Appendix B. Geotechnical Soil Profile Logs – Backhoe Test Pits

E.A. Systems Pty Limited

Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 1
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	1%	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:	20-40m above drainage line on slight drainage	**Coordinates (GDA 1994):**	383405 E, 6619103 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.0-0.20 Topsoil: dark brown loam		SC-CI	D	Non-cohesive	
	0.20-0.35 Bleach A2 horizon; sandy clay with gravel up to 10mm (sub-rounded)		CI	D	F-St	
	0.35-0.55 Heavy clay, mottles present and roots		CI-CH	D	F-St	
	0.55-0.85 Gravelley clay (gravel seam - sub-rounded,)	155345	GC	D	St	M
1	0.85-1.20 Extremely weathered rock		-	D	-	-
	1.20 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

.

E.A. Systems Pty Limited

Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 1
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	1%	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:	20-40m above drainage line on slight drainage	**Coordinates (GDA 1994):**	383405 E, 6619103 N MGA Zone 56

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 2
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	On knoll	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383225 E, 6619121 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.20 Dark grey brown topsoil, fine sandy loam, some gravel deposited on surface		SC-CI	D	Non-cohesive	-
	0.20-0.30 Grey white clay with gravel (<5mm)		CI-CL	D	St	
	0.30-0.90 Orange red heavy clay	155346	CH	D	St-VSt	
1	0.90-1.20 Orange silty clay, high plasticity	155346	CH	D	St-VSt	
	1.20 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

.

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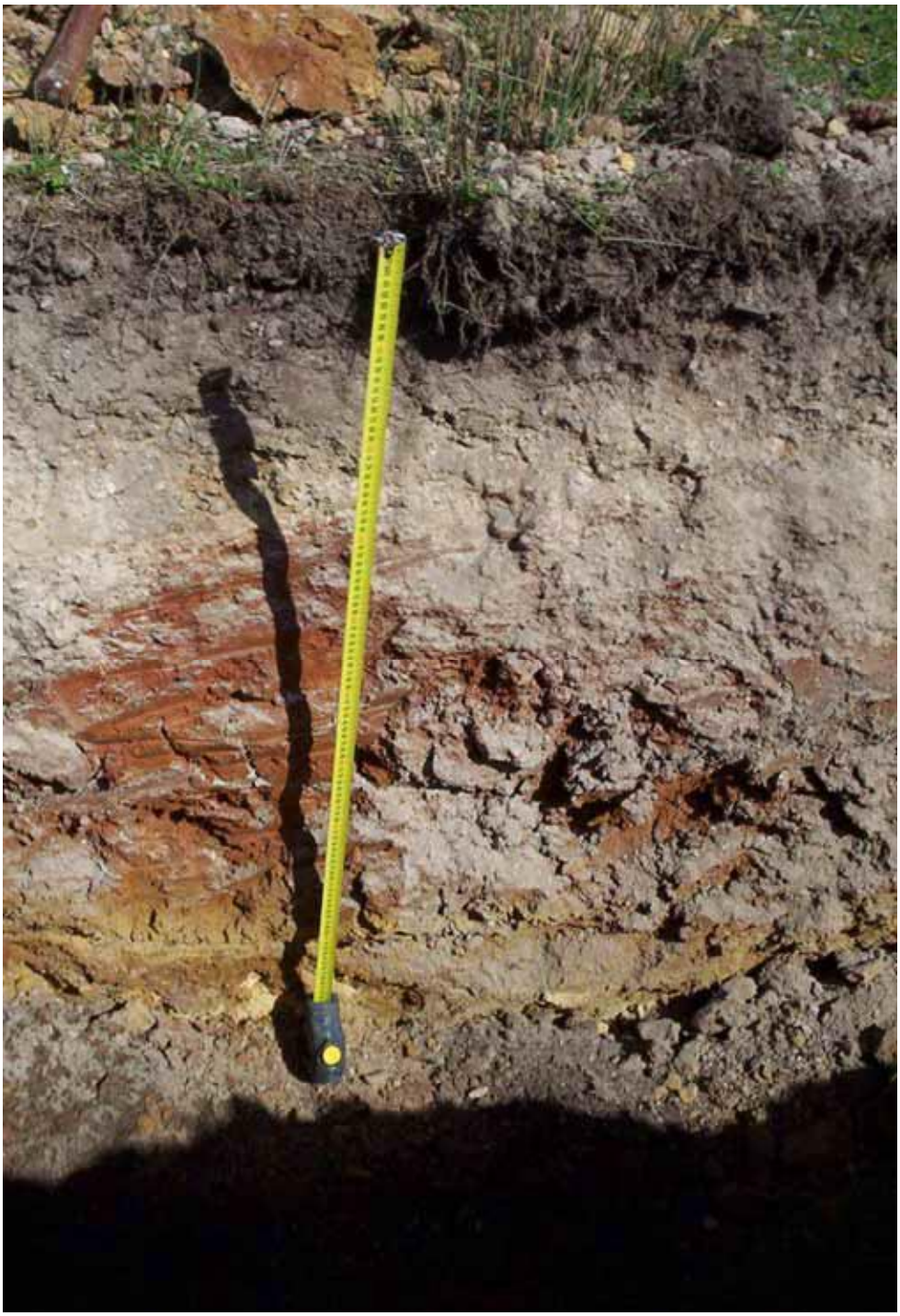
Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 2
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	On knoll	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383225 E, 6619121 N MGA Zone 56



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Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 3
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	Eastern aspect	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:	20-40m above drainage line on slight drainage	**Coordinates (GDA 1994):**	383335 E, 6618989 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.10 Dark brown loam/sandy loam		SC-CI	D	Non-cohesive	
	0.10-0.40 Medium clay with gravel		CL/CI	D	St-VSt	
	0.40-0.85 Orange heavy clay with gravel		CL-CH	D	St-VSt	
1	0.85-1.20 Pale orange heavy clay with gravel, grey clay seams vertically and horizontally		CL-CH	D	St-VSt	
	1.20 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

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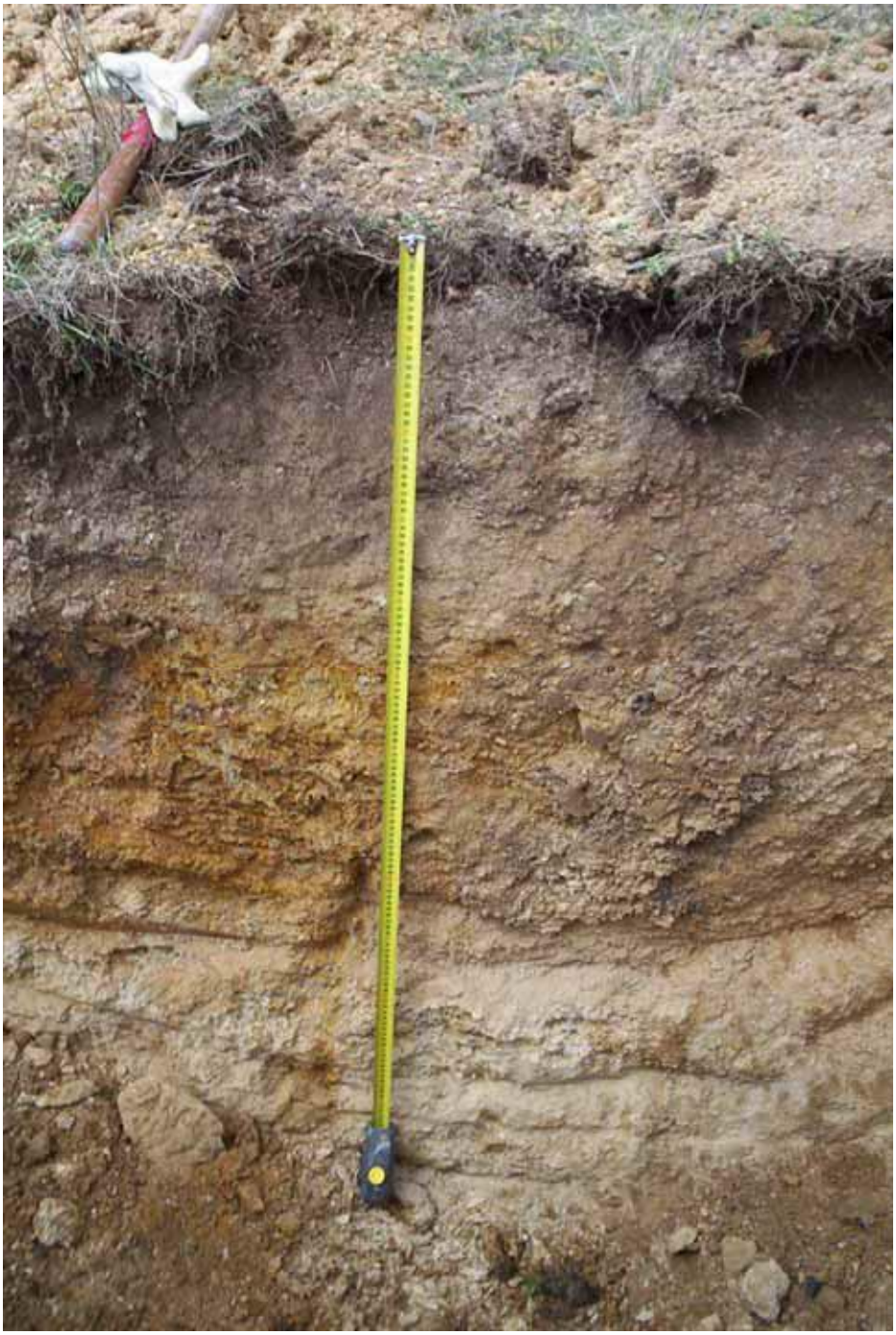
Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 3
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	Eastern aspect	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:	20-40m above drainage line on slight drainage	**Coordinates (GDA 1994):**	383335 E, 6618989 N MGA Zone 56



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Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 4
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	Western aspect	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383413 E, 6618858 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.15 Topsoil Brown clay loam, some rocks, roots present		SC-CI	D	Non-cohesive	
	0.15-0.45 Pale orange medium clay/medium sandy clay		SC-CL	D	St	
1	0.45-1.20 Mottled orange, gravel clay/sandy gravel clay	155343	SC	D	St	M
	1.20-1.70 Light orange gravel clay/sandy gravel clay		SC	D	St	
2	1.70 Refusal					

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

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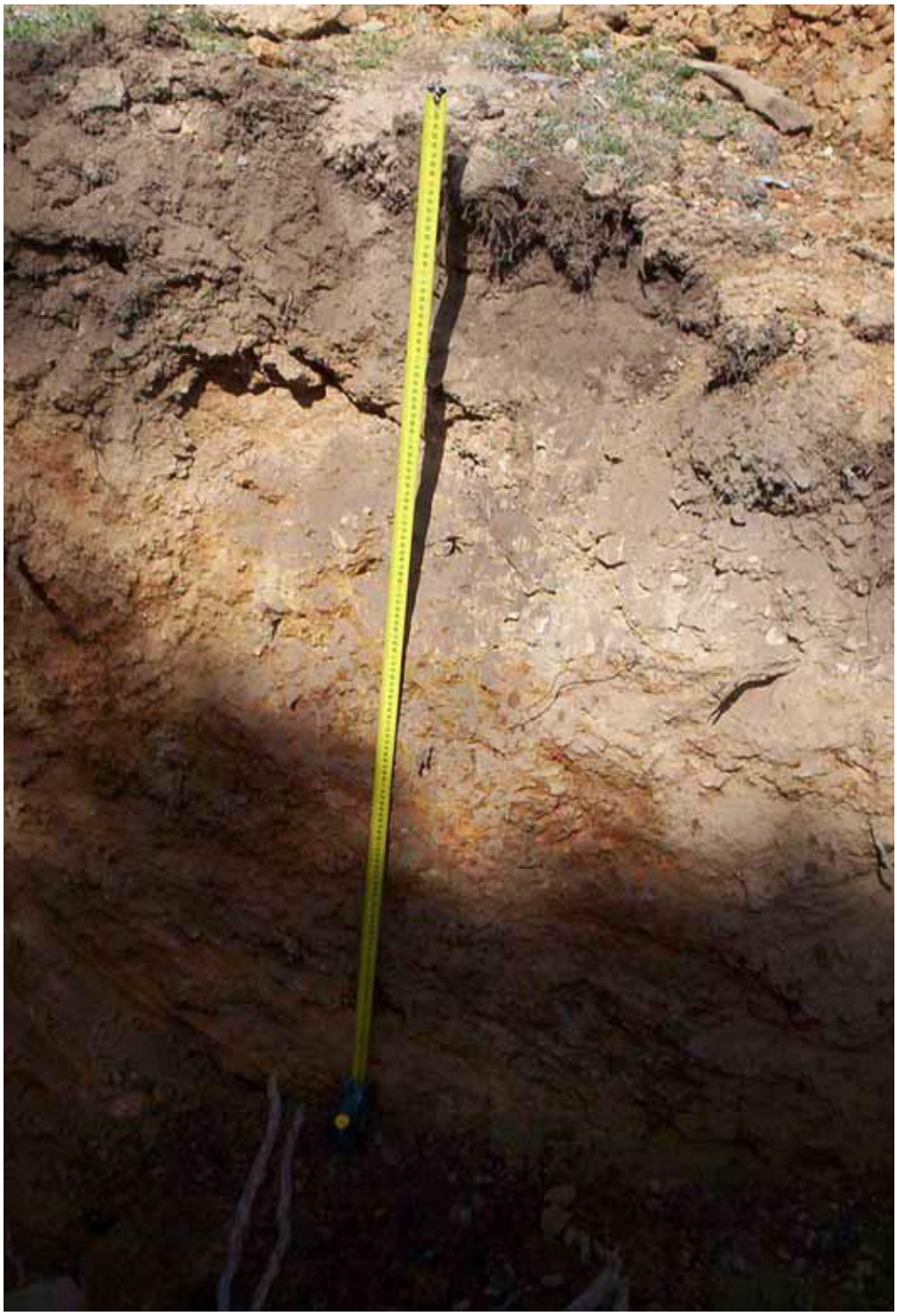
Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 4
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	Western aspect	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383413 E, 6618858 N MGA Zone 56



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Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 5
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:		**Current land use:**	Grazing pastures
Vegetation:	Open woodland stringy bark	**Parent material:**	North-easterly aspect
Surface drainage:		**Coordinates (GDA 1994):**	383331 E, 6618699 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.10 Topsoil Pale chocolate brown - sandy clay loam. Gravel rocks on surface		SC-CI	D	Non-cohesive	
	0.10-0.25 Pale orange brown medium clay loam, some gravel (<2mm)		CI,CL	D	VS-S	
	0.25-0.60 Orange red heavy clay		CI,CL	D	St	
	0.60-0.90 Red heavy clay; yellow and white envelopes	155342	CI	D	VSt	M
1	0.90-1.40 White heavy clay with red seams		CI	D	VSt	
	1.40 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

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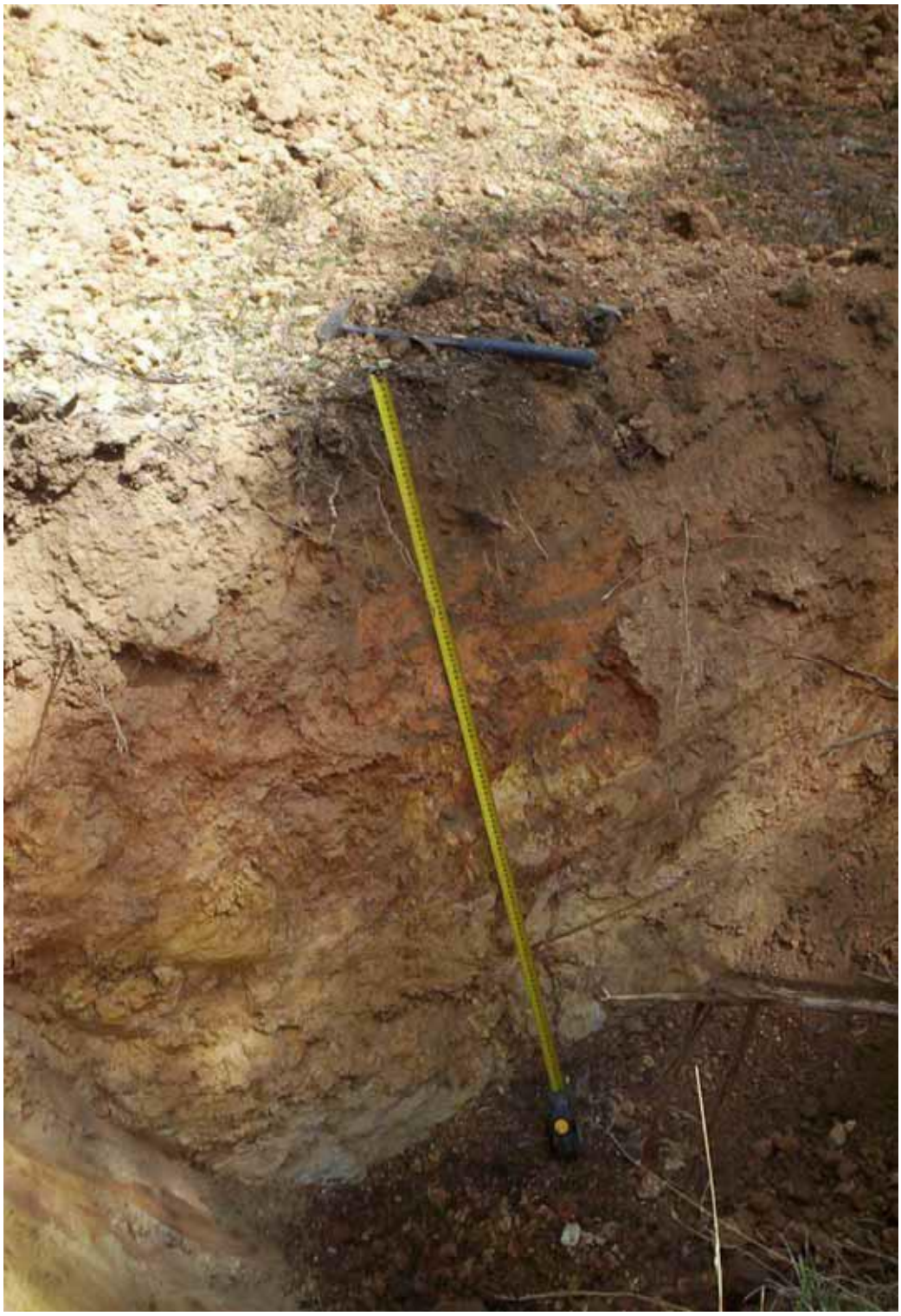
Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 5
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:		**Current land use:**	Grazing pastures
Vegetation:	Open woodland stringy bark	**Parent material:**	North-easterly aspect
Surface drainage:		**Coordinates (GDA 1994):**	383331 E, 6618699 N MGA Zone 56



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Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 6
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:		**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383288 E, 6618773 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.15 Dark brown sandy clay loam		SC-CI	D	Non-cohesive	
	0.15-0.30 Brown silty clay, with some rocks and sand present		CI,CL	D	F-St	
1	0.30-1.10 Orange brown heavy clay, mottle grey and orange rocks and gravel		CI-CH	D	St	
	1.10-1.40 Grey orange heavy clay, mottling		CI-CH	D	VSt-H	
2	1.40 Refusal					

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

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E.A. Systems Pty Limited

Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 6
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:		**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383288 E, 6618773 N MGA Zone 56

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Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 7
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	1%	**Current land use:**	Grazing pastures
Vegetation:	Tussock	**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383514 E, 6619319 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.10 Grey brown loam		SC-CI	D	Non-cohesive	
	0.10-.30 Grey slightly bleached clay, loamy clay		SC-CI	W	S	
	0.30-0.60 Brown red medium clay		CL-CH	W	St	
	0.60-0.95 Orange red gravelly clay		CL-CH	W	VSt	
1	0.95-1.35 Yellow white, sandy clay (extremely weathered rock)		SC-CL	D	VS	
	1.35 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

E.A. Systems Pty Limited

Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 7
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	1%	**Current land use:**	Grazing pastures
Vegetation:	Tussock	**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383514 E, 6619319 N MGA Zone 56

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 8
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	2-3%	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383609 E, 6619714 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.15 Grey brown fine sandy loam		SC-CI	D	VS	
	0.15-0.30 Beached grey sandy clay/clayey sand		SC-CI	D	S-F	
	0.30-0.70 Heavy clay (orange) with mottling (grey)		CL-CH	D	VSt	
1	0.70-1.20 Light brown heavy clay with black mottles (precipates) with gravel		CL-CH	D	VSt-H	
	1.20 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

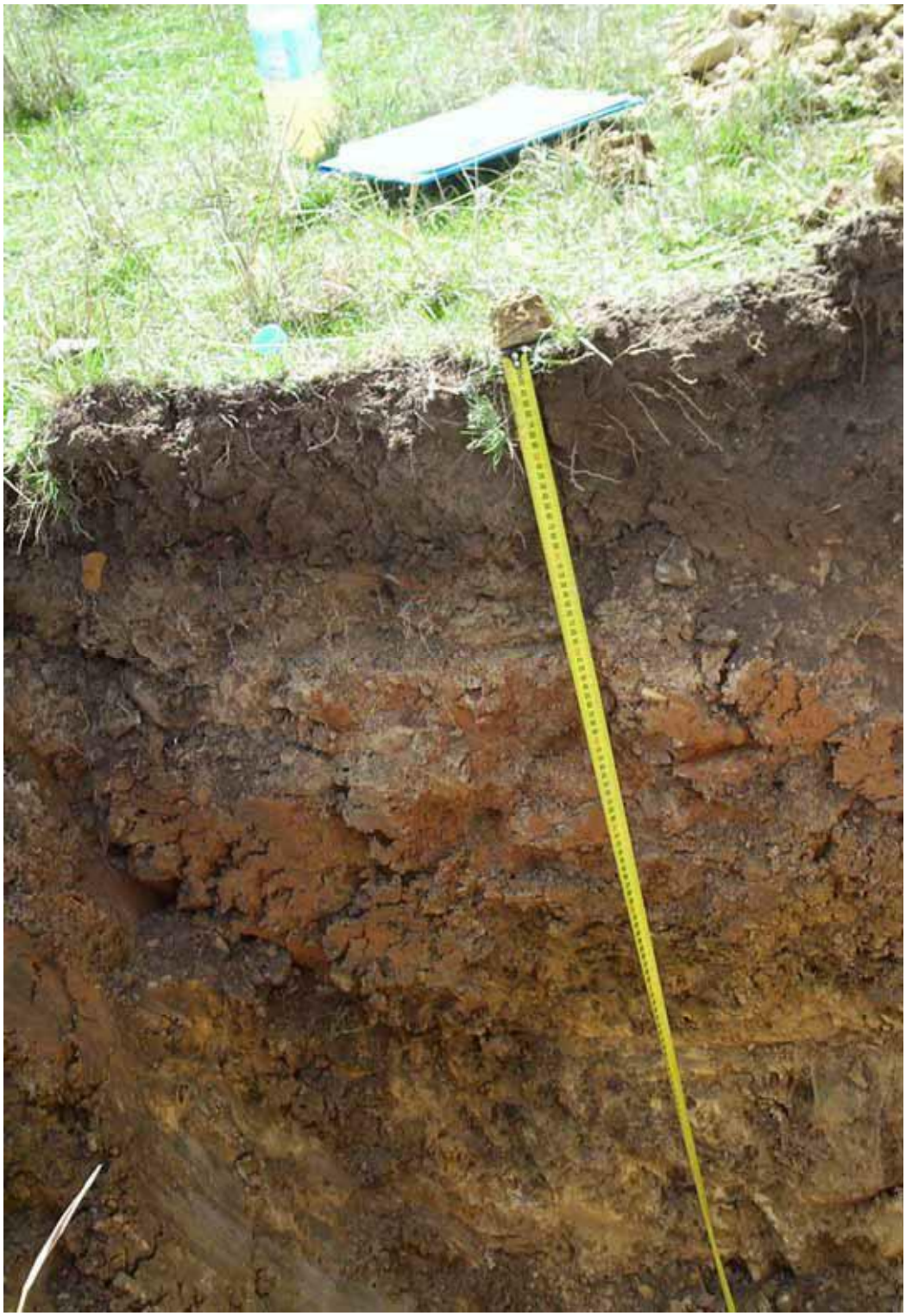
Plans/Remarks:

E.A. Systems Pty Limited

Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 8
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	2-3%	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383609 E, 6619714 N MGA Zone 56



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Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 9
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	4-5%	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383315 E, 6619174 N MGA Zone 56

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.25 Dark brown sandy loam		SC-CL	D	VS-S	
	0.20-0.45 56 Grey brown loamy sand with gravel		SM-SC-CL	M	S-F	
	0.45-0.90 Orange medium clay, very sticky		CL-CH	M	VSt	
1	0.90-1.30 Orange grey heavy clay with mottling (white)		CL-CH	D	VSt-H	
	1.30 Refusal					
2						

Moisture Content	
D	Dry
M	Moist
W	Wet

Weather Rock Classification Symbols	
EW	Extremely Weathered
HW	Highly Weathered
MW	Moderately Weathered
SW	Slightly Weathered
F	Fresh

Consistency/Density			
VL	Very Loose	VS	Very soft
L	Loose	S	Sort
M	Medium	F	Firm
D	Dense	St	Stiff
VD	Very Dense	VSt	Very stiff
		H	G+Hard

Plasticity	
NP	Non-plastic
T	Trace
VL	Very Low
L	Low
M	Medium
H	High
VH	Very High
EH	Extra High

Plans/Remarks:

E.A. Systems Pty Limited

Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maunsell Australia	**Job No:**	20969
Project:	ADC Proposed Landfill	**Date:**	13-Sep-06
Location:	Waterfall Way	**Logged by:**	Robert Cork
Excavation Method:	Backhoe	**Bore Hole No:**	Test pit 9
Groundwater Struck:	No	**Groundwater Stands:**	
Surface slope:	4-5%	**Current land use:**	Grazing pastures
Vegetation:		**Parent material:**	
Surface drainage:		**Coordinates (GDA 1994):**	383315 E, 6619174 N MGA Zone 56