

Moreton Bay Regional Council Acid Sulfate Soils - Beachmere Area



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Summary

In 2000, approximately 4000 ha of acid sulfate soils (ASS) was identified on relatively undisturbed land in Moreton Bay Regional Council, southeast Queensland (Smith *et al.* 2000) based on broad scale 1:100 000 maps. Increased development pressure in Moreton Bay Regional Council has resulted in the need for more precise data to guide the Council's processes consistent with the *State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soils*, and *Integrated Planning Act 1997*.

In 2006, Council focussed on the identification of acid sulfate soils in three priority areas along Moreton Bay Regional Council's coastal zone. The project aim was to develop maps based on medium resolution (ie. 1:50 000) ASS mapping undertaken by the Department of Natural Resources and Water (NRW). This report focuses on 1:25 000 scale acid sulfate soil investigations of 367 hectares of land in the Beachmere area of Moreton Bay Regional Council.

The investigation in the Beachmere area included 70 boreholes undertaken to a maximum depth of 7.6 metres. The 70 soil profiles were then described and sampled (as per the *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland* (Ahern *et al.* 1998)). The presence or absence of acid sulfate soils was determined using both field and laboratory testing. Laboratory methods used included the Chromium Reducible Sulfur method (S_{CR}) and/or SPOCAS method (Ahern *et al.* 2004).

The accompanying 1:25 000 scale acid sulfate soils map displays the depth to the first occurrence ASS. Of the 367 hectares investigated, 15 hectares were found to contain actual acid sulfate soils (AASS) with existing acidity up to 0.17 %S at shallow depth in the top 1.0 m. Of the remaining 352 hectares, potential acid sulfate soils (PASS) with up to 2.7 %S were found to occur at various depths ranging from less than 0.5 m to 4 m below the surface.

These results indicate the need for caution in planning and managing developments in the Beachmere area so as to avoid costly damage to the environment and local infrastructure. Additional investigation will be required prior to construction or excavation to satisfy the recommendations of the *Sampling Guidelines* (Ahern *et al.* 1998).

1. Introduction and brief overview of acid sulfate soils

Acid sulfate soil (ASS) is the name given to naturally occurring sediments (sands, silts, or clays) that contain sulfides, primarily iron sulfides (FeS_2). The sulfides remain chemically stable while buried in oxygen-free, waterlogged environments. However, when exposed to oxygen, they undergo a series of chemical reactions resulting in the production of sulfuric acid. As an example: one tonne of iron sulfides can produce about 1.5 tonnes of sulfuric acid when oxidised. This can have major environmental, health, and engineering impacts.

In an undisturbed, waterlogged state ASS may range from dark grey silty clays to grey sands and peat with pH values close to neutral (6.5–7.5). In this state they are termed potential acid sulfate soils (PASS) because they have the potential to oxidise and produce sulfuric acid. When ASS are exposed to air, the sulfides oxidise and sulfuric acid is produced. In this state they are known as actual acid sulfate soils (AASS). AASS are very acidic (pH <4), and often contain a straw yellow mineral called jarosite. The term ASS includes both AASS and PASS. AASS and PASS are often found in the same soil profile, with AASS generally overlying PASS as surface layers are more likely to be exposed to oxidation.

In recent years, increasing development pressures particularly in coastal areas of southeast Queensland have resulted in the need for more detailed information about acid sulfate soils. In 2006 a jointly funded project between the Moreton Bay Regional Council and the Department of Natural Resources and Water led to the commencement of acid sulfate soil mapping within low lying (<5 m AHD) areas of Moreton Bay Regional Council. Three key areas were identified by Council representatives (Beachmere, Bribie Island and Toorbul–Donnybrook).

This report details the acid sulfate soil mapping undertaken in the Beachmere area (Figure 1). Previous mapping undertaken by the Department of Natural Resources and Water (1:100 000 scale Redcliffe to Teewah Map 2 Ref. NR&M – SEA I AO 3261, 2003) has identified the likelihood of acid sulfate soils in the Beachmere area however the broadscale nature of this work makes it unsuitable for local council planning purposes. The aim of the more detailed work was to identify the presence, depth and net acidity of acid sulfate soils within the study area and present these results as a map along with an accompanying report.

2. Survey area

The Beachmere high priority ASS study area is a small peninsula comprising 367 ha, extending north from the mouth of the Caboolture River approximately 4.5 kilometres following the coastline, and 1.8 kms to the west at its widest point (**Figure 1**). It is characterised by coastal plain and estuarine deposits (Cranfield *et al.* 1986). The coastal plain deposits which consist of Holocene age beach ridge sands and shelly sands (Qhcb2) dominate the eastern and central parts of the study area, whilst the estuarine deposits consisting of Holocene age tidal flat sands and muds (Qhct) dominate the southern and western parts.

Flood (1980) described a prograded sequence of Holocene tidal flat environments preserved on the coastal plain surrounding Beachmere, with several periods of accretion evident. He also identified that the mud present in the study area originated from Caboolture River, Burpengary Creek and possibly the Brisbane River, whereas the sand originated from the northern entrance of Moreton Bay between Bribie and Moreton Islands.

McClure (1995) identified four stages of coastal plain development from Beachmere to Sandstone Point:

- Stage 1 (6500–3300 yrs before present) was the period of maximum Holocene sea levels when the most landward beach ridges to the west of Beachmere/Godwin Beach were formed.
- Stage 2 (3300–1000 yrs before present) involved the development of the coastal lowland swamp on the seaward side of the beach ridges formed during Stage 1.
- Stage 3 (~1000 yrs before present) involved the formation of a new beach ridge system to the east of the coastal lowland swamp. This beach ridge system consists of a large landward ridge and several smaller seaward ridges (Lang *et al.* 1998).
- Stage 4 (present day development) consists of the progression of smaller beach ridges with associated supratidal and upper intertidal swamps that exist to the present day.

Vegetation in the study area consists of common mangrove and *Casuarina* vegetation on the tidal flats and swamps of the southern and western parts with *Corymbia*, *Eucalyptus*, *Melaleuca*, *Casuarina* and *Acacia* species dominating the beach ridges in the central and eastern parts.

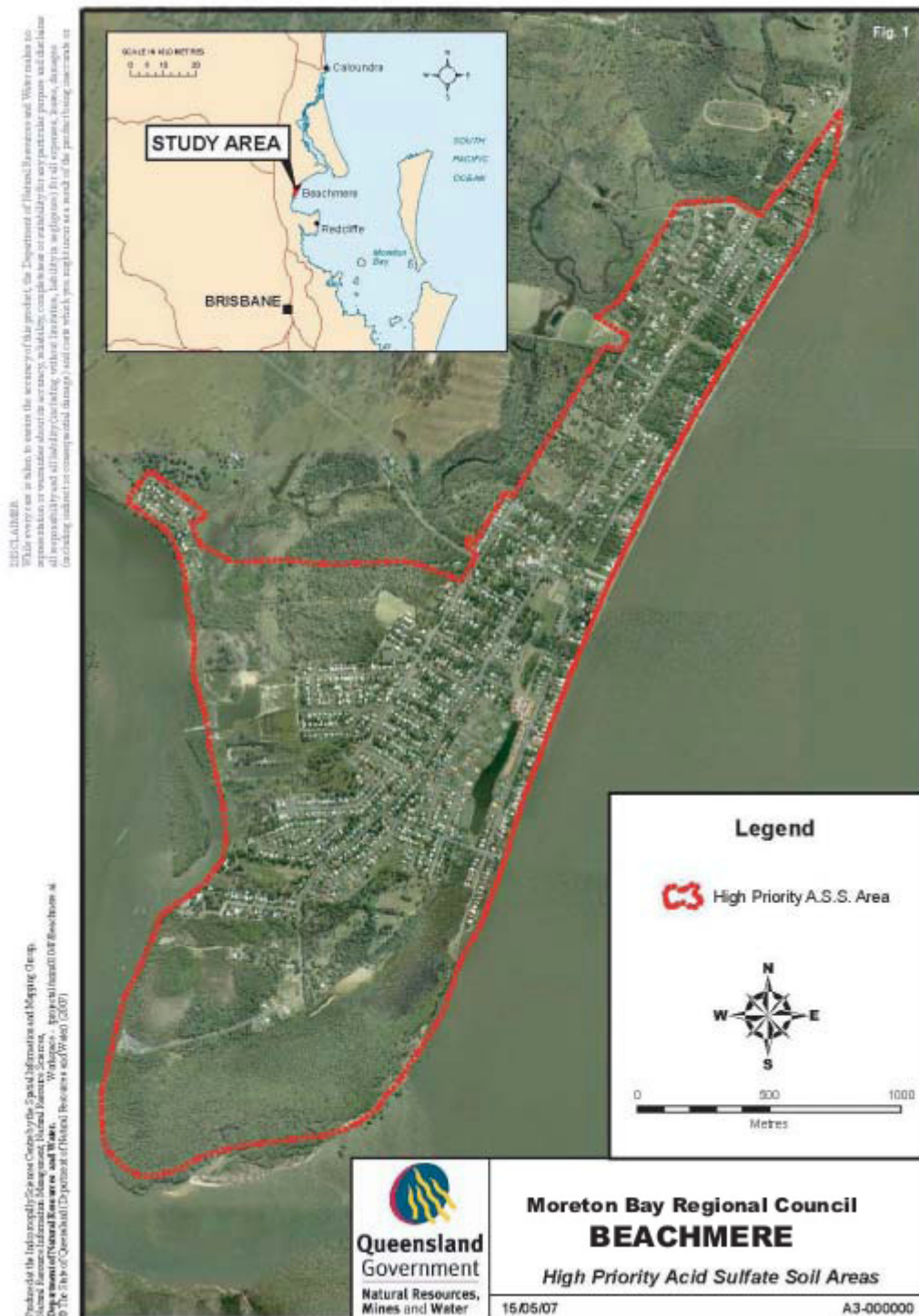


Figure 1. Location of the Beachmere high priority ASS mapping area

3. Methodology

3.1. Sampling equipment

Sampling was undertaken with a Geoprobe model 6610DT coring machine. The Geoprobe (**Plate 1**) is a track-mounted machine that obtains a 38 mm soil core in 1.5 m long removable clear PVC liners. These are photographed for the record before being sampled and assessed.



Plate 1. Geoprobe model 6610DT track-mounted coring machine

3.2. Location of sites, profile description and sampling

Sample sites were selected using the free survey technique (Reid 1988) with the aid of aerial photography and ortho photo maps supplied by Moreton Bay Regional Council. Due to the landform complexity of the Beachmere area, soil sampling was completed at a higher intensity i.e. 1:25 000 scale (approx. 5.2 ha/site).

The survey area contains a wide variety of soil types, including difficult-to-sample waterlogged muds, monosulfide sediments, non-aggregated sands and silty soils with a massive structure. The sites also included areas which had been significantly disturbed, to sites in a virtually virgin state.

The soil profiles were described using the nomenclature of the *Australian Soil and Land Survey Field Handbook* (McDonald *et al.* 1990). Decoded borehole descriptions can be seen in **Appendix 1**. Soil properties recorded included horizon depth, colour, field pH, field pH after oxidation with 30% peroxide, mottles, texture and coarse fragments (eg. shell, partly decomposed plant material). Soil pH was recorded at 0.25 m intervals down the profile, firstly in a soil and water paste (pH_F), and secondly after oxidation with 30% hydrogen peroxide (pH_{FOX}). The level of effervescence produced during the pH_{FOX} test was also recorded (**Appendix 1**). A large difference (eg. 3–4 pH units) between pH_F and pH_{FOX} , together with significant effervescence is an indicator of PASS.

The profile was sampled according to the *Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland* (Ahern *et al.* 1998) at the following intervals (except where these crossed horizon boundaries): 0–0.1 m, 0.2–0.3 m, 0.5–0.6 m, 0.8–1.0 m and then at intervals of 0.5 m. Soil samples were collected from each of the boreholes. Samples were placed in sealed plastic bags and refrigerated immediately. Upon returning to the laboratory, samples were dried for 48 hours and fine ground (<1 mm).

3.3. Database recording

All field and laboratory data was entered into the Soil and Land Information (SALI) database, designed specifically for land resource surveys conducted by the Department of Natural Resources and Water. Terminology and codes in SALI are consistent with the *Australian Soil and Land Survey Field Handbook* (McDonald *et al.* 1990).

3.4. Laboratory analysis

Laboratory analyses are performed to quantify net acidity (ie. actual acidity plus potential acidity less any naturally occurring acid buffering capacity) with the choice of the methodology being determined by whether the soil layer in question, is deemed AASS or PASS according to field morphology. Two laboratory methods have been used to determine the net acidity with all laboratory analysis carried out in accordance with the *Acid Sulfate Soils Laboratory Methods Guidelines* (Ahern *et al.* 2004). Please see the Glossary (Section 8) for detailed explanation of laboratory terms and acronyms.

A summarised version of the laboratory data displaying actual acidity, potential acidity, net acidity and liming rate (including a 1.5 safety factor) is provided in **Appendix 2**. Full details of laboratory analysis are available upon request from NRW. Due to budget constraints only selected samples were analysed by the full SPOCAS method to determine actual acidity and self neutralising capacity. The samples selected for analysis were based on the morphological data collected at the site. The method column in **Appendix 2** shows the method used to calculate net acidity

3.4.1 Chromium Reducible Sulfur (S_{CR})

The Chromium Reducible Sulfur (S_{CR}) method (Method 22B) as described by Sullivan *et al.* (2004) measures reduced inorganic sulfur compounds including pyrite (and other iron disulfides), acid volatile sulfides (AVS) and elemental sulfur. The method can be made specific to the iron disulfide fraction with appropriate pre-treatments to remove AVS and elemental sulfur fractions. The Chromium Reducible Sulfur method is the preferred method for low analysis sands and for highly organic or peaty soil because of its specificity to reduced inorganic S, while not determining organic sulfur. The method however does not measure existing acidity.

3.4.2 Suspension Peroxide Oxidation Combined Acidity and Sulfur method (SPOCAS)

The Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS) method (Method 23) as described by Ahern *et al.* (2004) measures both the 'acid trail' and the 'sulfur trail' providing data on pH, retained acidity (S_{RAS}), actual acidity (TAA) and potential acidity (S_{POS} , TPA). The method also provides a measure of neutralising capacity (ANC_E , Ca_A , Mg_A).

3.5. Determination of PASS or AASS

The determination of which soil horizons constitute an acid sulfate soil (ASS) was based on an assessment of field morphological properties (eg. texture, soil colour, mottles and coarse fragments such as shell), field pH test results and laboratory results that met or exceeded the texture based action criteria displayed in **Table 1**.

Table 1. Texture-based action criteria (after Ahern *et al.* 1998)

Soil Texture (clay content %)	Equivalent sulfur (%S)	Equivalent acidity (moles H^+ /tonne soil)
Sands to loamy sands (≤ 5)	0.03	18
Loams to light clays (5–40)	0.06	36
Medium to heavy clays (≥ 40)	0.1	62

- **Potential acid sulfate soils (PASS)** were assessed using S_{CR} and S_{POS} analytical results.
- **Actual acid sulfate soils (AASS)** were determined by the presence of jarosite, TAA results as well as field pH (pHF) and/or laboratory (pH KCl) values of 4 or less.
- **Neutralising capacity** was assessed using a combination of $ANCE$, Ca_A , Mg_A , TPA, $ANCBT$ and pH.

4. Description of soil map units

The mapping process is a way of presenting extremely complex 3-Dimensional data in a 2-Dimensional format, so that it can be input to management decisions. At the 1:25 000 scale, it is possible to identify areas of high hazard; any disturbance of soils in these areas needs to be carefully considered because when the acid and heavy metals are released, then there are both *in situ* and off-site effects.

The map units identify areas delineated by:

- ▶ the depth of soil at which acidity is first encountered; “A” refers to an actual acid sulfate soil layer ($\text{pH} \leq 4$), while “S” refers to a potential acid sulfate soil layer. The numeric component of the map code refers to the depth at which these layers occur [0 = (0 to 0.5 m), 1 = (>0.5 to 1.0 m), 2 = (>1 to 2 m), 3 = (>2 to 3 m), 4 = (>3 to 4 m), 5 = (>4 to 5 m)];
- ▶ the codes can be used separately (eg. A0, S0, S1); but where a map unit contains both AASS and PASS layers then the codes are combined (eg. A0S0, A0S1);
- ▶ additional information is provided by code for areas of strongly acidic ($\text{pH} > 4$ and ≤ 5) soil layers.

5. Map units of the study area

The attached acid sulfate soils map displays the map units identified in the study area.

Table 2 shows the total area of each mapping unit along with the percentage of the 367 hectare total area that is occupied by each unit. It is noted that the AASS found in the survey area (15 ha) has PASS layers below it (meaning that further disturbance has the capacity to release yet more acid and heavy metals). More importantly, 100% of the area surveyed contains layers of acid sulfate soils—over half of which is within 2 metres of the surface.

Table 2. Area of individual map units

Map unit	Map unit area (ha)	Percentage of mapping area (%)
A0S1	10	2.7
A0S2	5	1.4
S0	93	25.3
S1	47	12.8
S2	39	10.6
S3	128	34.9
S4	45	12.3
Total area	367	100

5.1. Characteristics of the map units

A0S1 – This unit is located in the west of the study area adjacent to the Caboolture River. Two boreholes were undertaken in this unit to depths of 6.0 m. The predominantly sandy textured surface soils identified in the profiles appear to have originated from the large excavation (**Plate 2**) which extends from the Caboolture River to the centre of this unit. The indicative yellow jarosite mottles were evident in the exposed embankment leading into the excavation (**Plate 3**). Jarosite mottles were also evident in the surface layers of borehole CAB 96 (**Plate 4**) where 0.15 %S at 0.4–0.6 m was measured. Grey sandy PASS layers with up to 0.32% S were encountered down the profile from 0.6 m to 5.5 m with clay PASS layers extending to 6 m (**Plate 4**). In borehole CAB 97, a maximum of 1.17 %S was measured at 1.2–1.4m in a sandy clay loam layer.



Plate 2. Large excavation in the centre of the A0S1 unit; the spoil will now contain activated ASS

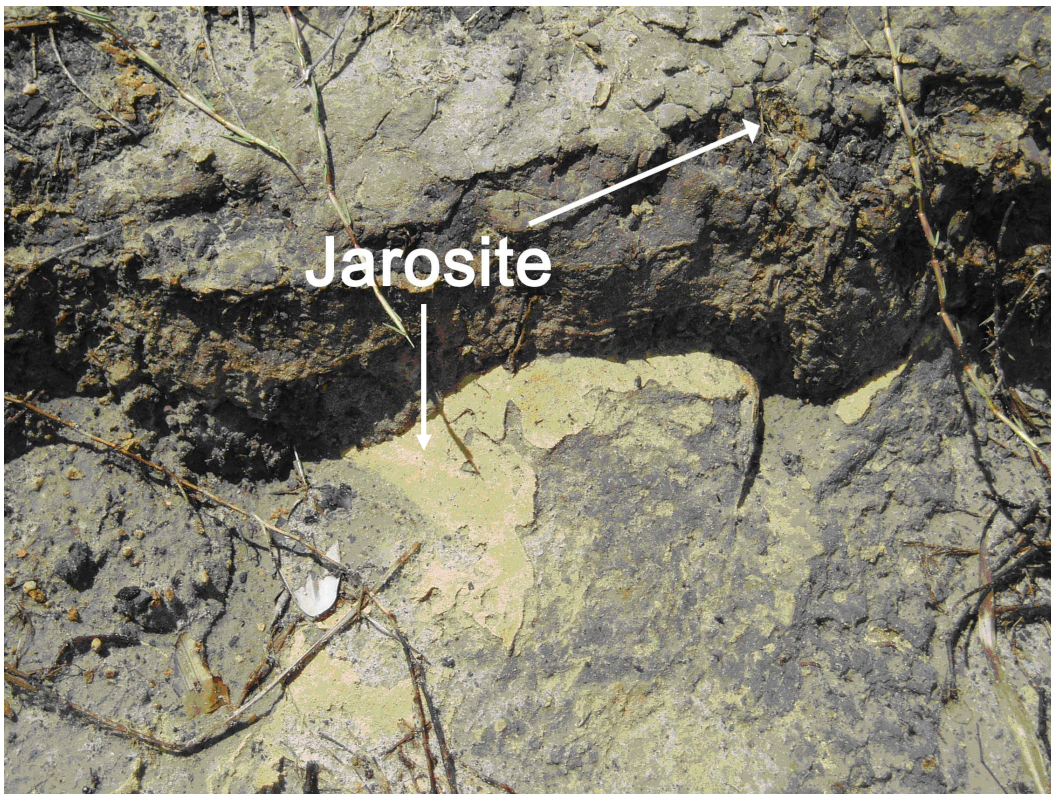


Plate 3. Jarosite indicating activated ASS in soil associated with previous excavation



Plate 4. Yellow jarosite mottling in surface layers of CAB 96

A0S2 – Situated immediately to the south of the A0S0 unit, this unit covers approximately 5 ha (**Plate 5**). Disturbance history seems to be similar to the previous unit with soil material excavated to form a channel which extends from the Caboolture River into the centre of the unit. Borehole CAB 42 (**Plate 6**) situated immediately north of the excavation displayed AASS to 0.8 m consisting of sandy light clays with jarosite mottles and very acidic field pH values of pH 3.6. It is likely that these materials were part of the original excavation and have been used as fill. SPOCAS analysis at 0.2 to 0.3 m revealed up to 0.1 %S with the actual acidity component accounting for the majority of this. Grey sandy PASS with oxidisable sulfur levels up to 0.6 %S dominated the profile however a sandy light clay layer at 5.3-5.5m contained 2.2% S.



Plate 5. Borehole CAB 42 location in A0S0 unit

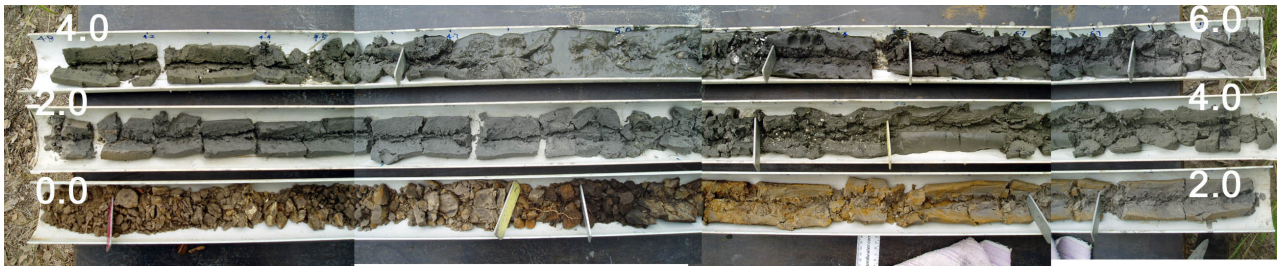


Plate 6. Soil profile CAB 42, indicative Jarosite found 0.0 to 1.8 m

S0 – Six S0 units covering approximately 93 ha have been identified predominantly in low lying intertidal areas in the southern and western portion of the study area, principally adjacent to the Caboolture River and Deception Bay. These areas are generally <0.5 m AHD with vegetation predominantly comprised of mangrove species (**Plate 7**). Unlike the previously discussed areas, minimal disturbance was observed at the time of sampling.



Plate 7. Low lying S0 unit showing mangrove vegetation.

Soil textures throughout the boreholes undertaken in these units often displayed varying layers of sulfidic grey sands, sandy loams and sulfidic silty light clays. PASS often extended from the surface to depths greater than 6 m at some sites. Laboratory analysis of samples collected within this mapping unit revealed in excess of 2 %S (site CAB 86 at 1.2–2.2 m) (**Plate 8**). Some neutralising capacity (ie. shell fragments) was observed in several of the profiles, however levels are generally insufficient to neutralise the potential acidity present. Medium to medium heavy clays likely to represent an older land surface were intercepted at some sites, generally at depths greater than 4.5 m.

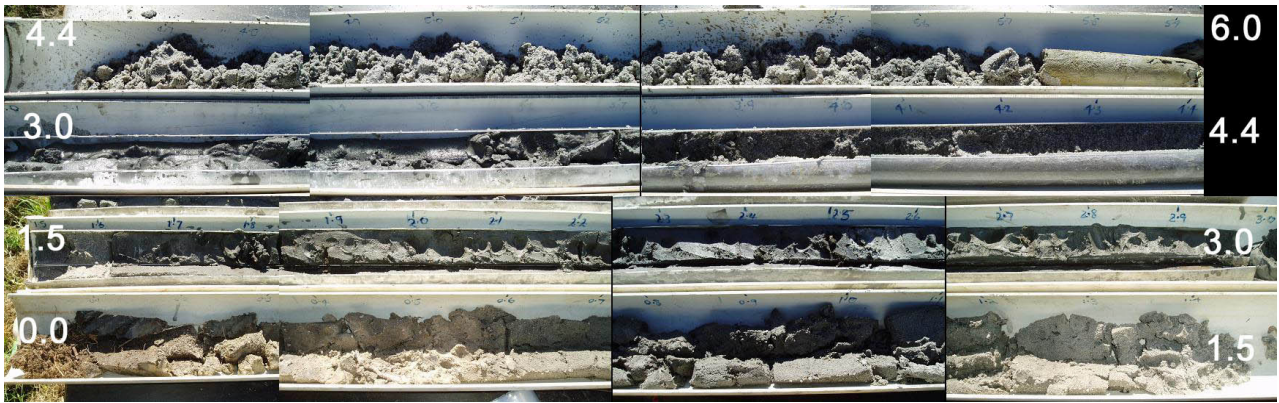


Plate 8. Soil profile CAB 86

One large S0 unit at the southern end of the of the study area contained significant numbers of dead or dying mangroves (**Plate 9**) particularly in the north eastern section of the unit. Closer inspection revealed the presence of monosulfides in surface sediments (**Plate 10**) along with extended periods of inundation by water. Surface samples taken at several sites showed significant levels of sulfides present (0.8 %S at 0.2 m–0.3 m in CAB 15; 0.3 %S at 0.0–0.1 m in CAB 17 and 0.7 %S at 0.0–0.1 m in CAB 63). Monosulfides are a highly volatile form of sulfides capable of forming and oxidising very quickly. Further work is required in these areas to determine the exact effects that monosulfides and long periods of inundation are having.



Plate 9. Dying mangroves



Plate 10. Monosulfides found in surface layers of dying mangrove areas

S1 – Seven S1 mapping units were identified. In their natural state, these units are often associated with supratidal and extratidal flats that are slightly elevated above the more frequently tidally-inundated S0 units (**Plate 11**). Periodic surface inundation generally occurs during higher tidal occurrences. *Casuarina* and *Sporobolus* species (salt couch) are the most common vegetation. On disturbed and slightly more elevated sites other vegetation such as *Melaleuca*, *Eucalyptus*, and *Corymbia* species occur.

Soil profiles commonly display grey sulfidic sands and sandy loams, with shell fragments observed in many of the profiles (**Plate 12**). Laboratory analysis revealed sulfide concentrations up to 1.9 %S (site CAB 60 at 5.6–5.8 m). Excess neutralising capacity was measured in CAB 22 at 0.8–1.0 m.

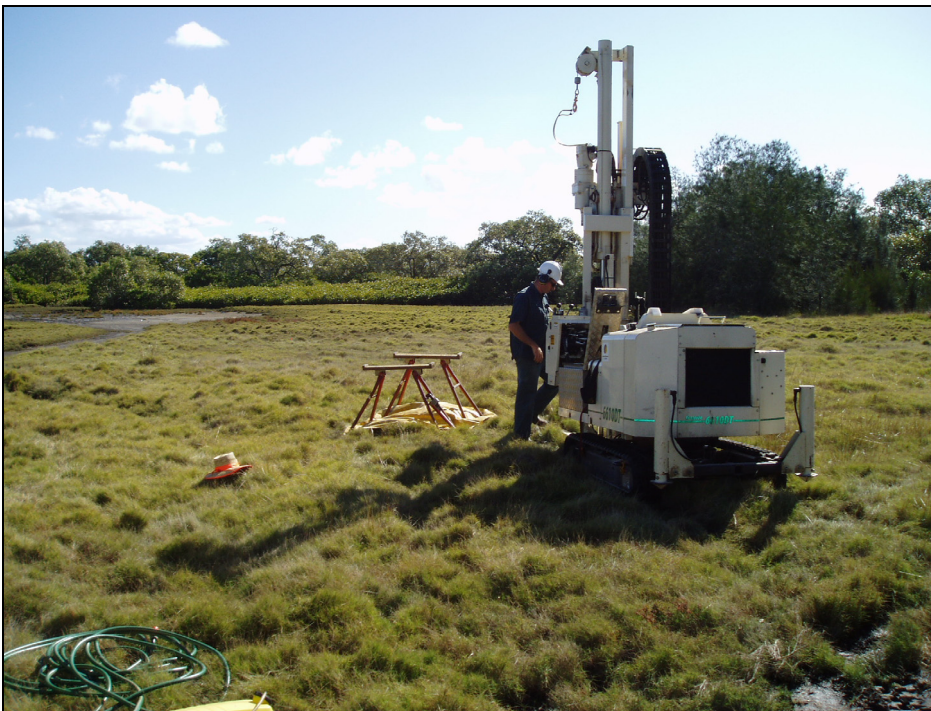


Plate 11. CAB 91 site location in S1 map unit

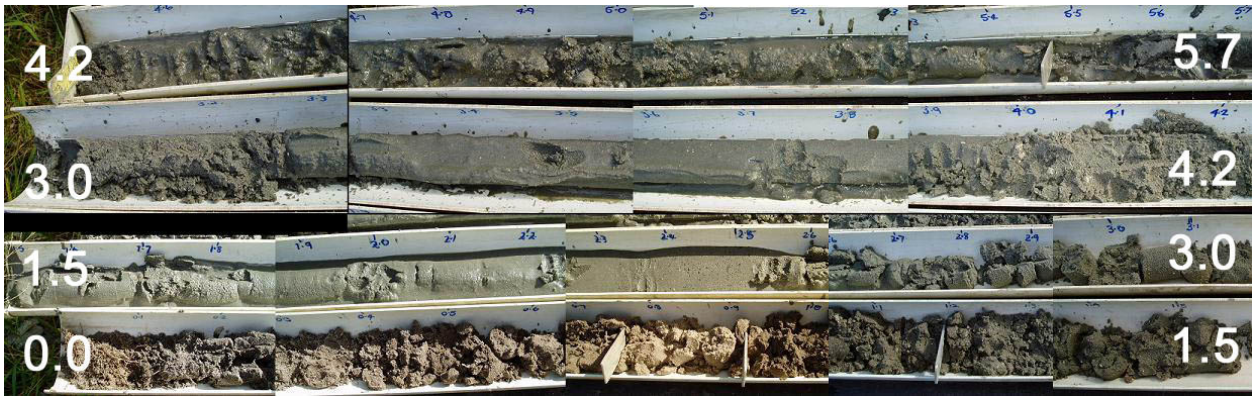


Plate 12. Soil profile CAB 60 showing PASS in lower layers

S2 – Seven S2 units were mapped with the majority occurring between 2 and 3 m elevation. Native vegetation where it still remained consisted of *Melaleuca* and *Eucalyptus* species. Soil profiles were dominated by sands with layers of clay fill occurring in surface layers of some profiles. PASS layers generally commenced at 1–2 m below ground surface and extended to 6.0 m. Sulfide concentrations up to 2.2 %S were measured in site CAB 47 at 1.3–1.5 m (**Plate 13**). Some neutralisation capacity in the form of small shell fragments was observed.

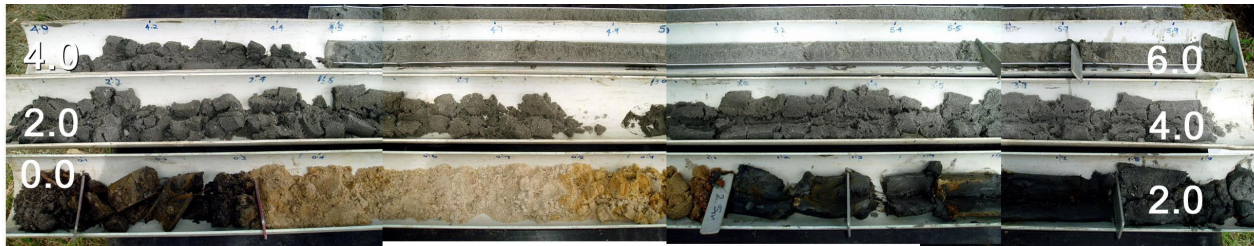


Plate 13. Soil profile composite CAB 47, PASS in subsoil

S3 – This unit is comprised of relict beach ridges that are predominantly occupied by urban residential development that dominates the eastern side of the survey area, with elevation commonly between 2 and 3 m. Soil profiles were dominated by sands with layers of sulfidic loams and clay often occurring at depths of approximately 5 m (**Plate 14**). Laboratory analysis of samples collected within this mapping unit revealed sulfide concentrations up to 2.0 %S in sulfidic clay layers (site CAB 45 at 5.8–6.0 m). Some neutralisation capacity was observed (ie. shell fragments) at depths below 2.0m.



Plate 14. Soil profile composite CAB 45, PASS in lower profile

S4 – This unit contains the higher (3–4 m) sections of the relict beach ridges that stretch from the north-east toward the south-west of the study area. Land use is again predominantly urban residential with minor areas of native vegetation, mainly *Eucalyptus* species. Soil profiles (**Plate 15**) generally displayed pale sands overlying sulfidic grey sands with up to 0.5 %S. Laboratory analysis of soil samples revealed a maximum sulfide concentration of 2.5 %S in a small loamy fine sand layer in borehole CAB 79 (3.2–3.4 m).

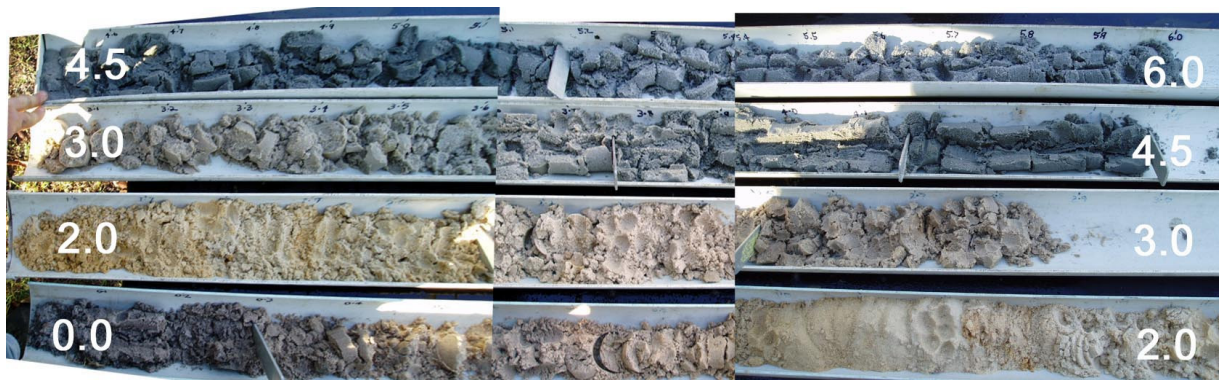


Plate 15. Soil profile composite for CAB 103 showing PASS at depth

6. Conclusions

It is evident that coastal formation processes in the Beachmere area have been conducive to the formation of acid sulfate soils. This assessment has identified both AASS and PASS in profiles of sands, loams and clays throughout the Beachmere study area.

The 15 ha of AASS identified were confined predominantly to surface layers in areas of past disturbance. Maximum net acidity values of 0.15 %S (SPOCAS method) and field pH values as low as 3.6 were measured in the AASS layers. PASS layers occurred at various depths across the entire study area with the depth to PASS generally increasing with increasing elevation. The highest net acidity values were measured in clay sediments with a maximum of 2.67 %S (CAB 82). Maximum for loams and sands were 1.9 %S (CAB 80) and 0.8 %S (CAB 47) respectively.

Average %S values for all samples across the study area were 0.20 %S for sands; 0.59 %S for loams and 0.83 %S for clays all of which are substantially higher than action criteria threshold values of 0.03%, 0.06% and 0.1% respectively.

It is suggested that major activities involving soil disturbance and drainage within the Beachmere area should follow the requirements of the *State Planning Policy 2/02; the Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland* (Ahern *et al.* 1998) and the *Soil Management Guidelines* (Dear *et al.* 2002). It should also be recognised that the scale of the mapping undertaken in this report is intended for general planning purposes only and that additional boreholes will be required if QASSIT sampling guidelines are to be met for future development in the study area.

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8. Glossary

Acid sulfate soils (ASS): Soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of iron sulfides (actual ASS) and/or soil or sediment containing iron sulfides or other sulfidic material that has not been exposed to air and oxidised (potential ASS). This includes:

- non-oxidised and therefore non-acidic soils or sediments with significant amounts of oxidisable iron sulfides (ie. PASS);
- partially oxidised soils or sediments with variable ratios of existing acidity and unoxidised iron sulfides (ie. PASS/AASS); through to
- completely oxidised (no remnant sulfides) soils or sediments with significant existing acidity (ie. AASS).

The term acid sulfate soil generally includes both actual and potential ASS. Actual and potential ASS are often found in the same soil profile, with actual acid sulfate soils generally overlying potential acid sulfate soil horizons.

Actual acid sulfate soils (AASS): Soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of soil material that are rich in iron sulfides, primarily pyrite. This oxidation produces hydrogen ions in excess of the sediment's capacity to neutralise the acidity, resulting in soils of pH 4 or less. These soils can sometimes be identified by the presence of secondary sulfate salts such as jarosite.

Potential acid sulfate soils (PASS): Soil or sediment containing iron sulfides or sulfidic material that have not been exposed to air and oxidised. The field pH of these soils in their undisturbed state is pH 4 or more, and may be neutral or slightly alkaline.

Acid Base Accounting (ABA): The process by which the various acid-producing components of the soil are compared with the acid neutralising components so that the soil's net acidity can be calculated.

Action criteria: The critical net acidity values (expressed in units of equivalent % pyrite sulfur, or equivalent mol H^+ /t) for different soil texture groups and sizes of soil disturbance that trigger the need for ASS management.

Actual Acidity: A component of existing acidity. The soluble and exchangeable acidity already present in the soil, often as a consequence of previous oxidation of sulfides. It is this acidity that will be mobilised and discharged following a rainfall event. It is measured in the laboratory using the TAA method. It does not include the less soluble acidity (ie. retained acidity) held in hydroxy-sulfate minerals such as jarosite.

Aglime: A neutralising agent used to treat acidic soils; by composition, it is commonly 95–98% pure calcium carbonate, $CaCO_3$; it is sparingly soluble in pure water, with a pH of ~8.3; application rates will depend on the purity and fineness of the product.

AHD: Australian Height Datum. The datum used for the determination of elevations in Australia. The determination used a national network of benchmarks and tide gauges, and sets mean sea level as zero elevation.

ANC: Acid neutralising capacity. A measure of a soil's inherent ability to buffer acidity and resist the lowering of the soil pH.

ANC_{BT}: Acid neutralising capacity by back titration. Acid neutralising capacity measured by acid digest followed by back titration of the acid that has not been consumed.

ANC_E: Excess acid neutralising capacity. Found in soils with acid neutralising capacity in excess of that needed to neutralise the acidity generated by oxidation of sulfides. The soil is oxidised with peroxide, then a titration is performed with dilute hydrochloric acid to a pH of 4, followed by a second peroxide digestion. If a soil has a positive ANC_E result then the TPA result is zero and vice versa.

Borehole: The actual hole created when an auger, push-tube or similar is inserted into the soil body; the portion removed (the core) will demonstrate the soil profile.

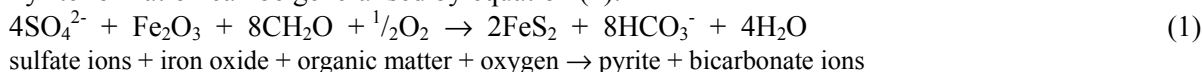
Ca_A: Reacted calcium. The calcium soluble after the peroxide digest and TPA titration that was not soluble following KCl-extraction and TAA titration. (Ca_p – Ca_{KCl}). It can be used (in combination with Mg_A) to provide an estimate of the soil carbonate content, but may be an underestimate if the HCl-titration to pH 4 has not been performed as part of the TPA/ANC_E procedure.

Ca_{KCl}: Potassium chloride extractable calcium measured following the TAA analysis, which includes soluble and exchangeable calcium as well as calcium from gypsum.

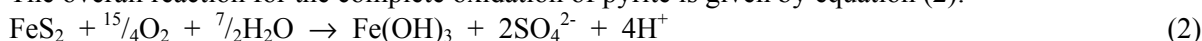
Ca_p: Peroxide calcium. Calcium measured following the TPA analysis, which includes soluble and exchangeable calcium, calcium from gypsum, as well as calcium (eg. from carbonates) dissolved as a result of acid produced due to oxidation of sulfides by peroxide.

Chemical equations: There is a wide range of chemical equations involved in acid sulfate soils. Some of these are detailed below. Further information (especially regarding the intermediate steps involved in pyrite oxidation) can be found in the *Acid Sulfate Soils Laboratory Methods Guidelines* (Ahern *et al.* 2004).

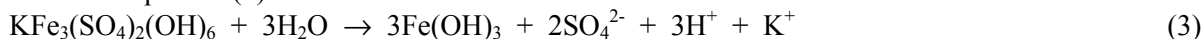
Pyrite formation can be generalised by equation (1):



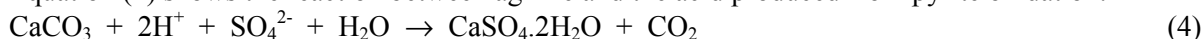
The overall reaction for the complete oxidation of pyrite is given by equation (2):



In moist environments, jarosite slowly decomposes (usually by hydrolysis) releasing iron and acid, as shown in equation (3):



Equation (4) shows the reaction between aglime and the acid produced from pyrite oxidation:



Chromium Suite: The acid base accounting approach used to calculate net acidity which uses the chromium reducible sulfur method to determine potential sulfidic acidity. A decision tree approach based on the pH_{KCl} result is then used to determine the other components of the acid base account.

Disturbance of ASS: Any activity or action that will or is likely to expose ASS to oxidising conditions eg. movement, excavation or drainage of ASS.

Existing Acidity: The acidity already present in acid sulfate soils, usually as a result of oxidation of sulfides, but which can also be from organic material or acidic cations. It can be further sub-divided into actual and retained acidity, ie. Existing Acidity = Actual Acidity + Retained Acidity.

Fineness factor: A factor applied to the acid neutralising capacity result in the acid base account to allow for the poor reactivity of coarser carbonate or other acid neutralising material. The minimum factor is 1.5 for finely divided pure agricultural lime, but may be as high as 3.0 for coarser shell material.

Holocene: A period of time from about 10 000 years ago to the present, an epoch of the Quaternary time period.

Horizon: A soil layer that differs in physical, chemical or biological properties such as colour, texture, structure, consistency, pH etc from the layers above and below.

Jarosite: An acidic pale yellow (straw or butter coloured) iron sulfate mineral: $\text{KFe}_3(\text{SO}_4)_2(\text{OH})_6$. Jarosite is a by-product of the acid sulfate soil oxidation process, formed at pH less than 3.7; commonly found precipitated along root channels and other soil surfaces exposed to air.

Mg_A: Reacted magnesium. The magnesium soluble after the peroxide digest and TPA titration that was not soluble following KCl-extraction and TAA titration. ($\text{Mg}_P - \text{Mg}_{\text{KCl}}$). It can be used (in combination with Ca_A) to provide an estimate of the soil carbonate content, but may be an underestimate if the HCl-titration to pH 4 has not been performed as part of the TPA/ ANC_E procedure.

Mg_{KCl}: Potassium chloride extractable magnesium measured following the TAA analysis, which includes soluble and exchangeable magnesium.

Mg_P: Peroxide magnesium. Magnesium measured following the TPA analysis, which includes soluble and exchangeable magnesium, as well as magnesium (eg. from carbonates) dissolved as a result of acid produced due to oxidation of sulfides by peroxide.

Monosulfides: The term given to the highly reactive iron sulfide minerals found in ASS that have the approximate formula 'FeS' and which are soluble in hydrochloric acid (as opposed to iron disulfides such as pyrite that aren't appreciably soluble in hydrochloric acid); formed as intermediates during the formation of pyrite. Monosulfides are highly reactive and oxidise rapidly. Includes amorphous FeS, mackinawite $\approx \text{Fe}_9\text{S}_8$ and greigite $\approx \text{Fe}_3\text{S}_4$.

Net Acidity: The result obtained when the values for various components of soil acidity and acid neutralising capacity are substituted into the Acid Base Accounting equation. Calculated as: $\text{Net Acidity} = \text{Potential Acidity} + \text{Existing Acidity} - (\text{Acid Neutralising Capacity} / \text{Fineness Factor})$.

Neutralisation: The process whereby acid produced (by the oxidation of soil iron sulfides) is counteracted by the addition of an ameliorant such as aglime (CaCO_3); there are formulae for calculating the amount of ameliorant needed to bring the soil closer to a pH value of 7.

NR&M: Queensland Department of Natural Resources and Mines.

NRW: Queensland Department of Natural Resources and Water.

pH: A measure of the acidity or alkalinity of a soil or water body on a logarithmic scale of 0 to 14 units. A pH reading less than 7 indicates an acid, pH equal to 7 indicates a neutral substance, while pH more than 7 indicates an alkaline substance. Note that one unit change in pH is equivalent to a ten-fold change in acidity.

pH_F: Field pH. Field determination of pH in a soil:water paste.

pH_{FOX}: Field peroxide pH. Field determination of pH in a soil:water mixture following reaction with hydrogen peroxide.

pH_{KCl}: Potassium chloride pH. pH in a 1:40 (W/V) suspension of soil in a solution of 1 M potassium chloride measured prior to TAA titration.

pH_{OX}: Peroxide oxidised pH. pH in a suspension of soil in a solution after hydrogen peroxide digestion in the SPOCAS method.

Potential (sulfidic) acidity: The latent acidity in ASS that will be released if the sulfide minerals they contain (eg. pyrite) are fully oxidised. It can be estimated by titration (ie. TSA) if no acid neutralising material is present, or calculated from S_{POS} or S_{CR} results.

Pyrite: Pale-bronze or brass-yellow, isometric mineral: FeS_2 ; the most widespread and abundant of the sulfide minerals.

QASSIT: Queensland Acid Sulfate Soils Investigation Team.

Quaternary: A geological time period extending from 1.8 million years ago to present time; incorporates both the Pleistocene and Holocene time periods.

Retained Acidity: The ‘less available’ fraction of the existing acidity (not measured by the TAA) that may be released slowly into the environment by hydrolysis of relatively insoluble sulfate salts (such as jarosite, natrojarosite, and other iron and aluminium hydroxy-sulfate minerals).

S_{CR}: The symbol given to the result from the Chromium Reducible Sulfur method (Method 22B). The S_{CR} method provides a measure of reduced inorganic sulfide content using iodometric titration after an acidic chromous chloride reduction. This method is not subject to interferences from organic sulfur.

S_{KCl}: Potassium chloride extractable sulfur measured following the TAA analysis, which includes soluble and adsorbed sulfate as well as sulfate from gypsum.

S_P: Peroxide sulfur. Sulfur measured following the TPA analysis, which includes soluble and exchangeable sulfate, sulfate from gypsum, as well as sulfide converted to sulfate and that released from organic matter as a result of peroxide oxidation.

S_{POS}: Peroxide oxidisable sulfur from the SPOCAS method. The sulfur soluble after the peroxide digest and TPA titration that was not soluble following KCl-extraction and TAA titration. ($S_P - S_{KCl}$). It provides an estimate of the soil sulfide content, but is affected by the presence of organic sulfur.

S_{RAS}: Residual acid soluble sulfur. The sulfur measured by 4 M HCl extraction on the soil residue remaining after peroxide digestion and TPA titration of the SPOCAS method. It provides an estimate of the sulfate contained in jarosite and similar low solubility hydroxy-sulfate minerals (and can be used to estimate retained acidity).

Self-neutralising soils: This term is given to ASS where there is sufficient acid neutralising capacity (with the relevant safety factor applied) to neutralise the potential sulfidic acidity held in the soil (ie. the net acidity from the Acid Base Account is zero or negative). Soils may be ‘self-neutralising’ due to an abundance of naturally occurring calcium or magnesium carbonates (eg. crushed shells, marine animal exoskeletons, coral) or other acid-neutralising material.

SPOCAS: An acronym standing for Suspension Peroxide Oxidation Combined Acidity and Sulfur method (Method Code 23), the peroxide-based method that supersedes the previous POCAS and POCASm methods.

SPOCAS Suite: The acid base accounting approach used to calculate net acidity based on the Suspension Peroxide Oxidation Combined Acidity and Sulfur method. A decision tree approach based on the values of pH_{KCl} and pH_{OX} is used to decide what analytical path is followed in order to allow calculation of net acidity.

TAA: Titratable actual acidity. The acidity measured by titration with dilute NaOH following extraction with KCl-solution in the SPOCAS method. Previously referred to as Total Actual Acidity in the POCAS and POCASm methods.

TPA: Titratable peroxide acidity. The acidity measured by titration with dilute NaOH following peroxide digestion in the SPOCAS method. Previously referred to as Total Potential Acidity in the POCAS and POCASm methods.

TSA: Titratable sulfidic acidity. The difference in acidity measured by titration with dilute NaOH following extraction with KCl-solution and the acidity titrated following peroxide digestion in the SPOCAS method. ($TPA - TAA$). Previously referred to as Total Sulfidic Acidity in the POCAS and POCASm methods.

Appendix 1
Decoded Borehole Descriptions

Project: CAB

Site: 21

Location: GDA 94 **ZONE** 56 504832mE 6997841mN **Lat:** -27.14195

Long: 153.04876

Location: AGD 84 **ZONE** 56 504726mE 6997653mN **Lat:** -27.14364

Long: 153.0477

Location: AGD 66 **ZONE** 56 504727mE 6997655mN **Lat:** -27.14363

Long: 153.0477

Described By: S (Shane) Pointon (POIS)

Date: 28/FEB/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Soft

Disturbances: Extensive clearing

Classifications:

ASC: SPOLIC, Anthroisol over OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Greyish brown (10YR52) moist; loamy sand; single grain structure; moderately moist when sampled; clear to
2A	.2 to .5	Yellowish brown (10YR54) moist; sandy loam; common 10-20% subrounded ironstone large pebbles 20-60 mm; single grain structure; moderately moist when sampled; clear to
3A	.5 to .6	Light brownish grey (2.5Y63) moist; sandy clay loam; common 10-20% subrounded ironstone large pebbles 20-60 mm; massive structure; moist when sampled; clear to
4A	.6 to .8	Very dark greyish brown (2.5Y32) moist; loamy sand; single grain structure; moist when sampled; clear to
5Au	.8 to 1	Very dark grey (5Y31) moist; loamy sand; massive structure; moist when sampled; clear to
6Au	1 to 1.5	Dark grey (5Y41) moist; fine sandy light clay; massive structure; moist when sampled; clear to
7A1u	1.5 to 1.8	Dark grey (5Y41) moist; fine sandy clay loam; massive structure; wet when sampled; clear to
8C1u	1.8 to 2.2	Dark grey (2.5Y41) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
8C2u	2.2 to 3.1	Dark greenish grey (10GY41) moist; fine sandy loam; few 2-10% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled; clear to
8C3u	3.1 to 3.5	Dark greenish grey (5GY41) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
9Cu	3.5 to 3.6	Dark grey (N40) moist; silty light clay; massive structure; wet when sampled; clear to
10Cu	3.6 to 4	Grey (N50) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
11Cu	4 to 4.1	Greenish grey (10Y61) moist; coarse sand; many 20-50% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
12C1u	4.1 to 4.8	Dark greenish grey (10Y41) moist; fine sandy light clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
12C2u	4.8 to 5.3	Dark greenish grey (10Y41) moist; fine sandy light clay; massive structure; wet when sampled; clear to
12C3u	5.3 to 5.9	Dark grey (N40) moist; silty light clay; very few <2% angular platy shell large pebbles 20-60 mm; wet when sampled; clear to
12C4u	5.9 to 6	Dark greenish grey (10GY41) moist; fine sandy light clay; very few <2% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled

Project: CAB

Site: 21

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1		6.0	5.0
.3		5.5	4.6
.6		6.4	3.9
.8		6.9	2.2
1		7.2	1.8
1.25		7.3	2.3
1.5	4	7.5	1.5
1.75	4	7.5	1.8
2	4	7.9	2.0
2.25	4	7.6	1.7
2.5	4	7.6	2.5
2.75	4	7.9	2.5
3	4	7.9	4.8
3.25	4	7.4	1.6
3.5	4	7.5	1.5
3.75	4	7.3	2.1
4	4	8.0	5.9
4.25	4	8.1	5.9
4.5	4	5.6	8.1
4.75	4	7.9	2.3
5	4	8.2	1.9
5.25	4	8.0	1.9
5.5	4	8.0	3.2
5.75	4	8.0	1.2
6	4	7.1	1.7

Project: CAB

Site: 22

Location: GDA 94 **ZONE** 56 504919mE 6998357mN **Lat:** -27.13729
Location: AGD 84 **ZONE** 56 504813mE 6998169mN **Lat:** -27.13898
Location: AGD 66 **ZONE** 56 504814mE 6998171mN **Lat:** -27.13897

Long: 153.04963
Long: 153.04857
Long: 153.04858

Described By: S (Shane) Pointon (POIS)

Date: 28/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: backplain

Surface Condition: Soft

Disturbances: Extensive clearing, Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthrosol over OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Very dark grey (10YR31) moist; sandy clay loam; granular weak structure; moderately moist when sampled; abrupt to
B2	.2 to .85	White (7.5YR81) moist; many 20-50% medium 5-15mm prominent red mottles, very few <2% coarse 15-30mm distinct yellow mottles; light medium clay; subangular blocky weak 5-10mm structure; moderately moist when sampled; abrupt to
2A1	.85 to 1	Very dark grey (10YR31) moist; fine sandy clay loam; granular weak structure; moderately moist when sampled; clear to
2B2	1 to 1.25	Greenish grey (10Y51) moist; few 2-10% coarse 15-30mm faint brown mottles; fine sandy clay loam; massive structure; moist when sampled; clear to
2C	1.25 to 1.6	Dark greenish grey (10GY41) moist; sandy clay loam; massive structure; wet when sampled; clear to
3C1	1.6 to 2.6	Grey (N50) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
3C2	2.6 to 2.8	Dark greenish grey (10GY41) moist; loamy sand; many 20-50% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
3C3	2.8 to 3.8	Dark greenish grey (10GY41) moist; loamy fine sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
3C4	3.8 to 4.1	Dark greenish grey (10GY41) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
3C5	4.1 to 5	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4C1	5 to 5.5	Dark greenish grey (5GY41) moist; silty light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
4C2	5.5 to 6	Dark greenish grey (10Y41) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		5.7	3.3	3.25	4	8.0	1.8
.3		4.3	3.5	3.5	4	8.1	1.9
.6		5.9	4.3	3.75	4	7.9	1.9
.8		6.5	4.0	4	4	7.8	2.7
1	4	6.8	1.7	4.25	4	7.8	4.9
1.25	4	7.0	1.4	4.5	4	8.1	1.9
1.5	4	7.8	1.6	4.75	4	8.4	2.2
1.75	4	8.2	2.1	5	4	8.6	3.0
2	4	8.4	1.7	5.25	4	8.5	6.1
2.25	4	8.1	1.8	5.5	4	8.4	3.6
2.5	4	8.4	5.7	5.75	4	7.8	2.1
2.75	4	8.4	2.1	6	4	8.5	2.2
3	4	8.1	1.9				

Project: CAB

Site: 23

Location: GDA 94 **ZONE** 56 504250mE 6997605mN **Lat:** -27.14408

Long: 153.04289

Location: AGD 84 **ZONE** 56 504144mE 6997417mN **Lat:** -27.14577

Long: 153.04182

Location: AGD 66 **ZONE** 56 504145mE 6997419mN **Lat:** -27.14576

Long: 153.04183

Described By: S (Shane) Pointon (POIS)

Date: 28/FEB/06

Landscape:

Landform Pattern: alluvial plain

Element: levee

Surface Condition: Loose

Disturbances: Complete clearing - pasture - but never cultivated, Highly disturbed e.g. mining, urban

Classifications:

ASC: ORTHIC, Tenosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .3	Greyish brown (10YR52) moist; loamy sand; single grain structure; dry when sampled; clear to
A12	.3 to .6	Dark grey (10YR41) moist; loamy sand; single grain structure; dry when sampled; clear to
A13	.6 to .7	Grey (10YR51) moist; loamy sand; single grain structure; dry when sampled; clear to
B21	.7 to .9	Light brownish grey (10YR62) moist; sand; single grain structure; moderately moist when sampled; clear to
B22	.9 to 1.4	Very pale brown (10YR73) moist; sand; single grain structure; moderately moist when sampled; clear to
2C1	1.4 to 1.7	Light yellowish brown (10YR64) moist; coarse sand; single grain structure; wet when sampled; gradual to
2C2	1.7 to 1.9	Light brownish grey (10YR62) moist; coarse sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
3C1	1.9 to 2.3	Grey (2.5Y61) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
3C2	2.3 to 2.75	Greenish grey (10Y61) moist; loamy sand; few 2-10% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
4C	2.75 to 2.9	Black (2.5Y2.5/1) moist; fibric peat; few 2-10% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
5Cu	2.9 to 3.3	Greenish grey (10Y51) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
6Cu	3.3 to 4.7	Dark greenish grey (5GY41) moist; fine sandy light clay; very few <2% angular platy shell small pebbles 2-6 mm; massive structure; wet when sampled; gradual to
7Cu	4.7 to 5.4	Greenish grey (10Y61) moist; loamy sand; common 10-20% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; gradual to
8Cu	5.4 to 5.9	Greenish grey (10Y51) moist; sandy clay loam; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
9Cu	5.9 to 6	Grey (5Y51) moist; loamy sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Project: CAB

Site: 23

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	1	6.3	4.8
.3	1	8.1	5.0
.6	1	7.9	5.1
.8	1	8.1	5.0
1	1	8.0	4.9
1.25		7.6	4.4
1.5		7.9	4.9
1.75		8.0	4.9
2		7.1	5.7
2.25		8.5	5.5
2.5		8.6	5.7
2.75		8.1	2.2
3		8.2	1.9
3.25		8.4	1.6
3.5	4	8.4	2.1
3.75	4	8.1	2.2
4	4	7.1	2.2
4.25	4	7.4	1.6
4.5	4	7.3	2.2
4.75	4	7.4	1.7
5	4	7.2	2.4
5.25	4	7.8	2.8
5.5	4	7.7	2.0
5.75	4	7.9	2.6
6	4	8.1	3.9

Observation Notes:

Vegetation Casuarina Glauca, Melaleuca quinquenervia

Project: CAB

Site: 24

Location: GDA 94	ZONE 56	504031mE 6998217mN	Lat: -27.13856	Long: 153.04067
Location: AGD 84	ZONE 56	503925mE 6998029mN	Lat: -27.14025	Long: 153.03961
Location: AGD 66	ZONE 56	503926mE 6998031mN	Lat: -27.14023	Long: 153.03962

Described By: S (Shane) Pointon (POIS)

Date: 28/FEB/06

Landscape:

Landform Pattern: alluvial plain

Element: levee

Surface Condition: Loose

Disturbances: Complete clearing - pasture - but never cultivated, Highly disturbed e.g. mining, urban

Classifications:

ASC: STRATIC, Rudosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .1	Grey (10YR61) moist; loamy sand; single grain structure; dry when sampled; abrupt to
A12	.1 to .6	Grey (10YR51) moist; loamy sand; single grain structure; dry when sampled; gradual to
A13	.6 to .9	Grey (10YR61) moist; loamy sand; single grain structure; dry when sampled; abrupt to
2B2	.9 to 1.2	Olive grey (5Y52) moist; common 10-20% coarse 15-30mm distinct gley mottles, few 2-10% fine <5mm distinct orange mottles; fine sandy medium clay; prismatic moderate 20-50mm structure; moderately moist when sampled; gradual to
3B2	1.2 to 1.7	Light brownish grey (2.5Y62) moist; very few <2% coarse 15-30mm distinct yellow mottles; sand; single grain structure; wet when sampled; clear to
4Cu	1.7 to 2.4	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; gradual to
5Cu	2.4 to 4.3	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled; gradual to
6Cu	4.3 to 5.5	Greenish grey (5GY51) moist; loamy coarse sand; single grain structure; wet when sampled; abrupt to
7Du	5.5 to 6	Greenish grey (5GY51) moist; few 2-10% very coarse >30mm distinct gley mottles; sandy light medium clay; massive structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	7.1	4.8	3.25	4	7.6	1.8
.3	1	7.3	4.9	3.5	4	7.5	1.8
.6	1	7.0	5.0	3.75	4	7.6	1.7
.8	1	6.9	4.6	4	4	7.5	1.8
1		7.1	5.1	4.25	4	7.3	1.4
1.25		7.7	5.2	4.5	4	7.4	1.5
1.5		7.4	3.0	4.75	4	7.3	1.8
1.75	4	7.5	1.5	5	4	7.2	1.8
2	4	7.6	1.7	5.25	4	7.2	1.8
2.25	4	7.5	1.7	5.5	4	7.1	1.7
2.5	4	7.3	1.8	5.75	4	7.2	5.8
2.75	4	7.5	1.8	6	4	6.9	7.7
3	4	7.6	1.9				

Horizon Notes:

Horizon 7Du Pre-Holocene

Project: CAB**Site:** 25

Location: GDA 94	ZONE 56	504611mE 6998148mN	Lat: -27.13918	Long: 153.04653
Location: AGD 84	ZONE 56	504505mE 6997960mN	Lat: -27.14087	Long: 153.04546
Location: AGD 66	ZONE 56	504506mE 6997962mN	Lat: -27.14086	Long: 153.04547

Described By: S (Shane) Pointon (POIS)**Date:** 01/MAR/06**Landscape:****Landform Pattern:** stagnant alluvial plain**Element:** plain**Surface Condition:** Firm**Disturbances:** Complete clearing - pasture - but never cultivated, Highly disturbed e.g. mining, urban**Classifications:**

ASC: GREY, Kandosol over OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Very dark greyish brown (10YR32) moist; few 2-10% medium 5-15mm distinct orange mottles; sandy light clay; very few <2% angular charcoal large pebbles 20-60 mm; subangular blocky moderate 5-10mm structure; very few <2% fine <2mm ferruginous veins; dry when sampled; clear to
B21	.3 to .5	Greyish brown (10YR52) moist; very few <2% fine <5mm distinct orange mottles; sandy light clay; weak structure; very few <2% medium 2-6mm ferruginous soft segregations; moderately moist when sampled; clear to
B22	.5 to .85	Dark grey (10YR41) moist; few 2-10% medium 5-15mm distinct orange mottles; sandy light clay; very few <2% angular charcoal medium pebbles 6-20 mm; weak structure; very few <2% medium 2-6mm ferruginous soft segregations; moist when sampled; clear to
2C	.85 to 1	Black (N2.5/0) moist; clay loam; weak structure; moist when sampled; abrupt to
3C1	1 to 1.7	Light grey (5Y71) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
3C2	1.7 to 2.3	Greenish grey (5GY51) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
4C	2.3 to 3.6	Dark greenish grey (10GY41) moist; clay loam, fine sandy; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C	3.6 to 5	Greenish grey (10Y61) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; clear to
6C	5 to 5.2	Dark greenish grey (10Y41) moist; sandy light clay; few 2-10% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled; clear to
7C	5.2 to 6	Yellowish brown (10YR56) moist; common 10-20% coarse 15-30mm prominent grey mottles, very few <2% coarse 15-30mm distinct red mottles; light medium clay; few 2-10% subrounded ironstone cobbles 60-200 mm; weak structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.0	3.0	3.25	4	8.5	1.9
.3	1	4.4	3.2	3.5	4	8.2	1.8
.6	1	5.7	1.9	3.75	4	7.8	1.9
.8	1	5.6	1.5	4	4	7.6	2.4
1	1	6.3	2.3	4.25	4	7.7	1.8
1.25	4	6.5	4.5	4.5	4	7.6	2.6
1.5	4	6.8	3.9	4.75	4	7.6	3.5
1.75	4	6.7	1.7	5	4	7.5	1.8
2	4	7.4	1.7	5.25	4	7.2	4.5
2.25	4	8.2	1.5	5.5	4	7.0	5.5
2.5	4	8.3	1.8	5.75	4	7.2	5.4
2.75	4	8.7	1.9	6	4	7.7	5.5
3	4	8.7	1.9				

Project: CAB

Site: 26

Location: GDA 94	ZONE 56	504480mE 6998031mN	Lat: -27.14023	Long: 153.04521
Location: AGD 84	ZONE 56	504374mE 6997843mN	Lat: -27.14192	Long: 153.04414
Location: AGD 66	ZONE 56	504375mE 6997845mN	Lat: -27.14191	Long: 153.04415

Described By: S (Shane) Pointon (POIS)

Date: 01/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: drainage depression

Surface Condition: Soft

Disturbances: Extensive clearing, Highly disturbed e.g. mining, urban

Classifications:

ASC: SEMIAQUIC, Podsol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (10YR31) moist; loamy sand; single grain structure; moderately moist when sampled; clear to
Bh	.1 to .2	Black (10YR21) moist; loamy sand; massive structure; strongly cemented continuous massive organic pan; moderately moist when sampled; clear to
2C	.2 to .4	Black (2.5Y2.5/1) moist; loamy sand; single grain structure; moist when sampled; clear to
3C1	.4 to .8	Light grey (2.5Y71) moist; sand; single grain structure; wet when sampled; abrupt to
3C2	.8 to 1.1	Dark grey (2.5Y41) moist; sand; abundant 50-90% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
3C3	1.1 to 1.5	Dark grey (N40) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4Cu	1.5 to 2.6	Dark greenish grey (5GY31) moist; fine sandy light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
5Cu	2.6 to 4.2	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
6Cu	4.2 to 4.5	Dark greenish grey (10Y41) moist; silty light clay; few 2-10% angular shell medium pebbles 6-20 mm; massive structure; wet when sampled; abrupt to
7D1	4.5 to 5.2	Grey (N60) moist; few 2-10% coarse 15-30mm prominent yellow mottles, few 2-10% coarse 15-30mm prominent red mottles; light medium clay; very few <2% subrounded ironstone large pebbles 20-60 mm; weak structure; moist when sampled; diffuse to
7D2	5.2 to 6	Light grey (N70) moist; common 10-20% coarse 15-30mm prominent yellow mottles; light medium clay; very few <2% subrounded ironstone medium pebbles 6-20 mm; weak structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.6	4.8	3	4	7.8	2.0
.3	1	6.8	2.7	3.25	4	7.6	1.9
.6	1	6.8	3.0	3.5	4	7.4	2.1
.8	1	7.9	5.6	3.75	4	7.9	2.0
1	1	8.1	6.0	4	4	8.4	2.8
1.25	1	8.5	5.4	4.25	4	8.6	2.1
1.5	4	8.4	2.6	4.5	4	8.8	2.0
1.75	4	9.1	1.9	5.25	1	7.6	5.6
2	4	9.0	1.9	5.5	1	7.7	5.3
2.25	4	9.0	1.9	5.75	1	7.8	5.0
2.5	4	9.0	2.0	6	1	6.0	5.3
2.75	4	8.2	2.1				

Observation Notes:

Vegetation Casuarina glauca, Melaleuca quinquenervia, Fragmities

Project: CAB

Site: 27

Location: GDA 94 **ZONE** 56 504444mE 6998326mN **Lat:** -27.13757

Long: 153.04484

Location: AGD 84 **ZONE** 56 504338mE 6998138mN **Lat:** -27.13926

Long: 153.04378

Location: AGD 66 **ZONE** 56 504339mE 6998140mN **Lat:** -27.13925

Long: 153.04378

Described By: S (Shane) Pointon (POIS)

Date: 01/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: plain

Surface Condition: Loose

Disturbances: Complete clearing - pasture - but never cultivated, Highly disturbed e.g. mining, urban

Classifications:

ASC: STRATIC, Rudosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Light brownish grey (10YR62) moist; sand; single grain structure; moderately moist when sampled; gradual to
A2	.3 to 1.5	White (10YR82) moist; sand; single grain structure; moderately moist when sampled; clear to
B2	1.5 to 2.2	Brown (10YR43) moist; sand; single grain structure; moist when sampled; gradual to
B3	2.2 to 2.7	Light grey (10YR72) moist; sand; single grain structure; moist when sampled; gradual to
C1	2.7 to 3	Grey (10YR61) moist; sand; single grain structure; wet when sampled; gradual to
C2u	3 to 3.8	Dark greenish grey (10GY41) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
C3	3.8 to 4	Greenish grey (5GY51) moist; coarse sand; abundant 50-90% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
2Cu	4 to 4.7	Dark greenish grey (5GY41) moist; sandy clay loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
3C	4.7 to 5.1	Dark greenish grey (5GY31) moist; fine sandy light clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
4Cu	5.1 to 5.6	Dark greenish grey (10Y41) moist; fine sandy clay loam; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5Cu	5.6 to 6	Dark greenish grey (5GY41) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.1	4.7	3.25	4	6.8	1.8
.3	1	7.6	3.9	3.5	4	7.0	1.9
.6	1	7.1	5.2	3.75	4	7.4	2.4
.8	1	7.3	5.2	4	4	7.6	5.6
1	1	7.3	4.9	4.25	4	8.1	1.9
1.25	1	7.2	5.1	4.5	4	7.9	5.0
1.5	1	6.4	5.1	4.75	4	9.1	5.4
1.75	1	6.5	5.2	5	4	9.0	5.7
2	1	6.5	5.1	5.25	4	8.7	2.6
2.25	1	6.5	5.4	5.5	4	8.8	2.6
2.5	4	6.8	5.3	5.75	4	8.3	2.0
2.75	4	6.7	5.2	6	4	8.4	2.2
3	4	6.9	1.9				

Project: CAB

Site: 28

Location: GDA 94 **ZONE** 56 503679mE 6997862mN **Lat:** -27.14176
Location: AGD 84 **ZONE** 56 503573mE 6997674mN **Lat:** -27.14345
Location: AGD 66 **ZONE** 56 503574mE 6997676mN **Lat:** -27.14344

Long: 153.03712
Long: 153.03606
Long: 153.03606

Described By: JA (Jeremy) Manders (MANJ)

Date: 09/MAR/06

Landscape:

Landform Pattern: No record

Element: tidal creek

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
C1	0 to .25	Dark greenish grey (5GY31) moist; very few <2% fine <5mm faint brown mottles; silty medium clay; massive structure; wet when sampled; diffuse to
C2	.25 to .55	Dark greenish grey (10Y31) moist; silty medium clay; massive structure; wet when sampled; diffuse to
C3	.55 to 1.4	Dark greenish grey (10Y31) moist; fine sandy light clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	2	6.8	3.0
.3	1	7.2	3.8
.5	1	7.0	1.9
.7	4	6.4	1.7
.9	4	6.7	1.8
1.3	4	6.8	1.7

Observation Notes:

Location Mangrove fringe

Project: CAB

Site: 29

Location: GDA 94 **ZONE** 56 503917mE 6998492mN **Lat:** -27.13607
Location: AGD 84 **ZONE** 56 503811mE 6998304mN **Lat:** -27.13776
Location: AGD 66 **ZONE** 56 503812mE 6998306mN **Lat:** -27.13775

Long: 153.03952
Long: 153.03846
Long: 153.03846

Described By: JA (Jeremy) Manders (MANJ)

Date: 09/MAR/06

Landscape:

Landform Pattern: No record

Element: tidal creek

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
C1	0 to .08	Dark grey (N40) moist; common 10-20% medium 5-15mm prominent brown mottles, few 2-10% coarse 15-30mm prominent dark mottles; sandy light clay; massive structure; wet when sampled; clear to
C2	.08 to .25	Dark yellowish brown (10YR45) moist; sand; single grain structure; wet when sampled; abrupt to
2C	.25 to 1.3	Dark grey (5Y41) moist; silty medium clay; massive structure; wet when sampled; diffuse to
2C1	1.3 to 1.5	Dark grey (5Y41) moist; sandy clay loam; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	1	6.9	3.8
.15	1	6.6	4.7
.35	3	6.0	1.6
.55	4	6.5	1.8
.9	4	6.5	1.3
1.1	4	6.5	1.7
1.4	4	7.0	1.6

Observation Notes:

Location Mangrove fringe

Horizon Notes:

Horizon	C1	Mottled sand lense and roots
Horizon	C2	roots
Horizon	2C	roots
Horizon	2C1	roots

Project: CAB

Site: 30

Location: GDA 94 **ZONE** 56 503824mE 6998660mN **Lat:** -27.13456
Location: AGD 84 **ZONE** 56 503718mE 6998472mN **Lat:** -27.13625
Location: AGD 66 **ZONE** 56 503719mE 6998474mN **Lat:** -27.13623

Long: 153.03858
Long: 153.03752
Long: 153.03752

Described By: JA (Jeremy) Manders (MANJ)

Date: 09/MAR/06

Landscape:

Landform Pattern: No record

Element: tidal creek

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
C1	0 to .3	Black (N2.5/0) moist; common 10-20% coarse 15-30mm faint brown mottles; sandy medium clay; massive structure; wet when sampled; diffuse to
C2	.3 to 1.15	Dark greenish grey (10Y31) moist; silty medium clay; massive structure; wet when sampled; diffuse to
C3	1.15 to 1.5	Dark greenish grey (10Y31) moist; sandy medium clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	3	7.0	1.9
.25	4	6.7	2.1
.45	4	6.5	2.0
.55	4	6.9	1.7
.9	4	7.1	1.8
1.3	4	7.2	1.7

Observation Notes:

Location Mangrove fringe

Horizon Notes:

Horizon C1 Mottled sand lense at surface
Horizon C2 Abundant fine roots and Sand lenses

Project: CAB

Site: 38

Location: GDA 94 **ZONE** 56 503820mE 6998643mN **Lat:** -27.13471
Location: AGD 84 **ZONE** 56 503714mE 6998455mN **Lat:** -27.1364
Location: AGD 66 **ZONE** 56 503715mE 6998457mN **Lat:** -27.13639

Long: 153.03854
Long: 153.03748
Long: 153.03748

Described By: JA (Jeremy) Manders (MANJ)

Date: 09/MAR/06

Landscape:

Landform Pattern: No record

Element: tidal creek

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
C1	0 to .25	Dark greenish grey (10Y41) moist; sand; very few <2% angular shell small pebbles 2-6 mm; single grain structure; wet when sampled; abrupt to
2C	.25 to .58	Greenish black (10Y2.5/1) moist; sandy medium clay; very few <2% angular shell small pebbles 2-6 mm; massive structure; wet when sampled; clear to
3C	.58 to .7	Dark greenish grey (10Y41) moist; coarse sand; very few <2% angular shell small pebbles 2-6 mm; single grain structure; wet when sampled; abrupt to
4C	.7 to .98	Greenish black (10Y2.5/1) moist; medium clay; very few <2% angular shell small pebbles 2-6 mm; massive structure; wet when sampled; abrupt to
5C	.98 to 1.03	Greenish black (10Y2.5/1) moist; sandy light medium clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	1	7.1	3.5
.4	4	7.8	1.7
.65	4	7.6	2.0
.85	4	7.7	1.6
1.03	4	7.8	1.6

Observation Notes:

Location Sampled with Vacuum corer on sand bar at low tide on Southern side of channel. Next to site 30

Project: CAB

Site: 39

Location: GDA 94 **ZONE** 56 503913mE 6998485mN **Lat:** -27.13614

Long: 153.03948

Location: AGD 84 **ZONE** 56 503807mE 6998297mN **Lat:** -27.13783

Long: 153.03842

Location: AGD 66 **ZONE** 56 503808mE 6998299mN **Lat:** -27.13781

Long: 153.03842

Described By: JA (Jeremy) Manders (MANJ)

Date: 09/MAR/06

Landscape:

Landform Pattern: No record

Element: tidal creek

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
C1	0 to .1	Black (N2.5/0) moist; light clay; massive structure; wet when sampled; diffuse to
2C	.1 to .35	Black (N2.5/0) moist; light clay; massive structure; wet when sampled; abrupt to
3C	.35 to .7	Dark greenish grey (10Y41) moist; sand; single grain structure; wet when sampled
4C	.7 to 1	Dark greenish grey (10Y41) moist; coarse sand; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	1	8.0	2.2
.25	4	6.7	1.5
.55	4	6.8	1.4
.9	4	6.8	1.4

Site Notes:

Site Approx GPS position

Observation Notes:

Location Sampled with Vacuum corer, centre of channel in approx 0.8m of water

Horizon Notes:

Horizon C1 Clay fragments wash in to horizon

Project: CAB

Site: 40

Location: GDA 94 **ZONE** 56 503671mE 6997864mN **Lat:** -27.14174
Location: AGD 84 **ZONE** 56 503565mE 6997676mN **Lat:** -27.14343
Location: AGD 66 **ZONE** 56 503566mE 6997678mN **Lat:** -27.14342

Long: 153.03704
Long: 153.03598
Long: 153.03598

Described By: JA (Jeremy) Manders (MANJ)

Date: 09/MAR/06

Landscape:

Landform Pattern: No record

Element: tidal creek

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
C1	0 to .1	Black (N2.5/0) moist; silty loam; single grain structure; wet when sampled; diffuse to
C2	.1 to .83	Very dark grey (N30) moist; silty light medium clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.05	1	7.9	4.0
.25	4	7.6	1.4
.55	4	7.5	1.7
.7	4	7.8	1.4

Observation Notes:

Location Sampled with Vacuum corer, middle of channel

Horizon Notes:

Horizon C2 Sand lenses

Project: CAB

Site: 41

Location: GDA 94 **ZONE** 56 504379mE 6998601mN **Lat:** -27.13509
Location: AGD 84 **ZONE** 56 504273mE 6998413mN **Lat:** -27.13678
Location: AGD 66 **ZONE** 56 504274mE 6998415mN **Lat:** -27.13677

Long: 153.04418
Long: 153.04312
Long: 153.04313

Described By: S (Shane) Pointon (POIS)

Date: 15/MAR/06

Landscape:

Landform Pattern: stagnant alluvial plain

Element: plain

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SULFURIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .1	Very dark grey (10YR31) moist; sandy clay loam; single grain structure; moderately moist when sampled; clear to
A12	.1 to .3	Dark grey (10YR41) moist; clay loam, sandy; single grain structure; moderately moist when sampled; clear to
B2	.3 to .5	Brown (10YR53) moist; common 10-20% coarse 15-30mm prominent orange mottles; sandy clay loam; very few <2% angular platy shell medium pebbles 6-20 mm; weak structure; very few <2% medium 2-6mm ferruginous soft segregations; moderately moist when sampled; clear to
2B	.5 to 1	Light brownish grey (10YR62) moist; few 2-10% coarse 15-30mm distinct orange mottles; sand; single grain structure; very few <2% medium 2-6mm ferruginous nodules; moderately moist when sampled; abrupt to
3B	1 to 1.1	Black (10YR21) moist; few 2-10% fine <5mm distinct orange mottles; sandy light clay; massive structure; moderately moist when sampled; abrupt to
4C1	1.1 to 1.8	Light grey (10YR72) moist; sand; single grain structure; moist when sampled; gradual to
4C2	1.8 to 2.5	Grey (5Y61) moist; sand; single grain structure; wet when sampled; clear to
5C	2.5 to 2.7	Dark greenish grey (10GY41) moist; loamy fine sand; massive structure; wet when sampled; clear to
6C	2.7 to 3.5	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
7C	3.5 to 3.75	Dark greenish grey (10GY41) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
8C	3.75 to 4.2	Dark greenish grey (10GY41) moist; clay loam, fine sandy; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
9C	4.2 to 4.75	Dark greenish grey (5GY41) moist; fine sandy loam; common 10-20% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled
10C	4.75 to 5.35	Greenish grey (10Y51) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
11C	5.35 to 6	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled

Project: CAB

Site: 41

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	1	6.3	3.1
.3	1	6.5	3.6
.6	1	8.1	3.9
.8	1	7.4	4.4
1	1	4.4	2.0
1.25	1	4.6	3.0
1.5		6.1	4.7
1.75		6.1	4.3
2	1	6.9	2.7
2.25	3	6.5	1.9
2.5	4	6.8	1.9
2.75	4	6.8	2.0
3	4	7.2	2.0
3.25	4	7.1	1.9
3.5	4	7.7	2.6
3.75	4	8.4	5.2
4	4	8.2	5.2
4.25	4	8.2	5.3
4.5	4	8.2	3.8
4.75	4	8.0	3.1
5	4	8.0	3.6
5.25	4	8.2	2.7
5.5	4	8.2	2.3
5.75	4	8.0	2.2
6	4	8.0	2.2

Horizon Notes:

Horizon	3B	Organic
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Project: CAB

Site: 42

Location: GDA 94 **ZONE** 56 504092mE 6998549mN **Lat:** -27.13556

Long: 153.04129

Location: AGD 84 **ZONE** 56 503986mE 6998361mN **Lat:** -27.13725

Long: 153.04023

Location: AGD 66 **ZONE** 56 503987mE 6998363mN **Lat:** -27.13724

Long: 153.04023

Described By: S (Shane) Pointon (POIS)

Date: 15/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: mound

Surface Condition: Hard setting

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: DREDGIC, Anthrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (10YR31) moist; very few <2% medium 5-15mm faint orange mottles; sandy clay loam; angular blocky weak 10-20mm structure; dry when sampled; gradual to
B21	.1 to .8	Greyish brown (10YR52) moist; common 10-20% coarse 15-30mm distinct orange mottles, few 2-10% coarse 15-30mm prominent yellow jarosite (from pyrite) mottles; sandy light clay; platy weak structure; very few <2% medium 2-6mm ferruginous soft segregations; dry when sampled; gradual to
B22	.8 to .9	Dark grey (10YR41) moist; common 10-20% coarse 15-30mm prominent orange mottles; sandy light clay; angular blocky weak structure; very few <2% fine <2mm ferruginous soft segregations; moderately moist when sampled; clear to
2A1	.9 to 1.15	Black (10YR21) moist; very few <2% medium 5-15mm distinct orange mottles; sandy light clay; weak structure; moderately moist when sampled; gradual to
2B2	1.15 to 1.7	Grey (10YR61) moist; few 2-10% medium 5-15mm distinct orange mottles; sandy light clay; weak structure; moderately moist when sampled; gradual to
3C	1.7 to 3.25	Grey (5Y51) moist; sand; single grain structure; wet when sampled; clear to
4C	3.25 to 3.5	Dark greenish grey (10Y41) moist; fine sandy clay loam; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C	3.5 to 4.6	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
6C	4.6 to 5.15	Greenish grey (10Y51) moist; loamy sand; common 10-20% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
7C1	5.15 to 5.3	Dark grey (N40) moist; silty clay loam; few 2-10% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled; clear to
7C2	5.3 to 5.5	Very dark grey (5Y31) moist; sandy light clay; massive structure; wet when sampled; gradual to
8C	5.5 to 5.8	Grey (N50) moist; clay loam, sandy; single grain structure; wet when sampled; gradual to
9C	5.8 to 6	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled

Project: CAB

Site: 42

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	4	4.3	1.9
.3	1	3.6	2.1
.6	1	3.7	1.9
.85	1	3.7	1.8
1	1	4.4	2.2
1.25	1	4.7	2.9
1.5	1	5.9	3.7
1.75		6.4	4.9
2	4	6.4	1.8
2.25	4	6.3	1.7
2.5	4	6.4	1.9
2.75	4	6.6	2.0
3	4	6.8	3.7
3.25	4	7.2	3.1
3.5	4	7.3	3.2
3.75	3	7.3	2.3
4	3	7.2	5.5
4.25	4	7.2	6.3
4.5	1	7.5	3.6
4.75	1	7.1	2.3
5	3	7.1	2.4
5.25	4	7.5	3.4
5.5	4	7.1	1.6
5.75	4	7.1	1.6
6	4	6.9	1.9

Observation Notes:

Observation Man made ridge, old Supratidal flat on Alluvial plain.

Vegetation Fragmities, Qld Blue gum, Casuarina glauca

Horizon Notes:

Horizon 7C2 Organic matter

Horizon 8C Fine roots and Orgainc matter

Project: CAB

Site: 43

Location: GDA 94 **ZONE** 56 503954mE 6998515mN **Lat:** -27.13587
Location: AGD 84 **ZONE** 56 503848mE 6998327mN **Lat:** -27.13756
Location: AGD 66 **ZONE** 56 503849mE 6998329mN **Lat:** -27.13754

Long: 153.0399

Long: 153.03883

Long: 153.03884

Described By: S (Shane) Pointon (POIS)

Date: 15/MAR/06

Landscape:

Landform Pattern: tidal flat

Element: supratidal flat

Surface Condition: Loose

Disturbances: Extensive clearing, Highly disturbed e.g. mining, urban

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .25	Pale brown (10YR63) moist; loamy sand; single grain structure; moderately moist when sampled; abrupt to
2A1	.25 to .65	Black (10YR21) moist; very few <2% coarse 15-30mm faint orange mottles; fine sandy light clay; weak structure; moderately moist when sampled; gradual to
2B2	.65 to .9	Greyish brown (2.5Y53) moist; few 2-10% coarse 15-30mm faint orange mottles; fine sandy light medium clay; prismatic weak structure; moderately moist when sampled; gradual to
3B	.9 to 1.4	Light brownish grey (2.5Y62) moist; few 2-10% coarse 15-30mm distinct orange mottles; sand; single grain structure; moist when sampled; clear to
4C	1.4 to 4.1	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled; gradual to
5C	4.1 to 4.5	Dark grey (2.5Y41) moist; coarse sand; common 10-20% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
6D	4.5 to 5.6	Dark greenish grey (5G41) moist; many 20-50% very coarse >30mm prominent gley mottles; light medium clay; subangular blocky moderate 5-10mm structure; moderately moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.3	4.0	3	2	7.2	2.0
.3	1	5.6	3.5	3.25	4	6.8	1.0
.6	1	6.4	3.6	3.5	3	7.0	1.9
.8	1	7.1	5.6	3.75	3	7.4	1.9
1	1	7.2	5.1	4	2	6.7	1.9
1.25	1	7.1	5.3	4.25	4	7.9	2.0
1.5	4	7.4	1.8	4.5	4	7.5	6.0
1.75	4	7.2	1.7	4.75	4	8.2	9.0
2	3	6.5	1.8	5	4	8.1	9.1
2.25	3	6.8	1.9	5.25	3	8.3	8.2
2.5	4	7.6	1.9	5.5		7.8	7.9
2.75	4	7.1	1.9				

Observation Notes:

Vegetation *Fragmities*, *Caruarina glauca*, edge of mangroves

Project: CAB

Site: 44

Location: GDA 94 **ZONE** 56 504085mE 6998440mN **Lat:** -27.13654

Long: 153.04122

Location: AGD 84 **ZONE** 56 503979mE 6998252mN **Lat:** -27.13823

Long: 153.04015

Location: AGD 66 **ZONE** 56 503980mE 6998254mN **Lat:** -27.13822

Long: 153.04016

Described By: S (Shane) Pointon (POIS)

Date: 15/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: plain

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .1	Dark greyish brown (10YR42) moist; sandy loam; few 2-10% angular platy shell medium pebbles 6-20 mm; weak structure; dry when sampled; gradual to
A12	.1 to .45	Greyish brown (2.5Y53) moist; very few <2% medium 5-15mm faint orange mottles; sandy loam; very few <2% angular charcoal medium pebbles 6-20 mm; common 10-20% angular platy shell medium pebbles 6-20 mm; weak structure; wet when sampled; clear to
B2	.45 to .6	Dark grey (10YR41) moist; few 2-10% medium 5-15mm distinct orange mottles; light medium clay; few 2-10% angular platy shell medium pebbles 6-20 mm; subangular blocky moderate 5-10mm structure; very few <2% fine <2mm ferruginous soft segregations; moderately moist when sampled; clear to
2A	.6 to .75	Black (10YR21) moist; fine sandy clay loam; subangular blocky moderate 5-10mm structure; moderately moist when sampled; clear to
3C	.75 to 1	Dark grey (2.5Y41) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; moderately moist when sampled; clear to
4C	1 to 1.3	Greenish grey (10Y51) moist; light clay; massive structure; moist when sampled; gradual to
5B	1.3 to 1.7	Dark greenish grey (10GY41) moist; very few <2% medium 5-15mm faint orange mottles; clay loam, fine sandy; massive structure; wet when sampled; gradual to
6C	1.7 to 2.2	Dark greenish grey (10Y41) moist; loamy sand; single grain structure; wet when sampled; clear to
7C	2.2 to 2.5	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
8C	2.5 to 3.3	Greenish grey (5GY51) moist; loamy fine sand; single grain structure; wet when sampled; gradual to
9C	3.3 to 3.8	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; gradual to
10C	3.8 to 4.5	Dark greenish grey (10Y41) moist; clay loam, fine sandy; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
11D	4.5 to 5.6	Greenish grey (10GY61) moist; common 10-20% coarse 15-30mm distinct orange mottles, very few <2% coarse 15-30mm distinct red mottles; light medium clay; weak structure; very few <2% medium 2-6mm ferruginous soft segregations; moist when sampled

Project: CAB

Site: 44

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1		7.7	4.2
.3	1	7.4	5.4
.6	1	6.9	4.2
.8	4	7.5	2.1
1	4	8.8	2.2
1.25	2	8.1	4.7
1.5	4	7.5	1.7
1.75	4	7.2	1.7
2	4	7.0	1.6
2.25	4	6.3	1.5
2.5	4	5.9	1.9
2.75	4	6.0	2.0
3	4	6.3	2.0
3.25	4	6.8	4.0
3.5	4	7.1	2.1
3.75	4	7.4	2.2
4	4	7.5	3.1
4.25	4	7.6	2.3
4.5	4	7.9	3.1
4.75	4	7.8	7.0
5	4	8.1	7.8
5.25	4	7.9	7.9
5.5	4	7.1	7.3

Horizon Notes:

Horizon	2A	Organics
Horizon	11D	Basement

Project: CAB**Site:** 45**Location:** GDA 94 **ZONE** 56 504197mE 6998436mN **Lat:** -27.13658**Long:** 153.04235**Location:** AGD 84 **ZONE** 56 504091mE 6998248mN **Lat:** -27.13827**Long:** 153.04129**Location:** AGD 66 **ZONE** 56 504092mE 6998250mN **Lat:** -27.13826**Long:** 153.04129**Described By:** S (Shane) Pointon (POIS)**Date:** 16/MAR/06**Landscape:****Landform Pattern:** alluvial plain**Element:** plain**Disturbances:** Extensive clearing, Highly disturbed e.g. mining, urban**Classifications:****ASC:** OXYAQUIC, Hydrosol**Profile Morphology:**

Horizon	Depth (m)	Description
A1	0 to .25	Very dark grey (7.5YR31) moist; few 2-10% medium 5-15mm distinct orange mottles; loamy sand; dry when sampled; clear to
B2	.25 to .45	Light grey (2.5Y72) moist; few 2-10% coarse 15-30mm distinct orange mottles; sand; single grain structure; moderately moist when sampled; clear to
2C	.45 to .8	Dark grey (2.5Y41) moist; sand; single grain structure; moderately moist when sampled; gradual to
3A1	.8 to 1.1	Dark brown (7.5YR32) moist; sand; single grain structure; moderately moist when sampled; gradual to
3B2	1.1 to 2.1	Light grey (2.5Y72) moist; very few <2% medium 5-15mm faint orange mottles; sand; single grain structure; moist when sampled; clear to
4C	2.1 to 3.1	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; gradual to
5C	3.1 to 3.45	Greenish grey (5GY51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
6C	3.45 to 4	Dark greenish grey (10Y41) moist; sandy loam; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
7C	4 to 5	Greenish grey (10Y51) moist; sandy loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
8C	5 to 5.6	Dark greenish grey (10Y41) moist; silty light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
9C	5.6 to 6	Dark greenish grey (10Y41) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		5.1	2.6	3.25	4	7.8	2.5
.3	1	7.6	5.6	3.5	4	8.0	2.2
.6		4.8	2.6	3.75	4	7.8	2.8
.8		4.5	3.7	4	4	8.0	4.0
1		4.5	3.7	4.25	4	7.8	3.2
1.25		5.2	4.8	4.5	4	8.1	3.2
1.5		7.0	5.3	4.75	1	8.0	2.9
1.75		6.9	5.2	5	3	8.0	3.6
2		6.1	5.0	5.25	4	8.1	2.9
2.25	4	6.1	1.8	5.5	4	8.0	2.3
2.5	4	6.3	1.8	5.75	4	7.9	2.3
2.75	4	6.7	2.0	6	4	8.2	3.0
3	1	7.8	5.8				

Horizon Notes:

Horizon 7C Organics

Project: CAB

Site: 46

Location: GDA 94 **ZONE** 56 503898mE 6997950mN **Lat:** -27.14097
Location: AGD 84 **ZONE** 56 503792mE 6997762mN **Lat:** -27.14266
Location: AGD 66 **ZONE** 56 503793mE 6997764mN **Lat:** -27.14264

Long: 153.03933
Long: 153.03827
Long: 153.03827

Described By: S (Shane) Pointon (POIS)

Date: 16/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: plain

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthroposol over SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Very dark grey (10YR31) moist; loamy sand; single grain structure; dry when sampled; clear to
2B2	.3 to 1	Very pale brown (10YR73) moist; few 2-10% coarse 15-30mm distinct orange mottles; sand; single grain structure; moderately moist when sampled; abrupt to
3A	1 to 1.6	Greenish grey (5GY51) moist; very few <2% medium 5-15mm faint pale mottles; sandy clay; massive structure; moist when sampled; gradual to
4C1	1.6 to 2.7	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled; gradual to
4C2	2.7 to 3.2	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
4C3	3.2 to 3.8	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; gradual to
4C4	3.8 to 4.3	Dark greenish grey (10Y41) moist; sand; single grain structure; wet when sampled; gradual to
4C5	4.3 to 5.3	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
4C6	5.3 to 6	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.9	3.7	3.25	4	6.7	1.7
.3	1	9.0	6.7	3.5	4	6.2	1.7
.6	1	8.7	5.4	3.75	4	6.3	1.6
.8	1	9.0	5.4	4	4	6.5	1.5
1	4	6.3	1.4	4.25	4	6.7	1.4
1.25	2	6.9	1.6	4.5	4	6.5	1.5
1.5	4	7.4	1.1	4.75	4	6.7	1.6
1.75	3	7.3	1.4	5	4	7.0	1.7
2	4	7.0	1.7	5.25	4	6.7	1.7
2.25	4	6.7	1.7	5.5	4	7.6	1.7
2.5	4	6.7	1.7	5.75	4	7.7	1.6
2.75	4	7.2	1.7	6	4	7.4	1.6
3	4	6.7	1.7				

Observation Notes:

Location Edge of mangroves at Beachmere boat club, Man made fill
Vegetation Acacia sp, Casuarinia glauca,

Horizon Notes:

Horizon A1 Concrete rubble
Horizon 3A Organics
Horizon 4C4 Organics

Project: CAB

Site: 47

Location: GDA 94 **ZONE** 56 503956mE 6998033mN **Lat:** -27.14022
Location: AGD 84 **ZONE** 56 503850mE 6997845mN **Lat:** -27.14191
Location: AGD 66 **ZONE** 56 503851mE 6997847mN **Lat:** -27.1419

Long: 153.03992
Long: 153.03885
Long: 153.03886

Described By: S (Shane) Pointon (POIS)

Date: 16/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: plain

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark greyish brown (10YR32) moist; sandy clay loam; weak structure; dry when sampled; clear to
B2	.1 to .3	Greyish brown (2.5Y52) moist; common 10-20% medium 5-15mm distinct orange mottles; light medium clay; weak structure; dry when sampled; abrupt to
2B	.3 to 1.1	Sand; wet when sampled; abrupt to
3B	1.1 to 1.3	Greenish grey (5GY51) moist; few 2-10% medium 5-15mm distinct orange mottles, very few <2% medium 5-15mm distinct grey mottles; silty light clay; massive structure; moist when sampled; gradual to
4C	1.3 to 1.8	Dark greenish grey (10GY41) moist; sandy light clay; massive structure; wet when sampled; gradual to
5C	1.8 to 5.5	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled
6C	5.5 to 5.7	Dark greenish grey (10Y41) moist; loamy sand; single grain structure; wet when sampled; clear to
7C	5.7 to 6	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	4.1	3.3	3.25	4	6.9	1.7
.3		5.8	3.5	3.5	4	6.5	1.6
.6		5.9	4.1	3.75	4	6.1	1.7
.8		5.2	3.8	4	4	6.4	1.8
1	4	7.5	5.9	4.25	4	6.5	1.7
1.25		7.3	5.2	4.5	4	6.5	1.7
1.5	4	7.5	1.6	4.75	4	7.2	1.7
1.75	4	7.8	1.5	5	4	7.2	1.8
2	4	7.5	1.4	5.25	4	7.4	1.9
2.25	4	7.3	1.6	5.5	4	7.4	1.9
2.5	4	7.2	1.6	5.75	3	7.4	3.4
2.75	4	7.1	1.7	6	1	7.6	6.1
3	4	7.1	1.5				

Observation Notes:

Vegetation *Corymbia Tesselaris*, *Acacia* spp.

Project: CAB

Site: 48

Location: GDA 94 **ZONE** 56 503779mE 6997420mN **Lat:** -27.14575

Long: 153.03813

Location: AGD 84 **ZONE** 56 503673mE 6997232mN **Lat:** -27.14744

Long: 153.03707

Location: AGD 66 **ZONE** 56 503674mE 6997234mN **Lat:** -27.14743

Long: 153.03707

Described By: S (Shane) Pointon (POIS)

Date: 16/MAR/06

Landscape:

Landform Pattern: alluvial plain

Element: levee

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Black (10YR21) moist; loamy sand; single grain structure; moderately moist when sampled; gradual to
2C	.3 to .7	Pale brown (10YR63) moist; sand; single grain structure; moderately moist when sampled; gradual to
3C	.7 to .9	Yellowish brown (10YR54) moist; sand; single grain structure; moderately moist when sampled; gradual to
4C	.9 to 2.5	Very pale brown (10YR73) moist; sand; single grain structure; wet when sampled; gradual to
5C	2.5 to 3.1	Light brownish grey (10YR62) moist; sand; single grain structure; wet when sampled; gradual to
6C	3.1 to 3.5	Dark grey (N40) moist; loamy sand; single grain structure; wet when sampled; gradual to
7C	3.5 to 4.9	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
8C	4.9 to 5.4	Greenish grey (5GY51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
9D	5.4 to 6	Greenish grey (5GY61) moist; common 10-20% coarse 15-30mm distinct orange mottles, very few <2% coarse 15-30mm distinct gley mottles; light medium clay; weak structure; moderately moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		7.3	4.9	3.25	4	7.3	1.8
.6	4	7.6	5.0	3.5		7.7	1.4
.8	4	7.9	4.6	3.75	4	7.3	1.7
1	1	7.8	6.0	4	4	7.3	1.8
1.25	1	7.4	6.0	4.25	4	7.2	1.7
1.5		7.6	6.0	4.5	2	7.0	2.0
1.75		7.5	5.8	4.75	4	7.1	1.8
2		7.5	5.7	5	2	7.2	3.5
2.25		7.3	5.9	5.25	2	7.1	3.0
2.5		7.5	5.6	5.5	3	7.4	7.6
2.75		7.3	5.4	5.75	4	7.5	8.3
3		7.4	5.7	6	4	6.8	7.7

Observation Notes:

Location Near concrete slab

Vegetation *Corymbia tessellaris*, *Casurina glauca*, *Acacia* spp. Caster oil plant

Horizon Notes:

Horizon 6C Organics

Project: CAB

Site: 49

Location: GDA 94 **ZONE** 56 505088mE 6999064mN **Lat:** -27.13091
Location: AGD 84 **ZONE** 56 504982mE 6998876mN **Lat:** -27.1326
Location: AGD 66 **ZONE** 56 504983mE 6998878mN **Lat:** -27.13258

Long: 153.05134
Long: 153.05027
Long: 153.05028

Described By: S (Shane) Pointon (POIS)

Date: 16/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Grey (10YR51) moist; loamy sand; weak structure; dry when sampled; clear to
A2	.1 to .8	White (10YR82) moist; sand; very few <2% subrounded pumice medium pebbles 6-20 mm; single grain structure; dry when sampled; clear to
2A	.8 to 1.1	Dark grey (10YR41) moist; loamy sand; very few <2% subrounded pumice medium pebbles 6-20 mm; single grain structure; dry when sampled; abrupt to
3B	1.1 to 1.4	Strong brown (7.5YR56) moist; few 2-10% medium 5-15mm distinct red mottles; light clay; few 2-10% angular quartz small pebbles 2-6 mm; weak structure; very few <2% medium 2-6mm manganiferous nodules; few 2-10% medium 2-6mm ferruginous nodules; dry when sampled; abrupt to
4C	1.4 to 2	Light grey (10YR72) moist; sand; single grain structure; moist when sampled
5C	2 to 2.2	Pale brown (10YR63) moist; coarse sand; single grain structure; wet when sampled
6C	2.2 to 2.7	Light brownish grey (10YR62) moist; sand; single grain structure; wet when sampled
7C1	2.7 to 3.9	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled
7C2	3.9 to 4.5	Grey (2.5Y61) moist; sand; single grain structure; wet when sampled
7C3	4.5 to 5.7	Grey (2.5Y61) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.5	5.7	3	1	6.8	2.3
.3		6.0	4.9	3.25	1	6.7	1.9
.6		6.4	4.9	3.5	1	6.5	2.0
.8		6.2	2.0	3.75	1	6.8	2.4
1	1	5.1	1.5	4	1	6.9	3.2
1.25		4.7	3.6	4.25	1	6.8	3.0
1.5		5.3	4.6	4.5	1	7.0	3.6
1.75		5.7	5.1	4.75	1	7.1	5.3
2	1	6.1	4.7	5	1	7.5	5.3
2.25	1	6.4	4.4	5.25	1	7.6	5.6
2.5	1	6.7	3.2	5.5	1	7.8	6.0
2.75	1	6.7	1.5	5.7	1	8.5	5.9

Project: CAB

Site: 58

Location: GDA 94 **ZONE** 56 504078mE 6997630mN **Lat:** -27.14386

Long: 153.04115

Location: AGD 84 **ZONE** 56 503972mE 6997442mN **Lat:** -27.14555

Long: 153.04009

Location: AGD 66 **ZONE** 56 503973mE 6997444mN **Lat:** -27.14553

Long: 153.04009

Described By: S (Shane) Pointon (POIS)

Date: 16/MAY/06

Landscape:

Landform Pattern: alluvial plain

Element: plain

Disturbances: Limited clearing

Classifications:

ASC: DERMOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Black (10YR21) moist; sand; single grain structure; dry when sampled; clear to
A2	.1 to .4	Grey (10YR51) moist; sand; single grain structure; dry when sampled; clear to
B2	.4 to 1.1	Dark greyish brown (10YR42) moist; single grain structure; moist when sampled; gradual to
C	1.1 to 2.8	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled; clear to
2C1	2.8 to 4.4	Light grey (2.5Y71) moist; sand; common 10-20% angular shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
2C2	4.4 to 5.1	Grey (2.5Y51) moist; sand; many 20-50% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
3C	5.1 to 5.5	Dark grey (2.5Y41) moist; sandy light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; abrupt to
4D	5.5 to 5.6	Greenish grey (10GY51) moist; sand; few 2-10% medium 5-15mm distinct orange mottles, few 2-10% medium 5-15mm distinct gley mottles; light medium clay; massive structure

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	8.2	3.6	3	4	7.9	1.9
.3	3	6.5	3.6	3.25		8.0	4.9
.6		7.3	5.9	3.5		8.2	5.5
.8		7.5	5.3	3.75		8.0	5.3
1	1	7.7	3.8	4		8.1	5.3
1.25	1	7.7	4.0	4.25	4	7.9	5.7
1.5	1	7.9	3.9	4.5	4	7.8	1.2
1.75		7.8	4.4	4.75		8.0	4.9
2	1	7.7	3.9	5		7.5	5.4
2.25	1	7.7	1.6	5.25	1	7.5	1.9
2.5	1	7.8	1.6	5.5	1	7.6	1.8
2.75	4	7.8	1.6	5.6	4	8.9	5.9

Project: CAB

Site: 59

Location: GDA 94 **ZONE** 56 504021mE 6997652mN **Lat:** -27.14366

Long: 153.04057

Location: AGD 84 **ZONE** 56 503915mE 6997464mN **Lat:** -27.14535

Long: 153.03951

Location: AGD 66 **ZONE** 56 503916mE 6997466mN **Lat:** -27.14534

Long: 153.03952

Described By: S (Shane) Pointon (POIS)

Date: 16/MAY/06

Landscape:

Landform Pattern: tidal flat

Element: intertidal flat

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Dark grey (10YR41) moist; few 2-10% medium 5-15mm prominent red mottles; sandy light clay; weak structure; moist when sampled; clear to
B2	.1 to .3	Dark greyish brown (10YR42) moist; common 10-20% coarse 15-30mm prominent red mottles; sandy light medium clay; weak structure; wet when sampled; clear to
2C1	.3 to .45	Grey (2.5Y51) moist; clay loam, sandy; massive structure; wet when sampled; clear to
2C2	.45 to .6	Dark grey (2.5Y41) moist; sandy light clay; massive structure; wet when sampled; clear to
3C	.6 to 2.1	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled; clear to
4C	2.1 to 2.7	Dark greenish grey (10Y31) moist; fine sandy light clay; massive structure; wet when sampled; clear to
5C1	2.7 to 3	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
5C2	3 to 4.5	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
6D	4.5 to 5.5	Light greenish grey (5GY71) moist; clay loam sand; common 10-20% coarse 15-30mm distinct gley mottles; weak structure; moderately moist when sampled; clear to

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		7.2	5.9	2.75	4	8.2	1.5
.3		7.4	5.7	3		7.9	1.4
.6	4	7.1	1.3	3.25		7.8	5.7
.8	3	7.1	1.2	3.5		8.1	5.4
1	3	7.4	1.0	3.75		7.9	5.1
1.25	3	7.1	0.9	4		8.1	5.0
1.5		7.1	0.8	4.25		8.7	5.8
1.75	4	7.4	1.0	4.75		8.6	7.0
2	4	7.3	1.2	5		8.5	7.3
2.25	4	7.4	1.2	5.25		7.7	6.1
2.5	4	7.5	2.0				

Project: CAB

Site: 60

Location: GDA 94 **ZONE** 56 504186mE 6997694mN **Lat:** -27.14328

Long: 153.04224

Location: AGD 84 **ZONE** 56 504080mE 6997506mN **Lat:** -27.14497

Long: 153.04118

Location: AGD 66 **ZONE** 56 504081mE 6997508mN **Lat:** -27.14496

Long: 153.04118

Described By: S (Shane) Pointon (POIS)

Date: 16/MAY/06

Landscape:

Landform Pattern: plain

Element: drainage depression

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .3	Very dark grey (10YR31) moist; sand; very few <2% subrounded ironstone medium pebbles 6-20 mm; single grain structure; moderately moist when sampled
A12	.3 to .75	Dark greyish brown (10YR42) moist; sand; single grain structure; moist when sampled
A2	.75 to .9	Light brownish grey (10YR62) moist; sand; single grain structure; moist when sampled
2C	.9 to 1.2	Dark grey (10YR41) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; moist when sampled
3C	1.2 to 4.5	Grey (2.5Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
4C	4.5 to 5.5	Dark grey (2.5Y41) moist; coarse sand; many 20-50% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
5C	5.5 to 5.8	Dark grey (N40) moist; silty light clay; very few <2% angular platy shell small pebbles 2-6 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1		6.6	5.1
.3		6.8	5.3
.6		6.7	5.2
.8		6.0	5.3
1		7.3	1.9
1.25		7.8	5.8
1.5		8.1	5.3
1.75		8.7	5.2
2		8.8	4.2
2.25		8.9	2.9
2.5		8.9	4.1
2.75		8.7	5.4
3		8.5	6.0
3.25		8.5	5.6
3.5		8.5	5.8
3.75		8.4	5.7
4		8.4	4.8
4.25		8.2	4.7
4.5	3	8.1	1.5
4.75	4	7.8	1.7
5	4	7.4	4.3
5.25	4	7.5	1.9
5.5	4	7.4	1.3
5.75	4	7.3	1.4

Project: CAB

Site: 61

Location: GDA 94 **ZONE** 56 503993mE 6997551mN **Lat:** -27.14457

Long: 153.04029

Location: AGD 84 **ZONE** 56 503887mE 6997363mN **Lat:** -27.14626

Long: 153.03923

Location: AGD 66 **ZONE** 56 503888mE 6997365mN **Lat:** -27.14625

Long: 153.03923

Described By: S (Shane) Pointon (POIS)

Date: 16/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Limited clearing

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Grey (10YR51) moist; sand; single grain structure; dry when sampled; clear to
A2	.2 to .9	Light grey (10YR72) moist; sand; single grain structure; dry when sampled; gradual to
C	.9 to 1.7	Pale brown (10YR63) moist; sand; single grain structure; moist when sampled; clear to
2C1	1.7 to 2.4	Dark grey (2.5Y41) moist; sand; single grain structure; wet when sampled; gradual to
2C2	2.4 to 2.8	Grey (2.5Y61) moist; sand; single grain structure; wet when sampled; clear to
2C3	2.8 to 3	Dark grey (2.5Y41) moist; sand; single grain structure; wet when sampled; gradual to
2C4	3 to 3.6	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled; gradual to
3C	3.6 to 4.5	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4C	4.5 to 5.1	Dark greenish grey (10Y41) moist; fine sandy light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
5C	5.1 to 5.5	Dark greenish grey (10Y41) moist; silty light clay; wet when sampled; abrupt to
6D	5.5 to 5.8	Greenish grey (10Y61) moist; common 10-20% coarse 15-30mm distinct gley mottles; light medium clay; weak structure; moderately moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.1	5.4	3	4	7.5	1.3
.3		5.0	4.7	3.25	4	7.2	1.4
.6		4.5	4.6	3.5	4	6.8	1.3
.8		5.0	4.1	3.75	4	6.4	1.3
1		7.2	4.9	4	4	7.4	1.3
1.25		6.8	5.3	4.25	4	7.8	4.0
1.5		6.6	5.4	4.5	4	8.0	2.6
1.75	1	6.2	1.2	4.75	4	8.0	1.9
2	2	7.1	0.7	5	4	8.0	2.0
2.25	2	7.3	0.7	5.25	4	8.0	5.0
2.5	2	7.6	1.4	5.5	4	8.0	5.2
2.75	2	7.5	0.8	5.75	1	8.2	6.5

Observation Notes:

Vegetation *Callitrus columellaris* (Bribie Island Pine), *Corymbia tessellaris* (Moreton Bay Ash)

Project: CAB

Site: 62

Location: GDA 94 **ZONE** 56 503704mE 6997488mN **Lat:** -27.14514

Long: 153.03738

Location: AGD 84 **ZONE** 56 503598mE 6997300mN **Lat:** -27.14683

Long: 153.03631

Location: AGD 66 **ZONE** 56 503599mE 6997302mN **Lat:** -27.14682

Long: 153.03632

Described By: S (Shane) Pointon (POIS)

Date: 17/MAY/06

Landscape:

Landform Pattern: tidal flat

Element: intertidal flat

Surface Condition: Soft

Disturbances: No effective disturbance except grazing by hoofed animals

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (5Y31) moist; few 2-10% medium 5-15mm distinct red mottles; light clay; weak structure; wet when sampled; gradual to
B2	.1 to .4	Dark greenish grey (10Y41) moist; common 10-20% coarse 15-30mm distinct red mottles; light clay; massive structure; wet when sampled; gradual to
C1	.4 to .9	Dark greenish grey (10Y41) moist; light clay; massive structure; wet when sampled
2C	.9 to 1.5	Dark greenish grey (10Y41) moist; sandy light clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	1	6.7	5.3
.3	1	6.8	5.3
.6	1	6.8	1.2
.8	4	6.8	1.1
1	4	6.7	1.2
1.25	4	6.7	1.2
1.5		6.6	0.8

Observation Notes:

Vegetation Mangroves and samphires

Project: CAB

Site: 63

Location: GDA 94 **ZONE** 56 503627mE 6997375mN **Lat:** -27.14616

Long: 153.0366

Location: AGD 84 **ZONE** 56 503521mE 6997187mN **Lat:** -27.14785

Long: 153.03554

Location: AGD 66 **ZONE** 56 503522mE 6997189mN **Lat:** -27.14784

Long: 153.03554

Described By: S (Shane) Pointon (POIS)

Date: 17/MAY/06

Landscape:

Landform Pattern: tidal flat

Element: intertidal flat

Surface Condition: Soft

Disturbances: No effective disturbance except grazing by hoofed animals

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .1	Very dark grey (5Y31) moist; few 2-10% medium 5-15mm faint dark mottles; light clay; weak structure; wet when sampled; clear to
A12	.1 to .2	Very dark grey (5Y31) moist; light clay; massive structure; wet when sampled; clear to
A13	.2 to .3	Very dark grey (5Y31) moist; light clay; massive structure; wet when sampled; clear to
C	.3 to 1.5	Dark greenish grey (10Y41) moist; sandy light clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	4	6.1	1.1
.3	4	6.4	0.9
.6	4	6.4	0.8
.8	4	6.5	0.9
1	4	6.5	0.9
1.5	4	6.7	0.9

Observation Notes:

Vegetation Mangroves

Horizon Notes:

Horizon	A11	<2% 6-20mm Organics
Horizon	A12	2-10% 6-20mm Organics
Horizon	A13	<2% 6-20mm Organics

Project: CAB

Site: 64

Location: GDA 94 **ZONE** 56 504289mE 6997731mN **Lat:** -27.14294
Location: AGD 84 **ZONE** 56 504183mE 6997543mN **Lat:** -27.14463
Location: AGD 66 **ZONE** 56 504184mE 6997545mN **Lat:** -27.14462

Long: 153.04328
Long: 153.04222
Long: 153.04222

Described By: S (Shane) Pointon (POIS)

Date: 17/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Extensive clearing

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Grey (10YR51) moist; sand; single grain structure; dry when sampled; gradual to
A21	.3 to 1.1	Pale brown (10YR63) moist; sand; single grain structure; dry when sampled; gradual to
A22	1.1 to 1.3	Light grey (10YR72) moist; sand; single grain structure; moderately moist when sampled; gradual to
C	1.3 to 2	Greyish brown (10YR52) moist; sand; single grain structure; wet when sampled; gradual to
2C1	2 to 2.8	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
2C2	2.8 to 3.8	Greenish grey (5GY51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
2C3	3.8 to 5.7	Greenish grey (10Y61) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
3C	5.7 to 5.8	Dark greenish grey (10Y41) moist; silty light clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.6	4.7	3		7.9	2.1
.3	1	6.0	4.3	3.25		7.8	1.8
.6		6.5	4.8	3.5		7.8	1.3
.8		6.2	4.8	3.75		6.8	5.0
1		7.0	5.0	4		7.1	1.4
1.25		6.9	5.0	4.25		7.4	2.1
1.5		7.5	5.5	4.5		7.1	4.8
1.75		7.4	4.9	4.75		6.6	5.4
2		7.3	1.0	5		6.7	5.3
2.25		7.8	1.8	5.25		6.5	5.2
2.5		7.8	1.5	5.5		6.4	5.3
2.75		7.7	4.0	5.75		7.4	1.6

Observation Notes:

Vegetation Corbmbia tessellaris, Melaleuca quinquenervia, Acacia

Project: CAB

Site: 65

Location: GDA 94 **ZONE** 56 504301mE 6997978mN **Lat:** -27.14071
Location: AGD 84 **ZONE** 56 504195mE 6997790mN **Lat:** -27.1424
Location: AGD 66 **ZONE** 56 504196mE 6997792mN **Lat:** -27.14239

Long: 153.0434

Long: 153.04234

Long: 153.04234

Described By: S (Shane) Pointon (POIS)

Date: 17/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Extensive clearing

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Dark grey (10YR41) moist; sand; single grain structure; gradual to
A2	.3 to 1.4	Pale brown (10YR63) moist; sand; single grain structure; dry when sampled; clear to
2C	1.4 to 2	Light yellowish brown (10YR64) moist; coarse sand; single grain structure; moderately moist when sampled
3C1	2 to 2.6	Grey (2.5Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
3C2	2.6 to 4.2	Grey (2.5Y61) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
4C	4.2 to 4.5	Grey (2.5Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
5C	4.5 to 5.7	Grey (5Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.7	5.2	3		7.1	5.8
.3	1	8.0	5.4	3.25		7.5	5.7
.6		7.8	5.4	3.5		7.7	6.2
.8		7.6	5.3	3.75		7.3	5.9
1		7.5	5.3	4		6.8	5.9
1.25		7.6	5.3	4.25	4	7.0	2.2
1.5		7.2	5.4	4.5		6.9	6.0
1.75		7.4	6.0	4.75		6.7	5.9
2		7.2	5.8	5		6.7	6.0
2.25		7.3	5.8	5.25		6.9	6.1
2.5		7.9	5.8	5.5		7.2	6.0
2.75		7.7	5.7	5.7		7.2	6.1

Observation Notes:

Vegetation *Corymbia tessellaris*, *Acacia*

Project: CAB

Site: 66

Location: GDA 94 **ZONE** 56 504460mE 6997959mN **Lat:** -27.14088
Location: AGD 84 **ZONE** 56 504354mE 6997771mN **Lat:** -27.14257
Location: AGD 66 **ZONE** 56 504355mE 6997773mN **Lat:** -27.14256

Long: 153.045
Long: 153.04394
Long: 153.04395

Described By: S (Shane) Pointon (POIS)

Date: 17/MAY/06

Landscape:

Landform Pattern: alluvial plain

Element: drainage depression

Surface Condition: Firm

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, EXTRATIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Black (10YR21) moist; clay loam, sandy; weak structure; moist when sampled; clear to
B2	.3 to .65	Light brownish grey (2.5Y62) moist; few 2-10% medium 5-15mm distinct orange mottles; sand; single grain structure; wet when sampled; gradual to
C	.65 to .9	Light brownish grey (2.5Y62) moist; sand; single grain structure; wet when sampled; abrupt to
2C1	.9 to 2	Dark greenish grey (5GY41) moist; loamy sand; single grain structure; wet when sampled; clear to
2C2	2 to 2.2	Dark greenish grey (10Y41) moist; fine sand; single grain structure; wet when sampled; clear to
3C1	2.2 to 2.5	Dark greenish grey (10Y41) moist; clay loam, sandy; massive structure; wet when sampled; clear to
3C2	2.5 to 2.9	Dark greenish grey (10Y41) moist; sandy light clay; massive structure; wet when sampled; abrupt to
4C1	2.9 to 4.3	Greenish grey (10Y61) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
4C2	4.3 to 5.1	Greenish grey (10Y61) moist; coarse sand; many 20-50% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
5D	5.1 to 5.8	Light greenish grey (10Y71) moist; few 2-10% medium 5-15mm prominent red mottles, many 20-50% coarse 15-30mm prominent yellow mottles; sandy light medium clay; massive structure; moderately moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.7	3.7	3	4	8.2	1.7
.3	1	6.9	3.2	3.25		8.2	1.6
.6		6.9	5.2	3.5		8.4	3.3
.8		7.5	5.2	3.75		8.3	1.7
1	4	8.1	1.3	4		7.8	3.3
1.25	4	8.7	1.7	4.25		8.0	1.7
1.5	4	9.1	1.4	4.5		8.0	6.2
1.75	4	8.9	1.3	4.75		7.7	5.8
2	4	8.4	1.5	5		7.9	5.7
2.25	4	8.6	1.5	5.25		8.0	5.7
2.5	4	8.5	1.6	5.5		7.7	5.6
2.75	4	8.7	1.8	5.75		7.7	5.3

Observation Notes:

Vegetation Casuarina glauca

Project: CAB

Site: 67

Location: GDA 94 **ZONE** 56 504588mE 6997940mN **Lat:** -27.14106
Location: AGD 84 **ZONE** 56 504482mE 6997752mN **Lat:** -27.14274
Location: AGD 66 **ZONE** 56 504483mE 6997754mN **Lat:** -27.14273

Long: 153.0463
Long: 153.04523
Long: 153.04524

Described By: S (Shane) Pointon (POIS)

Date: 24/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Firm

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .25	Dark grey (10YR41) moist; sand; single grain structure; dry when sampled; gradual to
A21	.25 to .65	Light brownish grey (10YR62) moist; sand; single grain structure; moderately moist when sampled; gradual to
A22	.65 to 1.1	Brown (10YR53) moist; sand; single grain structure; moist when sampled; clear to
B1	1.1 to 1.15	Dark greyish brown (2.5Y43) moist; sand; massive structure; weakly cemented discontinuous massive ortstein; moist when sampled; clear to
2C	1.15 to 1.3	Dark grey (2.5Y41) moist; few 2-10% medium 5-15mm distinct orange mottles; loamy sand; massive structure; wet when sampled; gradual to
3C	1.3 to 1.7	Dark greenish grey (10GY41) moist; sandy clay loam; weak structure; wet when sampled; gradual to
4C1	1.7 to 2.4	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
4C2	2.4 to 3.9	Greenish grey (10Y51) moist; sand; many 20-50% angular shell large pebbles 20-60 mm; single grain structure; wet when sampled; gradual to
4C3	3.9 to 5.4	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
4C4	5.4 to 5.9	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
5D	5.9 to 6	Greenish grey (5GY51) moist; common 10-20% medium 5-15mm distinct orange mottles, common 10-20% medium 5-15mm distinct red mottles; light medium clay; weak structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.8	3.9	3.25	1	7.3	2.0
.3		5.9	4.1	3.5	1	7.6	4.9
.6		6.1	4.3	3.75	1	7.5	3.4
.8		6.2	4.2	4	4	6.9	1.7
1.15	1	6.5	2.4	4.25	4	7.2	1.4
1.25	4	6.3	1.9	4.5	4	6.8	0.9
1.5	4	6.3	1.2	4.75	4	6.9	1.5
1.75	4	6.4	1.7	5	4	7.5	1.2
2	4	6.3	1.5	5.25	4	7.3	1.8
2.25	4	6.5	1.6	5.5	4	7.4	1.8
2.5	4	6.9	1.8	5.75	4	7.3	3.0
2.75	1	6.8	4.9	6	4	7.2	6.2
3	1	6.7	1.5				

Observation Notes:

Vegetation Acacia, Casuarina glauca

Horizon Notes:

Horizon 3C Organics

Project: CAB

Site: 68

Location: GDA 94 **ZONE** 56 504503mE 6997741mN **Lat:** -27.14285

Long: 153.04544

Location: AGD 84 **ZONE** 56 504397mE 6997553mN **Lat:** -27.14454

Long: 153.04438

Location: AGD 66 **ZONE** 56 504398mE 6997555mN **Lat:** -27.14453

Long: 153.04438

Described By: S (Shane) Pointon (POIS)

Date: 24/MAY/06

Landscape:

Landform Pattern: tidal flat

Element: supratidal flat

Surface Condition: Firm, Hard setting

Disturbances: No effective disturbance except grazing by hoofed animals

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Dark greyish brown (2.5Y42) moist; common 10-20% coarse 15-30mm prominent orange mottles; fine sandy loam; weak structure; moist when sampled; gradual to
2C1	.3 to 1.8	Dark greenish grey (10Y31) moist; sand; single grain structure; wet when sampled; gradual to
2C2	1.8 to 2.6	Dark greenish grey (10Y41) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
2C3	2.6 to 4.5	Dark greenish grey (10Y41) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
3C	4.5 to 4.7	Greenish black (10Y2.5/1) moist; silty light clay; massive structure; wet when sampled; abrupt to
4D	4.7 to 5.3	Dark greenish grey (10GY41) moist; common 10-20% coarse 15-30mm distinct gley mottles, few 2-10% coarse 15-30mm distinct brown mottles; fine sandy light medium clay; massive structure; dry when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1		7.2	5.8
.3		7.3	5.7
.6	4	7.3	1.3
.8	4	7.2	1.6
1	4	7.3	1.1
1.25	4	7.4	1.1
1.5	4	7.3	1.2
1.75	4	7.2	1.6
2	4	7.4	5.4
2.25	4	7.1	1.4
2.5	4	7.3	1.4
2.75	4	7.7	1.4
3	1	7.4	3.9
3.25	1	7.0	2.2
3.5	1	6.9	2.4
3.75	1	7.3	2.8
4	1	7.3	4.8
4.25	1	7.3	5.2
4.5	1	7.5	5.3
4.75	4	7.4	1.4
5	1	8.4	8.2
5.25	1	8.4	5.8

Project: CAB

Site: 69

Location: GDA 94	ZONE 56	504419mE 6997780mN	Lat: -27.1425	Long: 153.04459
Location: AGD 84	ZONE 56	504313mE 6997592mN	Lat: -27.14419	Long: 153.04353
Location: AGD 66	ZONE 56	504314mE 6997594mN	Lat: -27.14418	Long: 153.04353

Described By: S (Shane) Pointon (POIS)

Date: 24/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Extensive clearing

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Dark grey (10YR41) moist; sand; very few <2% angular platy shell small pebbles 2-6 mm; single grain structure; dry when sampled
A2	.3 to 1.6	Brown (10YR53) moist; sand; single grain structure; dry when sampled
2C	1.6 to 2.2	Light brownish grey (10YR62) moist; sand; abundant 50-90% angular platy shell medium pebbles 6-20 mm; single grain structure; dry when sampled
3C	2.2 to 2.55	Dark grey (2.5Y41) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; moist when sampled
4C	2.55 to 2.85	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled
5C	2.85 to 3.7	Dark greenish grey (10GY41) moist; fine sandy light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled
6C	3.7 to 5.1	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled
7C	5.1 to 5.7	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.5	4.4	3	4	8.2	3.0
.3	1	5.9	5.1	3.25	4	8.0	1.5
.6		6.4	4.6	3.5	4	8.1	1.4
.8		6.4	4.9	3.75	4	8.0	0.8
1		6.7	5.1	4	4	7.7	1.3
1.25		6.6	5.1	4.25	1	7.9	2.9
1.5		7.1	5.0	4.5	1	7.2	3.1
1.75		7.3	5.9	4.75	1	7.0	3.2
2		7.8	6.2	5	1	7.2	3.5
2.25		7.4	6.0	5.25	1	7.5	4.1
2.5	4	7.5	5.6	5.5	1	7.9	4.9
2.75	1	7.6	5.2				

Observation Notes:

Observation Ridge

Vegetation Lophostemon confertus, Corymbia tessellaris, Lantana camara, Acacia species

Project: CAB

Site: 70

Location: GDA 94 **ZONE** 56 504328mE 6997841mN **Lat:** -27.14195
Location: AGD 84 **ZONE** 56 504222mE 6997653mN **Lat:** -27.14364
Location: AGD 66 **ZONE** 56 504223mE 6997655mN **Lat:** -27.14363

Long: 153.04367
Long: 153.04261
Long: 153.04261

Described By: S (Shane) Pointon (POIS)

Date: 24/MAY/06

Landscape:

Landform Pattern: alluvial plain

Element: supratidal flat

Surface Condition: Soft

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Dark greyish brown (10YR42) moist; clay loam, fine sandy; moderate structure; moist when sampled; abrupt to
B2	.1 to .5	Dark grey (N40) moist; few 2-10% medium 5-15mm distinct dark mottles, few 2-10% medium 5-15mm distinct orange mottles; silty light clay; massive structure; wet when sampled; clear to
2C	.5 to 1.4	Dark greenish grey (10Y41) moist; loamy sand; single grain structure; wet when sampled; gradual to
3C1	1.4 to 2.3	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled; gradual to
3C2	2.3 to 3	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
4C1	3 to 4.4	Greenish grey (10Y61) moist; sand; few 2-10% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
4C2	4.4 to 4.5	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
5D	4.5 to 5.85	Greenish grey (5GY51) moist; common 10-20% coarse 15-30mm distinct gley mottles, common 10-20% coarse 15-30mm prominent brown mottles; light medium clay; weak structure; moderately moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		3.6	2.1	3		7.4	1.1
.3	1	5.8	1.3	3.25		7.4	3.0
.6	1	6.6	1.1	3.5		7.6	3.4
.8	4	6.4	1.5	3.75		7.5	4.0
1	4	7.0	1.3	4	1	7.2	2.9
1.25	4	7.4	1.3	4.25	1	7.1	1.4
1.5	4	7.6	1.3	4.5	1	7.0	2.6
1.75	4	7.5	1.7	4.75	1	7.1	8.0
2	4	7.2	1.1	5	4	6.8	7.8
2.25	4	7.0	1.3	5.25	4	6.1	7.6
2.5	4	7.3	1.4	5.5	1	6.3	5.3
2.75	4	7.1	1.2	5.75	1	6.2	4.6

Horizon Notes:

Horizon A1 Organics

Project: CAB

Site: 71

Location: GDA 94 **ZONE** 56 504716mE 6998048mN **Lat:** -27.14008
Location: AGD 84 **ZONE** 56 504610mE 6997860mN **Lat:** -27.14177
Location: AGD 66 **ZONE** 56 504611mE 6997862mN **Lat:** -27.14176

Long: 153.04759
Long: 153.04652
Long: 153.04653

Described By: S (Shane) Pointon (POIS)

Date: 31/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Extensive clearing, Highly disturbed e.g. mining, urban

Classifications:

ASC: TENOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .4	Dark grey (10YR41) moist; sand; single grain structure; moderately moist when sampled; gradual to
B2	.4 to 1	Pale brown (10YR63) moist; few 2-10% medium 5-15mm faint orange mottles; sand; single grain structure; moderately moist when sampled; clear to
2B2	1 to 1.4	Grey (5Y61) moist; few 2-10% medium 5-15mm faint brown mottles; sand; single grain structure; moist when sampled; clear to
3C	1.4 to 3	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; clear to
4C1	3 to 4.3	Greenish grey (10Y61) moist; sand; abundant 50-90% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
5C1	4.3 to 4.9	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; gradual to
5C2	4.9 to 6.3	Greenish grey (10Y51) moist; coarse sand; many 20-50% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; abrupt to
6C	6.3 to 6.4	Dark greenish grey (10Y41) moist; silty light clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; abrupt to
7C	6.4 to 6.7	Grey (5Y51) moist; few 2-10% medium 5-15mm faint brown mottles; loamy sand; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		5.9	5.4	3.5		8.0	2.4
.3		7.8	5.4	3.75		7.6	5.4
.6		7.8	5.2	4		8.0	5.6
.8		7.8	3.6	4.25		7.6	5.5
1		7.7	4.3	4.5		7.3	4.9
1.25		7.6	4.3	4.75		7.5	4.5
1.5	4	7.7	2.0	5		7.5	5.1
1.75	4	7.9	1.9	5.25		7.4	5.6
2		7.9	1.8	5.5		7.3	5.4
2.25		7.8	1.5	5.75		7.2	5.2
2.5		8.2	1.7	6	1	7.6	4.7
2.75		8.1	1.6	6.25	1	7.5	5.4
3		8.2	5.3	6.35	4	7.9	1.2
3.25		8.2	5.8	6.5	1	6.8	1.6

Observation Notes:

Vegetation *Banksia integrifolia*, *Casuarina glauca*, *Acacia* spp.

Project: CAB

Site: 72

Location: GDA 94	ZONE 56	504791mE 6998052mN	Lat: -27.14004	Long: 153.04834
Location: AGD 84	ZONE 56	504685mE 6997864mN	Lat: -27.14173	Long: 153.04728
Location: AGD 66	ZONE 56	504686mE 6997866mN	Lat: -27.14172	Long: 153.04729

Described By: S (Shane) Pointon (POIS)

Date: 31/MAY/06

Landscape:

Landform Pattern: flood plain

Element: swamp

Surface Condition: Soft

Disturbances: No effective disturbance except grazing by hoofed animals, Limited clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Black (5Y2.5/1) moist; loam; massive structure; wet when sampled; clear to
A12	.1 to .4	Very dark greyish brown (10YR32) moist; fine sandy clay loam; massive structure; wet when sampled; diffuse to
2C	.4 to 1.1	Very dark grey (5Y31) moist; loamy sand; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	1	7.5	5.2
.3	4	6.8	1.3
.6	4	6.5	1.2
.8	4	4.4	0.8
1	4	6.3	0.9

Observation Notes:

Vegetation Dead Mangroves

Horizon Notes:

Horizon	A1	50 to 90%, 6 to 20mm Organics
Horizon	A12	2 to 10%, 6 to 20mm, Organics
Horizon	2C	<2%, 6 to 20mm, Organics

Project: CAB

Site: 73

Location: GDA 94 **ZONE** 56 504860mE 6998126mN **Lat:** -27.13938
Location: AGD 84 **ZONE** 56 504754mE 6997938mN **Lat:** -27.14106
Location: AGD 66 **ZONE** 56 504755mE 6997940mN **Lat:** -27.14105

Long: 153.04904
Long: 153.04798
Long: 153.04798

Described By: S (Shane) Pointon (POIS)

Date: 31/MAY/06

Landscape:

Landform Pattern: flood plain

Element: drainage depression

Surface Condition: Soft

Disturbances: Limited clearing

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (10YR31) moist; sandy clay loam; moist when sampled; clear to
A2	.1 to .3	Greyish brown (10YR52) moist; few 2-10% medium 5-15mm distinct orange mottles; sand; moist when sampled; clear to
2C	.3 to .5	Dark grey (2.5Y41) moist; few 2-10% medium 5-15mm distinct dark mottles; loamy sand; moist when sampled; abrupt to
3C/Bh	.5 to .6	Black (2.5Y2.5/1) moist; clay loam; moist when sampled; abrupt to
4C	.6 to .9	Dark grey (10YR41) moist; clay loam, fine sandy; subangular blocky moderate 10-20mm structure; moist when sampled; diffuse to
5C	.9 to 2.3	Greenish grey (10Y51) moist; loamy sand; wet when sampled; diffuse to
6C1	2.3 to 3.2	Dark greenish grey (10Y41) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; few 2-10% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; diffuse to
6C2	3.2 to 4.5	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
7C	4.5 to 5	Dark greenish grey (10Y41) moist; sandy light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
8C	5 to 5.85	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.8	4.5	3	4	7.3	2.9
.3	1	6.4	1.2	3.25	4	7.7	1.8
.6	1	7.4	4.1	3.5	1	7.4	1.3
.8	4	7.9	1.4	3.75	1	7.3	1.1
1	4	8.1	1.2	4	1	8.0	1.1
1.25	3	7.9	1.0	4.25	1	8.1	1.1
1.5	4	7.9	1.4	4.5	1	8.2	5.1
1.75	4	7.8	1.2	4.75	1	8.3	2.4
2	4	8.1	1.4	5	1	8.0	1.6
2.25	4	8.0	1.2	5.25	1	8.1	1.5
2.5	4	7.8	1.7	5.5	1	8.0	1.6
2.75	4	7.6	1.6	5.75	1	7.7	1.6

Observation Notes:

Vegetation Casuarina glauca, samphire

Horizon Notes:

Horizon 3C/Bh Organics
Horizon 4C Organics

Project: CAB

Site: 74

Location: GDA 94 **ZONE** 56 504893mE 6998187mN **Lat:** -27.13882
Location: AGD 84 **ZONE** 56 504787mE 6997999mN **Lat:** -27.14051
Location: AGD 66 **ZONE** 56 504788mE 6998001mN **Lat:** -27.1405

Long: 153.04937
Long: 153.04831
Long: 153.04831

Described By: S (Shane) Pointon (POIS)

Date: 31/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Dark grey (10YR41) moist; sand; single grain structure; dry when sampled; clear to
A2	.1 to .3	Greyish brown (10YR52) moist; sand; single grain structure; dry when sampled; gradual to
B21	.3 to .8	Grey (10YR51) moist; few 2-10% medium 5-15mm faint dark mottles; sand; single grain structure; moderately moist when sampled; gradual to
B22	.8 to 1.1	Dark grey (2.5Y41) moist; few 2-10% medium 5-15mm faint dark mottles; sand; single grain structure; moderately moist when sampled; abrupt to
2A	1.1 to 1.5	Dark grey (5Y41) moist; sandy clay loam; weak structure; moist when sampled; gradual to
2C	1.5 to 1.8	Very dark grey (5Y31) moist; sandy clay loam; massive structure; moist when sampled; gradual to
3C	1.8 to 3	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; gradual to
4C1	3 to 3.7	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; diffuse to
4C2	3.7 to 5.6	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.2	3.8	3	4	7.9	1.2
.3	1	4.8	3.7	3.25	1	7.9	3.5
.6	1	6.7	5.9	3.5	4	7.5	1.4
.8	1	6.9	4.1	3.75	4	7.8	1.8
1	1	7.8	1.2	4	4	8.2	1.6
1.25	1	7.6	1.3	4.25	4	7.9	1.7
1.5	1	8.2	4.0	4.5	4	7.9	1.9
1.75	4	7.5	1.1	4.75	4	7.6	1.3
2	4	7.5	1.5	5	4	7.4	1.6
2.25	4	7.6	1.2	5.25	4	7.8	1.4
2.5	4	7.6	1.4	5.5	4	7.8	1.8
2.75	4	7.7	2.5	5.6	4	7.5	1.4

Observation Notes:

Vegetation Melaleuca quinquenervia, Acacia spp. Sporobolus virginicus (marine couch)

Horizon Notes:

Horizon 2A Organics

Project: CAB

Site: 75

Location: GDA 94 **ZONE** 56 504501mE 6998929mN **Lat:** -27.13213
Location: AGD 84 **ZONE** 56 504395mE 6998741mN **Lat:** -27.13382
Location: AGD 66 **ZONE** 56 504396mE 6998743mN **Lat:** -27.1338

Long: 153.04541

Long: 153.04435

Long: 153.04436

Described By: S (Shane) Pointon (POIS)

Date: 31/MAY/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Light brownish grey (10YR62) moist; sand; single grain structure; dry when sampled; diffuse to
A21	.1 to .8	Light grey (10YR71) moist; sand; single grain structure; moderately moist when sampled; diffuse to
A22	.8 to 2.5	Light grey (10YR72) moist; sand; single grain structure; moist when sampled; abrupt to
2C1	2.5 to 4	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell small pebbles 2-6 mm; wet when sampled; gradual to
2C2	4 to 4.9	Greenish grey (10Y61) moist; sand; very few <2% angular platy shell small pebbles 2-6 mm; wet when sampled; abrupt to
3C	4.9 to 5.5	Dark greenish grey (10Y41) moist; clay loam, fine sandy; few 2-10% angular platy shell medium pebbles 6-20 mm; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		5.5	4.2	3	4	7.6	1.8
.3		6.5	4.2	3.25	4	7.6	1.8
.6		6.7	4.4	3.5	1	7.6	2.0
.8		6.4	4.3	3.75	4	7.8	2.4
1		6.5	2.2	4	4	6.5	1.9
1.25		6.5	3.9	4.25	4	6.9	1.7
1.5		6.1	4.2	4.5		7.2	1.8
1.75		6.6	4.1	4.75		7.5	2.8
2		6.8	2.5	5		7.9	2.5
2.25	1	6.8	1.5	5.25		8.2	2.3
2.5	4	6.9	1.4	5.5		8.3	2.6
2.75	4	7.3	1.7				

Observation Notes:

Vegetation *Corymbia tessellaris*, *Banksia integrifolia*, *Acacia* spp.

Project: CAB

Site: 76

Location: GDA 94 **ZONE** 56 505031mE 6998230mN **Lat:** -27.13844
Location: AGD 84 **ZONE** 56 504925mE 6998042mN **Lat:** -27.14013
Location: AGD 66 **ZONE** 56 504926mE 6998044mN **Lat:** -27.14011

Long: 153.05077
Long: 153.0497
Long: 153.04971

Described By: S (Shane) Pointon (POIS)

Date: 01/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark greyish brown (10YR32) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; dry when sampled; clear to
A21	.1 to .6	Light brownish grey (10YR62) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; dry when sampled; clear to
A22	.6 to 1	Pale brown (10YR63) moist; sand; single grain structure; moderately moist when sampled; clear to
A23	1 to 2.2	Greyish brown (10YR52) moist; sand; single grain structure; moderately moist when sampled; clear to
2C	2.2 to 3.8	Dark greenish grey (10Y41) moist; loamy sand; single grain structure; moist when sampled; gradual to
3C	3.8 to 5	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4C	5 to 5.8	Greenish grey (10Y61) moist; coarse sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
5C	5.8 to 6	Dark greenish grey (10Y41) moist; fine sandy light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	7.2	5.6	3.25	1	7.9	1.0
.3		7.3	5.8	3.5	1	8.0	0.9
.6		8.5	6.2	3.75	1	8.2	1.0
.8		8.4	5.8	4	1	7.5	2.4
1		8.3	5.3	4.25	1	7.6	1.8
1.25		8.3	5.4	4.5	1	7.3	1.5
1.5		8.1	5.5	4.75	1	7.1	1.8
1.75		8.0	5.6	5	1	7.0	1.7
2		7.4	3.4	5.25	1	7.9	1.9
2.25		7.5	1.6	5.5	1	8.1	1.8
2.5	1	7.3	1.3	5.75	1	8.1	2.6
2.75	1	7.4	1.2	6	1	8.3	6.1
3	1	7.8	1.1				

Project: CAB

Site: 77

Location: GDA 94 **ZONE** 56 505012mE 6998240mN **Lat:** -27.13835
Location: AGD 84 **ZONE** 56 504906mE 6998052mN **Lat:** -27.14003
Location: AGD 66 **ZONE** 56 504907mE 6998054mN **Lat:** -27.14002

Long: 153.05057
Long: 153.04951
Long: 153.04952

Described By: S (Shane) Pointon (POIS)

Date: 01/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: swale

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SULFIDIC, SUPRATIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .25	Grey (10YR51) moist; sand; single grain structure; dry when sampled; clear to
A2	.25 to .9	Light brownish grey (10YR62) moist; sand; single grain structure; moderately moist when sampled; abrupt to
2C	.9 to 1.3	Very dark grey (5Y31) moist; fine sandy clay loam; massive structure; moist when sampled; clear to
3C1	1.3 to 2.7	Dark greenish grey (10Y41) moist; sand; single grain structure; wet when sampled; clear to
3C2	2.7 to 3	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
4C	3 to 4	Greenish grey (10Y51) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
5C	4 to 4.5	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
6C	4.5 to 5.3	Dark greenish grey (5GY41) moist; fine sandy light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
7C	5.3 to 6	Dark greenish grey (10GY41) moist; silty light clay; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	7.9	5.1	3.25		6.3	3.4
.3	1	7.8	4.9	3.5		7.8	4.4
.6		7.7	4.9	3.75		7.6	4.8
.8		7.8	2.8	4		7.5	1.4
1	4	7.9	1.2	4.25		7.5	1.6
1.25	4	7.3	1.3	4.5		7.8	5.6
1.5	4	7.2	1.1	4.75		8.0	5.9
1.75		7.0	1.8	5		8.1	3.9
2		7.1	2.4	5.25	4	7.2	1.5
2.25		7.1	2.1	5.5	4	7.2	1.5
2.5		7.0	1.9	5.75	4	6.7	1.9
2.75		6.9	4.1	6		6.2	5.8
3		6.6	4.9				

Observation Notes:

Vegetation Casuarina glauca, Malaleuca quinquenervia

Horizon Notes:

Horizon 4C Few thin clay lenses

Project: CAB

Site: 78

Location: GDA 94 **ZONE** 56 504740mE 6998383mN **Lat:** -27.13706
Location: AGD 84 **ZONE** 56 504634mE 6998195mN **Lat:** -27.13874
Location: AGD 66 **ZONE** 56 504635mE 6998197mN **Lat:** -27.13873

Long: 153.04783
Long: 153.04676
Long: 153.04677

Described By: S (Shane) Pointon (POIS)

Date: 01/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthroposol over RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Dark greyish brown (10YR42) moist; sand; single grain structure; dry when sampled; sharp to
A21	.1 to .5	Very pale brown (10YR73) moist; sand; very few <2% angular shell medium pebbles 6-20 mm; single grain structure; moderately moist when sampled; clear to
A22	.5 to 1.8	White (10YR82) moist; sand; single grain structure; moist when sampled; diffuse to
C1	1.8 to 3	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
C2	3 to 4.3	Dark greenish grey (10GY41) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
2C	4.3 to 4.5	Dark greenish grey (10GY41) moist; clay loam, fine sandy; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; abrupt to
3C	4.5 to 4.7	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
4C	4.7 to 5.6	Greenish grey (10GY51) moist; fine sandy light clay; few 2-10% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled; gradual to
5C	5.6 to 6	Dark greenish grey (10Y41) moist; silty light clay; very few <2% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	8.1	5.1	3.25		7.6	5.0
.3	1	8.0	5.4	3.5		7.8	4.6
.6	1	8.1	5.2	3.75		7.8	5.2
.8	1	8.1	5.2	4		8.0	3.9
1	1	8.2	5.5	4.25	4	8.0	2.0
1.25	1	7.9	5.5	4.5		7.3	2.2
1.5	1	7.8	5.2	4.75	4	7.9	1.9
1.75	1	8.2	5.2	5	1	8.8	4.9
2		8.3	5.1	5.25	1	8.7	5.2
2.25		8.2	5.2	5.5	1	9.1	5.7
2.5		8.2	5.7	5.75	4	8.8	1.8
2.75		7.9	2.3	6	4	9.4	1.5
3		7.9	4.6				

Observation Notes:

Vegetation *Corymbia tessellaris*, *Acacia* spp.

Project: CAB

Site: 79

Location: GDA 94 **ZONE** 56 504996mE 6998754mN **Lat:** -27.13371

Long: 153.05041

Location: AGD 84 **ZONE** 56 504890mE 6998566mN **Lat:** -27.13539

Long: 153.04935

Location: AGD 66 **ZONE** 56 504891mE 6998568mN **Lat:** -27.13538

Long: 153.04935

Described By: S (Shane) Pointon (POIS)

Date: 01/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: plain

Surface Condition: Firm

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthrosol over RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Dark greyish brown (10YR42) moist; sand; very few <2% rounded detrital sedimentary rock (unidentified) medium pebbles 6-20 mm; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; dry when sampled; clear to
A2	.2 to .6	Brown (10YR53) moist; sand; very few <2% angular other medium pebbles 6-20 mm; single grain structure; dry when sampled; clear to
2A11	.6 to .9	Very dark grey (10YR31) moist; few 2-10% medium 5-15mm faint orange mottles; clay loam, fine sandy; subangular blocky weak 5-10mm structure; moderately moist when sampled; clear to
2A12	.9 to 1.25	Grey (10YR51) moist; sand; single grain structure; moderately moist when sampled; gradual to
2A2	1.25 to 2.7	Light grey (10YR72) moist; sand; single grain structure; moist when sampled; gradual to
3C	2.7 to 3.2	Grey (5Y61) moist; sand; single grain structure; wet when sampled; abrupt to
4D	3.2 to 3.4	Black (N2.5/0) moist; loamy fine sand; wet when sampled; abrupt to
5C	3.4 to 4.1	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled
6C	4.1 to 5.7	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
7C	5.7 to 5.8	Greenish grey (10Y51) moist; loamy fine sand; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.1	5.0	3		6.7	1.5
.3	1	5.7	5.0	3.25	4	6.6	0.9
.6	1	5.4	4.3	3.5	4	6.6	1.7
.8	3	5.2	3.3	3.75	4	6.3	1.3
1	3	5.3	2.7	4	4	6.5	1.8
1.25	3	7.1	3.9	4.25	4	2.3	6.8
1.5	3	7.2	5.2	4.5	4	6.9	2.0
1.75	3	7.4	5.1	4.75	4	7.1	2.3
2	3	6.4	5.1	5	4	7.4	2.3
2.25	3	6.5	4.9	5.25	4	7.5	2.4
2.5		6.7	4.7	5.5		7.3	3.8
2.75		6.6	2.1	5.75		7.7	5.5

Horizon Notes:

Horizon 4D Rotted wood

Project: CAB

Site: 80

Location: GDA 94 **ZONE** 56 504707mE 6999789mN **Lat:** -27.12436
Location: AGD 84 **ZONE** 56 504601mE 6999601mN **Lat:** -27.12605
Location: AGD 66 **ZONE** 56 504602mE 6999603mN **Lat:** -27.12604

Long: 153.04749
Long: 153.04643
Long: 153.04643

Described By: S (Shane) Pointon (POIS)

Date: 05/JUN/06

Landscape:

Landform Pattern: alluvial plain **Element:** plain
Surface Condition: Firm, Hard setting
Disturbances: Complete clearing - pasture - cultivation at some stage

Classifications:

ASC: MOTTLED, SUPRATIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .15	Black (10YR21) moist; fine sandy light clay; granular moderate 2-5mm structure; gradual to
B21	.15 to .5	Light olive grey (5Y62) moist; very few <2% coarse 15-30mm distinct orange mottles; clay loam, fine sandy; massive structure; gradual to
B22	.5 to 1.2	Olive grey (5Y52) moist; many 20-50% coarse 15-30mm prominent orange mottles; fine sandy clay loam; massive structure; clear to
B3	1.2 to 2	Dark greenish grey (10Y41) moist; very few <2% coarse 15-30mm faint orange mottles; loamy sand; very few <2% angular platy shell small pebbles 2-6 mm; single grain structure; clear to
2C	2 to 2.9	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; clear to
3C1	2.9 to 3.4	Dark greenish grey (10Y41) moist; silty clay loam; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; gradual to
3C2	3.4 to 4.4	Dark greenish grey (10Y41) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; clear to
4C1	4.4 to 4.6	Greenish grey (10Y51) moist; loamy sand; single grain structure; clear to
4C2	4.6 to 5	Greenish grey (10Y51) moist; loamy sand; single grain structure; gradual to
4C3	5 to 5.6	Greenish grey (10Y51) moist; loamy sand; single grain structure; clear to
5C	5.7 to 5.9	Greenish grey (10Y51) moist; loamy fine sand; massive structure

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		7.4	5.9	3		8.1	5.5
.3		7.5	5.8	3.25		8.2	3.0
.6		7.8	6.1	3.5		8.1	3.2
.8		7.6	6.3	3.75		8.2	2.6
1	4	7.5	7.5	4		8.2	2.7
1.25		7.9	6.6	4.25		8.3	3.2
1.5		8.0	6.4	4.5		8.6	2.7
1.75		7.8	6.2	4.75	4	8.3	1.1
2		8.1	5.7	5	4	8.2	2.0
2.25		8.0	3.5	5.25	4	8.3	2.1
2.5		8.0	4.6	5.5	4	8.4	2.1
2.75		8.0	4.9	5.75	4	8.6	3.6

Observation Notes:

Vegetation Eucalyptus tereticornis, Casuarina glauca, Sporobolus virginicus, Chloris gayana (rhodes grass)

Horizon Notes:

Horizon 4C2 2 to 10% abundance, 2mm to 6mm sized organic fragments
Horizon 5C <2% abundance, 2 mm to 6mm sized organic fragments

Project: CAB

Site: 81

Location: GDA 94 **ZONE** 56 505060mE 6999889mN **Lat:** -27.12346
Location: AGD 84 **ZONE** 56 504954mE 6999701mN **Lat:** -27.12515
Location: AGD 66 **ZONE** 56 504955mE 6999703mN **Lat:** -27.12513

Long: 153.05105
Long: 153.04999
Long: 153.04999

Described By: S (Shane) Pointon (POIS)

Date: 05/JUN/06

Landscape:

Landform Pattern: flood plain **Element:** plain
Surface Condition: Soft
Disturbances: No effective disturbance except grazing by hoofed animals

Classifications:

ASC: SULFIDIC, SUPRATIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Black (10YR21) moist; light medium clay; subangular blocky strong 5-10mm structure; moist when sampled; clear to
B2	.2 to .4	Dark grey (10YR41) moist; common 10-20% medium 5-15mm distinct orange mottles; light medium clay; weak structure; moist when sampled; clear to
2C	.4 to 1.5	Grey (2.5Y61) moist; very few <2% coarse 15-30mm distinct orange mottles; sand; single grain structure; wet when sampled; gradual to
3C1	1.5 to 2.4	Grey (5Y51) moist; loamy sand; wet when sampled; gradual to
3C2	2.4 to 2.9	Dark greenish grey (10Y41) moist; loamy sand; single grain structure; wet when sampled; clear to
4C1	2.9 to 3.7	Dark greenish grey (10Y31) moist; clay loam fine sand; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; gradual to
4C2	3.7 to 4.8	Dark greenish grey (10Y31) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C2	4.8 to 4.9	Dark greenish grey (10Y31) moist; loamy sand; massive structure; wet when sampled; clear to
6C1	4.9 to 5.1	Dark greenish grey (10Y31) moist; silty light clay; massive structure; wet when sampled; clear to
7C	5.1 to 5.3	Dark greenish grey (10Y31) moist; loamy sand; massive structure; wet when sampled; clear to
8C1	5.3 to 5.7	Dark greenish grey (10Y31) moist; clay loam, fine sandy; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
8C2	5.7 to 5.85	Dark greenish grey (10Y31) moist; sandy clay loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	3.6	2.3	3		7.8	5.4
.3		3.8	2.9	3.25	4	8.1	3.6
.6		5.1	4.5	3.5		8.2	5.3
.8		6.1	5.1	3.75		7.9	4.6
1		6.6	4.0	4		8.2	2.5
1.25		6.5	3.1	4.25		8.2	2.7
1.5	3	7.3	1.8	4.5		8.3	3.4
1.75	3	6.8	2.0	4.75	4	8.4	2.7
2		6.9	2.1	5		8.0	3.6
2.25		7.3	2.4	5.25		8.2	3.8
2.5	4	7.5	2.9	5.5		8.0	2.9
2.75	4	7.6	6.2	5.75		8.1	3.5

Observation Notes:

Vegetation Casuarina glauca, Sporobolus virginicus

Horizon Notes:

Horizon 3C2 <2% abundance, 2mm to 6mm sized organic fragments
Horizon 7C <2% abundance, 2mm to 6mm sized organic fragments

Project: CAB

Site: 82

Location: GDA 94 **ZONE** 56 505112mE 6999885mN **Lat:** -27.12349

Long: 153.05158

Location: AGD 84 **ZONE** 56 505006mE 6999697mN **Lat:** -27.12518

Long: 153.05051

Location: AGD 66 **ZONE** 56 505007mE 6999699mN **Lat:** -27.12517

Long: 153.05052

Described By: S (Shane) Pointon (POIS)

Date: 05/JUN/06

Landscape:

Landform Pattern: alluvial plain

Element: channel bench

Surface Condition: Soft

Disturbances: No effective disturbance except grazing by hoofed animals

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .1	Very dark grey (10YR31) moist; light clay; subangular blocky moderate 5-10mm structure; wet when sampled; clear to
A12	.1 to .2	Very dark grey (5Y31) moist; very few <2% medium 5-15mm faint yellow mottles; light clay; subangular blocky moderate 5-10mm structure; wet when sampled; clear to
B2	.2 to .5	Greenish grey (10Y51) moist; very few <2% medium 5-15mm faint yellow mottles; light clay; subangular blocky moderate 10-20mm structure; wet when sampled; diffuse to
C1	.5 to .9	Dark grey (5Y41) moist; light clay; massive structure; wet when sampled; gradual to
2C	.9 to 1.15	Dark greenish grey (10Y41) moist; sandy light clay; massive structure; wet when sampled; gradual to
3C	1.15 to 1.5	Greenish grey (10Y51) moist; clay loam, sandy; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3
.1	1	6.0	3.8
.2	1	6.3	2.9
.3	1	6.9	5.4
.6	4	6.8	3.8
.8	4	7.2	1.4
1	4	7.4	1.5
1.25	4	7.4	1.6

Site Notes:

Site Gouge auger

Observation Notes:

Vegetation Phragmites australis

Horizon Notes:

Horizon A11 20 to 50% Abundance, 6mm to 20mm sized organic fragments

Project: CAB

Site: 83

Location: GDA 94 **ZONE** 56 504858mE 6999967mN **Lat:** -27.12275
Location: AGD 84 **ZONE** 56 504752mE 6999779mN **Lat:** -27.12444
Location: AGD 66 **ZONE** 56 504753mE 6999781mN **Lat:** -27.12443

Long: 153.04901

Long: 153.04795

Long: 153.04795

Described By: S (Shane) Pointon (POIS)

Date: 05/JUN/06

Landscape:

Landform Pattern: plain

Element: scroll

Surface Condition: Firm

Disturbances: Complete clearing - pasture - cultivation at some stage

Classifications:

ASC: DERMOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .4	Black (10YR21) moist; light clay; weak structure; moderately moist when sampled; clear to
B21	.4 to .6	Greyish brown (10YR52) moist; very few <2% medium 5-15mm distinct orange mottles; clay loam, sandy; weak structure; moist when sampled; gradual to
2B	.6 to 1.7	Light brownish grey (2.5Y62) moist; common 10-20% coarse 15-30mm distinct orange mottles; loamy fine sand; massive structure; moist when sampled; clear to
3C	1.7 to 2.4	Dark greenish grey (10Y41) moist; loamy sand; single grain structure; wet when sampled; clear to
4C	2.4 to 3	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
5C1	3 to 4	Dark greenish grey (10Y31) moist; clay loam, fine sandy; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
5C2	4 to 5.1	Dark greenish grey (10Y31) moist; silty light clay; very few <2% angular platy shell small pebbles 2-6 mm; massive structure; wet when sampled
6C1	5.1 to 5.7	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled
6C2	5.7 to 5.9	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		6.2	4.7	3	4	7.7	4.1
.3		5.8	3.1	3.25	4	8.1	5.6
.6		4.6	3.1	3.5		7.8	5.2
.8		4.8	3.4	3.75		7.7	6.0
1		5.7	4.6	4		7.8	5.6
1.25		6.2	5.1	4.25		7.6	5.9
1.5		6.4	5.4	4.5		7.6	5.8
1.75		6.9	4.8	4.75		7.7	5.4
2	1	7.8	4.8	5		7.4	2.6
2.25		7.7	1.6	5.25		7.4	2.7
2.5		7.8	1.5	5.5		8.1	3.4
2.75		7.8	2.4	5.75		7.8	5.3

Observation Notes:

Vegetation Eucalyptus propinqua, Eucalyptus tereticornis, Casuarina glauca, Chloris gayana

Horizon Notes:

Horizon 3C 2 to 10%, 2mm to 6mm sized organic fragments
Horizon 6C1 thin layers of organics
Horizon 6C2 Pleistocene below 5.9m

Project: CAB

Site: 84

Location: GDA 94 **ZONE** 56 504958mE 6999553mN **Lat:** -27.12649
Location: AGD 84 **ZONE** 56 504852mE 6999365mN **Lat:** -27.12818
Location: AGD 66 **ZONE** 56 504853mE 6999367mN **Lat:** -27.12817

Long: 153.05002
Long: 153.04896
Long: 153.04896

Described By: S (Shane) Pointon (POIS)

Date: 05/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: plain

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SESQUIC, SEMIAQUIC, Podosol over RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Dark grey (10YR41) moist; sand; single grain structure; dry when sampled; clear to
A21	.3 to .6	Light brownish grey (10YR62) moist; sand; single grain structure; moderately moist when sampled; clear to
A22	.6 to .9	Very pale brown (10YR73) moist; sand; single grain structure; moderately moist when sampled; clear to
B	.9 to 1.2	Brown (7.5YR43) moist; sand; single grain structure; moist when sampled; clear to
2A2	1.2 to 2.4	Light brownish grey (10YR62) moist; sand; single grain structure; wet when sampled; clear to
3C1	2.4 to 3	Grey (5Y51) moist; sand; single grain structure; wet when sampled; clear to
3C2	3 to 4.5	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; abrupt to
4C1	4.5 to 5.1	Greenish grey (10Y51) moist; fine sandy clay loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
4C2	5.1 to 5.8	Dark greenish grey (10Y41) moist; fine sandy light clay; many 20-50% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.1	4.1	3	4	6.0	1.2
.3	1	5.7	4.4	3.25	4	6.1	1.2
.6	1	5.8	4.5	3.5	4	6.4	1.1
.8	1	5.8	4.8	3.75	4	7.8	0.9
1	1	5.1	4.4	4	4	7.5	1.4
1.25	1	6.0	5.0	4.25	4	7.6	1.5
1.5	1	5.8	5.2	4.5	4	8.1	1.7
1.75	1	6.9	5.0	4.75	4	8.2	2.0
2	1	7.8	3.0	5	4	7.8	2.3
2.25	2	7.3	1.8	5.25	4	8.4	2.5
2.5	4	6.8	1.5	5.5	4	8.1	2.6
2.75	4	6.0	1.1	5.75	4	7.9	5.1

Observation Notes:

Vegetation *Acacia* spp. *Grevilla* spp

Project: CAB

Site: 85

Location: GDA 94 **ZONE** 56 504000mE 6998110mN **Lat:** -27.13952
Location: AGD 84 **ZONE** 56 503894mE 6997922mN **Lat:** -27.14121
Location: AGD 66 **ZONE** 56 503895mE 6997924mN **Lat:** -27.1412

Long: 153.04036
Long: 153.0393
Long: 153.0393

Described By: S (Shane) Pointon (POIS)

Date: 06/JUN/06

Landscape:

Landform Pattern: made land

Element: mound

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthrosol over RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A11	0 to .1	Grey (10YR61) moist; fine sand; single grain structure; dry when sampled; gradual to
A12	.1 to .3	Light grey (10YR71) moist; fine sand; single grain structure; dry when sampled; clear to
2A	.3 to .5	Greyish brown (10YR52) moist; fine sand; very few <2% angular shell medium pebbles 6-20 mm; single grain structure; dry when sampled; clear to
2A21	.5 to .9	Grey (10YR61) moist; fine sand; single grain structure; dry when sampled; clear to
2A22	.9 to 1.8	White (10YR81) moist; sand; single grain structure; moist when sampled; clear to
3B	1.8 to 2.4	Dark grey (10YR41) moist; sand; single grain structure; wet when sampled; clear to
4C1	2.4 to 2.9	Grey (2.5Y61) moist; sand; single grain structure; wet when sampled; gradual to
4C2	2.9 to 5.9	Grey (2.5Y51) moist; sand; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.8	5.3	3		7.1	3.2
.3		6.5	5.3	3.25		6.8	1.5
.6		6.5	5.1	3.5		7.2	1.1
.8		6.1	4.9	3.75		7.4	1.2
1		5.2	5.0	4		7.2	1.2
1.25		5.2	5.0	4.25		7.3	1.3
1.5		5.9	5.3	4.5		6.9	1.1
1.75		5.7	4.7	4.75		7.0	1.0
2	1	6.2	1.2	5		7.1	1.4
2.25		6.5	1.4	5.25		7.3	1.6
2.5		6.4	1.8	5.5		7.3	1.6
2.75		6.6	2.2	5.75		6.7	1.5

Observation Notes:

Vegetation *Corymbia tessellaris*, *Eucalyptus tereticornis*

Project: CAB

Site: 86

Location: GDA 94	ZONE 56	504092mE 6998109mN	Lat: -27.13953	Long: 153.04129
Location: AGD 84	ZONE 56	503986mE 6997921mN	Lat: -27.14122	Long: 153.04023
Location: AGD 66	ZONE 56	503987mE 6997923mN	Lat: -27.14121	Long: 153.04023

Described By: S (Shane) Pointon (POIS)

Date: 06/JUN/06

Landscape:

Landform Pattern: alluvial plain

Element: drainage depression

Surface Condition: Soft

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (10YR31) moist; clay loam; granular strong <2mm structure; moist when sampled; abrupt to
B2	.1 to .35	Grey (10YR51) moist; few 2-10% medium 5-15mm distinct orange mottles; light medium clay; prismatic moderate 10-20mm structure; moist when sampled; clear to
2C	.35 to .6	Grey (2.5Y61) moist; very few <2% medium 5-15mm faint orange mottles; sand; single grain structure; moist when sampled; clear to
3C1	.6 to 1.2	Grey (2.5Y51) moist; loamy sand; single grain structure; wet when sampled; gradual to
3C2	1.2 to 1.6	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled; abrupt to
4C1	1.6 to 2.2	Dark greenish grey (10Y41) moist; fine sandy light clay; massive structure; wet when sampled; gradual to
4C2	2.2 to 2.95	Dark greenish grey (10Y41) moist; silty light clay; massive structure; wet when sampled; clear to
5C	2.95 to 3.7	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; clear to
6C	3.7 to 5.7	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; abrupt to
7D	5.7 to 6	Greenish grey (10Y61) moist; common 10-20% medium 5-15mm distinct grey mottles; medium clay; massive structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		6.5	3.2	3	4	7.6	1.3
.3		6.9	4.5	3.25	4	7.8	1.4
.6		7.3	3.8	3.5	4	7.9	1.4
.8	4	7.8	1.6	3.75	4	7.6	1.7
1	4	7.8	1.3	4	4	7.6	1.5
1.25	4	7.7	1.4	4.25	4	7.8	1.7
1.5	4	7.2	1.1	4.5	4	7.3	1.6
1.75	4	7.1	0.9	4.75	4	7.2	1.3
2	4	7.9	1.3	5	4	7.2	1.1
2.25	4	8.1	0.9	5.25	4	7.1	1.0
2.5	4	6.9	1.0	5.5	4	6.9	1.0
2.75	4	7.3	1.3	5.75	4	8.2	5.9

Observation Notes:

Soil ASC O 'AN'; SO 'DT'

Vegetation Corymbia tessellaris, Eucalyptus tereticornis, Melaleuca quinquenervia

Horizon Notes:

Horizon	A1	Organics
Horizon	4C1	Layers of organics
Horizon	4C2	Layers of organics
Horizon	5C	2 to 10% abundance, 2mm to 6mm sized organic fragments

Project: CAB

Site: 87

Location: GDA 94 **ZONE** 56 504281mE 6998123mN **Lat:** -27.1394
Location: AGD 84 **ZONE** 56 504175mE 6997935mN **Lat:** -27.14109
Location: AGD 66 **ZONE** 56 504176mE 6997937mN **Lat:** -27.14108

Long: 153.0432

Long: 153.04213

Long: 153.04214

Described By: S (Shane) Pointon (POIS)

Date: 06/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: CLASS UNDETERMINED, Anthroposol over RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Very dark grey (10YR31) moist; loamy sand; single grain structure; dry when sampled; clear to
B2	.1 to 1.1	Brownish yellow (10YR66) moist; common 10-20% medium 5-15mm distinct orange mottles; sand; single grain structure; moderately moist when sampled; clear to
2A2	1.1 to 1.7	White (10YR81) moist; sand; single grain structure; moderately moist when sampled; clear to
3C	1.7 to 1.9	Greyish brown (10YR52) moist; sand; single grain structure; moist when sampled; clear to
4A2	1.9 to 2.7	Light grey (2.5Y72) moist; sand; single grain structure; wet when sampled; gradual to
5C	2.7 to 2.9	Grey (5Y51) moist; sand; single grain structure; wet when sampled; clear to
6C	2.9 to 3.4	Greenish grey (10Y51) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
7C	3.4 to 3.9	Dark greenish grey (10GY41) moist; fine sandy clay loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; abrupt to
8C	3.9 to 4	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; abrupt to
9C	4 to 4.15	Dark greenish grey (10GY41) moist; fine sandy light clay; massive structure; wet when sampled; abrupt to
10C	4.15 to 4.4	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; gradual to
11C	4.4 to 5.5	Greenish grey (10Y61) moist; sand; very few <2% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		6.2	4.6	2.75		7.3	1.3
.3		6.1	4.4	3		7.5	4.0
.6		6.1	5.2	3.25	4	7.4	2.8
.8		6.6	4.9	3.5	4	7.7	5.1
1		5.8	4.9	3.75	4	7.8	3.3
1.25		6.6	4.8	4	4	7.5	1.4
1.5		7.2	4.6	4.25	4	7.6	1.7
1.75	1	5.8	4.6	4.5	4	7.4	1.6
2		7.3	5.0	4.75	4	7.2	1.7
2.25		6.9	5.1	5	4	6.8	1.5
2.5		6.5	4.8				

Observation Notes:

Vegetation *Acacia* spp., *Alphitonia excelsa*, *Corymbia tessellaris*

Horizon Notes:

Horizon 7C 2 to 10% abundance, 2mm to 6mm sized organic fragments
Horizon 11C <2% abundance, 2mm to 6mm sized organic fragments

Project: CAB

Site: 88

Location: GDA 94 **ZONE** 56 504559mE 6999268mN **Lat:** -27.12907
Location: AGD 84 **ZONE** 56 504453mE 6999080mN **Lat:** -27.13076
Location: AGD 66 **ZONE** 56 504454mE 6999082mN **Lat:** -27.13074

Long: 153.046
Long: 153.04494
Long: 153.04494

Described By: S (Shane) Pointon (POIS)

Date: 14/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: plain

Surface Condition: Firm

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: CLASS UNDETERMINED, Anthrosol over OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Dark grey (10YR41) moist; loamy sand; massive structure; dry when sampled; abrupt to
B2	.2 to .5	Black (10YR21) moist; few 2-10% medium 5-15mm faint orange mottles; sandy light clay; platy weak structure; moderately moist when sampled; clear to
2A2	.5 to .9	Light grey (10YR72) moist; very few <2% medium 5-15mm faint orange mottles; sand; single grain structure; moist when sampled; gradual to
2B2	.9 to 1.1	Greyish brown (10YR52) moist; few 2-10% medium 5-15mm faint orange mottles; sand; single grain structure; moist when sampled; gradual to
3A2	1.1 to 1.4	Light brownish grey (10YR62) moist; sand; single grain structure; wet when sampled; diffuse to
3C	1.4 to 2.5	Dark greenish grey (10GY41) moist; loamy sand; single grain structure; wet when sampled; clear to
4C	2.5 to 2.7	Dark grey (N40) moist; sand; single grain structure; wet when sampled; clear to
5C	2.7 to 3.9	Dark greenish grey (10GY41) moist; loamy sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
6C	3.9 to 4.1	Dark greenish grey (10GY41) moist; fine sandy clay loam; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
7C	4.1 to 5.3	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
8C	5.3 to 5.6	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.9	4.6	3	4	8.1	1.5
.3	1	6.9	4.4	3.25	4	8.3	1.7
.6		7.0	5.3	3.5	4	8.4	1.5
.8		7.4	5.4	3.75	4	7.9	1.7
1		7.6	5.7	4	3	7.8	2.2
1.25		7.3	5.8	4.25	4	7.89	1.9
1.5	4	6.9	5.2	4.5	4	7.3	1.8
1.75	4	6.8	1.5	4.75	4	7.1	1.7
2	4	8.0	1.7	5	4	7.1	1.6
2.25	4	7.6	1.5	5.25	4	7.3	1.6
2.5	4	7.5	1.6	5.5	3	6.9	1.8
2.75	4	7.6	1.6				

Observation Notes:

Vegetation *Corymbia tessellaris*, *Eucalyptus tereticornis*, *Acacia* spp., *Chloris gayana*

Project: CAB

Site: 89

Location: GDA 94 **ZONE** 56 504447mE 6999205mN **Lat:** -27.12964
Location: AGD 84 **ZONE** 56 504341mE 6999017mN **Lat:** -27.13132
Location: AGD 66 **ZONE** 56 504342mE 6999019mN **Lat:** -27.13131

Long: 153.04487
Long: 153.04381
Long: 153.04381

Described By: S (Shane) Pointon (POIS)

Date: 14/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Extensive clearing

Classifications:

ASC: CLASS UNDETERMINED, Anthrosol over DERMOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Greyish brown (10YR52) moist; sand; single grain structure; dry when sampled; gradual to
B2	.3 to .9	Very pale brown (10YR74) moist; sand; single grain structure; moderately moist when sampled; gradual to
2A2	.9 to 2.2	White (10YR81) moist; sand; single grain structure; moderately moist when sampled; clear to
2B2	2.2 to 2.3	Very pale brown (10YR73) moist; common 10-20% medium 5-15mm distinct orange mottles; sand; single grain structure; moist when sampled; clear to
3C	2.3 to 2.7	Light grey (5Y71) moist; sand; single grain structure; wet when sampled; gradual to
4C	2.7 to 2.9	Dark grey (N40) moist; loamy sand; single grain structure; wet when sampled; clear to
5C	2.9 to 3.5	Dark greenish grey (10GY41) moist; fine sandy clay loam; massive structure; wet when sampled; clear to
6C	3.5 to 4	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
7C	4 to 4.5	Dark greenish grey (10Y41) moist; fine sandy loam; massive structure; wet when sampled; gradual to
8C	4.5 to 5.8	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	4.6	4.3	3	4	6.2	1.1
.3	1	5.0	3.8	3.25	4	6.2	1.4
.6	1	4.9	4.5	3.5	4	6.1	1.3
.8		5.3	5.0	3.75	4	6.0	1.4
1		5.1	4.9	4	4	5.9	1.4
1.25		4.5	4.1	4.25	4	6.1	1.5
1.5		5.2	4.5	4.5	4	6.0	1.3
1.75		4.8	4.5	4.75	4	6.3	1.2
2		4.7	4.4	5	4	6.3	1.1
2.25		5.6	3.6	5.25	4	6.1	1.0
2.5		6.4	4.2	5.5	4	5.8	1.0
2.75		6.6	4.5	5.75	4	5.8	1.0

Observation Notes:

Vegetation *Corymbia tessellaris*, *Corymbia intermedia*, *Alphitonia excelsa*

Project: CAB

Site: 90

Location: GDA 94 **ZONE** 56 504286mE 6999178mN **Lat:** -27.12988
Location: AGD 84 **ZONE** 56 504180mE 6998990mN **Lat:** -27.13157
Location: AGD 66 **ZONE** 56 504181mE 6998992mN **Lat:** -27.13156

Long: 153.04324
Long: 153.04218
Long: 153.04219

Described By: S (Shane) Pointon (POIS)

Date: 14/JUN/06

Landscape:

Landform Pattern: alluvial plain

Element: plain

Surface Condition: Firm, Hard setting

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Black (10YR21) moist; sandy light clay; subangular blocky strong 5-10mm structure; moderately moist when sampled; gradual to
B2	.1 to .35	Dark grey (10YR41) moist; few 2-10% fine <5mm distinct orange mottles; sandy light clay; subangular blocky moderate 10-20mm structure; moderately moist when sampled; clear to
2B2	.35 to .8	Light grey (10YR72) moist; common 10-20% medium 5-15mm distinct orange mottles; sand; single grain structure; moderately moist when sampled; gradual to
2C1	.8 to 1.2	Grey (5Y61) moist; sand; single grain structure; moist when sampled; gradual to
2C2	1.2 to 2.4	Grey (5Y51) moist; sand; single grain structure; wet when sampled; abrupt to
3C	2.4 to 4	Dark greenish grey (10GY41) moist; clay loam, fine sandy; massive structure; wet when sampled; gradual to
4C	4 to 4.9	Dark greenish grey (10GY41) moist; fine sandy light clay; massive structure; wet when sampled; gradual to
5C	4.9 to 5.8	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell small pebbles 2-6 mm; massive structure; wet when sampled; clear to
6C	5.8 to 6	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.2	3.2	3	4	8.2	1.8
.3		4.0	3.9	3.25	4	8.6	1.8
.6		4.0	3.9	3.5	4	8.4	3.4
.8		4.5	2.1	3.75	4	8.6	2.1
1		6.1	3.7	4	4	8.6	4.7
1.25	4	6.3	1.4	4.25	4	8.4	2.0
1.5	4	6.4	1.6	4.5	4	8.5	1.9
1.75	4	6.2	1.7	4.75	4	8.5	1.7
2	4	7.4	1.6	5	4	8.2	1.9
2.25	4	7.2	1.3	5.25	3	7.5	1.7
2.5	4	7.6	3.9	5.5	3	7.4	2.0
2.75	4	7.9	1.9	5.75	3	7.1	6.1

Observation Notes:

Vegetation *Banksia integrifolia*, *Casuarina glauca*, *Corymbia tessellaris*, *Alphitonia excelsa*, *Imperata cylindrica*, *Melaleuca quinquenervia*

Horizon Notes:

Horizon 2C1 Rotted root
Horizon 4C <2% abundance, 6mm to 20mm sized organic fragments
Horizon 5C <2% abundance, 2mm to 6mm sized organic fragments

Project: CAB

Site: 91

Location: GDA 94 **ZONE** 56 504130mE 6999167mN **Lat:** -27.12998
Location: AGD 84 **ZONE** 56 504024mE 6998979mN **Lat:** -27.13167
Location: AGD 66 **ZONE** 56 504025mE 6998981mN **Lat:** -27.13166

Long: 153.04167
Long: 153.04061
Long: 153.04061

Described By: S (Shane) Pointon (POIS)

Date: 14/JUN/06

Landscape:

Landform Pattern: tidal flat

Element: supratidal flat

Surface Condition: Soft

Disturbances: No effective disturbance except grazing by hoofed animals

Classifications:

ASC: SULFIDIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Black (10YR21) moist; fine sandy light clay; subangular blocky strong 2-5mm structure; moist when sampled; clear to
B2	.2 to .7	Light brownish grey (2.5Y62) moist; common 10-20% medium 5-15mm distinct orange mottles; light medium clay; moderate structure; moist when sampled; clear to
2C	.7 to 1.7	Greenish grey (10Y51) moist; clay loam, sandy; massive structure; wet when sampled; gradual to
3C1	1.7 to 2.2	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; gradual to
3C2	2.2 to 4.2	Grey (N50) moist; sand; single grain structure; wet when sampled; clear to
4C	4.2 to 4.5	Dark greenish grey (10Y41) moist; loamy sand; few 2-10% angular shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C	4.5 to 5.1	Dark greenish grey (10Y41) moist; fine sandy clay loam; massive structure; wet when sampled; gradual to
6C	5.1 to 5.8	Dark greenish grey (10Y41) moist; fine sandy light clay; massive structure; wet when sampled; gradual to

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.3	4.6	3	4	6.9	1.6
.3		6.4	4.8	3.25	4	7.0	1.3
.6		6.4	4.7	3.5	4	6.9	1.3
.8	4	6.4	1.4	3.75	4	7.2	1.5
1	4	6.3	1.2	4	4	7.6	1.4
1.25	4	6.4	1.1	4.25	4	7.5	1.3
1.5	4	6.4	1.3	4.5	4	8.0	2.8
1.75	4	6.5	1.1	4.75	4	7.8	1.1
2	4	6.2	1.0	5	4	7.3	1.7
2.25	4	6.7	1.2	5.25	4	7.5	1.6
2.5	4	6.9	1.4	5.5	4	7.5	1.5
2.75	4	6.7	1.4	5.75	4	7.6	1.5

Observation Notes:

Vegetation *Sporobolus virginicus*, *Avicennia marina*

Project: CAB**Site:** 92**Location:** GDA 94 **ZONE** 56 505247mE 6999684mN **Lat:** -27.12531**Long:** 153.05294**Location:** AGD 84 **ZONE** 56 505141mE 6999496mN **Lat:** -27.127**Long:** 153.05188**Location:** AGD 66 **ZONE** 56 505142mE 6999498mN **Lat:** -27.12699**Long:** 153.05188**Described By:** S (Shane) Pointon (POIS)**Date:** 19/JUN/06**Landscape:****Landform Pattern:** beach ridge plain**Element:** beach ridge**Surface Condition:** Loose**Classifications:****ASC:** SESQUIC, SEMIAQUIC, Podsol over RUDOSOLIC, OXYAQUIC, Hydrosol**Profile Morphology:**

Horizon	Depth (m)	Description
A1	0 to .3	Grey (10YR51) moist; sand; single grain structure; dry when sampled
A21	.3 to 1.2	White (10YR81) moist; sand; single grain structure; moderately moist when sampled
A22	1.2 to 1.4	Light brownish grey (10YR62) moist; sand; single grain structure; moist when sampled
A3	1.4 to 1.8	Brown (10YR53) moist; sand; single grain structure; wet when sampled
Bh	1.8 to 2	Brown (10YR43) moist; loamy sand; wet when sampled
B2h	2 to 2.7	Yellowish brown (10YR54) moist; loamy sand; single grain structure; wet when sampled
C1	2.7 to 3	Grey (5Y51) moist; sand; single grain structure; wet when sampled
C2	3 to 3.8	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled
2C	3.8 to 4.4	Greenish grey (5GY51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
3C	4.4 to 4.7	Greenish grey (10Y51) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled
4C	4.7 to 5.3	Dark greenish grey (10GY41) moist; loamy sand; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled
5C	5.3 to 6	Dark greenish grey (10GY41) moist; fine sandy clay loam; very few <2% angular platy shell large pebbles 20-60 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.0	4.2	3.25	1	6.5	1.9
.3	1	5.1	4.1	3.5	1	6.6	1.8
.6		6.9	4.4	3.75	2	7	1.9
.8		6.7	4.6	4	2	7.3	2.8
1		5.5	4.8	4.25	2	7.2	5.7
1.25		5.2	4.6	4.5	2	8.1	6.0
1.5		5.4	4.4	4.75	2	8.0	2.4
1.75		5.7	4.7	5	2	8.7	4.6
2		6.2	4.1	5.25	3	8.8	3.6
2.25		6.3	4.2	5.5	4	9.2	2.7
2.5		6.5	3.8	5.75	4	8.9	3.1
2.75	1	6.6	2.9	6	4	8.1	2.6
3	1	6.4	1.7				

Horizon Notes:

Horizon Bh Organics

Project: CAB

Site: 93

Location: GDA 94 **ZONE** 56 505200mE 6999710mN **Lat:** -27.12507

Long: 153.05246

Location: AGD 84 **ZONE** 56 505094mE 6999522mN **Lat:** -27.12676

Long: 153.0514

Location: AGD 66 **ZONE** 56 505095mE 6999524mN **Lat:** -27.12675

Long: 153.05141

Described By: S (Shane) Pointon (POIS)

Date: 19/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: swale

Surface Condition: Loose

Disturbances: No record

Classifications:

ASC: DERMOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Dark grey (10YR41) moist; sand; single grain structure; moderately moist when sampled; gradual to
B21	.2 to .7	Greyish brown (10YR52) moist; sand; single grain structure; moist when sampled; gradual to
B22	.7 to 2.2	Pale brown (10YR63) moist; sand; single grain structure; wet when sampled; gradual to
C1	2.2 to 2.9	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
2C	2.9 to 4.5	Dark greenish grey (10GY41) moist; loamy sand; common 10-20% angular platy shell medium pebbles 6-20 mm; common 10-20% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
3C	4.5 to 5.1	Dark greenish grey (5GY41) moist; clay loam, fine sandy; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled
4C	5.1 to 5.8	Dark greenish grey (10Y41) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C	5.8 to 6	Dark greenish grey (10Y41) moist; fine sandy light clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.2	1	4.9	3.3	3.25	4	7.3	6.2
.3		4.9	3.9	3.5	4	7.2	5.0
.6		4.8	4.1	3.75	4	7.2	4.1
.8		5.0	4.2	4	4	7.2	5.2
1		4.7	4.6	4.25	4	7.4	1.9
1.25		5.2	4.7	4.5	4	7.7	1.9
1.5		4.9	4.8	4.75	4	8.2	2.6
1.75		5.6	4.8	5	4	8.8	4.2
2		6.0	4.0	5.25	4	8.9	5.3
2.25	4	6.5	2.0	5.5	4	9.0	2.5
2.5	4	7.1	1.9	5.75	4	8.7	2.6
2.75	4	7.2	1.9	6	4	7.8	2.1
3	4	7.6	6.0				

Horizon Notes:

Horizon	2C	Organics
Horizon	3C	Dilatent

Project: CAB

Site: 94

Location: GDA 94 **ZONE** 56 505419mE 6999555mN **Lat:** -27.12647
Location: AGD 84 **ZONE** 56 505313mE 6999367mN **Lat:** -27.12816
Location: AGD 66 **ZONE** 56 505314mE 6999369mN **Lat:** -27.12815

Long: 153.05467
Long: 153.05361
Long: 153.05362

Described By: S (Shane) Pointon (POIS)

Date: 19/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: swale

Surface Condition: Firm

Disturbances: Extensive clearing

Classifications:

ASC: SPOLIC, Anthrosol over RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Brown (10YR53) moist; very few <2% medium 5-15mm faint orange mottles; loamy sand; single grain structure; moist when sampled; abrupt to
2A1	.3 to .5	Black (10YR21) moist; clay loam; subangular blocky moderate 5-10mm structure; moist when sampled; clear to
2C	.5 to 1	Grey (5Y61) moist; very few <2% medium 5-15mm faint brown mottles; loamy fine sand; massive structure; moist when sampled; clear to
3C1	1 to 1.8	Light grey (5Y71) moist; sand; single grain structure; wet when sampled; gradual to
3C2	1.8 to 2.3	Greenish grey (5GY51) moist; sand; single grain structure; wet when sampled; clear to
3C3	2.3 to 2.5	Greenish grey (5GY51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4C1	2.5 to 3.7	Dark greenish grey (10GY41) moist; loamy fine sand; very few <2% angular platy shell small pebbles 2-6 mm; massive structure; wet when sampled; clear to
4C2	3.7 to 3.9	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
4C3	3.9 to 4.5	Dark greenish grey (5GY41) moist; fine sandy loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C	4.5 to 5.5	Dark greenish grey (10Y41) moist; fine sandy light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
6C	5.5 to 6	Greenish grey (10Y51) moist; loamy fine sand; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	8.4	4.2	3	4	8	1.8
.3	4	6.4	2.6	3.25	4	8.2	2.1
.45		6.7	3.0	3.5	4	8	2.1
.6	1	6.5	3.2	3.75	4	8.7	2.2
.8	1	6.6	4.0	4	4	8.7	4.7
1	1	6.8	3.9	4.25	4	8.8	4.7
1.25	1	6.6	3.4	4.5	4	8.7	3.6
1.5	1	6.6	2.7	4.75	4	9.4	6.2
1.75	1	9.6	3.7	5	4	9.1	3.1
2	1	8.0	3.0	5.25	4	9.0	2.8
2.25	1	7.6	3.7	5.5	4	8.8	2.2
2.5	1	7.6	5.8	5.75	4	8.7	1.7
2.75	4	7.9	1.8	6	4	8.6	2.3

Horizon Notes:

Horizon 4C1 Dialent
Texture 6C Clay Lenses

Project: CAB

Site: 95

Location: GDA 94 **ZONE** 56 505370mE 6999570mN **Lat:** -27.12634
Location: AGD 84 **ZONE** 56 505264mE 6999382mN **Lat:** -27.12803
Location: AGD 66 **ZONE** 56 505265mE 6999384mN **Lat:** -27.12801

Long: 153.05418
Long: 153.05312
Long: 153.05312

Described By: S (Shane) Pointon (POIS)

Date: 19/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthropol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Light yellowish brown (10YR64) moist; sand; single grain structure; dry when sampled; abrupt to
2A	.2 to .4	Grey (10YR51) moist; sand; single grain structure; dry when sampled; gradual to
2B21	.4 to 1.4	Yellow (10YR76) moist; sand; single grain structure; moderately moist when sampled; clear to
2B22	1.4 to 2.2	Very pale brown (10YR84) moist; sand; single grain structure; moderately moist when sampled; gradual to
3A21	2.2 to 2.5	White (10YR82) moist; sand; single grain structure; moderately moist when sampled; clear to
3A22	2.5 to 2.75	Light grey (2.5Y72) moist; sand; single grain structure; moist when sampled; clear to
4A21	2.75 to 3.7	White (2.5Y82) moist; coarse sand; single grain structure; wet when sampled; diffuse to
4A22	3.7 to 4	Light grey (2.5Y72) moist; coarse sand; single grain structure; wet when sampled; clear to
5C1	4 to 4.8	Greenish grey (10Y51) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; gradual to
5C2	4.8 to 5.5	Greenish grey (10Y61) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
6C	5.5 to 6	Dark greenish grey (10Y41) moist; loamy fine sand; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	8.0	4.9	3.25		6.7	5.3
.3	1	6.9	3.7	3.5		6.7	5.3
.6		7.0	4.7	3.75		6.5	5.1
.8		6.7	4.8	4		6.9	5.0
1		6.5	4.9	4.25		7.0	5.9
1.25		6.2	5.0	4.5		7.4	5.9
1.5		6.3	5.0	4.75		7.6	6.0
1.75		6.5	5.1	5		7.6	6.1
2		5.7	5.0	5.25		7.9	5.7
2.25		6.4	5.0	5.5		8.2	5.6
2.5		6.5	5.2	5.75		8.3	5.2
2.75		6.7	5.4	6	1	8.6	5.4
3		6.4	5.2				

Observation Notes:

Vegetation *Corymbia tessellaris*, *Acacia* spp.

Project: CAB

Site: 96

Location: GDA 94 **ZONE** 56 504162mE 6998763mN **Lat:** -27.13363
Location: AGD 84 **ZONE** 56 504056mE 6998575mN **Lat:** -27.13532
Location: AGD 66 **ZONE** 56 504057mE 6998577mN **Lat:** -27.1353

Long: 153.04199
Long: 153.04093
Long: 153.04094

Described By: S (Shane) Pointon (POIS)

Date: 20/JUN/06

Landscape:

Landform Pattern: made land

Element: mound

Surface Condition: Firm

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SPOLIC, Anthroposol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Greyish brown (2.5Y53) moist; loamy sand; single grain structure; moderately moist when sampled; gradual to
2B	.1 to .4	Light grey (2.5Y72) moist; common 10-20% medium 5-15mm distinct yellow jarosite (from pyrite) mottles; loamy sand; massive structure; moderately moist when sampled; clear to
3B	.4 to .6	Grey (2.5Y51) moist; many 20-50% medium 5-15mm prominent orange mottles; sandy loam; platy weak structure; few 2-10% fine <2mm ferruginous soft segregations; moderately moist when sampled; abrupt to
4C	.6 to 1.3	Dark greenish grey (10Y41) moist; sandy clay loam; massive structure; moist when sampled; clear to
5C	1.3 to 1.4	Dark greenish grey (10Y31) moist; few 2-10% medium 5-15mm distinct dark mottles; fine sandy light medium clay; massive structure; moist when sampled; clear to
6C	1.4 to 1.95	Greenish grey (10Y51) moist; very few <2% medium 5-15mm faint dark mottles; loamy sand; massive structure; wet when sampled; clear to
7C	1.95 to 3.6	Dark greenish grey (5GY41) moist; fine sandy loam; massive structure; wet when sampled; clear to
8C1	3.6 to 4	Greenish grey (10Y51) moist; coarse sand; single grain structure; wet when sampled; clear to
8C2	4 to 5.5	Greenish grey (10Y61) moist; sand; common 10-20% angular platy shell large pebbles 20-60 mm; single grain structure; wet when sampled; clear to
9C	5.5 to 5.9	Dark greenish grey (10Y41) moist; light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
10D	5.9 to 6	Greenish grey (10Y51) moist; common 10-20% medium 5-15mm distinct gley mottles; medium clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.6	3.4	3	1	7.6	1.7
.3		4.9	2.2	3.25	1	7.5	1.3
.6		4.1	1.9	3.5	1	7.5	2.2
.8	4	5.9	2.0	3.75	4	8.3	3.3
1	4	7.2	1.7	4		8.5	2.6
1.25	4	7.8	2.0	4.25		7.6	2.4
1.35	4	8.5	4.2	4.5		7.7	5.1
1.5	4	8.6	1.5	4.75		7.7	4.1
1.75	1	8.5	1.7	5		7.8	4.7
2	1	8.5	2.2	5.25		7.4	4.8
2.25	1	8.3	1.9	5.5		7.5	5.1
2.5	1	8.2	1.6	5.75	4	7.6	1.3
2.75	1	7.8	1.3	6		7.8	5.9

Observation Notes:

Vegetation Chloris gayana, Phragmites australis

Project: CAB**Site:** 97

Location: GDA 94	ZONE 56	504143mE 6998855mN	Lat: -27.1328	Long: 153.0418
Location: AGD 84	ZONE 56	504037mE 6998667mN	Lat: -27.13449	Long: 153.04074
Location: AGD 66	ZONE 56	504038mE 6998669mN	Lat: -27.13447	Long: 153.04074

Described By: S (Shane) Pointon (POIS)**Date:** 20/JUN/06**Landscape:****Landform Pattern:** tidal flat**Element:** supratidal flat**Classifications:****ASC:** SULFIDIC, INTERTIDAL, Hydrosol**Profile Morphology:**

Horizon	Depth (m)	Description
A1	0 to .2	Greyish brown (10YR52) moist; few 2-10% medium 5-15mm prominent yellow jarosite (from pyrite) mottles; fine sandy light clay; subangular blocky moderate 5-10mm structure; moist when sampled; clear to
2A1	.2 to .3	Black (10YR21) moist; few 2-10% medium 5-15mm distinct red mottles; light clay; weak structure; moist when sampled; gradual to
2B2	.3 to .6	Grey (2.5Y51) moist; few 2-10% medium 5-15mm distinct yellow mottles, common 10-20% medium 5-15mm prominent orange mottles; light medium clay; massive structure; moist when sampled; diffuse to
3C	.6 to .9	Greenish grey (10Y51) moist; very few <2% medium 5-15mm faint dark mottles; sandy light clay; massive structure; moist when sampled; clear to
4C	.9 to 1.4	Dark greenish grey (10GY41) moist; fine sandy clay loam; massive structure; moist when sampled clear to
5C1	1.4 to 2.8	Greenish grey (10Y61) moist; loamy sand; single grain structure; wet when sampled; clear to
5C2	2.8 to 3	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; clear to
6C1	3 to 4.1	Greenish grey (10Y61) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
6C2	4.1 to 4.5	Greenish grey (10Y51) moist; sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
7C1	4.5 to 4.7	Greenish grey (10Y51) moist; silty clay loam; very few <2% angular platy shell medium pebbles 6-20 mm; wet when sampled; clear to
7C2	4.7 to 5.8	Greenish grey (10Y51) moist; clay loam, sandy; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
7C3	5.8 to 6	Dark greenish grey (10Y41) moist; clay loam, sandy; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.5	5.2	3		7.5	1.2
.25		6.0	3.9	3.25		6.8	1.8
.3	4	6.5	5.9	3.5		6.6	1.7
.45	4	6.5	1.3	3.75		6.9	1.3
.6	4	6.5	1.2	4		7.1	4.8
.8	4	6.4	1.4	4.25		7.3	2.0
1	4	6.3	1.4	4.5	4	8.0	4.9
1.25	4	6.4	1.3	4.75	4	8.0	1.6
1.5	4	6.5	1.3	5	4	8.0	1.4
1.75	4	6.5	1.5	5.25	4	8.1	1.6
2	4	6.7	1.0	5.5	4	8.0	1.5
2.25	4	6.4	0.9	5.75	4	7.8	1.7
2.5	4	7.2	0.8	6	4	7.7	1.6
2.75		7.1	1.4				

Horizon Notes: Horizon 5C1 Organics

Project: CAB

Site: 98

Location: GDA 94 **ZONE** 56 505706mE 6999754mN **Lat:** -27.12467
Location: AGD 84 **ZONE** 56 505600mE 6999566mN **Lat:** -27.12636
Location: AGD 66 **ZONE** 56 505601mE 6999568mN **Lat:** -27.12635

Long: 153.05757
Long: 153.05651
Long: 153.05651

Described By: S (Shane) Pointon (POIS)

Date: 20/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .7	Greyish brown (10YR52) moist; sand; single grain structure; dry when sampled; gradual to
A2	.7 to 2.1	Pale brown (10YR63) moist; sand; single grain structure; moderately moist when sampled; clear to
2C	2.1 to 2.2	Grey (10YR51) moist; sand; single grain structure; moist when sampled; clear to
3C	2.2 to 2.5	Brown (10YR53) moist; sand; single grain structure; wet when sampled; clear to
4C	2.5 to 2.7	Grey (5Y61) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
5C	2.7 to 4.5	Dark greenish grey (10GY41) moist; fine sandy loam; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
6C	4.5 to 4.7	Dark greenish grey (5GY41) moist; fine sandy loam; many 20-50% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
7C	4.7 to 5.7	Dark greenish grey (10GY41) moist; clay loam, fine sandy; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
8C	5.7 to 6	Dark greenish grey (10GY41) moist; light clay; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		8.1	5.3	3		7.5	5.6
.3		7.9	5.3	3.25		7.7	5.5
.6		7.9	5.2	3.5		7.7	5.6
.8		8	5.3	3.75	1	7.7	1.9
1		7.8	4.3	4	1	8.0	2.8
1.25		8.5	5.0	4.25	1	8.1	4.2
1.5		8.6	5.1	4.5	1	8.5	3.6
1.75		8.4	4.9	4.75	1	8.2	3.3
2		7.7	1.3	5	1	8.4	4.1
2.15		6.5	1.9	5.25	1	8.3	3.8
2.25		6.7	2.6	5.5	1	8.3	3.9
2.5		7.0	5.7	5.75	1	8.7	4.7
2.75		7.4	6.1	6	1	7.9	4.7

Observation Notes:

Vegetation Casuarina glauca, Bauhinia species

Project: CAB

Site: 99

Location: GDA 94 **ZONE** 56 503890mE 6998953mN **Lat:** -27.13191
Location: AGD 84 **ZONE** 56 503784mE 6998765mN **Lat:** -27.1336
Location: AGD 66 **ZONE** 56 503785mE 6998767mN **Lat:** -27.13359

Long: 153.03925
Long: 153.03819
Long: 153.03819

Described By: S (Shane) Pointon (POIS)

Date: 20/JUN/06

Landscape:

Landform Pattern: tidal flat

Element: supratidal flat

Surface Condition: Firm

Disturbances: Extensive clearing

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .2	Black (10YR21) moist; clay loam; subangular blocky strong 2-5mm structure; moderately moist when sampled; abrupt to
B2	.2 to .7	Greyish brown (10YR52) moist; many 20-50% coarse 15-30mm distinct orange mottles; light medium clay; prismatic moderate 10-20mm structure; moderately moist when sampled; clear to
2C	.7 to .9	Light grey (10YR71) moist; few 2-10% coarse 15-30mm distinct orange mottles; sand; single grain structure; moderately moist when sampled; clear to
3C	.9 to 1.4	Dark greenish grey (10GY41) moist; clay loam, fine sandy; massive structure; moist when sampled; gradual to
4C	1.4 to 2.2	Greenish grey (10Y51) moist; sand; very few <2% angular shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
5C	2.2 to 2.6	Greenish grey (10Y51) moist; sandy clay loam; massive structure; wet when sampled; clear to
6C	2.6 to 3.5	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled; gradual to
6C2	3.5 to 4.2	Greenish grey (10Y61) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
7D	4.2 to 5.6	Greenish grey (5GY51) moist; medium heavy clay; massive structure; moderately moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	7.3	5.6	3	1	6.9	2.7
.3		7.4	5.2	3.25	1	7.2	5.6
.6		7.2	5.4	3.5	1	7.2	5.3
.8		6.5	5.2	3.75	1	7.4	3.1
1	4	6.5	1.0	4	1	7.2	2.7
1.25	4	7.2	1.1	4.25	4	7.2	1.8
1.5	4	6.9	1.3	4.5	1	7.9	6.3
1.75	1	6.4	1.3	4.75	1	8.3	6.6
2	1	6.3	1.0	5	1	8.2	6.3
2.25	1	6.2	1.2	5.25	1	7.6	6.6
2.5	4	6.5	1.1	5.5	1	7.6	4.9
2.75	4	6.9	1.6				

Observation Notes:

Vegetation *Sporobolus virginicus*, *Arthrocnemum halocnemoides* var. *pergranulatum*, *Casuarina glauca*

Project: CAB

Site: 100

Location: GDA 94 **ZONE** 56 503850mE 6999223mN **Lat:** -27.12947
Location: AGD 84 **ZONE** 56 503744mE 6999035mN **Lat:** -27.13116
Location: AGD 66 **ZONE** 56 503745mE 6999037mN **Lat:** -27.13115

Long: 153.03884
Long: 153.03778
Long: 153.03779

Described By: S (Shane) Pointon (POIS)

Date: 21/JUN/06

Landscape:

Landform Pattern: tidal flat

Element: supratidal flat

Surface Condition: Firm

Disturbances: Limited clearing

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Black (10YR21) moist; clay loam; granular weak structure; moist when sampled; clear to
B2	.1 to .3	Greyish brown (10YR52) moist; common 10-20% medium 5-15mm distinct orange mottles; clay loam, sandy; weak structure; moist when sampled; gradual to
2B2	.3 to .7	Light brownish grey (2.5Y62) moist; common 10-20% medium 5-15mm distinct orange mottles; sandy loam; massive structure; moist when sampled; clear to
3C	.7 to 1.6	Greenish grey (10Y51) moist; sand; massive structure; wet when sampled; clear to
4C	1.6 to 1.9	Greenish grey (10Y51) moist; sandy clay loam; common 10-20% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
5C	1.9 to 2.3	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
6C	2.3 to 3.1	Dark greenish grey (10Y41) moist; sandy clay loam; many 20-50% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
7C	3.1 to 4.4	Grey (5Y51) moist; sand; few 2-10% angular platy shell small pebbles 2-6 mm; single grain structure; wet when sampled; clear to
8D	4.4 to 5.3	Greenish grey (5GY51) moist; medium clay; massive structure; moist when sampled; gradual to
9D	5.3 to 5.8	Greenish grey (10Y61) moist; few 2-10% coarse 15-30mm distinct gley mottles, few 2-10% coarse 15-30mm distinct orange mottles; medium heavy clay; few 2-10% angular quartz medium pebbles 6-20 mm; weak structure; moist when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1		7.0	5.6	3		7.6	1.7
.3		6.7	5.4	3.25		7.7	5.3
.6		6.8	5.2	3.5		7.6	5.5
.8		6.8	1.2	3.75		7.7	5.5
1		6.8	1.0	4		7.2	5.8
1.25		6.8	1.2	4.25		7.8	1.2
1.5		6.4	1.6	4.5		7.8	1.5
1.75		6.6	1.7	4.75		8.1	1.2
2		6.9	2.7	5		7.2	8.9
2.25		7.4	1.4	5.25	4	6.9	8.7
2.5		7.2	1.5	5.5	1	6.4	6.6
2.75		7.6	1.7	5.75	1	6.4	5.9

Observation Notes:

Vegetation *Sporobolus virginicus*, *Avicennia marina*

Project: CAB

Site: 101

Location: GDA 94 **ZONE** 56 503866mE 6999410mN **Lat:** -27.12779
Location: AGD 84 **ZONE** 56 503760mE 6999222mN **Lat:** -27.12948
Location: AGD 66 **ZONE** 56 503761mE 6999224mN **Lat:** -27.12946

Long: 153.039
Long: 153.03794
Long: 153.03795

Described By: S (Shane) Pointon (POIS)

Date: 21/JUN/06

Landscape:

Landform Pattern: tidal flat

Element: supratidal flat

Surface Condition: Soft

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: SULFIDIC, INTERTIDAL, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .1	Black (10YR21) moist; clay loam; subangular blocky moderate 2-5mm structure; moist when sampled; gradual to
B2	.1 to .3	Brown (10YR53) moist; very few <2% medium 5-15mm distinct orange mottles; sandy clay loam; weak structure; moist when sampled; clear to
2B	.3 to .8	Greyish brown (2.5Y52) moist; very few <2% coarse 15-30mm distinct orange mottles; sand; massive structure; moist when sampled; clear to
3C	.8 to 2	Dark greenish grey (10Y41) moist; loamy sand; massive structure; wet when sampled; clear to
4C1	2 to 2.3	Greenish grey (10Y51) moist; sand; single grain structure; wet when sampled; clear to
5C2	2.3 to 2.5	Dark greenish grey (10Y41) moist; sand; single grain structure; wet when sampled; clear to
6C	2.5 to 3.5	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
7C	3.5 to 4.5	Grey (2.5Y51) moist; coarse sand; common 10-20% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
8C	4.5 to 5.5	Dark grey (5Y41) moist; sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
9C	5.5 to 5.7	Dark greenish grey (10Y41) moist; silty light clay; massive structure; wet when sampled; clear to
10C	5.7 to 6	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.8	4.6	3.25	4	7.4	1.3
.3		6.6	4.7	3.5		7.4	3.5
.6		6.6	4.6	3.75		7.5	4.5
.8	4	6.7	1.3	4		7.4	5.5
1	4	6.7	1.1	4.25		7.1	4.9
1.25	4	6.6	1.0	4.5		7.3	5.5
1.5	4	6.3	1.0	4.75	4	7.3	1.2
1.75	4	6.2	1.3	5	4	7.0	1.4
2	4	6.3	1.0	5.25	4	7.1	1.2
2.25	4	6.4	1.0	5.5	4	7.0	1.2
2.5	4	6.4	1.3	5.75	4	6.9	1.3
2.75	4	6.9	1.6	6	4	6.0	1.3
3	4	7.3	1.3				

Observation Notes:

Vegetation *Sporobolus virginicus*, *Casuarina glauca*

Project: CAB

Site: 102

Location: GDA 94 **ZONE** 56 505919mE 7000664mN **Lat:** -27.11646
Location: AGD 84 **ZONE** 56 505813mE 7000476mN **Lat:** -27.11815
Location: AGD 66 **ZONE** 56 505814mE 7000478mN **Lat:** -27.11813

Long: 153.05971

Long: 153.05865

Long: 153.05866

Described By: S (Shane) Pointon (POIS)

Date: 21/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Surface Condition: Loose

Disturbances: Highly disturbed e.g. mining, urban

Classifications:

ASC: OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .4	Dark grey (10YR41) moist; sand; single grain structure; dry when sampled; gradual to
A2	.4 to .9	Very pale brown (10YR73) moist; sand; single grain structure; dry when sampled; clear to
B2	.9 to 1.4	Yellowish brown (10YR54) moist; sand; single grain structure; moderately moist when sampled; clear to
2A2	1.4 to 1.8	Very pale brown (10YR73) moist; sand; single grain structure; moderately moist when sampled; clear to
2B2	1.8 to 2.1	Brown (7.5YR44) moist; sand; single grain structure; moderately moist when sampled; clear to
3A2	2.1 to 3.9	Light grey (10YR72) moist; sand; single grain structure; moist when sampled; clear to
4C1	3.9 to 5.5	Grey (5Y51) moist; sand; single grain structure; wet when sampled; gradual to
4C2	5.5 to 7.2	Grey (5Y61) moist; sand; single grain structure; wet when sampled; abrupt to
5C	7.2 to 7.6	Dark greenish grey (10Y41) moist; silty light clay; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	5.6	4.9	4		6.2	1.5
.3		5.5	4.6	4.25		6.1	1.6
.6		5.7	4.9	4.5		5.9	1.4
.8		4.6	5.0	4.75		6.1	1.4
1		5.8	4.9	5		5.6	1.4
1.25		5.7	4.9	5.25		5.9	1.2
1.5		5.5	4.9	5.5	4	5.9	1.7
1.75		5.6	4.9	5.75	1	6.3	1.2
2		5.2	4.9	6	4	6.4	1.2
2.25		5.6	2.0	6.25	4	6.9	1.6
2.5		5.7	3.9	6.5	4	6.9	1.3
2.75		5.8	4.8	6.75	4	6.8	1.5
3		6.3	4.5	7	4	6.9	1.9
3.25		6.2	4.9	7.25	4	7.4	2.1
3.5		6.4	4.9	7.5	4	7.3	2.1
3.75		6.5	5.1				

Observation Notes:

Vegetation *Corymbia tessellaris*, *Alphitonia excelsa*, *Pteridium esculentum*

Project: CAB

Site: 103

Location: GDA 94 **ZONE** 56 504987mE 6999113mN **Lat:** -27.13046

Long: 153.05032

Location: AGD 84 **ZONE** 56 504881mE 6998925mN **Lat:** -27.13215

Long: 153.04925

Location: AGD 66 **ZONE** 56 504882mE 6998927mN **Lat:** -27.13214

Long: 153.04926

Described By: S (Shane) Pointon (POIS)

Date: 27/JUN/06

Landscape:

Landform Pattern: beach ridge plain

Element: beach ridge

Classifications:

ASC: RUDOSOLIC, OXYAQUIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Greyish brown (10YR52) moist; sand; single grain structure; dry when sampled; gradual to
A21	.3 to .9	White (10YR82) moist; sand; single grain structure; moderately moist when sampled; gradual to
A22	.9 to 2.1	Very pale brown (10YR84) moist; sand; single grain structure; moderately moist when sampled; gradual to
2A21	2.1 to 2.5	Very pale brown (10YR73) moist; sand; single grain structure; moist when sampled; clear to
2A22	2.5 to 3.8	Light brownish grey (10YR62) moist; sand; single grain structure; wet when sampled; clear to
3C	3.8 to 4.2	Grey (5Y61) moist; sand; single grain structure; wet when sampled; clear to
4C	4.2 to 4.5	Greenish grey (10Y51) moist; loamy sand; single grain structure; wet when sampled; clear to
5C1	4.5 to 5.2	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled; gradual to
5C2	5.2 to 6	Greenish grey (10Y61) moist; sand; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.1	4.7	3		5.5	4.6
.3	1	6.0	4.9	3.25		5.9	4.8
.6		5.9	4.3	3.5		5.9	4.8
.8		5.6	4.6	3.75		6.0	4.5
1		5.7	4.4	4		6.0	1.4
1.25		5.7	3.8	4.25	1	5.8	1.2
1.5		5.8	3.9	4.5	2	5.8	1.2
1.75		6.0	3.8	4.75	2	5.8	1.0
2		5.9	4.4	5	2	6.0	1.3
2.25		5.7	4.6	5.25	2	5.8	1.2
2.5		5.7	4.2	5.5	2	5.7	11
2.75		5.6	4.0	6	4	6.1	1.5

Project: CAB**Site:** 104**Location:** GDA 94 **ZONE** 56 506217mE 7000801mN **Lat:** -27.11522**Long:** 153.06272**Location:** AGD 84 **ZONE** 56 506111mE 7000613mN **Lat:** -27.11691**Long:** 153.06166**Location:** AGD 66 **ZONE** 56 506112mE 7000615mN **Lat:** -27.1169**Long:** 153.06166**Described By:** S (Shane) Pointon (POIS)**Date:** 27/JUN/06**Landscape:****Landform Pattern:** beach ridge plain**Element:** swale**Classifications:****ASC:** TENOSOLIC, REDOXIC, Hydrosol**Profile Morphology:**

Horizon	Depth (m)	Description
A1	0 to .3	Dark greyish brown (10YR42) moist; very few <2% medium 5-15mm distinct orange mottles; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; moderately moist when sampled; abrupt to
2A1	.3 to .4	Black (10YR21) moist; clay loam, fine sandy; weak structure; moderately moist when sampled; clear to
2B2	.4 to 1.1	Greenish grey (5GY51) moist; very few <2% medium 5-15mm distinct red mottles, few 2-10% coarse 15-30mm distinct orange mottles; fine sandy loam; weak structure; moderately moist when sampled; gradual to
3C1	1.1 to 1.4	Light grey (2.5Y71) moist; sand; very few <2% angular platy shell small pebbles 2-6 mm; single grain structure; moderately moist when sampled; clear to
3C2	1.4 to 2.3	Grey (2.5Y61) moist; sand; single grain structure; moist when sampled; gradual to
3C3	2.3 to 2.7	Light grey (2.5Y71) moist; sand; single grain structure; wet when sampled; gradual to
4C	2.7 to 3	Grey (5Y51) moist; fine sand; single grain structure; wet when sampled; gradual to
5C	3 to 3.8	Light grey (5Y71) moist; sand; single grain structure; wet when sampled; clear to
6C1	3.8 to 4.7	Dark greenish grey (10GY41) moist; fine sandy loam; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; clear to
6C2	4.7 to 6	Greenish grey (10Y51) moist; loamy sand; few 2-10% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.4	5.4	3.25		6.8	4.8
.3	1	6.5	5.7	3.5		8.2	5.0
.6	2	6.7	4.9	3.75		8.1	5.1
.8	1	3.9	4.1	4	2	8.1	5.0
1	2	7.0	4.0	4.25	2	8.1	5.6
1.25		7.4	4.6	4.5	2	8.2	5.5
1.5		7.6	4.7	4.75	2	8.2	6.1
1.75		7.9	4.4	5	2	8.6	5.9
2		7.1	1.6	5.25	2	8.6	5.6
2.25		7.0	1.4	5.5	2	8.2	6.0
2.5		7.1	2.4	5.75	2	7.9	5.2
2.75		6.9	4.7	6	2	7.6	5.1
3		7.2	4.6				

Project: CAB

Site: 105

Location: GDA 94 **ZONE** 56 505713mE 7000652mN **Lat:** -27.11657

Long: 153.05764

Location: AGD 84 **ZONE** 56 505607mE 7000464mN **Lat:** -27.11826

Long: 153.05657

Location: AGD 66 **ZONE** 56 505608mE 7000466mN **Lat:** -27.11824

Long: 153.05658

Described By: S (Shane) Pointon (POIS)

Date: 27/JUN/06

Landscape:

Landform Pattern: alluvial plain

Element: drainage depression

Classifications:

ASC: KANDOSOLIC, REDOXIC, Hydrosol

Profile Morphology:

Horizon	Depth (m)	Description
A1	0 to .3	Black (10YR21) moist; fine sandy light clay; subangular blocky strong 5-10mm structure; moderately moist when sampled; clear to
B2	.3 to .6	Grey (10YR51) moist; many 20-50% coarse 15-30mm prominent orange mottles; fine sandy light medium clay; subangular blocky strong 5-10mm structure; moist when sampled; gradual to
2B	.6 to 1.3	Grey (10YR61) moist; common 10-20% medium 5-15mm prominent orange mottles; fine sandy loam; moist when sampled; gradual to
3C	1.3 to 2.3	Grey (2.5Y61) moist; sand; wet when sampled; gradual to
4C	2.3 to 2.7	Greenish grey (10Y51) moist; loamy sand; wet when sampled; clear to
5C	2.7 to 2.9	Greenish grey (10Y51) moist; sand; wet when sampled; clear to
6C	2.9 to 3.3	Dark grey (N40) moist; sand; wet when sampled; clear to
7C1	3.3 to 3.8	Greenish grey (10Y51) moist; sand; wet when sampled; clear to
7C2	3.8 to 5.7	Dark grey (N40) moist; sand; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	4.9	2.7	3	4	6.2	1.4
.3	1	4.8	3.4	3.25	4	6.1	1.2
.6		5.2	3.5	3.5	4	6.0	1.5
.8		5.4	3.5	3.75	1	6.1	1.3
1		5.1	3.6	4	1	6.1	1.2
1.25		6.0	3.4	4.25	1	6.4	1.2
1.5		6.2	3.2	4.5	1	6.3	1.4
1.75		6.0	3.3	4.75	1	6.4	1.4
2	1	5.8	3.8	5	1	6.4	1.8
2.25	2	6.0	1.4	5.25	1	6.6	1.6
2.5	4	6.3	1.6	5.5	1	6.4	1.8
2.75	4	6.3	1.2	5.7	1	6.2	2.3

Horizon Notes:

Horizon 6C Crse frag: 22 Organics

Project: CAB**Site:** 106**Location:** GDA 94 **ZONE** 56 505675mE 6999976mN **Lat:** -27.12267**Long:** 153.05726**Location:** AGD 84 **ZONE** 56 505569mE 6999788mN **Lat:** -27.12436**Long:** 153.05619**Location:** AGD 66 **ZONE** 56 505570mE 6999790mN **Lat:** -27.12435**Long:** 153.0562**Described By:** S (Shane) Pointon (POIS)**Date:** 27/JUN/06**Landscape:****Landform Pattern:** beach ridge plain**Element:** swale**Classifications:****ASC:** KANDOSOLIC, REDOXIC, Hydrosol**Profile Morphology:**

Horizon	Depth (m)	Description
A1	0 to .2	Very dark grey (10YR31) moist; loamy sand; single grain structure; moderately moist when sampled; gradual to
A2	.2 to .5	Light brownish grey (10YR62) moist; sand; single grain structure; moist when sampled; clear to
B2	.5 to .9	Yellowish brown (10YR54) moist; few 2-10% medium 5-15mm distinct orange mottles, few 2-10% medium 5-15mm distinct grey mottles; clay loam, fine sandy; weak structure; wet when sampled; abrupt to
2C	.9 to 1.2	Dark greenish grey (10Y41) moist; few 2-10% medium 5-15mm prominent red mottles; fine sandy loam; massive structure; wet when sampled; clear to
3C	1.2 to 2.5	Greenish grey (10Y61) moist; sand; few 2-10% rounded quartz medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4C1	2.5 to 3	Greenish grey (10Y51) moist; sand; very few <2% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; clear to
4C2	3 to 3.3	Greenish grey (10Y51) moist; sand; many 20-50% angular platy shell medium pebbles 6-20 mm; single grain structure; wet when sampled; abrupt to
5C1	3.3 to 4.5	Dark greenish grey (10Y31) moist; fine sandy clay loam; very few <2% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled; gradual to
5C2	4.5 to 6	Dark greenish grey (10Y31) moist; fine sandy light clay; few 2-10% angular platy shell medium pebbles 6-20 mm; massive structure; wet when sampled

Field Tests:

Depth	H2O2-	PH-2	PH-3	Depth	H2O2-	PH-2	PH-3
.1	1	6.7	4.5	3	4	7.3	5.4
.3		6.8	4.6	3.25	4	7.4	2.9
.6		6.7	4.9	3.5	4	7.6	1.6
.8		5.8	3.5	3.75	4	8.7	1.6
1		6.0	2.9	4	4	9.2	3.7
1.25		6.2	3.1	4.25	4	9.2	2.4
1.5		6.5	2.4	4.5	4	9.2	2.6
1.75		7.3	1.5	4.75	4	9.2	1.9
2	3	7.0	1.5	5	4	9.4	1.9
2.25	4	6.8	2.2	5.25	4	9.2	1.8
2.5	4	7.1	3.1	5.5	4	9.3	1.8
2.75	4	7.2	3.0				

Horizon Notes:

Horizon 3C Structure - 11 organics

Appendix 2
Summarised Laboratory Data

Site ID	Hor No	Horizon Name	Upper Depth (m)	Lower Depth (m)	Colour	Mottle Colour	Soil Texture	Jar.	Gyp.	Shell	Depth (m)	pH _F	pH _{ox}	Action Level (pH _F)	Depth 1st Action Level (pH _F)	No	Upper Depth (m)	Lower Depth (m)	Depth 1st Action Level	Action Level Select	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Limiting Rate	Method Code

Upper and lower depths of horizon

Horizon number

Colour
(codes according to
Munsell colour charts)

Indicates presence
of Jarosite (J),
Gypsum (Y), or
Shell (SS) in profile

Indication of actual
acidity from field
test results
A = pH_F ≤ 4
a = pH_F > 4 to ≤ 5

Depth at which
pH_F and pH_{ox}
tests were
conducted

Actual Acidity
The depth category of the upper depth of the first horizon where pH_F is less than or equal to 4 eg.
A0 pH_F < 4 is first exceeded 0–0.5 m below the surface
A1 pH_F < 4 is first exceeded 0.5–1 m below the surface
A2 1–2 m A4 3–4 m
A3 2–3 m A5 4–5 m
Potential Acidity
The depth category of the upper depth of the first horizon where the texture-based ASS action criteria is exceeded. 'S' denotes potential acidity for the respective depth categories.

The SPOCAS Method is as per Acid Sulfate Soils Laboratory Methods Guidelines Version 2.1 June 2004 Ahern CA, McElnea AE, Sullivan LA (2004)

Standard analytical method codes according to the *Australian Laboratory Handbook of Soil and Water Chemical Methods*, GE Rayment and FR Higginson (1992), and *An Overview, Comparisons and Codes for Current Analytical Methods to Determine Acid Sulfate Soil Risk*, CR Ahern and AE McElnea (2000)

Acid Base Accounting
Net Acidity = Potential Sulfidic Acidity + Actual Acidity + Retained acidity - Measured ANC/FF

Method Code for %S SCR SPOS

- 1 S_{CR}
- 2 S_{POS}

Method Code for Net Acidity

- 3 SPOCAS Suite Acid Base Accounting
- 4 (S_{POS} - ((s-Ca_A+s-Mg_A)/FF) where s-TPA = 0, pH_{KCl} ≥ 6.5
- 5 (S_{POS} + s-TAA) where s-TPA > 0, 4.5 ≤ pH_{KCl} ≥ 6.5
- 6 Chromium Reducible Sulfur Suite Acid Base Accounting
- 7 (S_{CR} - s-ANC_{ST}/FF) where S_{CR} > action level, pH_{KCl} ≥ 6.5
- 8 (S_{CR} + s-TAA) where 4.5 ≤ pH_{KCl} ≥ 6.5
- 9 No measured ANC
- 10 S_{POS} + TAA
- 11 S_{CR}
- 12 Underestimate of Net Acidity require s-S_{CR}
- 13 Underestimate of Net Acidity require s-S_{NAS}

Conversion Rates

%S x 623.7 = mol H⁺/t

%S x 0.075 = kg CaCO₃/t

mol H⁺/t / 13.32 = kg CaCO₃/t

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results																
Site ID	Hor No	Horizon Name	Depth		Colour	Soil Texture	Jar	Shell	Field pH			No	Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code									
			Upp	Low					Depth	pH _e	pH _{ox}		Upp	Low																	
			(m)																												
									(m)				(m)																		
									23Af	23Bf																					
21	1	A1	0.00	0.20	10YR52	LS			0.10	6.0	5.0																				
	2	2A	0.20	0.50	10YR54	SL			0.30	5.5	4.6																				
	3	3A	0.50	0.60	2.5Y63	SCL			0.60	6.4	3.9																				
	4	4A	0.60	0.80	2.5Y32	LS			0.80	6.9	2.2	4	0.70	0.80					0.027	17	1.26	1, 9									
	5	5Au	0.80	1.00	5Y31	LS			1.00	7.2	1.8	5	0.80	1.00	S1	Ps	0.075		47	3.51	1, 9										
	6	6Au	1.00	1.50	5Y41	FSLC			1.25	7.3	2.3																				
									1.50	7.5	1.5	6	1.30	1.50		Pc	0.686		428	32.09	1, 9										
	7	7A1u	1.50	1.80	5Y41	FSLC			1.75	7.5	1.8	7	1.60	1.80		PI	0.480		299	22.45	1, 9										
	8	8C1u	1.80	2.20	2.5Y41	LS	SS		2.00	7.9	2.0																				
	9	8C2u	2.20	3.10	10GY41	FSL	SS		2.25	7.6	1.7																				
									2.50	7.6	2.5	9	2.30	2.50		PI	0.528		329	24.70	1, 9										
									2.75	7.9	2.5																				
									3.00	7.9	4.8																				
	10	8C3u	3.10	3.50	5GY41	LS	SS		3.25	7.4	1.6																				
									3.50	7.5	1.5	11	3.30	3.50		Ps	0.207		129	9.68	1, 9										
	11	9Cu	3.50	3.60	N40	ZLC																									
	12	10Cu	3.60	4.00	N50	LS	SS		3.75	7.3	2.1																				
									4.00	8.0	5.9																				
	13	11Cu	4.00	4.10	10Y61	KS	SS		4.25	8.1	5.9																				
	14	12C1u	4.10	4.80	10Y41	FSLC	SS		4.50	8.1	5.6	15	4.30	4.50		Pc	0.238		148	11.13	1, 9										
									4.75	7.9	2.3																				
	15	12C2u	4.80	5.30	10Y41	FSLC			5.00	8.2	1.9																				
									5.25	8.0	1.9																				
	16	12C3u	5.30	5.90	N40	ZLC	SS		5.50	8.0	3.2	17	5.30	5.50		Pc	0.653		407	30.55	1, 9										
									5.75	8.0	1.2																				
	17	12C4u	5.90	6.00	10GY41	FSLC	SS		6.00	7.1	1.7	19	5.90	6.00		Pc	0.944		589	44.16	1, 9										
22	1	A1	0.00	0.20	10YR31	SCL			0.10	5.7	3.3																				
	2	B2	0.20	0.85	7.5YR81	LMC			0.30	4.3	3.5	3	0.50	0.60					< 0.02												
									0.60	5.9	4.3																				
	3	2A1	0.85	1.00	10YR31	FSLC			0.80	6.5	4.0	4	0.90	1.00	S1	PI	0.305		190	14.27	1, 9										
	4	2B2	1.00	1.25	10Y51	FSLC			1.00	6.8	1.7																				
									1.25	7.0	1.4																				
	5	2C	1.25	1.60	10GY41	SCL			1.50	7.8	1.6	6	1.30	1.50		PI	0.607		379	28.39	1, 9										
	6	3C1	1.60	2.60	N50	LS	SS		1.75	8.2	2.1																				
									2.00	8.4	1.7	7	1.80	2.00		Ps	0.197		123	9.22	1, 9										
									2.25	8.1	1.8																				
									2.50	8.4	5.7																				
	7	3C2	2.60	2.80	10GY41	LS	SS		2.75	8.4	2.1																				
	8	3C3	2.80	3.80	10GY41	LFS	SS		3.00	8.1	1.9	10	2.90	3.00		Ps	0.475		296	22.22	1, 9										
									3.25	8.0	1.8																				
									3.50	8.1	1.9																				
									3.75	7.9	1.9																				
	9	3C4	3.80	4.10	10GY41	LS	SS		4.00	7.8	2.7																				
	10	3C5	4.10	5.00	10Y51	LS	SS		4.25	7.8	4.9																				
									4.50	8.1	1.9	13	4.30	4.50		Ps	0.202		126	9.45	1, 9										
									4.75	8.4	2.2																				
									5.00	8.6	3.0																				
	11	4C1	5.00	5.50	5GY41	ZLC	SS		5.25	8.5	6.1																				
									5.50	8.4	3.6	15	5.30	5.50		Pc	0.285	0	0	-147		2, 3									
	12	4C2	5.50	6.00	10Y41	ZLC	SS		5.75	7.8	2.1																				
									6.00	8.5	2.2	16	5.80	6.00		Pc	0.780		486	36.49	1, 9										
23	1	A11	0.00	0.30	10YR52	LS			0.10	6.3	4.8																				
	2	A12	0.30	0.60	10YR41	LS			0.30	8.1	5.0																				
	3	A13	0.60	0.70	10YR51	LS			0.60	7.9	5.1																				
	4	B21	0.70	0.90	10YR62	S			0.80	8.1	5.0																				
	5	B22	0.90	1.40	10YR73	S			1.00	8.0	4.9																				
									1.25	7.6	4.4																				
	6	2C1	1.40	1.70	10YR64	KS			1.50	7.9	4.9																				
	7	2C2	1.70	1.90	10YR62	KS	SS		1.75	8.0	4.9																				
	8	3C1	1.90	2.30	2.5Y61	LS	SS		2.00	7.1	5.7																				
									2.25	8.5	5.5	9	2.10	2.30					< 0.02												
	9	3C2	2.30	2.75	10Y61	LS	SS		2.50	8.6	5.7																				
									2.75	8.1	2.2	10	2.50	2.70	S3	Ps	0.030		19	1.40	1, 9										
	10	4C	2.75	2.90	2.5Y2.5/1	IP	SS																								
	11	5Cu	2.90	3.30	10Y51	LS	SS		3.00	8.2	1.9																				
									3.25	8.4	1.6	12	3.00	3.20		Ps	0.099		62	4.63	1, 9										
									3.50	8.4	2.1																				
	12	6Cu	3.30	4.70	5GY41	FSLC	SS		3.75	8.1	2.2	13	3.30	3.50		Pc	0.298		186	13.94	1, 9										
									4.00	7.1	2.2																				
									4.25	7.4	1.6																				
									4.50	7.3	2.2	15	4.30	4.50		Pc	0.169		105	7.91	1, 9										
	13	7Cu	4.70	5.40	10Y61	LS	SS		4.75	7.4	1.7																				
									5.00	7.2	2.4																				
									5.25	7.8	2.8	17	5.20	5.40		Ps	0.114		71	5.33	1, 9										
	14	8Cu	5.40	5.90	10Y51	SCL	SS		5.50	7.7	2.0																				
									5.75	7.9	2.6																				
	15	9Cu	5.90	6.00	5Y51	LS	SS		6.00	8.1	3.9	19	5.90	6.00		Ps	0.064	0	0	13	0.95	2, 3									

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results														
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar	Shell	Field pH			Depth 1st Action Level	Upp Depth	Low Depth	Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code						
									Depth	pH _e	pH _{ox}						S _{POS}	mol H ⁺ /l	mol H ⁺ /l	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)							
(m)									(m)			(m)					% S		22B 23Ee		23F		23G					
24	1	A11	0.00	0.10	10YR6/1	LS			0.10	7.1	4.8																	
	2	A12	0.10	0.60	10YR5/1	LS			0.30	7.3	4.9																	
	3	A13	0.60	0.90	10YR6/1	LS			0.60	7.0	5.0																	
	4	2B2	0.90	1.20	5Y5/2	FSLC			0.80	6.9	4.6																	
	5	3B2	1.20	1.70	2.5Y6/2	S			1.00	7.1	5.1																	
	6	4Cu	1.70	2.40	10Y5/1	LS			1.25	7.7	5.2																	
	7	5Cu	2.40	4.30	2.5Y5/1	S			1.50	7.4	3.0																	
	8	6Cu	4.30	5.50	5GY5/1	LKS			1.75	7.5	1.5																	
	9	7Du	5.50	6.00	5GY5/1	SLMC			2.00	7.6	1.7																	
25	1	A1	0.00	0.30	10YR3/2	SLC			2.25	7.5	1.7																	
	2	B21	0.30	0.50	10YR5/2	SLC			2.50	7.3	1.8																	
	3	B22	0.50	0.85	10YR4/1	SLC			2.75	7.5	1.8																	
	4	2C	0.85	1.00	N2.5/0	CL			3.00	7.6	1.9																	
	5	3C1	1.00	1.70	5Y7/1	S	SS		3.25	7.6	1.8																	
	6	3C2	1.70	2.30	5GY5/1	LS	SS		3.50	7.5	1.8																	
	7	4C	2.30	3.60	10GY4/1	CLFS	SS		3.75	7.6	1.7																	
	8	5C	3.60	5.00	10Y6/1	LS	SS		4.00	7.5	1.8																	
	9	6C	5.00	5.20	10Y4/1	SLC	SS		4.25	7.3	1.4																	
26	1	A1	0.00	0.10	10YR3/1	LS			4.50	7.4	1.5																	
	2	Bh	0.10	0.20	10YR2/1	LS			4.75	7.3	1.8																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			5.00	7.2	1.8																	
	4	3C1	0.40	0.80	2.5Y7/1	S			5.25	7.2	1.7																	
	5	3C2	0.80	1.10	2.5Y4/1	S	SS		5.50	7.1	1.7																	
	6	3C3	1.10	1.50	N4/0	LS	SS		5.75	7.2	5.8																	
	7	4Cu	1.50	2.60	5GY3/1	FSLC	SS		6.00	6.9	7.7																	
	8	5Cu	2.60	4.20	10Y5/1	S	SS																					
	9	6Cu	4.20	4.50	10Y4/1	ZLC	SS																					
27	1	A1	0.00	0.10	10YR3/1	LS			0.10	5.0	3.0																	
	2	Bh	0.10	0.20	10YR2/1	LS			0.30	4.4	3.2																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			0.60	5.7	1.9																	
28	1	A1	0.00	0.10	10YR3/1	LS			0.80	5.6	1.5																	
	2	Bh	0.10	0.20	10YR2/1	LS			1.00	6.3	2.3																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			1.25	6.5	4.5																	
29	1	A1	0.00	0.10	10YR3/1	LS			1.50	6.8	3.9																	
	2	Bh	0.10	0.20	10YR2/1	LS			1.75	6.7	1.7																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			2.00	7.4	1.7																	
30	1	A1	0.00	0.10	10YR3/1	LS			2.25	8.2	1.5																	
	2	Bh	0.10	0.20	10YR2/1	LS			2.50	8.3	1.8																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			2.75	8.7	1.9																	
31	1	A1	0.00	0.10	10YR3/1	LS			3.00	8.7	1.9																	
	2	Bh	0.10	0.20	10YR2/1	LS			3.25	8.5	1.9																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			3.50	8.2	1.8																	
32	1	A1	0.00	0.10	10YR3/1	LS			3.75	7.8	1.9																	
	2	Bh	0.10	0.20	10YR2/1	LS			4.00	7.6	2.4																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			4.25	7.7	1.8																	
33	1	A1	0.00	0.10	10YR3/1	LS			4.50	7.6	2.6																	
	2	Bh	0.10	0.20	10YR2/1	LS			4.75	7.6	3.5																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			5.00	7.5	1.8																	
34	1	A1	0.00	0.10	10YR3/1	LS			5.25	7.2	4.5																	
	2	Bh	0.10	0.20	10YR2/1	LS			5.50	7.0	5.5																	
	3	2C	0.20	0.40	2.5Y2.5/1	LS			5.75	7.2	5.4																	
35	1	A1	0.00	0.10	10YR3/1	LS			6.00	7.7	5.5																	
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
36	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
37	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
38	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
39	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
40	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
41	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10	0.20	10YR2/1	LS																						
	3	2C	0.20	0.40	2.5Y2.5/1	LS																						
42	1	A1	0.00	0.10	10YR3/1	LS																						
	2	Bh	0.10																									

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results							
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Depth	Low Depth	Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code
			(m)	(m)					Depth	pH _h	pH _{ox}		(m)	(m)			% S 22B/23Ee	mol H ⁺ /l 23F	mol H ⁺ /l 23G	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)	
27	1	A1	0.00	0.30	10YR62	S			0.10	6.1	4.7											
									0.30	7.6	3.9											
	2	A2	0.30	1.50	10YR82	S			0.60	7.1	5.2											
									0.80	7.3	5.2											
									1.00	7.3	4.9											
									1.25	7.2	5.1											
									1.50	6.4	5.1											
	3	B2	1.50	2.20	10YR43	S			1.75	6.5	5.2											
	4	B3	2.20	2.70	10YR72	S			2.00	6.5	5.1											
									2.25	6.5	5.4											
	5	C1	2.70	3.00	10YR61	S			2.50	6.8	5.3	7	2.30	2.50			< 0.02					
28									2.75	6.7	5.2											
	6	C2u	3.00	3.80	10GY41	LS		SS	3.00	6.9	1.9	8	2.80	3.00			< 0.02					
									3.25	6.8	1.8											
									3.50	7.0	1.9	9	3.30	3.50	S3	Ps	0.133			83	6.22	1, 9
									3.75	7.4	2.4											
	7	C3	3.80	4.00	5GY51	KS		SS	4.00	7.6	5.6	10	3.80	4.00		Ps	0.117	0		340		1, 5
	8	2Cu	4.00	4.70	5GY41	SCL		SS	4.25	8.1	1.9											
									4.50	7.9	5.0											
	9	3C	4.70	5.10	5GY31	FSLC		SS	4.75	9.1	5.4											
									5.00	9.0	5.7											
	10	4Cu	5.10	5.60	10Y41	FSCL		SS	5.25	8.7	2.6											
29									5.50	8.8	2.6	12	5.30	5.50		PI	0.327	0	0	87	6.54	2, 3
	11	5Cu	5.60	6.00	5GY41	ZLC		SS	5.75	8.3	2.0											
									6.00	8.4	2.2	13	5.80	6.00		Pc	0.604			377	28.25	1, 9
	1	C1	0.00	0.25	5GY31	ZMC			0.05	6.8	3.0	1	0.00	0.10	S0	Pc	0.246			153	11.51	1, 9
	2	C2	0.25	0.55	10Y31	ZMC			0.30	7.2	3.8	2	0.25	0.35		Pc	0.534			333	24.98	1, 9
									0.50	7.0	1.9	3	0.45	0.55		Pc	0.623			389	29.14	1, 9
	3	C3	0.55	1.40	10Y31	FSLC			0.70	6.4	1.7	4	0.60	0.80		Pc	0.569			355	26.62	1, 9
									0.90	6.7	1.8	5	0.80	1.00		Pc	0.657			410	30.73	1, 9
									1.30	6.8	1.7	6	1.20	1.40		Pc	1.496			933	69.98	1, 9
	1	C1	0.00	0.08	N40	SLC			0.05	6.9	3.8	1	0.00	0.08	S0	Pc	0.125			78	5.85	1, 9
	2	C2	0.08	0.25	10YR45	S			0.15	6.6	4.7	2	0.10	0.25			< 0.02					
30	3	2C	0.25	1.30	5Y41	ZMC			0.35	6.0	1.6	3	0.30	0.40		Pc	0.858			535	40.14	1, 9
									0.55	6.5	1.8	4	0.50	0.60		Pc	1.449			904	67.78	1, 9
									0.90	6.5	1.3	5	0.80	1.00		Pc	1.307			815	61.14	1, 9
									1.10	6.5	1.7	6	1.00	1.20		Pc	1.226			765	57.35	1, 9
	4	2C1	1.30	1.50	5Y41	SCL			1.40	7.0	1.6	7	1.30	1.50		PI	0.487			304	22.78	1, 9
	1	C1	0.00	0.30	N2.5/0	SMC			0.05	7.0	1.9	1	0.00	0.10	S0	Pc	0.953			594	44.58	1, 9
									0.25	6.7	2.1	2	0.20	0.30		Pc	0.716			447	33.49	1, 9
	2	C2	0.30	1.15	10Y31	ZMC			0.45	6.5	2.0	3	0.40	0.50		Pc	1.608			1003	75.22	1, 9
									0.55	6.9	1.7	4	0.50	0.60		Pc	1.670			1042	78.12	1, 9
									0.90	7.1	1.8	5	0.80	1.00		Pc	1.029			642	48.13	1, 9
	3	C3	1.15	1.50	10Y31	SMC			1.30	7.2	1.7	6	1.20	1.40		Pc	0.756			472	35.36	1, 9
38	1	C1	0.00	0.25	10Y41	S		SS	0.05	7.1	3.5	1	0.00	0.10			0.026			16	1.22	1, 9
	2	2C	0.25	0.58	10Y2.5/1	SMC		SS	0.40	7.8	1.7	2	0.30	0.50	S0	Pc	0.761			475	35.60	1, 9
	3	3C	0.58	0.70	10Y41	KS		SS	0.65	7.6	2.0	3	0.60	0.70		Ps	0.091			57	4.26	1, 9
	4	4C	0.70	0.98	10Y2.5/1	MC		SS	0.85	7.7	1.6	4	0.80	0.90		Pc	1.196			746	55.95	1, 9
	5	5C	0.98	1.03	10Y2.5/1	SLMC			1.03	7.8	1.6	5	1.00	1.03		Pc	0.456			284	21.33	1, 9
	1	C1	0.00	0.10	N2.5/0	LC			0.05	8.0	2.2	1	0.00	0.10	S0	Pc	0.382			238	17.87	1, 9
	2	2C	0.10	0.35	N2.5/0	LC			0.25	6.7	1.5	2	0.20	0.30		Pc	0.536			334	25.07	1, 9
	3	3C	0.35	0.70	10Y41	S			0.55	6.8	1.4	3	0.50	0.60		Ps	0.143			89	6.69	1, 9
	4	4C	0.70	1.00	10Y41	KS			0.90	6.8	1.4	4	0.80	1.00		Ps	0.156			97	7.30	1, 9
	1	C1	0.00	0.10	N2.5/0	ZL			0.05	7.9	4.0	1	0.00	0.10	S0	PI	0.352			220	16.47	1, 9
	2	C2	0.10	0.83	N30	ZLMC			0.25	7.6	1.4	2	0.20	0.30		Pc	0.905			564	42.33	1, 9
41									0.55	7.5	1.7	3	0.50	0.60		Pc	1.014			632	47.43	1, 9
									0.70	7.8	1.4	4	0.60	0.80		Pc	0.931			581	43.55	1, 9
	1	A11	0.00	0.10	10YR31	SCL			0.10	6.3	3.1	1	0.00	0.10			< 0.02					
	2	A12	0.10	0.30	10YR41	CLS			0.30	6.5	3.6	2	0.20	0.30			< 0.02					
	3	B2	0.30	0.50	10YR53	SCL		SS				3	0.40	0.50			< 0.02					
	4	2B	0.50	1.00	10YR62	S			0.60	8.1	3.9											
									0.80	7.4	4.4											
									1.00	4.4	2.0											
	5	3B	1.00	1.10	10YR21	SLC						4	0.80	1.00			< 0.02					
	6	4C1	1.10	1.80	10YR72	S						5	1.00	1.10			< 0.02					
									1.25	4.6	3.0											
44									1.50	6.1	4.7	6	1.30	1.50			< 0.02					
									1.75	6.1	4.3											
	7	4C2	1.80	2.50	5Y61	S			2.00	6.9	2.7	7	1.90	2.10	S2	Ps	0.050			51	2.34	1, 9
									2.25	6.5	1.9											
									2.50	6.8	1.9	8	2.30	2.50		Ps	0.107			67	5.01	1, 9
	8	5C	2.50	2.70	10GY41	LFS						9	2.50	2.70		Ps	0.656			409	30.69	1, 9
	9	6C	2.70	3.50	10Y51	S			2.75	6.8	2.0											
									3.00	7.2	2.0											
									3.25	7.1	1.9											
									3.50	7.7	2.6	11	3.30	3.50		Ps	0.086			54	4.02	1, 9
	10	7C	3.50	3.75	10GY41	LS		SS	3.75	8.4	5.2											
45	11	8C	3.75	4.20	10GY41	CLFS		SS	4.00	8.2	5.2	13	3.80	4.00		PI	0.476	0	17	179	13.45	2, 3

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results											
Site ID	Hor No	Horizon Name	Depth		Colour	Soil Texture	Jar.	Shell	Field pH			No	Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code				
			Upp	Low					Depth	pH _e	pH _{ox}		Upp	Low			% S	mol H ⁺ /l	mol H ⁺ /l	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)					
			(m)										(m)													
									23Af	23Bf																
42	1	A1	0.00	0.10	10YR31	SCL			0.10	4.3	1.9															
	2	B21	0.10	0.80	10YR52	SLC	J		0.30	3.6	2.1	2	0.20	0.30			< 0.02	60	16	60	4.50	1, 8, 11				
	3	B22	0.80	0.90	10YR41	SLC			0.60	3.7	1.9															
	4	2A1	0.90	1.15	10YR21	SLC			0.85	3.7	1.8															
	5	2B2	1.15	1.70	10YR61	SLC			1.00	4.4	2.2	5	0.90	1.00			< 0.02									
	6	3C	1.70	3.25	5Y51	S			1.25	4.7	2.9															
									1.50	5.9	3.7	6	1.30	1.50			< 0.02									
									1.75	6.4	4.9															
									2.00	6.4	1.8															
									2.25	6.3	1.7															
									2.50	6.4	1.9	8	2.30	2.50	S2	Ps	0.324		202	15.16	1, 9					
									2.75	6.6	2.0															
									3.00	6.8	3.7	9	2.80	3.00		Ps	0.279		174	13.05	1, 9					
									3.25	7.2	3.1															
	7	4C	3.25	3.50	10Y41	FSCL	SS		3.50	7.3	3.2	10	3.30	3.50		PI	0.271		169	12.68	1, 9					
	8	5C	3.50	4.60	10Y51	S			3.75	7.3	2.3															
									4.00	7.2	5.5															
									4.25	7.2	6.3															
									4.50	7.5	3.6	12	4.30	4.50		Ps	0.411		256	19.23	1, 9					
	9	6C	4.60	5.15	10Y51	LS	SS		4.75	7.1	2.3															
									5.00	7.1	2.4	13	4.80	5.00		Ps	0.543		339	25.40	1, 9					
	10	7C1	5.15	5.30	N40	ZCL	SS		5.25	7.5	3.4															
	11	7C2	5.30	5.50	5Y31	SLC			5.50	7.1	1.6	15	5.30	5.50		Pc	2.202		1373	103.00	1, 9					
	12	8C	5.50	5.80	N50	CLS			5.75	7.1	1.6	16	5.60	5.80		PI	0.690		430	32.28	1, 9					
	13	9C	5.80	6.00	10Y51	S			6.00	6.9	1.9	17	5.80	6.00		Ps	0.634		395	29.66	1, 9					
43	1	A1	0.00	0.25	10YR63	LS			0.10	6.3	4.0	1	0.00	0.10			< 0.02									
	2	2A1	0.25	0.65	10YR21	FSLC			0.30	5.6	3.5						< 0.02									
									0.60	6.4	3.6	2	0.30	0.40			< 0.02									
	3	2B2	0.65	0.90	2.5Y53	FSLMC			0.80	7.1	5.6	3	0.50	0.60												
												4	0.80	0.90			< 0.02									
	4	3B	0.90	1.40	2.5Y62	S			1.00	7.2	5.1															
									1.25	7.1	5.3	5	1.10	1.30			0.000	<10	0	10	<0.75	2, 7				
	5	4C	1.40	4.10	2.5Y51	S			1.50	7.4	1.8															
									1.75	7.2	1.7															
									2.00	6.5	1.8	6	1.80	2.00	S2	Ps	0.145		90	6.78	1, 9					
									2.25	6.8	1.9															
									2.50	7.6	1.9	7	2.30	2.50		Ps	0.085		53	3.98	1, 9					
									2.75	7.1	1.9															
									3.00	7.2	2.0	8	2.80	3.00		Ps	0.037		23	1.73	1, 9					
									3.25	6.8	1.0															
									3.50	7.0	1.9	9	3.30	3.50		Ps	0.055		34	2.57	1, 9					
									3.75	7.4	1.9															
									4.00	6.7	1.9	10	3.80	4.00		Ps	0.056		35	2.62	1, 9					
	6	5C	4.10	4.50	2.5Y41	KS	SS		4.25	7.9	2.0															
									4.50	7.5	6.0	11	4.30	4.50		Ps	0.132		82	6.17	1, 9					
	7	6D	4.50	5.60	5G41	LMC			4.75	8.2	9.0															
									5.00	8.1	9.1															
									5.25	8.3	8.2															
									5.50	7.8	7.9	13	5.30	5.50			0.003	0	0	2	0.14	2, 3				
44	1	A11	0.00	0.10	10YR42	SL	SS		0.10	7.7	4.2															
	2	A12	0.10	0.45	2.5Y53	SL	SS		0.30	7.4	5.4	2	0.20	0.30			0.020		12	0.94	1, 9					
	3	B2	0.45	0.60	10YR41	LMC	SS		0.60	6.9	4.2	3	0.50	0.60			0.066		41	3.09	1, 9					
	4	2A	0.60	0.75	10YR21	FSCL			0.80	7.5	2.1	4	0.60	0.70	S1	PI	0.087		54	4.07	1, 9					
	5	3C	0.75	1.00	2.5Y41	LS	SS		1.00	8.8	2.2	5	0.80	1.00		Ps	0.186		116	8.70	1, 9					
	6	4C	1.00	1.30	10Y51	LC			1.25	8.1	4.7	6	1.10	1.30			0.070		44	3.27	1, 9					
	7	5B	1.30	1.70	10GY41	CLFS			1.50	7.5	1.7	7	1.40	1.60		PI	1.730		1079	80.93	1, 9					
	8	6C	1.70	2.20	10Y41	LS			1.75	7.2	1.7															
									2.00	7.0	1.6															
	9	7C	2.20	2.50	10Y51	S			2.25	6.3	1.5															
									2.50	5.9	1.9	9	2.30	2.50		Ps	0.615		384	28.77	1, 9					
	10	8C	2.50	3.30	5GY51	LFS			2.75	6.0	2.0															
									3.00	6.3	2.0															
									3.25	6.8	4.0															
	11	9C	3.30	3.80	10Y51	LS			3.50	7.1	2.1															
									3.75	7.4	2.2	12	3.50	3.70		Ps	0.689		430	32.23	1, 9					
	12	10C	3.80	4.50	10Y41	CLFS	SS		4.00	7.5	3.1															
									4.25	7.6	2.3															
									4.50	7.9	3.1	14	4.30	4.50		PI	1.053		657	49.26	1, 9					
	13	11D	4.50	5.60	10GY61	LMC			4.75	7.8	7.0															
									5.00	8.1	7.8															
									5.25	7.9	7.9															
									5.50	7.1	7.3	16	5.30	5.50			0.000	<10	4	<10	<0.75	2, 4				

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results							
Site ID	Hor No	Horizon Name	Up/Low Depth		Colour	Soil Texture	Jar	Shell	Field pH			No	Up/Low Depth		Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code
			Depth	pH _e					pH _{ox}	22B/23Ee	23F		23G	mol H ⁺ /t			mol H ⁺ /t	kg CaCO ₃ /t (SF=1.5)				
																				(m)	(m)	(m)
45	1	A1	0.00	0.25	7.5YR31	LS			0.10	5.1	2.6	1	0.00	0.10			< 0.02					
	2	B2	0.25	0.45	2.5Y72	S			0.30	7.6	5.6	2	0.25	0.35			< 0.02					
	3	2C	0.45	0.80	2.5Y41	S			0.60	4.8	2.6	3	0.50	0.60			< 0.02	<10	0	<10	<0.75	1, 6
									0.80	4.5	3.7											
	4	3A1	0.80	1.10	7.5YR32	S			1.00	4.5	3.7	4	0.80	1.00			< 0.02					
	5	3B2	1.10	2.10	2.5Y72	S			1.25	5.2	4.8						< 0.02					
									1.50	7.0	5.3	5	1.30	1.50			< 0.02					
									1.75	6.9	5.2						< 0.02					
									2.00	6.1	5.0	6	1.80	2.00			< 0.02					
	6	4C	2.10	3.10	10Y51	S		SS	2.25	6.1	1.8							0.053		33	2.48	1, 9
								2.50	6.3	1.8	7	2.30	2.50	S3	Ps	0.053						
								2.75	6.7	2.0							0.073		46	3.41	1, 9	
								3.00	7.8	5.8	8	2.80	3.00		Ps							
7	5C	3.10	3.45	5GY51	S		SS	3.25	7.8	2.5												
8	6C	3.45	4.00	10Y41	SL		SS	3.50	8.0	2.2												
								3.75	7.8	2.8												
								4.00	8.0	4.0	10	3.80	4.00		PI	0.159	0		-940		1, 5	
								4.25	7.8	3.2												
								4.50	8.1	3.2												
								4.75	8.0	2.9												
10	8C	5.00	5.60	10Y41	ZLC		SS	5.00	8.0	3.6	12	4.80	5.00		PI	0.439			274	20.54	1, 9	
								5.25	8.1	2.9												
								5.50	8.0	2.3												
11	9C	5.60	6.00	10Y41	ZLC		SS	5.75	7.9	2.3												
								6.00	8.2	3.0	14	5.80	6.00		Pc	1.958			1221	91.59	1, 9	
46	1	A1	0.00	0.30	10YR31	LS			0.10	5.9	3.7	1	0.00	0.10			< 0.02					
								0.30	9.0	6.7												
	2	2B2	0.30	1.00	10YR73	S			0.60	8.7	5.4	3	0.50	0.60			< 0.02					
								0.80	9.0	5.4												
								1.00	6.3	1.4	4	0.80	1.00			< 0.02						
	3	3A	1.00	1.60	5GY51	SC			1.25	6.9	1.6											
								1.50	7.4	1.1	5	1.30	1.50	S1	Pc	0.798			498	37.33	1, 9	
	4	4C1	1.60	2.70	10Y61	S			1.75	7.3	1.4											
									2.00	7.0	1.7	6	1.80	2.00		Ps	0.159			99	7.44	1, 9
									2.25	6.7	1.7											
								2.50	6.7	1.7	7	2.30	2.50		Ps	0.070			44	3.27	1, 9	
5	4C2	2.70	3.20	10Y51	S			2.75	7.2	1.7												
								3.00	6.7	1.7	8	2.80	3.00		Ps	0.078			49	3.65	1, 9	
6	4C3	3.20	3.80	10Y51	LS			3.25	6.7	1.7												
								3.50	6.2	1.7	9	3.30	3.50		Ps	0.175			109	8.19	1, 9	
								3.75	6.3	1.6												
7	4C4	3.80	4.30	10Y41	S			4.00	6.5	1.5	10	3.80	4.00		Ps	0.293			183	13.71	1, 9	
								4.25	6.7	1.4												
8	4C5	4.30	5.30	10Y51	S			4.50	6.5	1.5	11	4.30	4.50		Ps	0.131			82	6.13	1, 9	
								4.75	6.7	1.6												
								5.00	7.0	1.7												
								5.25	6.7	1.7												
9	4C6	5.30	6.00	10Y61	S			5.50	7.6	1.7												
								5.75	7.7	1.6												
								6.00	7.4	1.6	14	5.80	6.00		Ps	0.141			88	6.60	1, 9	
47	1	A1	0.00	0.10	10YR32	SCL			0.10	4.1	3.3	1	0.00	0.10			< 0.02					
	2	B2	0.10	0.30	2.5Y52	LMC			0.30	5.8	3.5											
	3	2B	0.30	1.10		S			0.60	5.9	4.1	3	0.50	0.60			< 0.02					
									0.80	5.2	3.8											
									1.00	7.5	5.9											
	4	3B	1.10	1.30	5GY51	ZLC			1.25	7.3	5.2	5	1.10	1.30	S2	Pc	0.154			96	7.20	1, 9
	5	4C	1.30	1.80	10GY41	SLC			1.50	7.5	1.6	6	1.30	1.50		Pc	2.227			1389	104.17	1, 9
									1.75	7.8	1.5											
									2.00	7.5	1.4	7	1.80	2.00		Ps	0.813			507	38.03	1, 9
									2.25	7.3	1.6											
								2.50	7.2	1.6	8	2.30	2.50		Ps	0.109			68	5.10	1, 9	
								2.75	7.1	1.7												
								3.00	7.1	1.5												
								3.25	6.9	1.7												
								3.50	6.5	1.6	10	3.30	3.50		Ps	0.075			47	3.51	1, 9	
								3.75	6.1	1.7												
								4.00	6.4	1.8												
								4.25	6.5	1.7												
								4.50	6.5	1.7	12	4.30	4.50		Ps	0.110			69	5.15	1, 9	
								4.75	7.2	1.7												
								5.00	7.2	1.8												
								5.25	7.4	1.9												
								5.50	7.4	1.9												
7	6C	5.50	5.70	10Y41	LS			5.75	7.4	3.4												
8	7C	5.70	6.00	10Y51	S		SS	6.00	7.6	6.1	15	5.80	6.00		Ps	0.059	0	0	30	2.25	2, 3	

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results																	
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Shell	Field pH			Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code												
									Depth	pH _e	pH _{CaCl2}																				
(m)									(m)			(m)			% S		mol H ⁺ /t	mol H ⁺ /t	mol H ⁺ /t	kg CaCO ₃ /t (SF=1.5)											
									23Af	23Bf					22B 23Ee	23F	23G														
48	1	A1	0.00	0.30	10YR21	LS			0.10	7.3	4.9	2	0.20	0.30			< 0.02														
	2	2C	0.30	0.70	10YR63	S			0.60	7.6	5.0	3	0.50	0.60			< 0.02														
	3	3C	0.70	0.90	10YR54	S			0.80	7.9	4.6																				
	4	4C	0.90	2.50	10YR73	S			1.00	7.8	6.0	4	0.80	0.90			< 0.02														
									1.25	7.4	6.0	5	1.00	1.20			< 0.02														
									1.50	7.6	6.0																				
									1.75	7.5	5.8																				
									2.00	7.5	5.7	7	1.80	2.00			< 0.02														
									2.25	7.3	5.9																				
									2.50	7.5	5.6																				
	5	5C	2.50	3.10	10YR62	S			2.75	7.3	5.4																				
									3.00	7.4	5.7	9	2.80	3.00			< 0.02														
	6	6C	3.10	3.50	N40	LS			3.25	7.3	1.8																				
									3.50	7.7	1.4	10	3.30	3.50	S4	Ps	0.335		209	15.67	1, 9										
	7	7C	3.50	4.90	10Y51	S			3.75	7.3	1.7																				
									4.00	7.3	1.8																				
									4.25	7.2	1.7																				
									4.50	7.0	2.0	12	4.30	4.50		Ps	0.061		38	2.85	1, 9										
									4.75	7.1	1.8																				
	8	8C	4.90	5.40	5GY51	S		SS	5.00	7.2	3.5																				
									5.25	7.1	3.0																				
	9	9D	5.40	6.00	5GY61	LMC			5.50	7.4	7.6																				
									5.75	7.5	3.0																				
									6.00	6.8	7.7	15	5.80	6.00			0.002	0	0	0	2, 3										
49	1	A1	0.00	0.10	10YR51	LS			0.10	5.5	5.7	1	0.00	0.10			< 0.02														
	2	A2	0.10	0.80	10YR82	S			0.30	6.0	4.9	2	0.20	0.30			< 0.02														
									0.60	6.4	4.9																				
									0.80	6.2	2.0																				
	3	2A	0.80	1.10	10YR41	LS			1.00	5.1	1.5	4	0.80	1.00			< 0.02														
	4	3B	1.10	1.40	7.5YR56	LC			1.25	4.7	3.6	5	1.20	1.40			< 0.02														
	5	4C	1.40	2.00	10YR72	S			1.50	5.3	4.6																				
									1.75	5.7	5.1																				
									2.00	6.1	4.7	6	1.80	2.00			< 0.02														
	6	5C	2.00	2.20	10YR63	KS			2.25	6.4	4.4																				
	7	6C	2.20	2.70	10YR62	S			2.50	6.7	3.2	8	2.30	2.50			< 0.02														
									2.75	6.7	1.5																				
	8	7C1	2.70	3.90	2.5Y51	S			3.00	6.8	2.3	9	2.80	3.00	S3	Ps	0.036		22	1.68	1, 9										
									3.25	6.7	1.9																				
									3.50	6.5	2.0	10	3.30	3.50		Ps	0.039		24	1.82	1, 9										
									3.75	6.8	2.4																				
	9	7C2	3.90	4.50	2.5Y61	S			4.00	6.9	3.2																				
									4.25	6.8	3.0	11	4.00	4.20			0.021		13	0.98	1, 9										
									4.50	7.0	3.6																				
	10	7C3	4.50	5.70	2.5Y61	S		SS	4.75	7.1	5.3																				
									5.00	7.5	5.3																				
									5.25	7.6	5.6																				
									5.50	7.8	6.0	14	5.30	5.50			< 0.02	0	0	0	1, 3										
									5.70	8.5	5.9																				
58	1	A1	0.00	0.10	10YR21	S			0.10	8.2	3.6						< 0.02														
	2	A2	0.10	0.40	10YR51	S			0.30	6.5	3.6	2	0.20	0.30			< 0.02														
	3	B2	0.40	1.10	10YR42	S			0.60	7.3	5.9																				
									0.80	7.5	5.3																				
									1.00	7.7	3.8	4	0.80	1.00	S0	Ps	0.042		26	1.96	1, 9										
	4	C	1.10	2.80	2.5Y51	S			1.25	7.7	4.0																				
									1.50	7.9	3.9	5	1.30	1.50		Ps	0.033		21	1.54	1, 9										
									1.75	7.8	4.4																				
									2.00	7.7	3.9	6	1.80	2.00			0.025		16	1.17	1, 9										
									2.25	7.7	1.6																				
									2.50	7.8	1.6	7	2.30	2.50		Ps	0.046		29	2.15	1, 9										
									2.75	7.8	1.6																				
	5	2C1	2.80	4.40	2.5Y71	S		SS	3.00	7.9	1.9	8	2.80	3.00		Ps	0.256		160	11.98	1, 9										
									3.25	8.0	4.9																				
									3.50	8.2	5.5	9	3.30	3.50		Ps	0.031	0	0	11	0.84	1, 3									
									3.75	8.0	5.3																				
									4.00	8.1	5.3																				
									4.25	7.9	5.7																				
	6	2C2	4.40	5.10	2.5Y51	S		SS	4.50	7.8	1.2																				
									4.75	8.0	4.9																				
									5.00	7.5	5.4	12	4.80	5.00		Ps	0.053	0	0	32	2.41	2, 3									
									5.25	7.5	1.9																				
	7	3C	5.10	5.50	2.5Y41	SLC		SS	5.50	7.6	1.8	13	5.30	5.50		Pc	0.498		311	23.30	1, 9										
									5.60	8.9	5.9	14	5.50	5.60			0.028		17	1.31	1, 9										

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results																			
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Shell	Field pH			Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code														
									Depth	pH _e	pH _{ox}																						
(m)									(m)			(m)			% S		mol H ⁺ /t		kg CaCO ₃ /t (SF=1.5)														
									23Af 23Bf						22B/23Ee		23F 23G																
59	1	A1	0.00	0.10	10YR41	SLC			0.10	7.2	5.9				< 0.02																		
	2	B2	0.10	0.30	10YR42	SLMC			0.30	7.4	5.7	2	0.20	0.30																			
	3	2C1	0.30	0.45	2.5Y51	CLS																											
	4	2C2	0.45	0.60	2.5Y41	SLC			0.60	7.1	1.3	4	0.50	0.60	S0	Pc	0.885		552	41.40	1, 9												
	5	3C	0.60	2.10	2.5Y51	S			0.80	7.1	1.2																						
									1.00	7.4	1.0	5	0.80	1.00		Ps	0.130		81	6.08	1, 9												
									1.25	7.1	0.9																						
									1.50	7.1	0.8	6	1.30	1.50		Ps	0.233		145	10.90	1, 9												
									1.75	7.4	1.0																						
									2.00	7.3	1.2																						
	6	4C	2.10	2.70	10Y31	FSLC			2.25	7.4	1.2																						
	7	5C1	2.70	3.00	10Y51	S			2.50	7.5	2.0	8	2.30	2.50		Pc	1.048		654	49.02	1, 9												
									2.75	8.2	1.5																						
	8	5C2	3.00	4.50	10Y51	S	SS		3.00	7.9	1.4	9	2.80	3.00		Ps	0.092		57	4.30	1, 9												
									3.25	7.8	5.7																						
									3.50	8.1	5.4																						
									3.75	7.9	5.1																						
									4.00	8.1	5.0	11	3.80	4.00		Ps	0.052	0	0	25	1.86	2, 3											
									4.25	8.7	5.8																						
60	1	A11	0.00	0.30	10YR31	S			4.75	8.6	7.0																						
	2	A2	0.30	0.90	10YR41	S	SS		5.00	8.5	7.3	13	4.80	5.00			0.008	0	0	-9		2, 3											
									5.25	7.7	6.1																						
									0.10	6.6	5.1																						
									0.30	6.8	5.3																						
									0.60	6.7	5.2																						
	3	A2	0.75	0.90	10YR62	S			0.80	6.0	5.3																						
	4	2C	0.90	1.20	10YR41	S		SS	1.00	7.3	1.9	5	1.00	1.20	S1	Ps	0.122		76	5.71	1, 9												
	5	3C	1.20	4.50	2.5Y51	S	SS		1.25	7.8	5.8																						
									1.50	8.1	5.3	6	1.30	1.50		Ps	0.064	0	0	28	2.11	2, 3											
									1.75	8.7	5.2																						
									2.00	8.8	4.2																						
									2.25	8.9	2.9																						
									2.50	8.9	4.1	8	2.30	2.50		Ps	0.061	0	0	33	2.47	2, 3											
									2.75	8.7	5.4																						
									3.00	8.5	6.0																						
									3.25	8.5	5.6																						
									3.50	8.5	5.8	10	3.30	3.50		Ps	0.042	0	0	22	1.63	2, 3											
61	6	4C	4.50	5.50	2.5Y41	KS	SS		3.75	8.4	5.7																						
									4.00	8.4	4.8																						
									4.25	8.2	4.7																						
									4.50	8.1	1.5																						
									4.75	7.8	1.7																						
	7	5C	5.50	5.80	N40	ZLC	SS		5.00	7.4	4.3	13	4.80	5.00		Ps	0.112	0	0	45	3.41	2, 3											
									5.25	7.5	1.9																						
									5.50	7.4	1.3																						
									5.75	7.3	1.4	15	5.60	5.80		Pc	1.844	35	1111	1185	88.88	2, 7, 10											
									0.10	5.1	5.4																						
62	1	A1	0.00	0.20	10YR51	S			0.30	5.0	4.7																						
	2	A2	0.20	0.90	10YR72	S			0.60	4.5	4.6	2	0.20	0.30			< 0.02																
	3	C	0.90	1.70	10YR63	S			0.80	5.0	4.1																						
									1.00	7.2	4.9	4	0.90	1.10			< 0.02																
									1.25	6.8	5.3																						
									1.50	6.6	5.4																						
									1.75	6.2	1.2																						
	4	2C1	1.70	2.40	2.5Y41	S			2.00	7.1	0.7	6	1.80	2.00	S2	Ps	0.152		95	7.11	1, 9												
	5	2C2	2.40	2.80	2.5Y61	S			2.25	7.3	0.7																						
									2.50	7.6	1.4	7	2.40	2.60			0.023		14	1.08	1,												

Field Morphology Summary											Lab Sample			Action Criteria		Lab Results									
Site ID	Hor No	Horizon Name	Upp Depth		Low Depth	Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Depth		Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code		
			Depth	pH _e						pH _{CO2}	Depth	S _{POS}		mol H ⁺ /l	mol H ⁺ /l			mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)						
(m)											(m)			(m)											
											23Af 23Bf														
64	1	A1	0.00	0.30		10YR51	S			0.10	5.6	4.7	2	0.20	0.30			< 0.02							
	2	A21	0.30	1.10		10YR63	S			0.30	6.0	4.3													
										0.60	6.5	4.8													
										0.80	6.2	4.8													
										1.00	7.0	5.0	4	0.80	1.00			< 0.02							
	3	A22	1.10	1.30		10YR72	S			1.25	6.9	5.0													
	4	C	1.30	2.00		10YR52	S			1.50	7.5	5.5	6	1.30	1.50			< 0.02							
										1.75	7.4	4.9						< 0.02							
										2.00	7.3	1.0	7	1.80	2.00			< 0.02							
	5	2C1	2.00	2.80		10Y51	S		SS	2.25	7.8	1.8													
										2.50	7.8	1.5	8	2.30	2.50	S2	Ps	0.145		90	6.78	1, 9			
										2.75	7.7	4.0													
	6	2C2	2.80	3.80		5GY51	S		SS	3.00	7.9	2.1	9	2.80	3.00		Ps	0.080		50	3.74	1, 9			
										3.25	7.8	1.8													
										3.50	7.8	1.3	10	3.30	3.50		Ps	0.112	0	4	58	4.34	2, 3		
										3.75	6.8	5.0													
	7	2C3	3.80	5.70		10Y61	S		SS	4.00	7.1	1.4	11	3.80	4.00		Ps	0.052	0	2	29	2.15	2, 3		
										4.25	7.4	2.1													
										4.50	7.1	4.8													
										4.75	6.6	5.4													
										5.00	6.7	5.3	13	4.80	5.00		Ps	0.034	0	0	21	1.59	2, 3		
										5.25	6.5	5.2													
										5.50	6.4	5.3													
	8	3C	5.70	5.80		10Y41	ZLC			5.75	7.4	1.6	15	5.70	5.80		Pc	0.511		319	23.90	1, 9			
65	1	A1	0.00	0.30		10YR41	S			0.10	5.7	5.2						< 0.02							
										0.30	8.0	5.4	2	0.20	0.30			< 0.02							
	2	A2	0.30	1.40		10YR63	S			0.60	7.8	5.4													
										0.80	7.6	5.3	4	0.80	1.00			< 0.02							
										1.00	7.5	5.3													
										1.25	7.6	5.3													
	3	2C	1.40	2.00		10YR64	KS			1.50	7.2	5.4													
										1.75	7.4	6.0													
										2.00	7.2	5.8	6	1.80	2.00			< 0.02							
	4	3C1	2.00	2.60		2.5Y51	S		SS	2.25	7.3	5.8													
										2.50	7.9	5.8	7	2.30	2.50			0.029		18	1.36	1, 9			
	5	3C2	2.60	4.20		2.5Y61	S		SS	2.75	7.7	5.7													
										3.00	7.1	5.8													
										3.25	7.5	5.7													
										3.50	7.7	6.2	9	3.30	3.50			0.018	0	0	3	0.23	1, 3		
										3.75	7.3	5.9													
										4.00	6.8	5.9													
	6	4C	4.20	4.50		2.5Y51	S		SS	4.25	7.0	2.2													
										4.50	6.9	6.0	11	4.30	4.50	S5	Ps	0.090	0	0	30	2.23	1, 3		
	7	5C	4.50	5.70		5Y51	S		SS	4.75	6.7	5.9													
										5.00	6.7	6.0													
										5.25	6.9	6.1													
										5.50	7.2	6.0	13	5.30	5.50			< 0.02	0	0	1		1, 3		
										5.70	7.2	6.1													
66	1	A1	0.00	0.30		10YR21	CLS			0.10	6.7	3.7						0.024					15	1.12	1, 9
	2	B2	0.30	0.65		2.5Y62	S			0.30	6.9	3.2	3	0.50	0.60			< 0.02							
	3	C	0.65	0.90		2.5Y62	S			0.80	7.5	5.2													
													4	0.80	0.90			0.018		11	0.84	1, 9			
	4	2C1	0.90	2.00		5GY41	LS			1.00	8.1	1.3													
										1.25	8.7	1.7													
										1.50	9.1	1.4	5	1.30	1.50	S1	Ps	0.351		219	16.42	1, 9			
										1.75	8.9	1.3													
										2.00	8.4	1.5													
	5	2C2	2.00	2.20		10Y41	FS						7	2.00	2.20		Ps	0.457		285	21.38	1, 9			
	6	3C1	2.20	2.50		10Y41	CLS			2.25	8.6	1.5													
										2.50	8.5	1.6	8	2.30	2.50		PI	0.571		356	26.71	1, 9			
	7	3C2	2.50	2.90		10Y41	SLC			2.75	8.7	1.8													
													9	2.80	2.90		Pc	0.485		302	22.69	1, 9			
	8	4C1	2.90	4.30		10Y61	S		SS	3.00	8.2	1.7													
										3.25	8.2	1.6													
										3.50	8.4	3.3	10	3.30	3.50			0.027		17	1.26	1, 9			
										3.75	8.3	1.7													
										4.00	7.8	3.3													
										4.25	8.0	1.7													
	9	4C2	4.30	5.10		10Y61	KS		SS	4.50	8.0	6.2	12	4.30	4.50			0.024	0	0	9	0.66	2, 3		
										4.75	7.7	5.8													
										5.00	7.9	5.7													
	10	5D	5.10	5.80		10Y71	SLMC			5.25	8.0	5.7													
										5.50	7.7	5.6	14	5.30	5.50			0.000	0	0	0		2, 3		
										5.75	7.7	5.3													

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results								
Site ID	Hor No	Horizon Name	Upp Depth		Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Low Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code	
			Depth	pH _s					pH _{ox}	Depth	Depth												
													(m)	(m)									(m)
67	1	A1	0.00	0.25	10YR41	S			0.10	5.8	3.9												
	2	A21	0.25	0.65	10YR62	S			0.30	5.9	4.1	2	0.25	0.35									
									0.60	6.1	4.3												
	3	A22	0.65	1.10	10YR53	S			0.80	6.2	4.2												
												4	0.80	1.00									
	4	B1	1.10	1.15	2.5Y43	S			1.15	6.5	2.4												
	5	2C	1.15	1.30	2.5Y41	LS			1.25	6.3	1.9	6	1.20	1.30	S2	Ps	0.161		100	7.53	1.9		
	6	3C	1.30	1.70	10GY41	SCL			1.50	6.3	1.2	7	1.40	1.60		PI	0.412		257	19.27	1.9		
	7	4C1	1.70	2.40	10Y51	S			1.75	6.4	1.7												
68									2.00	6.3	1.5												
									2.25	6.5	1.6	9	2.20	2.40		Ps	0.130		81	6.08	1.9		
	8	4C2	2.40	3.90	10Y51	S		SS	2.50	6.9	1.8												
									2.75	6.8	4.9												
									3.00	6.7	1.5												
									3.25	7.3	2.0												
									3.50	7.6	4.9	11	3.30	3.50		Ps	0.074	0	3	32	2.40	1, 3	
									3.75	7.5	3.4												
	9	4C3	3.90	5.40	10Y51	S		SS	4.00	6.9	1.7												
									4.25	7.2	1.4												
69									4.50	6.8	0.9	13	4.30	4.50		Ps	0.118	0	10	59	4.46	1, 3	
									4.75	6.9	1.5												
									5.00	7.5	1.2												
									5.25	7.3	1.8												
	10	4C4	5.40	5.90	10Y51	S		SS	5.50	7.4	1.8												
									5.75	7.3	3.0	16	5.60	5.80		Ps	0.119	0	0	51	3.85	1, 3	
	11	5D	5.90	6.00	5GY51	LMC			6.00	7.2	6.2	17	5.90	6.00			0.042	0	0	21	1.54	2, 3	
	68	1	A1	0.00	0.30	2.5Y42	FSL			0.10	7.2	5.8											
									0.30	7.3	5.7	2	0.20	0.30									
	2	2C1	0.30	1.80	10Y31	S			0.60	7.3	1.3												
								0.80	7.2	1.6	4	0.80	1.00	S0	Ps	0.230			143	10.76	1, 9		
								1.00	7.3	1.1													
								1.25	7.4	1.1													
								1.50	7.3	1.2													
								1.75	7.2	1.6													
3	2C2	1.80	2.60	10Y41	S		SS	2.00	7.4	5.4	6	1.80	2.00		Ps	0.247	0	0	60	4.51	1, 3		
								2.25	7.1	1.4													
								2.50	7.3	1.4													
4	2C3	2.60	4.50	10Y41	S		SS	2.75	7.7	1.4													
								3.00	7.4	3.9													
								3.25	7.0	2.2													
								3.50	6.9	2.4	9	3.30	3.50		Ps	0.068	0	0	27	2.01	1, 3		
								3.75	7.3	2.8													
								4.00	7.3	4.8													
								4.25	7.3	5.2													
								4.50	7.5	5.3													
5	3C	4.50	4.70	10Y2.5/1	ZLC			4.75	7.4	1.4	12	4.50	4.70		Pc	0.520			324	24.32	1.9		
6	4D	4.70	5.30	10GY41	FSLMC			5.00	8.4	8.2													
								5.25	8.4	5.8	14	5.10	5.30			0.000	0	0	-14		2, 3		
69	1	A1	0.00	0.30	10YR41	S		SS	0.10	5.5	4.4												
									0.30	5.9	5.1	2	0.20	0.30									
2	A2	0.30	1.60	10YR53	S			0.60	6.4	4.6													
								0.80	6.4	4.9													
								1.00	6.7	5.1	4	0.80	1.00										
								1.25	6.6	5.1													
								1.50	7.1	5.0													
3	2C	1.60	2.20	10YR62	S		SS	1.75	7.3	5.9													
								2.00	7.8	6.2	6	1.80	2.00										
4	3C	2.20	2.55	2.5Y41	S		SS	2.25	7.4	6.0													
								2.50	7.5	5.6	7	2.30	2.50										
5	4C	2.55	2.85	10Y51	S			2.75	7.6	5.2	8	2.60	2.80	S3	Ps	0.145			90	6.78	1.9		
6	5C	2.85	3.70	10GY41	FSLC		SS	3.00	8.2	3.0													
								3.25	8.0	1.5													
								3.50	8.1	1.4	10	3.30	3.50		Pc	1.053			657	49.26	1.9		
								3.75	8.0	0.8													
								4.00	7.7	1.3													
								4.25	7.9	2.9													
								4.50	7.2	3.1	12	4.30	4.50		Ps	0.041			26	1.92	1, 9		
								4.75	7.0	3.2													
								5.00	7.2	3.5													
8	7C	5.10	5.70	10Y51	S		SS	5.25	7.5	4.1													
								5.50	7.9	4.9	14	5.30	5.50		Ps	0.030	0	0	16	1.22	1, 3		

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results																																											
Site ID	Hor No	Horizon Name	Upp Depth		Low Depth	Colour	Soil Texture	Jar	Shell	Field pH			No	Upp Low Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code																																			
			Depth	pH _f						pH _{ox}	Depth	Depth																																														
(m)										(m)			(m)																																													
										23Al	23Br																																															
70	1	A1	0.00	0.10	10YR42	CLFS				0.10	3.6	2.1	2	0.20	0.30	S0	Pc	0.120		75	5.61	1, 9																																				
	2	B2	0.10	0.50	N40	ZLC		0.30	5.8	1.3	3	0.50											0.60	Ps	0.599		374	28.02	1, 9																													
	3	2C	0.50	1.40	10Y41	LS		0.60	6.6	1.1																				4	0.80	1.00	Ps	0.347		216	16.23	1, 9																				
								0.80	6.4	1.5																																																
								1.00	7.0	1.3																																																
								1.25	7.4	1.3																																																
	4	3C1	1.40	2.30	10Y61	S		1.50	7.6	1.3																				6	1.80	2.00	Ps	0.066		41	3.09	1, 9																				
								1.75	7.5	1.7																																																
								2.00	7.2	1.1																																																
								2.25	7.0	1.3																																																
5	3C2	2.30	3.00	10Y51	S		2.50	7.3	1.4	8			2.80	3.00	Ps	0.143		89	6.69	1, 9																																						
							2.75	7.1	1.2																																																	
							3.00	7.4	1.1																																																	
							3.25	7.4	3.0																																																	
71	1	A1	0.00	0.40	10YR41	S				3.50	7.6	3.4	2	0.20	0.30	S0	Pc	0.036	0	1	18	1.38	2, 3																																			
	2	B2	0.40	1.00	10YR63	S		3.75	7.5	4.0	3	0.50												0.60	Ps	0.036	0	1	18	1.38	2, 3																											
	3	2B2	1.00	1.40	5Y61	S		4.00	7.2	2.9																						4	0.80	1.00	Ps	0.036	0	1	18	1.38	2, 3																	
								4.25	7.1	1.4																																																
								4.50	7.0	2.6																																																
								4.75	7.1	8.0																																																
	4	3D	4.50	5.85	5GY51	LMC		5.00	6.8	7.8																						12	4.80	5.00																								
								5.25	6.1	7.6																																																
								5.50	6.3	5.3																																																
								5.75	6.2	4.6																																																
72	1	A1	0.00	0.10	5Y2.5/1	L				4.75			7.1	8.0	2	0.20	0.30	S0	Pl	0.362		226	16.93									1, 9																										
	2	A12	0.10	0.40	10YR32	FSCL		0.30	6.8	1.3	3	0.50	0.60	Ps										0.329		205	15.39	1, 9																														
	3	2C	0.40	1.10	5Y31	LSL		0.60	6.5	1.2																			4	0.80	1.00		Ps	0.698		435	32.65	1, 9																				
								0.80	4.4	0.8																																																
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
	73	1	A1	0.00	0.10	10YR31	SCL																						0.30	6.4	1.2		2	0.20	0.30	S0	Pl	0.362		226	16.93	1, 9																
		2	A2	0.10	0.30	10YR52	S		0.30	6.8																			1.3	3	0.40												0.50	Ps	0.329		205	15.39	1, 9									
		3	2C	0.30	0.50	2.5Y41	LS		0.60	6.5																			1.2																					4	0.80	1.00	Ps	0.582		363	27.22	1, 9
		4	3C/Bh	0.50	0.60	2.5Y2.5/1	CL		0.80	4.4																			0.8																													
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
								0.30	6.4	1.2																																																
5		4C	0.60	0.90	10YR41	CLFS		0.60	7.4	4.1	6	0.90	1.00	Pl	0.665		415	31.11	1, 9																																							
								0.80	7.9	1.4																																																
								1.00	8.1	1.2																																																
							1.25	7.9	1.0																																																	
6	5C	0.90	2.30	10Y51	LS		1.50	7.9	1.4	7	1.80	2.00	Ps	0.199		124	9.31	1, 9																																								
							1.75	7.8	1.2																																																	
							2.00	8.1	1.4																																																	
							2.25	8.0	1.2																																																	
74	1	A1	0.00	0.10	10YR31	SCL				2.50	7.8	1.7	2	0.20	0.30	S0	Pl	0.362		226	16.93	1, 9																																				
	2	A2	0.10	0.30	10YR52	S		0.30	6.4	1.2	3	0.40											0.50	Ps	0.329		205	15.39	1, 9																													
	3	2C	0.30	0.50	2.5Y41	LS		0.60	6.5	1.2																				4	0.80	1.00	Ps	0.582		363	27.22	1, 9																				
	4	3C/Bh	0.50	0.60	2.5Y2.5/1	CL		0.80	4.4	0.8																													5	0.80	0.90	Pl	0.665		415	31.11	1, 9											
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
								0.30	6.4	1.2																																																
	5	4C	0.60	0.90	10YR41	CLFS		0.60	7.4	4.1																													6	0.90	1.00	Pl	0.665		415	31.11	1, 9											
								0.80	7.9	1.4																																																
								1.00	8.1	1.2																																																
							1.25	7.9	1.0																																																	
6	5C	0.90	2.30	10Y51	LS		1.50	7.9	1.4	7	1.80	2.00	Ps	0.199		124	9.31	1, 9																																								
							1.75	7.8	1.2																																																	
							2.00	8.1	1.4																																																	
							2.25	8.0	1.2																																																	
75	1	A1	0.00	0.10	10YR31	SCL				2.50	7.8	1.7	2	0.20	0.30	S0	Pl	0.362		226	16.93	1, 9																																				
	2	A2	0.10	0.30	10YR52	S		0.30	6.4	1.2	3	0.40											0.50	Ps	0.329		205	15.39	1, 9																													
	3	2C	0.30	0.50	2.5Y41	LS		0.60	6.5	1.2																				4	0.80	1.00	Ps	0.582		363	27.22	1, 9																				
	4	3C/Bh	0.50	0.60	2.5Y2.5/1	CL		0.80	4.4	0.8																													5	0.80	0.90	Pl	0.665		415	31.11	1, 9											
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
								0.30	6.4	1.2																																																
	5	4C	0.60	0.90	10YR41	CLFS		0.60	7.4	4.1																													6	0.90	1.00	Pl	0.665		415	31.11	1, 9											
								0.80	7.9	1.4																																																
								1.00	8.1	1.2																																																
							1.25	7.9	1.0																																																	
6	5C	0.90	2.30	10Y51	LS		1.50	7.9	1.4	7	1.80	2.00	Ps	0.199		124	9.31	1, 9																																								
							1.75	7.8	1.2																																																	
							2.00	8.1	1.4																																																	
							2.25	8.0	1.2																																																	
76	1	A1	0.00	0.10	10YR31	SCL				2.50	7.8	1.7	2	0.20	0.30	S0	Pl	0.362		226	16.93	1, 9																																				
	2	A2	0.10	0.30	10YR52	S		0.30	6.4	1.2	3	0.40											0.50	Ps	0.329		205	15.39	1, 9																													
	3	2C	0.30	0.50	2.5Y41	LS		0.60	6.5	1.2																				4	0.80	1.00	Ps	0.582		363	27.22	1, 9																				
	4	3C/Bh	0.50	0.60	2.5Y2.5/1	CL		0.80	4.4	0.8																													5	0.80	0.90	Pl	0.665		415	31.11	1, 9											
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
								0.30	6.4	1.2																																																
	5	4C	0.60	0.90	10YR41	CLFS		0.60	7.4	4.1																													6	0.90	1.00	Pl	0.665		415	31.11	1, 9											
								0.80	7.9	1.4																																																
								1.00	8.1	1.2																																																
							1.25	7.9	1.0																																																	
6	5C	0.90	2.30	10Y51	LS		1.50	7.9	1.4	7	1.80	2.00	Ps	0.199		124	9.31	1, 9																																								
							1.75	7.8	1.2																																																	
							2.00	8.1	1.4																																																	
							2.25	8.0	1.2																																																	
77	1	A1	0.00	0.10	10YR31	SCL				2.50	7.8	1.7	2	0.20	0.30	S0	Pl	0.362		226	16.93	1, 9																																				
	2	A2	0.10	0.30	10YR52	S		0.30	6.4	1.2	3	0.40											0.50	Ps	0.329		205	15.39	1, 9																													
	3	2C	0.30	0.50	2.5Y41	LS		0.60	6.5	1.2																				4	0.80	1.00	Ps	0.582		363	27.22	1, 9																				
	4	3C/Bh	0.50	0.60	2.5Y2.5/1	CL		0.80	4.4	0.8																													5	0.80	0.90	Pl	0.665		415	31.11	1, 9											
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
								0.30	6.4	1.2																																																
	5	4C	0.60	0.90	10YR41	CLFS		0.60	7.4	4.1																													6	0.90	1.00	Pl	0.665		415	31.11	1, 9											
								0.80	7.9	1.4																																																
								1.00	8.1	1.2																																																
							1.25	7.9	1.0																																																	
6	5C	0.90	2.30	10Y51	LS		1.50	7.9	1.4	7	1.80	2.00	Ps	0.199		124	9.31	1, 9																																								
							1.75	7.8	1.2																																																	
							2.00	8.1	1.4																																																	
							2.25	8.0	1.2																																																	
78	1	A1	0.00	0.10	10YR31	SCL				2.50	7.8	1.7	2	0.20	0.30	S0	Pl	0.362		226	16.93	1, 9																																				
	2	A2	0.10	0.30	10YR52	S		0.30	6.4	1.2	3	0.40											0.50	Ps	0.329		205	15.39	1, 9																													
	3	2C	0.30	0.50	2.5Y41	LS		0.60	6.5	1.2																				4	0.80	1.00	Ps	0.582		363	27.22	1, 9																				
	4	3C/Bh	0.50	0.60	2.5Y2.5/1	CL		0.80	4.4	0.8																													5	0.80	0.90	Pl	0.665		415	31.11	1, 9											
								1.00	6.3	0.9																																																
								0.10	5.8	4.5																																																
								0.30	6.4	1.2																																																
	5	4C	0.60	0.90	10YR41	CLFS		0.60	7.4	4.1																													6	0.90	1.00	Pl	0.665		415	31.11	1, 9											
								0.80	7.9	1.4																																																
								1.00	8.1	1.2																																																
							1.25	7.9	1.0																																																	
6	5C	0.90	2.30	10Y51	LS		1.50	7.9	1.4	7	1.80	2.00	Ps	0.199		124	9.31	1, 9																																								
							1.75	7.8	1.2																																																	
							2.00	8.1	1.4																																																	
							2.25	8.0	1.2																																																	
79	1	A1	0.00	0.10	10YR31	SCL				2.5																																																

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results																		
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Depth	Low Depth	Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code											
									Depth	pH _e	pH _{ox}						S _{POS}	22B 23Ee	23F	23G	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)											
(m)										(m)			(m)																				
										23Af	23Bf																						
74	1	A1	0.00	0.10	10YR41	S			0.10	5.2	3.8																						
	2	A2	0.10	0.30	10YR52	S			0.30	4.8	3.7	2	0.20	0.30																			
	3	B21	0.30	0.80	10YR51	S			0.60	6.7	5.9	3	0.50	0.60																			
									0.80	6.9	4.1																						
	4	B22	0.80	1.10	2.5Y41	S			1.00	7.8	1.2	4	0.80	1.00	S1	Ps	0.034			21	1.59	1, 9											
	5	2A	1.10	1.50	5Y41	SCL			1.25	7.6	1.3																						
									1.50	8.2	4.0	5	1.30	1.50		PI	0.800			499	37.42	1, 9											
	6	2C	1.50	1.80	5Y31	SCL			1.75	7.5	1.1	6	1.60	1.80		PI	0.635			396	29.70	1, 9											
	7	3C	1.80	3.00	10Y51	LS			2.00	7.5	1.5																						
									2.25	7.6	1.2																						
									2.50	7.6	1.4	8	2.30	2.50		Ps	0.284			177	13.28	1, 9											
									2.75	7.7	2.5																						
									3.00	7.9	1.2																						
	8	4C1	3.00	3.70	10Y51	S		SS	3.25	7.9	3.5																						
									3.50	7.5	1.4	10	3.30	3.50		Ps	0.182			114	8.51	1, 9											
									3.75	7.8	1.8																						
	9	4C2	3.70	5.60	10Y51	S		SS	4.00	8.2	1.6																						
									4.25	7.9	1.7																						
									4.50	7.9	1.9	12	4.30	4.50		Ps	0.188			117	8.79	1, 9											
									4.75	7.6	1.3																						
									5.00	7.4	1.6																						
									5.25	7.8	1.4																						
									5.50	7.8	1.8	14	5.30	5.50		Ps	0.118			74	5.52	1, 9											
									5.60	7.5	1.4																						
75	1	A1	0.00	0.10	10YR62	S			0.10	5.5	4.2																						
	2	A21	0.10	0.80	10YR71	S			0.30	6.5	4.2	2	0.20	0.30																			
									0.60	6.7	4.4																						
									0.80	6.4	4.3																						
	3	A22	0.80	2.50	10YR72	S			1.00	6.5	2.2	4	0.80	1.00																			
									1.25	6.5	3.9																						
									1.50	6.1	4.2																						
									1.75	6.6	4.1																						
									2.00	6.8	2.5	6	1.80	2.00																			
									2.25	6.8	1.5																						
									2.50	6.9	1.4																						
	4	2C1	2.50	4.00	10Y51	S		SS	2.75	7.3	1.7																						
									3.00	7.6	1.8	8	2.80	3.00	S3	Ps	0.139			87	6.50	1, 9											
									3.25	7.6	1.8																						
									3.50	7.6	2.0																						
									3.75	7.8	2.4																						
									4.00	6.5	1.9	10	3.80	4.00		Ps	0.106			66	4.96	1, 9											
	5	2C2	4.00	4.90	10Y61	S		SS	4.25	6.9	1.7																						
									4.50	7.2	1.8	11	4.30	4.50		Ps	0.128			80	5.99	1, 9											
									4.75	7.5	2.8																						
	6	3C	4.90	5.50	10Y41	CLFS		SS	5.00	7.9	2.5																						
									5.25	8.2	2.3																						
									5.50	8.3	2.6	13	5.30	5.50		PI	0.545			340	25.49	1, 9											
76	1	A1	0.00	0.10	10YR32	S		SS	0.10	7.2	5.6																						
	2	A21	0.10	0.60	10YR62	S		SS	0.30	7.3	5.8	2	0.20	0.30																			
									0.60	8.5	6.2	3	0.50	0.60																			
	3	A22	0.60	1.00	10YR63	S			0.80	8.4	5.8																						
									1.00	8.3	5.3	4	0.80	1.00																			
	4	A23	1.00	2.20	10YR52	S			1.25	8.3	5.4																						
									1.50	8.1	5.5																						
									1.75	8.0	5.6																						
									2.00	7.4	3.4	6	1.80	2.00																			
	5	2C	2.20	3.80	10Y41	LS			2.25	7.5	1.6																						
									2.50	7.3	1.3	7	2.30	2.50	S3	Ps	0.200			125	9.36	1, 9											
									2.75	7.4	1.2																						
									3.00	7.8	1.1	8	2.80	3.00		Ps	0.387			241	18.10	1, 9											
									3.25	7.9	1.0																						
									3.50	8.0	0.9																						
									3.75	8.2	1.0																						
	6	3C	3.80	5.00	10Y51	S		SS	4.00	7.5	2.4	10	3.80	4.00		Ps	0.132			82	6.17	1, 9											
									4.25	7.6	1.8																						
									4.50	7.3	1.5																						
									4.75	7.1	1.8																						
									5.00	7.0	1.7	12	4.80	5.00		Ps	0.057			36	2.67	1, 9											
	7	4C	5.00	5.80	10Y61	KS		SS	5.25	7.9	1.9																						
									5.50	8.1	1.8																						
									5.75	8.1	2.6																						
	8	5C	5.80	6.00	10Y41	FSLC		SS	6.00	8.3	6.1	14	5.80	6.00		Pc	0.330			206	15.44	1, 9											

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results															
Site ID	Hor No	Horizon Name	Upp Depth		Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code							
									Depth	pH _e	pH _{ox}																		
			(m)										(m)																
									23Af	23Bf																			
77	1	A1	0.00	0.25	10YR51	S			0.10	7.9	5.1																		
	2	A2	0.25	0.90	10YR62	S			0.30	7.8	4.9		2	0.30	0.40				< 0.02										
									0.60	7.7	4.9		3	0.50	0.60				< 0.02										
	3	2C	0.90	1.30	5Y31	FSCL			0.80	7.8	2.8																		
									1.00	7.9	1.2		4	0.90	1.10	S1	PI	0.523		326	24.46	1, 9							
									1.25	7.3	1.3																		
	4	3C1	1.30	2.70	10Y41	S			1.50	7.2	1.1		5	1.30	1.50		Ps	0.363		239	17.92	1, 9							
									1.75	7.0	1.8																		
									2.00	7.1	2.4		6	1.80	2.00		Ps	0.241		150	11.27	1, 9							
									2.25	7.1	2.1																		
									2.50	7.0	1.9																		
	5	3C2	2.70	3.00	10Y51	S	SS		2.75	6.9	4.1																		
									3.00	6.6	4.9		8	2.80	3.00		Ps	0.194		121	9.07	1, 9							
									3.25	6.3	3.4																		
	6	4C	3.00	4.00	10Y51	LS	SS		3.50	7.8	4.4																		
									3.75	7.6	4.8																		
									4.00	7.5	1.4		10	3.80	4.00		Ps	0.660		412	30.87	1, 9							
									4.25	7.5	1.6																		
	7	5C	4.00	4.50	10Y51	S	SS		4.50	7.8	5.6		11	4.30	4.50		Ps	0.087		54	4.07	1, 9							
									4.75	8.0	5.9																		
									5.00	8.1	3.9		12	4.80	5.00		Pc	0.815	0	0	35	2.66	1, 3						
									5.25	7.2	1.5																		
	9	7C	5.30	6.00	10GY41	ZLC			5.50	7.2	1.5																		
									5.75	6.7	1.9																		
									6.00	6.2	5.8		14	5.80	6.00		Pc	1.346		840	62.96	1, 9							
78	1	A1	0.00	0.10	10YR42	S			0.10	8.1	5.1																		
	2	A21	0.10	0.50	10YR73	S	SS		0.30	8.0	5.4		2	0.20	0.30				< 0.02										
	3	A22	0.50	1.80	10YR82	S			0.60	8.1	5.2		3	0.50	0.60				< 0.02										
									0.80	8.1	5.2																		
									1.00	8.2	5.5		4	0.80	1.00				< 0.02										
									1.25	7.9	5.5																		
									1.50	7.8	5.2																		
									1.75	8.2	5.2																		
	4	C1	1.80	3.00	10Y51	S			2.00	8.3	5.1		6	1.80	2.00				< 0.02										
									2.25	8.2	5.2																		
									2.50	8.2	5.7																		
									2.75	7.9	2.3																		
									3.00	7.9	4.6		8	2.80	3.00				0.022		14	1.03	1, 9						
	5	C2	3.00	4.30	10GY41	S	SS		3.25	7.6	5.0																		
									3.50	7.8	4.6																		
									3.75	7.8	5.2																		
									4.00	8.0	3.9		10	3.80	4.00	S3	Ps	0.079		49	3.70	1, 9							
									4.25	8.0	2.0																		
	6	2C	4.30	4.50	10GY41	CLFS	SS		4.50	7.3	2.2		11	4.30	4.50		PI	0.673		420	31.48	1, 9							
	7	3C	4.50	4.70	10Y51	S	SS		4.75	7.9	1.9		12	4.50	4.70		Ps	0.124		77	5.80	1, 9							
	8	4C	4.70	5.60	10GY51	FSLC	SS		5.00	8.8	4.9																		
									5.25	8.7	5.2		13	4.80	5.00		Pc	0.446	0	0	119	8.93	1, 3						
									5.50	9.1	5.7																		
	9	5C	5.60	6.00	10Y41	ZLC	SS		5.75	8.8	1.8																		
									6.00	9.4	1.5		15	5.80	6.00		Pc	0.637		397	29.80	1, 9							
79	1	A1	0.00	0.20	10YR42	S	SS		0.10	5.1	5.0																		
	2	A2	0.20	0.60	10YR53	S			0.30	5.7	5.0		2	0.20	0.30				< 0.02										
									0.60	5.4	4.3																		
	3	2A11	0.60	0.90	10YR31	CLFS			0.80	5.2	3.3		4	0.80	0.90				< 0.02										
	4	2A12	0.90	1.25	10YR51	S			1.00	5.3	2.7		5	1.10	1.20				< 0.02										
									1.25	7.1	3.9																		
	5	2A2	1.25	2.70	10YR72	S			1.50	7.2	5.2																		
									1.75	7.4	5.1																		
									2.00	6.4	5.1		7	1.80	2.00				< 0.02										
									2.25	6.5	4.9																		
									2.50	6.7	4.7																		
	6	3C	2.70	3.20	5Y61	S			2.75	6.6	2.1																		
									3.00	6.7	1.5		9	2.80	3.00				0.023		14	1.08	1, 9						
	7	4D	3.20	3.40	N2.5/0	LFS			3.25	6.6	0.9		10	3.20	3.40	S4	Ps	2.467		1539	115.40	1, 9							
	8	5C	3.40	4.10	10Y51	S			3.50	6.6	1.7																		
									3.75	6.3	1.3																		
									4.00	6.5	1.8		11	3.80	4.00		Ps	0.316		197	14.78	1, 9							
	9	6C	4.10	5.70	10Y51	S	SS		4.25	6.8	2.3																		
									4.50	6.9	2.0																		
									4.75	7.1	2.3																		
									5.00	7.4	2.3		13	4.80	5.00		Ps	0.103		64	4.82	1, 9							
									5.25	7.5	2.4																		
									5.50	7.3	3.8																		
	10	7C	5.70	5.80	10Y51	LFS			5.75	7.7	5.5		15	5.70	5.80		Ps	0.183		114	8.56	1, 9							

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results														
Site ID	Hor No	Horizon Name	Upp Depth		Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Depth		Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code							
			(m)	(m)					Depth	pH _s	pH _{ox}		(m)	Depth			S _{POS}												
																	% S	mol H ⁺ /t	mol H ⁺ /t	mol H ⁺ /t	kg CaCO ₃ /t (SF=1.5)								
									23Af		23Bf						22B(23Ee)	23F	23G										
80	1	A1	0.00	0.15	10YR21	FSLC			0.10	7.4	5.9																		
	2	B21	0.15	0.50	5Y62	CLFS			0.30	7.5	5.8	2	0.20	0.30			< 0.02												
	3	B22	0.50	1.20	5Y52	FSCL			0.60	7.8	6.1																		
									0.80	7.6	6.3																		
									1.00	7.5	7.5	4	0.80	1.00			< 0.02												
	4	B3	1.20	2.00	10Y41	LS		SS	1.25	7.9	6.6																		
									1.50	8.0	6.4																		
									1.75	7.8	6.2																		
									2.00	8.1	5.7	6	1.80	2.00	S2	Ps	0.210	0	0	75	5.59	1, 3							
	5	2C	2.00	2.90	10Y51	LS		SS	2.25	8.0	3.5																		
									2.50	8.0	4.6																		
									2.75	8.0	4.9	8	2.70	2.90		Ps	0.075	0	0	35	2.63	1, 3							
	6	3C1	2.90	3.40	10Y41	ZCL		SS	3.00	8.1	5.5																		
									3.25	8.2	3.0	9	3.20	3.40		PI	0.346	0	0	57	4.28	1, 3							
	7	3C2	3.40	4.40	10Y41	ZLC		SS	3.50	8.1	3.2																		
									3.75	8.2	2.6																		
									4.00	8.2	2.7																		
									4.25	8.3	3.2	11	4.20	4.40		Pc	0.798			498	37.33	1, 9							
	8	4C1	4.40	4.60	10Y51	LS			4.50	8.6	2.7	12	4.40	4.60		Ps	0.388			242	18.15	1, 9							
	9	4C2	4.60	5.00	10Y51	LS			4.75	8.3	1.1																		
									5.00	8.2	2.0	13	4.80	5.00		Ps	1.982			1236	92.71	1, 9							
									5.25	8.3	2.1																		
	10	4C3	5.00	5.60	10Y51	LS			5.50	8.4	2.1	14	5.30	5.50		Ps	0.398			248	18.62	1, 9							
									5.75	8.6	3.6	15	5.70	5.90		Ps	0.646			403	30.22	1, 9							
81	1	A1	0.00	0.20	10YR21	LMC			0.10	3.6	2.3	1	0.00	0.10			0.059	54	89	91	6.83	2, 7, 10							
	2	B2	0.20	0.40	10YR41	LMC			0.30	3.8	2.9	2	0.20	0.30			0.038	49	75	73	5.48	2, 7, 10							
	3	2C	0.40	1.50	2.5Y61	S			0.60	5.1	4.5																		
									0.80	6.1	5.1																		
									1.00	6.6	4.0	4	0.80	1.00			0.001	<10	5	<10	<0.75	2, 4							
									1.25	6.5	3.1																		
									1.50	7.3	1.8																		
	4	3C1	1.50	2.40	5Y51	LS			1.75	6.8	2.0																		
									2.00	6.9	2.1	6	1.80	2.00	S2	Ps	0.066			41	3.09	1, 9							
									2.25	7.3	2.4																		
	5	3C2	2.40	2.90	10Y41	LS			2.50	7.5	2.9																		
									2.75	7.6	6.2	8	2.70	2.90		Ps	0.299			186	13.99	1, 9							
	6	4C1	2.90	3.70	10Y31	CLFS		SS	3.00	7.8	5.4																		
									3.25	8.1	3.6																		
									3.50	8.2	5.3	10	3.30	3.50		PI	0.341			213	15.95	1, 9							
	7	4C2	3.70	4.80	10Y31	ZLC		SS	3.75	7.9	4.6																		
									4.00	8.2	2.5	11	3.80	4.00		Pc	0.361			225	16.89	1, 9							
									4.25	8.2	2.7																		
									4.50	8.3	3.4																		
									4.75	8.4	2.7																		
	8	5C2	4.80	4.90	10Y31	LS			5.00	8.0	3.6	13	4.80	4.90		Ps	0.793			495	37.09	1, 9							
	9	6C1	4.90	5.10	10Y31	ZLC			5.25	8.2	3.8																		
	10	7C	5.10	5.30	10Y31	LS			5.50	8.0	2.9	15	5.10	5.30		Ps	0.653			407	30.55	1, 9							
	11	8C1	5.30	5.70	10Y31	CLFS		SS	5.50	8.0	2.9	16	5.30	5.50		PI	1.711			1067	80.04	1, 9							
	12	8C2	5.70	5.85	10Y31	SCL		SS	5.75	8.1	3.5	17	5.70	5.85		PI	0.677			422	31.67	1, 9							
82	1	A11	0.00	0.10	10YR31	LC			0.10	6.0	3.8	1	0.00	0.10	S0	Pc	0.189			118	8.84	1, 9							
	2	A12	0.10	0.20	5Y31	LC			0.20	6.3	2.9	2	0.10	0.20		Pc	0.166	<39	22	114	8.52	2, 4							
	3	B2	0.20	0.50	10Y51	LC			0.30	6.9	5.4	3	0.20	0.30			0.081	38	0	89	6.67	2, 7							
	4	C1	0.50	0.90	5Y41	LC			0.60	6.8	3.8	4	0.50	0.60			0.044			27	2.06	1, 9							
									0.80	7.2	1.4																		
	5	2C	0.90	1.15	10Y41	SLC			1.00	7.4	1.5	5	0.90	1.10		Pc	2.668			1664	124.80	1, 9							
	6	3C	1.15	1.50	10Y51	CLS			1.25	7.4	1.6																		
												6	1.30	1.50		PI	1.053			657	49.26	1, 9							
83	1	A1	0.00	0.40	10YR21	LC			0.10	6.2	4.7	1	0.00	0.10			< 0.02												
									0.30	5.8	3.1	2	0.20	0.30			0.013	<36	11	18	1.36	2, 4							
	2	B21	0.40	0.60	10YR52	CLS			0.60	4.6	3.1	3	0.50	0.60															
	3	2B	0.60	1.70	2.5Y62	LFS			0.80	4.8	3.4																		
									1.00	5.7	4.6	4	0.80	1.00			< 0.02												
									1.25	6.2	5.1																		
									1.50	6.4	5.4																		
	4	3C	1.70	2.40	10Y41	LS			1.75	6.9	4.8																		
									2.00	7.8	4.8	6	1.80	2.00			0.019			12	0.89	1, 9							
									2.25	7.7	1.6																		
	5	4C	2.40	3.00	10Y51	S		SS	2.50	7.8	1.5																		
									2.75	7.8	2.4																		
									3.00	7.7	4.1	8	2.80	3.00	S3	Ps	0.127			79	5.94	1, 9							
	6	5C1	3.00	4.00	10Y31	CLFS		SS	3.25	8.1	5.6																		
									3.50	7.8	5.2																		
									3.75	7.7	6.0																		
									4.00	7.8	5.6	10	3.80	4.00		PI	0.282	0	0	60	4.48	2, 3							
	7	5C2	4.00	5.10	10Y31	ZLC		SS	4.25	7.6	5.9																		
									4.50	7.6	5.8																		
									4.75	7.7	5.4																		
									5.00	7.4	2.6	12	4.80	5.00		Pc	0.931	0	166	372	27.93	2, 3							
	8	6C1	5.10	5.70	10Y51	LS			5.25	7.4	2.7																		
									5.50	8.1	3.4																		
									5.75	7.8	5.3	14	5.70	5.90		Ps	0.127	0	2	66	4.92	2, 3							

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results																				
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Shell	Field pH			Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code															
									Depth	pH _e	pH _{ox}																							
(m)									(m)			(m)			% S																			
															22B 23Ee																			
															23F																			
															23G																			
															mol H ⁺ /t																			
															mol H ⁺ /t																			
															kg CaCO ₃ /t (SF=1.5)																			
84	1	A1	0.00	0.30	10YR41	S			0.10	5.1	4.1	1	0.00	0.10																				
									0.30	5.7	4.4	2	0.20	0.30			< 0.02																	
	2	A21	0.30	0.60	10YR62	S			0.60	5.8	4.5	3	0.50	0.60			< 0.02																	
	3	A22	0.60	0.90	10YR73	S			0.80	5.8	4.8	4	0.70	0.80			< 0.02																	
	4	B	0.90	1.20	7.5YR43	S			1.00	5.1	4.4	5	0.90	1.10			< 0.02																	
	5	2A2	1.20	2.40	10YR62	S			1.25	6.0	5.0																							
									1.50	5.8	5.2	6	1.30	1.50			< 0.02																	
									1.75	6.9	5.0																							
									2.00	7.8	3.0	7	1.80	2.00			< 0.02																	
									2.25	7.3	1.8																							
85	6	3C1	2.40	3.00	5Y51	S			2.50	6.8	1.5																							
									2.75	6.0	1.1																							
	7	3C2	3.00	4.50	10Y51	S			3.00	6.0	1.2	9	2.80	3.00	S3	Ps	0.163	102	7.62	1, 9														
									3.25	6.1	1.2																							
									3.50	6.4	1.1																							
									3.75	7.8	0.9																							
									4.00	7.5	1.4	11	3.90	4.00		Ps	0.070	44	3.27	1, 9														
									4.25	7.6	1.5																							
									4.50	8.1	1.7																							
	8	4C1	4.50	5.10	10Y51	FSCL	SS		4.75	8.2	2.0																							
86									5.00	7.8	2.3	13	4.80	5.00		PI	0.454	283	21.24	1, 9														
	9	4C2	5.10	5.80	10Y41	FSLC	SS		5.25	8.4	2.5																							
									5.50	8.1	2.6	14	5.30	5.50		Pc	0.259	0	0	-154	2, 3													
									5.75	7.9	5.1																							
	1	A11	0.00	0.10	10YR61	FS			0.10	6.8	5.3																							
	2	A12	0.10	0.30	10YR71	FS			0.30	6.5	5.3	2	0.20	0.30			< 0.02																	
	3	2A	0.30	0.50	10YR52	FS	SS																											
	4	2A21	0.50	0.90	10YR61	FS			0.60	6.5	5.1																							
									0.80	6.1	4.9	4	0.70	0.80			< 0.02																	
	5	2A22	0.90	1.80	10YR81	S			1.00	5.2	5.0																							
87									1.25	5.2	5.0																							
									1.50	5.9	5.3	6	1.30	1.50			< 0.02																	
									1.75	5.7	4.7																							
	6	3B	1.80	2.40	10YR41	S			2.00	6.2	1.2	7	1.80	2.00	S2	Ps	0.064	40	2.99	1, 9														
									2.25	6.5	1.4																							
	7	4C1	2.40	2.90	2.5Y61	S			2.50	6.4	1.8																							
									2.75	6.6	2.2	8	2.50	2.70			0.027	17	1.26	1, 9														
									3.00	7.1	3.2																							
	8	4C2	2.90	5.90	2.5Y51	S						9	3.00	3.20		Ps	0.118	74	5.52	1, 9														
									3.25	6.8	1.5																							
88									3.50	7.2	1.1																							
									3.75	7.4	1.2																							
									4.00	7.2	1.2	11	3.80	4.00		Ps	0.069	43	3.23	1, 9														
									4.25	7.3	1.3																							
									4.50	6.9	1.1																							
									4.75	7.0	1.0																							
									5.00	7.1	1.4	13	4.80	5.00		Ps	0.044	27	2.06	1, 9														
									5.25	7.3	1.6																							
									5.50	7.3	1.6																							
									5.75	6.7	1.5	15	5.70	5.90		Ps	0.217	135	10.15	1, 9														
89	1	A1	0.00	0.10	10YR31	CL			0.10	6.5	3.2																							
	2	B2	0.10	0.35	10YR51	LMC			0.30	6.9	4.5	2	0.20	0.30			0.015	<10	0	<10	<0.75	2, 7												
	3	2C	0.35	0.60	2.5Y61	S			0.60	7.3	3.8	3	0.50	0.60	S0	Ps	0.137	85	6.41		1, 9													
	4	3C1	0.60	1.20	2.5Y51	LS			0.80	7.8	1.6																							
									1.00	7.8	1.3	4	0.80	1.00		Ps	0.517		322	24.18	1, 9													
	5	3C2	1.20	1.60	10Y61	S			1.25	7.7	1.4																							
									1.50	7.2	1.1	5	1.30	1.50		Ps	0.208		130	9.73	1, 9													
	6	4C1	1.60	2.20	10Y41	FSLC			1.75	7.1	0.9																							
									2.00	7.9	1.3	6	1.80	2.00		Pc	2.068		1290	96.74	1, 9													
									2.25	8.1	0.9																							
90									2.50	6.9	1.0																							
									2.75	7.3	1.3																							
	8	5C	2.95	3.70	10Y51	LS			3.00	7.6	1.3	8	2.80	2.95		Pc	1.197		747	55.99	1, 9													
									3.25	7.8	1.4																							
									3.50	7.9	1.4	9	3.30	3.50		Ps	0.779		486	36.44	1, 9													
	9	6C	3.70	5.70	10Y51	S			3.75	7.6	1.7																							
									4.00	7.6	1.5	10	3.80	4.00		Ps	0.147		92	6.88	1, 9													
									4.25	7.8	1.7																							
									4.50	7.3	1.6																							
									4.75	7.2	1.3																							
91									5.00	7.2	1.1	12	4.80	5.00		Ps	0.096		60	4.49	1, 9													
									5.25	7.1	1.0																							
									5.50	6.9	1.0																							
	10	7D	5.70	6.00	10Y61	MC			5.75	8.2	5.9	14	5.80	6.00			< 0.02																	

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results							
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar	Shell	Field pH			No	Upp Depth	Low Depth	Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code
									Depth	pH _e	pH _{ox}						% S	mol H ⁺ /t	mol H ⁺ /t	mol H ⁺ /t	kg CaCO ₃ /t (SF=1.5)	
																	22B 23Ee	23F	23G			
(m)										(m)			(m)									
87	1	A1	0.00	0.10	10YR31	LS			0.10	6.2	4.6											
	2	B2	0.10	1.10	10YR66	S			0.30	6.1	4.4	2	0.20	0.30			< 0.02					
									0.60	6.1	5.2											
									0.80	6.6	4.9											
									1.00	5.8	4.9	4	0.80	1.00			< 0.02					
	3	2A2	1.10	1.70	10YR81	S			1.25	6.6	4.8											
									1.50	7.2	4.6	5	1.30	1.50			< 0.02					
	4	3C	1.70	1.90	10YR52	S			1.75	5.8	4.6	6	1.70	1.90			< 0.02					
	5	4A2	1.90	2.70	2.5Y72	S			2.00	7.3	5.0											
									2.25	6.9	5.1											
									2.50	6.5	4.8	8	2.30	2.50			< 0.02					
	6	5C	2.70	2.90	5Y51	S			2.75	7.3	1.3	9	2.70	2.90	S3	Ps	0.068			42	3.18	1, 9
7	6C	2.90	3.40	10Y51	LS		SS	3.00	7.5	4.0					Ps	0.370	0	0	84	6.26	2, 3	
88	8	7C	3.40	3.90	10GY41	FSCL		SS	3.25	7.4	2.8											
								3.50	7.7	5.1												
								3.75	7.8	3.3	11	3.50	3.70		PI	0.914	0	0	243	18.26	2, 3	
	9	8C	3.90	4.00	10Y51	S			4.00	7.5	1.4											
	10	9C	4.00	4.15	10GY41	FSLC			4.25	7.6	1.7											
	11	10C	4.15	4.40	10Y51	LS			4.50	7.4	1.6	14	4.20	4.40		Ps	0.485			302	22.69	1, 9
	12	11C	4.40	5.50	10Y61	S		SS	4.75	7.2	1.7											
									5.00	6.8	1.5	16	4.80	5.00		Ps	0.074			46	3.46	1, 9
	1	A1	0.00	0.20	10YR41	LS			0.10	6.9	4.6											
	2	B2	0.20	0.50	10YR21	SLC			0.30	6.9	4.4	2	0.20	0.30			< 0.02					
	3	2A2	0.50	0.90	10YR72	S			0.60	7.0	5.3	3	0.50	0.60			< 0.02					
									0.80	7.4	5.4											
4	2B2	0.90	1.10	10YR52	S			1.00	7.6	5.7												
								1.25	7.3	5.8	5	1.00	1.10			< 0.02						
5	3A2	1.10	1.40	10YR62	S			1.50	6.9	5.2	6	1.20	1.40			< 0.02						
6	3C	1.40	2.50	10GY41	LS			1.75	6.8	1.5												
								2.00	8.0	1.7												
								2.25	7.6	1.5												
								2.50	7.5	1.6	8	2.30	2.50	S2	Ps	0.198			123	9.26	1, 9	
7	4C	2.50	2.70	N40	S			2.75	7.6	1.6												
8	5C	2.70	3.90	10GY41	LS		SS	3.00	8.1	1.5												
								3.25	8.3	1.7												
								3.50	8.4	1.5	11	3.30	3.50		Ps	0.399			249	18.66	1, 9	
								3.75	7.9	1.7												
9	6C	3.90	4.10	10GY41	FSCL		SS	4.00	7.8	2.2												
								4.25	7.9	1.9	13	4.00	4.10		PI	0.804			501	37.61	1, 9	
10	7C	4.10	5.30	10Y51	LS		SS	4.50	7.3	1.8												
								4.75	7.1	1.7												
								5.00	7.1	1.6	15	4.80	5.00		Ps	0.149			93	6.97	1, 9	
								5.25	7.3	1.6												
11	8C	5.30	5.60	10Y51	S		SS	5.50	6.9	1.8	16	5.30	5.50		Ps	0.100			62	4.68	1, 9	
89	1	A1	0.00	0.30	10YR52	S			0.10	4.6	4.3											
	2	B2	0.30	0.90	10YR74	S			0.30	5.0	3.8	2	0.20	0.30			< 0.02					
									0.60	4.9	4.5											
	3	2A2	0.90	2.20	10YR81	S			0.80	5.3	5.0	4	0.70	0.80			< 0.02					
									1.00	5.1	4.9											
									1.25	4.5	4.1											
									1.50	5.2	4.5	6	1.30	1.50			< 0.02					
									1.75	4.8	4.5											
									2.00	4.7	4.4											
	4	2B2	2.20	2.30	10YR73	S			2.25	5.6	3.6											
	5	3C	2.30	2.70	5Y71	S			2.50	6.4	4.2	9	2.40	2.60			< 0.02					
	6	4C	2.70	2.90	N40	LS			2.75	6.6	4.5											
7	5C	2.90	3.50	10GY41	FSCL			3.00	6.2	1.1												
								3.25	6.2	1.4												
								3.50	6.1	1.3	11	3.30	3.50	S3	PI	0.598			373	27.97	1, 9	
8	6C	3.50	4.00	10Y51	S			3.75	6.0	1.4												
								4.00	5.9	1.4	12	3.80	4.00		Ps	0.126			79	5.89	1, 9	
9	7C	4.00	4.50	10Y41	FSL			4.25	6.1	1.5												
								4.50	6.0	1.3	13	4.30	4.50		PI	0.726			453	33.96	1, 9	
10	8C	4.50	5.80	10Y51	S			4.75	6.3	1.2												
								5.00	6.3	1.1												
								5.25	6.1	1.0												
								5.50	5.8	1.0	15	5.30	5.50			< 0.02						
								5.75	5.8	1.0												

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results																					
Site ID	Hor No	Horizon Name	Upp Low Depth		Colour	Soil Texture	Jar.	Shell	Field pH			No	Upp Low Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code													
									Depth (m)	pH _e	pH _{ox}		Upp (m)	Low (m)			% S	mol H ⁺ /l	mol H ⁺ /l	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)														
(m)									(m)			(m)			Action Level	Select %S	22B(23Ee)		23F	23G															
									23Af 23Bf																										
90	1	A1	0.00	0.10	10YR21	SLC			0.10	5.2	3.2																								
	2	B2	0.10	0.35	10YR41	SLC			0.30	4.0	3.9	2	0.20	0.30			< 0.02																		
	3	2B2	0.35	0.80	10YR72	S			0.60	4.0	3.9	3	0.50	0.60			0.000	<10	6	10	0.75	2, 4													
									0.80	4.5	2.1																								
	4	2C1	0.80	1.20	5Y61	S			1.00	6.1	3.7	4	0.80	1.00			< 0.02																		
	5	2C2	1.20	2.40	5Y51	S			1.25	6.3	1.4																								
									1.50	6.4	1.6																								
									1.75	6.2	1.7																								
									2.00	7.4	1.6	6	1.80	2.00	S2	Ps	0.108			67	5.05	1, 9													
									2.25	7.2	1.3																								
	6	3C	2.40	4.00	10GY41	CLFS			2.50	7.6	3.9																								
									2.75	7.9	1.9																								
									3.00	8.2	1.8	8	2.80	3.00		PI	0.781			487	36.53	1, 9													
									3.25	8.6	1.8																								
									3.50	8.4	3.4																								
									3.75	8.6	2.1																								
									4.00	8.6	4.7	10	3.80	4.00		PI	0.753			470	35.22	1, 9													
	7	4C	4.00	4.90	10GY41	FSLC			4.25	8.4	2.0																								
									4.50	8.5	1.9																								
									4.75	8.5	1.7	12	4.70	4.90		Pc	0.631			394	29.52	1, 9													
	8	5C	4.90	5.80	10Y51	LS		SS	5.00	8.2	1.9																								
									5.25	7.5	1.7																								
									5.50	7.4	2.0																								
									5.75	7.1	6.1																								
	9	6C	5.80	6.00	10Y51	S		SS				14	5.80	6.00		Ps	0.156			97	7.30	1, 9													
91	1	A1	0.00	0.20	10YR21	FSLC			0.10	6.3	4.6																								
	2	B2	0.20	0.70	2.5Y62	LMC			0.30	6.4	4.8	2	0.20	0.30			< 0.02																		
									0.60	6.4	4.7	3	0.50	0.60			< 0.02																		
	3	2C	0.70	1.70	10Y51	CLS			0.80	6.4	1.4																								
									1.00	6.3	1.2	4	0.80	1.00	S1	PI	0.949			592	44.39	1, 9													
									1.25	6.4	1.1																								
									1.50	6.4	1.3	5	1.30	1.50		PI	0.593			370	27.74	1, 9													
	4	3C1	1.70	2.20	10Y51	S			1.75	6.5	1.1																								
									2.00	6.2	1.0	6	1.80	2.00		Ps	0.367			229	17.17	1, 9													
	5	3C2	2.20	4.20	N50	S			2.25	6.7	1.2																								
									2.50	6.9	1.4																								
									2.75	6.7	1.4																								
									3.00	6.9	1.6	8	2.80	3.00		Ps	0.352			220	16.47	1, 9													
									3.25	7.0	1.3																								
									3.50	6.9	1.3																								
									3.75	7.2	1.5																								
	6	4C	4.20	4.50	10Y41	LS		SS	4.00	7.6	1.4	10	3.80	4.00		Ps	0.153			95	7.16	1, 9													
									4.25	7.5	1.3																								
									4.50	8.0	2.8	11	4.30	4.50		Ps	0.341			213	15.95	1, 9													
	7	5C	4.50	5.10	10Y41	FSCL			4.75	7.8	1.1																								
									5.00	7.3	1.7	12	4.80	5.00		PI	0.294			183	13.75	1, 9													
	8	6C	5.10	5.80	10Y41	FSLC			5.25	7.5	1.6																								
									5.50	7.5	1.5																								
									5.75	7.6	1.5	14	5.70	5.80		Pc	0.727			453	34.01	1, 9													
92	1	A1	0.00	0.30	10YR51	S			0.10	5.0	4.2																								
	2	A21	0.30	1.20	10YR81	S			0.30	5.1	4.1	2	0.20	0.30			< 0.02																		
									0.60	6.9	4.4	3	0.50	0.60			< 0.02																		
									0.80	6.7	4.6																								
	3	A22	1.20	1.40	10YR62	S			1.00	5.5	4.8																								
									1.25	5.2	4.6																								
	4	A3	1.40	1.80	10YR53	S			1.50	5.4	4.4																								
									1.75	5.7	4.7	6	1.60	1.80			< 0.02																		
	5	Bh	1.80	2.00	10YR43	LS			2.00	6.2	4.1	7	1.80	2.00			< 0.02																		
	6	B2h	2.00	2.70	10YR54	LS			2.25	6.3	4.2																								
									2.50	6.5	3.8	8	2.30	2.50			< 0.02																		
	7	C1	2.70	3.00	5Y51	S			2.75	6.6	2.9																								
									3.00	6.4	1.7	9	2.80	3.00	S3	Ps	0.089			56	4.16	1, 9													
	8	C2	3.00	3.80	10Y51	S			3.25	6.5	1.9																								
									3.50	6.6	1.8	10	3.30	3.50		Ps	0.100			62	4.68	1, 9													
									3.75	7.0	1.9																								
	9	2C	3.80	4.40	5GY51	S		SS	4.00	7.3	2.8																								
									4.25	7.2	5.7	12	4.20	4.40		Ps	0.052	0	0	32	2.43	2, 3													
	10	3C	4.40	4.70	10Y51	LS		SS	4.50	8.1	6.0																								
												13	4.50	4.70		Ps	0.090	0	0	31	2.29	2, 3													
	11	4C	4.70	5.30	10GY41	LS		SS	4.75	8.0	2.4																								
									5.00	8.7	4.6	14	4.80	5.00		Ps	0.243			152	11.37	1, 9													
									5.25	8.8	3.6																								
									5.50	9.2	2.7																								
									5.75	8.9	3.1																								
	12	5C	5.30	6.00	10GY41	FSCL		SS	6.00	8.1	2.6	16	5.80	6.00		PI	0.371			231	17.35	1, 9													

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results								
Site ID	Hor No	Horizon Name	Depth		Colour	Soil Texture	Jar	Shell	Field pH			No	Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code	
			Upp	Low					Depth	pH _e	pH _{CO2}		Upp	Low			% S	mol H ⁺ /l	mol H ⁺ /l	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)		
			(m)						(m)				(m)										
									23Af	23Bf													
93	1	A1	0.00	0.20	10YR41	S			0.20	4.9	3.3												
	2	B21	0.20	0.70	10YR52	S			0.30	4.9	3.9	2	0.20	0.30	S0	Ps	0.031			19	1.45	1, 9	
	3	B22	0.70	2.20	10YR63	S			0.60	4.8	4.1	3	0.50	0.60			< 0.02						
									0.80	5.0	4.2	4	0.80	1.00			< 0.02						
									1.00	4.7	4.6						< 0.02						
									1.25	5.2	4.7												
									1.50	4.9	4.8	5	1.30	1.50									
									1.75	5.6	4.8												
									2.00	6.0	4.0												
	4	C1	2.20	2.90	10Y51	S			2.25	6.5	2.0												
									2.50	7.1	1.9	7	2.30	2.50		Ps	0.168			105	7.86	1, 9	
									2.75	7.2	1.9												
	5	2C	2.90	4.50	10GY41	LS		SS	3.00	7.6	6.0												
									3.25	7.3	6.2												
									3.50	7.2	5.0	10	3.30	3.50		Ps	0.252			157	11.79	1, 9	
									3.75	7.2	4.1												
									4.00	7.2	5.2												
									4.25	7.4	1.9												
									4.50	7.7	1.9	12	4.30	4.50		Ps	0.380			237	17.78	1, 9	
	6	3C	4.50	5.10	5GY41	CLFS		SS	4.75	8.2	2.6												
									5.00	8.8	4.2												
	7	4C	5.10	5.80	10Y41	ZLC		SS	5.25	8.9	5.3												
									5.50	9.0	2.5	14	5.30	5.50		Pc	0.450	0	0	160	12.04	2, 3	
									5.75	8.7	2.6												
	8	5C	5.80	6.00	10Y41	FSLC		SS	6.00	7.8	2.1	15	5.80	6.00		Pc	0.570			356	26.66	1, 9	
94	1	A1	0.00	0.30	10YR53	LS			0.10	8.4	4.2												
									0.30	6.4	2.6	2	0.20	0.30			< 0.02						
	2	2A1	0.30	0.50	10YR21	CL			0.45	6.7	3.0												
	3	2C	0.50	1.00	5Y61	LFS			0.60	6.5	3.2	4	0.50	0.60			< 0.02						
									0.80	6.6	4.0												
									1.00	6.8	3.9	5	0.80	1.00			< 0.02						
	4	3C1	1.00	1.80	5Y71	S			1.25	6.6	3.4												
									1.50	6.6	2.7	6	1.30	1.50			< 0.02						
									1.75	9.6	3.7												
	5	3C2	1.80	2.30	5GY51	S			2.00	8.0	3.0												
									2.25	7.6	3.7												
	6	3C3	2.30	2.50	5GY51	S		SS	2.50	7.6	5.8	8	2.30	2.50			0.016			10	0.75	1, 9	
	7	4C1	2.50	3.70	10GY41	LFS		SS	2.75	7.9	1.8												
									3.00	8.0	1.8												
									3.25	8.2	2.1												
									3.50	8.0	2.1	10	3.30	3.50	S3	Ps	0.137			85	6.41	1, 9	
	8	4C2	3.70	3.90	10Y51	LS		SS	3.75	8.7	2.2												
	9	4C3	3.90	4.50	5GY41	FSL		SS	4.00	8.7	4.7												
									4.25	8.8	4.7												
									4.50	8.7	3.6	12	4.30	4.50		Pl	0.272			170	12.72	1, 9	
	10	5C	4.50	5.50	10Y41	FSLC		SS	4.75	9.4	6.2												
									5.00	9.1	3.1												
									5.25	9.0	2.8												
									5.50	8.8	2.2	14	5.30	5.50		Pc	0.555			346	25.96	1, 9	
									5.75	8.7	1.7												
	11	6C	5.50	6.00	10Y51	LFS		SS	6.00	8.6	2.3	15	5.80	6.00		Ps	0.284			177	13.28	1, 9	
95	1	A1	0.00	0.20	10YR64	S			0.10	8.0	4.9												
	2	2A	0.20	0.40	10YR51	S			0.30	6.9	3.7	2	0.20	0.30			< 0.02						
	3	2B21	0.40	1.40	10YR76	S			0.60	7.0	4.7												
									0.80	6.7	4.8												
									1.00	6.5	4.9	4	0.80	1.00			< 0.02						
									1.25	6.2	5.0												
	4	2B22	1.40	2.20	10YR84	S			1.50	6.3	5.0												
									1.75	6.5	5.1												
									2.00	5.7	5.0	6	1.80	2.00			< 0.02						
	5	3A21	2.20	2.50	10YR82	S			2.25	6.4	5.0												
									2.50	6.5	5.2												
	6	3A22	2.50	2.75	2.5Y72	S			2.75	6.7	5.4												
	7	4A21	2.75	3.70	2.5Y82	KS			3.00	6.4	5.2	9	2.80	3.00			< 0.02						
									3.25	6.7	5.3												
									3.50	6.7	5.3												
	8	4A22	3.70	4.00	2.5Y72	KS			3.75	6.5	5.1												
									4.00	6.9	5.0	11	3.80	4.00			< 0.02						
	9	5C1	4.00	4.80	10Y51	S		SS	4.25	7.0	5.9												
									4.50	7.4	5.9	12	4.30	4.50			0.003	0	0	-7		2, 3	
									4.75	7.6	6.0												
									5.00	7.6	6.1												
									5.25	7.9	5.7												
									5.50	8.2	5.6	14	5.30	5.50			0.025	0	0	13	0.97	2, 3	
									5.75	8.3	5.2												
	11	6C	5.50	6.00	10Y41	LFS		SS	6.00	8.6	5.4	15	5.80	6.00	S6	Ps	0.202	0	0	60	4.50	2, 3	

Field Morphology Summary									Lab Sample			Action Criteria		Lab Results								
Site ID	Hor No	Horizon Name	Depth		Colour	Soil Texture	Jar	Shell	Field pH			Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code			
			Upp	Low					Depth	pH _e	pH _{ox}											
			(m)	(m)					(m)			(m)										
									23Af	23Bf												
96	1	A1	0.00	0.10	2.5Y53	LS			0.10	6.6	3.4	1	0.00	0.10								
	2	2B	0.10	0.40	2.5Y72	LS	J		0.30	4.9	2.2	2	0.20	0.30			0.003	11	3	13	0.97	2, 4
	3	3B	0.40	0.60	2.5Y51	SL			0.60	4.1	1.9	3	0.50	0.60	S0	PI	0.111	22	48	91	6.84	2, 4
	4	4C	0.60	1.30	10Y41	SCL			0.80	5.9	2.0											
									1.00	7.2	1.7	4	0.80	1.00		PI	0.231			144	10.81	1, 9
									1.25	7.8	2.0											
	5	5C	1.30	1.40	10Y31	FSLMC			1.35	8.5	4.2											
	6	6C	1.40	1.95	10Y51	LS			1.50	8.6	1.5											
									1.75	8.5	1.7	6	1.70	1.90		Ps	0.170			106	7.95	1, 9
	7	7C	1.95	3.60	5GY41	FSL			2.00	8.5	2.2											
									2.25	8.3	1.9											
									2.50	8.2	1.6											
									2.75	7.8	1.3											
									3.00	7.6	1.7	8	2.80	3.00		PI	0.323			201	15.11	1, 9
									3.25	7.5	1.3											
									3.50	7.5	2.2											
	8	8C1	3.60	4.00	10Y51	KS			3.75	8.3	3.3											
									4.00	8.5	2.6	10	3.80	4.00		Ps	0.132			82	6.17	1, 9
	9	8C2	4.00	5.50	10Y61	S		SS	4.25	7.6	2.4											
									4.50	7.7	5.1											
									4.75	7.7	4.1											
									5.00	7.8	4.7	12	4.80	5.00		Ps	0.033	0	2	21	1.54	2, 3
									5.25	7.4	4.8											
									5.50	7.5	5.1											
	10	9C	5.50	5.90	10Y41	LC		SS	5.75	7.6	1.3											
	11	10D	5.90	6.00	10Y51	MC		SS	6.00	7.8	5.9											
97	1	A1	0.00	0.20	10YR52	FSLC	J		0.10	6.5	5.2	1	0.00	0.10								
	2	2A1	0.20	0.30	10YR21	LC			0.25	6.0	3.9											
									0.30	6.5	5.9											
	3	2B2	0.30	0.60	2.5Y51	LMC			0.45	6.5	1.3											
									0.60	6.5	1.2	3	0.50	0.60			0.043	0	9	23	1.72	2, 3
	4	3C	0.60	0.90	10Y51	SLC			0.80	6.4	1.4											
	5	4C	0.90	1.40	10GY41	FSCL			1.00	6.3	1.4											
									1.25	6.4	1.3	5	1.20	1.40	S1	PI	1.174			732	54.92	1, 9
	6	5C1	1.40	2.80	10Y61	LS			1.50	6.5	1.3											
									1.75	6.5	1.5	6	1.80	2.00		Ps	0.181			113	8.47	1, 9
									2.00	6.7	1.0											
									2.25	6.4	0.9											
									2.50	7.2	0.8											
									2.75	7.1	1.4											
	7	5C2	2.80	3.00	10Y51	LS			3.00	7.5	1.2	8	2.80	3.00		Ps	0.215			134	10.06	1, 9
	8	6C1	3.00	4.10	10Y61	S		SS	3.25	6.8	1.8											
									3.50	6.6	1.7											
									3.75	6.9	1.3											
									4.00	7.1	4.8	10	3.80	4.00		Ps	0.064			40	2.99	1, 9
	9	6C2	4.10	4.50	10Y51	S		SS	4.25	7.3	2.0											
									4.50	8.0	4.9											
	10	7C1	4.50	4.70	10Y51	ZCL		SS	4.75	8.0	1.6											
	11	7C2	4.70	5.80	10Y51	CLS		SS	5.00	8.0	1.4	13	4.80	5.00		PI	0.683			426	31.95	1, 9
									5.25	8.1	1.6											
									5.50	8.0	1.5											
									5.75	7.8	1.7											
	12	7C3	5.80	6.00	10Y41	CLS		SS	6.00	7.7	1.6	15	5.80	6.00		PI	0.867			541	40.56	1, 9
98	1	A1	0.00	0.70	10YR52	S			0.10	8.1	5.3											
									0.30	7.9	5.3	2	0.20	0.30			< 0.02					
									0.60	7.9	5.2											
	2	A2	0.70	2.10	10YR63	S			0.80	8.0	5.3											
									1.00	7.8	4.3	4	0.80	1.00			< 0.02					
									1.25	8.5	5.0											
									1.50	8.6	5.1											
									1.75	8.4	4.9											
									2.00	7.7	1.3	6	1.80	2.00			< 0.02					
	3	2C	2.10	2.20	10YR51	S			2.15	6.5	1.9	7	2.10	2.20			0.016			10	0.75	1, 9
	4	3C	2.20	2.50	10YR53	S			2.25	6.7	2.6											
									2.50	7.0	5.7											
	5	4C	2.50	2.70	5Y61	S		SS	2.75	7.4	6.1											
	6	5C	2.70	4.50	10GY41	FSL		SS	3.00	7.5	5.6	10	2.80	3.00	S3	PI	0.212	0	0	66	4.98	2, 3
									3.25	7.7	5.5											
									3.50	7.7	5.6											
									3.75	7.7	1.9											
									4.00	8.0	2.8	12	3.80	4.00		PI	0.088	0	0	20	1.49	2, 3
									4.25	8.1	4.2											
									4.50	8.5	3.6											
	7	6C	4.50	4.70	5GY41	FSL		SS	4.75	8.2	3.3											
	8	7C	4.70	5.70	10GY41	CLFS		SS	5.00	8.4	4.1	15	4.80	5.00		PI	0.277	0	0	80	5.97	2, 3
									5.25	8.3	3.8											
									5.50	8.3	3.9											
									5.75	8.7	4.7											
	9	8C	5.70	6.00	10GY41	LC		SS	6.00	7.9	4.7	17	5.80	6.00		Pc	0.216	0	0	63	4.70	2, 3

[illegible]

Field Morphology Summary											Lab Sample			Action Criteria		Lab Results								
Site ID	Hor No	Horizon Name	Upp Depth		Colour	Soil Texture	Jar	Shell	Field pH			No	Upp Low Depth		Depth 1st Action Level	Action Level Select %S	S _{CR}	TAA	TPA	Net Acidity	Liming Rate	Method Code		
			Depth	pH _e					pH _{ox}	Depth	S _{POS}		mol H ⁺ /l	mol H ⁺ /l			kg CaCO ₃ /t (SF=1.5)							
																		(m)	(m)	(m)				
102	1	A1	0.00	0.40	10YR41	S			0.10	5.6	4.9	2	0.20	0.30			< 0.02							
	2	A2	0.40	0.90	10YR73	S			0.30	5.5	4.6													
									0.60	5.7	4.9													
	3	B2	0.90	1.40	10YR54	S			0.80	4.6	5.0	4	0.80	0.90			< 0.02							
									1.00	5.8	4.9													
	4	2A2	1.40	1.80	10YR73	S			1.25	5.7	4.9	5	1.20	1.40			< 0.02							
									1.50	5.5	4.9													
	5	2B2	1.80	2.10	7.5YR44	S			1.75	5.6	4.9	6	1.60	1.80			< 0.02							
									2.00	5.2	4.9													
	6	3A2	2.10	3.90	10YR72	S			2.25	5.6	2.0	8	2.30	2.50			< 0.02							
									2.50	5.7	3.9													
									2.75	5.8	4.8													
									3.00	6.3	4.5													
									3.25	6.2	4.9													
									3.50	6.4	4.9													
									3.75	6.5	5.1													
									4.00	6.2	1.5													
7	4C1	3.90	5.50	5Y51	S			4.25	6.1	1.6	12	4.30	4.50			0.023					14	1.08	1, 9	
								4.50	5.9	1.4														
								4.75	6.1	1.4														
								5.00	5.6	1.4														
								5.25	5.9	1.2														
								5.50	5.9	1.7														
								5.75	6.3	1.2														
								6.00	6.4	1.2														
8	4C2	5.50	7.20	5Y61	S			6.25	6.9	1.6	16	6.30	6.50		Ps	0.044					27	2.06	1, 9	
								6.50	6.9	1.3														
								6.75	6.8	1.5														
								7.00	6.9	1.9														
								7.25	7.4	2.1														
								7.50	7.3	2.1														
								7.75	7.4	2.1														
								8.00	7.3	2.1														
9	5C	7.20	7.60	10Y41	ZLC		SS	8.25	7.4	2.1	18	7.30	7.50		Pc	0.691	431	32.32	1, 9					
103	1	A1	0.00	0.30	10YR52	S			0.10	6.1	4.7	2	0.20	0.30			< 0.02							
	2	A21	0.30	0.90	10YR82	S			0.30	6.0	4.9													
									0.60	5.9	4.3													
	3	A22	0.90	2.10	10YR84	S			0.80	5.6	4.6	3	0.50	0.60			< 0.02							
									1.00	5.7	4.4													
	4	2A21	2.10	2.50	10YR73	S			1.25	5.7	3.8	5	1.30	1.50			< 0.02							
									1.50	5.8	3.9													
	5	2A22	2.50	3.80	10YR62	S			1.75	6.0	3.8	7	2.30	2.50			< 0.02							
									2.00	5.9	4.4													
	6	3C	3.80	4.20	5Y61	S			2.25	5.7	4.6	9	3.30	3.50			< 0.02							
									2.50	5.7	4.2													
									2.75	5.6	4.0													
									3.00	5.5	4.6													
									3.25	5.9	4.8													
									3.50	5.9	4.8													
									3.75	6.0	4.5													
									4.00	6.0	1.4													
7	4C	4.20	4.50	10Y51	LS			4.25	5.8	1.2	10	3.80	4.00	S4	Ps	0.031					19	1.45	1, 9	
								4.50	5.8	1.2														
								4.75	5.8	1.0														
								5.00	6.0	1.3														
								5.25	5.8	1.2														
								5.50	5.7	1.1														
								5.75	5.8	1.2														
								6.00	6.1	1.5														
8	5C1	4.50	5.20	10Y61	S			6.25	6.9	1.6	11	4.30	4.50		Ps	0.051					32	2.39	1, 9	
								6.50	6.9	1.3														
								6.75	6.8	1.5														
								7.00	6.9	1.9														
								7.25	7.4	2.1														
								7.50	7.3	2.1														
								7.75	7.4	2.1														
								8.00	7.3	2.1														
104	1	A1	0.00	0.30	10YR42	S		SS	0.10	6.4	5.4	2	0.20	0.30			< 0.02							
	2	2A1	0.30	0.40	10YR21	CLFS			0.30	6.5	5.7													
									0.60	6.7	4.9													
	3	2B2	0.40	1.10	5GY51	FSL			0.80	3.9	4.1	4	0.50	0.60			< 0.02							
									1.00	7.0	4.0													
	4	3C1	1.10	1.40	2.5Y71	S		SS	1.25	7.4	4.6	6	1.20	1.40			< 0.02							
									1.50	7.6	4.7													
	5	3C2	1.40	2.30	2.5Y61	S			1.75	7.9	4.4	7	1.80	2.00	S2	Ps	0.030					19	1.40	1, 9
									2.00	7.1	1.6													
	6	3C3	2.30	2.70	2.5Y71	S			2.25	7.0	1.4	8	2.30	2.50			< 0.02							
									2.50	7.1	2.4													
									2.75	6.9	4.7													
									3.00	7.2	4.6													
									3.25	6.8	4.8													
									3.50	8.2	5.0													
									3.75	8.1	5.1													
									4.00	8.1	5.0													
7	4C	2.70	3.00	5Y51	FS			4.25	8.1	5.6	9	2.80	3.00			< 0.02								
								4.50	8.2	5.5														
								4.75	8.2	5.5														
								5.00	8.6	5.9														
								5.25	8.6	5.6														
								5.50	8.2	6.0														
								5.75	7.9	5.2														
								6.00	7.6	5.1														
8	5C	3.00	3.80	5Y71	S			6.25	6.8	4.8	10	3.30	3.50			< 0.02								
								6.50	6.8	4.8														
								6.75	6.8	4.8														
								7.00	6.9	4.9														
								7.25	7.4	2.1														
								7.50	7.3	2.1														
								7.75	7.4	2.1														
								8.00	7.3	2.1														
9	6C1	3.80	4.70	10GY41	FSL		SS	8.25	7.4	2.1	12	4.30	4.50		Pl	0.205					128	9.59	1, 9	
								8.50	7.6	2.3														
								8.75	7.8	2.5														
								9.00	8.0	2.7														
								9.25	8.2	2.9														
								9.50	8.4	3.1														
								9.75	8.6	3.3														
								10.00	8.8	3.5														
10	6C2	4.70	6.00	10Y51	LS		SS	9.25	8.2	6.1	14	5.30	5.50		Ps	0.100					62	4.68	1, 9	
								9.50	8.4	3.3														
								9.75	8.6	3.5														
								10.00	8.8	3.5														
								10.25	9.0	3.7														
								10.50	9.2	3.9														
								10.75	9.4	4.1														
								11.00	9.6	4.3														

Field Morphology Summary										Lab Sample			Action Criteria		Lab Results							
Site ID	Hor No	Horizon Name	Upp Depth		Colour	Soil Texture	Jar	Shell	Field pH			No	Upp Low Depth		Depth 1st Action Level	Action Level Select %S	S _{CR} S _{POS}	TAA	TPA	Net Acidity	Liming Rate	Method Code
			Depth	pH _e					pH _{OX}	Depth	Depth		% S	mol H ⁺ /l			mol H ⁺ /l	mol H ⁺ /l	kg CaCO ₃ /t (SF=1.5)			
																					(m)	(m)
105	1	A1	0.00	0.30	10YR21	FSLC			0.10	4.9	2.7											
	2	B2	0.30	0.60	10YR51	FSLMC			0.30	4.8	3.4	2	0.20	0.30			0.020	107	113	119	8.93	2, 7, 10
	3	2B	0.60	1.30	10YR61	FSL			0.60	5.2	3.5	3	0.50	0.60			< 0.02					
									0.80	5.4	3.5											
									1.00	5.1	3.6	4	0.80	1.00			< 0.02					
									1.25	6.0	3.4											
	4	3C	1.30	2.30	2.5Y61	S			1.50	6.2	3.2	5	1.30	1.50			< 0.02					
									1.75	6.0	3.3											
									2.00	5.8	3.8	6	1.80	2.00			< 0.02					
									2.25	6.0	1.4											
	5	4C	2.30	2.70	10Y51	LS			2.50	6.3	1.6	7	2.30	2.50	S3	Ps	0.266			166	12.44	1, 9
	6	5C	2.70	2.90	10Y51	S			2.75	6.3	1.2											
	7	6C	2.90	3.30	N40	S			3.00	6.2	1.4											
									3.25	6.1	1.2	9	3.10	3.30		Ps	0.448			279	20.96	1, 9
	8	7C1	3.30	3.80	10Y51	S			3.50	6.0	1.5											
									3.75	6.1	1.3											
	9	7C2	3.80	5.70	N40	S			4.00	6.1	1.2											
									4.25	6.4	1.2											
									4.50	6.3	1.4	11	4.30	4.50			0.021			13	0.98	1, 9
									4.75	6.4	1.4											
									5.00	6.4	1.8											
									5.25	6.6	1.6											
									5.50	6.4	1.8	13	5.30	5.50			0.015			9	0.70	1, 9
									5.70	6.2	2.3											
106	1	A1	0.00	0.20	10YR31	LS			0.10	6.7	4.5											
	2	A2	0.20	0.50	10YR62	S			0.30	6.8	4.6	2	0.20	0.30			< 0.02					
	3	B2	0.50	0.90	10YR54	CLFS			0.60	6.7	4.9	3	0.50	0.60			< 0.02					
									0.80	5.8	3.5											
	4	2C	0.90	1.20	10Y41	FSL			1.00	6.0	2.9	4	0.90	1.10			< 0.02					
	5	3C	1.20	2.50	10Y61	S			1.25	6.2	3.1											
									1.50	6.5	2.4	5	1.30	1.50			< 0.02					
									1.75	7.3	1.5											
									2.00	7.0	1.5											
									2.25	6.8	2.2											
									2.50	7.1	3.1	7	2.30	2.50			< 0.02					
	6	4C1	2.50	3.00	10Y51	S	SS		2.75	7.2	3.0											
									3.00	7.3	5.4	8	2.80	3.00			0.001	0	0	1		2, 3
	7	4C2	3.00	3.30	10Y51	S	SS		3.25	7.4	2.9											
	8	5C1	3.30	4.50	10Y31	FSCL	SS		3.50	7.6	1.6	10	3.30	3.50	S4	PI	0.239			149	11.18	1, 9
									3.75	8.7	1.6											
									4.00	9.2	3.7											
									4.25	9.2	2.4											
									4.50	9.2	2.6	12	4.30	4.50		PI	0.331			206	15.48	1, 9
	9	5C2	4.50	6.00	10Y31	FSLC	SS		4.75	9.2	1.9											
									5.00	9.4	1.9											
									5.25	9.2	1.8											
									5.50	9.3	1.8	14	5.30	5.50		Pc	0.557			347	26.06	1, 9

