6. Appendices

Appendix A.	Geotechnical Soil Profile Logs – Bore Holes	A
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Report	NΙΛ	20060	12861

Appendix A. Geotechnical Soil Profile Logs – Bore Holes



Client:	Man	nsell Australia		Job No:		20969			
			nocad Landfill	Date:		13-Sep-05			
Project: Location:		Waterfall Way			Logged by: Robert Cork				
				Bore Hole No: BH1					
			Groundwater Stands:						
Ī			Current land use: Grazing						
Vegetation:				Parent material:		. 0			
Surface draina		of slope		Aspect:		Northwest			
Depth (metres)		Soil Description		Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0.00 - 0.15 Light bro	wn - clay loam				М			
	0.15 - 0.25 White - cl					M			
_	0.25 - 0.50 Orange -	stiff clay				D			
		range - clay with some grave pitates	el - small amounts of quartz			D			
2	1.50 - 5.50 Extremely clay with light sand)	y weathered rock (properties	s of drill cuttings/grindings -			D			
1—————————————————————————————————————									
4		5.50 Termination							
╚		5.55 Termination							
Moist	ure Content	Weather	Rock Classification Symbol	s		Consisten	cy/Density		
D	Dry	EW	Extremely Weathered		VL	Very Loose	VS	Very soft	
M	Moist	HW	Highly Weathered			Loose	S	Sort	
w	Wet	MW	Moderately Weathered			Medium	F	Firm	
		SW	Slightly Weathered			Dense	St	Stiff	
		F	Fresh		VD	Very Dense	VSt	Very stiff	
pi	lasticity	Plans/Remarks:					Н	G+Hard	
NP T VL L M H	Non-plastic Trace Very Low Low Medium High Very High	_							
	Very High Extra High								

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





Client:	Man	nsell Australia		Job No:		20969		
Project:		idale Dumaresq Council Proposed Lar	Date: 13-Sep-05					
Location:		erfall Way						
		•	Logged by: Robert Cork					
Excavation M					Bore Hole No: BH 2			
	Groundwater Struck: No				ands:			
Surface slope:	: 3%			Current land use	:	Grazing		
Vegetation:	Strin	ngy barks. Cleared open woodland		Parent material:		Variable, some sec	diments and elluvia	ls
Surface drain	age: Sligh	ht 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 bro	own loam - clay loam - some deposited	gravel from up-slope			D		
						D		
	0.13 - 0.30 Wille bit	own, bleached - clay loam - some depo	osned graver from up-stope			D		
	0.3 - 0.70 Orange - s	tiff clay				D		
	0.7 - 0.90 Yellow, or	range clay - stiff clay				D		
1 —	0.9 - 1.00 Orange - C	Gravel with clay				D		
1	1.0 - 1.50 Orange - s	tiff clay with gravel				D		
					I			
		gravel with clay tiff clay with gravel gravel with clay gravel with clay weathered rock (properties of drill cutt rd to drill through						
					I			
	1.5 - 1.60 Orange - g	gravel with clay				D		
	1.6 - 5.5 Extremely v	weathered rock (properties of drill cutt	ings/grindings - yellow lay wit	t l	ĺ	D		
	ngnt sand). Very ha	ra to drill through			I			
					I			
2					ĺ			
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3								
· ~								
4								
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					I			
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5					I			
5—					I			
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					I			
		Termination 5.5		_	r	 		
Mois	ture Content	Weather Roo	ck Classification Symbols			Consisten	cy/Density	
D	Dry	EW	Extremely Weathered		VL	Very Loose		Very soft
M	Moist	HW	Highly Weathered		I.	Loose		Sort
		MW			M	Medium		Firm
W	Wet		Moderately Weathered					
		SW	Slightly Weathered		D	Dense		Stiff
		F	Fresh		VD	Very Dense		Very stiff
		ny ny r			L		Н	G+Hard
	lasticity	Plans/Remarks:						
NP	Non-plastic							
T	Trace							
	Very Low							
L	Low							
M	Medium							
Н	High							
	Very High							
	Extra High							
EH								

Client:	Maunsell Australia	Job No:	20969
CHERT:	Maunsen Austrana	JOD INO:	20909
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





Client:	Man	nsell Australia		Job No:		20969		1
Project:				Date: 13-Sep-05				
Location:	Ī							
	,			Logged by: Robert Cork Bore Hole No: BH 3				
					ande:	D11 3		
Groundwater Struck: No Surface slope: 5% - 6%			Groundwater Stands:					
Surface slope				Current land use	:	Grazing	di	
Vegetation:		n woodland, grazed		Parent material:		Variable, some sec	aiments and colluv	ium
Surface drain	nage: Oper	1 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 or	ganic matter			D		
	0 15 - 0 3 Brown red	- heavy clay loam with sor	ne gravel			D		
			ne graver					
	0.3 - 0.5 Red - heavy	clay with some gravel				D		
	0.5 - 0.9 Orange - he	avy clav				D		
_	o.o o.o orange ne	ary ciay						
1—	0.9 - 1.3 Orange - cla	ay loam				D		
l -								
I —	1 2 1 5 F	wantharnd mal- (of drill outtings/idi			D		
I —		veathered rock (properties or y, sand content increasing v	of drill cuttings/grindings - with depth). Hard to drill			D		
-		weathered rock (properties		155341		D		
I —	white/yellow - sandy	clayey silt). Hard to drill	through. Ground	rı				
		esents as clay material. Bul	lk sample taken for lab					
	analysis							
2								
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I —								
Mois	ture Content	Wastha	r Rock Classification Symbol	s		Consisten	cv/Density	
		EW	Extremely Weathered		VL	Very Loose	VS VS	Very soft
D M	Dry	HW	-		T	Very Loose Loose	vs s	Sort
M W	Moist Wet	MW	Highly Weathered Moderately Weathered		L M	Medium	S F	Firm
"	W CI	SW	Slightly Weathered		D D	Dense	F St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
		1	riesii		1.5	. cry Delise	H H	G+Hard
	Plasticity	Plans/Remarks:			I			
NP	Non-plastic	1						
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
Н	High							
VH	Very High							
EH	Extra High							

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





CII.		HA P	T. 1. N.		200.00			
Client: Project:		nsell Australia dale Dumaresq Council Proposed Landfill	Job No: Date:		20969 13-Sep-05			
Location:								
				Logged by: Robert Cork Bore Hole No: BH 4				
				ands:	BITT			
Surface slope:		10%	Current land use		Grazing			
Vegetation:		stringy bark woodland	Parent material:		Variable, some sec	liments and colluv	ium	
Surface drain	•	slope with some surface rocks	Aspect:		East			
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0 - 0.2 Light brown -	clay loam - high organic matter			D			
	0.20-0.40 Light brow	n - clay loam			D			
	0.4 - 0.8 Light brown	- clay loam with gravel			D			
-		, g			_			
	0.9. 1.2 Orongo/rod	- clay with light sand and small gravel	155343	SC	D			
	0.8 - 1.2 Orange/red	- ciay with right sand and small graver	133343	SC	Б			
1								
	12 - 1.4 Orange - cla	ay loam with gravel			D			
_	1.4 - 1.6 Extremely w	veathered rock (properties of drill cuttings/grindings -			D			
		th light sand and some gravel)		<u>L</u>	<u> </u>			
		veathered rock (properties of drill cuttings/grindings -			D			
	white heavy clay)							
2								
2—	2.0 - 2.6 Extremely w	veathered rock (properties of drill cuttings/grindings -			D			
	white heavy clay with	n sand)						
-								
	2.6 - 2.7 Extremely w	reathered rock. Red white rock fragments suggest			D			
	refusal due to rock m	aterial. 2.70 Refusal	_					
3		2.70 Refusai						
2								
٥								
4								
5								
_—								
5								
Mois	ture Content	Weather Rock Classification Symbo	ıls		Consisten	cy/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 Weathere	d	M	Medium	F	Firm	
		SW Slightly Weathered		D	Dense	St	Stiff	
		F Fresh		VD	Very Dense	VSt	Very stiff	
т	Nacticity	Plans/Remarks:		<u> </u>		Н	G+Hard	
	Plasticity Non-plastic	rans Achiars.						
T T	Trace							
I VL	Very Low							
	Low							
	Medium							
Н	High							
VH	Very High							
	Extra High							
EH								

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





Client:	Man	nsell Australia	Job No:		20969			
Project:		idale Dumaresq Council Proposed Landfill	Date: 13-Sep-05					
Location:				Logged by: Robert Cork				
				Bore Hole No: BH 5				
			Groundwater Stands:					
Surface slope			Current land use	:	Grazing	di		
Vegetation:		ression vegetation	Parent material:			diments and colluvi	uifl	
Surface drain	nage: Main	n drainage line about 50m below top dam	Aspect:	ı	North northeast			
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0 - 0.1 Brown - heav	y clay loam - high organic matter			D			
	0.1 - 0.3 Bleached, li	ght brown - wet due to location to dam						
					M			
	0.3 - 0.5 Brown oran	ge - heavy clay with sand		ĺ	D			
	0.5 - 0.7 Orange - he	arry alay with graval						
—	0.5 - 0.7 Grange - ne	avy ciay with graver			D			
	0.7 - 1.2 Orange - he	avy clay with sand and some gravel						
		,						
1—					D			
1				ĺ				
	1.2 - 1.4 Yellow - he	avy clay - some sand and gravel		ĺ	D			
I —	14 17 5	weathered real (proporties of Jaill autic/-in !						
—		weathered rock (properties of drill cuttings/grindings - sand). At approximately 1.6m, a ground, decomposed,			D			
-	mineralised material				Þ			
		1.7 Refusal						
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4								
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I —								
5—								
				ļ				
Mois	ture Content	Weather Rock Classification Symbol	S	ļ		cy/Density		
D	Dry	EW Extremely Weathered		VL	Very Loose	VS	Very soft	
M	Moist	HW Highly Weathered		L	Loose		Sort	
W	Wet	MW Moderately Weathered		M	Medium	F	Firm	
		SW Slightly Weathered		D	Dense	St	Stiff	
		F Fresh		VD	Very Dense		Very stiff	
						Н	G+Hard	
	Plasticity	Plans/Remarks:	_					
NP	Non-plastic	bleached layer between 100 - 300 may indcate transient	flow					
T	Trace							
VL	Very Low							
	Low							
M	Medium							
	High							
Н								
VH	Very High							
EH	Extra High							

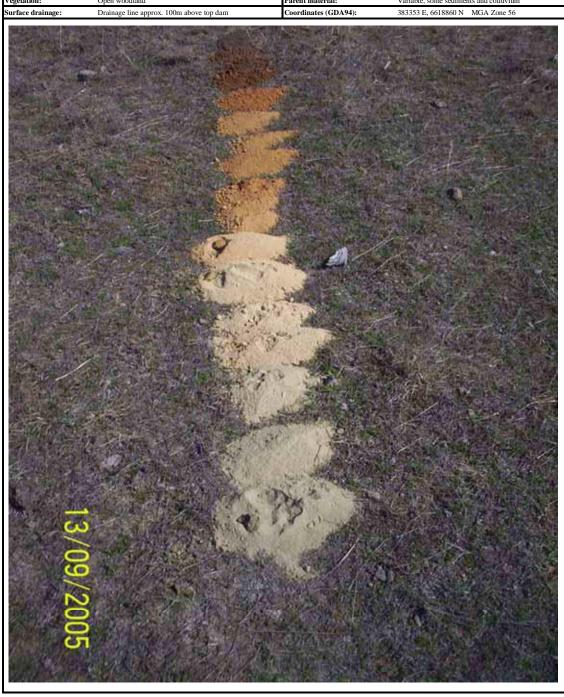
Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	BH 5
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	10% North northeast	Current 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





Client:	Man	nsell Australia	Job No: 20969					
Project:		idale Dumaresq Council Proposed Landfill	Date: 13-Sep-05					
Location:		erfall Way	Logged by: Robert Cork					
			Bore Hole No: BH6					
			Bore Hole No: BH6 Groundwater Stands:					
			Current land use: Grazing Parent material: Variable, some sediments and colluvium					
Vegetation:		n woodland	Parent material:			annents and contuv	iuni	
Surface drain	iage: Dran	nage line approx. 100m above top dam	Aspect:	1	Northeast			
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0 - 0.1 Dark brown -	clay loam			D			
	0.1 - 0.4 Orange/brov				D			
	0.4 - 0.6 Red - heavy	clay with gravel			D			
_	0.6 - 1.3 Orange - he				D			
	0.6 - 1.3 Orange - ne	avy ciay with graver			D			
1—								
1—								
	1.3 - 1.5 Orange - he	avy clay with gravel concretions						
	1.5 - 2.0 Yellow whit	te - fine clay with sand			D			
—								
		weathered rock (properties of drill cuttings/grindings - ys with sand and gravel)						
2	2.0 - 3.0 Extremely	weathered rock (properties of drill cuttings/grindings -	1	Ì	D			
	yellow white fine cla	ys with sand and gravel)						
—								
3								
~—		veathered rock (properties of drill cuttings/grindings - ys with gravel). Gravel increasing in size.			D			
	, rinc cia	,						
I —								
_								
]					
	4.0 - 4.2 Extremely	weathered rock (properties of drill cuttings/grindings -			D			
	grey green clay with		+	+				
I —		4.2 Refusal						
—								
—								
_								
5								
		W 3 70 1 mm 1 mm 1 mm	<u> </u>			. ·		
	ture Content	Weather Rock Classification Symbo		L		cy/Density		
D	Dry	EW Extremely Weathered	l	VL	Very Loose	VS -	Very soft	
M	Moist	HW Highly Weathered		L	Loose	S	Sort	
W	Wet	MW Moderately Weathere	d	M	Medium	F	Firm	
		SW Slightly Weathered		D	Dense	St	Stiff	
		F Fresh		VD	Very Dense	VSt	Very stiff	
-	M - 21.14	Dlans/Pamarks		<u> </u>		Н	G+Hard	
	Plasticity	Plans/Remarks:	ditions					
NP	Non-plastic	Green colour between 4.0 - 4.2 indicates anaerobic cor	uitions.					
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
	High							
Н								
VH	Very High							
EH	EH Extra High							

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





Client:	Maur	nsell Australia	Job No: 20969					
Project:		idale Dumaresq Council Proposed Landfill	Date: 13-Sep-05					
Location:		erfall Way	Logged by: Robert Cork					
Excavation M		·	Bore Hole No: BH7					
		t Drill Rig						
Groundwater			Groundwater Sta		a :			
Surface slope			Current land use: Grazing					
Vegetation:		ire Sedges	Parent material:		Variable, some sec	liments and colluvi	um	
Surface drain	age: 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	
	0 - 0.15 Brown - clay	v loam			D			
-		heavy clay with sand and gravel			M			
	0.75 - 0.85 Orange -	clay with sand and gravel			D			
		clay with sand and gravel (less gravel)			D			
1—								
				I				
I —				ĺ				
1—	1.5 - 2.0 Extremely v	weathered rock (properties of drill cuttings/grindings -			D			
	light orange clay with				-			
		•		ĺ				
2	2.0 - 2.5 Extremely v	weathered rock (properties of drill cuttings/grindings - h fine sand and gravel)		1	D			
	light orange clay with	h fine sand and gravel)						
				ĺ				
		weathered rock (properties of drill cuttings/grindings -			D			
		h sand and gravel). Gravel as calcium carbonate						
	precipitates with iron	l						
3—								
I ~—								
-	33-39 Extremely	weathered rock (properties of drill cuttings/grindings -	1		D			
	light orange clay with				2			
-								
-								
4	3.9 - 4.3 Extremely w	veathered rock (orange - decomposed granite)			D			
4								
			L	L				
		4.3 Termination						
—								
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				ĺ				
5—				I				
-								
oxdot			<u> </u>	<u> </u>				
Mois	ture Content	Weather Rock Classification Symbo	ls		Consisten	cy/Density		
D	Dry	EW Extremely Weathered		VL	Very Loose		Very soft	
M	Moist	HW Highly Weathered		L	Loose		Sort	
w	Wet	MW Moderately Weathered	i	М	Medium		Firm	
		SW Slightly Weathered		D	Dense		Stiff	
		F Fresh		VD	Very Dense		Very stiff	
				I			G+Hard	
P	Plasticity	Plans/Remarks:						
	Non-plastic							
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
Н	High							
VH	Very High							
EH	Extra High							
1.11		i						

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





Client:	Mann	nsell Australia	Job No: 20969					
		idale Dumaresq Council Proposed Landfill	Date: 13-Sep-05					
Project: Location:		erfall Way	Logged by: Robert Cork					
		· · · · · · · · · · · · · · · · · · ·	Logged by: Robert Cork Bore Hole No: BH8					
	ravation Method: Light Drill Rig							
Groundwater		20/	Groundwater Stands:					
Surface slope: 1% - 2%			Current land use: Parent material: Variable, some sediments and colluvium					
Vegetation:	.		Parent material:			aiments and colluv	ium	
Surface drain	nage: Dran	nage line is east of main line	Aspect:	Ti .	North northeast			
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0 - 0.15 Light brown	- clay loam			D			
	0.15 - 0.30 Grey - cl	lay loam			D			
	0.3 - 0.7 Grey - clay	with fine sand - some gravel and concretions			D			
	1							
-	0.7 - 0.8 Orange bro	wn - clay with sand and gravel			D			
	0.8 - 1.5 Orange bro	wn - clay with heavy gravel			D			
1	1							
1								
1—	ł							
	1							
—	1.5 - 3.0 Extremely	weathered rock (properties of drill cuttings/grindings -	1		D			
l —	yellow clay with san				_			
	•							
3]							
2	1							
_								
_	1							
	1							
3—		3.0 Refusal	† ···	†				
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	<u> </u>		<u>. </u>					
	ture Content	Weather Rock Classification Symbol		!		cy/Density		
D	Dry	EW Extremely Weathere	1	VL -	Very Loose	VS	Very soft	
M	Moist	HW Highly Weathered		L	Loose	S	Sort	
W	Wet	MW Moderately Weathers	d	M	Medium	F	Firm	
1		SW Slightly Weathered		D	Dense	St	Stiff	
1		F Fresh		VD	Very Dense	VSt	Very stiff	
	21	Dlans/Damarks		<u> </u>		Н	G+Hard	
	Plasticity	Plans/Remarks:						
NP	Non-plastic			•				
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
Н	High							
VH	Very High							
EH								
LIT	Extra High							

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





Client:	Mann	ınsell Australia		Job No:		20969			
Project:		Armidale Dumaresq Council Proposed Landfill			Date: 13-Sep-05				
Location:		erfall Way	nen Froposea Eunarin	Logged by: Robert Cork					
	ation Method: Light Drill Rig			Bore Hole No: BH9					
Groundwater		ii Diiii Rig		Groundwater Sta		511)			
Surface slope: 1%				Groundwater Stands: Current land use:					
Vegetation:	-,0			Parent material:		Variable, some sec	diments and colluvi	um	
Surface drain	age: Drain	inage line is close to	junction	Aspect:		North northeast			
Depth (metres)		Soil Descr		Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0 - 0.15 Brown - cla 0.15 - 3.0 Grey - hea					M M			
	0.3 - 0.5 Orange bro	own - heavy clay with	n concretions			D			
	0.5 - 0.7 Orange - cl					D			
	0.7 - 1.7 Yellow bro	own - clay with sand	and gravel			D			
1—									
	yellow clay with sand		perties of drill cuttings/grindings -			D			
2	2.0 - 2.2 Extremely v		erties of drill cuttings/grindings -			D			
3	orange yellow clay w	with sand and gravel) 2.2 Refu							
l —									
3—									
4									
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5									
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Mois	ture Content	7	Veather Rock Classification Symbol	S		Consisten	cy/Density		
D	Dry	EW	Extremely Weathered		VL	Very Loose	VS	Very soft	
M	Moist	HW	Highly Weathered			Loose	S	Sort	
W	Wet	MW	Moderately Weathered			Medium	F	Firm	
		SW F	Slightly Weathered Fresh			Dense Very Dense	St VSt	Stiff Very stiff	
		l '	riesii			. as acuse	H H	G+Hard	
P	Plasticity	Plans/Remarks:							
	Non-plastic								
T	Trace								
VL	Very Low								
L	Low								
M	Medium								
Н	High								
VH	Very High								
EH	Extra High								

	Georechine	al 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:	
	1% North northeast	Current land use:	
		Parent material:	Variable, some sediments and colluvium
	Drainage line is close to junction	Coordinates (GDA94):	383634 E, 6619435 N MGA Zone 56
Surface Slope/Aspect: Vegetation: Surface drainage:	Drainage line is close to junction	Parent material:	Variable, some sediments and colluvium 383634 E, 6619435 N MGA Zone 56
09/2005			



Client:	Maur	nsell Australia		Job No:		20969		
Project:		idale Dumaresq Council	Proposed Landfill	Date: 13-Sep-05				
Location:		erfall Way	•	Logged by: Robert Cork				
Excavation M		t Drill Rig		Bore Hole No: BH10				
Groundwater Struck: No				Groundwater Stands:				
Surface slope:			Current land use:					
Vegetation:				Parent material:		Variable, some sec	diments and colluvi	um
Surface drain	age:			Aspect:		•		
Depth (metres)		Soil Description	on	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Brown - Cla	ıy loam				M		
	0.15 - 0.5 Light brov	wn - Clay loam				M		
	0.5 - 1.0 Orange - he	eavy clay with sand and	gravel			D		
-		,,	B			_		
1—								
1	1.0 - 1.2 Orange - He	eavy clay with sand and	gravel			D		
—	12 17 0	andy clay				D		
	1.2 - 1.7 Orange - Sa	andy ciay				D		
	1.7 - 1.8 Extremely	weathered rock (orange))			D		
			ies of drill cuttings/grindings -			D		
2		0mm) clay). Some gree	n colouring indicating anaerobic					
2	conditions							
-								
_								
-	2.5 - 3.8 Extremely v	weathered rock (propert	ies of drill cuttings/grindings -			D		
	yellow sandy clay wi							
3								
3—								
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	L			L	L	L		
	Refusa	al 3.8 (fractured rock -	little clay present)	Γ'	Γ	[
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Mois	ture Content	Wea	ther Rock Classification Symbol	S		Consisten	cy/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	I	М	Medium	F	Firm
		SW	Slightly Weathered		D	Dense	St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
1							Н	G+Hard
P	Plasticity	Plans/Remarks:				<u> </u>		
	Non-plastic							
T	Trace							
VL	Very Low							
	Low							
M	Medium							
Н	High							
VH	Very High							
EH	Extra High	Ī						

Client:	Maunsell Australia	al Soil Profile	20969
roject:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
	Waterfall Way		
ocation:		Logged by:	Robert Cork
xcavation Method:	Light Drill Rig	Bore Hole No:	10
roundwater Struck:	No	Groundwater Stands:	
urface Slope/Aspect:		Current land use:	
egetation:		Parent material:	Variable, some sediments and colluvium
urface drainage:		Coordinates (GDA94):	383698 E, 6619624 N MGA Zone 56
No Photo	0		



Client:	nt: Maunsell Australia				Job No: 20969					
Project:	Armidale Dumaresq Council Proposed Landfill			Date: 13-Sep-05						
Location:		erfall Way	nen Froposed Landrin	Logged by: Alex Bell						
	cavation Method: Light Drill Rig									
		r Dim Kig		Bore Hole No: BH11						
Groundwater				Groundwater Stands: Current land use: Grazing						
Surface slope: Vegetation:			r woodland		:	Grazing	limonts 1 11			
		red open stringy bark	k woodland	Parent material:		Variable, some sec	liments and colluv	um		
Surface drain	age: Sligh	nt drainage line		Aspect:		Southeast				
Depth (metres)		Soil Description			Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity		
	0 - 0.15 Light brown	ı - Loam with gravel			ì	D				
	0.15 - 0.30 Bleached	l light brown Loam	and gravel miv			D				
			rand graver mix							
	0.3 - 0.6 Light yello	w - gravelly clay				D				
_	0.6 - 1.0 Yellow/bro	wn - gravelly clay				D				
	0.0 - 1.0 TCHOW/010	wii - graveny ciay				ь				
-										
1—										
1-	1.0 - 1.5 Extremely	weathered rock (soil	l properties - orange brown sandy			D				
	light clay with gravel	1)								
			perties of drill cuttings/grindings -		ĺ	D				
	orange heavy clay wi	ıııı graveı)			ĺ					
_										
2	2.0 - 4.0 Extremely	weathered rock (pro	perties of drill cuttings/grindings -		1	D				
	yellow clay with ligh	nt sand)								
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	ture Content		Veather Rock Classification Symbol			Consisten				
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	1	M	Medium	F	Firm		
		SW	Slightly Weathered		D	Dense	St	Stiff		
		F	Fresh		VD	Very Dense	VSt	Very stiff		
-	N:-:-	Plans/Pamarka			I		H	G+Hard		
	Plasticity	Plans/Remarks:								
	Non-plastic	l			•					
T	Trace									
VL	Very Low									
L	Low									
M	Medium									
H	High									
VH	Very High	l								
EH										

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





Client:	Man	ınsell Australia		Job No:		20969		1
	Armidale Dumaresq Council Proposed Landfill							
Project: Location:		erfall Way	en i roposcu Landilli	Date: 13-Sep-05 Logged by: Alex Bell				
				Bore Hole No: BH12				
					ande:	D1114		
				Groundwater Stands: Current land use: Grazing				
			Current land use: Grazing					
Vegetation:		ared stringy bark wood	Idilu	Parent material:		Variable, some sec	iments and colluv	uifi
Surface drain	age: Ridg	ge down slop		Aspect:	ı	Southeast	1	
Depth (metres)		Soil Descrip	otion	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Light brown	n - gravelly loam (grav	vel on surface)			D		
	0.15 - 0.3 Yellow - g	gravelly clay				D		
	0.3 - 0.5 Orange - gr	ravelly clay				D		
	0.5 1.5 Oranga cl	lay silt with fine grave	1			D		
	0.5 - 1.5 Grange - ch	iay siit with tine grave	1			ь		
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		weathered rock (pres-	erties of drill cuttings/grindings -	1	1	D		
	orange yellow clay w		and or urm cutungs/grindings -	ĺ	ĺ	D		
	5 y							
1 2								
	2.0 - 3.0 Extremely		erties of drill cuttings/grindings -			D		
	light yellow sandy cl	lay)						
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3——————————————————————————————————————		3.0 Refus	al					
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	ture Content	-	eather Rock Classification Symbol		ļ		cy/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
-	u	Dlong/P¹			I		Н	G+Hard
	Plasticity	Plans/Remarks:						
	Non-plastic				•			
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
Н	High							
	Very High							
VH								
EH	Extra High	Ī						

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 slop	Coordinates (GDA94):	383228 E, 6618769 N MGA Zone 56





Client:	Man	ınsell Australia		Job No:		20969		
Project:		Armidale Dumaresq Council Proposed Landfill		Date:		13-Sep-05		
Location:				Logged by: Alex Bell				
Excavation M	·			Bore Hole No:		BH13		
•			Groundwater Sta	ande:	21113			
			Current land use: Grazing					
					:			
Vegetation:		nt grass		Parent material:			diments and colluvi	iuin
Surface drain	age: Top	of Ridge		Aspect:	_	Southeast		
Depth (metres)		Soil Desc	ription	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 - gra	round.				D		
	0.4 - 0.8 Grey yellov					D		
-		, g				_		
	0.8 - 1.0 Orange - Sil	ilty gravel				D		
	1.0 - 2.0 Yellow - Sil							
	1.0 - 2.0 Yellow - Sil	ilty gravel				D		
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	2.0 - 2.5 Orange - Gr	ravelly clay			Ī	D		
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	ture Content	1	Weather Rock Classification Symbol		.		cy/Density	
D	Dry	EW	Extremely Weathered		VL	Very Loose		Very soft
M	Moist	HW	Highly Weathered		L	Loose	S	Sort
W	Wet	MW	Moderately Weathered		М			Firm
		SW	Slightly Weathered		D	Dense		Stiff
Ī		F	Fresh		VD	Very Dense	VSt	Very stiff
	Nacticity	Plans/Remarks:					Н	G+Hard
	Plasticity	Surface rocks pres	ent					
	Non-plastic	Sarrace rocks pres	Line					
	Trace							
VL	Very Low							
L	Low							
M	Medium							
	High							
	Very High							
EH	Extra High	1						

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:	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:	Mann	ınsell Australia		Job No:		20969		
	Armidale Dumaresq Council Proposed Landfill							
Project: Location:				Date: 13-Sep-05 Logged by: Alex Bell				
	·			Bore Hole No: BH14				
				Groundwater Stands:				
Surface slope:			rlr	Current land use: Grazing				
Vegetation:		i cleared Stringy Ba	I K	Parent material:		Variable, some sec	iments and colluv	uifi
Surface drain	age:			Aspect:		Southeast		
Depth (metres)		Soil Desc	ription	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.3 Brown - Loai	my gravel - surface	rock		ì	D		
	0.3 - 0.5 Brown yell	low - clay with grav	el			D		
	0.5 - 1.0 Orange - gr					D		
	0.5 - 1.0 Grange - gr	lavely clay				ь		
1								
1			operties of drill cuttings/grindings -			D		
	yellow light sandy cl			L	L	L		L
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Mois	ture Content		Weather Rock Classification Symbol	S		Consisten		
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	ı	М	Medium	F	Firm
1		SW	Slightly Weathered		D	Dense	St	Stiff
1		F	Fresh		VD	Very Dense	VSt	Very stiff
		DI C :			<u> </u>		Н	G+Hard
	Plasticity	Plans/Remarks:						
	Non-plastic				•			
T	Trace							
VL	Very Low							
L	Low							
	Medium							
Н	High							
VH	Very High							
EH	Extra High	Ī						

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:	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





Client:	Man	nsell Australia		Job No:		20969		
Project:		Armidale Dumaresq Council Proposed Landfill			Date: 13-Sep-05			
Location:		erfall Way	Josed Landini	Logged by: Alex Bell				
Excavation M		nt Drill Rig		Bore Hole No:				
Groundwater				Groundwater Stands:				
Surface slope				Current land use: Grazing				
Vegetation:		i cleared Stringy bark		Parent material:		Variable, some sec	liments and colluv	um
Surface drain				Aspect:		Southeast		
Depth (metres)		Soil Description		Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Yellow brow	wn - gravel loam				D		
		range - clay gravel (gravel on				D		
	0.3 - 1.5 Orange - medium clay with gravel (small) and sand					D		
	-							
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		weathered rock (properties of	drill cuttings/grindings -			D		
	yellow medium clay	with fine sand)						
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Mo:-	sture Content	Wast	Rock Classification Symbol	c		Consist	cy/Density	
D Mois		EW weather F	•		VL	Very Loose	VS VS	Very soft
D M	Dry Moist	HW	Extremely Weathered		VL L	Loose	vs s	Sort Sort
W W	Moist Wet	MW	Highly Weathered Moderately Weathered		M	Medium	S F	Firm
**	***************************************	SW	Slightly Weathered		D	Dense	St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
							Н	G+Hard
F	Plasticity	Plans/Remarks:						
	Non-plastic	1						
Т	Trace							
VL	Very Low							
L	Low							
M	Medium							
Н	High							
H VH	Very High							
	Extra High							
EH	LAUG INGH	l .						

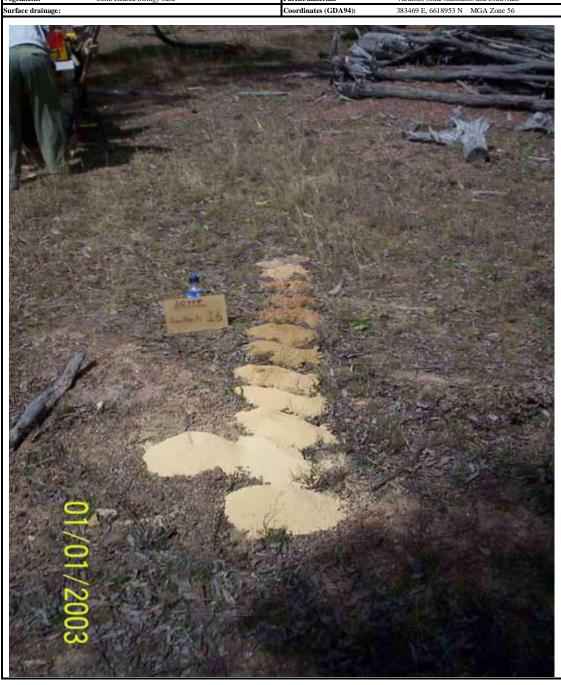
Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	15
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	8% Southeast	Current land 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





Client:	Maur	nsell Australia		Job No: 20969				
Project:	Armidale Dumaresq Council Proposed Landfill			Date: 13-Sep-05				
Location:		erfall Way	ca Landrin	Logged by: Alex Bell				
	cavation Method: Light Drill Rig							
			Bore Hole No: BH16					
				Groundwater Stands: Current land use: Grazing				
Surface slope: 5%			Current land use: Grazing Parent material: Variable, some sediments and colluvium					
Vegetation:		i cleared Stringy bark		Parent material:			iments and colluvi	uni
Surface drain	age:			Aspect:		West southwest		
Depth (metres)		Soil Description		Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Light brown	ı - gravelly loam				D		
-						D		
	0.15 - 0.3 Grey - silt					Ъ		
	0.3 - 0.5 Yellow - lig	ght clay and gravel				D		
	0.5.00.0					-		
	0.5 - 0.8 Orange - m	edium clay and gravel				D		
_	0.8 - 1.4 Orange bro	wn - medium clay with fine gra	vel			D		
1								
—	1.4. 2.0 Evtr1	weathered rook (prove-stire = 0.1.)	ill outtings/seind:			D		
—		veathered rock (properties of dri im clay with fine sand). Some d				D		
I —	fragments	., sana, some u						
-								
2		edium clay with fine sand			<u></u>			
	2.0 - 4.0 Yellow - me	edium clay with fine sand				D		
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1						L		
4		4.0 Termination						
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l —								
I —								
Mois	ture Content	Waathar Doo	ck Classification Symbol	c		Consisten	cv/Density	
D		EW EW	•	~	VL	Very Loose		Very soft
M	Dry Moist	HW	Extremely Weathered Highly Weathered		VL L	Loose		Sort
W	Wet	MW	Moderately Weathered		M	Medium		Firm
"	*** CL	SW	Slightly Weathered		D	Dense		Stiff
		F	Fresh		VD	Very Dense		Very stiff
			- 10011			J		G+Hard
P	Plasticity	Plans/Remarks:						
	Non-plastic							
T	Trace							
VL	Very Low							
	Low							
M	Medium							
Н	High							
VH	Very High							
EH	Extra High							

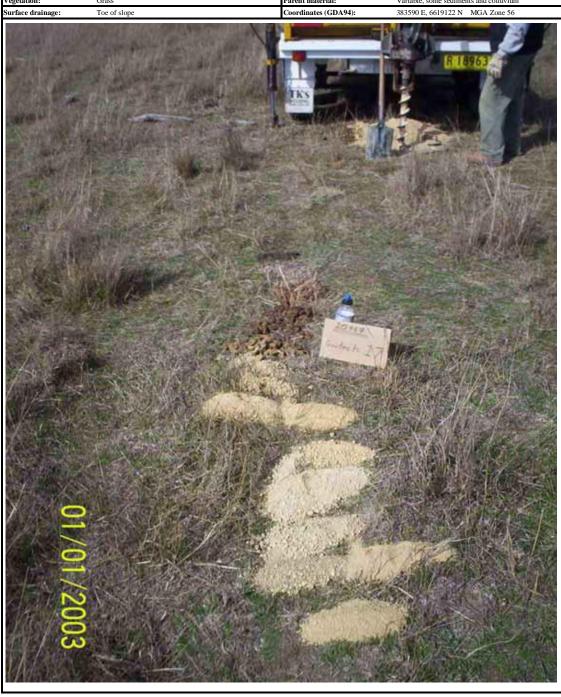
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Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	16
Groundwater Struck:	No	Groundwater Stands:	
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





Client:	Mann	nsell Australia		Job No: 20969				
Project:		idale Dumaresq Council Pro	posed Landfill	Date: 13-Sep-05				
Location:		erfall Way	poscu Lanuriii	Logged by: Alex Bell				
·				Bore Hole No: BH 17				
Groundwater				Groundwater Stands:				
Surface slope				Current land use		Grazing		
·			Parent material: Variable, some sediments and colluvium				um	
Surface drain		of slope		Aspect:		West southwest		
	3 130 (-X ·						
Depth (metres)		Soil Description		Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Dark brown	- gravely loam (decompose	d iron stone)			D		
	0.15 - 0.3 Bleached I	brown - silty gravel				D		
—	0.3 - 0.5 Brown - gra	avelly clay				M		
-	0.5 - 1.0 Yellow bro	wn - medium clay with sand	and gravel (decomposed			M		
1 1—		weathered rock (properties of nedium clay) weathered rock (soil propert						
^	1.0 - 2.0 Extremely w	veathered rock (properties of nedium clay)	drill cuttings/grindings -			M		
-	yenow biowii siity m	icuiuiii ciay)						
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2	20.25 F : :		:			Б.		
	with fine sand	weamereu rock (soil propert	ics - yenow medium clay			D		
I —	c sand							
-								
			f drill cuttings/grindings -			D		
	grey brown - mediun	n clay)						
3	20.405							
I ~—	3.0 - 4.0 Extremely w yellow clay with fine	veathered rock (properties of	arılı cuttıngs/grindings -			D		
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I —								
Mois	ture Content	Weather	Rock Classification Symbol	s		Consisten	cy/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	ı	М	Medium	F	Firm
	SW Slightly Weathered				D	Dense	St	Stiff
	F Fresh				VD	Very Dense		Very stiff
							Н	G+Hard
F	Plasticity	Plans/Remarks:						
NP	Non-plastic							
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
H	High							
VH	Very High							
EH	EH Extra High							

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





Client:	Man	ınsell Australia	Job No:		20969		
		nidale Dumaresq Council Proposed Landfill	Date: 13-Sep-05				
Project: Location:			1		Alex Bell		
		erfall Way	Logged by:				
Excavation M		nt Drill Rig	Bore Hole No:		BH18		
Groundwater			Groundwater Sta		a :		
Surface slope			Current land use: Grazing				
Vegetation:	Gras		Parent material:			diments and colluv	um
Surface drain	age: Flat		Aspect:		East		
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Brown - loa	am.			D		
	0.15 - 0.3 Red brown				M		
		•					
		nedium clay with fine sand			D		
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Mois	ture Content	Weather Rock Classification Symb	ols		Consisten	cy/Density	
D	Dry	EW Extremely Weather	ed	VL	Very Loose	VS	Very soft
M	Moist	HW Highly Weathered		L	Loose	s	Sort
W	Wet	MW Moderately Weather		М	Medium	F	Firm
		SW Slightly Weathered		D	Dense	St	Stiff
		F Fresh		VD	Very Dense	VSt	Very stiff
L		<u>l</u>		<u> </u>		Н	G+Hard
F	Plasticity	Plans/Remarks:				_	
	Non-plastic						
	Trace	1					
		1					
VL	Very Low	1					
	Low	1					
M	Medium	1					
Н	High	1					
VH	Very High						
	Extra High	1					

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





Client:	Man	nsell Australia	Job No:		20969		
Project:				13-Sep-05			
	Project: Armidale Dumaresq Council Proposed Location: Waterfall Way		Logged by:		Alex Bell		
Excavation M		t Drill Rig	Bore Hole No: BH19				
		i Driii Rig	Groundwater Stands:				
Groundwater			Current land use		Commission		
Surface slope							
Vegetation: Grass Surface drainage:			Parent material:			aiments and colluv	ium
Surface drain	nage:		Aspect:	1	South		
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Brown - loa	m			D		
	0.15 - 0.3 Bleached				D		
	0.3 - 1.0 Yellow - m	edium clay with fine with a layer of quartz			D		
1	1.0 - 1.2 Orange - m	edium clay with sand	1	1	D		
	Ĭ	-	1				
		weathered rock (properties of drill cuttings/grindings			D		
	red gravelly clay with	h rock at 1.5m)	1				
		weathered rock (properties of drill cuttings/grindings -	1		D		
	orange medium clay	with gravel)	1				
	vallou madium alau	weathered rock (properties of drill cuttings/grindings - with fine sand)	1		D		
2	yonow medium ciay	wan me sand)	1	I			
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M.c.:	ture Content	Weather Rock Classification Symb	ole	 	Consister	cy/Density	
				7/1			V
D	Dry	EW Extremely Weather		VL	Very Loose	VS	Very soft
M	Moist	HW Highly Weathered		L	Loose	S	Sort
W	Wet	MW Moderately Weather		M	Medium	F	Firm
		SW Slightly Weathered	i	D	Dense	St	Stiff
		F Fresh		VD	Very Dense	VSt	Very stiff
	N (* *)	Dlans/Damarks		1		Н	G+Hard
	Plasticity	Plans/Remarks:					
	Non-plastic			-			
T	Trace						
VL	Very Low						
L	Low						
M	Medium						
H	High						
	Very High						
VH EH	Extra High						

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





Client:	Maur	nsell Australia		Job No:		20969			
Project:			Date: 13-Sep-05						
Location:	ation: Waterfall Way				Logged by: Alex Bell				
Excavation M		t Drill Rig		Bore Hole No: BH20					
Groundwater		. 21 10.5		Groundwater Sta	ands:	51120			
Surface slope				Current land use		Grazing			
Vegetation:	Grass	s		Parent material:			ediments and collu	vium	
Surface drain		-		Aspect:		South			
Depth (metres)		Soil Des	cription	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0 - 0.15 Brown - loan	m		ì	1	D			
	0.15 - 0.3 Light brow	un - gravelly clay	loam with decomposed ironstone			D			
			<u> </u>						
	0.3 - 0.5 Red brown	- medium clay wit	th silt			D			
	0.5 - 1.0. Orange red	- medium clay wi	th gravel (black oxides and			D			
	decomposed ironston								
1									
	1.0 - 2.0 Extremely v yellow orange mediu	weathered rock (pr	roperties of drill cuttings/grindings -			D			
	yenow orange media	iiii ciay witii iiicdit	iii said)						
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	1								
2	2 0 - 2 5 Extremely 13	veathered rock (pp	operties of drill cuttings/grindings - ay) roperties of drill cuttings/grindings - ayi			D			
-	yellow gravelly (fine	e) sandy (coarse) cl	ay)			ь			
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	2.5 - 4.0 Extremely v	weathered rock (pr	roperties of drill cuttings/grindings -			D			
	yellow - medium clay	y with fine sand							
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Mois	ture Content		Weather Rock Classification Symbol	S	Ì	Consisten	cy/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		М	Medium	F	Firm	
		SW	Slightly Weathered		D	Dense	St	Stiff	
		F	Fresh		VD	Very Dense	VSt	Very stiff	
					<u> </u>		Н	G+Hard	
P	Plasticity	Plans/Remarks:							
NP	Non-plastic				-				
T	Trace								
VL	Very Low								
L	Low								
	Medium								
	High								
VH	Very High								
	Extra High								
EH	-Aug rugu								

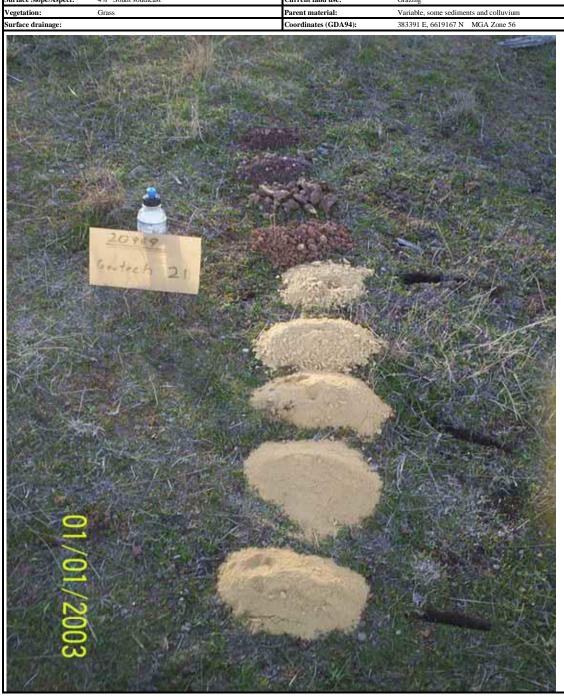
Client:	Maunsell Australia	Job No:	20969
Project:	Armidale Dumaresq Council Proposed Landfill	Date:	13-Sep-05
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Light Drill Rig	Bore Hole No:	20
Groundwater Struck:	No	Groundwater Stands:	
Surface Slope/Aspect:	2% South	Current land use: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





Client:	Mann	nsell Australia	Job No:		20969		
		idale Dumaresq Council Proposed Landfill	Date:		13-Sep-05		
Location:		erfall Way			Alex Bell		
Excavation M		t Drill Rig	Logged by: Alex Bell Bore Hole No: BH21				
		i Dilli Rig	Groundwater Stands:				
Groundwater Surface slope			Current land use		Grazing		
Vegetation:	: 4% Gras	e e	Parent material:	•		diments and colluv	ium
Surface drain		3	i		South southeast	annents and condv	iuiii
Surface uran	lage.		Aspect:	I	South southeast		
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Brown to lig	ght brown - loam with light gravel			D		
	0.15 0.3 Oranga br	rown - medium to heavy clay with medium sand			M		
	0.3 - 1.0 Red - medi	um to heavy clay - medium coarse sand with fine black			M		
	oxides						
	1						
1							
1	1.0 - 2.0 Extremely	weathered rock (properties of drill cuttings/grindings -			D		
<u> </u>	yellow light clay with	weathered rock (properties of drill cuttings/grindings - h silt) weathered rock (properties of drill cuttings/grindings - h fine sand) 3.0 Termination					
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	2.0 - 3.0 Extremely	weathered rock (properties of drill cuttings/grindings -			D		
	yellow light clay with	h fine sand)					
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2	<u> </u>		L	L		L	
3		3.0 Termination					
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Me:-	ture Content	Weather Rock Classification Symbo	le .		Consist	cy/Density	
D				VL	Very Loose	VS VS	Very soft
	Dry	· ·		VL L	-		-
M W	Moist	0 ,	1	L M	Loose Medium	S F	Sort
W	Wet	· ·	1	м D	Medium Dense	F St	Firm Stiff
		0 ,		VD	Very Dense	St VSt	Very stiff
ĺ		F Fresh		,,,	very Delise	VSt H	G+Hard
	Plasticity	Plans/Remarks:				11	
NP	Non-plastic			•			
T	Trace						
VL	Very Low						
L	Low						
M	Medium						
Н	High						
VH	Very High						
EH	Extra High						
	3						

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





Client:	Maur	nsell Australia	Job No:		20969		
		idale Dumaresq Council Proposed Landfill	Date:		13-Sep-05		
	ocation: Armidate Dumaresq Council Proposed Land Waterfall Way		Logged by:		Alex Bell		
		•	Bore Hole No: BH22				
Excavation M Groundwater		tt Drill Rig	Groundwater Stands:				
					Commission		
Surface slope			Current land use		Grazing	diment J 11	inm
Vegetation:	Grass	S	1	Parent material: Variable, some sediments and colluvium			ium
Surface drain	nage:		Aspect:	ı	Soouth		ı
Depth (metres)		Soil Description	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0 - 0.15 Light brown	n - loam			D		
	0.15 0.2 Light broad	wn - gravelly light clay			D		
	-						
	0.3 - 0.5 Red brown	- gravelly light clay			D		
		own - medium clay with sand and gravel (black oxides,			D		
	decomposed ironstor	ne)					
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		weathered rock (properties of drill cuttings/grindings			D		
	yellow medium clay	with light sand and fine gravel, decomposed ironstone)				ĺ
	4						
	17 25 5	worthord rock (protif J-iB /	-	-	D		
l —	1.7 - 3.5 Extremely light yellow medium	weathered rock (properties of drill cuttings/grindings - clay with fine sand)			D		
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	sture Content	Weather Rock Classification Symb				cy/Density	
D	Dry	EW Extremely Weathere	d	VL	Very Loose	VS	Very soft
M	Moist	HW Highly Weathered		L	Loose	S	Sort
W	Wet	MW Moderately Weather		М	Medium	F	Firm
		SW Slightly Weathered		D	Dense	St	Stiff
F Fresh				VD	Very Dense	VSt	Very stiff
		Dlana /D amanlani		L		Н	G+Hard
	Plasticity	Plans/Remarks:					
NP	Non-plastic						
T	Trace						
VL	Very Low						
L	Low						
M	Medium						
Н	High						
VH	Very High						
	Extra High						
EH	LAUG HIGH						

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

