

# **Acid Sulfate Soils of Cairns, North Queensland**

## **Volume 2**

### **Appendix 2: Analytical Data**

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## Analytical Data Method Codes

Field Morphology Summary	
Site ID	Borehole or site number
Hor No	Horizon number
Horizon Name	Name of horizon (codes according to McDonald et al. 1990)
Upp Depth	Upper depth of horizon
Low Depth	Lower depth of horizon
Colour	Colour of horizon (codes according to Munsell or Japanese colour chart)
Soil Texture	Soil texture (codes according to McDonald et al. 1990)
Jar.	Indicates presence of Jarosite (J) in profile
Gyp.	Indicates presence of Gypsum (Y) in profile
Shell	Indicates presence of Shell (SS) in profile

Field pH	
Depth (m)	Depth at which pH <sub>F</sub> and pH <sub>FOX</sub> tests were conducted
pH <sub>F</sub> (23Af)	pH measured in the field on saturated soil sample using pH electrode
pH <sub>FOX</sub> (23Bf)	pH measured in the field – 30% peroxide reaction, pH electrode
Action Level pH <sub>F</sub>	Indication of actual acidity from field test results A = pH <sub>F</sub> ≤ 4, a = pH <sub>F</sub> > 4 to ≤ 5
Depth 1st Action Level (pH <sub>F</sub> )	The depth category of the upper depth of the first horizon where pH <sub>F</sub> is less than or equal to 4 A0 pH <sub>F</sub> < 4 is first exceeded 0–0.5 m below the surface A1 pH <sub>F</sub> < 4 is first exceeded 0.5–1 m below the surface A2 1–2 m, A3 2–3 m, A4 3–4 m, A5 4–5 m

Lab Sample	
No.	Sample number of sample taken for analysis
Upp Depth	Upper depth of sample taken for analysis
Low Depth	Lower depth of sample taken for analysis

Action Criteria	
Depth 1st Action Level	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.
Action Level Select %S	Pc, Pl or Ps indicates samples that have exceeded 0.1, 0.06 or 0.03 %S (ie. exceeded the ASS action criteria), for clays, loams and sands respectively. Note: These figures apply to disturbances up to 1000 m <sup>3</sup> ; for disturbances greater than 1000 m <sup>3</sup> , the action criteria is 0.03 %S, regardless of texture

Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS) Acid Base Accounting	
s-ANC <sub>E</sub>	$S_{POS} - ((S_{POS} + s-ANC_E) / 1.5)$ WHERE pH <sub>KCl</sub> >= 6.5 AND TPA = 0
s-Ca+s-Mg	$S_{POS} - ((s-Ca_A + s-Mg_A) / 1.5)$ WHERE pH <sub>KCl</sub> >= 6.5 AND TPA = 0
s-TSA	$S_{POS} - ((S_{POS} - s-TSA) / 1.5)$ WHERE [pH <sub>KCl</sub> ] >= 6.5 AND TPA > 0
s-TAA	$S_{POS} + s-TAA$ WHERE pH <sub>KCl</sub> >= 4.5 AND pH <sub>KCl</sub> < 6.5 AND TPA > 0

Chromium Suite Acid Base Accounting	
s-C <sub>IN</sub>	$S_{CR} - (s-C_{IN} / 1.5)$ WHERE pH <sub>KCl</sub> >= 6.5
s-ANC <sub>BT</sub>	$S_{CR} - (s-ANC_{BT} / 1.5)$ WHERE pH <sub>KCl</sub> >= 6.5
s-TAA	$S_{CR} + s-TAA$ WHERE pH <sub>KCl</sub> >= 5.5 AND pH <sub>KCl</sub> < 6.5 (s-TAA is not required if the result for 22B is below the action criteria)
s-TAA	$S_{CR} + s-TAA$ WHERE pH <sub>KCl</sub> >= 4.5 AND pH <sub>KCl</sub> < 5.5

Laboratory results				
	SPOCAS ALHS	ALHS	Unit	Description
<b>Potential Acidity</b>				
S <sub>CR</sub> (Sulfur, chromium reducible)		22B	%S	(from Chromium Reducible Sulfur method)
S <sub>POS</sub> (Peroxide oxidisable sulfur)	23Ee		%S	= S <sub>P</sub> – S <sub>KCl</sub>
s-TSA (Titratable sulfidic acidity)	s-23H		%S	= (TPA – TAA) / 623.7 (TSA calculated as equivalent % pyrite S)
s-TPA (Titratable peroxide acidity)	s-23G		%S	= (TPA / 623.7) (TPA calculated as equivalent % pyrite S)
a-S <sub>CR</sub> (Sulfur, chromium reducible)		a-22B	mol H <sup>+</sup> /t	(from Chromium Reducible Sulfur method) = S <sub>CR</sub> x 623.7 (converted to equivalent mol H <sup>+</sup> /t)
a-S <sub>POS</sub> (Peroxide oxidisable sulfur)	a-23Ee		mol H <sup>+</sup> /t	= (S <sub>P</sub> – S <sub>KCl</sub> ) x 623.7 (converted to equivalent mol H <sup>+</sup> /t)
TSA (Titratable sulfidic acidity)	23H		mol H <sup>+</sup> /t	= TPA – TAA
TPA (Titratable peroxide acidity)	23G		mol H <sup>+</sup> /t	= Titratable Peroxide Acidity (measured after peroxide digestion)
<b>Retained Acidity</b>				
s-S <sub>RAS</sub> (Residual acid soluble)	s-23Re		%S	(S <sub>RAS</sub> x 0.75) (S <sub>RAS</sub> converted to equivalent % pyrite S)
a-S <sub>RAS</sub> (Residual acid-soluble)	a-23Re		mol H <sup>+</sup> /t	(S <sub>RAS</sub> x 0.75 x 623.7) (S <sub>RAS</sub> expressed in equivalent acidity units)
s-S <sub>NAS</sub> (Net acid-soluble sulfur)		s-20J	%S	= (S <sub>HCl</sub> – S <sub>KCl</sub> ) x 0.75 (S <sub>NAS</sub> converted to equivalent % pyrite S)
a-S <sub>NAS</sub> (Net acid-soluble sulfur)		a-20J	mol H <sup>+</sup> /t	((S <sub>HCl</sub> – S <sub>KCl</sub> ) x 467.8) (calculated in equivalent acidity units)
<b>Actual Acidity</b>				
s-TAA (Titratable actual acidity)	s-23F		%S	= (TAA / 623.7) (TAA calculated as equivalent % pyrite S)
TAA (Titratable actual acidity)	23F		mol H <sup>+</sup> /t	= Titratable actual acidity (measured before peroxide digestion)
<b>SPOCAS</b>				
pH <sub>KCl</sub>				pH of soil in potassium chloride (KCl) extract
pH <sub>OX</sub>				pH of soil after peroxide digestion
S <sub>KCl</sub>	23Ce		%S	KCl extracted sulfur
S <sub>P</sub>	23De		%S	Peroxide sulfur
Ca <sub>KCl</sub>	23Vh		%Ca	Ca extracted in 1 M KCl (after TAA titration)
Ca <sub>P</sub>	23Wh		%Ca	Ca in peroxide digest (after TPA digestion & titration)
Ca <sub>A</sub>	23Xh		%Ca	Ca reacted with acid generated by peroxide digest (Ca <sub>P</sub> – Ca <sub>KCl</sub> )
s-Ca <sub>A</sub>	s-23Xh		%S	(Ca <sub>A</sub> x 0.800) (Ca <sub>A</sub> in equivalent % pyrite S it will neutralise)
a-Ca <sub>A</sub>	a-23Xh		mol H <sup>+</sup> /t	(Ca <sub>A</sub> x 499.0) (Ca <sub>A</sub> calculated as equivalent acid neutralising units)
Mg <sub>KCl</sub>	23Sm		%Mg	Mg extracted in 1 M KCl (after TAA titration)
Mg <sub>P</sub>	23Tm		%Mg	Mg in peroxide digest (after TPA digestion & titration)
Mg <sub>A</sub>	23Um		%Mg	Reacted Magnesium (Mg <sub>P</sub> – Mg <sub>KCl</sub> )
s-Mg <sub>A</sub>	s-23Um		%S	(Mg <sub>A</sub> x 1.319) (Mg <sub>A</sub> in equivalent % pyrite S it will neutralise)
a-Mg <sub>A</sub>	a-23Um		mol H <sup>+</sup> /t	(Mg <sub>A</sub> x 822.6), (Mg <sub>A</sub> calculated as equivalent acid neutralising units)
s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	s-23Xh+s-23Um		%S	Addition of Reacted Calcium and Magnesium (in equivalent % pyrite S it will neutralise)
a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	a-23Xh+a-23Um		mol H <sup>+</sup> /t	Addition of Reacted Calcium and Magnesium (calculated as equivalent acid neutralising units)
<b>Neutralising Capacity</b>				
ANC <sub>BT</sub>		19A2	%CaCO <sub>3</sub>	Back Titration after 0.1 M HCl treatment (expressed in equivalent %CaCO <sub>3</sub> units)
s-ANC <sub>BT</sub>		s-19A2	%S	(ANC <sub>BT</sub> / 3.121) (ANC <sub>BT</sub> in equivalent % pyrite S it will neutralise)
a-ANC <sub>BT</sub>		a-19A2	mol H <sup>+</sup> /t	(ANC <sub>BT</sub> x 199.8) (ANC <sub>BT</sub> in equivalent acid neutralising units)
ANC <sub>E</sub>	23Q		%CaCO <sub>3</sub>	Excess ANC from SPOCAS (expressed in equivalent %CaCO <sub>3</sub> )
s-ANC <sub>E</sub>	s-23Q		%S	(ANC <sub>E</sub> / 3.121) (ANC <sub>E</sub> in equivalent % pyrite S it will neutralise)
a-ANC <sub>E</sub>	a-23Q		mol H <sup>+</sup> /t	(ANC <sub>E</sub> x 199.8) (calculated in equivalent acid neutralising units)

Samples were analysed by Method 23 (SPOCAS). The SPOCAS method provides data on pyritic sulfur, pH, existing acidity, as well as a measure of Ca and Mg neutralising reactions. The SPOCAS is an improved and updated version of the POCASm method.

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

Sample selection and handling is as per the Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998, CR Ahern, MR Ahern and B Powell (1998).

ALHS Codes are standard analytical method codes according to the Australian Laboratory Handbook of Soil and Water Chemical Methods, GE Rayment and FR Higginson (1992), and Acid Sulfate Soils Laboratory Methods Guidelines Version 2.1 June 2004 Ahern CA, McElna AE, Sullivan LA (2004)







Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
3	0.30	0.40																														
4	0.60	0.80																														
5	1.00	1.20																														
6	1.30	1.50																														
7	1.80	2.00																														
1	0.00	0.05																														
2	0.10	0.20																														
3	0.30	0.40																														
4	0.80	1.00																														
5	1.30	1.50																														
6	1.80	2.00																														
7	2.30	2.50																														
8	2.80	3.00																														
3	0.60	0.80					0.02	10	8.3	5.8	0.05	0.06	0.16	0.17	0.02	0.013	8	0.15	0.20	0.05	0.067	42	0.080	50				0.43	0.14	86		
4	1.00	1.20					0.29	181	3.3	2.0	0.64	2.02	0.22	0.26	0.04	0.034	21	0.35	0.38	0.04	0.050	31	0.084	52								
5	1.30	1.50					0.02	10	7.8	5.1	0.50	2.49	0.73	3.48	2.75	2.198	1371	0.37	0.48	0.11	0.149	93	2.347	1464				2.787	0.89	557		
6	1.80	2.00					0.02	10	8.6	7.6	0.33	1.56	0.66	2.95	2.29	1.833	1143	0.21	0.39	0.19	0.247	154	2.079	1297				3.835	1.23	766		
8	2.80	3.00					0.02	10	8.6	7.9	0.28	1.57	0.61	4.66	4.05	3.237	2019	0.22	0.40	0.18	0.233	146	3.470	2164				8.097	2.59	1618		
10	3.80	4.00					0.02	10	8.7	7.9	0.26	1.30	0.58	2.70	2.12	1.697	1058	0.19	0.34	0.15	0.191	119	1.888	1178				4.119	1.32	823		
12	4.80	5.00					0.03	21	4.7	2.6	0.38	1.97	0.56	1.07	0.51	0.406	253	0.41	0.43	0.03	0.037	23	0.443	277				< 0.1	0.00	0		





Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
2	0.30	0.50																														
5	1.30	1.50					0.00	0	8.8	6.4	0.15	0.17	0.40	0.72	0.31	0.251	157	0.08	0.12	0.04	0.047	30	0.299	186	1.32	0.42	264					
6	1.80	2.00					0.00	0	8.9	7.1	0.14	0.78	0.41	2.52	2.12	1.693	1056	0.09	0.19	0.10	0.135	84	1.827	1140	3.65	1.17	729					
7	2.30	2.50					0.02	10	8.7	7.3	0.13	1.24	0.39	1.64	1.25	0.998	622	0.08	0.17	0.09	0.119	74	1.116	696				1.12	0.36	224		
8	2.80	3.00																														
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60																														
4	0.80	1.00																														
5	1.30	1.50					0.22	136	3.3	1.7	0.58	2.93	0.13	0.15	0.02	0.014	9	0.43	0.45	0.02	0.032	20	0.046	29								
6	1.80	2.00					0.12	76	3.6	1.8	0.37	2.49	0.11	0.13	0.02	0.017	10	0.30	0.34	0.04	0.054	34	0.071	44								
8	2.80	3.00					0.09	56	4.0	1.7	0.34	2.48	0.12	0.13	0.01	0.010	6	0.27	0.31	0.04	0.046	29	0.057	35								
2	0.80	1.00					0.02	10	8.8	8.3	0.13	0.73	0.45	4.75	4.30	3.439	2145	0.13	0.23	0.10	0.132	82	3.571	2227				9.701	3.11	1938		
3	1.40	1.60					0.02	10	7.0	6.0	0.07	0.16	0.08	0.10	0.02	0.018	11	0.17	0.18	0.01	0.016	10	0.033	21								
4	1.90	2.10					0.02	10	7.0	7.6	0.05	0.07	0.08	0.09	0.01	0.004	2	0.16	0.18	0.02	0.025	16	0.029	18				0.377	0.12	75		
5	2.40	2.60					0.00	0	8.7	6.7	0.05	0.10	0.17	0.22	0.05	0.042	26	0.09	0.12	0.03	0.044	27	0.086	54				0.479	0.15	96		
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60					0.02	13	5.1	3.7	0.09	0.15	0.03	0.03	0.00	0.001	0	0.11	0.11	0.00	0.000	0	0.001	0								
4	0.60	0.80					0.01	9	5.1	3.9	0.09	0.14	0.04	0.04	0.00	0.000	0	0.13	0.12	0.00	0.000	0	0.000	0								
5	0.90	1.10					0.06	37	4.5	3.1	0.12	0.25	0.04	0.05	0.01	0.004	2	0.14	0.14	0.00	0.000	0	0.001	1								
6	1.30	1.50					0.15	95	3.9	1.9	0.29	1.49	0.06	0.07	0.01	0.010	6	0.18	0.19	0.01	0.016	10	0.025	16								
7	1.80	2.00																														
8	2.60	2.80																														







Lab Sample			Lab Results																												
No	Upp	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity										
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
2	3.80	4.00					0.05	30	4.2	5.2	0.02	0.04	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0							
4	1.30	1.50																													
5	1.80	2.00																													
7	2.50	2.70																													
8	2.90	3.10					0.20	124	3.6	2.0	0.22	1.46	0.02	0.02	0.00	0.003	2	0.04	0.04	0.00	0.000	0	0.003	2							
9	3.50	3.70																													
6	1.80	2.00					0.06	35	4.1	4.8	0.01	0.02	0.02	0.02	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0							
7	2.30	2.50																													
8	2.80	3.00																													
9	3.30	3.50																													



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
5	1.30	1.50																														
6	1.80	2.00																														
8	2.80	3.00																														
11	4.30	4.50																														
13	5.00	5.20																														
8	3.30	3.50																														
9	3.60	3.80																														
10	3.80	4.00																														
11	4.30	4.50																														
4	0.80	1.00																														
5	1.10	1.30																														
6	1.80	2.00																														
7	2.30	2.50																														
10	3.80	4.00																														
4	0.70	0.80																														
5	0.90	1.10																														
6	1.30	1.50																														
8	2.20	2.40																														













Lab Sample			Lab Results																																	
			Existing Acidity						SPOCAS												Neutralising Capacity															
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>						
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q						
3	0.80	1.00	0.00	2			0.05	31	4.1	4.3	0.03	0.04	0.02	0.04	0.02	0.013	8	0.03	0.04	0.01	0.008	5	0.021	13												
4	1.40	1.60	0.00	2			0.02	12	4.4	4.9	0.01	0.03	0.02	0.04	0.02	0.017	10	0.04	0.04	0.00	0.005	3	0.022	14												
5	2.00	2.20																																		
7	3.30	3.50																																		
8	3.60	3.80																																		
1	0.00	0.10					0.12	74	4.1	4.8	0.02	0.05	0.03	0.04	0.00	0.003	2	0.04	0.04	0.00	0.000	0	0.000	0							< 0.1	0.00	0			
2	0.20	0.30					0.07	44	4.2	4.3	0.04	0.05	0.02	0.02	0.00	0.000	0	0.03	0.03	0.00	0.000	0	0.000	0								< 0.1	0.00	0		
4	0.80	1.00					0.05	33	4.3	4.1	0.07	0.07	0.02	0.02	0.00	0.000	0	0.06	0.05	0.00	0.000	0	0.000	0								< 0.1	0.00	0		
5	1.20	1.40	0.02	14			0.03	20	4.0	4.4	0.03	0.05	0.02	0.04	0.02	0.012	7	0.05	0.05	0.00	0.003	2	0.015	9												
6	1.50	1.70			0.224	140	0.11	66	4.2	4.1	0.03	0.06	0.02	0.02	0.00	0.000	0	0.06	0.05	0.00	0.000	0	0.000	0									< 0.1	0.00	0	
7	1.80	2.00	0.01	6			0.11	67	3.9	2.6	0.06	0.16	0.03	0.04	0.01	0.010	6	0.07	0.07	0.00	0.005	3	0.016	10												
8	2.30	2.50																																		
9	2.80	3.00	0.16	101			0.39	242	3.3	1.9	0.32	1.46	0.02	0.04	0.02	0.014	9	0.06	0.06	0.00	0.004	2	0.018	11												
10	3.30	3.50																																		
6	1.80	2.00																																		
7	2.10	2.30																																		
8	2.40	2.60																																		
9	2.80	3.00																																		
10	3.30	3.50																																		



Lab Sample			Lab Results																											
No	Upp	Low	Existing Acidity						SPOCAS														Neutralising Capacity							
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t			
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q		
9	3.00	3.20																												
10	3.40	3.60																												
11	3.80	4.00																												
12	4.60	4.80																												
5	1.30	1.50																												
6	2.00	2.20																												
7	2.50	2.70																												
9	3.80	4.00																												





Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS														Neutralising Capacity										
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
4	1.20	1.40																															
5	1.50	1.70																															
6	1.80	2.00																															
8	2.80	3.00																															
10	3.80	4.00																															
6	2.20	2.40	0.00	2			0.02	14	4.2	5.2	0.01	0.02	0.02	0.04	0.02	0.012	7	0.04	0.05	0.01	0.011	7	0.023	14									
7	2.80	3.00	0.00	2			0.03	16	4.1	5.1	0.01	0.00	0.02	0.03	0.01	0.010	6	0.03	0.04	0.01	0.011	7	0.021	13									
8	3.50	3.70																															
9	4.00	4.20																															
2	0.50	0.60																															
5	1.40	1.60					0.04	27	3.9	4.8	0.01	0.04	0.02	0.02	0.00	0.001	0	0.01	0.01	0.00	0.001	1	0.002	1									
6	1.80	2.00																															
7	2.30	2.50																															
8	3.00	3.20																															
9	3.80	4.00																															



Lab Sample			Lab Results																																			
			Existing Acidity						SPOCAS												Neutralising Capacity																	
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>								
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	23A	23B	%S	23Ce	23De	23Vh	%Ca	23Wh	23Xh	%S	mol H+/t	%Mg	23Sm	23Tm	23Um	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t					
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q										
7	1.50	1.70																																				
8	1.80	2.00																																				
9	2.30	2.50																																				
10	2.80	3.00																																				
12	4.10	4.30																																				
5	1.10	1.30																																				
6	1.50	1.70																																				
7	1.80	2.00																																				
8	2.30	2.50																																				
9	3.30	3.50																																				
3	0.60	0.70																																				
6	1.40	1.60																																				
7	2.00	2.20																																				
10	3.20	3.40																																				
12	4.30	4.50																																				



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10					0.13	78	4.2	4.3	0.02	0.05	0.02	0.02	0.00	0.002	1	0.01	0.01	0.00	0.000	0	0.000	0								
3	0.60	0.80					0.07	43	4.5	4.0	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
4	1.00	1.20					0.16	99	4.2	3.9	0.02	0.02	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0								
5	1.30	1.50					0.22	138	4.1	3.9	0.02	0.04	0.02	0.01	0.00	0.000	0	0.02	0.02	0.00	0.001	1	0.000	0								
6	1.60	1.80					0.16	97	4.2	3.6	0.01	0.08	0.02	0.01	0.00	0.000	0	0.03	0.02	0.00	0.000	0	0.000	0								
7	2.00	2.20																														
8	2.30	2.50																														
5	1.80	2.00																														
8	4.00	4.20																														
3	0.40	0.50					0.06	35	4.2	4.5	0.01	0.03	0.07	0.07	0.00	0.000	0	0.03	0.03	0.00	0.000	0	0.000	0								
4	0.80	1.00																														
5	1.30	1.50																														
7	2.30	2.50																														
9	3.10	3.30																														
10	3.50	3.70																														
5	1.80	2.00																														
6	2.30	2.50																														

Field Morphology Summary														Lab Sample			Action Criteria		SPOCAS Acid Base Accounting					Chromium Suite Acid Base Accounting			Lab Results																					
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Level Select	pH KCl =>6.5			<=4.5 pH KCl <6.5		pH KCl =>6.5	<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5	S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA													
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )							Depth 1st Action Level (pH <sub>F</sub> )	TPA =0			TPA >0												%S			22B	23Ee	%S	s-23H	s-23G	a-22B	a-23Ee	23H	23G	
																					23Af	23Bf	23Ca+s-Mg	s-TSA												s-TAA	s-C <sub>IN</sub>	s-ANC <sub>ST</sub>										s-TAA
48	1	A1	0.00	0.15	10YR42	SCL				0.10	4.4	2.2	a	1	0.00	0.10																		5														
	2	A12	0.15	0.40	10YR43	SL				0.30	4.5	2.7	a																																			
	3	2A1	0.40	0.50	10YR32	SCL																																										
	4	2B21	0.50	0.65	10YR61	FSLC				0.60	5.4	3.5																																				
	5	2B22	0.65	0.90	10YR62	SCL				0.80	5.7	3.9																																				
	6	2B23	0.90	1.35	2.5Y61	SL				1.00	5.8	4.1																																				
										1.25	5.8	4.0		4	1.00	1.20																																
	7	3C1u	1.35	2.10	10YR61	KS				1.50	6.4	2.5																																				
										1.75	6.3	1.8		5	1.70	1.90	S2	Ps																														
										2.00	6.4	1.8																																				
	8	3C2u	2.10	2.80	2.5YR51	KS				2.25	6.3	1.6																																				
										2.50	6.1	1.4		6	2.30	2.50		Ps																														
										2.75	6.3	1.4																																				
	9	3C3u	2.80	3.30	5Y51	KS				3.00	6.3	1.8																																				
										3.25	6.6	1.6		7	3.00	3.20		Ps																														
										3.50	6.6	1.7																																				
	10	4C4u	3.30	4.05	5Y41	KS				3.75	6.7	1.8		8	3.60	3.80		Ps																														
										4.00	6.6	1.4																																				
										4.25	6.7	3.6																																				
	11	5D1	4.05	4.60	5GY61	FSLC				4.50	6.8	5.7		9	4.30	4.50																																
49	1	A1	0.00	0.20	10YR43	CL				0.10	4.8	2.2	a																																			
	2	B1	0.20	0.40	10YR42	LC				0.30	4.8	2.4	a																																			
	3	B21	0.40	0.85	2.5Y61	ZLC				0.60	6.7	5.0																																				
										0.80	6.6	4.5																																				
	4	B22	0.85	1.20	2.5YR61	MC				1.00	6.4	4.4		4	0.90	1.10																																
	5	2C1u	1.20	1.80	5Y41	SCL				1.25	4.7	3.2	a																																			
										1.50	5.8	1.4		5	1.30	1.50	S2	PI																														
										1.75	6.4	1.3																																				
	6	2C2u	1.80	2.30	5Y41	KSCL				2.00	6.5	1.4		6	1.90	2.10		PI																														
										2.25	6.5	1.7																																				
										2.50	6.5	1.5		7	2.40	2.60		PI																														
										2.75	6.5	1.5																																				
										3.00	6.5	1.4																																				
										3.25	6.2	1.7																																				
	8	4C4u	3.40	4.80	10YR61	KS				3.50	6.3	1.7																																				
										3.75	6.4	1.7																																				
										4.00	6.6	1.7		9	3.80	4.00		Ps																														
										4.25	6.3	1.6																																				
										4.50	6.6	1.6																																				
										4.75	6.7	1.6																																				
	9	5C5u	4.80	5.00	5B61	KSL				5.00	6.7	1.3		11	4.80	5.00		PI																														
	10	6C6u	5.00	5.10	5B61	KSLC																																										
50	1	A1p	0.00	0.40	10YR33	LMC				0.10	4.4	3.4	a	1	0.00	0.10																																
										0.30	5.0	2.8	a																																			
	2	B21	0.40	1.10	10YR61	FSLMC				0.60	5.3	3.0																																				
										0.80	5.5	4.0																																				
										1.00	6.0	4.6																																				
	3	B22	1.10	1.75	5Y61	FSMC				1.25	6.5	3.9																																				
										1.50	5.8	3.7		5	1.30	1.50																																
										1.75	5.4	3.5																																				
	4	B23	1.75	2.00	2.5Y51	FSMC				2.00	5.6	3.5																																				
	5	2C1	2.00	2.40	10YR61	KS				2.25	5.4	2.6		7	2.10	2.30																																
	6	2C2	2.40	2.60	10YR61	KS				2.50	5.4	2.2		8	2.40	2.60	S3	Ps																														
	7	3C3u	2.60	2.90	10YR51	KSLC				2.75	6.5	1.9		9	2.70	2.90		Pc																														
	8	4C4u	2.90	3.60	10YR51	KS				3.00	6.7	1.9																																				
														10	3.30	3.50		Ps																														

Lab Sample			Lab Results																															
			Existing Acidity						SPOCAS												Neutralising Capacity													
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>				
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q				
1	0.00	0.10					0.05	33	4.4																									
4	1.00	1.20																																
5	1.70	1.90																																
6	2.30	2.50																																
7	3.00	3.20																																
8	3.60	3.80																																
9	4.30	4.50																																
4	0.90	1.10																																
5	1.30	1.50																																
6	1.90	2.10																																
7	2.40	2.60																																
9	3.80	4.00																																
11	4.80	5.00																																
1	0.00	0.10					0.06	36	4.4		0.01		0.07					0.01																
5	1.30	1.50																																
7	2.10	2.30																																
8	2.40	2.60																																
9	2.70	2.90																																
10	3.30	3.50																																





Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
3	0.50	0.60					0.10	60	4.1	4.2	0.03	0.04	0.04	0.04	0.00	0.001	0	0.02	0.02	0.00	0.000	0	0.001	0									
4	0.80	1.00					0.09	59	4.4	4.2	0.04	0.04	0.03	0.03	0.00	0.002	1	0.02	0.02	0.00	0.003	2	0.004	3									
5	1.30	1.50					0.13	80	4.2	3.9	0.04	0.04	0.02	0.02	0.00	0.000	0	0.02	0.02	0.00	0.001	1	0.000	0									
6	1.90	2.10					0.10	63	3.7	3.9	0.03	0.04	0.02	0.02	0.00	0.000	0	0.01	0.02	0.00	0.005	3	0.002	1									
7	2.30	2.50					0.12	77	4.2	3.9	0.02	0.04	0.05	0.05	0.00	0.001	0	0.06	0.06	0.00	0.001	1	0.002	1									
8	2.80	3.00																															
9	3.30	3.50																															
1	0.00	0.10					0.09	55	4.3																								
6	2.00	2.20																															
7	2.30	2.45																															
8	2.50	2.70																															
9	2.80	3.00																															
12	4.20	4.30																															
1	0.00	0.10																															
4	1.00	1.20																															
5	1.40	1.60																															
6	2.00	2.20																															
9	3.00	3.20																															



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
4	1.00	1.20																														
5	1.20	1.40																														
6	1.80	2.00																														
8	2.80	3.00																														
10	3.80	4.00																														
13	5.10	5.30																														
1	0.00	0.10					0.03	17	4.6																							
3	0.50	0.60					0.02	14	4.9																							
7	2.90	3.10																														
8	3.30	3.50																														
9	3.60	3.80																														
10	4.00	4.20																														
1	0.00	0.10					0.07	43	4.4																							
6	1.80	2.00																														
7	2.10	2.30																														
8	2.50	2.70																														
9	2.80	3.00																														



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
(m)			%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
1	0.00	0.10					0.04	23	4.7																										
7	2.30	2.50																																	
8	2.80	3.00																																	
9	3.30	3.50																																	
10	3.60	3.80																																	
1	0.00	0.10					0.04	23	4.4																										
6	2.30	2.50																																	
12	4.70	4.90																																	
13	5.00	5.20																																	
14	5.40	5.60																																	
2	0.50	0.60					0.07	46	4.2																										
4	1.30	1.50																																	
9	2.90	3.10					0.02	10	4.5	5.3	0.03	0.04	0.02	0.02	0.00	0.000	0	0.04	0.04	0.00	0.000	0	0.000	0											
10	3.40	3.60																																	



Lab Sample			Lab Results																															
			Existing Acidity						SPOCAS												Neutralising Capacity													
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>				
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q				
1	0.20	0.30					0.05	29	4.2		0.01		0.04					0.01																
5	1.80	2.00																																
8	3.00	3.20																																
9	3.40	3.60																																
10	3.80	4.00																																
1	0.00	0.10																																
6	1.40	1.60																																
7	1.80	2.00																																
8	2.30	2.50																																
9	2.80	3.00																																
10	3.30	3.50																																
7	2.30	2.50																																
9	3.40	3.60																																
10	4.00	4.20																																





Lab Sample			Lab Results																													
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity											
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S	%Ca	%S	mol H+/t	%S	mol H+/t	%Mg	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t			
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q		
3	0.90	1.10																														
5	1.40	1.60																														
6	1.70	1.90																														
7	2.40	2.60																														
8	2.70	2.90																														
9	3.20	3.40																														
5	1.80	2.00																														
6	2.60	2.80																														
9	4.30	4.50																														
4	1.40	1.60					0.06	37	3.8	5.3	0.01	0.03	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.001	1	0.000	0								
6	1.80	2.00																														
7	2.30	2.50																														
8	3.00	3.20																														



Lab Sample			Lab Results																											
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity									
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S	%Ca	%S	mol H+/t		%Mg	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q		
5	1.80	2.00																												
7	2.70	2.90																												
8	3.00	3.20																												
9	3.50	3.70																												
4	1.00	1.20																												
5	1.80	2.00																												
6	2.25	2.40			0.07	45	3.8	2.3	0.12	0.69	0.04	0.05	0.01	0.004	2	0.07	0.07	0.01	0.008	5	0.012	7								
8	3.30	3.50																												
10	4.20	4.40			0.06	36	3.9	2.1	0.16	1.19	0.07	0.08	0.01	0.006	3	0.10	0.11	0.01	0.016	10	0.021	13								
5	0.70	0.90																												
6	1.30	1.50																												
7	1.80	2.00																												
8	2.40	2.60																												
10	3.30	3.50																												

Field Morphology Summary													Lab Sample			Action Criteria				SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results							
Site ID	Hor No	Horizon Name	Upp Depth (m)	Low Depth (m)	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth (m)	Low Depth (m)	Depth 1st Action Level	Action Level Select %S	pH KCl =>6.5		<=4.5 pH KCl <6.5		pH KCl =>6.5	<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5	S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA		
										Depth (m)	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )						Depth 1st Action Level (pH <sub>F</sub> )	TPA =0	TPA >0	TPA >0												%S	
																								s-ANC <sub>E</sub>	s-Ca+s-Mg	s-TSA	s-TAA	s-C <sub>IN</sub>	s-ANC <sub>DI</sub>	s-TAA	s-TAA	22B	23Ee	%S	s-23H
69	1	A11	0.00	0.40	10YR42	SCL				0.10	5.0	2.8	a																						
										0.30	5.0	2.8	a																						
	2	A12	0.40	0.70	10YR43	CLS				0.60	5.1	2.8																							
										0.80	5.3	2.8																							
	3	A2	0.70	2.55	10YR42	S				1.00	5.8	3.0																							
										1.25	5.8	3.2																							
										1.50	5.9	3.1																							
1.75										5.3	3.3																								
2.00										5.7	3.2																								
4	C1	2.55	2.85	10YR52	SCL				2.25	5.7	3.1																								
									2.50	6.4	3.1																								
5	2C2	2.85	3.10	5Y41	SLC				2.75	6.6	3.6	7	2.60	2.80																					
									3.00	7.1	4.1	8	2.90	3.10																					
6	3C3	3.10	4.05	7.5YR44	KS				3.25	6.9	6.0																								
									3.50	6.3	3.3																								
									3.75	6.3	6.5																								
									4.00	6.2	4.2																								
7	4C4	4.05	4.35	10YR61	KS				4.25	6.1	3.2	10	3.80	4.00																					
												11	4.10	4.30																					
70	1	A11	0.00	0.15	10YR51	FSCL				0.10	6.6	4.3																							
										0.30	6.7	3.2																							
	2	B21	0.15	0.35	N30	CLFS				0.60	6.8	3.8																							
										0.80	6.5	4.3																							
	3	B22	0.35	0.60	N40	CLFS				1.00	6.7	4.0	4	0.80	1.00																				
										1.25	6.8	2.2	5	1.20	1.40																				
	4	B23	0.60	1.00	5GY51	CLFS				1.50	6.7	1.6																							
										1.75	6.8	1.6																							
5	B24	1.00	1.45	5Y51	CLFS				2.00	6.6	1.6																								
									2.25	6.7	1.7																								
6	C1u	1.45	1.70	5Y41	CLFS				2.50	6.7	2.0	6	1.50	1.70																					
												7	1.90	2.10																					
7	C2u	1.70	2.20	5Y41	ZLC				2.25	6.7	1.7																								
									2.50	6.7	2.0																								
8	C3u	2.20	2.50	5GY51	ZLMC				2.25	6.7	1.7																								
									2.50	6.7	2.0																								
													8	2.30	2.50			1.903			1.865	1.656	1.695	1163	1033	1057									
71	1	A11	0.00	0.30	10YR42	CL				0.10	4.6	2.1	a																						
										0.30	5.0	2.6	a																						
	2	B1	0.30	0.80	10YR53	CL				1.00	6.2	3.6																							
										1.25	5.5	3.5																							
	3	B21	0.80	1.25	10YR53	SCL				1.50	5.4	3.4	4	1.40	1.60																				
										1.75	5.4	3.5																							
	4	B22	1.25	1.90	10YR54	SCL				2.00	4.8	3.2	a																						
													5	2.00	2.20																				
										2.25	4.7	3.1	a																						
5	B23	1.90	2.35	10YR61	LC				2.50	4.7	3.1	a																							
									2.75	4.5	3.0	a																							
									3.00	4.3	2.9	a																							
									3.25	4.0	2.3	A																							
6	B24	2.35	3.20	5Y62	ZLC				3.50	4.0	2.2	A																							
									3.75	4.1	2.2	a																							
7	B25	3.20	4.00	2.5Y61	ZLC	J			4.00	4.7	2.3	a																							
									4.25	4.9	1.7	a																							
									4.50	5.9	1.5																								
8	C1u	4.00	4.40	5Y41	ZLC				4.75	6.4	1.5																								
									5.00	6.8	1.5																								
9	C2u	4.40	5.00	5Y41	ZLC				4.25	4.9	1.7																								
									4.50	5.9	1.5																								
													8	3.30	3.50						< 0.02	0.027	0.029	0.157	2	17	18	98							
													9	3.80	4.00						0.045	0.013	0.032	0.184	28	8	20	115							
													10	4.10	4.30	S4	Pc				0.278	0.342	0.475		173	213	296								
													11	4.70	4.90		Pc				1.701	1.852	1.999		1061	1155	1247								

Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS											Neutralising Capacity													
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>Ox</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
7	2.60	2.80																															
8	2.90	3.10																															
9	3.30	3.50																															
10	3.80	4.00																															
11	4.10	4.30																															
4	0.80	1.00					0.02	10	6.1	6.1	0.02	0.04	0.03	0.03	0.00	0.000	0	0.05	0.05	0.00	0.003	2	0.000	0									
5	1.20	1.40																															
6	1.50	1.70																															
7	1.90	2.10																															
8	2.30	2.50					0.04	24	4.6	2.0	0.18	2.05	0.09	0.11	0.02	0.019	12	0.18	0.21	0.03	0.033	21	0.052	33									
4	1.40	1.60					0.03	20	4.4	5.2	0.01	0.01	0.03	0.04	0.01	0.005	3	0.01	0.01	0.00	0.004	2	0.009	5									
5	2.00	2.20					0.09	57	4.4	4.1	0.01	0.02	0.02	0.02	0.00	0.000	0	0.01	0.01	0.00	0.004	2	0.004	2									
6	2.40	2.60					0.07	44	4.5	4.2	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.004	2	0.000	0									
7	2.80	3.00					0.05	32	4.5	4.2	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0									
8	3.30	3.50					0.13	80	3.8	3.8	0.02	0.05	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.003	2	0.000	0									
9	3.80	4.00					0.15	95	3.7	3.8	0.02	0.03	0.02	0.01	0.00	0.000	0	0.02	0.02	0.00	0.003	2	0.000	0									
10	4.10	4.30					0.13	83	3.9	2.7	0.03	0.31	0.03	0.03	0.00	0.000	0	0.04	0.04	0.00	0.003	2	0.003	2									
11	4.70	4.90					0.15	92	4.1	1.9	0.21	1.91	0.10	0.11	0.01	0.010	6	0.14	0.15	0.01	0.012	7	0.022	14									



Lab Sample			Lab Results																													
			Existing Acidity				SPOCAS														Neutralising Capacity											
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
4	1.00	1.20					0.03	19	4.3	4.6	0.01	0.01	0.04	0.04	0.00	0.002	1	0.01	0.01	0.00	0.000	0	0.001	1								
5	1.50	1.70					0.04	27	4.2	4.5	0.01	0.01	0.02	0.02	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0								
6	2.00	2.20					0.09	56	3.9	3.8	0.04	0.05	0.02	0.02	0.00	0.003	2	0.01	0.01	0.00	0.001	1	0.005	3								
7	2.60	2.80					0.07	43	4.3	4.0	0.04	0.05	0.01	0.01	0.00	0.001	0	0.02	0.02	0.00	0.001	1	0.002	1								
8	3.10	3.30																														
9	3.80	4.00																														
10	4.30	4.50																														
5	1.30	1.50																														
6	1.60	1.80																														
7	2.30	2.50																														
8	2.80	3.00					0.02	10	5.5	2.5	0.08	0.87	0.09	0.11	0.02	0.016	10	0.13	0.16	0.03	0.044	27	0.060	37								
4	0.90	1.10																														
5	1.40	1.60																														
6	2.00	2.20																														
7	2.30	2.50																														
1	0.00	0.30																														
2	0.40	0.80																														
3	0.80	1.20																														





Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
1	0.00	0.05																															
2	0.20	0.30					0.05	33	4.0	3.6	0.01	0.02	0.02	0.02	0.00	0.001	0	0.01	0.01	0.00	0.000	0	0.000	0									
3	0.50	0.60																															
4	0.80	1.00																															
5	2.00	2.30																															
6	2.50	3.00																															
1	0.00	0.10																															
2	0.10	0.20																															
3	0.30	0.50																															
4	0.60	0.80																															
5	0.80	1.00																															
6	1.00	1.20																															
1	0.00	0.10					0.04	23	4.6	6.4	0.01	0.02	0.02	0.02	0.00	0.001	0	0.02	0.02	0.00	0.000	0	0.001	0									
2	0.30	0.40					0.02	15	4.8	4.1	0.02	0.02	0.02	0.01	0.00	0.000	0	0.02	0.02	0.00	0.000	0	0.000	0									
3	0.60	0.70					0.01	5	5.3	4.4	0.02	0.02	0.02	0.01	0.00	0.000	0	0.03	0.03	0.00	0.000	0	0.000	0									
4	1.10	1.30					0.00	1	6.4	4.9	0.01	0.01	0.02	0.00	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0									
5	1.80	2.00																															
6	2.30	2.50																															
1	0.00	0.10					0.06	38	4.1	5.3	0.01	0.03	0.04	0.04	0.00	0.001	0	0.02	0.02	0.00	0.004	2	0.005	3									
3	0.70	0.90																															
6	1.90	2.10																															
7	2.30	2.50																															
6	2.30	2.50																															
7	2.80	3.00																															
8	3.30	3.50																															
9	3.80	4.00																															
10	4.30	4.50																															



Lab Sample			Lab Results																											
			Existing Acidity				SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t					%S	%Ca	%S	mol H+/t	%Mg	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q		
4	1.10	1.30																												
5	1.50	1.70																												
6	1.80	2.00																												
8	2.80	3.00																												
10	3.80	4.00																												
1	0.00	0.10					0.04	24	4.7	6.1	0.01	0.03	0.04	0.04	0.00	0.003	2	0.02	0.02	0.00	0.004	2	0.007	4						
2	0.30	0.40					0.04	24	4.7	4.3	0.03	0.03	0.03	0.03	0.00	0.002	1	0.03	0.03	0.00	0.003	2	0.005	3						
3	0.60	0.80					0.14	88	4.2	3.3	0.05	0.15	0.02	0.02	0.00	0.002	1	0.03	0.03	0.00	0.004	2	0.006	4						
4	0.85	1.00					0.23	145	3.9	1.8	0.14	1.69	0.02	0.03	0.01	0.008	5	0.03	0.04	0.01	0.012	7	0.020	12						
5	1.10	1.30					0.17	106	4.0	1.7	0.20	2.43	0.07	0.09	0.02	0.017	10	0.11	0.12	0.01	0.015	9	0.031	20						
6	1.80	2.00																												
7	2.30	2.50																												
8	2.80	3.00																												
4	0.90	1.10																												
6	1.80	2.00																												
7	2.30	2.50																												
8	2.80	3.00																												
9	3.30	3.50																												
10	3.80	4.00																												
1	0.00	0.10					0.10	64	4.3	4.4	0.01	0.04	0.05	0.06	0.01	0.005	3	0.02	0.03	0.01	0.007	4	0.011	7						
3	0.60	0.70					0.05	32	4.2	4.3	0.01	0.03	0.08	0.08	0.00	0.000	0	0.05	0.05	0.00	0.000	0	0.000	0						
4	0.90	1.10					0.02	13	4.5	4.4	0.01	0.03	0.02	0.02	0.00	0.000	0	0.01	0.01	0.00	0.003	2	0.000	0						
5	1.30	1.50																												
6	1.80	2.00	0.00	2			0.02	10	4.8	2.9	0.01	0.09	0.02	0.02	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0						
7	2.30	2.50																												



Lab Sample			Lab Results																																	
			Existing Acidity						SPOCAS												Neutralising Capacity															
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>						
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q						
1	0.00	0.10					0.06	39	4.1	4.8	0.01	0.05	0.04	0.04	0.00	0.002	1	0.02	0.02	0.00	0.003	2	0.004	3												
3	0.50	0.60																																		
4	0.80	1.00																																		
5	1.20	1.40																																		
6	1.60	1.80																																		
7	1.90	2.00																																		
8	2.80	3.00																																		
9	3.40	3.60																																		
10	3.80	4.00																																		
11	4.40	4.60																																		
3	0.60	0.70					0.08	47	4.0	4.3	0.02	0.04	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0												
5	1.60	1.80					0.03	21	4.2	3.9	0.01	0.01	0.00	0.00	0.00	0.000	0	0.00	0.00	0.00	0.003	2	0.001	1												
6	2.10	2.20					0.03	19	4.2	5.5	0.01	0.02	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0												
7	2.30	2.50					0.03	19	4.2	5.5	0.01	0.01	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0												
8	2.50	2.70					0.03	17	4.2	3.8	0.00	0.01	0.00	0.00	0.00	0.000	0	0.00	0.00	0.00	0.000	0	0.000	0												
9	2.85	3.00					0.04	28	3.9	3.7	0.01	0.05	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0												
11	3.50	3.70																																		
1	0.20	0.30					0.05	32	4.3	5.6	0.01	0.01	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0												
4	1.30	1.50																																		
11	4.50	4.70					0.02	10	5.0	6.1	0.01	0.00	0.02	0.01	0.00	0.000	0	0.02	0.02	0.00	0.003	2	0.000	0												



Lab Sample			Lab Results																													
			Existing Acidity				SPOCAS												Neutralising Capacity													
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
4	0.70	0.80					0.04	26	4.8	4.2	0.04	0.06	0.04	0.04	0.00	0.002	1	0.04	0.05	0.00	0.004	2	0.006	3								
5	0.80	1.00					0.02	12	4.9	4.0	0.02	0.03	0.02	0.02	0.00	0.000	0	0.02	0.03	0.00	0.004	2	0.000	0								
6	1.20	1.40					0.02	12	4.9	4.1	0.02	0.03	0.02	0.02	0.00	0.000	0	0.02	0.03	0.00	0.003	2	0.000	0								
7	1.40	1.60					0.07	44	4.4	3.9	0.04	0.10	0.03	0.04	0.00	0.002	1	0.06	0.07	0.00	0.004	2	0.006	4								
8	1.80	2.00					0.24	147	3.8	1.9	0.34	1.70	0.07	0.08	0.01	0.008	5	0.12	0.12	0.00	0.005	3	0.013	8								
9	2.30	2.50					0.19	116	4.0	1.8	0.44	2.14	0.13	0.16	0.02	0.018	11	0.21	0.23	0.03	0.033	21	0.051	32								
1	0.00	0.10	0.00	1			0.11	68	4.0	3.1	0.01	0.03	0.02	0.04	0.02	0.018	11	0.01	0.02	0.01	0.007	4	0.024	15								
3	0.50	0.60	0.00	0			0.04	28	4.1	4.1	0.01	0.01	0.02	0.04	0.02	0.013	8	0.02	0.03	0.00	0.005	3	0.018	11								
5	1.30	1.50																														
6	1.60	1.80																														
7	2.30	2.50																														
9	3.30	3.50																														
1	0.00	0.10																														
2	0.10	0.20																														
3	0.50	0.60	0.00	2			0.02	14	4.3	4.1	0.06	0.09	0.02	0.04	0.02	0.017	10	0.10	0.12	0.02	0.021	13	0.038	24								
4	0.80	1.00																														
5	1.30	1.50																														
6	1.80	2.00																														
2	0.20	0.30					0.08	49	4.3	4.0	0.02	0.05	0.05	0.06	0.01	0.008	5	0.03	0.03	0.00	0.000	0	0.007	4								
3	0.40	0.50					0.10	63	4.3	3.8	0.07	0.01	0.04	0.04	0.00	0.002	1	0.05	0.05	0.00	0.003	2	0.005	3								
4	0.60	0.70					0.07	45	4.4	3.8	0.05	0.07	0.02	0.02	0.00	0.001	0	0.04	0.04	0.00	0.004	2	0.005	3								
5	0.80	1.00					0.07	46	4.4	3.8	0.04	0.07	0.02	0.02	0.00	0.000	0	0.03	0.03	0.00	0.001	1	0.001	0								
6	1.20	1.40					0.09	59	4.3	3.8	0.04	0.07	0.02	0.02	0.00	0.000	0	0.05	0.05	0.00	0.001	1	0.001	0								
7	1.80	2.00					0.50	310	3.4	1.7	0.47	3.15	0.05	0.07	0.02	0.014	9	0.11	0.14	0.03	0.041	26	0.055	34								
8	2.30	2.50					0.27	171	3.7	1.6	0.45	3.95	0.12	0.15	0.03	0.020	12	0.24	0.28	0.04	0.046	29	0.066	41								





Lab Sample			Lab Results																												
			Existing Acidity								SPOCAS												Neutralising Capacity								
No	Upp	Low	S-SRAS	a-SRAS	S-SNAS	a-SNAS	S-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	S-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	S-Mg <sub>A</sub>	a-Mg <sub>A</sub>	S-Ca <sub>A</sub> +S-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	S-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	S-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca			%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
6	1.80	2.00																													
10	3.80	4.00																													
11	4.20	4.40																													
12	4.80	5.00																													
2	4.80	5.00																													
4	5.80	6.00																													



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10					0.02	12	4.9	4.9	0.02	0.06	0.07	0.07	0.00	0.000	0	0.05	0.04	0.00	0.000	0	0.000	0								
2	0.20	0.30																														
3	0.50	0.60																														
4	0.80	1.00																														
5	1.30	1.50																														
6	1.90	2.10																														
7	2.30	2.40																														
8	2.80	3.00																														
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60																														
4	0.80	1.00																														
5	1.30	1.50																														
8	2.80	3.00																														
1	0.00	0.10					0.13	80	4.1	3.9	0.02	0.08	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0								
3	0.50	0.60					0.13	83	4.2	3.0	0.02	0.12	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
4	0.80	1.00					0.28	173	4.4	4.1	0.09	0.30	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.004	2	0.000	0								
5	1.30	1.50	0.01	9			0.29	181	3.8	1.7	0.07	0.91	0.02	0.04	0.02	0.018	11	0.04	0.04	0.00	0.001	1	0.019	12								
6	1.80	2.00					0.17	107	3.8	2.4	0.16	0.80	0.03	0.02	0.00	0.000	0	0.04	0.03	0.00	0.000	0	0.000	0								
7	2.30	2.50																														
8	2.80	3.00																														
9	3.40	3.60					0.01	4	5.8	2.1	0.05	1.19	0.10	0.10	0.00	0.001	0	0.16	0.17	0.01	0.016	10	0.017	10								
3	0.50	0.60					0.03	20	4.6	4.8	0.02	0.03	0.01	0.01	0.00	0.000	0	0.03	0.03	0.00	0.001	1	0.001	0								
4	0.80	1.00	0.00	2			0.03	21	4.2	3.8	0.02	0.04	0.02	0.02	0.00	0.003	2	0.02	0.03	0.01	0.012	7	0.015	9								
5	1.30	1.50	0.00	2			0.02	14	4.4	4.5	0.01	0.03	0.02	0.02	0.00	0.003	2	0.02	0.02	0.00	0.005	3	0.008	5								
6	1.80	2.00					0.06	39	4.4	3.4	0.02	0.15	0.02	0.02	0.00	0.001	0	0.04	0.05	0.01	0.007	4	0.007	5								
7	2.30	2.50					0.07	42	4.4	2.5	0.05	0.67	0.02	0.02	0.00	0.002	1	0.04	0.04	0.01	0.008	5	0.010	6								
9	3.30	3.50																														
10	3.80	4.00																														
11	4.30	4.50																														



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS														Neutralising Capacity									
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
2	0.20	0.30	0.00	2			0.06	36	4.4	3.3	0.02	0.07	0.03	0.05	0.02	0.018	11	0.03	0.04	0.01	0.007	4	0.024	15								
3	0.50	0.60					0.13	82	3.9	3.6	0.09	0.13	0.02	0.02	0.00	0.000	0	0.04	0.04	0.00	0.000	0	0.000	0								
4	0.90	1.00					0.10	65	4.0	2.6	0.13	0.51	0.04	0.03	0.00	0.000	0	0.08	0.08	0.00	0.000	0	0.000	0								
5	1.30	1.50																														
6	1.80	2.00					0.02	10	6.4	6.4	0.04	0.07	0.04	0.05	0.01	0.008	5	0.10	0.12	0.02	0.030	19	0.038	24								
8	2.80	3.00					0.02	10	6.2	6.7	0.02	0.02	0.03	0.04	0.01	0.006	3	0.07	0.08	0.01	0.009	6	0.015	9					< 0.1	0.01	7	
1	0.00	0.10																														
3	0.50	0.60					0.02	10	5.1	4.2	0.01	0.01	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
5	1.30	1.50					0.01	6	5.3	4.2	0.01	0.01	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
6	1.80	2.00					0.01	6	5.2	4.4	0.01	0.00	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
7	2.60	2.80					0.01	4	5.5	4.2	0.01	0.01	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
8	3.30	3.50																														
9	3.80	4.00																														
10	4.30	4.50																														
11	4.50	4.70																														
1	0.00	0.10																														
3	0.50	0.60																														
5	1.20	1.40																														
1	0.00	0.10																														
2	0.50	0.60					0.03	17	4.6	5.8	0.01	0.00	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
4	1.30	1.50					0.00	3	5.5	4.1	0.01	0.00	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
5	1.80	2.00					0.00	1	6.1	4.3	0.01	0.00	0.02	0.00	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
7	2.60	2.70																														
8	3.00	3.20																														
9	3.50	3.70																														
10	4.30	4.50																														

Field Morphology Summary										Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results													
Site ID	Hor No	Horizon Name	Upp Low Depth		Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Level Select	pH KCl =>6.5 TPA =0	<=4.5 pH KCl <6.5		pH KCl =>6.5	<=5.5 pH KCl <6.5			S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	Potential Acidity					
			Depth	pH <sub>F</sub>						pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )	Depth 1st Action Level (pH <sub>F</sub> )	TPA >0								TPA >0	%S			a-S <sub>CR</sub>	a-S <sub>POS</sub>					TSA	TPA				
			(m)							(m)	23Af	23Bf	(pH <sub>F</sub> )	(pH <sub>F</sub> )	(m)	(m)	Action Level	TPA >0	s-TAA	s-TAA	s-TAA	s-TAA	22B	23Ee	s-23H	s-23G	a-22B	a-23Ee	23H	23G						
104	1	A1	0.00	0.10	10YR62	KSCL				0.10	4.5	3.0	a	1	0.00	0.10			0.021									0.005	0.000	0.003			3	0	2	
	2	B2	0.10	0.60	10YR63	SLMC				0.30	4.7	3.0	a	2	0.20	0.30			0.032									0.014	0.000	0.003			9	0	2	
	3	2D	0.60	1.10	10YR62	KSLC				0.60	4.8	3.3	a																							
	4	3D	1.10	1.50	10YR41	LKS				0.80	4.9	3.2	a	4	0.80	1.00												0.022					14			
	5	4B2	1.50	2.40	2.5Y61	LMC				1.00	5.4	3.3															0.614					383				
105	1	A1	0.00	0.30	10YR53	CLFS				0.10	4.2	1.7	a	1	0.00	0.10															5					
	2	B21	0.30	0.50	10YR66	LMC				0.30	4.5	2.3	a	2	0.20	0.30			0.074									0.011	0.000	0.010			7	0	6	
	3	B22	0.50	1.20	10YR61	KSLMC				0.60	4.4	2.7	a	3	0.50	0.60												0.014	0.069			4	0	9	43	
	4	2D	1.20	1.70	10YR62	KS				0.80	4.5	2.6	a	4	0.80	1.00			0.042									0.005	0.000	0.018			3	0	11	
	5	3D	1.70	4.00	10YR51	KS				1.00	4.6	2.6	a	5	1.30	1.50											< 0.02					8				
	6	4B2	4.00	4.80	10YR71	LMC				1.25	4.6	2.6	a																							
	7									1.50	5.0	2.6	a	6	1.80	2.00	S2	Ps																		
	8									1.75	5.1	2.3		7	2.30	2.50		Ps										0.165					103			
	9									2.00	5.3	1.3		9	3.30	3.50		Ps										0.288					180			
	10									2.25	5.5	1.4		11	4.30	4.50		Ps										0.276					172			
	11									2.50	5.8	1.5																								
106	1	A1	0.00	0.20	10YR53	FSCL				0.10	4.3	2.6	a	1	0.00	0.10															4					
	2	B2	0.20	0.70	10YR64	CLFS				0.30	4.5	2.5	a																							
	3	2D	0.70	1.20	10YR73	FSCL				0.60	5.2	3.0	a																							
	4	3D	1.20	2.40	10YR51	SCL				0.80	5.0	3.0		4	0.80	1.00																				
	5	4D	2.40	3.60	10YR71	KS				1.00	5.3	3.6																								
	6	5D	3.60	4.00	10YR62	KS				1.25	5.4	3.6		5	1.30	1.50	S2	PI																		
	7	6B	4.00	4.80	N70	LMC				1.50	6.2	2.0		6	1.80	2.00		PI																		
107	1	A1	0.00	0.30	10YR32	KSCL				1.75	6.5	1.5		7	2.40	2.60		Ps																		
	2	A2	0.30	0.80	10YR62	CKS				2.00	6.7	1.6		8	2.80	3.00		Ps																		
	3	B21	0.80	2.30	10YR56	LMC				2.25	6.7	1.5		9	3.30	3.50		Ps																		
	4	B22	2.30	3.50	2.5Y60	LMC				3.00	6.0	1.5		10	3.80	4.00			0.103		0.012								< 0.02	0.097	0.125	0.131	4	60	78	82
6									3.75	6.2	3.1		11	4.30	4.50			0.014		0.022								< 0.02	0.006	0.079	0.087	9	4	49	54	

Lab Sample			Lab Results																															
			Existing Acidity						SPOCAS												Neutralising Capacity													
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>				
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q				
1	0.00	0.10	0.00	0			0.02	10	5.0	4.9	0.01	0.02	0.02	0.03	0.01	0.004	2	0.01	0.02	0.00	0.005	3	0.009	6										
2	0.20	0.30	0.00	0			0.02	11	4.9	5.3	0.01	0.02	0.02	0.03	0.01	0.006	3	0.02	0.03	0.00	0.005	3	0.011	7										
4	0.80	1.00																																
5	1.30	1.50																																
6	1.80	2.00																																
1	0.00	0.10																																
2	0.20	0.30	0.00	2			0.06	39	4.5	4.2	0.01	0.02	0.02	0.03	0.01	0.008	5	0.01	0.01	0.00	0.000	0	0.007	4										
3	0.50	0.60					0.05	34	4.4	4.4	0.02	0.02	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.001	1	0.000	0										
4	0.80	1.00					0.04	23	4.5	5.6	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.005	3	0.000	0										
5	1.30	1.50																																
6	1.80	2.00																																
7	2.30	2.50																																
9	3.30	3.50																																
11	4.30	4.50																																
1	0.00	0.10																																
4	0.80	1.00																																
5	1.30	1.50																																
6	1.80	2.00																																
7	2.40	2.60																																
8	2.80	3.00																																
9	3.30	3.50																																
10	3.80	4.00					0.01	4	5.7	3.8	0.02	0.12	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.003	2	0.000	0										
11	4.30	4.50					0.01	5	5.8	4.1	0.02	0.02	0.02	0.02	0.00	0.000	0	0.05	0.05	0.00	0.001	1	0.001	0										
2	0.50	0.60																																
4	3.30	3.50																																





Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
4	0.80	1.00																														
5	1.30	1.50					0.04	25	4.5	5.1	0.04	0.05	0.03	0.03	0.00	0.002	1	0.06	0.07	0.01	0.008	5	0.010	6								
9	3.30	3.50					0.02	10	6.5	7.0	0.03	0.04	0.12	0.13	0.01	0.011	7	0.14	0.15	0.01	0.018	12	0.030	19				0.262	0.08	52		
10	3.80	4.00					0.02	10	6.8	7.3	0.02	0.02	0.10	0.10	0.00	0.000	0	0.09	0.11	0.01	0.015	9	0.014	9				0.235	0.08	47		
11	4.30	4.50					0.02	10	6.5	6.5	0.01	0.01	0.03	0.04	0.01	0.005	3	0.03	0.04	0.01	0.008	5	0.013	8				< 0.1	0.02	10		
3	0.50	0.60					0.08	48	4.6	4.3	0.01	0.02	0.02	0.00	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0								
4	0.80	1.00					0.02	12	5.0	4.1	0.01	0.01	0.02	0.00	0.00	0.000	0	0.01	0.01	0.00	0.001	1	0.000	0								
5	1.30	1.50																														
6	1.80	2.00																														
7	2.30	2.50																														
8	2.80	3.00																														
10	3.80	4.00																														
12	4.80	5.00																														
13	5.30	5.50																														
15	6.30	6.50					0.20	125	3.5	2.1	0.26	1.57	0.04	0.04	0.00	0.002	1	0.07	0.08	0.01	0.018	12	0.021	13								
18	7.90	8.00																														
19	8.30	8.40																														
1	0.00	0.10																														
3	0.50	0.60																														
4	0.80	1.00																														
5	1.30	1.50																														
8	2.80	3.00																														



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
1	0.00	0.10					0.02	10	5.3	3.8	0.01	0.02	0.05	0.05	0.00	0.002	1	0.02	0.03	0.00	0.004	2	0.006	4											
4	0.80	1.00																																	
10	3.80	4.00																																	
1	0.00	0.10																																	
2	0.20	0.30																																	
3	0.50	0.60																																	
4	0.80	1.00					0.16	100	4.0	2.1	0.26	1.63	0.05	0.06	0.01	0.007	4	0.10	0.11	0.01	0.011	7	0.018	11											
5	1.30	1.50																																	
6	1.80	2.00																																	
7	2.30	2.50																																	
8	2.80	3.00																																	
9	3.40	3.60					0.00	1	6.4	4.8	0.01	0.01	0.02	0.02	0.00	0.000	0	0.03	0.03	0.00	0.001	1	0.001	1											
1	0.00	0.10																																	
3	0.50	0.60					0.03	20	4.6	4.4	0.01	0.03	0.02	0.03	0.01	0.005	3	0.01	0.01	0.00	0.001	1	0.006	4											
4	0.80	1.00					0.02	10	4.7	5.5	0.01	0.01	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0											
5	1.30	1.50					0.01	4	5.6	4.1	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.001	1	0.000	0											
6	1.80	2.00																																	
7	2.30	2.50																																	
8	2.80	3.00																																	
9	3.30	3.50					0.02	10	6.1	6.1	0.01	0.05	0.05	0.05	0.00	0.002	1	0.09	0.11	0.02	0.030	19	0.033	20											
11	4.30	4.50					0.01	4	6.0	5.0	0.01	0.02	0.07	0.07	0.00	0.001	0	0.14	0.14	0.00	0.007	4	0.007	5											
1	0.00	0.10																																	
3	0.50	0.60					0.03	20	4.7	4.7	0.03	0.06	0.02	0.03	0.01	0.006	3	0.04	0.05	0.01	0.011	7	0.016	10											
4	0.80	1.00																																	
5	1.30	1.50																																	
6	1.80	2.00					0.01	5	5.9	3.6	0.05	0.31	0.04	0.10	0.05	0.043	27	0.07	0.12	0.04	0.057	35	0.100	62											
7	2.30	2.50					0.01	4	6.0	3.5	0.04	0.26	0.05	0.07	0.02	0.012	7	0.09	0.10	0.01	0.012	7	0.024	15											
8	2.80	3.00					0.02	10	6.2	7.3	0.01	0.01	0.05	0.06	0.01	0.006	3	0.09	0.10	0.01	0.017	11	0.023	14											



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
1	0.00	0.10																																	
3	0.50	0.60					0.05	29	4.2	4.6	0.02	0.04	0.02	0.02	0.00	0.000	0	0.03	0.04	0.01	0.009	6	0.006	4											
4	0.90	1.10					0.06	37	4.3	3.7	0.07	0.09	0.02	0.01	0.00	0.000	0	0.02	0.02	0.00	0.005	3	0.000	0											
5	1.30	1.50					0.04	22	4.6	3.9	0.03	0.04	0.02	0.02	0.00	0.000	0	0.04	0.05	0.01	0.007	4	0.003	2											
6	1.80	2.00					0.03	20	4.5	4.2	0.03	0.03	0.02	0.02	0.00	0.000	0	0.07	0.07	0.00	0.000	0	0.000	0											
2	0.20	0.30	0.00	2			0.06	40	4.1	4.0	0.04	0.05	0.03	0.05	0.02	0.014	8	0.03	0.03	0.00	0.001	1	0.015	9											
3	0.50	0.60																																	
4	0.80	1.00																																	
5	1.30	1.50																																	
6	1.80	2.00																																	
8	2.80	3.00																																	
9	3.30	3.50																																	
11	4.20	4.40																																	
1	0.00	0.10																																	
3	0.50	0.60																																	
4	0.80	1.00																																	
5	1.30	1.50					0.03	21	5.1	2.6	0.06	0.65	0.04	0.06	0.01	0.009	5	0.09	0.09	0.01	0.008	5	0.017	10											
6	1.80	2.00																																	
7	2.30	2.50																																	
8	2.80	3.00																																	



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
3	0.50	0.60					0.10	62	4.1	4.4	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
4	0.80	1.00					0.08	52	4.0	3.7	0.02	0.03	0.02	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0								
5	1.30	1.50																														
6	1.80	2.00																														
7	2.30	2.50																														
8	2.80	2.90																														
9	3.30	3.50																														
10	3.80	4.00																														
4	0.80	1.00																														
5	1.30	1.50																														
6	1.80	2.00																														
7	2.30	2.50																														
8	2.80	3.00																														
9	3.30	3.50																														
3	0.50	0.60																														
6	1.80	2.00																														
7	2.30	2.50																														
9	3.30	3.50																														
10	3.80	4.00																														
12	4.80	5.00																														
14	5.80	6.00																														





Lab Sample			Lab Results																															
			Existing Acidity						SPOCAS												Neutralising Capacity													
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>				
(m)			%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q				
1	0.00	0.10																																
3	0.50	0.60					0.06	39	4.1	4.1	0.02	0.04	0.04	0.05	0.01	0.005	3	0.08	0.09	0.01	0.013	8	0.018	11										
5	1.20	1.40																																
6	1.80	2.00					0.30	184	3.4	1.7	0.24	1.68	0.04	0.05	0.01	0.006	4	0.08	0.10	0.02	0.021	13	0.028	17										
7	2.40	2.60					0.09	54	4.4	2.3	0.11	0.88	0.05	0.05	0.00	0.002	1	0.07	0.07	0.00	0.000	0	0.002	1										
8	2.80	3.00																																
9	3.40	3.60																																
11	4.30	4.50					0.00	3	6.1	5.0	0.01	0.03	0.02	0.02	0.00	0.001	0	0.02	0.02	0.00	0.004	2	0.005	3										
1	0.00	0.10																																
3	0.50	0.60					0.05	31	4.4	4.3	0.01	0.02	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0										
5	1.30	1.50																																
6	1.80	2.00																																
7	2.30	2.50																																
8	2.80	3.00																																
10	3.80	4.00																																
12	4.80	5.00																																
14	5.80	5.90																																
16	6.80	7.00																																
18	7.90	8.10					0.06	35	4.5	2.2	0.12	0.77	0.05	0.05	0.00	0.003	2	0.05	0.06	0.01	0.009	6	0.012	8										
19	8.20	8.50					0.02	13	5.0	2.6	0.06	0.38	0.02	0.02	0.00	0.002	1	0.02	0.03	0.00	0.003	2	0.004	3										



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
4	0.80	1.00																														
5	1.30	1.50																														
6	1.80	2.00																														
7	2.40	2.50																														
10	3.80	4.00																														
11	4.20	4.40																														
1	0.00	0.10																														
3	0.50	0.60																														
4	0.80	1.00					0.02	10	4.6	4.6	0.01	0.01	0.02	0.01	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0								
5	1.30	1.50																														
6	1.80	2.00																														
7	2.30	2.50																														
8	2.80	3.00					0.00	0	8.2	7.7	0.07	1.62	0.52	1.63	1.11	0.889	554	0.18	0.35	0.17	0.226	141	1.114	695				< 0.1	0.02	10		
9	3.30	3.50					0.00	0	8.3	8.0	0.06	1.33	0.47	2.21	1.73	1.386	865	0.19	0.39	0.20	0.262	164	1.649	1028				2.032	0.65	406		
10	3.80	4.00					0.00	0	8.4	7.6	0.08	1.39	0.46	2.55	2.09	1.674	1044	0.18	0.38	0.20	0.266	166	1.941	1211				2.767	0.89	553		
11	4.30	4.50																														
12	4.80	5.00																														
1	0.00	0.20																														
2	0.30	0.40																														
3	0.50	0.60																														
4	0.90	1.10																														
5	1.30	1.50																														
1	0.00	0.30																														
2	0.40	0.60																														
3	0.80	1.00																														
4	1.10	1.50																														



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
2	0.20	0.30																														
4	0.80	1.00																														
5	1.30	1.60																														
6	1.80	2.00																														
8	2.80	3.00																														
2	0.50	0.60																														
4	1.30	1.50																														
6	2.20	2.40																														
7	3.00	3.20																														
8	3.40	3.60																														
1	0.00	0.10																														
3	0.50	0.60																														
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60																														
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60																														
4	0.80	1.00																														
5	1.30	1.50																														



Lab Sample			Lab Results																												
No	Upp	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity										
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S	%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t			
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
2	0.30	0.50																													
4	1.30	1.50																													
5	2.00	2.50																													
6	3.30	3.50																													
1	0.00	0.10																													
2	0.20	0.30																													
3	0.50	0.60																													
4	0.80	1.00																													
5	1.30	1.50																													
7	2.30	2.50																													
2	0.20	0.30																													
4	0.80	1.00																													
5	1.30	1.50																													
6	1.80	2.20																													
7	2.30	2.50																													
9	3.30	3.50																													

Field Morphology Summary															Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results											
Site ID	Hor No	Horizon Name	Upp Depth (m)	Low Depth (m)	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH					No	Upp Depth (m)	Low Depth (m)	Depth 1st Action Level	Action Level Select %S	pH KCl =>6.5				pH KCl =>6.5				Potential Acidity											
										Depth (m)	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )	Depth 1st Action Level (pH <sub>F</sub> )						pH KCl =>6.5		pH KCl =>6.5		S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA								
																				TPA =0	TPA >0	TPA >0	TPA >0									%S	%S	%S	%S	mol H+/t			
138	1	M	0.00	0.40	7.5YR56	LC				0.10	5.5	6.5																											
	2	B21	0.40	0.65	10YR42	CLS				0.30	5.3	4.1																											
	3	B22	0.65	1.20	5Y71	CLS				0.60	5.4	4.0		2	0.50	0.60																							
	4	C1	1.20	1.60	10YR32	SLC				0.80	5.4	3.8		3	0.80	1.00																							
	5	C2	1.60	2.00	5Y31	SLC				1.00	5.5	4.5		4	1.20	1.40																							
	6	2C3	2.00	3.60	10YR42	LS				1.25	6.0	4.6		5	1.70	1.90	S2	Pc																					
	7	2C4	3.60	4.30	2.5Y52	LS				1.50	6.2	1.9		6	2.80	3.00																							
	8	2C5	4.30	5.15	5Y42	LS				1.75	6.1	1.4		8	3.80	4.00																							
	9	3C6	5.15	5.50	2.5Y31	LC				2.00	6.1	2.3		10	5.20	5.40																							
	10	4D1	5.50	6.00	10Y61	HC				2.25	6.0	1.4																											
139	1	Ap	0.00	0.45	2.5Y42	SLC				0.10	5.5	4.3																											
	2	B2	0.45	0.70	5Y51	CLS				0.30	5.7	4.7		1	0.20	0.30																							
	3	C1	0.70	0.95	10YR42	SLC				0.60	4.8	4.4	a	2	0.50	0.60																							
	4	C2	0.95	1.20	5Y31	SLC				0.80	5.1	3.8		3	0.80	0.90	S1	Pc																					
	5	C3	1.20	1.80	10Y51	LS				1.00	5.1	1.1		4	1.00	1.20																							
	6	C4	1.80	3.00	10Y51	S				1.25	5.2	1.2		5	1.30	1.50																							
	7	2D1	3.00	3.60	10GY61	HC				1.50	5.2	1.1		6	2.00	2.20																							
140	1	A1	0.00	0.08	10YR52	CL				1.75	5.4	1.0		7	2.80	3.00																							
	2	B2	0.08	0.20	10Y61	MC				2.00	5.3	1.2																											
	3	2B21	0.20	0.65	10YR56	MC				2.25	5.2	1.4		6	2.00	2.20																							
	4	2B22	0.65	1.30	10Y61	HC				2.50	5.4	1.1																											
	5	2B23	1.30	2.50	10GY61	HC				2.75	5.4	1.3																											
	6	2B24	2.50	3.30	N70	HC				3.00	5.4	1.2																											



Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
2	0.50	0.60																															
3	0.80	1.00																															
4	1.20	1.40																															
5	1.70	1.90																															
6	2.80	3.00																															
8	3.80	4.00																															
10	5.20	5.40																															
1	0.20	0.30																															
2	0.50	0.60																															
3	0.80	0.90																															
4	1.00	1.20																															
5	1.30	1.50																															
6	2.00	2.20																															
7	2.80	3.00																															
1	0.00	0.05																															
3	0.50	0.60																															
6	1.80	2.00																															



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
(m)			%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.30																														
2	0.70	0.80																														
3	1.00	1.20																														
4	1.30	1.40																														
5	1.70	1.90																														
2	0.30	0.40																														
3	1.70	1.90																														
1	0.00	0.20																														
2	0.40	0.60																														
3	0.90	1.10																														
4	1.30	1.50																														
5	1.50	1.70																														
1	0.00	0.20																														
2	0.40	0.60																														
3	0.80	1.00																														
4	1.30	1.50																														
5	1.70	1.90																														
1	0.00	0.20																														
2	0.50	0.60																														
4	1.30	1.50																														
6	2.00	2.20																														



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
1	0.00	0.10																																	
2	0.20	0.30																																	
3	0.50	0.60																																	
4	0.80	1.00																																	
2	0.20	0.40																																	
3	0.50	0.60																																	
3	0.60	0.70																																	
4	0.80	1.00																																	
5	1.20	1.40																																	
6	1.60	1.80																																	
7	2.00	2.20																																	
2	0.20	0.30																																	
3	0.50	0.60																																	
4	0.80	1.00																																	
5	1.20	1.40																																	
6	1.80	2.00																																	
7	2.70	2.90																																	
1	0.00	0.10																																	
2	0.20	0.30																																	
3	0.50	0.60																																	
4	0.60	0.70																																	
5	0.90	1.00																																	
6	1.20	1.30																																	
7	1.60	1.70																																	



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.10																														
2	0.60	0.70																														
3	1.40	1.50																														
4	1.80	2.00																														
5	2.80	3.00																														
6	3.30	3.50																														
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60																														
4	0.80	1.00																														
5	1.30	1.50																														
2	0.40	0.50																														
4	1.10	1.30																														
6	2.20	2.40																														
1	0.00	0.10																														
2	0.20	0.30																														
3	0.50	0.60																														





Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
1	0.00	0.20																															
2	0.30	0.40																															
3	0.60	0.80																															
4	1.00	1.20																															
1	0.20	0.50																															
2	0.60	0.90																															
1	0.00	0.03																															
2	0.10	0.30																															
4	0.80	1.00																															
5	1.20	1.40																															
1	0.00	0.10																															
2	0.20	0.40																															
3	0.50	0.60																															
4	0.80	1.00																															
5	1.20	1.40																															
1	0.00	0.10																															
2	0.20	0.40																															
3	0.50	0.60																															
4	0.80	1.00																															
5	1.30	1.50																															
2	0.50	0.60																															
4	1.30	1.40																															
8	4.80	5.00																															



Lab Sample			Lab Results																												
			Existing Acidity						SPOCAS												Neutralising Capacity										
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca			%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
2	0.30	0.40																													
4	0.80	1.00																													
5	1.20	1.40																													
6	1.60	1.80																													
7	2.00	2.20																													
8	2.60	2.80																													
2	0.30	0.40																													
4	0.80	1.00					0.12	74	4.1	4.3	0.01	0.04	0.01	0.01	0.00	0.003	2	0.01	0.01	0.00	0.000	0	0.003	2							
5	1.20	1.30																													
6	1.50	1.60																													
7	1.75	1.85																													
8	2.00	2.20																													
13	4.20	4.30																													
1	0.00	0.10																													
4	0.80	1.00																													
5	1.20	1.40					0.04	27	4.4	5.2	0.00	0.00	0.02	0.02	0.00	0.000	0	0.01	0.00	0.00	0.000	0	0.000	0							
6	1.60	1.80																													



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
2	0.50	0.60																																	
4	1.30	1.50																																	
6	2.30	2.50																																	
8	3.20	3.30																																	
10	3.80	4.00					0.02	12	4.5	6.9	0.00	0.01	0.00	0.02	0.02	0.015	9	0.01	0.01	0.00	0.001	1	0.017	10					0.175	0.06	35				
13	5.30	5.50																																	
15	6.30	6.50																																	
3	0.80	1.00																																	
5	1.80	2.00																																	
7	2.80	3.00																																	
9	3.80	4.00																																	
10	4.40	4.60																																	
11	4.80	5.00																																	
12	5.20	5.40																																	
1	0.00	0.20																																	
2	0.20	0.35																																	
3	0.50	0.60																																	
5	1.30	1.50																																	



Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
1	0.00	0.10																															
3	0.30	0.40																															
4	0.70	0.80					0.02	14	4.7	5.1	0.09	0.11	0.06	0.05	0.00	0.000	0	0.14	0.13	0.00	0.000	0	0.000	0									
5	1.00	1.20																															
7	1.80	2.00																															
3	0.50	0.60																															
5	1.30	1.50																															
8	3.00	3.10																															
9	3.30	3.50																															
10	3.80	4.00																															
13	5.30	5.50																															
15	6.50	6.70																															
1	0.00	0.10																															
2	0.10	0.20																															
3	0.40	0.50																															
4	0.80	1.00																															
5	1.50	1.70																															
7	2.50	2.70																															
8	3.10	3.30																															
9	3.40	3.60																															





Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
2	0.20	0.30																														
5	1.30	1.50																														
6	1.80	2.00																														
8	2.80	3.00																														
2	0.30	0.40																														
3	0.50	0.60																														
6	1.80	2.00																														
1	0.00	0.20																														
2	0.30	0.50																														
3	0.60	0.90																														
4	1.00	1.20																														
5	1.30	1.50																														
7	2.20	2.40																														
2	0.30	0.50																														
4	1.80	2.00																														
6	3.00	3.20																														
8	4.20	4.40																														
9	4.60	4.80																														
10	5.10	5.30					0.00	0	8.9	7.0	0.04	0.20	0.19	0.46	0.27	0.216	135	0.05	0.09	0.04	0.047	30	0.263	164	2.4	0.77	480	1.008	0.32	201		
11	5.60	5.80																														



Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
1	0.00	0.20																															
2	0.50	0.60																															
3	0.80	1.00																															
2	0.20	0.40																															
3	0.80	1.00																															
5	1.80	2.00																															
6	2.80	3.00																															
7	3.60	3.80																															
8	4.00	4.20																															
10	4.80	5.00					0.00	0	8.7	7.1	0.02	0.32	0.22	0.72	0.50	0.400	249	0.02	0.07	0.05	0.059	37	0.459	286	2.8	0.90	559	1.198	0.38	239			
11	5.30	5.50					0.00	0	8.5	7.0	0.03	0.50	0.36	1.79	1.43	1.144	714	0.06	0.15	0.09	0.121	76	1.265	789	6	1.92	1199	4.022	1.29	804			
2	0.20	0.30																															
3	0.60	0.80																															
4	1.00	1.20																															
5	1.20	1.30																															
6	1.40	1.60																															
8	2.30	2.50																															



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
2	0.30	0.50																																	
3	0.60	0.80																																	
4	0.90	1.10																																	
5	1.20	1.40					0.14	87	3.8	4.3	0.04	0.05	0.01	0.01	0.00	0.000	0	0.00	0.00	0.00	0.004	2	0.001	0											
8	2.30	2.50																																	
9	2.60	2.80																																	
10	3.30	3.50																																	
15	6.40	6.60																																	
1	0.00	0.10																																	
2	0.20	0.30																																	
3	0.50	0.60																																	
4	0.80	1.00																																	
5	1.30	1.50																																	
6	1.70	1.80																																	
2	0.20	0.30																																	
3	0.50	0.60																																	
4	0.90	1.00																																	
5	1.30	1.50																																	
7	2.00	2.15																																	
8	2.30	2.50																																	
10	3.30	3.50																																	



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	%Ca 23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
2	0.20	0.30																														
3	0.50	0.60																														
5	1.30	1.50																														
6	1.80	2.00																														
8	2.80	3.00																														
10	3.80	4.00																														
12	4.80	5.00																														
14	5.90	6.00																														
1	0.00	0.15																														
2	0.20	0.40																														
3	0.50	0.70																														
4	0.80	1.00																														
6	1.20	1.40																														
3	0.60	0.80																														
5	1.10	1.30																														
7	1.80	2.00																														
8	2.10	2.20																														
9	2.20	2.40					0.00	0	8.6	7.5	0.01	0.03	0.35	0.48	0.13	0.105	65	0.02	0.02	0.00	0.003	2	0.107	67				1.227	0.39	245		
10	2.50	2.70																														
11	3.00	3.20																														
13	4.00	4.20																														
14	4.40	4.60																														





Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>Ox</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
5	1.10	1.20																														
6	1.50	1.70					0.00	0	8.3	7.2	0.37	0.81	0.81	3.25	2.44	1.954	1218	0.07	0.15	0.08	0.106	66	2.059	1284				7.096	2.27	1418		
7	1.90	2.10					0.00	0	8.3	7.5	0.19	1.16	0.61	4.18	3.57	2.858	1783	0.09	0.20	0.11	0.146	91	3.005	1874				8.518	2.73	1702		
9	2.80	3.00																														
2	0.20	0.30																														
4	0.70	0.90																														
5	1.10	1.20					0.00	0	8.7	7.7	0.05	0.07	0.23	0.38	0.15	0.119	74	0.06	0.08	0.02	0.025	16	0.144	90	1.7	0.54	340	0.927	0.30	185		
6	1.30	1.40					0.00	0	8.9	7.5	0.05	0.08	0.38	1.23	0.85	0.681	425	0.05	0.08	0.03	0.038	24	0.719	448	5.5	1.76	1099	3.732	1.20	746		
7	1.60	1.80					0.00	0	8.7	8.0	0.16	0.96	0.52	3.78	3.26	2.608	1627	0.09	0.22	0.13	0.174	109	2.782	1735				7.642	2.45	1527		
8	2.20	2.40					0.00	0	8.5	7.8	0.21	1.23	0.54	3.90	3.36	2.690	1678	0.10	0.26	0.16	0.206	128	2.895	1806	11.7	3.75	2338	7.916	2.54	1582		
2	0.20	0.30																														
4	0.80	1.00					0.04	27	4.2	5.9	0.01	0.01	0.02	0.02	0.00	0.000	0	0.02	0.02	0.00	0.000	0	0.000	0								
5	1.30	1.50																														
7	2.50	2.70																														
2	0.20	0.30					0.11	66	4.3	4.1	0.01	0.13	0.06	0.05	0.00	0.000	0	0.02	0.02	0.00	0.004	2	0.000	0								
3	0.50	0.60					0.08	48	4.2	4.7	0.01	0.06	0.07	0.07	0.00	0.000	0	0.04	0.04	0.00	0.001	1	0.000	0								
4	0.80	1.00																														
6	1.80	2.00																														
7	2.60	2.70																														
8	3.30	3.50																														



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
3	1.10	1.30																														
4	1.40	1.60																														
5	1.70	1.90																														
6	2.10	2.30					0.00	0	7.6	4.3	0.14	0.88	0.41	0.89	0.48	0.382	239	0.04	0.04	0.00	0.003	2	0.385	240								
7	2.40	2.60					0.00	0	7.9	3.1	0.10	2.36	0.62	2.00	1.38	1.106	690	0.13	0.24	0.11	0.145	90	1.251	781								
9	3.30	3.50					0.00	0	8.6	7.4	0.06	1.02	0.41	7.01	6.60	5.281	3294	0.09	0.21	0.12	0.161	100	5.442	3394				16.727	5.36	3342		
2	0.30	0.40																														
4	0.80	1.00					0.18	110	3.8	4.7	0.02	0.03	0.00	0.01	0.01	0.007	4	0.01	0.01	0.00	0.001	1	0.009	5								
5	1.30	1.40																														
6	1.50	1.60																														
7	1.70	1.80																														
8	1.90	2.10																														
10	2.50	2.70																														
12	3.20	3.40																														
3	0.70	0.80																														
4	0.90	1.00																														
6	1.80	2.00					0.00	1	5.9	6.2	0.00	0.00	0.00	0.00	0.00	0.002	1	0.00	0.00	0.00	0.001	1	0.004	2								
7	2.50	2.70																														
8	2.90	3.10					0.00	0	8.0	7.5	0.06	1.28	0.58	2.25	1.67	1.332	831	0.09	0.18	0.09	0.116	72	1.448	903				2.43	0.78	486		
11	4.00	4.20																														
14	5.20	5.40																														



Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
2	0.20	0.30					0.31	196	3.8	3.7	0.05	0.13	0.01	0.01	0.00	0.001	0	0.01	0.01	0.00	0.000	0	0.000	0									
3	0.50	0.60					0.33	208	3.5	3.9	0.07	0.09	0.01	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0									
4	0.80	1.00					0.28	172	3.7	3.1	0.03	0.12	0.01	0.01	0.00	0.000	0	0.01	0.01	0.00	0.000	0	0.000	0									
5	1.00	1.40																															
6	1.40	1.60																															
7	1.60	1.80					0.14	86	3.7	2.2	0.08	1.27	0.01	0.01	0.00	0.000	0	0.00	0.00	0.00	0.005	3	0.002	1									
8	2.00	2.20																															
2	0.20	0.30																															
3	0.50	0.60																															
4	0.80	1.00																															
6	1.80	2.00																															
8	2.80	3.00																															
12	4.80	5.00					0.00	0	6.5	6.3	0.05	0.12	0.06	0.06	0.00	0.000	0	0.13	0.14	0.01	0.007	4	0.003	2	< 0.5	0.10	60						
2	0.30	0.40																															
3	0.70	0.90																															
4	1.30	1.50																															
8	3.00	3.20					0.01	7	5.7	7.8	0.01	0.02	0.02	0.04	0.02	0.013	8	0.05	0.05	0.00	0.003	2	0.015	10	< 0.5	0.03	20	0.284	0.09	57			
2	0.20	0.30																															
4	0.80	1.00																															
5	1.30	1.50					0.00	1	6.4	6.5	0.04	0.07	0.03	0.03	0.00	0.002	1	0.07	0.07	0.00	0.000	0	0.001	1	< 0.5	0.06	40						
8	2.80	3.00					0.00	1	6.4	7.0	0.02	0.02	0.04	0.04	0.00	0.003	2	0.09	0.09	0.00	0.000	0	0.002	1	< 0.5	0.06	40	0.308	0.10	62			



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
2	0.50	0.60																														
3	0.80	1.00																														
4	1.40	1.60																														
6	2.30	2.50																														
9	3.80	4.00																														
12	5.30	5.50																														
14	5.90	6.00																														
2	0.20	0.30																														
3	0.70	0.80																														
6	1.60	1.80																														
7	2.00	2.20																														
9	3.00	3.20																														
10	3.20	3.40																														
11	3.70	3.90																														
13	4.30	4.50																														
2	0.10	0.30																														
4	0.50	0.70																														
7	1.50	1.70																														





Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
2	0.20	0.30																														
4	0.80	1.00																														
6	1.80	2.00																														
7	2.30	2.50																														
8	2.70	2.90																														
10	3.40	3.60																														
12	4.30	4.50																														
14	5.60	5.80																														
18	7.50	7.70																														
24	10.50	10.70																														
28	12.50	12.70																														
3	0.40	0.50																														
4	0.80	1.00																														
5	1.20	1.40																														
2	0.30	0.50																														
3	0.80	1.00																														
4	1.10	1.20																														

Field Morphology Summary													Lab Sample			Action Criteria		SPOCAS Acid Base Accounting			Chromium Suite Acid Base Accounting			Lab Results													
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	pH KCl =>6.5		pH KCl =<6.5	pH KCl =>6.5		<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5		S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA			
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )						Depth 1st Action Level (pH <sub>F</sub> )	TPA =0	TPA >0	TPA >0	pH KCl =>6.5	<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5	%S									%S	mol H+/t	
										(m)	(m)	23Af	23Bf						(m)	Action Level (pH <sub>F</sub> )	Depth 1st Action Level (pH <sub>F</sub> )	(m)	Action Level	Select %S	s-ANC <sub>E</sub>	s-Ca+s-Mg	s-TSA	s-TAA	s-C <sub>IN</sub>	s-ANC <sub>PT</sub>	s-TAA	s-TAA	22B	23Ee	s-23H	s-23G	a-22B
201	1	O2	0.00	0.35	10YR31	SCL				0.10	4.6	2.0																									
										0.30	4.3	1.8																									
	2	B1	0.35	0.70	10YR42	KSCL				0.60	4.4	3.0																									
							3	B2	0.70	1.00	10YR56	KSMC				0.80	4.4	3.2																			
	4	2C1	1.00	1.25	N50	LC				1.00	5.2	2.7																									
							4			1.25	5.2	1.9																									
5	3C2	1.25	1.60	2.5Y52	CS				1.50	6.3	2.7																										
6	4C3	1.60	1.70	N50	MC				1.70	6.6	4.9																										
202	1	P1	0.00	0.20	10YR21	CL				0.10	5.9	2.9																									
	2	A1	0.20	0.40	10YR31	CLKS				0.30	5.1	3.4																									
	3	C1	0.40	0.90	2.5Y51	LC				0.60	5.0	2.5																									
							3			0.80	4.9	2.1																									
4	C2	0.90	1.00	2.5Y51	LC				1.00	5.2	2.4																										

Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	%Ca 23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
1	0.20	0.30																																	
3	0.80	1.00																																	
4	1.10	1.20																																	
5	1.30	1.50																																	
6	1.60	1.70																																	
2	0.20	0.40																																	
3	0.60	0.80																																	
4	0.90	1.00																																	

Field Morphology Summary														Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting			Lab Results														
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Level	pH KCl =>6.5		<=>4.5 pH KCl <6.5		pH KCl =>6.5		<=>5.5 pH KCl <6.5		<=>4.5 pH KCl <5.5		S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA			
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )							Depth 1st Action Level (pH <sub>F</sub> )	TPA =0	TPA >0	TPA >0	TPA >0	%S	%S	22B	23Ee	s-23H									s-23G	a-22B	a-23Ee
203	1	A1c	0.00	0.50	10YR43	CL				0.10	5.7	3.3																												
	2	B2	0.50	2.20	10YR54	FSCL				0.30	5.4	4.3																												
										0.60	6.2	4.5																												
										0.80	6.5	4.3	3	0.80	1.00																									
										1.00	6.1	4.6																												
										1.25	6.1	4.1																												
										1.50	5.8	4.5																												
										1.75	5.8	4.5																												
										2.00	5.9	4.2	5	1.80	2.00																									
	3	B3	2.20	2.60	10YR54	CFS				2.25	5.8	3.9																												
										2.50	5.7	4.1																												
	4	C1	2.60	3.10	10YR54	S				2.75	6.1	3.0																												
										3.00	6.2	6.8	7	2.80	3.00																									
										3.25	6.3	5.5																												
										3.50	6.4	6.0																												
										3.75	6.4																													
	6	C3	3.90	4.45	10YR44	S				4.00	6.5																													
										4.25	6.6																													
										4.50	6.2																													
	7	C4	4.45	5.20	2.5Y54	LKS				6.00	6.6	4.9																												
										6.25	6.5	5.0	14	6.10	6.30																									
										6.50	6.1	4.1																												
										6.75	6.3	1.8																												
										7.00	6.4	3.3	16	6.90	7.10	S7	PI																							
										7.25	6.4	2.4																												
										7.50	6.5	1.8																												
										7.75	6.5	2.1																												
	10	2C7	7.90	8.50	N40	FSCL				8.00	6.7	1.9																												
										8.25	6.8	1.4																												
										8.50	6.8	1.4	18	8.00	8.20		PI																							
										8.75	6.8	1.5																												
										9.00	6.9	1.4																												
										9.25	6.8	1.6	20	9.10	9.30		PI																							
										9.50	6.9	1.2																												
										9.75	6.7	2.0																												
										10.00	6.9	1.5																												
										10.25	6.8	1.5																												
										10.75	6.9	1.5	23	10.70	10.90		PI																							
										11.00	6.8	1.4																												
										11.50	6.6	2.0																												
	14	4C11	11.30	11.70	5GY41	FSCL				11.75	6.8	1.6																												
										12.00	6.8	1.8	26	11.80	12.00		PI																							
										12.25	6.5	1.8																												
										12.50	6.7	1.5																												
										12.75	6.4	1.3																												
										13.00	6.4	1.3	28	12.80	13.00		PI																							
										13.25	6.1	1.5																												
										13.50	6.1	1.3																												
										13.75	5.8	1.3																												
										14.00	5.4	1.3																												
										14.25	5.3	1.6																												
										14.50	5.0	1.5																												
										14.75	4.9	1.4																												
										15.00	4.9	1.3	32	14.80	15.00		Ps																							
										15.25	5.2	0.9																												
										15.50	5.4	1.3																												
										15.75	5.4	6.0																												
	18	6C15	15.50	16.30	10YR56	CKS				16.00	5.9	6.1																												
										16.25	6.4	1.8																												
										16.50	5.8	1.9	35	16.30	16.50																									
										16.75	5.7	1.9																												
	19	6C16	16.30	16.80	10YR56	CKS																																		

Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
3	0.80	1.00																														
5	1.80	2.00																														
7	2.80	3.00																														
14	6.10	6.30																														
16	6.90	7.10																														
18	8.00	8.20																														
20	9.10	9.30																														
23	10.70	10.90																														
26	11.80	12.00																														
28	12.80	13.00																														
32	14.80	15.00																														
35	16.30	16.50																														



Lab Sample			Lab Results																												
			Existing Acidity						SPOCAS												Neutralising Capacity										
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca			%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
3	0.60	0.80																													
6	2.10	2.30																													
8	3.20	3.40																													
9	3.80	4.00																													
10	4.80	5.00																													
13	6.30	6.50																													
15	7.30	7.50																													
18	8.80	9.00																													
19	9.30	9.50																													





Lab Sample			Lab Results																												
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS														Neutralising Capacity								
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
3	0.50	0.70																													
5	1.50	1.70																													
8	3.15	3.25																													
11	4.80	5.00																													
20	9.30	9.50																													



Lab Sample			Lab Results																														
			Existing Acidity								SPOCAS												Neutralising Capacity										
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
3	0.60	0.80																															
5	1.30	1.50																															
7	2.30	2.50																															
9	3.30	3.50																															
12	4.80	5.00																															
14	6.30	6.50																															
19	8.30	8.50																															



Lab Sample			Lab Results																										
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity								
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
2	0.30	0.50																											
4	1.30	1.50																											
6	2.30	2.50																											
11	4.30	4.50																											
14	5.80	6.00																											
16	6.80	7.00																											
17	7.30	7.50																											
2	0.20	0.30																											
4	1.30	1.50																											
6	2.30	2.50																											
11	4.80	5.00																											



Lab Sample			Lab Results																												
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity										
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
2	0.20	0.40																													
3	0.80	1.00																													
5	1.80	2.00																													
7	2.80	3.00																													
8	3.30	3.50																													
10	4.20	4.40																													
11	4.40	4.60																													
12	4.80	5.00																													
13	5.30	5.50																													
16	6.30	6.50																													
19	7.80	8.00																													





Lab Sample			Lab Results																												
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS														Neutralising Capacity								
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>	
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
2	0.40	0.60																													
4	1.10	1.30																													
6	1.80	2.00																													
10	3.80	4.00																													
13	5.30	5.50																													
15	6.50	7.00																													
16	7.30	7.50																													
20	9.30	9.50																													
25	11.60	11.80																													



Lab Sample			Lab Results																											
No	Upp	Low	Existing Acidity						SPOCAS												Neutralising Capacity									
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S	%Ca	%S	mol H+/t	%Mg	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um								
4	1.30	1.50																												
8	3.30	3.50																												
11	4.70	4.90																												
14	6.30	6.50																												
18	8.30	8.50																												
22	10.30	10.50																												
26	11.80	12.00																												
28	13.00	13.20																												



Lab Sample			Lab Results																													
No	Upp	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity											
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>Ox</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
(m)			%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
4	1.30	1.50																														
6	2.50	2.70																														
9	3.80	4.00																														
12	5.30	5.50																														
3	0.60	0.75																														
6	1.80	2.00																														
11	3.70	3.90																														
12	4.10	4.25																														
13	4.60	4.80																														
14	5.30	5.50																														



Lab Sample			Lab Results																															
			Existing Acidity						SPOCAS												Neutralising Capacity													
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>				
(m)			%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q				
2	0.60	0.80																																
5	2.30	2.50																																
10	4.80	5.00																																
12	5.80	6.00																																
14	6.80	7.00																																
15	7.30	7.50																																
16	7.80	8.00																																
17	8.30	8.50																																
20	9.40	9.60																																







Field Morphology Summary														Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results										
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Level Select	pH KCl =>6.5		<=4.5 pH KCl <6.5		pH KCl =>6.5		<=5.5 pH KCl <6.5		<=4.5 pH KCl <5.5		S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )							Depth 1st Action Level (pH <sub>F</sub> )	TPA =0	TPA >0	TPA >0	TPA >0	%S	%S	22B	23Ee	s-23H								
219	1	A11p	0.00	0.40	10YR31	CL				0.10	5.3	2.6																									
										0.30	5.2	2.8																									
	2	A12p	0.40	0.55	10YR31	LC				0.50	4.6	2.6																									
										0.60	4.6	3.0																									
	3	B2	0.55	1.10	5Y51	LC				0.80	4.2	2.9																									
										1.00	4.3	3.6																									
	4	C1	1.10	1.50	2.5Y42	SLC				1.25	4.5	2.3		4	0.80	1.00																					
										1.50	4.2	2.4																									
	5	2C1	1.50	3.40	5Y31	CL				1.75	4.7	1.3																									
										2.00	5.6	1.2																									
	6	2C2	3.40	4.00	5Y41	SL				2.25	6.3	1.4		6	1.80	2.00	S2	PI																			
										2.50	5.9	1.3																									
	7	3C3	4.00	4.70	5Y51	LS				2.75	6.5	1.3																									
										3.00	6.6	1.1																									
	8	3C4	4.70	6.00	5Y52	LS				3.25	6.6	1.5																									
										3.50	6.4	1.3																									
9	2C2	3.40	4.00	5Y41	SL				3.75	5.7	1.3		9	3.40	3.60																						
									4.00	6.1	1.4																										
12	3C4	4.70	6.00	5Y52	LS				4.25	6.4	1.5		12	4.80	5.00		Ps																				
									4.50	6.7	1.6																										
220	1	A1	0.00	0.40	10YR41	SL				4.75	6.3	1.7																									
										5.00	6.3	1.8																									
	2	B2	0.40	1.05	2.5Y51	LC				5.25	6.4	1.8																									
										5.50	6.3	1.5																									
	3	B3	1.05	1.50	N30	LC				5.75	6.3	1.6		3	0.60	0.80																					
										6.00	6.2	1.7																									
	4	C1	1.50	2.80	N40	LC				6.00	6.2	1.7																									
										1.00	6.9	4.5																									
	5	2C2	2.80	3.75	10Y51	KS				1.25	7.4	1.9		5	1.50	1.70	S2	Pc																			
										1.50	7.2	1.8																									
	8	2C2	2.80	3.75	10Y51	KS				1.75	7.1	1.8		8	2.90	3.10		Ps																			
										2.00	7.1	2.0																									
	10	2C3	3.75	4.55	10Y41	FS				2.25	6.9	1.7		10	3.80	4.00		Ps																			
										2.50	6.6	1.6																									
	7	3C4	4.55	5.35	N40	FSLC				2.75	6.9	1.7																									
										3.00	6.9	1.6																									
8	4C5	5.35	6.00	N50	S				3.25	7.2	1.7																										
									3.50	7.2	1.8																										
6	2C3	3.75	4.55	10Y41	FS				3.75	6.8	1.7																										
									4.00	6.7	1.6																										
5	2C2	2.80	3.75	10Y51	KS				4.25	6.7	2.2																										
									4.50	7.0	1.4																										
4	4C5	5.35	6.00	N50	S				4.75	7.3	1.8																										
									5.00	8.2	1.8																										
3	B3	1.05	1.50	N30	LC				5.25	8.7	2.4																										
									5.50	8.4	1.8																										
2	B2	0.40	1.05	2.5Y51	LC				5.75	8.4	1.8																										
									6.00	8.3	1.8																										

Lab Sample			Lab Results																																	
			Existing Acidity						SPOCAS												Neutralising Capacity															
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>						
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q						
4	0.80	1.00																																		
5	1.30	1.50																																		
6	1.80	2.00																																		
8	2.80	3.00																																		
9	3.40	3.60																																		
12	4.80	5.00																																		
3	0.60	0.80																																		
4	1.10	1.30																																		
5	1.50	1.70																																		
8	2.90	3.10																																		
10	3.80	4.00																																		



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	%Ca 23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
4	0.80	1.00																														
6	1.60	1.80																														
8	2.50	2.70																														
9	2.90	3.10																														
10	3.25	3.45																														
11	3.45	3.60																														
13	4.30	4.50																														
16	5.80	6.00																														
2	0.40	0.60																														
3	0.70	0.90																														
4	0.90	1.10																														
5	1.20	1.40																														
6	1.80	2.00																														
7	2.30	2.50																														
9	3.25	3.45																														
12	4.60	4.80																														



Lab Sample			Lab Results																																	
			Existing Acidity						SPOCAS												Neutralising Capacity															
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>						
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q						
2	0.50	0.60																																		
3	0.70	0.90																																		
4	1.20	1.50																																		
5	1.80	2.00																																		
6	2.30	2.50																																		
7	2.85	3.05																																		
9	3.80	4.00																							3.3	1.06	659									
11	4.80	5.00																							4.7	1.51	939									
7	2.50	2.70																																		
9	3.40	3.60																																		
12	4.80	5.00																																		
13	5.30	5.50																																		
14	5.80	6.00																																		
16	6.80	7.00																																		





Lab Sample			Lab Results																															
			Existing Acidity						SPOCAS												Neutralising Capacity													
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>				
		(m)	%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	%Ca 23Vh	23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q				
2	0.20	0.35					0.05	32	4.3		0.02		0.03					0.04																
3	0.40	0.60					0.03	19	4.4		0.02		0.03					0.03																
4	0.80	1.00																																
6	1.70	1.90																																
7	2.10	2.30																																
8	2.60	2.80																																
10	3.60	3.80																																
14	5.30	5.50																																
1	0.00	0.20																																
2	0.30	0.50																																
3	0.70	0.90																																
4	0.90	1.10					0.04	27	4.5		0.09		0.11					0.11																
5	1.20	1.40																																
6	1.70	2.00																																
9	2.70	2.90																								< 0.5	0.08	50						
11	3.50	3.70																																



Lab Sample			Lab Results																													
			Existing Acidity						SPOCAS												Neutralising Capacity											
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q		
1	0.00	0.20																														
2	0.30	0.50																														
3	0.70	0.90																														
4	1.20	1.40																														
6	1.80	2.00																														
7	2.50	2.80																														
10	4.10	4.30																														
12	4.60	4.80																														
2	0.30	0.50																														
4	1.00	1.20																														
6	1.80	2.00																														
7	2.20	2.40																														
8	2.50	2.70																														
10	3.30	3.50																														
13	4.60	4.80																														



Lab Sample			Lab Results																													
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS														Neutralising Capacity									
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t			
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q		
3	0.80	1.00																														
6	2.30	2.50																														
9	3.80	4.00																														
10	4.10	4.30																														
11	4.40	4.60																														
17	6.00	6.20																														
22	8.20	8.40																														
5	1.70	1.90																														
6	1.90	2.10																														
8	2.50	2.75																														
10	3.30	3.50																														



Lab Sample			Lab Results																											
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity									
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S	%Ca	%S	mol H+/t	%Mg	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um								
8	2.80	3.00																												
11	4.10	4.30																												
14	5.30	5.50																												
4	1.30	1.50																												
7	2.30	2.50																												
11	4.10	4.30																												
4	1.30	1.50																												
5	1.50	1.70																												
6	1.80	2.00																												
7	2.20	2.40																												
8	2.40	2.60																												





Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp	Low	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
(m)			%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
1	0.00	0.20																															
2	0.50	0.70																															
3	0.80	1.00																															
4	1.20	1.40																															
1	0.00	0.20																															
2	0.20	0.40																															
3	0.60	0.80																															
4	1.10	1.30																															
5	1.60	1.80																															
6	2.00	2.20																															
9	3.30	3.50																															
13	5.00	5.20																															
4	1.30	1.50																															
6	2.30	2.50																															
10	4.20	4.40																															



Lab Sample			Lab Results																													
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS														Neutralising Capacity									
			s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>		
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t			
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q		
7	2.00	2.20																														
9	2.90	3.10																														
10	3.50	3.70																														
11	4.00	4.20																														
15	5.60	5.80																														
18	7.00	7.20																														
7	2.10	2.30																														
8	2.40	2.60																														
9	2.80	3.00																														
10	3.20	3.40																														
11	3.70	3.90																														
12	4.10	4.30																														



Lab Sample			Lab Results																														
No	Upp	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity												
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t				
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q			
5	1.70	1.90																															
6	2.20	2.40																															
7	2.40	2.60																															
9	3.30	3.60																															
10	3.80	4.10																															
13	5.30	5.50																															
14	5.80	6.00																															
5	1.50	1.70																															
6	2.00	2.20																															
7	2.40	2.60																															
8	2.80	3.00																															
9	3.30	3.60																															
11	4.50	4.70																															
13	5.30	5.50																															



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS										Neutralising Capacity																
No	Upp Depth	Low Depth	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
1	0.00	0.20																																	
2	0.50	0.70																																	
3	1.00	1.20																																	
5	1.80	2.00																																	
9	3.70	3.90																																	
11	4.50	4.70																																	
13	5.50	5.70																																	
6	1.80	2.10																																	
9	3.40	3.70																																	
10	4.00	4.30																																	
11	4.50	4.80																																	
14	7.00	7.20																																	









Lab Sample			Lab Results																											
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS														Neutralising Capacity							
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	23A	23B	%S	23Ce	23De	23Vh	23Wh	23Xh	%S	mol H+/t	23Sm	23Tm	23Um	%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	
	s-23Re	a-23Re	s-20J	a-20J	s-23F	23F																		19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
1	0.00	0.20			0.06	36	4.2		0.01		0.07						0.02													
4	1.20	1.40																												
8	2.70	3.00																												
9	3.30	3.50																												
10	3.80	4.00																												
12	4.80	5.00																												
8	2.90	3.10																												
10	3.80	4.00																												
11	4.30	4.50																												
12	4.80	5.00																												
13	5.30	5.50																												
2	0.30	0.50																												
3	0.60	0.80																												
4	0.85	1.00																												
5	1.30	1.50																												



Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q					
4	1.00	1.20																																	
5	1.30	1.50																																	
6	1.80	2.00																																	
7	2.30	2.50																																	
4	1.10	1.30																																	
5	1.30	1.50																																	
6	1.50	1.70																																	
8	2.30	2.50																																	
9	2.80	3.00																																	
10	3.20	3.40					0.00	0	8.3	7.5	0.09	0.66	0.46	4.32	3.86	3.085	1924	0.04	0.17	0.13	0.171	107	3.256	2031				9.437	3.02	1886					
12	4.30	4.50					0.00	0	8.5	7.7	0.07	0.92	0.48	6.26	5.78	4.622	2882	0.11	0.36	0.25	0.323	202	4.945	3084				13.76	4.41	2749					
15	5.70	5.90																																	
5	1.50	1.70																																	
6	1.80	2.00																																	
7	2.30	2.50																																	
11	4.30	4.50					0.00	0	8.6	7.4	0.14	0.79	0.32	1.40	1.08	0.860	536	0.11	0.22	0.11	0.149	93	1.009	629				2.148	0.69	429					

Field Morphology Summary													Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results									
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Select	pH KCl =>6.5		<=4.5 pH KCl <6.5		pH KCl =>6.5	<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5	S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA	
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level							Depth 1st	Action Level	TPA =0	TPA >0												TPA >0
			(m)										(m)																				mol H+/t		
251	1	B2	0.00	0.45	5Y52	LC				0.10	7.6	6.8	1	0.00	0.20																		6		
	2	C1	0.45	1.40	10Y31	LC				0.30	6.9	5.6	2	0.50	0.70	S0	Pc																1175		
										0.60	6.9	1.4																					583		
										0.80	7.1	1.3																							
										1.00	7.3	1.4																							
										1.25	7.1	1.3	3	1.00	1.30																				
252	1	P1	0.00	0.05	7.5YR44	LC				0.01	5.9	2.6	1	0.00	0.05																		21		
	2	B21	0.05	0.50	7.5YR43	LC				0.10	6.8	2.0																							
										0.30	7.1	2.2	2	0.30	0.50	S0	Pc																188		
	3	B22	0.50	0.90	7.5YR43	SL				0.60	6.5	2.3																					27		
										0.80	6.6	1.9	3	0.70	0.90																			14	
	4	B23	0.90	1.20	2.5Y41	FSLC				1.00	6.9	3.1																							
	5	2C1	1.20	1.50	2.5Y32	CS				1.25	6.6	1.8																						212	
										1.50	6.5	2.7	5	1.30	1.50																			211	
	6	2C2	1.50	1.85	2.5Y31	CKS				1.75	6.4	1.6	6	1.60	1.80																				
	7	3C3	1.85	2.25	2.5Y42	CKS				2.00	6.3	2.4																							
										2.25	6.2	2.6																							
253	1	A1p	0.00	0.25	2.5Y54	CL				0.10	5.6	3.9																							
	2	B21	0.25	1.45	10YR56	CL				0.30	5.7	5.0																							
										0.60	6.0	6.4																							
										0.80	5.9	6.5																							
										1.00	6.1	6.1																							
										1.25	6.1	6.6																							
	3	B22	1.45	2.40	2.5Y54	CL				1.50	6.2	7.1																							
										1.75	6.1	7.1																							
										2.00	6.1	6.9																							
										2.25	6.0	7.1																							
	4	B23	2.40	3.00	10YR46	FSCL				2.50	6.0	6.6																							
										2.75	6.1	7.1																							
										3.00	6.1	7.0																							
	5	B24	3.00	3.80	10YR46	SL				3.25	6.2	7.2																							
										3.50	6.1	7.2	8	3.30	3.50																				
										3.75	6.2	6.7																							
	6	B25	3.80	5.40	2.5Y54	LS				4.00	5.9	5.2																							
										4.25	6.1	5.3																							
										4.50	5.9	5.5																							
										4.75	6.0	6.4																							
										5.00	6.0	5.6																							
										5.25	6.2	5.7																							
	7	C1	5.40	5.90	10Y61	LFS				5.50	6.1	5.4																							
										5.75	6.1	4.7	13	5.70	5.90																				
	8	2B2	5.90	6.20	5Y52	CLFS				6.00	5.9	5.2																							
	9	2C1	6.20	6.70	N40	CLFS				6.25	6.6	3.0																							
										6.50	7.0	3.6																							
													15	6.50	6.70																				
	10	2C2	6.70	7.05	10Y41	CLFS				6.75	7.2	3.6																							
										7.00	7.1	3.4																							
	11	2C3	7.05	7.20	10Y41	FSCL				7.20	6.5	2.1																							
	12	3C4	7.20	7.60	10Y41	CLFS				7.50	6.3	2.1																							
	13	3C5	7.60	8.35	10Y2.5/1	LC				7.75	6.5	1.9																							
										8.00	6.4	1.3																							
										8.25	7.0	1.0																							
	14	4C6	8.35	8.70	10Y41	FSCL				8.50	6.7	1.7																							
	15	5C1	8.70	9.60	2.5Y2.5/1	LC				8.75	6.8	1.3																							
										9.00	6.7	1.3																							
										9.25	7.0	0.9																							
										9.50	7.6	1.1	22	9.40	9.60																				
	16	D	13.24	14.16	5B51	ZLC				13.25	8.2	7.1																							
										13.50	8.3	7.0																							
										13.75	8.3	6.9																							
										14.00	8.6	7.4																							

Lab Sample			Lab Results																														
			Existing Acidity						SPOCAS												Neutralising Capacity												
No	Upp Depth	Low Depth	s-SRAS	a-SRAS	s-SNAS	a-SNAS	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q			
1	0.00	0.20																															
2	0.50	0.70																															
3	1.00	1.30																															
1	0.00	0.05																															
2	0.30	0.50																															
3	0.70	0.90																															
4	1.00	1.20																															
5	1.30	1.50																															
6	1.60	1.80																															
8	3.30	3.50																															
10	4.30	4.50																															
13	5.70	5.90																															
15	6.50	6.70																															
16	6.80	7.00																															
17	7.05	7.20																															
19	7.90	8.10																															
22	9.40	9.60																															





Lab Sample			Lab Results																																						
No	Upp Depth (m)	Low Depth	Existing Acidity								SPOCAS												Neutralising Capacity																		
			s-S <sub>RAS</sub>		a-S <sub>RAS</sub>		s-S <sub>NAS</sub>		a-S <sub>NAS</sub>		s-TAA		TAA		pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	23A	23B	%S	%Ca	%S	mol H+/t	%Mg	%S	mol H+/t	%S	mol H+/t	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t					
s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q														
7	2.30	2.50																																							
9	3.20	3.40																																							
10	3.60	3.80																																							
11	3.90	4.10																																							
12	4.30	4.50																																							
13	4.80	5.00																																							
3	0.80	1.00					0.00	0			7.1	7.2	0.02	0.06	0.43	0.45	0.02	0.019	12			0.02	0.03	0.01	0.007	4		0.026		16				0.38	0.12	76					
4	1.20	1.40																																							
6	1.80	2.00																																							
8	2.80	3.00																																							
9	3.30	3.50																																							
12	4.80	5.00																																							

Field Morphology Summary														Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting			Lab Results										
Site ID	Hor No	Horizon Name	Upp Depth		Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Select	pH KCl =>6.5		<=4.5 pH KCl <6.5		pH KCl =>6.5	<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5	S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA		
			Depth	pH <sub>F</sub>						pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )	Depth 1st Action Level (pH <sub>F</sub> )	TPA =0							TPA >0	TPA >0	%S	S <sub>CR</sub>												S <sub>POS</sub>	s-TSA
			(m)								(m)																									
256	1	M1	0.00	0.65	2.5Y43	CLS				0.10	4.8	3.6	a																							
										0.30	5.5	4.4	a																							
										0.60	4.9	2.9	a																							
	2	M2	0.65	1.15	2.5Y32	CLS	J			0.80	4.2	2.3	a																							
										1.00	4.1	2.2	a	3	0.80	1.00											0.038	0.000	0.006		24	0	4			
	3	2B3	1.15	1.35	10Y31	CKS				1.25	4.8	2.2	a																							
	4	3C1	1.35	1.50	N30	LC				1.50	6.6	2.6	a	5	1.35	1.50																				
	5	4C2	1.50	1.75	5Y51	KS								6	1.50	1.70	S2	Ps																		
										1.75	6.2	1.7																								
	6	5C3	1.75	3.45	N30	FSCL		SS		2.00	6.6	1.9		7	1.80	2.00		PI																		
										2.25	6.9	6.4																								
										2.50	8.0	6.7																								
										2.75	8.0	6.4																								
										3.00	7.9	6.9		9	2.80	3.00		PI		0.542																
										3.25	7.5	4.6																								
	7	6C4	3.45	4.50	5Y31	LC				3.50	7.4	1.1																								
										3.75	6.6	1.4																								
										4.00	7.3	1.3																								
										4.25	7.3	1.1		11	3.80	4.00		Pc																		
										4.50	7.4	1.2																								
	8	6C5	4.50	4.80	5Y31	IP				4.75	7.4	0.8																								
	9	6C6	4.80	5.15	5Y31	LC				5.00	7.5	1.2																								
	10	6C7	5.15	5.40	5Y31	SCL				5.25	7.6	1.9																								
	11	7D1	5.40	5.85	5PB61	LCS				5.50	7.5	1.3																								
	12	7D2	5.85	6.00	5PB61	LCS				5.75	7.5	1.7																								
										6.00	7.5	5.9																								
257	1	A11	0.00	0.15	10YR21	LS				0.10	4.3	3.4	a																							
	2	A12	0.15	0.65	10YR31	LS				0.30	5.0	4.8	a																							
										0.60	5.0	5.4	a																							
	3	A21	0.65	0.95	2.5Y43	S				0.80	5.4	5.9																								
	4	A22	0.95	1.45	2.5Y53	S				1.00	5.6	6.1																								
										1.25	5.8	5.8																								
	5	A23e	1.45	1.65	5Y72	S				1.50	5.4	6.0																								
	6	2B21	1.65	2.00	10Y51	LC			SS	1.75	4.2	3.4	a																							
										2.00	4.3	2.6	a	6	1.80	2.00																				
	7	2B22	2.00	2.35	N30	LC				2.25	6.1	2.5		7	2.10	2.30																				
	8	2B23	2.35	2.60	5Y41	SCL				2.50	6.3	6.1		8	2.40	2.60	S3	PI		0.100																
	9	3B24	2.60	2.80	10Y41	FSL			SS	2.75	6.2	5.9		9	2.60	2.80		PI		0.352																
										3.00	6.3	1.3																								
										3.25	6.5	0.8																								
										3.50	6.5	1.6		10	3.10	3.30		PI																		
	11	4C2	3.60	3.80	5Y41	FSCL			SS	3.75	6.8	1.8		11	3.60	3.80		PI																		
	12	5B21	3.80	4.05	10Y61	LC				4.00	6.9	3.1		12	3.80	4.00		Pc																		
	13	6D1	4.05	4.35	10YR46	MC				4.25	7.0	6.5																								
										4.50	7.1	6.4																								
	14	6D2	4.35	4.80	5YR46	MC				4.70	7.2	6.7																								

Lab Sample			Lab Results																																
			Existing Acidity						SPOCAS												Neutralising Capacity														
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>					
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca			%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t					
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q					
3	0.80	1.00					0.05	31	4.3	4.0	0.02	0.06	0.03	0.03	0.00	0.000	0	0.02	0.02	0.00	0.000	0	0.000	0											
5	1.35	1.50																																	
6	1.50	1.70																																	
7	1.80	2.00					0.11	71	3.9	1.9	0.24	1.88	0.11	0.11	0.00	0.002	1	0.10	0.11	0.01	0.008	5	0.010	6											
9	2.80	3.00					0.00	0	8.6	3.2	0.11	1.49	0.29	1.34	1.05	0.842	525	0.08	0.14	0.06	0.079	49	0.921	574											
11	3.80	4.00																																	
6	1.80	2.00					0.07	44	4.2	5.0	0.38	0.33	0.61	0.54	0.00	0.000	0	0.15	0.15	0.00	0.003	2	0.000	0											
7	2.10	2.30																																	
8	2.40	2.60					0.00	0	8.0	6.1	0.30	0.58	0.56	0.69	0.13	0.105	65	0.05	0.06	0.01	0.018	12	0.123	77											
9	2.60	2.80					0.00	0	8.2	5.7	0.13	1.16	0.41	1.16	0.75	0.601	375	0.05	0.11	0.06	0.074	46	0.675	421											
10	3.10	3.30																																	
11	3.60	3.80																																	
12	3.80	4.00																																	



Lab Sample			Lab Results																											
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS												Neutralising Capacity									
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>
(m)		%S	mol H+/t	%S	mol H+/t	%S	mol H+/t			%S		%Ca		%S	mol H+/t		%Mg		%S	mol H+/t	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t		
		s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q	
6	2.30	2.50																												
7	2.80	3.00				0.13	84	3.8	3.5	0.01	0.07	0.01	0.01	0.00	0.001	0	0.02	0.02	0.00	0.000	0	0.001	0							
8	3.30	3.50																												
10	4.30	4.50																												
14	6.30	6.50																												
3	0.60	0.80																												
4	0.90	1.10																												
5	1.40	1.60																												
7	2.30	2.50																												
9	3.30	3.50																												
14	5.70	5.90																												

Field Morphology Summary										Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results																			
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH				No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Level Select %S	pH KCl =>6.5		<=<4.5 pH KCl <6.5		pH KCl =>6.5		<=<5.5 pH KCl <6.5		<=<4.5 pH KCl <5.5		S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA					
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )							Depth 1st Action Level (pH <sub>F</sub> )	TPA =0	TPA >0	TPA >0	TPA >0	%S	%S	%S	%S	22B									23Ee	s-23H	s-23G	a-22B	a-23Ee
260	1	A1p	0.00	0.10	10YR42	SL				0.10	5.4	3.7																														
	2	A2p	0.10	0.30	2.5Y71	SLMC				0.30	5.9	5.2																														
	3	B2	0.30	0.75	2.5Y61	SMC				0.60	6.1	5.3		3	0.50	0.60																										
	4	2B3	0.75	1.20	2.5Y41	LS				0.80	6.0	2.2																														
										1.00	6.6	1.0		4	0.90	1.10	S1	Ps																								
		5	2C1	1.20	3.00	5GY71	CS				1.25	6.7	1.3																													
										1.50	6.6	1.3		5	1.30	1.50		Ps																								
										1.75	6.3	1.4																														
										2.00	6.5	1.4																														
										2.25	6.2	1.2																														
									2.50	6.1	1.1		7	2.30	2.50		Ps																									
									2.75	5.9	1.4																															
									3.00	6.4	1.5																															
	6	2C2	3.00	3.90	10GY81	CS				3.25	6.3	4.9																														
									3.50	6.3	5.2		9	3.30	3.50		Ps																									
									3.75	6.2	5.0																															
	7	2C3	3.90	4.30	5GY81	CLS				4.00	6.7	4.8																														
									4.25	6.6	1.7		11	4.10	4.30		PI																									
	8	3C4	4.30	4.70	10GY81	CLKS				4.50	6.8	4.0																														
	9	4C5	4.70	5.70	5B61	CS				4.75	6.7	1.3																														
									5.00	6.6	1.5		13	4.90	5.10		Ps																									
									5.25	6.4	1.3																															
									5.50	6.5	1.2																															
	10	5D	5.70	6.00	5Y64	CLFS				5.75	6.9	5.4																														
									6.00	6.7	5.4																															
261	1	A1	0.00	0.15	10YR33	SCL				0.10	5.6	3.8																														
	2	B21	0.15	0.75	10YR44	CLS				0.30	5.4	4.5																														
										0.60	5.3	4.3																														
	3	B3	0.75	1.40	10YR46	LS				0.80	5.3	4.9																														
										1.00	5.6	5.0																														
										1.25	5.4	4.6																														
										1.50	5.6	6.0																														
										1.75	5.7	5.7																														
										2.00	5.6	6.1																														
										2.25	5.6	6.1																														
										2.50	5.6	6.1																														
										2.75	5.7	6.0																														
									3.00	6.0	6.1																															
	6	2C3	3.10	3.40	10YR43	S				3.25	5.8	8.9																														
	7	3C4	3.40	3.60	10YR58	S				3.50	5.8	6.4																														
	8	3C5	3.60	4.15	2.5Y64	S				3.75	5.8	6.2																														
									4.00	5.9	6.3																															
	9	4C6	4.15	5.95	2.5Y64	KS				4.25	6.2	6.3																														
									4.50	6.2	6.4		12	4.30	4.50																											
									4.75	6.3	5.6																															
									5.00	6.4	5.9																															
									5.25	6.3	6.2																															
									5.50	6.5	6.2																															
									5.75	6.2	5.6		14	5.40	5.80																											
	10	4C7	5.95	6.2																																						

Lab Sample			Lab Results																																	
			Existing Acidity						SPOCAS												Neutralising Capacity															
No	Upp	Low	s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>						
	(m)		%S s-23Re	mol H+/t a-23Re	%S s-20J	mol H+/t a-20J	%S s-23F	mol H+/t 23F	23A	23B	%S 23Ce	23De	23Vh	%Ca 23Wh	23Xh	%S s-23Xh	mol H+/t a-23Xh	23Sm	%Mg 23Tm	23Um	%S s-23Um	mol H+/t a-23Um	%S s-23Xh+s-23Um	mol H+/t a-23Xh+a-23Um	%CaCO <sub>3</sub> 19A2	%S s-19A2	mol H+/t a-19A2	%CaCO <sub>3</sub> 23Q	%S s-23Q	mol H+/t a-23Q						
3	0.50	0.60																																		
4	0.90	1.10																																		
5	1.30	1.50																																		
7	2.30	2.50																																		
9	3.30	3.50																																		
11	4.10	4.30																																		
13	4.90	5.10																																		
12	4.30	4.50																																		
14	5.40	5.80																																		
15	6.00	6.20																																		
16	6.30	6.50																																		
17	6.80	7.20																																		

Field Morphology Summary											Lab Sample			Action Criteria		SPOCAS Acid Base Accounting				Chromium Suite Acid Base Accounting				Lab Results														
Site ID	Hor No	Horizon Name	Upp Depth	Low Depth	Colour	Soil Texture	Jar.	Gyp.	Shell	Field pH					No	Upp Depth	Low Depth	Depth 1st	Action Level	Action Select	pH KCl =>6.5		<=4.5 pH KCl <6.5		pH KCl =>6.5	<=5.5 pH KCl <6.5	<=4.5 pH KCl <5.5	S <sub>CR</sub>	S <sub>POS</sub>	s-TSA	s-TPA	a-S <sub>CR</sub>	a-S <sub>POS</sub>	TSA	TPA			
										Depth	pH <sub>F</sub>	pH <sub>FOX</sub>	Action Level (pH <sub>F</sub> )	Depth 1st Action Level (pH <sub>F</sub> )							TPA =0	TPA >0	TPA >0	%S												%S	mol H+/t	
(m)											(m)																											
											23Af		23Bf																									
262	1	A11ia	0.00	0.10	5Y32	LC	J				0.10	3.3	2.0	A	A0	1	0.00	0.10																				
	2	A21ia	0.10	0.45	2.5Y32	LC	J				0.30	3.9	1.6	A		2	0.20	0.40	S0	Pc																		
	3	C1u	0.45	1.10	2.5Y31	LC					0.60	4.0	1.5	A		3	0.70	0.90		Pc																		
	4	C2	1.10	2.90	2.5Y2.5/1	IP					1.00	5.5	1.0	a		4	1.10	1.30		PI																		
											1.25	6.0	1.1			4	1.10	1.30		PI																		
											1.50	6.6	1.3																									
											1.75	6.5	1.3																									
											2.00	6.8	1.3																									
											2.25	6.4	1.2			6	2.10	2.30		PI																		
											2.50	6.8	1.1																									
											2.75	6.7	1.0																									
	5	2C3	2.90	3.30	2.5Y32	SLC					3.00	6.8	1.2																									
											3.25	6.6	1.2			8	3.10	3.30		Pc																		
	6	3C4	3.30	3.60	5Y51	CS					3.50	6.8	1.2																									
	7	3C5	3.60	4.20	N60	CKS					3.75	6.5	1.4																									
											4.00	6.8	1.2			10	3.80	4.00		Ps																		
											4.25	6.9	1.3																									
											4.50	7.2	1.7																									
	8	3C6	4.20	4.80	5B61	CKS					4.75	7.4	1.7			12	4.60	4.80		Ps																		



Lab Sample			Lab Results																														
No	Upp Depth	Low Depth	Existing Acidity						SPOCAS														Neutralising Capacity										
			s-S <sub>RAS</sub>	a-S <sub>RAS</sub>	s-S <sub>NAS</sub>	a-S <sub>NAS</sub>	s-TAA	TAA	pH <sub>KCl</sub>	pH <sub>OX</sub>	S <sub>KCl</sub>	S <sub>P</sub>	Ca <sub>KCl</sub>	Ca <sub>P</sub>	Ca <sub>A</sub>	s-Ca <sub>A</sub>	a-Ca <sub>A</sub>	Mg <sub>KCl</sub>	Mg <sub>P</sub>	Mg <sub>A</sub>	s-Mg <sub>A</sub>	a-Mg <sub>A</sub>	s-Ca <sub>A</sub> +s-Mg <sub>A</sub>	a-Ca <sub>A</sub> +a-Mg <sub>A</sub>	ANC <sub>BT</sub>	s-ANC <sub>BT</sub>	a-ANC <sub>BT</sub>	ANC <sub>E</sub>	s-ANC <sub>E</sub>	a-ANC <sub>E</sub>			
(m)			%S	mol H+/t	%S	mol H+/t	%S	mol H+/t	%S		%Ca			%S		mol H+/t	%Mg			%S	mol H+/t	%S		mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t	%CaCO <sub>3</sub>	%S	mol H+/t			
			s-23Re	a-23Re	s-20J	a-20J	s-23F	23F	23A	23B	23Ce	23De	23Vh	23Wh	23Xh	s-23Xh	a-23Xh	23Sm	23Tm	23Um	s-23Um	a-23Um	s-23Xh+s-23Um	a-23Xh+a-23Um	19A2	s-19A2	a-19A2	23Q	s-23Q	a-23Q			
1	0.00	0.10					0.04	26	4.4	3.5	0.09	0.16	0.03	0.03	0.00	0.002	1	0.08	0.09	0.01	0.009	6	0.011	7									
2	0.20	0.40					0.07	41	4.3	2.8	0.09	0.26	0.04	0.04	0.00	0.001	0	0.10	0.11	0.00	0.007	4	0.007	5									
3	0.70	0.90																															
4	1.10	1.30																															
6	2.10	2.30																															
8	3.10	3.30																															
10	3.80	4.00																															
12	4.60	4.80																															