

6. Appendices

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Appendix A. Geotechnical Soil Profile Logs – Bore Holes

Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969	
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05	
Location: Waterfall Way		Logged by: Robert Cork	
Excavation Method: Light Drill Rig		Bore Hole No: BH1	
Groundwater Struck: No		Groundwater Stands:	
Surface slope: 2%		Current land use: Grazing	
Vegetation: Grazed pasture and sedge		Parent material:	
Surface drainage: Toe of slope		Aspect: Northwest	

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
0.00 - 0.15	Light brown - clay loam			M		
0.15 - 0.25	White - clay loam			M		
0.25 - 0.50	Orange - stiff clay			D		
0.50 - 1.50	Yellow orange - clay with some gravel - small amounts of quartz gravel and iron precipitates			D		
1.50 - 5.50	Extremely weathered rock (properties of drill cuttings/grindings - clay with light sand)			D		
----- 5.50 Termination -----						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Soft
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	BH1
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	2% Northwest	Current land use:	Grazing
Vegetation:	Grazed pasture and sedge	Parent material:	
Surface drainage:	Toe of slope	Coordinates (GDA94):	383236 E, 6619482 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969	
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05	
Location: Waterfall Way		Logged by: Robert Cork	
Excavation Method: Light Drill Rig		Bore Hole No: BH 2	
Groundwater Struck: No		Groundwater Stands:	
Surface slope: 3%		Current land use: Grazing	
Vegetation: Stringy barks. Cleared open woodland		Parent material: Variable, some sediments and elluvials	
Surface drainage: Slight ridge between 2 slight depressions		Aspect: Northeast	

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00 - 0.15 Light brown loam - clay loam - some deposited gravel from up-slope			D		
	0.15 - 0.30 White brown, bleached - clay loam - some deposited gravel from up-slope			D		
	0.3 - 0.70 Orange - stiff clay			D		
	0.7 - 0.90 Yellow, orange clay - stiff clay			D		
1	0.9 - 1.00 Orange - Gravel with clay			D		
	1.0 - 1.50 Orange - stiff clay with gravel			D		
	1.5 - 1.60 Orange - gravel with clay			D		
2	1.6 - 5.5 Extremely weathered rock (properties of drill cuttings/grindings - yellow lay with light sand). Very hard to drill through			D		
3						
4						
5						
	Termination 5.5					

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	BH 2
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	3% Northeast	Current land use:	Grazing
Vegetation:	Stringy barks. Cleared open woodland	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Slight ridge between 2 slight depressions	Coordinates (GDA94):	383207 E, 6619280 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Robert Cork				
Excavation Method: Light Drill Rig		Bore Hole No: BH 3				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 5% - 6%		Current land use: Grazing				
Vegetation: Open woodland, grazed		Parent material: Variable, some sediments and colluvium				
Surface drainage: Open slope		Aspect: East				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
0 - 0.15	Dark brown - heavy clay loam - high organic matter			D		
0.15 - 0.3	Brown red - heavy clay loam with some gravel			D		
0.3 - 0.5	Red - heavy clay with some gravel			D		
0.5 - 0.9	Orange - heavy clay			D		
0.9 - 1.3	Orange - clay loam			D		
1.3 - 1.5	Extremely weathered rock (properties of drill cuttings/grindings - white/grey sandy clay, sand content increasing with depth). Hard to drill			D		
1.5 - 5.0	Extremely weathered rock (properties of drill cuttings/grindings - white/yellow - sandy clayey silt). Hard to drill through. Ground decomposed rock presents as clay material. Bulk sample taken for lab analysis	155341		D		
5.0 - Termination						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	BH 3
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	5% - 6% East	Current land use:	Grazing
Vegetation:	Open woodland, grazed	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Open slope	Coordinates (GDA94):	383177 E, 6619088 N MGA Zone 56





Client:		Maunsell Australia		Job No:		20969							
Project:		Armidale Dumaresq Council Proposed Landfill		Date:		13-Sep-05							
Location:		Waterfall Way		Logged by:		Robert Cork							
Excavation Method:		Light Drill Rig		Bore Hole No:		BH 4							
Groundwater Struck:		No		Groundwater Stands:									
Surface slope:		8% - 10%		Current land use:		Grazing							
Vegetation:		Open stringy bark woodland		Parent material:									
Surface drainage:		Open slope with some surface rocks		Aspect:									
East													
Depth (metres)		Soil Description		Sample No.		Group Symbol - AS 1726		Moisture Content		Consistency		Plasticity	
1		0 - 0.2 Light brown - clay loam - high organic matter						D					
		0.20-0.40 Light brown - clay loam						D					
		0.4 - 0.8 Light brown - clay loam with gravel						D					
		0.8 - 1.2 Orange/red - clay with light sand and small gravel		155343		SC		D					
		1.2 - 1.4 Orange - clay loam with gravel						D					
		1.4 - 1.6 Extremely weathered rock (properties of drill cuttings/grindings - orange heavy clay with light sand and some gravel)						D					
		1.6 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - white heavy clay)						D					
2		2.0 - 2.6 Extremely weathered rock (properties of drill cuttings/grindings - white heavy clay with sand)						D					
		2.6 - 2.7 Extremely weathered rock. Red white rock fragments suggest refusal due to rock material.						D					
3		2.70 Refusal											
4													
5													
Moisture Content		Weather Rock Classification Symbols				Consistency/Density							
D Dry		EW Extremely Weathered		VL Very Loose		VS Very soft							
M Moist		HW Highly Weathered		L Loose		S Sort							
W Wet		MW Moderately Weathered		M Medium		F Firm							
		SW Slightly Weathered		D Dense		St Stiff							
		F Fresh		VD Very Dense		VSt Very stiff							
						H G+Hard							
Plasticity		Plans/Remarks:											
NP Non-plastic													
T Trace													
VL Very Low													
L Low													
M Medium													
H High													
VH Very High													
EH Extra High													

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	BH 4
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	8% - 10% East	Current land use:	Grazing
Vegetation:	Open stringy bark woodland	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Open slope with some surface rocks	Coordinates (GDA94):	383144 E, 6618879 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969	
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05	
Location: Waterfall Way		Logged by: Robert Cork	
Excavation Method: Light Drill Rig		Bore Hole No: BH 5	
Groundwater Struck: No		Groundwater Stands:	
Surface slope: 10%		Current land use: Grazing	
Vegetation: Depression vegetation		Parent material: Variable, some sediments and colluvium	
Surface drainage: Main drainage line about 50m below top dam		Aspect: North northeast	

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.1 Brown - heavy clay loam - high organic matter			D		
	0.1 - 0.3 Bleached, light brown - wet due to location to dam			M		
	0.3 - 0.5 Brown orange - heavy clay with sand			D		
	0.5 - 0.7 Orange - heavy clay with gravel			D		
	0.7 - 1.2 Orange - heavy clay with sand and some gravel			D		
	1.2 - 1.4 Yellow - heavy clay - some sand and gravel			D		
	1.4 - 1.7 Extremely weathered rock (properties of drill cuttings/grindings - white orange clayey sand). At approximately 1.6m, a ground, decomposed, mineralised material was produced.			D		
	1.7 Refusal					
2						
3						
4						
5						

Moisture Content	Weather Rock Classification Symbols	Consistency/Density
D Dry	EW Extremely Weathered	VL Very Loose VS Very soft
M Moist	HW Highly Weathered	L Loose S Sort
W Wet	MW Moderately Weathered	M Medium F Firm
	SW Slightly Weathered	D Dense St Stiff
	F Fresh	VD Very Dense VSt Very stiff
		H Hard G+Hard

Plasticity	Plans/Remarks:
NP Non-plastic	bleached layer between 100 - 300 may indicate transient flow
T Trace	
VL Very Low	
L Low	
M Medium	
H High	
VH Very High	
EH Extra High	

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	BH 5
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	10% North northeast	Current land use:	Grazing
Vegetation:	Depression vegetation	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Main drainage line about 50m below top dam	Coordinates (GDA94):	383389 E, 6619055 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969	
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05	
Location: Waterfall Way		Logged by: Robert Cork	
Excavation Method: Light Drill Rig		Bore Hole No: BH6	
Groundwater Struck: No		Groundwater Stands:	
Surface slope: 1% - 2%		Current land use: Grazing	
Vegetation: Open woodland		Parent material: Variable, some sediments and colluvium	
Surface drainage: Drainage line approx. 100m above top dam		Aspect: Northeast	

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.1 Dark brown - clay loam			D		
	0.1 - 0.4 Orange/brown - clay loam			D		
	0.4 - 0.6 Red - heavy clay with gravel			D		
	0.6 - 1.3 Orange - heavy clay with gravel			D		
2	1.3 - 1.5 Orange - heavy clay with gravel concretions					
	1.5 - 2.0 Yellow white - fine clay with sand			D		
3	2.0 - 3.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow white fine clays with sand and gravel)			D		
	3.0 - 4.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow white fine clays with gravel). Gravel increasing in size.			D		
4	4.0 - 4.2 Extremely weathered rock (properties of drill cuttings/grindings - grey green clay with sand and gravel concretions)			D		
	4.2 Refusal					
5						

Moisture Content	Weather Rock Classification Symbols	Consistency/Density
D Dry	EW Extremely Weathered	VL Very Loose VS Very soft
M Moist	HW Highly Weathered	L Loose S Sort
W Wet	MW Moderately Weathered	M Medium F Firm
	SW Slightly Weathered	D Dense St Stiff
	F Fresh	VD Very Dense VSt Very stiff
		H Hard G+Hard

Plasticity	Plans/Remarks:
NP Non-plastic	Green colour between 4.0 - 4.2 indicates anaerobic conditions.
T Trace	
VL Very Low	
L Low	
M Medium	
H High	
VH Very High	
EH Extra High	

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	6
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	1% - 2% Northeast	Current land use:	Grazing
Vegetation:	Open woodland	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Drainage line approx. 100m above top dam	Coordinates (GDA94):	383353 E, 6618860 N MGA Zone 56



Geotechnical Soil Profile Log

Client:	Maunsell Australia		Job No:	20969		
Project:	Armidale Dumaresq Council Proposed Landfill		Date:	13-Sep-05		
Location:	Waterfall Way		Logged by:	Robert Cork		
Excavation Method:	Light Drill Rig		Bore Hole No:	BH7		
Groundwater Struck:	No		Groundwater Stands:			
Surface slope:	0 - 1%		Current land use:	Grazing		
Vegetation:	Pasture Sedges		Parent material:	Variable, some sediments and colluvium		
Surface drainage:	Main drainage line approx. 50m below bottom of Dam		Aspect:	Northeast		

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Brown - clay loam			D		
	0.15 - 0.75 Brown - heavy clay with sand and gravel			M		
	0.75 - 0.85 Orange - clay with sand and gravel			D		
	0.85 - 1.5 Orange - clay with sand and gravel (less gravel)			D		
2	1.5 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - light orange clay with fine sand)			D		
	2.0 - 2.5 Extremely weathered rock (properties of drill cuttings/grindings - light orange clay with fine sand and gravel)			D		
	2.5 - 3.3 Extremely weathered rock (properties of drill cuttings/grindings - light orange clay with sand and gravel). Gravel as calcium carbonate precipitates with iron			D		
3	3.3 - 3.9 Extremely weathered rock (properties of drill cuttings/grindings - light orange clay with sand)			D		
	3.9 - 4.3 Extremely weathered rock (orange - decomposed granite)			D		
4	4.3 Termination					
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	7
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	0 - 1% Northeast	Current land use:	Grazing
Vegetation:	Pasture Sedges	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Main drainage line approx. 50m below bottom of Dam	Coordinates (GDA94):	383511 E, 6619250 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Robert Cork				
Excavation Method: Light Drill Rig		Bore Hole No: BH8				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 1% - 2%		Current land use:				
Vegetation:		Parent material: Variable, some sediments and colluvium				
Surface drainage: Drainage line is east of main line		Aspect: North northeast				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Light brown - clay loam			D		
	0.15 - 0.30 Grey - clay loam			D		
	0.3 - 0.7 Grey - clay with fine sand - some gravel and concretions			D		
	0.7 - 0.8 Orange brown - clay with sand and gravel			D		
	0.8 - 1.5 Orange brown - clay with heavy gravel			D		
2	1.5 - 3.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow clay with sand)			D		
3	3.0 Refusal					
4						
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	8
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	1% - 2% North northeast	Current land use:	
Vegetation:		Parent material:	Variable, some sediments and colluvium
Surface drainage:	Drainage line is E of main line	Coordinates (GDA94):	383590 E, 6619247 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Robert Cork				
Excavation Method: Light Drill Rig		Bore Hole No: BH9				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 1%		Current land use:				
Vegetation:		Parent material: Variable, some sediments and colluvium				
Surface drainage: Drainage line is close to junction		Aspect: North northeast				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Brown - clay loam			M		
	0.15 - 3.0 Grey - heavy clay with sand			M		
	0.3 - 0.5 Orange brown - heavy clay with concretions			D		
	0.5 - 0.7 Orange - clay with gravel			D		
	0.7 - 1.7 Yellow brown - clay with sand and gravel			D		
2	1.7 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow clay with sand)			D		
	2.0 - 2.2 Extremely weathered rock (properties of drill cuttings/grindings - orange yellow clay with sand and gravel)			D		
3	2.2 Refusal					
4						
5						

Moisture Content	Weather Rock Classification Symbols	Consistency/Density
D Dry	EW Extremely Weathered	VL Very Loose VS Very soft
M Moist	HW Highly Weathered	L Loose S Sort
W Wet	MW Moderately Weathered	M Medium F Firm
	SW Slightly Weathered	D Dense St Stiff
	F Fresh	VD Very Dense VSt Very stiff
		H G+Hard

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

E.A. Systems Pty Limited
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Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	9
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	1% North northeast	Current land use:	
Vegetation:		Parent material:	Variable, some sediments and colluvium
Surface drainage:	Drainage line is close to junction	Coordinates (GDA94):	383634 E, 6619435 N MGA Zone 56





Client: Maunsell Australia		Job No: 20969					
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05					
Location: Waterfall Way		Logged by: Robert Cork					
Excavation Method: Light Drill Rig		Bore Hole No: BH10					
Groundwater Struck: No		Groundwater Stands:					
Surface slope:		Current land use:					
Vegetation:		Parent material: Variable, some sediments and colluvium					
Surface drainage:		Aspect:					
Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
1	0 - 0.15 Brown - Clay loam			M			
	0.15 - 0.5 Light brown - Clay loam			M			
	0.5 - 1.0 Orange - heavy clay with sand and gravel			D			
	1.0 - 1.2 Orange - Heavy clay with sand and gravel			D			
	1.2 - 1.7 Orange - Sandy clay			D			
2	1.7 - 1.8 Extremely weathered rock (orange)			D			
	1.8 - 2.5 Extremely weathered rock (properties of drill cuttings/grindings - yellow gravelly (5-10mm) clay). Some green colouring indicating anaerobic conditions			D			
	2.5 - 3.8 Extremely weathered rock (properties of drill cuttings/grindings - yellow sandy clay with gravel)			D			
3							
4	Refusal 3.8 (fractured rock - little clay present)						
5							
Moisture Content		Weather Rock Classification Symbols		Consistency/Density			
D	Dry	EW	Extremely Weathered	VL	Very Loose	VS	Very soft
M	Moist	HW	Highly Weathered	L	Loose	S	Sort
W	Wet	MW	Moderately Weathered	M	Medium	F	Firm
		SW	Slightly Weathered	D	Dense	St	Stiff
		F	Fresh	VD	Very Dense	VSt	Very stiff
						H	G+Hard
Plasticity		Plans/Remarks:					
NP	Non-plastic						
T	Trace						
VL	Very Low						
L	Low						
M	Medium						
H	High						
VH	Very High						
EH	Extra High						

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	10
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:		Current land use:	
Vegetation:		Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383698 E, 6619624 N MGA Zone 56

No Photo

Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969	
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05	
Location: Waterfall Way		Logged by: Alex Bell	
Excavation Method: Light Drill Rig		Bore Hole No: BH11	
Groundwater Struck: No		Groundwater Stands:	
Surface slope: 15%		Current land use: Grazing	
Vegetation: Cleared open stringy bark woodland		Parent material: Variable, some sediments and colluvium	
Surface drainage: Slight drainage line		Aspect: Southeast	

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Light brown - Loam with gravel			D		
	0.15 - 0.30 Bleached light brown - Loam and gravel mix			D		
	0.3 - 0.6 Light yellow - gravelly clay			D		
	0.6 - 1.0 Yellow/brown - gravelly clay			D		
1	1.0 - 1.5 Extremely weathered rock (soil properties - orange brown sandy light clay with gravel)			D		
	1.5 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - orange heavy clay with gravel)			D		
2	2.0 - 4.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow clay with light sand)			D		
3						
4	4.0 Termination					
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	11
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	15% Southeast	Current land use:	Grazing
Vegetation:	Cleared open stringy bark woodland	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Slight drainage line - reasonable slope	Coordinates (GDA94):	383270 E, 6618977 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH12				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 15%		Current land use: Grazing				
Vegetation: Cleared stringy bark woodland		Parent material: Variable, some sediments and colluvium				
Surface drainage: Ridge down slope		Aspect: Southeast				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Light brown - gravelly loam (gravel on surface)			D		
	0.15 - 0.3 Yellow - gravelly clay			D		
	0.3 - 0.5 Orange - gravelly clay			D		
	0.5 - 1.5 Orange - clay silt with fine gravel			D		
2	1.5 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - orange yellow clay with fine sand)			D		
	2.0 - 3.0 Extremely weathered rock (properties of drill cuttings/grindings - light yellow sandy clay)			D		
3	3.0 Refusal					
4						
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	12
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	15% Southeast	Current land use:	Grazing
Vegetation:	Cleared stringy bark woodland	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Ridge down slope	Coordinates (GDA94):	383228 E, 6618769 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH13				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 3%		Current land use: Grazing				
Vegetation: Light grass		Parent material: Variable, some sediments and colluvium				
Surface drainage: Top of Ridge		Aspect: Southeast				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.3 Brown - Rocky loam - rock on surface			D		
	0.3 - 0.4 Brown - gravel			D		
	0.4 - 0.8 Grey yellow - silty gravel			D		
	0.8 - 1.0 Orange - Silty gravel			D		
1	1.0 - 2.0 Yellow - Silty gravel			D		
2	2.0 - 2.5 Orange - Gravelly clay			D		
3	2.5 Refusal					
4						
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

Plasticity	Plans/Remarks:
NP Non-plastic	Surface rocks present
T Trace	
VL Very Low	
L Low	
M Medium	
H High	
VH Very High	
EH Extra High	

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armistale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	13
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	3% Southeast	Current land use:	Grazing
Vegetation:	Light grass	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Top of Ridge	Coordinates (GDA94):	383126 E, 6618687 N MGA Zone 56





Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH14				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 15%		Current land use: Grazing				
Vegetation: Semi cleared Stringy Bark		Parent material: Variable, some sediments and colluvium				
Surface drainage:		Aspect: Southeast				
Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.3 Brown - Loamy gravel - surface rock			D		
	0.3 - 0.5 Brown yellow - clay with gravel			D		
	0.5 - 1.0 Orange - gravely clay			D		
1	1.0 - 1.2 Extremely weathered rock (properties of drill cuttings/grindings - yellow light sandy clay - sand particles fine)			D		
	1.2 Refusal					
2						
3						
4						
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density			
D	Dry	EW	Extremely Weathered	VL	Very Loose	VS	Very soft
M	Moist	HW	Highly Weathered	L	Loose	S	Sort
W	Wet	MW	Moderately Weathered	M	Medium	F	Firm
		SW	Slightly Weathered	D	Dense	St	Stiff
		F	Fresh	VD	Very Dense	VSt	Very stiff
						H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armistale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	14
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	15% Southeast	Current land use:	Grazing
Vegetation:	Semi cleared Stringy Bark	Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383535 E, 6618839 N MGA Zone 56



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Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	15
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	8% Southeast	Current land use:	Grazing
Vegetation:	Semi cleared Stringy bark	Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383428 E, 6618747 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH16				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 5%		Current land use: Grazing				
Vegetation: Semi cleared Stringy bark		Parent material: Variable, some sediments and colluvium				
Surface drainage:		Aspect: West southwest				

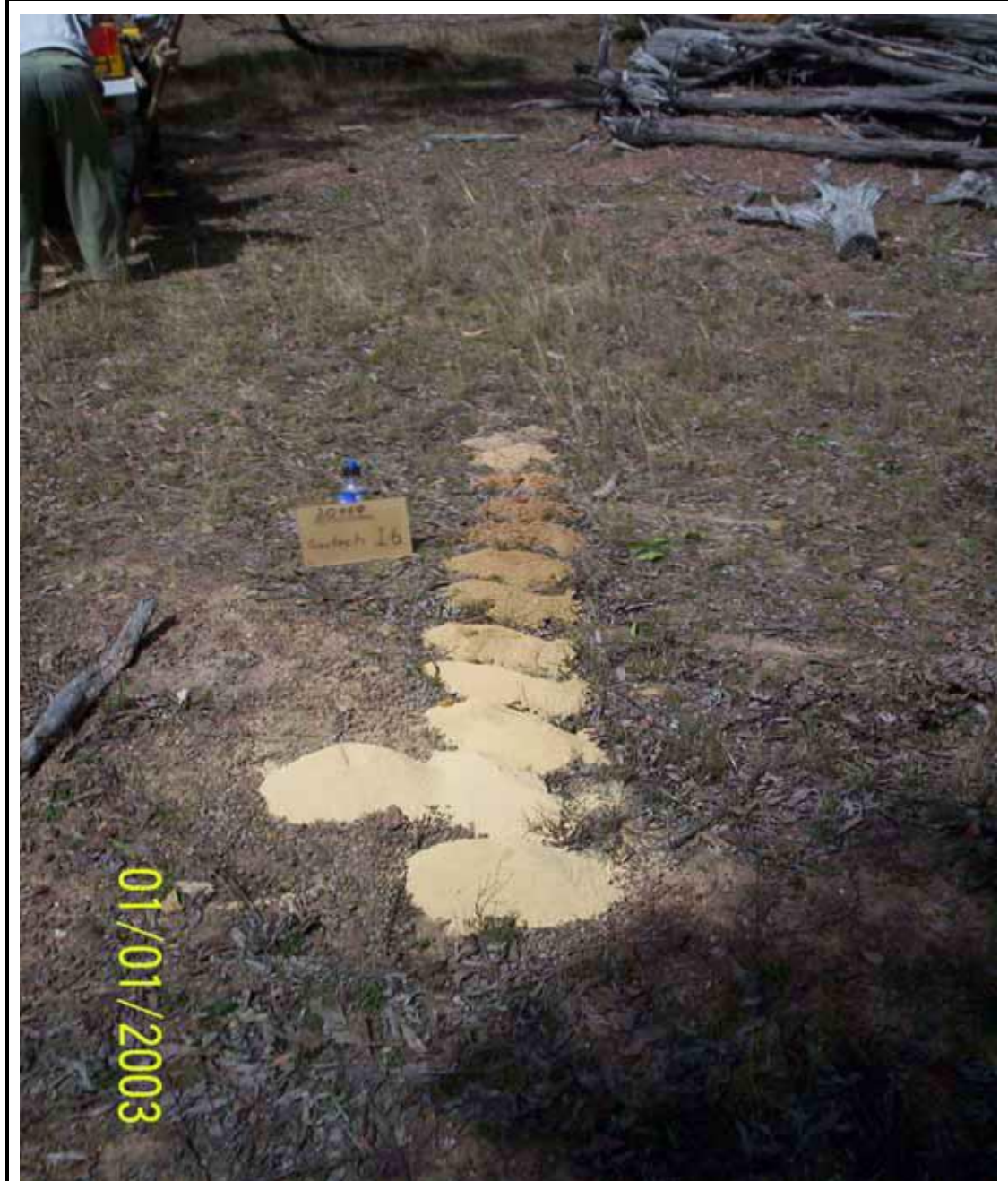
Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Light brown - gravelly loam			D		
	0.15 - 0.3 Grey - silty gravel			D		
	0.3 - 0.5 Yellow - light clay and gravel			D		
	0.5 - 0.8 Orange - medium clay and gravel			D		
	0.8 - 1.4 Orange brown - medium clay with fine gravel			D		
2	1.4 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow orange medium clay with fine sand). Some decomposed rock fragments			D		
	2.0 - 4.0 Yellow - medium clay with fine sand			D		
3						
4	4.0 Termination					
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	16
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	5% West southwest	Current land use:	Grazing
Vegetation:	Semi cleared Stringy bark	Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383469 E, 6618953 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH 17				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 2%		Current land use: Grazing				
Vegetation: Grass		Parent material: Variable, some sediments and colluvium				
Surface drainage: Toe of slope		Aspect: West southwest				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
0 - 0.15	Dark brown - gravelly loam (decomposed iron stone)			D		
0.15 - 0.3	Bleached brown - silty gravel			D		
0.3 - 0.5	Brown - gravelly clay			M		
0.5 - 1.0	Yellow brown - medium clay with sand and gravel (decomposed ironstone)			M		
1.0 - 2.0	Extremely weathered rock (properties of drill cuttings/grindings - yellow brown silty medium clay)			M		
2.0 - 2.5	Extremely weathered rock (soil properties - yellow medium clay with fine sand)			D		
2.5 - 3.0	Extremely weathered rock (properties of drill cuttings/grindings - grey brown - medium clay)			D		
3.0 - 4.0	Extremely weathered rock (properties of drill cuttings/grindings - yellow clay with fine sand)			D		
4.0	4.0 Termination					
5.0						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	17
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	2% West southwest	Current land use:	Grazing
Vegetation:	Grass	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Toe of slope	Coordinates (GDA94):	383590 E, 6619122 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH18				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 2%		Current land use: Grazing				
Vegetation: Grass		Parent material: Variable, some sediments and colluvium				
Surface drainage: Flat		Aspect: East				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
—	0 - 0.15 Brown - loam			D		
—	0.15 - 0.3 Red brown - medium clay			M		
—	0.3 - 0.5 Yellow - medium clay with fine sand			D		
1						
2	2.0 Refusal					
3						
4						
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	18
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	2% East	Current land use:	Grazing
Vegetation:	Grass	Parent material:	Variable, some sediments and colluvium
Surface drainage:	Flat	Coordinates (GDA94):	383431 E, 6619449 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH19				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 2%		Current land use: Grazing				
Vegetation: Grass		Parent material: Variable, some sediments and colluvium				
Surface drainage:		Aspect: South				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Brown - loam			D		
	0.15 - 0.3 Bleached brown - silty loam			D		
	0.3 - 1.0 Yellow - medium clay with fine with a layer of quartz			D		
	1.0 - 1.2 Orange - medium clay with sand			D		
	1.2 - 1.5 Extremely weathered rock (properties of drill cuttings/grindings - red gravelly clay with rock at 1.5m)			D		
	1.5 - 1.8 Extremely weathered rock (properties of drill cuttings/grindings - orange medium clay with gravel)			D		
	1.8 - 2.8 Extremely weathered rock (properties of drill cuttings/grindings - yellow medium clay with fine sand)			D		
2						
3	2.8 Refusal					
4						
5						

Moisture Content	Weather Rock Classification Symbols	Consistency/Density
D Dry	EW Extremely Weathered	VL Very Loose VS Very soft
M Moist	HW Highly Weathered	L Loose S Sort
W Wet	MW Moderately Weathered	M Medium F Firm
	SW Slightly Weathered	D Dense St Stiff
	F Fresh	VD Very Dense VSt Very stiff
		H Hard G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	19
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	2% South	Current land use:	Grazing
Vegetation:	Grass	Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383462 E, 6619652 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH20				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 2%		Current land use: Grazing				
Vegetation: Grass		Parent material: Vazriable, some sediments and colluvium				
Surface drainage:		Aspect: South				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
0 - 0.15	Brown - loam			D		
0.15 - 0.3	Light brown - gravelly clay loam with decomposed ironstone			D		
0.3 - 0.5	Red brown - medium clay with silt			D		
0.5 - 1.0	Orange red - medium clay with gravel (black oxides and decomposed ironstone)			D		
1.0 - 2.0	Extremely weathered rock (properties of drill cuttings/grindings - yellow orange medium clay with medium sand)			D		
2.0 - 2.5	Extremely weathered rock (properties of drill cuttings/grindings - yellow gravelly (fine) sandy (coarse) clay)			D		
2.5 - 4.0	Extremely weathered rock (properties of drill cuttings/grindings - yellow - medium clay with fine sand)			D		
4.0	4.0 Termination					

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	20
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	2% South	Current land use:	Grazing
Vegetation:	Grass	Parent material:	Vazriable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383491 E, 6619152 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969	
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05	
Location: Waterfall Way		Logged by: Alex Bell	
Excavation Method: Light Drill Rig		Bore Hole No: BH21	
Groundwater Struck: No		Groundwater Stands:	
Surface slope: 4%		Current land use: Grazing	
Vegetation: Grass		Parent material: Variable, some sediments and colluvium	
Surface drainage:		Aspect: South southeast	

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Brown to light brown - loam with light gravel			D		
	0.15 - 0.3 Orange brown - medium to heavy clay with medium sand			M		
	0.3 - 1.0 Red - medium to heavy clay - medium coarse sand with fine black oxides			M		
1	1.0 - 2.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow light clay with silt)			D		
2	2.0 - 3.0 Extremely weathered rock (properties of drill cuttings/grindings - yellow light clay with fine sand)			D		
3	3.0 Termination					
4						
5						

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	21
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	4% South southeast	Current land use:	Grazing
Vegetation:	Grass	Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383391 E, 6619167 N MGA Zone 56



Geotechnical Soil Profile Log

Client: Maunsell Australia		Job No: 20969				
Project: Armidale Dumaresq Council Proposed Landfill		Date: 13-Sep-05				
Location: Waterfall Way		Logged by: Alex Bell				
Excavation Method: Light Drill Rig		Bore Hole No: BH22				
Groundwater Struck: No		Groundwater Stands:				
Surface slope: 5%		Current land use: Grazing				
Vegetation: Grass		Parent material: Variable, some sediments and colluvium				
Surface drainage:		Aspect: South				

Depth (metres)	Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
1	0 - 0.15 Light brown - loam			D		
	0.15 - 0.3 Light brown - gravelly light clay			D		
	0.3 - 0.5 Red brown - gravelly light clay			D		
	0.5 - 1.3 Orange brown - medium clay with sand and gravel (black oxides, decomposed ironstone)			D		
2	1.3 - 1.7 Extremely weathered rock (properties of drill cuttings/grindings - yellow medium clay with light sand and fine gravel, decomposed ironstone)			D		
	1.7 - 3.5 Extremely weathered rock (properties of drill cuttings/grindings - light yellow medium clay with fine sand)			D		
3						
4						
5						
	3.5 Refusal					

Moisture Content		Weather Rock Classification Symbols		Consistency/Density	
D	Dry	EW	Extremely Weathered	VL	Very Loose
M	Moist	HW	Highly Weathered	L	Loose
W	Wet	MW	Moderately Weathered	M	Medium
		SW	Slightly Weathered	D	Dense
		F	Fresh	VD	Very Dense
				VS	Very soft
				S	Sort
				F	Firm
				St	Stiff
				VSt	Very stiff
				H	G+Hard

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

E.A. Systems Pty Limited
Environmental & Agricultural Science & Engineering
Geotechnical Soil Profile Log

Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	22
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	5% South	Current land use:	Grazing
Vegetation:	Grass	Parent material:	Variable, some sediments and colluvium
Surface drainage:		Coordinates (GDA94):	383503 E, 6619065 N MGA Zone 56

