pattern: flood plain				
Permea	bility: Slowly pe	ermeable Runoff: Very slow				
Slope:	0 %	Drainage: Poorly drained				
	Water: 0.6					
	Condition: Soft					
		e clearing - pasture - cultivation at some stage				
Classifica		DIC DEDOVIC Undress Madium Net grouply Claud serve Clause Very Deep				
ASC: N	IELANIC, SULFUR	RIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep				
	orphology:					
Horizon	Depth (m)	Description				
A1	0 to .25	Dark brown (7.5YR32) moist; fine sandy clay loam; subangular blocky weak 2-5mm structure; firm dry; many <1mm roots; dry when sampled; moderately permeable; moderately well drained; sharp to				
2B21ia	.25 to .6	Light olive brown (2.5Y54) moist; few 2-10% fine <5mm distinct grey diffuse mottles, very few<2% fine <5mm faint yellow diffuse jarosite (from pyrite) mottles; fine sandy clay loam; massive structure; weak moderately moist; few <1mm roots; moderately moist when sampled; moderately permeable; imperfectly drained; gradual to				
2B22ia	.6 to 1.2	Greyish brown (2.5Y53) moist; common 10-20% medium 5-15mm distinct gley clear mottles, few 2-10% fine <5mm prominent yellow sharp jarosite (from pyrite) mottles; clay loam, fine sandy; massive structure; weak wet; few <1mm roots; wet when sampled; slowly permeable; poorly drained; gradual to				
2B23ia	1.2 to 1.55	Light olive grey (5Y62) moist; very few <2% fine <5mm distinct orange clear mottles, very few <2% medium 5-15mm prominent orange clear mottles, few 2-10% medium 5-15mm prominent yellow sharp mechanical mixing mottles; loamy sand; single grain structure; very weak wet; wet when sampled; highly permeable; poorly drained; sharp to				
3B21	1.55 to 2	White (5Y81) moist; very few <2% fine <5mm faint orange diffuse mottles, very few <2% fine <5mm faint yellow sharp jarosite (from pyrite) mottles; fine sandy medium heavy clay; massive structure; very firm moist; moist when sampled; clear to				
3B22	2 to 3	White (5Y81) moist; common 10-20% very coarse >30mm prominent orange clear mottles; sandy medium clay; massive structure; very few <2% medium 2-6mm ferruginous soft segregations; very firm moist; moist when sampled				
Field Tes	ts:					
Depth	H2O2-	PH-2 PH-3				
.1	1	5.7 3.8				
.3		4.5 3.3				
.6		4.1 3.1				
.8		4 3.1				
1		3.8 3.1				
1.25 1.5		4.3 3.3 4.3 3.1				
1.75	1	4.8 3.8				
2	1	4.9 3.6				
2.25	1	4.6 3.8				
2.5	1	4.9 4.1				
2.75	1	5 4.8				
3	1	5.1 4.2				
	PH-2:	pH using electrode probe				
	PH-3:					

Vegetation	U(w1.0)6I Casuarina glauca		
	M(g1.0)3M Grasses, reeds		
	G(g1.0)2L Sporobolus virginicus (Salt couch)		
Horizon Notes:			
Horizon	3B21	Jarosite only in very top of horizon	
Texture	3B21	Sodic from 1.55m	

Locatior	n: GDA 94	ZONE	56 503220mE	6982998mN	Lat: -27.27597	Long: 153.03253	
Describ	ed By: Lauren O	Brien (OBRL)			Date:	14/JUL/10	
Landsca	be:						
Geology	: Qhal - Qhal-Sl	EQ: Linear depr	essions (ox-bows); mud,	clay			
Element	: swamp						
Landforr	n Pattern: flood	d plain					
Permea	bility: Very slov	wly permeable					
Slope:	0 %						
Drainage	e: Very poorly o	drained					
Depth to	Water: 0.01						
Surface	Condition: Soft						
Disturba	Disturbances: No effective disturbance except grazing by hoofed animals						
Classifica	Classifications:						
ASC: NO AVAILABLE CLASS, SULFIDIC, SUPRATIDAL, Hydrosol, Medium, Non-gravelly, Clavey, Clavey, Giant							
Profile M	orphology:						
Horizon	Depth (m)	Description					
A1	0 to .25		moist; silty light clay; ma ery slowly permeable; v			mm roots; wet when	

B2 .25 to .65 Grey (5Y51) moist; many 20-50% coarse 15-30mm prominent orange clear mottles; silty light clay; massive structure; very weak wet; few <1mm roots; wet when sampled; very slowly permeable; very poorly drained; abrupt to

С .65 to 1.5 Dark grey (5Y41) moist; clayey sand; single grain structure; very weak wet; few <1mm roots; wet when sampled; very slowly permeable; very poorly drained; sharp to

- 2D 1.5 to 3.7 Pinkish white (5YR82) moist; few 2-10% fine <5mm prominent red sharp mottles, common 10-20% coarse 15-30mm distinct red diffuse mottles, very few <2% fine <5mm prominent orange sharp mottles, common 10-20% medium 5-15mm prominent orange clear mottles, few 2-10% coarse 15-30mm distinct grey mottles; silty light clay; massive structure; very few <2% fine <2mm ferruginous root linings; very few <2% medium 2-6mm ferruginous soft segregations; firm moist; uncemented continuous massive organic pan; moist when sampled; abrupt to
- Grey (5Y51) moist; few 2-10% fine <5mm distinct orange clear mottles; sandy light clay; massive structure; 2D2 3.7 to 3.95 very firm dry; dry when sampled; sharp to
- 2D3 3.95 to 4.15 Black (10YR21) moist; sandy clay loam; massive structure; weakly cemented continuous massive organic pan; dry when sampled; clear to
- 2D4 4.15 to 5.2 Grey (5Y61) moist; very few <2% medium 5-15mm distinct orange clear mottles; fine sandy light clay; massive structure; firm moderately moist; moderately moist when sampled

	ы	Tests:
E IE		18515
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Depth	H2O2-	PH-2	PH-3
.1	1	5.5	3.1
.3	1	5.3	3
.6		5.1	2.8
.8		4.7	3.5
1	1	4.8	3.1
1.25	1	4.3	2.7
1.5	1	4.4	3.2
1.75	1	4.3	2.2
2	2	4	2.2
2.25	3	4.3	2.2
2.5	4	4.1	2.3
2.75	4	4.4	2.2
3	4	4.6	2.2
3.25	4	4.1	2.6

Project: MAS		Site: 45	Observation: 1
Depth	H2O2-	PH-2	PH-3
3.5	4	4.2	2.5
3.75	4	4.4	2.7
4	3	4.4	1.7
4.25	2	4.3	1.7
4.5	4	4.4	2.5
4.75	4	4.3	2.6
5	1	4.6	2.5
5.2	1	4.6	2.6
	PH-2:	pH using electrode	e probe
	PH-3:	pH of hydrogen pe	eroxide extract

North of Dohles Rocks Rd near Koala tree rehab area.			
Monosulfidic black ooze present on surface, iron staining, bacterial scum in surface water.			
G(g1.0)2M Sporobolus virginicus			
d, but no pink field in sali			
t peat or coal			
r			

Project:	MAS	Site: 46	Observation:	1			
Soil Name:	A0S0 - AAS	SS and PASS at 0)-0.5m				
Location	n: GDA 94	ZONE 5	502854mE	6983240mN	Lat: -27.27378	Long: 153.02884	
Describ	ed By: Lauren (OBrien (OBRL)			Date:	14/JUL/10	
Geology Element Permea Slope: Depth to Surface	Landscape: Geology: Qhal - Qhal-SEQ: Linear depressions (ox-bows); mud, clay Element: swamp Permeability: Very slowly permeable Slope: 0 % Depth to Water: .0.1 Surface Condition: Soft Disturbances: Complete clearing - pasture - but never cultivated						
Classifica ASC: H		, SULFURIC, RED	OXIC, Hydrosol, Medium,	Non-gravelly, Clay L	oamy, Clayey, Very [Сеер	
Profile M	orphology:						
Horizon	Depth (m)	Description					
A1	0 to .45		Black (10YR21) moist; sapric clay loam; massive structure; weak wet; abundant <1mm roots; wet when sampled; slowly permeable; very poorly drained; clear to				
B21i	.45 to .7		Grey (5Y51) moist; many 20-50% coarse 15-30mm distinct orange clear mottles; light clay; massive structure; weak wet; few <1mm roots; wet when sampled; very slowly permeable; very poorly drained; gradual to				
B22ia	.7 to 1.1	.7 to 1.1 Grey (5Y51) moist; few 2-10% fine <5mm prominent yellow sharp jarosite (from pyrite) mottles, very few <2% fine <5mm faint brown clear mottles; fine sandy light clay; massive structure; very weak wet; few <1mm roots; wet when sampled; very slowly permeable; very poorly drained; gradual to					
B23ia	1.1 to 1.5		moist; few 2-10% fine <5 ive structure; loose wet;			yrite) mottles; fine sandy clay very poorly drained	
В	1.5 to 2.5	(No sample r	ecovery) very soft silt, we	et when sampled, ve	ry poorly drained		
2B2	2.5 to 3		wn (10YR54) moist; com nassive structure; weak v			t gley clear mottles; fine sandy	
Field Tes	ts:						
Depth	H2O2-	PH-2	PH-3				

Depth	H2O2-	PH-2	PH-3
.1	2	3.9	1.9
.3	2	4.2	2.8
.6	1	4.2	2.0
.8	1	3.9	2.3
1	1	3.5	2.1
1.25	1	3.9	2.2
2.51	2	3.8	1.5
2.75	3	4.8	2.4
3	4	5.1	2.6

PH-2: pH using electrode probePH-3: pH of hydrogen peroxide extract

Vegetation	U(w1.0)6D <i>Melaleuca quinquenervia</i> G(f1.0)3M <i>Pteridium esculentum</i> (bracken fern),				
Vegetation	Site clear in 1958 photos - veg is regrowth.				
Horizon Notes: Texture	B23ia	Very very soft, too wet to texture properly.			

Project:	MAS	Site: 47 Observation: 1				
Soil Name:	A0S4 - AASS	at 0-0.5m and PASS at 3-4m				
Location	n: GDA 94	ZONE 56 504428mE 6984914mN Lat: -27.25866 Long: 153.04473				
Describ	ed By: Jonathan V	/alton (WALJ) Date: 21/JUL/10				
Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: plain Landform Pattern: alluvial plain Permeability: Moderately permeable Runoff: Very slow Slope: 0 % Drainage: Very poorly drained Depth to Water: 0.9 Surface Condition: Firm Disturbances: Complete clearing - pasture - cultivation at some stage						
Classifica ASC: A		REDOXIC, Hydrosol, Thin, Non- gravelly, Sandy, Clay Loamy, Very Deep				
Profile M	orphology:					
Horizon	Depth (m)	Description				
A1	0 to .12	Black (2.5Y2.5/1) moist; sapric clay loam, fine sandy; granular moderate 2-5mm structure; firm moist; moist when sampled; moderately permeable; moderately well drained; clear to				
B21	.12 to .35	Dark grey (2.5Y41) moist; many 20-50% fine <5mm distinct orange mottles, common 10-20% fine <5mm distinct brown mottles; heavy clay loam, fine sandy; angular blocky weak <2mm structure; firm moist; moist when sampled; moderately permeable; imperfectly drained; clear to				
B22ia	.35 to .85	Grey (2.5Y61) moist; few 2-10% medium 5-15mm distinct yellow jarosite (from pyrite) mottles, many 20-50% very coarse >30mm distinct orange mottles; sandy loam; massive structure; firm moist; moist when sampled; highly permeable; poorly drained; clear to				
B23	.85 to 1.25	Light olive grey (5Y62) moist; few 2-10% medium 5-15mm distinct orange mottles; clayey sand; massive structure; weak wet; wet when sampled; highly permeable; poorly drained; clear to				
B24	1.25 to 1.9	Greenish grey (10Y51) moist; many 20-50% very coarse >30mm prominent orange mottles, very few <2% fine <5mm faint pale mottles; sandy clay loam; common 10-20% angular shell medium pebbles 6-20 mm; very few <2% angular shell medium pebbles 6-20 mm; massive structure; few 2-10% coarse 6-20mm ferruginous nodules; firm wet; wet when sampled; highly permeable; very poorly drained; gradual to				
C1u	1.9 to 3.52	Dark greenish grey (10Y41) moist; common 10-20% medium 5-15mm prominent red mottles; loamy sand; common 10-20% angular shell medium pebbles 6-20 mm; very few <2% angular shell small pebbles 2-6 mm; massive structure; weak wet; wet when sampled; gradual to				
2D1u	3.52 to 3.75	Greenish grey (10Y51) moist; common 10-20% medium 5-15mm prominent red mottles, common 10-20% medium 5-15mm distinct yellow mottles; medium clay; massive structure; firm moist; moist when sampled; clear to				
2D2u	3.75 to 3.95	Greenish grey (10Y51) moist; very few <2% fine <5mm distinct red mottles; medium clay; common 10-20% subangular charcoal large pebbles 20-60 mm; massive structure; very firm moist; moist when sampled; abrupt to				
2D3u	3.95 to 4.35	Greenish grey (10GY51) moist; common 10-20% fine <5mm prominent red mottles; medium heavy clay; massive structure; very firm moist; moist when sampled				

78

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Project: MAS	Site: 47	Observation: 1
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Field Tests:

16515.			
Depth	PH-2	PH-3	
.1	5	2.2	
.3	4.4	3.1	
.6	4.4	3.4	
.8	6.0	4.6	
1	6.3	5.2	
1.25	6.7	5.8	
1.5	6.5	5.9	
1.75	7.4	6.4	
2	7.6	5.1	
2.25	7.6	1.9	
2.5	7.7	2.5	
2.75	7.9	2.1	
3.5	7.5	1.5	
3.75	7.6	5.8	
4	8.1	7.2	
4.25	8.4	8.4	
	PH-2:	pH using electrode probe	
	PH-3:	pH of hydrogen peroxide extrac	ct
Horizon N	Notes:		
Llaniman	-		

Horizon	2D1u	sodic
Horizon	2D2u	sodic
Horizon	2D3u	sodic

Project:	MAS	Site: 48	(Observation:	1		
Soil Name:	A1S2 - AAS	SS at 0.5-1m a	nd PASS at	1-2m			
Locatior	n: GDA 94	ZONE	56	504060mE	6985030mN	Lat: -27.25762	Long: 153.04102
Describ	ed By: Jonathar	n Walton (WAL	J)			Date:	21/JUL/10
	2		- /				
Element Permea Slope: Depth to	r: Qhc - Qhc-Sł :: plain bility: Modera	tely permeable		Landform Runoff:	nd, commonly with n Pattern: alluvial Very slow e: Poorly drained		
	nces: Limited						
Classifica	ations.						
		IC, REDOXIC, I	Hydrosol, Med	dium, Non-gravelly	y, Clay Loamy, Cla	y Loamy, Giant	
Profile M	orphology:						
Horizon	Depth (m)	Descriptior	۱				
A1	0 to .18	sandy; s	ubangular bl		mm structure; firm	5mm distinct orange 1 moist; moist when s	mottles; sapric clay loam, fine ampled; moderately
B21	.18 to .35	subangu		eak <2mm struct			tles; clay loam, fine sandy; oderately permeable;
B22	.35 to .55						clay loam, fine sandy; mperfectly drained; abrupt to
B23ia	.55 to 1.3	jarosite	Grey (2.5Y51) moist; few 2-10% fine <5mm distinct orange mottles, very few <2% fine <5mm distinct yellow jarosite (from pyrite) mottles; sandy clay loam; massive structure; firm wet; wet when sampled; moderately permeable; poorly drained; clear to				
B24	1.3 to 1.7					listinct brown mottles; meable; poorly draine	sandy clay loam; massive d; abrupt to
C1u	1.7 to 2.3	Dark gree to	nish grey (10	0Y31) moist; san	dy clay loam; mas	sive structure; firm w	et; wet when sampled; sharp
2C2u	2.3 to 3.6	common	10-20% ang	gular shell small p		ery few <2% rounded	nedium pebbles 6-20 mm; gravel medium pebbles 6-20
3C3u	3.6 to 5.75				ay; very few <2% a sampled; abrupt to		ebbles 2-6 mm; massive
4C4	5.75 to 5.9	Very dark	grey (N30) ı	moist; clay loam,	sandy; massive s	structure; very weak v	vet; wet when sampled
Field Tes Depth	ts: H2O2-	PH-2	PH-3				
.1		4.5	3.0				
.3		4.5	3.2				
.5		4.3	2.9				
.8		4.3	2.7				
1		4.3	2.7				
1.25		4.3	3.0				
1.5		5.0	3.4				
1.75	4	6.6	1.8				
2	4	7.2	2.3				
2.25	4	7.6	2.2				
2.5	4	7.7	2.2				
2.75	4	8.1	2.5				
3	4	8.0	2.4				
3.25	4	7.9	2.2				

Project: N	IAS	Site: 48	Observation: 1
Depth	h H2O2-	PH-2	PH-3
3.5	4	7.9	2.2
3.75	4	8.2	2.2
4	4	8.4	2.1
4.25	4	8.2	2.4
4.5	4	8.4	2.3
4.75	4	8.2	2.0
5	4	8.4	2.1
5.25		8.4	2.1
5.5		8.2	2.1
5.75		8.1	2.3
5.9		7.7	2.3
	PH-2:	pH using electroe	de probe
	PH-3:	pH of hydrogen	peroxide extract

Vegetation	U(w1.0)T7V Eucalyptus tereticornis
	U(w1.0)T6M Melaleuca quinquenervia
	G(g1.0)3D Grass

Project:	MAS	Site: 49	Observation:	1				
Soil Name:	S3 - PASS a	it 2-3m						
Location	n: GDA 94	ZONE 56	504840mE	6984625mN	Lat: -27.26127	Long: 153.0489		
Describe	ed By: Fiona Mc	Cartney (MCCF)			Date:	22/JUL/10		
Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: plain Permeability: Highly permeable Slope: 1 % Depth to Water: 1.2 Disturbances: No effective disturbance except grazing by hoofed animals								
Classifica ASC: H)SOLIC, REDOXIC,	Hydrosol, Thick, Non-gra	velly, Clay Loamy,	Clay Loamy, Very De	еер		
Profile M	orphology:							
Horizon	Depth (m)	Description						
A1	0 to .35) moist; sapric clay loam ately moist when sample			n structure; weak moderately ot to		
B21	.35 to 1.1		Pale olive (5Y63) moist; many 20-50% coarse 15-30mm distinct orange mottles; clay loam, fine sandy; massive structure; weak moist; moist when sampled; highly permeable; rapidly drained; clear to					
B22	1.1 to 1.75	Light olive grey (5Y62) moist; many 20-50% very coarse >30mm prominent orange clear mottles; loamy fine sand; massive structure; weak moist; moist when sampled; highly permeable; very poorly drained; abrupt to						
2B	1.75 to 2.2	Dark yellowish brown (10YR46) moist; few 2-10% medium 5-15mm distinct red clear mottles; clay loam, sandy; many 20-50% subangular gravel medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; gradual to						
3Cu	2.2 to 2.6	5-15mm disti	nct orange clear mottles % subangular gravel lar	; clay loam, sandy;	very few <2% suban	o mottles, few 2-10% medium gular gravel small pebbles 2-6 e; weak wet; moist when		
4D	2.6 to 3	10-20% coars common 10-2	grey (10Y71) moist; mar e 15-30mm distinct oran 20% very coarse 20-60n oncretions; very firm mo	ge clear mottles; sa nm ferruginous sof	andy light medium cla t segregations; few 2			
Field Tes	ts:							
Depth	H2O2-	PH-2 P	H-3					
.1	1	6.2	4.4					
.3		7.3	5.5					
.6		7.3	5.8					
.8		7.4	6.1					
1		7.4	6.2					

PH-2: pH using electrode probePH-3: pH of hydrogen peroxide extract

6.3

6.0

6.3

5.7

1.9

2.3

5.6

6.4

Observation Notes:

4

4

1

3

1.25

1.5

1.75

2.25

2.5

2.75

3

2

Vegetation U(w1.0)7I Casuarina glauca G(g4.1)1D Grass

7.5

7.7

7.6

7.1

6.9

6.9

6.7

6.6

Project:	MAS	Site: 50 Observation: 1					
Soil Name:	S0 - PASS at	0.5m					
Location	: GDA 94	DNE 56 504544mE 6984393mN Lat: -27.26337 Long: 153.04591					
Describe	ed By: Fiona McC	ney (MCCF) Date: 22/JUL/10					
Geology Element: Slope: Depth to Surface	Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: intertidal flat Landform Pattern: alluvial plain Slope: 1 % Drainage: Very poorly drained Depth to Water: 0.05 Surface Condition: Firm						
	nces: No effecti	disturbance					
Classifica		S, SULFIDIC, SUPRATIDAL, Hydrosol, Thick, Non-gravelly, Clay Loamy, Clay Loamy,					
		IS, SULFIDIC, SUFRATIDAL, HUUISSOI, THICK, NOIT-GRAVEIIY, CIAY LUAIITY, CIAY LUAIITY,					
Horizon	orphology: Depth (m)	Description					
A1	0 to .2	Black (10YR21) moist; common 10-20% very coarse >30mm prominent brown clear mottles, few 2-10% medium 5-15mm faint red diffuse mottles; fibric peat; massive structure; firm moist; moist when sampled; highly permeable; very poorly drained; abrupt to					
B21	.2 to .65	Dark grey (10YR41) moist; common 10-20% coarse 15-30mm prominent brown clear mottles, few 2-10% medium 5-15mm faint red sharp mottles; sandy clay loam; massive structure; weak wet; wet when sampled; highly permeable; very poorly drained; abrupt to					
C1	.65 to 1.2	Dark grey (N40) moist; sandy clay loam; massive structure; weak wet; wet when sampled; highly permeable; very poorly drained; clear to					
C2u	1.2 to 2	Dark greenish grey (10Y31) moist; sandy clay loam; few 2-10% angular shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; highly permeable; very poorly drained; clear to					
C3u	2 to 2.4	Dark greenish grey (10Y31) moist; clay loam, fine sandy; few 2-10% angular shell medium pebbles 6-20 mm; very few <2% subangular gravel medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; gradual to					
2C4u	2.4 to 3.2	Dark grenish grey (5GY31) moist; silty light clay; massive structure; weak wet; wet when sampled; clear to					
2C5u	3.2 to 3.45	Dark grenish grey (5GY31) moist; fibric fine sandy light clay; massive structure; weak wet; wet when sampled; clear to					
2C6u	3.45 to 3.7	Dark grenish grey (5GY31) moist; sapric sandy light clay; massive structure; weak wet; wet when sampled; abrupt to					
3C7u	3.7 to 3.9	Grey (10YR51) moist; sandy loam; few 2-10% subrounded quartz large pebbles 20-60 mm; few 2-10% subrounded gravel small pebbles 2-6 mm; massive structure; weak wet; wet when sampled; abrupt to					
D	3.9 to 4.5	Olive brown (2.5Y44) moist; many 20-50% very coarse >30mm prominent grey clear mottles, very few <2% medium 5-15mm distinct red clear mottles; light medium clay; massive structure; firm wet; wet when sampled					

Project:	MAS	Site:	50	Observation:	1
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Field Tes	sts:		
Depth	H2O2-	PH-2	PH-3
.1	2	6.2	2.7
.3	1	6.6	4.5
.6	1	6.6	3.6
.8	1	6.6	3.6
1	1	6.3	3.2
1.25	4	6.1	1.3
1.5	4	6.4	1.6
1.75	4	6.7	2.1
2	4	7.0	2.2
2.25	4	7.2	2.5
2.5	4	7.2	2.7
2.75	3	7.0	3.0
3	3	7.6	4.0
3.25	4	6.9	1.3
3.5	4	6.8	1.2
3.75	4	6.6	1.3
4	1	6.7	3.6
4.25	3	6.7	5.7
4.5	3	6.6	6.4
	PH-2:	pH using electrod	e probe
	PH-3:	pH of hydrogen p	peroxide extract

Vegetation G(g1.0)1D Sporobolus virginicus (Salt couch), reeds Wetland type: 10

Project: MAS	Site: 51 Observation: 1							
Soil Name: A1 - A	ASS at 0.5-1m							
Location: GDA 94	ZONE 56 504284mE 6984411mN	Lat: -27.26321 Long: 153.04328						
Described By: Fio	a McCartney (MCCF)	Date: 22/JUL/10						
Landscape: Geology: Qhc - Q Element: plain	Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha							
Slope: 1 % Depth to Water: 0 Surface Condition:		drained						
Classifications: ASC: MELACIC, S	ULFURIC, REDOXIC, Hydrosol, Thick, Non-gravelly, Clay Loamy,	Clay Loamy, Very Deep						
Profile Morpholog Horizon Depth (n								
A 0 to .3	A 0 to .3 Black (7.5YR2.5/1) moist; very few <2% fine <5mm distinct orange mottles, very few <2% fine <5mm distinct grey mottles; sapric clay loam, fine sandy; very few <2% angular gravel small pebbles 2-6 mm; weak structure; weak moderately moist; moderately moist when sampled; moderately permeable; well drained: clear to							
B21 .3 to .6	Greyish brown (2.5Y52) moist; few 2-10% fine <5mm red mottles; heavy sandy clay loam; massive structur linings; very weak moist; moist when sampled; highly	e; very few <2% medium 2-6mm ferruginous root						
B22ia .6 to 1	Grey (5Y51) moist; few 2-10% fine <5mm distinct brow jarosite (from pyrite) mottles; sandy clay; massive st root linings; very weak wet; wet when sampled; highly	ructure; very few <2% medium 2-6mm ferruginous						
B23ia 1 to 1.2	Grey (5Y51) moist; few 2-10% fine <5mm distinct yello medium 5-15mm distinct orange mottles; sandy clay ferruginous root linings; very weak wet; wet when sa to	loam; massive structure; few 2- 10% medium 2-6mm						
B24 1.2 to 1.	Grey (5Y51) moist; few 2-10% fine <5mm distinct orang mottles, very few <2% fine <5mm distinct grey mottle wet; wet when sampled; highly permeable; very poo	es; sandy clay loam; massive structure; very weak						
B25 1.9 to 2.	5.,(.)	stinct brown mottles, common 10-20% fine <5mm structure; very weak wet; wet when sampled; abrupt to						
D1 2.2 to 2.	 Dark yellowish brown (10YR48) moist; common 10-209 10-20% coarse 15-30mm prominent red mottles; coars firm moderately moist; moderately moist when sample 	se sandy light medium clay; massive structure; very						
D2 2.45 to 2	.9 White (N80) moist; few 2-10% coarse 15-30mm promin prominent orange mottles; sandy light medium clay; m moderately moist when sampled							

Field Te	sts:		
Depth	H2O2-	PH-2 PH-3	
.1	3	5.1	2.1
.3	2	4.8	3.1
.6		4.8	3.3
.8		5.3	4.1
1		5.7	4.6
1.25	4	6.4	6.0
1.5	4	6.5	6.1
1.75	3	6.5	5.6
2	3	6.5	5.6
2.25	1	6.5	5.3
2.5	1	6.3	5.4
2.75	3	6.2	6.2
2.9	4	6.2	6.4
	PH-2:	pH using electrode probe	•
	DUO	all of herein a second state	

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation U(w1.0)6M Casuarina glauca G(g4.1)1D Grass

Project: MAS	Site: 52	Observation: 1			
Soil Name: A1S4 - AA	SS at 0.5-1m and PASS	at 3-4m			
Location: GDA 94	ZONE 56	503768mE 6985025mN	Lat: -27.25766	Long: 153.03807	
Described By: Fiona M	cCartney (MCCF)		Date:	22/JUL/10	
Landscape:					
Geology: Qhc - Qhc-S	EQ: Undifferentiated coas	stal plains; mud, sand, commonly	with a veneer of Qha		
Element: plain		Landform Pattern: all	uvial plain		
Permeability: Highly	permeable				
Slope: 1 %	Slope: 1 % Drainage: Very poorly drained				
Depth to Water: 1					
Surface Coarse Fragmer	nts: Common 10-20%, M	Medium pebbles 6-20 mm, Quartz			
Surface Condition: Loose					
Disturbances: Cultivat	ion - Rainfed				
Classifications: ASC: ACIDIC, SULFURIC, REDOXIC, Hydrosol, Medium, Gravelly, Sandy, Clayey, Very Deep					

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Dark greyish brown (10YR42) moist; loamy fine sand; common 10-20% subrounded quartz medium pebbles 6-20 mm; single grain structure; loose dry; dry when sampled; highly permeable; rapidly drained; clear to
B1	.2 to .4	Yellowish brown (10YR56) moist; many 20-50% fine <5mm distinct orange mottles; clayey fine sand; common 10-20% subrounded quartz small pebbles 2-6 mm; single grain structure; loose dry; dry when sampled; highly permeable; rapidly drained; clear to
B21i	.4 to .7	Light yellowish brown (2.5Y64) moist; many 20-50% fine <5mm distinct orange mottles; clayey fine sand; single grain structure; loose dry; dry when sampled; highly permeable; rapidly drained; clear to
B22i	.7 to 1	Light brownish grey (2.5Y63) moist; common 10-20% fine <5mm faint orange mottles; clayey fine sand; massive structure; very weak moist; moist when sampled; highly permeable; rapidly drained; abrupt to
B23i	1 to 1.7	Light brownish grey (2.5Y62) moist; common 10-20% fine <5mm distinct orange mottles, few 2-10% fine <5mm faint brown mottles; clayey fine sand; massive structure; very weak moist;moist when sampled; highly permeable; very poorly drained; clear to
B24ia	1.7 to 1.9	Light brownish grey (2.5Y62) moist; many 20-50% coarse 15-30mm prominent orange mottles, very few <2% fine <5mm distinct yellow jarosite (from pyrite) mottles; sandy clay loam; massive structure; very weak wet; wet when sampled; abrupt to
B25ia	1.9 to 3	Light brownish grey (2.5Y62) moist; many 20-50% very coarse >30mm distinct brown mottles, common 10- 20% medium 5-15mm prominent yellow jarosite (from pyrite) mottles; sandy clay loam; massive structure; weak wet; wet when sampled; abrupt to
2B1ia	3 to 3.3	Dark grey (5Y41) moist; few 2-10% fine <5mm distinct yellow jarosite (from pyrite) mottles, common 10-20% medium 5-15mm distinct brown mottles; fine sandy light clay; massive structure; weak wet; wet when sampled; clear to
2B2u	3.3 to 3.6	Dark grey (5Y41) moist; common 10-20% coarse 15-30mm distinct grey mottles; sandy light clay; massive structure; weak wet; wet when sampled; clear to
3Du	3.6 to 4.1	Grey (N60) moist; common 10-20% very coarse >30mm prominent grey mottles, many 20-50% coarse 15- 30mm distinct brown mottles; sandy medium clay; massive structure; very firm moist; weakly cemented continuous massive organic pan; moist when sampled; clear to
4D	4.1 to 4.5	Grey (5Y61) moist; common 10-20% medium 5-15mm distinct orange mottles, very few <2% fine <5mm faint grey mottles, very few <2% fine <5mm distinct red mottles; sandy medium heavy clay; massive structure; few 2-10% medium 2-6mm ferruginous nodules; very firm moderately moist; moderately moist when sampled

Project:	MAS	Site:	52	Observation:	1
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Field Tes	sts:		
Depth	H2O2-	PH-2	PH-3
.1	1	5.0	3.3
.3	1	5.8	4.0
.6	1	5.3	4.3
.8		4.5	3.3
1		4.0	3.0
1.25		3.6	2.7
1.5		3.5	2.7
1.75		3.6	2.4
2		3.2	2.1
2.25		3.2	1.9
2.5		3.4	2.1
2.75	1	3.6	1.8
3	3	5.0	2.1
3.25	3	5.7	2.8
3.5	4	5.5	1.4
3.75	4	5.5	2.8
4	4	5.5	2.2
4.25	3	5.5	2.5
4.5	2	5.6	3.0
	PH-2:	pH using electroo	de probe
	PH-3:	pH of hydrogen	peroxide extract

Vegetation	U(w1.0)7M Eucalypt	us spp.
Horizon Notes:		
Horizon	2B2u	Preserved organics in this horizon
Horizon	3Du	Preserved organics in this horizon

Project: MAS	Site	: 53 (Observation: 1			
Soil Name: S4	4 - PASS at 3-4m					
Location: GD	A 94 ZONE	56	502349mE	6981653mN	Lat: -27.28811	Long: 153.02374
Described By:	Lauren Eyre (EYI	RL)			Date:	17/AUG/10
Landscape: Geology: Qha - Qha-SEQ: Clay, silt, sand; active stream channels and low terraces Element: plain Landform Pattern: alluvial plain Permeability: Moderately permeable Slope: 1 % Drainage: Poorly drained Depth to Water: 0.85 Surface Condition: Firm Disturbances: Complete clearing - pasture - but never cultivated Classifications:						
		REDOXIC, Hydroso	ol, Thick, Non- grav	velly, Clayey, Claye	y, Giant	
Profile Morpho Horizon Dept		cription				
A11 0 to	.05 Very	/ dark grey (10YR3			ky strong 2-5mm str eable; well drained; o	ucture; weak moderately clear to
A12 .05 t	blo		20mm structure; fi	rm moderately mois		ndy light clay; subangular when sampled; moderately
B21 .35 t	ma	U I (structure; firm mod	lerately moist; mod	•	dium clay; subangular blocky ampled; moderately
B22 .6 to						
B23 1 to	cla	ay loam; very few <	2% subangular c	onsolidated rock (u		ange mottles; coarse sandy ebbles 2-6 mm; massive ined; gradual to
B24 1.4 t				e <5mm prominent on sampled; gradual		dy light clay; massive
2B21 2.6 t		gular platy shell sr				amy sand; very few <2% wet when sampled; gradual
2B22 3.5 t	<2					m pebbles 6-20 mm; very few wet; wet when sampled;
2B23 3.75	fev	w <2% subangular	quartz small peb		ew <2% subangula	nottles; sandy light clay; very r gravel small pebbles 2-6
3B21 4 to	me					ange mottles; sandy light s nodules; very firm moist;

Field Te	ests:		
Depth	H2O2-	PH-2	PH-3
.05	1	5.83	3.1
.1	3	5.9	3.0
.3	4	6.5	4.3
.6	1	6.0	4.4
.8	1	5.8	4.5
1		5.8	4.4
1.25		5.6	4.3
1.5		5.6	4.1
1.75		6.0	5.0
2		5.8	5.2
2.25		5.8	5.0
2.5		5.8	5.5
2.75	1	6.3	4.4
3	1	6.5	5.0
3.25	1	7.1	6.4
3.5	3	7.4	6.5
3.75	3	6.7	3.0
4	4	8.2	8.1
4.25	4	7.5	7.8
4.5	4	7.2	8.0
	PH-2:	pH using electrod	e probe
	PH-3:	pH of hydrogen p	eroxide extract

Soil Vegetation	Effective rooting de Pasture	epth 1.2m
Horizon Notes:		
Texture	A12	A12 mottles: mottle lining root channels
Texture	2B21	2B21 Mottles more mottles in the top part of this horizon
Texture	2B21	2B21 Coarse Fragments: shells mainly in lower part of horizon
Texture	2B22	2B22 Mottle 11APSS: shell bond between 3.5-3.6m

Project:	MAS	Site: 54	Observation:	1					
Soil Name:	Soil Name: a0S3 - PASS at 2-3m with pH of 4-5								
Location	: GDA 94	ZONE 56	502399mE	6981366mN	Lat: -27.2907	Long: 153.02424			
Describe	ed By: Lauren Ey	re (EYRL)			Date:	17/AUG/10			
Landscape: Geology: Qhav - Qhav-SEQ: Levee banks; sand, gravel, silt Element: prior stream Landform Pattern: alluvial plain Permeability: Moderately permeable Slope: 0 % Drainage: Poorly drained									
	Water: 0.75								
	Condition: Soft	clearing - pasture - bu	t never cultivated						
Disturbances: Complete clearing - pasture - but never cultivated Classifications: ASC: MELACIC, KANDOSOLIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Giant									
Profile Mo	orphology:								
Horizon	Depth (m)	Description							
A1	0 to .3	quartz small pebb	es 2-6 mm; subang	ular blocky modera		very few <2% subangular e; weak moderately moist; ined; clear to			
B21	.3 to .6	medium clay; few	2-10% subangular	gravel small pebbl		mottles; coarse sandy ar blocky weak 20-50mm :tly drained; clear to			
B22	.6 to .9	few 2-10% suban	gular gravel medium massive structure; v	pebbles 6-20 mm	; abundant 50-90% si	coarse sandy medium clay; ubangular gravel small ighly permeable; poorly			
2B21	2B21 .9 to 1.2 Light brownish grey (2.5Y62) moist; common 10-20% medium 5-15mm distinct brown mottles; coarse sandy medium clay; few 2-10% subangular gravel medium pebbles 6-20 mm; abundant 50-90% subangular gravel small pebbles 2-6 mm; massive structure; weak moist; moist when sampled; highly permeable; poorly drained; gradual to								
2B22	2B22 1.2 to 2.3 Light olive grey (5Y62) moist; common 10-20% medium 5-15mm distinct brown mottles; clayey coarse sand; common 10-20% subrounded gravel large pebbles 20-60 mm; many 20-50% subangular gravel medium pebbles 6-20 mm; many 20-50% subangular gravel small pebbles 2-6 mm; single grain structure; loose wet; wet when sampled; highly permeable; poorly drained; diffuse to								
2B23	2.3 to 3	20% subrounded	gravel large pebbles subangular gravel	20-60 mm; many	20-50% subangular g	ey coarse sand; common 10- gravel medium pebbles 6-20 cture; very weak wet; wet			
3C1	3 to 4.2		ioist; sandy light cla et; wet when sampl		ngular platy shell sma	all pebbles 2-6 mm; massive			
4C	4.2 to 6		ist; silty light mediur ; very weak wet; we		2% angular platy shell	small pebbles 2-6 mm;			

Project:	MAS	Site: 54	Observation: 1				
Field Te	sts:						
Depth	H2O2-	PH-2	PH-3				
.1	1	4.9	3.5				
.3	1	5.2	4.1				
.6		4.6	3.6				
.8		4.1	3.2				
1		4.5	3.3				
1.25		5.1	3.2				
1.5		5.6	3.7				
1.75		5.9	4.4				
2		6.0	3.2				
2.25		4.9	3.5				
2.5	1	5.2	5.5				
2.75	3	6.8	2.0				
3	1	5.9	2.4				
3.25	1	7.0	7.4				
3.5	1	7.1	7.7				
3.75	1	7.2	7.0				
4	1	7.1	6.7				
4.25	2	7.5	6.3				
4.5	4	7.7	3.0				
4.75	4	7.1	3.5				
5	4	7.2	2.2				
5.25	2	7.2	7.4				
5.5	4	7.8	7.7				
5.75	4	8.1	4.2				
6	2	7.5	7.4				
	PH-2:	pH using electrode					
	PH-3:	pH of hydrogen pe	eroxide extract				
Observat	tion Notes:						
Observ	vation Mi	crorelief: Biotic other	r depression. 0.5m deep, 2m diameter. could be pig wallows				
Soil	Eff	fective rooting depth	1m - most roots stop at pan/hard layer at 1m				
Vegeta	Vegetation U(w1.0)7M Eucalyptus moluccana, Iron Bark						

Horizon Notes:

Texture	A1	A1: Orange layer from 0-2cm
Texture	2B21	2B21 Pans: hard layer approx 10m thick. Unsure how continual it is. Auger couldn't get through
		it. occurs at 1m

Soil Name: A2S4 - AASS at 1-2m and PASS at 3-4m

Location: G	GDA 94	ZONE	56	502683mE	6981813mN	Lat: -27.28667	Long: 153.02711
Described B	y: Lauren Ey	vre (EYRL)				Date:	17/AUG/10
Landscape:							
Geology: Qh	na - Qha-SEC	Q: Clay, silt, sa	and; active stre	eam channels an	d low terraces		
Element: pl	lain			Landform	Pattern: alluvial pl	ain	
Permeability:	Moderate	ly permeable					
Slope: 1 %				Drainage:	Poorly drained		
Depth to Wate	er: 0.5			Surface C	ondition: Firm		
Disturbances:	Complete	clearing - pas	sture - cultivat	ion at some stag	e		
Classification ASC: MELA		SULFURIC, R	EDOXIC, Hydr	rosol, Medium, No	on-gravelly, Clay Lo	amy, Clayey, Very [Deep
Profile Morph	hology:						
	epth (m)	Description	I				

110112011	Deptii (iii)	Description
A1	0 to .3	Very dark grey (10YR31) moist; clay loam; subangular blocky moderate 5-10mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; gradual to
B21	.3 to .8	Yellowish brown (10YR54) moist; few 2-10% fine <5mm distinct orange mottles, common 10-20% fine <5mm distinct red mottles; medium clay; subangular blocky weak 10-20mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; imperfectly drained; diffuse to
B22	.8 to 1.5	Light brownish grey (2.5Y62) moist; many 20-50% medium 5-15mm prominent orange mottles; clayey sand; massive structure; weak moist; moist when sampled; highly permeable; poorly drained; gradual to
2B21	1.5 to 2.35	Grey (5Y51) moist; few 2-10% medium 5-15mm distinct brown mottles, common 10-20% fine <5mm distinct yellow jarosite (from pyrite) mottles; sandy loam; massive structure; very weak wet; wet when sampled; gradual to
2B22	2.35 to 3	Dark greenish grey (10Y41) moist; common 10-20% medium 5-15mm distinct brown mottles; sandy loam; massive structure; very weak wet; wet when sampled; diffuse to
3C1	3 to 3.8	Dark greenish grey (10Y41) moist; sandy clay loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; gradual to

4C1	3.8 to 4.5	Dark grey (N40) moist; sandy light medium clay; massive structure; very weak wet; wet when sampled
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Field Tests:

Depth	H2O2-	I	PH-2	PH-3
.1	1		6.0	3.1
.6	1		4.4	3.2
.8			4.3	3.2
1			4.3	3.0
1.25			3.8	3.1
1.5	2		3.9	2.7
1.75	2		4.0	2.7
2	2		4.7	3.0
2.25	2		5.3	2.8
2.5	2		6.0	3.6
2.75	2		6.1	2.8
3	4		6.3	2.0
3.25	4		6.4	2.3
3.5	4		6.5	3.9
3.75	4		6.8	3.1
4	4		6.8	4.4
4.25	4		6.9	2.6
4.5	4		6.3	3.5
		PH-2:	pH using	g electrode probe
		PH-3:	pH of hy	drogen peroxide extract

Project: MA	S Site:	55	Observation:	1
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Observation Note	es:	
Observation	Microrelief: slight	undulations - possibly from cultivation
Soil	Effective rooting de	pth 1.2m
Vegetation	Pasture	
Horizon Notes:		
Texture	B21	Mottle M21DO: More mottles occurring in the lower part of this horizon probably associated with fluctuating water table
Texture	B21	Mottle M31DR: Mottles lining Duct channels
Texture	2B21	Mottles J31DY: Jarosite is mainly in top part of horizon (1.5-1.7m) formed in layers
Texture	3C1	Coarse Fragment 22APSS: shells mainly occur in a band from 3.6-3.8 (100mm of rain 1 week ago)
Horizon	4C1	Texture SLMC: 3cm of sand at bottom of horizon

Project:	MAS	Site: 56	Observation:	1				
Soil Name	a1LP - Low I	Probability of ASS in a	reas below 5m AHD	and pH of 4- 5 at (0.5-1.0m			
Locatio	n: GDA 94	ZONE 56	502659mE	6982138mN	Lat: -27.28373	Long: 153.02687		
Describ	ed By: Jonathan	Walton (WALJ)			Date:	18/AUG/10		
Landsca	Landscape:							
Geology	 RJI - Landsbor marker 	rough Sandstone: Litho	feldspathic labile ar	nd quartzose sand	stone, siltstone, shale	e, minor coal, ferruginous oolite		
Element	: hillcrest		Landform	n Pattern: plain				
Permea		ermeable						
Slope:			Drainage	E Poorly drained				
	Condition: Firm		10 0 0 0 0					
Disturba	nces: Complete	e clearing - pasture - cu	iltivation at some sta	age				
Classifica	ations:							
ASC: N	IELANIC, MESOT	ROPHIC, GREY, Kando	osol, Medium, Non-gra	avelly, Clayey, Cla	yey, Deep			
Profile N	lorphology:							
Horizon	Depth (m)	Description						
A1	0 to .25	few 2-10% suban	gular sandstone med	dium pebbles 6-20	mm; subangular bloc	tone small pebbles 2-6 mm; ky moderate 2-5mm structure; e; moderately well drained;		
B1	.25 to .55	distinct pale mottle	es; light clay; subang es; firm moderately r	jular blocky modera		on 10-20% medium 5-15mm very few <2% medium 2-6mm slowly permeable;		
B2	.55 to 1.2	15mm distinct yel	ow mottles; medium erruginous nodules;	heavy clay; subar	ngular blocky weak <2	ottles, few 2-10% medium 5- mm structure; few 2-10% t when sampled; slowly		
Field Tes	sts:							
Depth	PH-2							
.1	6.6							
.3	4.6							
.6	4.1							
.8	3.9							
1	4.0							
1.2	4.2							
	PH-2: pH	using electrode probe						
Ob	servation Notes:							
Observation Push rig only recovered to 1.2m.								

Project: MAS Site: 57 Observation: 1							
Soil Name: a2LP - Low Probability of ASS in areas below 5m AHD and pH of 4- 5 at 1-2m							
Location: GDA 94 ZONE 56 502092mE 6981955mN Lat: -27.28538 Long: 153.02114							
Described By: Jonathan Walton (WALJ) Date: 18/AUG/10							
Landscape:							
Geology: Qr - Qr-9543: Residual soil, colluvium; sand, soil, clay, rock debris							
Element: swamp Landform Pattern: alluvial plain							
Permeability: Very slowly permeable Slope: 0 % Drainage: Very poorly drained							
Slope: 0 % Drainage: Very poorly drained Depth to Water: 0.01							
Surface Condition: Soft							
Disturbances: No effective disturbance except grazing by hoofed animals							
Classifications:							
ASC: ACIDIC, KANDOSOLIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep							
Profile Morphology:							
Horizon Depth (m) Description							
M1 0 to .15 Grey (2.5Y61) moist; few 2-10% fine <5mm prominent orange mottles, very few <2% fine <5mm faint grey mottles; light clay; massive structure; firm wet; wet when sampled; very slowly permeable; very poorly drained; abrupt to							
2A1 .15 to .3 Grey (2.5Y61) moist; sapric clay loam, sandy; massive structure; very few <2% coarse 6- 20mm ferruginous nodules; firm wet; wet when sampled; moderately permeable; very poorly drained; gradual to							
2B21 .3 to .75 Light olive brown (2.5Y54) moist; few 2-10% fine <5mm faint grey mottles; heavy clay loam, sandy; massive structure; very few <2% very coarse 20-60mm ferruginous nodules; few 2- 10% coarse 6-20mm ferruginous nodules; weak wet; wet when sampled; moderately permeable; very poorly drained; gradual to							
2B22 .75 to 1.08 Greyish brown (2.5Y53) moist; common 10-20% medium 5-15mm distinct orange mottles, very few <2% fine <5mm faint grey mottles; sandy light clay; massive structure; very few <2% very coarse 20-60mm ferruginous nodules; common 10-20% coarse 6-20mm ferruginous nodules; firm moist; moist when sampled; moderately permeable; very poorly drained; clear to							
2B23 1.08 to 1.35 Yellowish brown (10YR56) moist; many 20-50% medium 5-15mm prominent red mottles, few 2-10% medium 5-15mm prominent grey mottles; sandy light clay; subangular blocky moderate 5-10mm structure; few 2-10% medium 2-6mm ferruginous nodules; firm moderately moist;moderately moist when sampled; slowly permeable; very poorly drained; clear to							
2B24 1.35 to 1.5 Yellowish red (5YR46) moist; common 10-20% coarse 15-30mm prominent grey mottles, many 20-50% very coarse >30mm prominent brown mottles; sandy medium clay; massive structure; very firm moderately moist; slowly permeable; very poorly drained; clear to							
2B25 1.5 to 1.9 Grey (2.5Y61) moist; common 10-20% coarse 15-30mm prominent brown mottles, common 10-20% coarse 15-30mm prominent red mottles; sandy medium heavy clay; massive structure;very firm moderately moist; moderately moist when sampled							
Field Tests:							
Depth H2O2- PH-2 PH-3							
.1 4 6.4 5.0							
.2 4 6.4 3.5							
.4 1 6.3 2.6 .6 1 6.1 3.2							
.6 1 5.9 2.6							
1 2 5.7 3.2							
1.25 4.7 3.5							
1.5 4.2 3.2							
1.75 4.4 3.2							
PH-2: pH using electrode probe							
PH-3: pH of hydrogen perovide extract							

PH-3: pH of hydrogen peroxide extract

Observation Notes:

ObservationNorthern end of dams, surface water. grey clay at eastern end of dams but non estuarineVegetationU(w1.0)7S Melaleuca quinquenervia

Project:	MAS	Site: 58	Observation:	1				
Soil Name	a1LP - Low	Probability of A	SS in areas below 5m AHI	D and pH of 4- 5 at	0.5-1.0m			
Locatio	on: GDA 94	ZONE	56 502219mE	6982054mN	Lat: -27.28449	Long: 153.02242		
Describ	oed By: Lauren (OBrien (OBRL)			Date:	18/AUG/10		
Geolog Elemen Permea Slope: Depth te	Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: drainage depression Landform Pattern: plain Permeability: Slowly permeable Runoff: Very slow Slope: 1 % Drainage: Very poorly drained Depth to Water: 0.01 Surface Condition: Soft Disturbances: No effective disturbance except grazing by hoofed animals							
Classific ASC: 1		OSOLIC, REDO>	(IC, Hydrosol, Medium, Nor	-gravelly, Clayey, C	Slayey, Very Deep			
Profile N	lorphology:							
Horizon	Depth (m)	Description						
A11	0 to .2	weak strue	rey (5Y31) moist; sandy lig cture; very few <2% fine <2 pled; moderately permeab	2mm ferruginous ro	ot linings; firm moist; r	el medium pebbles 6-20 mm; nany <1mm roots; moist		
A12	.2 to .45	<2% fine .	rey (2.5Y31) moist; fine sa <2mm ferruginous root linir e; very poorly drained; clea	ngs; firm moist; com		te 2-5mm structure; very few ist when sampled; slowly		
B21	.45 to .85	massive s	Greyish brown (2.5Y52) moist; very few <2% coarse 15-30mm faint orange mottles; sandy light clay; massive structure; weak wet; few <1mm roots; wet when sampled; slowly permeable; very poorly drained; abrupt to					
B22	.85 to 1.2	prominent	Grey (5Y51) moist; very few <2% fine <5mm faint orange mottles, common 10-20% medium 5-15mm prominent red mottles; medium heavy clay; massive structure; very firm moist; moist when sampled; slowly permeable; very poorly drained; abrupt to					
B23	1.2 to 1.65	mottles; m	Grey (N50) moist; few 2-10% medium 5-15mm distinct orange mottles, very few <2% fine <5mm distinct red mottles; medium clay; massive structure; very firm moderately moist; moderately moist when sampled; gradual to					
B24	1.65 to 2.6	coarse >3		es; sandy medium c		e mottles, very few <2% very e; very firm moderately moist;		
B25	2.6 to 2.8		rown (10YR56) moist; very trong <2mm structure; very			mottles; fine sandy light clay; when sampled		
Field Tes	sts:							
Depth	H2O2-	PH-2	PH-3					
.1	2	5.1	2.3					
.3	1	5.2	2.7					
.6		5.3	3.7					
.8		5.2	3.6					
1		5.0	3.0					
1.25	1	4.9	3.3					
1.5		4.5	4.1					
1.75		4.8	3.8					
2		4.8	4.0					
2.25		4.7	3.6					
2.5		4.9	4.5					
2.75		4.7	3.8					
	PH-2		ctrode probe					
	PH-3		gen peroxide extract					
	bservation Notes:							
Ň	Vegetation	U(w1.0)7D <i>Mela</i> G(g1.0)1M Gra	leuca quinquenervia sses					

Soil Name: a2LP - Low Probability of ASS in areas below 5m AHD and pH of 4- 5 at 1-2m

Locatior	n: GDA 94	ZONE	56	503113mE	6983827mN	Lat: -27.26848	Long: 153.03145
Describ	Described By: Jonathan Walton (WALJ) Date: 18/AUG/10						
Landscap	be:						
Geology	: Qhc - Qhc-SE	Q: Undifferen	tiated coastal	plains; mud, sar	nd, commonly with	a veneer of Qha	
Element	: plain			Landform	Pattern: flood pl	ain	
Permea	bility: Highly p	ermeable		Runoff:	Slow		
Slope:	0 %			Drainage	: Poorly drained		
Depth to	Water: 0.7						
Surface	Condition: Sof	t, Loose					
Disturba	nces: Cultivati	on - Rainfed					
Classifica	ations.						
		, TENOSOLIC	, REDOXIC, Hy	drosol, Medium,	Non-gravelly, Loar	my, Loamy, Very Dee	р
Profile M	orphology:						
Horizon	Depth (m)	Descriptio	n				
A1p	A1p 0 to .3 Black (2.5Y2.5/1) moist; heavy sandy loam; massive structure; firm moist; few 2-5mm roots; moist when sampled; highly permeable; well drained; gradual to						2-5mm roots;moist when
A2	A2 .3 to .7 Dark greyish brown (2.5Y42) moist; clayey sand; single grain structure; weak wet; wet when sampled; highly permeable; moderately well drained; gradual to					wet; wet when sampled;	
B21							

B22 1.1 to 1.5 Light yellowish brown (10YR64) moist; common 10-20% fine <5mm distinct gley sharp mottles, few 2-10% medium 5-15mm distinct gley sharp mottles; heavy sandy loam; single grain structure; firm wet; wet when sampled; highly permeable; poorly drained; abrupt to

- C1 1.5 to 2.1 Grey (5Y51) moist; very few <2% fine <5mm distinct brown mottles; clay loam, sandy; single grain structure; weak wet; wet when sampled; diffuse to
- C2 2.1 to 3 Dark grey (5Y41) moist; few 2-10% fine <5mm distinct brown mottles; clay loam, sandy; single grain structure; weak wet; wet when sampled; clear to
- 2B 3 to 4 Light grey (5Y71) moist; few 2-10% medium 5-15mm distinct grey mottles, many 20-50% very coarse >30mm prominent orange mottles, very few <2% fine <5mm prominent red mottles; sandy medium clay; very few <2% subangular quartz medium pebbles 6-20 mm; massive structure; few 2-10% medium 2-6mm ferruginous nodules; very firm moist; moist when sampled; clear to
- D 4 to 4.6 Light grey (5Y71) moist; many 20-50% very coarse >30mm prominent red mottles, common 10-20% coarse 15-30mm prominent orange mottles, few 2-10% medium 5-15mm faint grey mottles; sandy medium heavy clay; few 2-10% subrounded sandstone large pebbles 20-60 mm; massive structure; many 20-50% medium 2-6mm ferruginous nodules; very firm moist; moist when sampled

Project:	MAS		Site: 59	Observation: 1
Field Te	sts:			
		H2O2-	PH-2	PH-3
	1	1	5.7	2.5
	3		5.6	3.3
.(6		5.4	5.0
3.	8		5.4	5.3
1			5.1	4.7
1	.25		4.7	3.2
1	.5		4.3	3.5
1	.75	1	4.5	3.3
2	2	1	4.9	3.5
2	.25	1	5.5	3.2
2	2.5	2	5.4	3.4
2	.75	2	5.7	2.9
3	5	1	5.6	3.0
3	3.25		4.7	3.2
3	5.5		4.9	3.5
3	8.75		4.8	3.1
4	Ļ		4.7	3.3
4	.25		4.9	3.2
4	.5		5.0	3.1
		PH-2:	pH using elec	trode probe
		PH-3:	pH of hydrog	en peroxide extract

drained; clear to

Soil Name: A1S3 - AASS at 0.5-1m and PASS at 2-3m

oon namo.	11100 1110			om				
Location	: GDA 94	ZONE	56	503686mE	6983528mN	Lat:	-27.27118	Long: 153.03724
Describe	Described By: Lauren OBrien (OBRL) Date: 19/AUG/10							
Landscap	Landscape:							
Geology:	Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha							
Element:	plain			Landform	Pattern: alluvial p	lain		
Permeat	Permeability: Moderately permeable							
Microreli	ef: Swamp hur	nmock						
Slope: 0	Slope: 0 % Drainage: Poorly drained							
Depth to	Water: 0.5							
Surface	Condition: Firm							
Disturbar	nces: Complete	e clearing - pa	sture - but nev	er cultivated				
Classifica	tions:							
		RIC. REDOXIC	. Hvdrosol. Me	dium. Non-gravel	ly, Clay Loamy, Lo	amv. (Giant	
			, <i>j</i> a. eee,e	a.a,o g. a. o.	, endy <u>_</u> eanly, <u>_</u> e	u,,, , ,		
Profile M	Profile Morphology:							
Horizon	Depth (m)	Description	١					
A1	0 to .3	· · ·	, ,	, ,	am; weak structure eable; moderately v	,	'	2mm roots; many <1mm roots; I to
B21	.3 to .65							ottles; fine sandy loam; permeable; imperfectly

Greyish brown (2.5Y52) moist; common 10-20% coarse 15-30mm distinct orange clear mottles, few 2-10% medium 5-15mm prominent yellow sharp jarosite (from pyrite) mottles; fine sandy loam; massive structure; weak wet; few <1mm roots; wet when sampled; highly permeable; poorly drained Greyish brown (2.5Y52) moist; many 20-50% coarse 15-30mm distinct orange clear mottles; fine sandy B23 .95 to 1.5

		loam; massive structure; weak wet; wet when sampled; highly permeable; poorly drained
B3	1.5 to 2.3	Dark grey (5Y41) moist; very few <2% fine <5mm faint brown clear mottles; loamy sand; massive structure; weak wet; wet when sampled; clear to
C1u	2.3 to 2.95	Dark greenish grey (10Y31) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; gradual to
C2u	2.95 to 3.8	Dark greenish grey (10Y31) moist; clay loam, fine sandy; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; very weak wet; wet when sampled; gradual to

C3u 3.8 to 5.4 Dark greenish grey (10Y31) moist; fine sandy light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; diffuse to

Dark greenish grey (10Y31) moist; silty light medium clay; very few <2% angular platy shell small pebbles 2-6 mm; very weak wet; wet when sampled C4u 5.4 to 6

Field Tests:

B22

.65 to .95

Depth	H2O2-	PH-2	PH-3
.1	1	5.1	2.1
.3	1	4.6	2.5
.6		4.2	2.8
.8		4.2	2.7
1		4.0	2.7
1.25		4.3	2.8
1.5		5.7	4.2
2.25	1	6.6	2.4
2.5	1	7.2	3.0
2.75	4	7.2	3.4
3	4	7.3	3.2
3.25	4	7.5	3.0
3.5	3	7.6	3.7

Project:	MAS		Site:	60	Observation:	1
D	epth	H2O2-	PI	H-2	PH-3	
3.	.75	3		7.4	3.9	
4		4		7.6	3.0	
4.	.25	4		7.5	2.5	
4.	.5	4		7.7	2.2	
4.	.75	4		7.3	2.1	
5		4		7.0	2.6	
5.	.25	4		7.4	1.8	
5.	.5	4		7.4	2.4	
5.	.75	4		7.7	1.8	
6		4		7.7	1.9	
		PH-2:	pH usi	ng electrod	e probe	
		PH-3:	pH of	hydrogen p	eroxide extract	
0	Observation Notes:					
,	0		w1.0)6I <i>Eucalyptus tereticornis</i> (g1.0)2D pasture grass.			
H	orizon Not	es:				
	Texture		C4ı	L	fine sand in C4u	

Project: MAS Site: 61 Observation: 1 Soil Name: a0S2 - PASS at 1.0-2.0m with pH of 4-5 at 0-0.5m Location: GDA 94 ZONE 56 503516mE 6983425mN Lat: -27.27211 Long: 153.03552 Date: 19/AUG/10 Described By: Jonathan Walton (WALJ) Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: supratidal flat Landform Pattern: tidal flat Permeability: Very slowly permeable Runoff: No runoff Slope: 0 % Drainage: Very poorly drained Depth to Water: 0.5 Surface Condition: Soft Disturbances: Limited clearing Classifications: ASC: NO AVAILABLE CLASS, SULFIDIC, SUPRATIDAL, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .15	Black (10YR21) moist; sapric clay loam; subangular blocky moderate 2-5mm structure; very firm wet; abundant <1mm roots; wet when sampled; moderately permeable; moderately well drained; clear to
B21	.15 to .5	Grey (10YR51) moist; many 20-50% medium 5-15mm prominent orange mottles; fine sandy light clay; subangular blocky weak 2-5mm structure; common 10-20% coarse 6-20mm ferruginous nodules; firm wet; wet when sampled; slowly permeable; imperfectly drained; gradual to
B22	.5 to .8	Grey (10YR51) moist; very few <2% fine <5mm distinct orange mottles; fine sandy light clay; massive structure; weak wet; wet when sampled; slowly permeable; very poorly drained; gradual to
C1	.8 to 1.35	Dark grey (2.5Y41) moist; fine sandy light clay; massive structure; weak wet; wet when sampled; very slowly permeable; very poorly drained; clear to
C2	1.35 to 2.75	Dark greenish grey (10Y31) moist; clay loam, fine sandy; massive structure; weak wet; wet when sampled; moderately permeable; very poorly drained; gradual to
C3	2.75 to 3	Greenish black (10Y2.5/1) moist; sandy clay loam; massive structure; firm wet; wet when sampled; clear to
D1	3 to 3.3	Greenish grey (5GY51) moist; common 10-20% medium 5-15mm distinct brown mottles; fine sandy medium clay; common 10-20% angular shell medium pebbles 6-20 mm; few 2-10% subrounded sandstone medium pebbles 6-20 mm; massive structure; few 2-10% coarse 6-20mm other concretions; very firm wet; wet when sampled; clear to
D2	3.3 to 3.95	Greenish grey (5GY51) moist; common 10-20% fine <5mm distinct brown mottles; medium clay; massive structure; very firm moist; moist when sampled; diffuse to

D3 3.95 to 4.45 Greenish grey (5GY51) moist; common 10-20% very coarse >30mm distinct brown mottles; medium heavy clay; massive structure; very firm moist; moist when sampled

Field Te			
Depth	H2O2-	PH-2	PH-3
.1	1	4.2	2.5
.3		4.3	2.9
.6		5.3	4.0
.8	1	5.6	2.1
1	1	5.6	4.5
1.25	1	5.4	3.3
1.5	4	6.0	1.5
1.75	3	5.9	1.5
2	4	6.1	1.6
2.25	4	6.4	1.8
2.5	4	6.4	2.1
2.75	4	6.5	2.1
3	4	6.7	2.0
3.25	4	7.5	6.3

Project: MAS		Site: 61	Observation: 1
Depth	H2O2-	PH-2	PH-3
3.5	4	7.5	8.1
3.75	3	7.7	8.4
4	3	8.4	8.4
4.25	3	7.8	8.3
4.45	2	7.5	7.8
	PH-2:	pH using electrod	e probe
	PH-3:	pH of hydrogen p	eroxide extract

Vegetation G(g1.0)1M Sporobolus virginicus (Salt couch) and bare earth patches

Project: MAS	Site: 62	Observation: 1				
Soil Name: a0S2 – PAS	S at 1.0-2.0m with pH of	of 4-5 at 0-0.5m				
Location: GDA 94	ZONE 56	503584mE 6983817mN	Lat: -27.26857	Long: 153.03621		
Described By: Jonathan	Walton (WALJ)		Date:	19/AUG/10		
Landscape:						
Geology: Qha/1 - Qha/1	-9543: Lowest river ter	rrace; gravel, sand, silt, clay				
Element: drainage dep	ression	Landform Pattern: flood p	lain			
Permeability: Moderate	ely permeable	Runoff: No runoff				
Slope: 0 %		Drainage: Very poorly dra	ined			
Depth to Water: 0.3						
Surface Condition: Soft						
Disturbances: Limited c	learing					

Classifications:

ASC: NO AVAILABLE CLASS, SULFIDIC, SUPRATIDAL, Hydrosol, Medium, Non-gravelly, Clay Loamy, Sandy, Very Deep

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Black (2.5Y2.5/1) moist; fibric clay loam; subangular blocky weak <2mm structure; very firm moist; abundant <1mm roots; moist when sampled; moderately permeable; moderately well drained; abrupt to
B21	.2 to .7	Grey (2.5Y51) moist; very few <2% medium 5-15mm distinct orange clear mottles; heavy loamy sand; massive structure; very few <2% fine <2mm ferruginous root linings; firm moist; common <1mm roots; few 1-2mm roots; moist when sampled; highly permeable; imperfectly drained; sharp to
C1	.7 to 1.3	Grey (5Y51) moist; loamy sand; massive structure; weak wet; few <1mm roots; wet when sampled; highly permeable; very poorly drained; clear to
C2	1.3 to 1.95	Dark grey (5Y41) moist; sandy loam; very few <2% angular shell medium pebbles 6-20 mm; few 2-10% subrounded other medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; moderately permeable; very poorly drained; gradual to
C3	1.95 to 2.5	Dark grey (5Y41) moist; fine sandy light clay; very few <2% angular charcoal small pebbles 2-6mm; massive structure; weak wet; wet when sampled; gradual to
C4	2.5 to 2.8	Dark grey (5Y41) moist; clay loam, fine sandy; massive structure; weak wet; wet when sampled; sharp to
D	2.8 to 3	Dark yellowish brown (10YR46) moist; sandy light clay; very few <2% subrounded sandstone medium pebbles 6-20 mm; massive structure; very firm moist; moist when sampled

Field Tests:

Depth	H2O2-		PH-2	PH-3
.1	1		4.5	3.4
.3	1		4.7	3.5
.6			5.3	4.3
.8			5.8	4.4
1	1		5.4	4.8
1.25	1		5.8	3.7
1.5	3		5.8	2.1
1.75	4		5.9	1.8
2	4		6.0	2.0
2.25	4		5.7	2.2
2.5	4		5.4	3.0
2.75	4		5.8	2.1
3	3		5.8	4.9
		PH-2:	pH using	electrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation

U(w1.0)5L Casuarina glauca

G(g1.0)2M Sporobolus virginicus (Salt couch) and -20% bare ground (patch)

Project:	MAS	Site: 63	Observation:	1							
Soil Name: a0S2 - PASS at 1.0-2.0m with pH of 4-5 at 0-0.5m											
Location	n: GDA 94	ZONE 56	504502mE	6983032mN	Lat: -27.27566	Long: 153.04549					
Describ	ed By: Jonathar	n Walton (WALJ)			Date:	19/AUG/10					
Landsca		. ,									
Geology: Qhe - Qhe-9543: Estuarine channels and banks; sandy mud, muddy sand, minor gravel											
Element: plain Landform Pattern: alluvial plain											
Permeability: Moderately permeable											
	Slope: 0 % Drainage: Very poorly drained										
	Water: 0.9	te clearing - nasture		Condition: Firm							
Disturbances: Complete clearing - pasture - cultivation at some stage											
Classifica ASC: H		, SULFIDIC, REDOXI	C, Hydrosol, Medium, No	n-gravelly, Clay Lo	oamy, Sandy, Very De	ер					
Profile M	lorphology:										
Horizon	Depth (m)	Description									
A1	0 to .22		Black (10YR21) moist; sapric fine sandy light clay; subangular blocky weak <2mm structure; firm moist; moist when sampled; moderately permeable; moderately well drained; clear to								
B2	.22 to 1.3	very coarse >	Light brownish grey (10YR62) moist; common 10-20% coarse 15-30mm distinct orange mottles, few 2-10% very coarse >30mm faint pale mottles; loamy sand; massive structure; firm wet; wet when sampled; highly permeable; poorly drained; diffuse to								
C1	1.3 to 3.25	Dark grey (N40) moist; clayey sand; common 10-20% angular shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; highly permeable; very poorly drained; diffuse to									
C2	3.25 to 4	Dark greenish g	Dark greenish grey (10Y31) moist; fine sandy light clay; very few <2% angular shell small pebbles 2-6 mm; massive structure; weak wet; wet when sampled; diffuse to								
C3	4 to 4.5	Dark greenish grey (10Y31) moist; silty light medium clay; massive structure; weak wet; wet when sampled									
Field Tes	sts:										
Depth	H2O2-	PH-2 PH	1-3								
.1	1	4.5	2.8								
.3		4.7	4.0								
.6 8		4.1	3.3								
.8 1		4.8 4.2	3.5 3.4								
1.25		4.2	3.9								
1.25		4.7 6.5	4.8								
1.75	4	6.6	1.7								
2	4	6.9	2.1								
2.25	4	7.0	2.0								
2.5	4	7.0	2.0								
2.75	3	7.3	2.2								
3	4	7.2	2.2								
3.25	4	7.4	2.1								
3.5	4	7.6	3.8								
3.75	3	7.4	3.1								
4	4	7.3	2.0								
4.25	4	7.4	2.1								
4.5	4	7.4	2.5								
	PH-2										
PH-3: pH of hydrogen peroxide extract											
Observation Notes:											

Observation Horse paddock,

Vegetation L(g1.0)1/2M Pasture grass.

Project:	MAS	Site: 64	Observation:	1							
Soil Name: A0 - AASS at 0-0.5m											
Location	n: GDA 94	ZONE	56 502194mE	6982628mN	Lat: -27.27931	Long: 153.02217					
Describ	Described By: Lauren Eyre (EYRL) Date: 25/AUG/10										
Landscape:											
Geology: Qr - Qr-9543: Residual soil, colluvium; sand, soil, clay, rock debris											
Element: swamp Landform Pattern: alluvial plain											
Permeability: Very slowly permeable											
Microrelief: Other											
Slope:	Slope: 0 % Drainage: Very poorly drained										
	Water: 0.3										
Surface Condition: Soft											
Disturbances: Complete clearing - pasture - but never cultivated											
Classifications:											
ASC: HUMOSE-ACIDIC, SULFURIC, REDOXIC, Hydrosol, Thick, Non-gravelly, Clayey, Clayey, Very Deep											
Profile M	lorphology:										
Horizon	Depth (m)	Description									
Μ	0 to .25	Light brownish grey (2.5Y62) moist; many 20-50% fine <5mm distinct dark mottles, few 2-10% fine <5mm distinct brown mottles; medium clay; very few <2% subangular platy charcoal small pebbles 2-6 mm; subangular blocky moderate 5-10mm structure; weak moist; moist when sampled; slowly permeable; imperfectly drained; clear to									
2A1b	.25 to .55	Black (7.5YR2.5/1) moist; sapric light clay; subangular blocky weak 10-20mm structure; very weak wet; wet when sampled; moderately permeable; moderately well drained; clear to									
2B21b	.55 to .85	Grey (2.5Y61) moist; common 10-20% fine <5mm distinct yellow mottles, common 10-20% fine <5mm prominent red mottles; medium clay; very few <2% subangular platy charcoal small pebbles 2-6 mm; subangular blocky weak 10-20mm structure; very weak moist; moist when sampled; slowly permeable; imperfectly drained; gradual to									
3B21b	.85 to 1.6	Grey (2.5Y61) moist; olive yellow (2.5Y66) moist; common 10-20% fine <5mm distinct yellow mottles, common 10-20% fine <5mm prominent yellow jarosite (from pyrite) mottles; medium heavy clay; massive structure; moist when sampled; very slowly permeable; very poorly drained; diffuse to									
3B22b	1.6 to 2.1	Grey (2.5Y51) moist; many 20-50% fine <5mm distinct yellow jarosite (from pyrite) mottles, common 10-20% fine <5mm prominent red mottles; heavy clay; firm moist; moist when sampled; diffuse to									
3B23b	2.1 to 2.4	Grey (2.5Y51) moist; common 10-20% fine <5mm distinct yellow jarosite (from pyrite) mottles, many 20-50% fine <5mm prominent red mottles; heavy clay; massive structure; firm moist; moist when sampled; gradual to									
3B24b	2.4 to 2.5	Grey (2.5Y51) moist; common 10-20% fine <5mm prominent yellow jarosite (from pyrite) mottles, many 20- 50% medium 5-15mm prominent red mottles; heavy clay; massive structure; very firm moist; moist when sampled									
Field Tes	sts:										
Depth	H2O2-	PH-2	PH-3								
.05		4.3	3.2								
.1	1	4.2	3.1								
.3	1	4.2	3.1								
.6	4	5.3	3.3								
.8	4	4.1	2.7								
1		4.0	2.6								
1.25		4.2	2.8								
1.5		4.1	2.9								
1.75		4.5	2.8								
2		4.5	3.0								
2.25		4.0	3.0								
2.5		4.2	3.2								
PH-2: pH using electrode probe											
PH-3: pH of hydrogen peroxide extract											

Project: MAS	Site: 64	Observation: 1				
Site Notes:						
Geology	Morph Type: N	Morph Type: Man made depression				
Observation Note	es:					
Observation		Disturbance: soil has been changed from nearby depression and spread around adjacent land. Site has 0.25m of fill on top				
Observation	Microrelief: ND - Sc	odic Microrelief				
Observation	Gouge auger to 2m	then hand auger to 2.5m				
Soil	Effective rooting de	pth 1.2 - roots stop at 1.20m				
Vegetation	G(g6.0)2M Rushes	ì				
Horizon Notes:						
Horizon	2A1b	Colour: 0.03m band of darker material at top of 2nd horizon (0.25-0.28) colour N2.5/O				
Texture	2A1b	horizon has a lot of highly decomposed organic material which makes it hard to determine the texture.				
Texture	3B24b	soil is very firm to texture				

Project: MAS	Site: 65	Observation:	1			
Soil Name: a1LP -	Low Probability of ASS in area	as below 5m AHD	and pH of 4- 5 at ().5-1.0m		
Location: GDA 94	ZONE 56	502369mE	6983231mN	Lat: -27.27386	Long: 153.02394	
Described By: Lau	ren Eyre (EYRL)			Date:	25/AUG/10	
Landscape:						
Geology: RJI - Lar marker	dsborough Sandstone: Lithofel	dspathic labile ar	nd quartzose sands	stone, siltstone, shale	, minor coal, ferruginous oolite	
Element: hillslop			Pattern: rises			
, ,	wly permeable		Moderately rapid			
Slope: 10 % Depth to Water: 0.	F	Drainage	: Poorly drained			
Surface Condition:						
	mplete clearing - pasture - but r	never cultivated				
	inplote cleaning pastale barr					
Classifications: ASC: MELANIC-M	OTTLED, MESOTROPHIC, RED,	Dermosol, Medium	n, Moderately Grav	elly, Clay Loamy, Clay	yey, Deep	
Profile Morpholog	y:					
Horizon Depth (m) Description					
A1 0 to .2	common 10-20% sul	bangular gravel m ar blocky weak 2-5	edium pebbles 6-2 mm structure; ver	0 mm; subangular blo	el small pebbles 2-6 mm; ocky weak 10-20mm oist; moderately moist when	
A2 .2 to .45	2-6 mm; subangular	Light brownish grey (2.5Y63) moist; coarse sandy clay loam; few 2-10% subrounded gravel small pebbles 2-6 mm; subangular blocky moderate 2-5mm structure; very few <2% medium 2-6mm manganiferous nodules; weak moist; moist when sampled; moderately permeable; moderately well drained; abrupt to				
B21 .45 to .6	gravel small pebbles	Brownish yellow (10YR66) moist; few 2-10% fine <5mm faint red mottles; light clay; few 2-10% subrounded gravel small pebbles 2-6 mm; angular blocky moderate 2-5mm structure; firm moderately moist; moderately moist when sampled; slowly permeable; moderately well drained; gradual to				
B22 .65 to 1.2	mottles; light mediur	Red (10R46) moist; many 20-50% fine <5mm distinct grey mottles, many 20-50% fine <5mm distinct brown mottles; light medium clay; very few <2% subrounded gravel medium pebbles 6-20 mm; subangular blocky moderate 2-5mm structure; weak moist; moist when sampled; slowly permeable; imperfectly drained; gradual to				
B23 1.2 to 1.	prominent red mottle	s; light medium cl	ay; very few <2% s	subrounded gravel me	on 10-20% fine<5mm edium pebbles 6-20 mm; I; slowly permeable; poorly	
Field Tests:						
Depth PH-2						
.05 5.9						
.1 6.1						
.3 6.2						
.6 5.6						
.8 5.1						
1 4.6						
1.25 4.8						
PH-2:	pH using electrode probe					
Observation N	otes:					
Soil	Effective rooting depth 0.60m	n				
Vegetation	Pasture.					
Horizon Notes						
Texture	A1 Coa	rse Fragments: G	ravels are concen	trated in the lower pa	rt of horizon (5-10cm)	

Project:	MAS	Site: 66	Observation:	1				
Soil Name:	: A1 - AAS	S at 0.5-1m						
Location	n: GDA 94	ZONE 56	502449mE	6983266mN	Lat: -27.27355	Long: 153.02474		
Describ	ed By: Kate G	oulding (GOUK)			Date:	25/AUG/10		
Landsca	pe:							
Geology	y: RJI - Lands marker	borough Sandstone: Lith	ofeldspathic labile ar	nd quartzose sand	stone, siltstone, shale	e, minor coal, ferruginous oolite		
Elemen	•		Landform					
Permea Slope:		slowly permeable		ef: Zero or none : Very poorly dra	ined			
	o Water: 0.3		Drainage					
Surface	Condition: S	oft						
Disturba	ances: Comp	lete clearing - pasture - I	out never cultivated					
Classifica ASC: M		FURIC, REDOXIC, Hydro	sol, Thick, Non-gravell	y, Clayey, Clayey,	Very Deep			
Profile N	lorphology:							
Horizon	Depth (m)	Description						
A1	0 to .45	medium 2-6mm		very weak modera	tely moist; common 1	nm structure; very few <2% I-2mm roots; moderately moist		
B21	.45 to .65	clay; subangular		m structure; firm n	noderately moist; few	yellow clear mottles; medium 1-2mm roots; moderately		
B22	.65 to .85	subangular bloc	Grey (2.5Y61) moist; common 10-20% coarse 15-30mm distinct yellow cle subangular blocky weak 10-20mm structure; firm moist; few 1-2mm root permeable; poorly drained; clear to					
B23	.85 to 1.05	10-20% medium medium 2-6mm	5-15mm distinct red c ferruginous nodules;	2.5Y62) moist; common 10-20% medium 5-15mm distinct yellow clear mottles, common 5mm distinct red clear mottles; fine sandy loam; massive structure; very few <2% uginous nodules; very few <2% coarse 6-20mm ferruginous nodules; weak wet; wet lerately permeable; poorly drained; clear to				
B24	1.05 to 1.6	15mm prominen	grey (N70) moist; few 2-10% medium 5-15mm distinct yellow clear mottles, common 10-20% medium 5- nm prominent red clear mottles; medium heavy clay; massive structure; very few <2% medium 2-6mm uginous nodules; strong moist; moist when sampled; very slowly permeable; very poorly drained; use to					
B25	1.6 to 2	distinct red diffu	se mottles; medium h	eavy clay; massive	e structure; very few	ommon 10-20% fine <5mm <2% coarse 6-20mm eable; very poorly drained		
Field Tes	sts: epth PH-2	PH-3						
.1		3.7						
.3	4.9	4.0						
.6		3.4						
.8		3.5						
1	4.3 25 4.2	3.2 3.2						
1.		3.2						
	75 4.4	3.5						
2	4.6	3.5						
	PH	-2: pH using electrode	probe					
	PH	-3: pH of hydrogen pe	eroxide extract					
Oł	bservation Notes							
	Observation	Push tube to 1.2m then	-					
	Soil	Effective rooting depth 0	.85m					
\	Vegetation	Pasture						

Project: MAS Site: 67 Observation: 1

Soil Name: A0S2 - AASS at 0-0.5m and PASS at 1-2m

Location: G	DA 94	ZONE	56	504214mE	6985614mN	Lat: -27.25235	Long: 153.04257
Described B	y: M (Mark) \$	Sugars (SUG	M)			Date:	26/AUG/10
Landscape:							
Geology: QI	nc - Qhc-SE	Q: Undifferen	tiated coastal	plains; mud, san	d, commonly wi	th a veneer of Qha	
Element: p	lain			Landform	Pattern: alluvi	al plain	
Permeability	: Highly pe	ermeable					
Slope: 0 %				Drainage:	Poorly drained	I	
Depth to Wat	er: 0.25			Surface C	ondition: Soft		
Disturbances	No effect	tive disturbar	nce				
- · · · ·							

Classifications:

ASC: MELACIC, SULFURIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clay Loamy, Sandy, Very Deep

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Black (2.5Y2.5/1) moist; clay loam; subangular blocky weak <2mm structure; very weak moist; moist when sampled; highly permeable; well drained; abrupt to
B21i	.2 to .45	Grey (2.5Y51) moist; common 10-20% medium 5-15mm distinct yellow diffuse mottles; clayey sand; massive structure; weak moist; moderately moist when sampled; highly permeable; imperfectly drained; clear to
B22i	.45 to .8	Greyish brown (2.5Y52) moist; few 2-10% medium 5-15mm distinct yellow diffuse mottles; sandy clay; massive structure; weak wet; wet when sampled; highly permeable; imperfectly drained; diffuse to
B23i	.8 to 1.15	Grey (2.5Y51) moist; many 20-50% coarse 15-30mm distinct yellow diffuse mottles; clayey sand; massive structure; few 2-10% coarse 6-20mm sulphurous nodules; weak wet; wet when sampled; highly permeable; imperfectly drained; gradual to
B24ia	1.15 to 1.75	Dark grey (5Y41) moist; common 10-20% coarse 15-30mm distinct yellow diffuse mottles, few 2-10% fine <5mm distinct yellow diffuse jarosite (from pyrite) mottles; clayey sand; massive structure; weak wet; wet when sampled; highly permeable; poorly drained; diffuse to
B25u	1.75 to 2	Dark greenish grey (5BG31) moist; very few <2% medium 5-15mm distinct yellow diffuse mottles; clayey sand; massive structure; weak wet; wet when sampled; slowly permeable; gradual to
C1u	2 to 2.2	Dark greenish grey (5BG31) moist; very few <2% medium 5-15mm distinct yellow diffuse mottles; sandy light clay; massive structure; weak wet; wet when sampled; slowly permeable; clear to
C2u	2.2 to 2.5	Dark greenish grey (5BG31) moist; very few <2% medium 5-15mm distinct yellow diffuse mottles; sandy light clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; slowly permeable; clear to
Du	2.5 to 2.7	Light bluish grey (10B71) moist; few 2-10% medium 5-15mm distinct yellow diffuse mottles; sandy light medium clay; few 2-10% subangular sandstone medium pebbles 6-20 mm; massive structure; very firm wet; wet when sampled; slowly permeable

Project:	MAS	Site:	67	Observation:	1

Field Te				
	Depth	H2O2-	PH-2	PH-3
	.05		4.6	3.7
	.1		4.5	3.0
	.3		4	2.7
	.6		3.9	3.5
	.8		3.8	3.0
	1		3.4	2.6
	1.25		3.8	2.7
	1.5		4	2.2
	1.75		5.7	2.1
	2	4	6.4	1.8
	2.2	4	7.1	1.8
	2.5	1	7.6	5.6
	2.6	1	8.1	2.7
		PH-2:	pH using electrode	probe
		PH-3:	pH of hydrogen pe	roxide extract

Vegetation U(w1.0)6M Casuarina spp, Melaleuca spp G(h1.0)0D Couch spp Project: MAS Site: 68 Observation: 1

Soil Name: A1S2 - AASS at 0.5-1m and PASS at 1-2m

Location:	GDA 94	ZONE	56	504334mE	6985774mN	Lat: -27.2509	Long: 153.04378
Described	By: M (Mark)	Sugars (SUG	M)			Date:	26/AUG/10
Landscape):						
Geology:	Qhc - Qhc-SE	Q: Undifferen	tiated coasta	al plains; mud, sar	id, commonly wit	th a veneer of Qha	
Element:	supratidal fla	t		Landform	Pattern: marin	e plain	
Permeabi	lity: Highly p	ermeable					
Slope: 1	%			Drainage	Poorly drained		
Depth to V	Vater: 0.5			Surface C	Condition: Soft		

Disturbances: No effective disturbance

Classifications:

ASC: NO AVAILABLE CLASS, SULFURIC, EXTRATIDAL, Hydrosol, Medium, Non-gravelly, Clay Loamy, Sandy, Very Deep

Profile Morphology:

1 101110 101	orpriology.	
Horizon	Depth (m)	Description
A1	0 to .2	Black (7.5YR2.5/1) moist; clay loam; subangular blocky weak 2-5mm structure; weak moderately moist; many 1-2mm roots; moderately moist when sampled; highly permeable; well drained; gradual to
B21	.2 to .4	Grey (2.5Y61) moist; many 20-50% medium 5-15mm distinct brown clear biological mixing mottles, few 2- 10% medium 5-15mm distinct dark clear mottles; clayey sand; massive structure; very few <2% fine <2mm ferruginous-organic root linings; very weak moist; common 1-2mm roots; moist when sampled; highly permeable; imperfectly drained; gradual to
B22ia	.4 to .6	Grey (2.5Y61) moist; clayey sand; very weak wet; few <1mm roots; wet when sampled; highly permeable; imperfectly drained; clear to
B23ia	.6 to .9	Grey (2.5Y61) moist; few 2-10% medium 5-15mm faint yellow diffuse jarosite (from pyrite) mottles, many 20-50% medium 5-15mm distinct orange diffuse mottles; clayey sand; massive structure; very weak wet; few <1mm roots; wet when sampled; highly permeable; imperfectly drained; clear to
B24ia	.9 to 1.2	Grey (2.5Y51) moist; few 2-10% medium 5-15mm distinct orange clear mottles, very few <2% fine <5mm faint yellow diffuse jarosite (from pyrite) mottles; clayey sand; massive structure; weak wet; few <1mm roots; wet when sampled; highly permeable; imperfectly drained; gradual to
B25i	1.2 to 1.7	Greenish grey (10Y51) moist; clayey sand; massive structure; weak wet; few <1mm roots; wet when sampled; highly permeable; poorly drained; clear to
C1u	1.7 to 2.1	Dark greenish grey (10Y41) moist; sandy light clay; massive structure; very weak wet; wet when sampled; poorly drained; clear to
C2u	2.1 to 2.7	Dark greenish grey (10Y41) moist; sandy light clay; few 2-10% subangular shell medium pebbles 6-20 mm; very few <2% subangular shell large pebbles 20-60 mm; massive structure; very weak wet; wet when sampled; poorly drained; abrupt to

				subangular shell l orly drained; abrup
Field	Tests: Depth	H2O2-	PH-2	PH-3
	.05		6.3	3.5
	.1		4.9	3.4
	.3		4.3	2.5
	.5		4.1	2.7
	.8		3.8	2.8
	1		3.6	2.1
	1.25		3.6	2.2
	1.5		4.0	2.5
	1.75	4	5.8	1.6
	2	4	6.3	1.8
	2.25	4	7	1.6
	2.5	4	7	1.9
		PH-2:	pH using electro	ode probe
		PH-3:	pH of hydroger	n peroxide extract
	Vegetat		(1.0)5V Casuarin (h1.0)0D Couch s	

Project:	MAS	Site: 69	Observation:	l		
Soil Name:	a1LP - Low P	robability of ASS in are	eas below 5m AHD a	and pH of 4- 5 at 0	.5-1.0m	
Location	: GDA 94	ZONE 56	505198mE	6989573mN	Lat: -27.2166	Long: 153.05249
Describe	ed By: Fiona McC	artney (MCCF)			Date:	26/AUG/10
Landscap	e:					
		ough Sandstone: Lithof	eldspathic labile an	d quartzose sands	tone, siltstone, shale	e, minor coal, ferruginous oolite
Element:	footslope		Landform	Pattern: plain		
Permeat	oility: Very slow	ly permeable				
Slope: 5	5 %		Drainage:	Very poorly drain	ned	
Surface (Condition: Soft					
Disturbar	nces: Complete	clearing - pasture - bu	t never cultivated			
Classifica	tions:					
		ROPHIC, GREY, Kuroso	ol, Thick, Non-gravell	y, Loamy, Clayey,	Deep	
Drofilo M	orphology:					
Horizon	Depth (m)	Description				
A1	0 to .35	·	2) moist: sandy loar	n: very few <2% ro	unded tabular char	coal medium pebbles 6-20
AI	0 10 .35	mm; subangular bl		nm structure; weak	moderately moist; c	ommon 1-2mm roots;
A2e	.35 to .5		ery weak moderately			ngular blocky moderate 20- noist when sampled; highly
B21	.5 to .7	15mm faint orange pebbles 6-20 mm;	e diffuse mottles; sar	ndy light medium c noderate 10-20mm	lay; very few <2% ro structure; very firm	les, many 20-50% medium 5- ounded ferricrete medium moist; few <1mm roots; moist
B22	.7 to 1	Grey (2.5Y61) moist; many 20-50% medium 5-15mm distinct orange diffuse mottles, common10-20% fine <5mm prominent red diffuse mottles; fine sandy light medium clay; massive structure; few 2-10% coarse 6- 20mm sulphurous nodules; weak wet; moist when sampled; very slowly permeable; poorly drained; gradual to				
B23	1 to 1.5	pebbles 6-20 mm;	r mottles; fine sandy very few <2% round	y medium heavy cl ed quartz medium	ay; very few <2% ro	unded ferricrete medium enticular moderate 20-50mm
Field Test	ts:					
Depth	PH-2					
.05	6.1					
.1	5.4					
.3	5.7					
.4	5.8					
.6	5.1					
1	4.4					
1.25	4.5					
1.5	4.5					
	PH-2: pH usi	ng electrode probe				
Ohe	servation Notes:					
		y colour in A2e is 2.5Y	7/2			

Vegetation	(h1.0)6S Eucalyptus spp
	G(g1.0)0D Grass spp

Project: MAS	Site:	70	Observation:	1			
Soil Name: A0 - A	ASS at 0-0.5m						
Location: GDA 9	ZONE	56	502489mE	6983490mN	Lat: -27.27153	Long: 153.02515	
Described By: Fio	na McCartney (M	ICCF)			Date:	31/AUG/10	
Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: plain Landform Pattern: alluvial plain Permeability: Slowly permeable							
Slope: 0 %			Drainage	e: Very poorly dra	ained		
Depth to Water: 0 Disturbances: No	.35 record		0	Condition: Soft			
Classifications: ASC: HUMOSE-ACIDIC, SULFURIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Very Deep Profile Morphology:							
Horizon Depth (r		ption					
A1 0 to .25	A1 0 to .25 Black (10YR21) moist; sapric light clay; subangular blocky moderate 2-5mm structure; few 2-10% medium 2- 6mm ferruginous-organic root linings; weak moist; common 1-2mm roots; common <1mm roots; moist when sampled; moderately permeable; moderately well drained; clear to						
B21 .25 to .4 Greyish brown (2.5Y52) moist; common 10-20% medium 5-15mm faint brown mottles; light medium clay; subangular blocky weak 2-5mm structure; common 10-20% medium 2-6mm ferruginous-organic root linings; weak moist; few 1-2mm roots; few <1mm roots; moist when sampled; slowly permeable; imperfectly drained; clear to							
B22 .4 to .65	disti	nct brown mo		ay; massive struc	cture; weak moist; few	ion 10-20% medium 5-15mm / <1mm roots; moist when	
B23 .65 to .9	15m	m prominent		ght clay; massive		nottles, few 2-10% medium 5- wet; wet when sampled;	
_							

2B1 .9 to 1.4 Grey (2.5Y51) moist; many 20-50% coarse 15-30mm prominent red mottles, common 10-20% coarse 15-30mm distinct brown mottles; sandy clay loam; massive structure; few 2-10% fine <2mm ferruginous nodules; very weak wet; wet when sampled; moderately permeable; very poorly drained; clear to

2B2 1.4 to 1.7 Grey (10YR51) moist; common 10-20% coarse 15-30mm distinct grey mottles, many 20-50% coarse 15-30mm distinct brown mottles; sandy clay loam; massive structure; few 2-10% fine <2mm ferruginous nodules; very weak wet; wet when sampled; moderately permeable; very poorly drained; abrupt to

 1.7 to 2.15
 Greenish grey (10Y51) moist; common 10-20% very coarse >30mm prominent red mottles, few 2-10% coarse 15-30mm prominent yellow mottles; medium clay; few 2-10% subangular sandstone large pebbles 20-60 mm; massive structure; very few <2% fine <2mm ferruginous nodules; very firm wet; wet when sampled</td>

Field	Tests:			
	Depth	H2O2-	PH-2	PH-3
	.1	2	4.1	1.0
	.3	1	4.2	2.9
	.6		4.4	2.9
	.8		4.3	2.8
	1		4.2	2.2
	1.25		4.2	2.0
	1.5		4.2	2.6
	1.75		4.7	3.0
	2		4.7	2.7
		PH-2:	pH using electroo	le probe
		PH-3:	pH of hydrogen	peroxide extract

Observation Notes:

С

Soil	Pushed tube to 1.6m, then hard auger to 2.15m
Vegetation	U(w1.0)6M Melaleuca quinquenervia, Casuarina spp
	G(g1.0)1/2D Grass sp.

Project:	MAS	Site: 71 Observation:	1					
Soil Name:	A1S3 - AASS	at 0.5-1m and PASS at 2-3m						
Location	: GDA 94	ZONE 56 503657mE	6983158mN	Lat: -27.27452	Long: 153.03695			
Describe	ed By: Fiona McC	artney (MCCF)		Date:	31/AUG/10			
Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: plain Landform Pattern: alluvial plain Permeability: Highly permeable								
Slope: Depth to Surface	Slope: 0 % Drainage: Poorly drained Depth to Water: 1.7 Surface Condition: Soft Disturbances: Complete clearing - pasture - but never cultivated							
Classifica ASC: H		SULFURIC, REDOXIC, Hydrosol, Medium, I	Non-gravelly, Clay Loa	amy, Clay Loamy, V	′ery Deep			
	orphology:							
Horizon	Depth (m)	Description						
A1	A1 0 to .3 Very dark brown (10YR22) moist; sapric sandy clay loam; subangular blocky weak 2-5mm structure; firm moderately moist; common <1mm roots; moderately moist when sampled; highly permeable; well drained; abrupt to							
B21	.3 to .6	Brown (10YR53) moist; many 20-50% blocky weak 2-5mm structure; very fi sampled; highly permeable; moderat	rm moderately moist;	common 1-2mm ro				
B22	.6 to 1.05	Light brownish grey (2.5Y62) moist; ma medium 5-15mm faint orange mottle 1-2mm roots; moderately moist when	s; sandy clay loam; m	assive structure; fir	m moderately moist; common			
B23ia	1.05 to 1.4	Grey (10YR61) moist; many 20-50% m brown mottles, very few <2% fine <5 massive structure; few 2-10% mediu when sampled; highly permeable; im	5mm distinct yellow ja m 2-6mm ferruginous	arosite (from pyrite) s nodules; firm mois	mottles; sandy clay loam;			
B24i	1.4 to 1.7	Dark grey (7.5YR41) moist; few 2-10% distinct orange mottles, common 10- massive structure; very few <2% me when sampled; highly permeable; p	20% coarse 15-30mm dium 2-6mm ferrugin	n distinct brown mot ous nodules; firm w	ttles; sandy clay loam;			
B25	1.7 to 2.1	Grey (10YR51) moist; few 2-10% med very few <2% medium 2-6mm ferru						
C1	2.1 to 2.4	Dark grenish grey (5GY31) moist; hea ferruginous root linings; firm wet; we	avy sandy clay loam; at when sampled; grad	massive structure; dual to	very few <2% coarse 6-20mm			
C2u	2.4 to 3.15	Dark grenish grey (5GY31) moist; san mm; massive structure; weak wet; v		w <2% angular sano	dstone medium pebbles 6-20			

Field Te	sts:		
Depth	H2O2-	PH-2	PH-3
.1	2	5.4	1.9
.3	1	5.7	3.0
.6	1	4.5	3.0
.8		3.8	2.6
1		4.4	2.8
1.25		3.6	2.4
1.5		3.5	2.1
1.75		3.6	2.1
2	4	4.5	1.5
2.25	4	4.9	1.5
2.5	4	5.3	1.4
2.75	4	6.4	1.7
	PH-2:	pH using electro	de probe
	PH-3:	pH of hydrogen	peroxide extract

Soil	Pushed tube to 1.6m, then hand auger to 3.15m
Vegetation	G(g4.1)1D Pasture species.

Project:	MAS	Site:	72	Observation:	1		
Soil Name:	A0 - AASS	at 0-0.5m					
Locatior	n: GDA 94	ZONE	56	502430mE	6983888mN	Lat: -27.26793	Long: 153.02455
Describ	ed By: Fiona Mo	Cartney (N	ACCF)			Date:	31/AUG/10
Landscap Geology Element	: Qhc - Qhc-SE	EQ: Undiffe	erentiated coa	astal plains; mud, sar Landform	nd, commonly with Pattern: alluvia		
	0 % Water: 0.2 Condition: Sof		eable	Drainage	: Very poorly dra	ained	
Classifica ASC: H		, KANDOS	OLIC, REDO>	KIC, Hydrosol, Mediun	n, Non-gravelly, C	layey, Clayey, Very D	Реер
	orphology:						
Horizon	Depth (m)	Descri	•				
A1	A1 0 to .15 Very dark brown (10YR22) moist; fibric sandy light clay; subangular blocky moderate 2-5mm structure; weak moderately moist; few 2-5mm roots; moderately moist when sampled; moderately permeable; moderately well drained; clear to						
A3	.15 to .55	clay	; subangular				t brown mottles; sandy light permeable;
B21	.55 to 1	loan	n; very few <		tz small pebbles	2-6 mm; massive stru	n mottles; coarse sandy clay ucture; weak wet; wet when
B22	1 to 1.3	sand	dy clay loam;		led quartz mediur	n pebbles 6-20 mm; r	ct brown mottles; coarse nassive structure; weak wet;
2B21	1.3 to 1.45	Light o	arey (10YR7 [,]	1) moist: few 2-10% t	fine <5mm disting	t brown mottles: clav	ey coarse sand; few 2-10%

- 2B21
 1.3 to 1.45
 Light grey (10YR71) moist; few 2-10% fine <5mm distinct brown mottles; clayey coarse sand; few 2-10% subangular quartz large pebbles 20-60 mm; massive structure; weak wet; wet when sampled; highly permeable; very poorly drained; clear to</td>

 2B22
 1.45 to 1.55
 Very pale brown (10YR73) moist; many 20-50% coarse 15-30mm distinct orange mottles; clayey coarse
- C1 1.55 to 1.7
 C1 1.55 to 1.7
 C1 Yellowish red (5YR56) moist; many 20-50% very coarse >30mm prominent red mottles; coarse sandy light medium clay; few 2-10% subangular quartz medium pebbles 6-20 mm; very firm moist; moist when sampled; gradual to
- C2 1.7 to 2 Red (2.5YR48) moist; common 10-20% coarse 15-30mm prominent grey mottles; coarse sandy medium heavy clay; few 2-10% subangular sandstone medium pebbles 6-20 mm; strong moist; moist when sampled

Project	: MAS		Site:	72	Observation:	1
Field Tes	sts: Depth	H2O2-	PI	H-2	PH-3	
	.1	2		4.6	1.7	
	3	1		4.0	1.8	
	6	1		3.7	2.9	
	8	1		3.7	2.6	
1	1			4.1	2.8	
1	1.25			3.8	3.0	
1	1.35	2		4.1	2.8	
1	1.5			3.7	2.6	
1	1.75			4.0	2.6	
1	1.95			4.0	2.4	
		PH-2:	pH usi	ng electrode	probe	
		PH-3:	pH of	hydrogen pe	roxide extract	

Soil	Pushed tube to 1.6m, hand auger to 2.0m
Vegetation	U(w1.0)6S Melaleuca quinquenervia, Eucalyptus sp.
	G(g1.0)1D Grass spp.

Project: N	IAS	Site: 7	'3	Observation: 1			
Soil Name:	S1 - Pass at 0	.5-1m					
Location:	GDA 94	ZONE	56	503133mE	6985253mN	Lat: -27.25561	Long: 153.03165
Described	By: Fiona McCa	artney (MC	CF)			Date:	01/SEP/10
Landscape):						
Geology:	Qha - Qha-SEQ:	Clay, silt,	sand; active s	stream channels an	d low terraces		
Element:	swamp			Landform I	Pattern: flood plai	n	
Permeabil	ity: Very slowly	y permeat	ole				
Slope: 0	%			Drainage:	Very poorly drain	ed	
Depth to W	/ater: .01						
Surface Co	ondition: Soft						
Disturbanc	es: No effectiv	e disturba	ince				
Classifications: ASC: HUMOSE, SULFIDIC, OXYAQUIC, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Very Deep							
Profile Mo	rpholoav:						

	orpriology.	
Horizon	Depth (m)	Description
02	0 to .1	Very dark brown (10YR22) moist; fibric light clay; massive structure; weak wet; many 1-2mm roots; wet when sampled; slowly permeable; poorly drained; abrupt to
A1	.1 to .4	Black (10YR21) moist; sapric coarse sandy clay loam; massive structure; weak wet; common 1-2mm roots; wet when sampled; moderately permeable; poorly drained; abrupt to
C1	.4 to .6	Grey (10YR61) moist; clayey coarse sand; massive structure; very weak wet; few 1-2mm roots; wet when sampled; highly permeable; very poorly drained; gradual to
C2	.6 to 1	Grey (10YR51) moist; clayey coarse sand; massive structure; weak wet; few 1-2mm roots; wet when sampled; highly permeable; very poorly drained; gradual to
C3	1 to 1.1	Grey (10YR51) moist; heavy clay loam, coarse sandy; gradual to
2C4u	1.1 to 1.55	Grey (2.5Y51) moist; silty light clay; massive structure; few 2-10% organic (humified) root linings; firm wet; wet when sampled; very slowly permeable; very poorly drained; clear to
2C5u	1.55 to 4.2	Dark greenish grey (10Y31) moist; coarse sandy light medium clay; massive structure; common 10-20% medium 2-6mm organic (humified) root linings; firm wet; wet when sampled

Field Tests:

Depth	H2O2-	I	PH-2	PH-3
.1	1		6.3	1.7
.3	3		6.4	2.4
.6			6.4	1.8
.8	1		6.3	1.7
1	2		6.3	1.5
1.25	4		6.3	1.9
1.5	4		6.3	0.9
1.75	4		6.0	0.8
2			4.7	1.5
2.25	4		6.4	1.5
2.5	4		5.8	0.8
2.75	4		6.1	0.8
3	4		6.1	0.8
3.25	4		6.4	0.8
3.5	4		6.6	0.8
3.75	4		6.5	0.8
4	4		6.6	0.8
4.2	4		6.6	0.7
		PH-2:	pH usin	g electrode probe
		PH-3:	pH of h	ydrogen peroxide extract

Soil	2cm sand lens at 3.8m. hand auger to 1.1m, then gouge auger to 4.2m.
Vegetation	U(w1.0)6D Melaleuca quinquenervia, Eucalyptus tereticornis
	L(g5.0)2S sedges, reeds

Location:	GDA 94	ZONE	56	502643mE	6985689mN	Lat:	-27.25167	Long: 153.0267	
Describe	Described By: Fiona McCartney (MCCF) Date: 01/SEP/10								
Landscap	Landscape:								
Geology:	Qha - Qha-SEC	Q: Clay, silt, sa	ind; active stre	eam channels an	d low terraces				
Element:	swamp			Landform	Pattern: flood plai	in			
Permeabi	lity: Very slow	ly permeable							
Slope: 0	%			Drainage:	Very poorly drain	ed			
Depth to \	Vater: .01								
Surface C	ondition: Soft								
Disturban	ces: No record	ł							
Classificat	ions:								
ASC: HU	JMOSE-ACIDIC,	KANDOSOLIC	, OXYAQUIC,	Hydrosol, Mediu	m, Non-gravelly, C	lay Loa	amy, Clayey,	Moderate	
Duefile Me				•					
Profile Mo		Deceriation							
Horizon	Depth (m)	Description							
A11	0 to .1				n; massive structur fectly drained; clea		ak wet; comm	on 1-2mm roots; wet when	
A12	A12 .1 to .18 Black (2.5Y2.5/1) moist; sapric clay loam, fine sandy; massive structure; firm wet; few 2-5mm roots; wet when sampled; moderately permeable; imperfectly drained; clear to						vet; few 2-5mm roots; wet		
A3	A3 .18 to .3 Very dark grey (2.5Y31) moist; sapric clay loam, fine sandy; few 2-10% subangular quartz small pebbles 2- 6 mm; few 2-10% subangular quartz medium pebbles 6-20 mm; massive structure; weak wet; common 1- 2mm roots; wet when sampled; moderately permeable; poorly drained; clear to								
B21	.3 to .43	subangul massive	ar quartz sma structure; few	Il pebbles 2-6 m 2-10% fine <2m	m; few 2-10% suba	angula ed) roc	r quartz med	ndy light clay; few 2-10% ium pebbles 6-20 mm; ak wet; few <1mm roots; wet	

B22 .43 to .7 Grey (10YR51) moist; sandy medium clay; common 10-20% subangular quartz small pebbles 2-6 mm; few 2-10% subangular quartz medium pebbles 6-20 mm; massive structure; few 2-10% fine <2mm organic (humified) root linings; very firm wet; wet when sampled; very slowly permeable; very poorly drained; gradual to

B23 .7 to .9 Grey (10YR51) moist; sandy medium heavy clay; common 10-20% subangular quartz small pebbles 2-6 mm; few 2-10% subangular quartz medium pebbles 6-20 mm; massive structure; few 2-10% fine <2mm organic (humified) root linings; very firm wet; wet when sampled; very slowly permeable; very poorly drained

Field Tests:

Depth	H2O2-		PH-2	PH-3
.1			5.1	3.2
.3			5.1	3.2
.6			4.6	2.9
.8	1		4.5	2.5
		PH-2:	pH using e	electrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation U(w1.0)6M *Melaleuca quinquenervia* M, G(g6.0)2S Lomandra spp (g5.0)2S Sedges

Soil Name:	aulp - Low	Probability c	of ASS in are	eas below 5m AHD	and pH of 4-5 at	0-0.5m	
Location	n: GDA 94	ZONE	56	503078mE	6989962mN	Lat: -27.21309	Long: 153.03108
Describe	ed By: Fiona Mc	Cartney (MC	CF)			Date:	02/SEP/10
Landscap	be:						
Geology:	: Qpa - Qpa-SE	Q: High leve	l alluvium; si	ilt, clay, sand, grave	I		
Element:	plain			Landform	n Pattern: alluvia	l plain	
Permeak	oility: Very slov	wly permeal	ble				
Slope: 1	1 %			Drainage	e: Poorly drained		
Surface	Condition: Soft						
Disturbar	nces: Limited c	learing					
Classifica	itions:						
ASC: M	IELANIC, MESOT	TROPHIC, GI	REY, Dermos	sol, Medium, Non-gr	avelly, Clayey, Cla	ayey, Very Deep	
Drofilo M	orphology:						
Horizon	Depth (m)	Descripti	on				
A1	0 to .2			oist [.] few 2-10% me	dium 5-15mm faint	pale mottles; light cla	av: subangular blocky
,,,,	0 10 .2	moder	ate 2-5mm s		st; common 2-5m	n roots; few 1-2mm ro	pots; few <1mm roots; moist
B21	.2 to .4	red mo	ottles; médiu	m clay; lenticular m	oderate 2-5mm st		s, few 2-10% fine <5mm faint st; few 1-2mm roots; common l; clear to
B22	.4 to .8	15mm	distinct oran	nge mottles; medium	n heavy clay; lentic	ular moderate 10-20m	common 10-20% medium 5- m structure; very firm wet; ble; poorly drained; gradual to
B23	.8 to 1.2	15-30r	nm promine	nt orange mottles; r	nedium heavy clay		es, common 10-20% coarse 10-20mm structure; very firm
B24	1.2 to 1.45						es; medium clay; lenticular ermeable; poorly drained; clear
B25	1.45 to 1.65	>30mr	n prominent		nt medium clay; ler	ticular strong 2-5mm	es, few 2-10% very coarse structure; very firm wet; wet
C1	1.65 to 1.85	orange	mottles; ligl		nular strong 5-10n		ew <2% fine<5mm prominent wet; wet when sampled;
C2	1.85 to 2	mottle	s; light medi				fine <5mm distinct orange et when sampled; slowly
C3	2 to 2.1	orange		ndy light clay; gran			ew <2% fine<5mm prominent et; wet when sampled; slowly

Field Te	sts:		
Depth	H2O2-	PH-2	PH-3
.05	1	5.8	2.5
.1	1	5.8	2.2
.2	1	5.5	2.4
.3	1	5.0	3.1
.6		4.8	2.8
.8		4.5	2.9
1		4.7	3.1
1.25		4.6	3.3
1.5		4.4	3.2
1.75		4.4	3.3
1.95		4.3	3.3
2.1		4.4	3.5
	PH-2:	pH using electrod	e probe
	PH-3:	pH of hydrogen p	eroxide extract

Soil	Pushed tube to 1.6m then hand auger to 2.1m
Vegetation	U(w1.0)6S Eucalyptus spp M(w1.0)5V Acacia spp G(g1.0)2D Grass sp.

Project:	MAS	Site: 76	Observation:	1			
Soil Name	A0S0 – AAS	SS and PASS at 0-0.5	m				
Locatio	n: GDA 94	ZONE 56	503346mE	6990094mN	Lat: -27.2119	Long: 153.03379	
Describ	Described By: Fiona McCartney (MCCF) Date: 02/SEP/10						
Landsca	pe:						
Geology	: Qha - Qha-SE	Q: Clay, silt, sand; act	ve stream channels a	nd low terraces			
Element	: swamp		Landform	Pattern: flood p	olain		
Permea	bility: Very slov	wly permeable					
Slope:	0 %		Drainage	: Very poorly dra	ained		
Depth to	Water: 0.01						
Surface	Condition: Soft						
Disturba	nces: No effect	tive disturbance					
Classifica	ations:						
		SULFURIC, REDOXIC	, Hydrosol, Medium, No	on-gravelly, Clay I	₋oamy, Clayey, Deep		
Profile N	lorphology:						
Horizon	Depth (m)	Description					
A11	A11 0 to .09 Dark olive grey (5Y32) moist; sapric clay loam, sandy; massive structure; weak wet; many 1-2mm roots; wet when sampled; moderately permeable; very poorly drained; abrupt to						
A12	A12 .09 to .2 Black (N2.5/0) moist; sapric clay loam, sandy; massive structure; firm wet; common <1mm roots; wet when sampled; moderately permeable; very poorly drained; abrupt to						
A3	.2 to .3		ist; sapric sandy light ately permeable; very			<1mm roots; wet when	
P 21	2 to 5	Grov (NEO) moist:	vory fow 20% find 25	mm distinct rod n	ottlos common 10 20	1% coarso 15 30mm	

B21 .3 to .5 Grey (N50) moist; very few <2% fine <5mm distinct red mottles, common 10-20% coarse 15-30mm prominent orange mottles; light medium clay; massive structure; few 2-10% medium 2-6mm other root linings; strong wet; few <1mm roots; wet when sampled; very slowly permeable; very poorly drained; clear to

B22 .5 to .7 Grey (N50) moist; many 20-50% medium 5-15mm distinct red mottles, many 20-50% coarse 15-30mm prominent grey mottles; light medium clay; massive structure; strong wet; wet when sampled; very slowly permeable; very poorly drained; abrupt to

B23 .7 to 1 Grey (N50) moist; few 2-10% medium 5-15mm prominent red mottles, common 10-20% coarse 15-30mm prominent orange mottles; light medium clay; massive structure; strong wet; wet when sampled; very slowly permeable; very poorly drained

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	3	5.8	1.8
.1	3	4.8	1.7
.25	3	5.0	1.8
.35	4	4.2	2.3
.6	4	3.9	2.2
.8	4	3.9	2.1
1	3	4.0	1.0

PH-2: pH using electrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation U(w1.0)6M Melaleuca sp, Eucalyptus sp. G(g6.0)2M Reeds

Project:	MAS	Site: 77	Observation:	1		
Soil Name:	A0 - AASS at	0-0.5m				
Location	: GDA 94	ZONE 56	505234mE	6989303mN	Lat: -27.21904	Long: 153.05286
Describe	ed By: Fiona McC	artney (MCCF)			Date:	02/SEP/10
Landscap	e:					
		43: Tidal flats; sand, n	nud, grades offshore	into Qhms		
Element:	plain		Landform	n Pattern: alluvial	plain	
Permeab	ility: Very slow	ly permeable				
Slope: 0) %		Drainage	: Very poorly dra	ined	
Depth to	Water: 0.6					
Surface (Condition: Firm					
Disturban	ices: No effection	ve disturbance				
Classifica	tions:					
ASC: AG	CIDIC-SODIC, SU	LFURIC, REDOXIC, Hy	drosol, Medium, Non	-gravelly, Clay Loa	my, Clayey, Very Dee	ер
Profile Mo	orphology:					
Horizon	Depth (m)	Description				
A1	0 to .18		; many 1-2mm roots;			2mm structure; weak erately permeable; very poorly
B21	.18 to .35	Grey (10YR51) moist; common 10-20% coarse 15-30mm distinct orange mottles, few 2-10% fine <5mm prominent red mottles; light medium clay; lenticular moderate 2-5mm structure; very firm moist; common 1-2mm roots; moist when sampled; slowly permeable; imperfectly drained; abrupt to				
B22ia	.35 to .55	prominent dark m	ottles, few 2-10% me icular moderate 2-5n	edium 5-15mm pro	minent yellow jarosite	/ few <2% fine <5mm e (from pyrite) mottles; light s; moist when sampled; slowly
C1ia	.55 to .7	yellow jarosite (fro	om pyrite) mottles; lig	ght medium clay; le		-10% fine <5mm distinct I0mm structure; firm wet; few d; gradual to
C2ia						structure; few 2-10% fine
C3ia	1.3 to 1.5	fine <5mm promi	st; few 2-10% fine < nent orange mottles owly permeable; very	; light clay; massiv	e structure; weak we	rite) mottles, very few <2% t; few <1mm roots; wet when
C4ia	1.5 to 1.7		t orange mottles; lig			rite) mottles, very few <2% wet; few <1mm roots; wet
C5ia	1.7 to 2.1	fine <5mm promi	nent orange mottles;	light medium clay		pyrite) mottles, very few <2% very few <2% fine <2mm al to
C6ia	2.1 to 2.3	common 10-20% mottles; light med	medium 5-15mm pro	minent orange mo	ttles, very few <2% fir	e (from pyrite) mottles, ne <5mm prominent red uginous fragments; firm wet;

Field Tes	sts:		
Depth	H2O2-	PH-2	PH-3
.05		4.5	2.6
.1		4.1	3.4
.3		4.0	2.8
.5		3.7	2.7
.6		3.6	2.5
.8		3.5	2.1
1		3.8	2.2
1.25		3.7	2.1
1.4		4	2.2
1.55		4	2.2
1.75		3.8	2.7
2		4.1	2.6
2.25	4	4.8	2.0
	PH-2:	pH using electrode	probe

PH-3: pH of hydrogen peroxide extract

Observation	Push tube to 1.6m, gorge auger to 2.3m				
Vegetation	U(w1.0)6S Casuarina spp M(w3.0)4V <i>Lantana camara</i> G(g1.0)1D Grass				
Horizon Notes:					
Horizon Texture	C6ia C6ia	Push tube to 1.6 m, gouge auger to 2.3m sodic in Horizons 3 to 9			

Project:	MAS	Site: 78 Obser	rvation: 1					
Soil Name:	A0S2 - AASS	at 0-0.5m and PASS at 1-2m						
Location	: GDA 94	ZONE 56 504	4944mE 6987026mN	Lat: -27.23959	Long: 153.04994			
Describe	ed By: Sue Ellen I	Dear (DEAS)		Date:	07/SEP/10			
Geology	Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: plain Landform Pattern: alluvial plain							
Permeal		ly permeable	Runoff: Slow					
Slope:	0.5 %		Drainage: Poorly drained					
Surface	Depth to Water: 0.35 Surface Coarse Fragments: No coarse fragments 0% Surface Condition: Loose Disturbances: Limited clearing							
Classifica	tions:							
ASC: A	CIDIC, SULFURIC	, REDOXIC, Hydrosol, Medium, N	lon-gravelly, Clay Loamy, Clay	yey, Very Deep				
Profile Me	orphology:							
Horizon	Depth (m)	Description						
A1	0 to .14	Black (10YR21) moist; sapric moist; moderately moist wh	silty clay loam; granular moo en sampled; highly permeable					
B21i	.14 to .32	Greyish brown (2.5Y52) mois blocky moderate 2-5mm st drained; gradual to	t; many 20-50% fine <5mm p ructure; weak wet; wet when					
B22ia	B22ia .32 to .6 Greyish brown (2.5Y52) moist; common 10-20% medium 5-15mm prominent orange clear mottles, very few <2% medium 5-15mm prominent yellow clear jarosite (from pyrite) mottles; light clay; subangular blocky moderate 5-10mm structure; weak wet; wet when sampled; moderately permeable; imperfectly drained; diffuse to							
B23ia	B23ia .6 to 1.5 Weak red (2.5YR42) moist; few 2-10% medium 5-15mm prominent orange clear mottles, few 2-10% medium 5-15mm prominent yellow clear jarosite (from pyrite) mottles; silty light clay; subangular blocky weak 5-10mm structure; weak wet; wet when sampled; moderately permeable; poorly drained; diffuse to							
B24i	B24i 1.5 to 1.98 Dark greyish brown (2.5Y42) moist; few 2-10% coarse 15-30mm prominent orange clear mottles; silty light clay; massive structure; common 10-20% medium 2-6mm sulphurous soft segregations; weak wet; wet when sampled; diffuse to							
C1u	1.98 to 2.45			angular shell mediun	les; silty light clay; common n pebbles 6-20 mm; massive			
2C2u	2.45 to 2.6	Dark grey (5Y41) moist; silty structure; very weak wet; v	light clay; very few <2% angu wet when sampled; gradual t		es 2-6 mm; massive			
3C3u	2.6 to 2.9	Dark greenish grey (10GY41) moist; light medium clay; m	assive structure; firn	n wet; wet when sampled			

Project:	MAS		Site:	78	0	bservation:	1
Field Test D		H2O2-	PI	H-2	PH-3		
.1	I	3		4.2		1.8	
.2	25	1		3.8		3.8	
.5	5	1		3.5		2.4	
3.	3	1		3.9		2.4	
1		1		3.7		2.6	
1	.25			3.6		2.5	
1	.5			3.6		2.7	
1	.75	1		4.1		3.0	
2		4		7.1		2.9	
2	.25	3		7.2		3.8	
2	.5	3		7.1		6.0	
2	.75	4		8.5		8.7	
2	.9	4		7.3		8.7	
		PH-2:	pH usi	ng electrode	probe		
		PH-3:	pH of	hydrogen pe	roxide	extract	

Observation	Fine sand in	ו horizon 7		
Vegetation	U(w1.0)6M	Melaleuca quinquenervia		

Project: MAS Observation: 1 Site: 79 Soil Name: A0S3 - AASS at 0-0.5m and PASS at 2-3m Location: GDA 94 ZONE 56 504459mE 6986168mN Lat: -27.24734 Long: 153.04504 Described By: Sue Ellen Dear (DEAS) Date: 07/SEP/10 Landscape: Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha Element: plain Landform Pattern: alluvial plain Permeability: Moderately permeable Runoff: Very slow Slope: 0.5 % Drainage: Imperfectly drained Depth to Water: 0.35 Surface Condition: Loose Disturbances: Limited clearing Classifications: ASC: HUMOSE-ACIDIC, SULFURIC, REDOXIC, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep Profile Morphology:

Horizon Depth (m) Description A1 0 to .1 Very dark grey (2.5Y31) moist; sapric silty clay loam; granular moderate 2-5mm largest peds structure; very weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; abrupt to A3 .1 to .28 Very dark grey (2.5Y31) moist; very few <2% medium 5-15mm prominent orange clear mottles; sapric silty clay loam; granular moderate 2-5mm structure; very weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; clear to B21i .28 to .68 Grey (2.5Y51) moist; few 2-10% medium 5-15mm prominent orange clear mottles; coarse sandy light clay; subangular blocky weak 5-10mm structure; weak moist; moist when sampled; moderately permeable; imperfectly drained; clear to B22ia Grey (2.5Y51) moist; few 2-10% medium 5-15mm prominent orange clear mottles, very few <2% medium 5-.68 to .9 15mm prominent yellow clear jarosite (from pyrite) mottles; coarse sandy light clay; subangular blocky weak 5-10mm structure; weak wet; wet when sampled; moderately permeable; imperfectly drained; clear to B23ia Grey (2.5Y61) moist; few 2-10% medium 5-15mm prominent orange clear mottles, very few <2% fine <5mm 9 to 1.5 prominent yellow clear jarosite (from pyrite) mottles; sandy light clay; massive structure; weak wet; wet when sampled; moderately permeable; imperfectly drained; diffuse to B24i 1.5 to 1.95 Grey (2.5Y51) moist; few 2-10% coarse 15-30mm distinct orange clear mottles; sandy clay loam; massive structure; very few <2% coarse 6-20mm sulphurous soft segregations; weak wet; diffuse to C1 1.95 to 2.25 Dark greenish grey (5BG31) moist; very few <2% coarse 15-30mm distinct brown clear mottles; clay loam, sandy; very few <2% angular shell small pebbles 2-6 mm; massive structure; firm wet; wet when sampled; clear to D 2.25 to 2.6 White (10YR81) moist; few 2-10% medium 5-15mm distinct orange clear mottles, very few <2% medium 5-15mm distinct red clear mottles; coarse sandy light clay; very few <2% angular sandstone medium pebbles

6-20 mm; massive structure; firm wet; wet when sampled

Project: MAS	6	Site:	79	Observation: 1
Field Tests: Depth	H2O2-	Pł	H-2	PH-3
.1			4.23	3.56
.25			3.96	3.6
.5			3.9	3.3
.8			3.9	3.6
1			4.1	3.9
1.25			5.5	4.9
1.45	2		6.5	5.9
1.75	1		6.4	6.1
2	2		7.0	2.0
2.2	1		7.2	5.0
2.5			7.2	6.9
	PH-2:	pH usi	ng electroc	le probe
	PH-3:	pH of	hydrogen p	peroxide extract

Vegetation

u U(w1.0)6M *Melaleuca quinquenervia, Casuarina glauca* M(w3.0)4V *Lantana camara* G(g1.0)1D Grass Soil Name: A1S2 - AASS at 0.5-1m and PASS at 1-2m

Location:	GDA 94	ZONE	56	504706mE	6986095mN	Lat: -27.248	Long: 153.04754
Described	By: Sue Ellen	Dear (DEAS)				Date:	07/SEP/10
Landscape):						
Geology:	Geology: Qhc - Qhc-SEQ: Undifferentiated coastal plains; mud, sand, commonly with a veneer of Qha						
Element:	supratidal flat			Landform	Pattern: alluvial p	lain	
Permeabi	Permeability: Slowly permeable						
Slope: 0.5 % Drainage: Imperfectly drained							
Depth to V	/ater: 0.2						
Surface C	Surface Condition: Loose						
Disturbanc	Disturbances: Limited clearing						
Classifications: ASC: NO AVAILABLE CLASS, SULFURIC, SUPRATIDAL, Hydrosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep							

Profile Morphology:

	1 07				
Horizon	Depth (m)	Description			
A1	0 to .22	``	R21) moist; sapric silty clay loam; granular strong <2mm structure; very weak moist;moist when moderately permeable; moderately well drained; clear to		
B21	.22 to .5		51) moist; very few <2% medium 5-15mm faint orange clear mottles; fine sandy light clay; structure; weak wet; wet when sampled; moderately permeable; imperfectly drained; clear to		
B22i	.5 to .72		51) moist; many 20-50% coarse 15-30mm distinct orange clear mottles; silty light clay; massive ; weak wet; wet when sampled; moderately permeable; imperfectly drained; gradual to		
B23ia	.72 to 1.38	few 2-10	2.5Y41) moist; very few <2% medium 5-15mm distinct yellow clear jarosite (from pyrite) mottles, % medium 5-15mm distinct orange clear mottles; sandy light clay; massive structure; weak wet; a sampled; moderately permeable; imperfectly drained; gradual to		
C1	1.38 to 1.74		2.5Y41) moist; very few <2% medium 5-15mm distinct orange clear mottles; sandy light clay; structure; weak wet; wet when sampled; slowly permeable; imperfectly drained; gradual to		
2C2	1.74 to 2.4	few 2-10	ish grey (5BG31) moist; very few <2% fine <5mm distinct orange clear mottles; sandy light clay; % angular shell small pebbles 2-6 mm; very few <2% angular shell medium pebbles 6-20 mm; structure; weak wet; wet when sampled; gradual to		
3C3	2.4 to 2.6	Greenish black (10Y2.5/1) moist; sandy light clay; very few <2% angular shell small pebbles 2-6 mm; massive structure; weak wet; wet when sampled			
Field Test	s:				
Denth	H2O2-	PH-2	PH-3		

Depth	H2O2-		PH-2	PH-3
.1			5.1	4.2
.3			4.6	3.8
.6			3.8	3.2
.8			3.9	3.0
1			4.1	3.4
1.25			5.3	4.5
1.5	2		5.8	2.4
1.7	2		6.3	2.0
2	3		3.7	1.8
2.25	3		6.8	2.8
2.5	3		6.9	1.8
		PH-2:	pH using e	lectrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Observation Probably used to be tidal, but drain to east may have stopped tidal inundation

Vegetation G(g1.0)2D Sporobolus virginicus (Salt couch)

Soil Name:	a0LP - Low	Probability of	ASS in area	s below 5m AHD	and pH of 4- 5 at	0-0.5m			
Location	: GDA 94	ZONE	56	505143mE	6987584mN	Lat: -27.23456	Long: 153.05195		
Describe	ed By: Sue Ellen	Dear (DEAS)				Date:	08/SEP/10		
Landscap	be:								
Geology	Qhc - Qhc-SE	Q: Undifferen	tiated coasta	l plains; mud, sar	nd, commonly with	a veneer of Qha			
Element	Element: plain Landform Pattern: alluvial plain								
Permeat	oility: Moderat	ely permeabl	е						
Slope: 0	0.5 %			Drainage	: Imperfectly drai	ned			
Depth to	Water: 0.1			Surface 0	Condition: Loose				
Disturbar	nces: Extensiv	e clearing							
Classifica	tions:								
		KANDOSOLIC	, REDOXIC, H	lydrosol, Medium,	Non-gravelly, Cla	y Loamy, Clayey, Ver	v Deep		
Profile M	orphology:				0 7				
Horizon	Depth (m)	Descriptio	n						
			(D04)			0			
A1	0 to .14		Black (10YR21) moist; sapric clay loam; granular moderate <2mm structure; very weak moist; moist when sampled; moderately permeable; moderately well drained; clear to						
A3	.14 to .28	blocky n	Dark grey (2.5Y41) moist; few 2-10% medium 5-15mm prominent orange clear mottles; light clay; subangular blocky moderate 5-10mm structure; weak moist; moist when sampled; moderately permeable; moderately well drained; gradual to						
B21	1 .28 to .67 Grey (2.5Y51) moist; common 10-20% medium 5-15mm prominent orange clear mottles; clay loam, sandy; subangular blocky weak 5-10mm structure; weak moist; moist when sampled; moderately permeable; imperfectly drained; diffuse to								
B22	.67 to 1.3	7 to 1.3 Grey (2.5Y61) moist; few 2-10% coarse 15-30mm prominent orange clear mottles; sandy clay loam; massive structure; very few <2% coarse 6-20mm sulphurous soft segregations; weak wet; wet when sampled; moderately permeable; imperfectly drained; diffuse to							
2B21	1.3 to 1.68	10-20%	Grey (2.5Y51) moist; few 2-10% medium 5-15mm prominent orange clear mottles; sandy clay loam; common 10-20% angular shell small pebbles 2-6 mm; few 2-10% angular shell medium pebbles 6-20 mm; massive structure; weak wet; wet when sampled; moderately permeable; imperfectly drained; clear to						
2B22	1.68 to 1.75	light clay					nge clear mottles; fine sandy ; weak wet; wet when		

D 1.75 to 3 White (10YR81) moist; very few <2% coarse 15-30mm prominent orange clear mottles, very few <2% medium 5-15mm prominent red clear mottles; fine sandy light medium clay; massive structure; firm moist; moist when sampled

Field Te	sts:			
Depth	H2O2-		PH-2	PH-3
.1			5.6	3.1
.25			5.3	4.7
.3			5.2	4.4
.6			5.9	4.8
.8			6.3	5.8
1			6.6	6.4
1.25			6.9	6.7
1.5			7.4	6.7
1.7	4		7.5	9.2
2			7.5	6.2
2.25			7.0	6.5
2.5			7.1	6.9
2.75			6.6	6.6
3			6.7	7.3
		PH-2:	pH using e	electrode probe

PH-3: pH of hydrogen peroxide extract

Observation	Sodic D Horizon. Recent heavy rain standing surface water
Vegetation	Melaleuca quinquenervia, Eucalyptus tereticornis, Casuarina glauca

Location:	GDA 94	ZONE	56	504347mE	6986689mN	Lat: -27.24	264	Long: 153.04391	
Described	By: Sue Ellen	Dear (DEAS)					Date:	08/SEP/10	
Landscape	Landscape:								
Geology:	Qhc - Qhc-SE	2: Undifferent	iated coastal p	lains; mud, sand	l, commonly with a	veneer of Ql	na		
Element: plain				Landform I	Landform Pattern: alluvial plain				
Permeability: Slowly permeable				Runoff: V	Runoff: Very slow				
Slope: 0.	5 %			Drainage:	Drainage: Poorly drained				
Surface C	ondition: Loos	e							
Disturbanc	Disturbances: Limited clearing								
Classifications: ASC: ACIDIC, MESOTROPHIC, GREY, Kandosol, Medium, Non-gravelly, Clay Loamy, Clayey, Very Deep									
Profile Morphology:									
Horizon	Horizon Depth (m) Description								

Horizon	Depth (m)	Description
A1	0 to .18	Black (10YR21) moist; sapric clay loam; granular moderate 2-5mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; gradual to
B1	.18 to .42	Very dark grey (10YR31) moist; few 2-10% fine <5mm distinct orange mottles; fine sandy light clay; subangular blocky moderate 5-10mm structure; weak moderately moist; moderately moist when sampled; moderately permeable; moderately well drained; clear to
B21	.42 to .59	Brown (10YR43) moist; common 10-20% fine <5mm distinct orange mottles; sandy light clay; massive structure; weak moist; moist when sampled; moderately permeable; imperfectly drained; gradual to
B22	.59 to 1.04	Grey (10YR51) moist; many 20-50% fine <5mm distinct orange mottles, common 10-20% fine <5mm prominent orange mottles; coarse sandy light clay; massive structure; weak moist; moist when sampled; moderately permeable; imperfectly drained; sharp to
B23m	1.04 to 1.14	Grey (10YR51) moist; coarse sand; massive structure; uncemented discontinuous massive ortstein; slowly permeable; imperfectly drained; sharp to
B24	1.14 to 1.9	Grey (10YR61) moist; many 20-50% coarse 15-30mm prominent orange mottles; sandy light medium clay; massive structure; weak moist; moist when sampled; slowly permeable; poorly drained; diffuse to

R	1.9 to 2.4	Grey (10YR61) moist, Sandstone
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Field Tests:

Donth	H2O2-		PH-2	PH-3
Depth	H2U2-		PH-2	РП-3
.1	3		5.5	2.6
.3	1		4.8	3.9
.5			4.9	4.0
.6			4.8	4.3
.8			4.9	4.3
1			5.0	4.0
1.25	1		4.5	3.6
1.5	1		4.5	3.5
1.75	2		5.4	4.1
2	1		5.3	4.0
2.25	1		5.9	5.0
		PH-2:	pH using e	electrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

 Observation
 Granite boulders everywhere (brought in) Drilling rig (geporobe) would not penetrate past 2.4m. Sandstone horizon from 1.7m

 Vegetation
 Melaleuca quinquenervia

Soil Name: A0S2 - AASS at 0-0.5m and PASS at 1-2m

Location:	GDA 94	ZONE	56	503868mE	6988582mN	Lat: -27.22555	Long: 153.03906
Described	By: Sue Ellen	Dear (DEAS)				Date:	08/SEP/10
Landscape	:						
Geology:	Qha - Qha-SEO	ຊ: Clay, silt, s	and; active stre	am channels an	d low terraces		
Element:	supratidal flat			Landform I	Pattern: alluvial pl	ain	
Permeabili	ty: Very slow	ly permeable	e				
Slope: 0 9	%			Drainage:	Very poorly draine	ed	
Depth to W	ater: 0.8						
Surface Co	ondition: Loos	е					
Disturbance	es: No record	1					

Classifications:

ASC: NO AVAILABLE CLASS, SULFURIC, EXTRATIDAL, Hydrosol, Medium, Non-gravelly, Clayey, Clayey, Very Deep

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Black (10YR21) moist; silty light clay; granular strong 2-5mm structure; firm moist; moist when sampled; moderately permeable; moderately well drained; clear to
B21	.2 to .61	Dark grey (10YR41) moist; few 2-10% coarse 15-30mm distinct orange mottles; silty light clay; massive structure; firm moist; moist when sampled; slowly permeable; imperfectly drained; diffuse to
B22i	.61 to .82	Dark greyish brown (10YR42) moist; common 10-20% coarse 15-30mm distinct orange mottles; silty light clay; massive structure; weak moist; moist when sampled; slowly permeable; imperfectly drained; gradual to
B23i	.82 to 1.3	Dark greenish grey (10Y31) moist; very few <2% medium 5-15mm distinct orange mottles; silty light clay; massive structure; very weak wet; wet when sampled; very slowly permeable; very poorly drained; diffuse to
C1	1.3 to 3.4	Dark greenish grey (5BG31) moist; silty light clay; massive structure; very weak wet; wet when sampled; very slowly permeable; very poorly drained; gradual to
2D1	3.4 to 3.6	Dark grey (2.5Y41) moist; very few <2% medium 5-15mm distinct orange mottles; silty light medium clay;

D1 3.4 to 3.6 Dark grey (2.5Y41) moist; very few <2% medium 5-15mm distinct orange mottles; silty light medium clay; massive structure; firm moist; moist when sampled

Field Tests:

Depth	H2O2-		PH-2	PH-3
.1			4.0	3.4
.3			4.0	2.5
.6			3.7	3.0
.8			3.9	3.0
1			3.8	3.4
1.25	2		3.8	1.3
1.5	2		4.4	1.5
1.75	4		5.0	1.3
2	1		5.3	2.3
2.25	4		5.3	3.2
2.5	1		5.5	3.0
2.75	1		5.6	1.3
3	1		5.9	1.3
3.25	4		6.1	1.9
3.5	3		6.4	6.1
		PH-2:	pH using e	electrode probe
			امتيط المعالم	

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation G(g1.0)2D Sporobolus virginicus (Salt couch)

Project:	MAS	Site: 84	Observation:	1				
Soil Name:	S2 - Pass at	1-2m						
Locatior	n: GDA 94	ZONE 56	502489mE	6985809mN	Lat: -27.25059	Long: 153.02514		
Describ	ed By: M (Mark)	Sugars (SUGM)			Date:	09/SEP/10		
					Dato.	00,021,10		
Landscap		O: Clav silt sand: ac	tive stream channels a	nd low terraces				
Element				Pattern: flood pla	ain			
Permeal		wly permeable		Very slow				
Slope:	0 %		Drainage	: Very poorly drai	ned			
Depth to	Water: 0.1							
Surface	Condition: Soft							
Disturba	nces: No record	d						
	Classifications: ASC: HUMOSE, SULFIDIC, REDOXIC, Hydrosol, Thick, Non-gravelly, Clayey, Clayey, Very Deep							
Profile M	orphology:							
Horizon	Depth (m)	Description						
A1	0 to .1		vn (10YR42) moist; sa v permeable; poorly dra		e structure; weak we	t; few 1-2mm roots; wet when		
A21	.1 to .2					es; clay loam, sandy; massive e; poorly drained; gradual to		
A22	.2 to .3	structure; very	1) moist; few 2-10% fir weak wet; wet when s	ampled; slowly pe	rmeable; poorly drai	ned; clear to		
2A	.3 to .7		0YR31) moist; sapric lowly permeable; very			t; few 2-5mm roots; wet when		
2B21	.7 to .9		Dark greyish brown (10YR42) moist; common 10-20% fine <5mm distinct orange mottles; light medium clay; massive structure; very weak wet; wet when sampled; very slowly permeable; very poorly drained; diffuse to					
2B22	.9 to 1.15					les; light medium clay; ery poorly drained; gradual to		
3C1	1.15 to 1.5		/ (2.5YR41) moist; silty slowly permeable; very			weak wet; wet when		
3C2	1.5 to 3.5		(2.5YR31) moist; silty lowly permeable; very		ssive structure; very	weak wet; wet when		
Field Tes	ts:							
Depth	H2O2-	PH-2 PH-3						
.1	4	6.7	3.0					
.15	4	6.7	2.5					
.3 .6	4 4	6.5 6.5	3.2 3.9					
.0 .8	4	6.3	3.6					
1	4	6.6	3.2					
1.25	3	6.5	2.7					
1.5		6.4	2.0					
1.75	4	5.9	1.4					
2	4	5.5	1.5					
2.25	4	6.4	1.5					
2.5	2	6.5	2.3					
2.75	3	6.8	1.6					
3	4	6.7	2.0					
3.25 3.5	3 3	7.1 7.2	2.7 2.2					
3.0	3 PH-2:							
	PH-3:							
		, . ,						

Observation 10cm of decomposing vegetation over soil. Top 3 horizons likely spoil from dam wall. Roots down to 0.7m

Vegetation U(w1.0)6M Melaleuca spp, Casuarina sp. M(w3.0)4M Lantana camara G(g5.0)2D Sedges G(g1.0)2D Grasses

Soil Name:	a0LP - Low	Probability of the second sec second second sec	f ASS in area	as below 5m AHD	and pH of 4- 5 at	0-0.5m		
Location	n: GDA 94	ZONE	56	502058mE	6985935mN	Lat:	-27.24945	Long: 153.02079
Describe	ed By: Jonathar	n Walton (WA	LJ)				Date:	09/SEP/10
Landscap Geology: Element:	Qha - Qha-SE	Q: Clay, silt, s	sand; active s	stream channels a	nd low terraces	lain		
Permeat		ermeable			Very slow			
Slope: 0) %			Drainage	· Very poorly dra	ained		
	Water: 0.1							
	Condition: Sof							
		e cleaning						
Classifica ASC: H		OSOLIC, RED	OXIC, Hydros	sol, Thick, Non-gra	velly, Clay Loamy	, Clayey,	Very Deep	
Profile M	orphology:							
Horizon	Depth (m)	Descriptio	n					
02	0 to .15				apric clay loam; m ly drained; clear to		tructure; ver	y weak wet; wet when
A11	.15 to .55	pébbles		assive structure; v				ular tabular charcoal small lerately permeable; very
A12	.55 to .75		Black (2.5Y2.5/1) moist; heavy clay loam; very few <2% angular tabular charcoal small pebbles 2-6 mm; massive structure; very weak wet; wet when sampled; moderately permeable; very poorly drained; clear to					
B21u	.75 to 1.15		Dark grey (2.5Y41) moist; common 10-20% fine <5mm faint brown mottles; light clay; massive structure; firm wet; wet when sampled; slowly permeable; very poorly drained; gradual to					
B22u	1.15 to 1.3	15mm p	Greenish grey (10Y51) moist; few 2-10% medium 5-15mm distinct orange mottles, very few <2% medium 5- 15mm prominent red mottles; light clay; massive structure; firm moist; moist when sampled; slowly permeable; very poorly drained					
B23u	1.3 to 1.5	15mm p	rominent red		ght clay; massive s			tles, very few <2% medium 5- oist when sampled; slowly
C1u	1.5 to 1.8	Dark grey	r (5Y41) mois	st; medium clay; m	nassive structure;	firm mois	t; moist wher	n sampled; gradual to
C2u	1.8 to 2	Dark grey structur	v (5Y41) mois e; firm wet; v	st; light medium cl vet when sampled	lay; very few <2% d; clear to	subangı	ılar quartz sn	nall pebbles 2-6 mm; massive
Du	2 to 2.15				arse 15-30mm pro			s, few 2-10% medium 5-15mm when sampled
Field Tes	ts:							
Depth	H2O2-	PH-2	PH-3					
.1	2	5.3	1.4					
.3	3	5.9	3.0					
.6	3	6.3	3.3					
.8	4	6.4	3.9					
1	4	6.3	2.9					
1.25	4	6.1	2.8					
1.5	4	5.6	2.6					
1.75	4	5.9	2.7					
2	4	5.7	2.6					
2.15	3	5.4	3.0					

PH-2: pH using electrode probe

PH-3: pH of hydrogen peroxide extract

Observation Notes:

Vegetation U(w1.0)6M Casuarina glauca, Melaleuca sp. G(g5.0)2M Sedges \ G(g1.0)2M Grass

-							
Soil Name:	A0S1 - AA	SS at 0-0.5m v	with PASS a	at 0.5-1.0m.			
Location	n: GDA 94	ZONE	56	502517mE	6982944mN	Lat: -27.27645	Long: 153.02543
Describ	ed By: M (Mark	() Sugars (SUG	SM)			Date:	09/SEP/10
Landsca	be:						
		EQ: Undifferer	ntiated coast	tal plains; mud, sai	nd, commonly with	a veneer of Qha	
Element	: swamp			Landform	n Pattern: flood p	lain	
Permea	bility: Very sl	owly permeab	le				
Slope:	0 %			Drainage	e: Very poorly dra	ined	
Depth to	Water: 0.1						
Surface	Condition: So	oft					
Disturba	nces: No effe	ective disturba	nce				
Classifica	ations:						
ASC: H	IUMOSE-ACIDI	C, SULFURIC,	OXYAQUIC	, Hydrosol, Thick, N	lon-gravelly, Clay I	Loamy, Clayey, Very	Deep
Profile M	orphology:						
Horizon	Depth (m)	Descriptio	on				
Mia	0 to .5	light me	dium clay; r	massive structure;		moist; few 1-2mm ro	osite (from pyrite) mottles; silty ots; moderately moist when
2A11	.5 to .7			st; light clay loam; able; very poorly dr		; weak wet; few <1mi	m roots; wet when sampled;
2A12	.7 to .9			st; sapric clay loan able; very poorly dr		re; weak wet; few <1ı	mm roots; wet when sampled;
2B21	.9 to 1.1						ttles; light clay; massive ole; very poorly drained; clear
3C1ia	1.1 to 2.45	medium	i clay; mass				pyrite) mottles; silty light pled; very slowly permeable;
3C2ia	2.45 to 2.8	silty ligh segrega	nt medium c	lay; polyhedral wea noist; few <1mm ro	ak 2-5mm structure	e; common 10-20% m	jarosite (from pyrite) mottles; edium 2-6mm sulphurous soft permeable; very poorly
3C3ia	2.8 to 3	clay; m		ture; very firm moi			pyrite) mottles; silty medium ad; very slowly permeable;
Field Tes	ts:						
Depth	H2O2-	PH-2	PH-3				
.1	1	3.5	2.	0			
.3	3	3.1	1.	4			
.6	4	4.7	2.	9			
.8	4	4.4	3.4	4			
1	1	4.1	2.	6			
1.25	1	3.9	2.	5			
1.5	4	3.5	2.4	4			

	1 07	
Horizon	Depth (m)	Description
Mia	0 to .5	Dark greyish brown (10YR42) moist; few 2-10% fine <5mm distinct yellow jarosite (from pyrite) mottles; silty light medium clay; massive structure; strong moderately moist; few 1-2mm roots; moderately moist when sampled; very slowly permeable; very poorly drained; clear to
2A11	.5 to .7	Black (10YR21) moist; light clay loam; massive structure; weak wet; few <1mm roots; wet when sampled; moderately permeable; very poorly drained; diffuse to
2A12	.7 to .9	Black (10YR21) moist; sapric clay loam; massive structure; weak wet; few <1mm roots; wet when sampled; moderately permeable; very poorly drained; clear to
2B21	.9 to 1.1	Dark grey (2.5Y41) moist; many 20-50% medium 5-15mm prominent orange mottles; light clay; massive structure; firm moist; few <1mm roots; moist when sampled; slowly permeable; very poorly drained; clear to
3C1ia	1.1 to 2.45	Dark grey (2.5Y41) moist; few 2-10% fine <5mm distinct yellow jarosite (from pyrite) mottles; silty light medium clay; massive structure; firm moist; few <1mm roots; moist when sampled; very slowly permeable; very poorly drained; gradual to
3C2ia	2.45 to 2.8	Dark greenish grey (5GY41) moist; few 2-10% medium 5-15mm distinct yellow jarosite (from pyrite) mottles; silty light medium clay; polyhedral weak 2-5mm structure; common 10-20% medium 2-6mm sulphurous soft segregations; firm moist; few <1mm roots; moist when sampled; very slowly permeable; very poorly drained; gradual to
3C3ia	2.8 to 3	Dark grey (2.5Y41) moist; few 2-10% fine <5mm distinct yellow jarosite (from pyrite) mottles; silty medium clay; massive structure; very firm moist; few <1mm roots; moist when sampled; very slowly permeable; very poorly drained

	510.			
Depth	H2O2-		PH-2	PH-3
.1	1		3.5	2.0
.3	3		3.1	1.4
.6	4		4.7	2.9
.8	4		4.4	3.4
1	1		4.1	2.6
1.25	1		3.9	2.5
1.5	4		3.5	2.4
1.75	4		3.6	2.4
2	4		3.7	2.3
2.25	4		4.0	2.2
2.5	1		3.9	2.2
2.75	4		4.0	1.9
3	4		4.1	2.2
		PH-2:	pH using	g electrode probe
		PH-3:	pH of h	ydrogen peroxide extract

Observation	Suspect that top 0.50m is spoil from excavation of adjacent water body. Horizon 2 is sapric
Vegetation	U(w1.0)6V Eucalyptus sp
	G(g5.0)2D Sedges \ G(g1.0)2D Grass