Report	NIA	20060	1206

Appendix B. Geotechnical Soil Profile Logs – Backhoe Test Pits

Environmental & Agricultural Science & Engineering

Client:	Mau	ınsell Australia		Job No:		20969		
Project:	ADO	C Proposed Landfill		Date:		13-Sep-06		
Location:	Wate	erfall Way		Logged by:		Robert Cork		
Excavation M	Method: Back	khoe		Bore Hole No:		Test pit 1		
Groundwater	r Struck: No			Groundwater Sta	ands:			
Surface slope	2: 1%			Current land use	2:	Grazing pastures		
Vegetation:				Parent material:				
Surface drain	nage: 20-4	10m above drainage line or	n slight drainage	Coordinates (GD	A 1994):	383405 E, 661910	3 N MGA Zone	e 56
Depth (metres)		Soil Description	1	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.0-0.20 Topsoil: da	rk brown loam			SC-CI	D	Non-cohesive	
	0.20-0.35 Bleach A2 rounded)	2 horizon; sandy clay with	gravel up to 10mm (sub-		CI	D	F-St	
	0.35-0.55 Heavy cla	y, mottles present and roo	is		CI-CH	D	F-St	
	0.55-0.85 Gravelley	clay (gravel seam - sub-ro	ounded,)	155345	GC	D	St	М
1—	0.85-1.20 Extremely	y weathered rock			-	D	-	-
	1.20 Refusal							
2—		T						
	sture Content		er Rock Classification Symbol	S	.,,		cy/Density	V
D	Dry	EW	Extremely Weathered		VL	Very Loose	VS S	Very soft
M	Moist	HW	Highly Weathered		L M	Loose	S	Sort
W	Wet	MW	Moderately Weathered		M	Medium	F C	Firm
		SW	Slightly Weathered		D	Dense	St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
_	Di . · · ·	Diana/Dana-d					Н	G+Hard
	Plasticity	Plans/Remarks:						
NP	Non-plastic				•			
T	Trace							
VL	Very Low							
L	Low							
	Medium							
		I						
M								
M H	High							

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



Environmental & Agricultural Science & Engineering

Client:		nsell Australia		Job No:		20969		
Project:		C Proposed Landfill		Date:		13-Sep-06		
Location:		erfall Way		Logged by:		Robert Cork		
Excavation N	Method: Back	khoe		Bore Hole No:		Test pit 2		
Groundwate				Groundwater St				
Surface slope	e: On k	cnoll		Current land use		Grazing pastures		
Vegetation:				Parent material:				
Surface drain	nage:			Coordinates (GI	OA 1994):	383225 E, 661912	21 N MGA Zono	56
Depth (metres)		Soil Description	1	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.20 Dark grey on surface	brown topsoil, fine sandy	y loam, some gravel deposited		SC-CI	D	Non-cohesive	-
	0.20-0.30 Grey white	e clay with gravel (<5mm	1)		CI-CL	D	St	
	0.30-0.90 Orange red	d heavy clay		155346	СН	D	St-VSt	
	0.90-1.20 Orange sil	lty clay, high plasticity		155346	СН	D	St-VSt	
	1.20 Refusal							
	_							
-								
	_							
2—								
	1							
	_							
	1							
	<u> </u>	1				<u> </u>		
	sture Content		er Rock Classification Symbol	S			cy/Density	
D	Dry	EW	Extremely Weathered		VL	Very Loose	VS	Very soft
M	Moist	HW	Highly Weathered		L V	Loose	S	Sort
W	Wet	MW	Moderately Weathered		M	Medium	F	Firm
		SW F	Slightly Weathered		D VD		St	Stiff Vorustiff
		Р	Fresh		, D	Very Dense	VSt H	Very stiff G+Hard
1	Plasticity	Plans/Remarks:			<u> </u>		<u></u>	
NP	Non-plastic	1						
Т	Trace							
VL	Very Low							
	Low							
L								
M	Medium							
H	High							
VH EH	Very High Extra High							

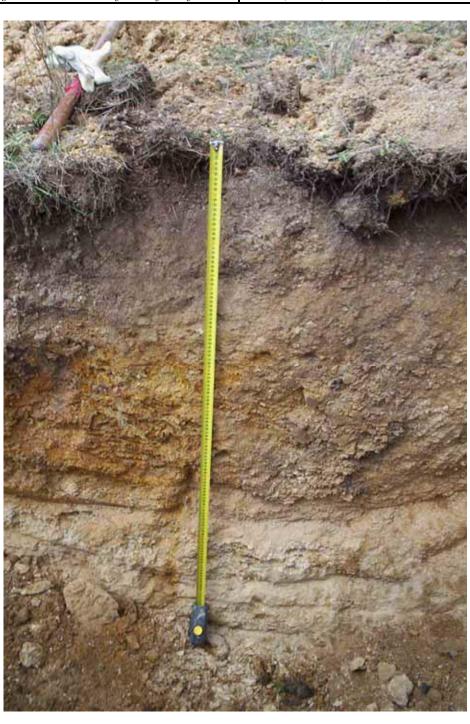
Client:	Maunsell Australia	Job No:	20969
Project:	ADC Proposed Landfill	Date:	13-Sep-06
Location:	Waterfall Way	Logged by:	Robert Cork
Excavation Method:	Backhoe	Bore Hole No:	Test pit 2
Groundwater Struck:	No	Groundwater Stands:	
Surface slope:	On knoll	Current land use:	Grazing pastures
Vegetation: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



Environmental & Agricultural Science & Engineering

Client:	Maur	nsell Australia		Job No:		20969		
Project:		Proposed Landfill		Date: 13-Sep-06 Logged by: Robert Cork				
Location:	Wate	erfall Way		Logged by:		Robert Cork		
Excavation M	Iethod: Back	hoe		Bore Hole No:		Test pit 3		
Groundwater	Struck: No			Groundwater Sta	ands:			
Surface slope	: Easte	ern aspect		Current land use	:	Grazing pastures		
Vegetation:				Parent material:				
Surface drain	nage: 20-40	Om above drainage line	on slight drainage	Coordinates (GD	A 1994):	383335 E, 661898	89 N MGA Zone	56
Depth (metres)		Soil Description	on	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.10 Dark brow	n loam/sandy loam			SC-CI	D	Non-cohesive	
	0.10-0.40 M edium cl	lay with gravel			CL/CI	D	St-VSt	
	0.40-0.85 Orange he	avy clay with gravel			CL-CH	D	St-VSt	
1—	0.85-1.20 Pale orang and horizontally	e heavy clay with grave	l, grey clay seams vertically		CL-CH	D	St-VSt	
2—	1.20 Refusal							
Moist	ture Content	Weath	her 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		М	Medium	F	Firm
		SW	Slightly Weathered		D	Dense	St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
							Н	G+Hard
NP T VL L M	Plasticity Non-plastic Trace Very Low Low Medium High Very High	Plans/Remarks:						

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



Environmental & Agricultural Science & Engineering

Client:	Mau	nsell Australia		Job No:		20969		
Project:	ADO	C Proposed Landfill		Date:		13-Sep-06		
Location:	Wate	erfall Way		Logged by:		Robert Cork		
Excavation N	Method: Back	choe		Bore Hole No:		Test pit 4		
Ground water	r Struck: No			Groundwater Sta	ands:			
Surface slope	e: Wes	tern aspect		Current land use	::	Grazing pastures		
Vegetation:				Parent material:				
Surface drain	nage:			Coordinates (GD	A 1994):	383413 E, 661885	8 N MGA Zone	e 56
				·				
Depth (metres)		Soil Description	n	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.15 Topsoil B	rown clay loam, some ro	cks, roots present		SC-CI	D	Non-cohesive	
	0.15.0.45.D.1	r 1 / r			SC-CL	D	St	
	0.15-0.45 Pale orang	ge medium clay/medium	sandy clay					
				155343	SC	D	St	М
1—	0.45-1.20 Mottled o	range, gravel clay/sandy	gravel clay					
	1.20-1.70 Light oran	ige gravel clay/sandy gra	vel clay		SC	D	St	
	1.70 Refusal							
	-							
Mois	sture Content	Weath	er Rock Classification Symbol	s		Consistenc	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		F	Firm
	****	SW	Slightly Weathered		D		St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
			- 103H			. ,	Н	G+Hard
T	Plasticity	Plans/Remarks:						
NP	Non-plastic	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
T	Trace							
VL	Very Low							
L	Low							
M	Medium							
Н	High							
п								

VH EH	Very High Extra High							

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



Environmental & Agricultural Science & Engineering

Geotechnical Soil Profile Log

Client:	Maur	nsell Australia		Job No:		20969			
Project:		C Proposed Landfill		Date: 13-Sep-06					
Location:		erfall Way		Logged by:		Robert Cork			
Excavation N	Iethod: Back	thoe		Bore Hole No:		Test pit 5			
Ground water	r Struck: No			Groundwater Sta	ands:				
Surface slope	:			Current land use	2:	Grazing pastures			
Vegetation:	Oper	n woodland stringy bark		Parent material:		North-easterly asp	pect		
Surface drain	nage:			Coordinates (GD	OA 1994):	383331 E, 661869	99 N MGA Zone	56	
Depth (metres)		Soil Description		Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0.00-0.10 Topsoil Pa surface	ale chocolate brown - sandy clay	loam. Gravel rocks on		SC-CI	D	Non-cohesive		
		e brown medium clay loam, son	ne gravel (<2mm)		CI,CL	D	VS-S		
_	0.25-0.60 Orange rec	l heavy clay			CI,CL	D	St		
	0.60-0.90 Red heavy	clay; yellow and white envelope	es	155342	CI	D	VSt	М	
1— 1— ————————————————————————————————	0.90-1.40 White hear	vy clay with red seams			CI	D	VSt		
2—									
	ture Content		Classification Symbols	S			cy/Density		
D M W	Dry Moist Wet	EW HW MW SW F	Extremely Weathered Highly Weathered Moderately Weathered Slightly Weathered Fresh		VL L M D VD	Very Loose Loose Medium Dense Very Dense	VS S F St VSt H	Very soft Sort Firm Stiff Very stiff G+Hard	
n	Plasticity	Plans/Remarks:			<u> </u>		<u>r-</u>	-	
NP T VL L M H VH EH	Non-plastic Trace Very Low Low Medium High Very High Extra High								

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



Environmental & Agricultural Science & Engineering

Client:	Mau	nsell Australia		Job No:		20969		
Project:	ADC	C Proposed Landfill		Date:		13-Sep-06		
Location:	Wate	erfall Way		Logged by:		Robert Cork		
Excavation N	Method: Back	khoe		Bore Hole No:		Test pit 6		
Ground wate	r Struck: No			Groundwater Sta	ands:			
Surface slope	e:			Current land use	e:	Grazing pastures		
Vegetation:				Parent material:				
Surface draii	nage:			Coordinates (GD	A 1994): 383288 E, 6618773 N MGA Zone 56			
Depth (metres)		Soil Description	n	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.15 Dark brow	vn sandy clay loam			SC-CI	D	Non-cohesive	
_	0.15-0.30 Brown silt	ty clay, with some rocks a	and sand present		CI,CL	D	F-St	
	0.30-1.10 Orange br gravel	own heavy clay, mottle g	rey and orange rocks and		СІ-СН	D	St	
	1.10-1.40 Grey oran	ge heavy clay, mottling			СІ-СН	D	VSt-H	
2	1.40 Refusal							
Mois	sture Content	Weath	er Rock Classification Symbols	S		Consistenc	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		St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
			- 10011				Н	G+Hard
I	Plasticity	Plans/Remarks:						
NP T VL L M	Non-plastic Trace Very Low Low Medium High							
**	High							
Н	riigii							
H VH	Very High							

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



Environmental & Agricultural Science & Engineering

Client:	Maur	nsell Australia		Job No:		20969			
Project:		•		Date: 13-Sep-06					
Location:	Wate	erfall Way		Logged by:		Robert Cork			
			Bore Hole No: Test pit 7						
Ground water	r Struck: No			Groundwater Sta	ands:				
Surface slope	:		1%	Current land use	:	Grazing pastures			
Vegetation:	Tuss	ock		Parent material:					
Surface drair	nage:			Coordinates (GD	OA 1994):	383514 E, 661931	9 N MGA Zon	e 56	
Depth (metres)		Soil Description	n	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity	
	0.00-0.10 Grey brow	vn loam			SC-CI	D	Non-cohesive		
	0.1030 Grey slightl	ly bleached clay, loamy c	lay		SC-CI	W	S		
	0.30-0.60 Brown red	I medium clay			CL-CH	W	St		
_	0.60-0.95 Orange red	d gravelly clay			CL-CH	W	VSt		
	0.95-1.35 Yellow wh	nite, sandy clay (extreme	ly weathered rock)		SC-CL	D	VS		
2	1.35 Refusal	Weath	er Rock Classification Symbol	S		Consistenc	zy/Density		
			· · · · · · · · · · · · · · · · · · ·	S			<u> </u>		
D M W	Dry Moist Wet	EW HW MW SW F	Extremely Weathered Highly Weathered Moderately Weathered Slightly Weathered Fresh		VL L M D VD	Medium	VS S F St VSt	Very soft Sort Firm Stiff Very stiff G+Hard	
	Plasticity Non-plastic Trace Very Low Low Medium High Very High Extra High	Plans/Remarks:					н	J	

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



Environmental & Agricultural Science & Engineering

Moisture Content Weather Rock Classification Symbols Consistency/Density	Job No: 20969					
Exercision Methods: Rackine Rore Itale Not Test pin N	Date: 13-Sep-06					
Exercision Methods: Rackine Rore Itale Not Test pin N						
Groundwater Strucks: No. Surface stage: Vegetations: Surface of nationger: Percent materials: Surface of nationger: Coordinates (CDA 1994): Solid Description Sample No. Groundwater Strucks: Surface of nationger: Coordinates (CDA 1994): Solid Description Sample No. Groundwater Strucks: Surface of nationger: Coordinates (CDA 1994): Solid Description Sample No. Groundwater Strucks: Surface of nationger: Solid Description Sample No. Groundwater Strucks: Surface of national new: Surface of national new in the national new						
Surface designer						
Percent materials						
Depth (metres) Soil Description Sample No. Goorgingsymbol Moisture Content Consistency						
Depth (metres) Soil Description Sample No. Group Symbol AS 1726 Moisture Content Consistency						
Consistency						
D.15-0.30 Beached grey samly clay/clayey sand	Plasticity					
D Dry EW Extremely Weathers VI, Very Lose VS Very M Moisture Content Weather Rock Classification Symbols Using the Rock Using the Rock Classification Symbols Using the Rock Using the Rock Classification Symbols Using the Rock Classification Symbo						
### Doi: Note Weather Rock Classification Symbols Consistency/Density Doi: 1.20 Refusal Display Extremely Weathered Display Displ						
Moisture Content Weather Rock Classification Symbols D D D W Moist IIW Highly Weathered Wethered Wet						
Moisture Conient Weather Rock Classification Symbols D Dry EW Extremely Weathered VL Very Loose VS Very M Moist HW Highly Weathered U L Loose S Sort W Wet MW Moderately Weathered M Medium F Firm SW Slightly Weathered D Dense St Suff F Fresh VD Very Dense VSt Very Plasticity Plasticity Plans/Remarks: NP Non-plastic T Trace Trace						
D Dry EW Extremely Weathered VL Very Loose VS Very 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 H G+H Plasticity Plans/Remarks: NP Non-plastic T Trace						
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 H G+H Plasticity Plans/Remarks: NP Non-plastic T Trace						
W Wet MW Moderately Weathered M Medium F Firm SW Slightly Weathered D Dense St Stiff F Fresh VD Very Dense VSt Very H G+H Plasticity Plans/Remarks: NP Non-plastic T Trace						
SW Slightly Weathered D Dense St Stiff F Fresh VD Very Dense VSt Very H G+H Plasticity Plans/Remarks: NP Non-plastic T Trace						
F Fresh VD Very Dense VSt Very H G+H Plasticity Plans/Remarks: NP Non-plastic T Trace	a					
F Fresh VD Very Dense VSt Very H G+H Plasticity Plans/Remarks: NP Non-plastic T Trace	f					
Plasticity Plans/Remarks: NP Non-plastic T Trace	y stiff					
Plasticity Plans/Remarks: NP Non-plastic T Trace						
L Low M Medium H High VH Very High EH Extra High						

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



Environmental & Agricultural Science & Engineering

Client:	Mau	nsell Australia		Job No:		20969		
Project:	ADC	C Proposed Landfill Date:			13-Sep-06			
Location:	·			Logged by: Robert Cork				
Excavation Method: Backhoe				Bore Hole No:		Test pit 9		
Ground water	Struck: No		Groundwater St	ands:				
			Current land use	2:	Grazing pastures			
Vegetation:			Parent material:					
Surface drain	age:			Coordinates (GE		383315 E, 661917	4 N MGA Zon	ie 56
				, i				
Depth (metres)		Soil Description	on	Sample No.	Group Symbol - AS 1726	Moisture Content	Consistency	Plasticity
	0.00-0.25 Dark brow	vn sandy loam			SC-CL	D	VS-S	
	0.20-0.45 56 Grey b	rown loamy sand with g	ravel		SM-SC-CL	M	S-F	
	0.45.0.00.0				GL GH		110	
_	0.45-0.90 Orange m	edium clay, very sticky			CL-CH	М	VSt	
	0.90-1.30 Orange gr	ey heavy clay with mott	ling (white)		CL-CH	D	VSt-H	
1—								
	1.30 Refusal							
2—								
Moist	ture Content	Wast	her Rock Classification Symbol	s s		Consisten	cv/Density	<u> </u>
		EW			VL	Very Loose		Very soft
D	Dry		Extremely Weathered		v L	-	VS	•
M	Moist	HW	Highly Weathered		м		S	Sort
W	Wet	MW	Moderately Weathered		M		F	Firm
		SW	Slightly Weathered		D		St	Stiff
		F	Fresh		VD	Very Dense	VSt	Very stiff
							Н	G+Hard
	lasticity	Plans/Remarks:						
NP	Non-plastic							
	Trace							
T								
	Verv Low							
VL	Very Low							
VL L	Low							
VL L M	Low Medium							
VL L M	Low							
VL L M H	Low Medium							

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

