

Appendix 4 Borehole Logs



BH 597&598A

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 597</b>								
TOPSOIL 100 mm								
SILT; clayey; very stiff; moist; mod. plastic; orange brown								
		0.5			139			
becomes hard; black speckles		1.0		not found	utp			>
becomes stiff; wet; low plasticity; yellow orange brown black speckles		1.5			91		•	
SILT; slightly sandy; very stiff; very moist; sl.cohesive; yellow orange; black specles		2.0			159			•
End of borehole 2.0 m								
<b>BH 598 A</b>								
TOPSOIL 80 mm								
SILT; clayey; hard; moist; slightly cohesive; orange brown								
		0.5			utp			>
becomes very stiff; moderately plastic yellow orange brown		1.0		not found	169			•
abundant black mottles (Biotite)		1.5			101		•	
		2.0			108		•	
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger



BH 598B&599B

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 22/3/2013

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 598B</b>								
TOPSOIL 150 mm	Fill		1	not found	118			
SILT; clayey; slightly sandy; hard; slightly moist; slightly cohesive; orange brown dark brown and light grey mottles FILL		1						
		2						
		6	0.5					
		9						
		8						
		6						
		5						
			1.0					
End of borehole 1.0 m								
		1.5						
		2.0						
<b>BH 599B</b>								
TOPSOIL 150 mm	Fill		1	not found	utp			
SILT; clayey; slightly sandy; hard; slightly moist; slightly cohesive; orange brown dark brown and light grey mottles FILL		2						
		4						
		8	0.5					
		7						
		11						
		10						
		10						
			1.0					
End of borehole 1.0 m								
		1.5						
		2.0						

EXCAVATION METHOD: 50 mm diameter hand auger



BH 599A&600

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12&???

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 599A</b>								
TOPSOIL 80 mm	K	0.5		not found	utp			
SILT; clayey; hard; moist; slightly cohesive; orange brown								
SAND (f-m); medium dense; moist; light grey	.	1.0		not found	189			
SILT; clayey; very stiff; moist; moderately plastic; orange brown; red mottles								
	K	1.5		not found	189			
becomes yellow orange brown								
becomes hard	K	2.0		not found	utp			
End of borehole 2.0 m								
<b>BH 600</b>								
SILT; sandy; very stiff; very moist; friable; yellow black mottles	x	0.5		not found	108			
	x	1.0		not found	108			
becomes light pink grey; black mottles								
	x	1.5		not found	152			
End of borehole 2.0 m	x	2.0		not found	142			

EXCAVATION METHOD: 150 mm diameter machine auger



BH 601&602

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 601</b>								
SILT; slightly sandy; very stiff; moist; slightly cohesive; light pink grey brown; black speckles	xx	0.5		not found	149			
becomes very moist; light grey brown; black speckles	xx	1.0		not found	145			
SILT; sandy; very stiff; very moist; slightly cohesive; light brown grey	xx	1.5			112			
SAND (f-m); medium dense; very moist; pumiceous; grey	..	2.0						
End of borehole 2.0 m								
<b>BH 602</b>								
SILT; clayey; hard; moist; moderately plastic; orange brown	xx	0.5		not found	utp			>
becomes very moist; yellow orange brown; black speckles	xx	1.0		not found	utp			>
contains large black mottles	xx	1.5			81			
becomes stiff; wet; low plasticity	xx	2.0			118			
SILT; very slightly sandy; very stiff; very moist; slightly cohesive; yellow orange; black species	xx							
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger



BH 603&604

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scale blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 603</b>								
SILT; sandy; hard; moist; friable; yellow brown light grey and black speckles	xxx:xx							
SILT; slightly sandy; very moist; very stiff; slightly cohesive; light grey brown; black mottles	xxx	0.5		not found	156			
	xxx							
	xxx	1.0			132			
becomes wet; light brown grey; black mottles	xxx							
	xxx	1.5			122			
	xxx							
SAND (f-m) silty; medium dense; very moist; grey; black speckles	xx:xx	2.0			122			
End of borehole 2.0 m								
<b>BH 604</b>								
SILT; clayey; hard; moist; moderately plastic; orange brown	xxx xx							
becomes yellow orange brown	xxx xx	0.5		not found	utp			
becomes very stiff	xxx xx							
	xxx xx	1.0			196			
	xxx xx							
SILT; very slightly sandy; very stiff; very moist; slightly cohesive; yellow brown; black speckles	xxx xx	1.5			176			
SILT; clayey; very stiff; wet; low plasticity; yellow brown black speckles	xxx xx							
	xxx xx	2.0			61			
becomes stiff								
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger





BH 614&607

Site: The Lakes Subdivision, Stage 2K

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 18/04/08

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 614</b>								
TOPSOIL	Fill			not found	utp			>
SILT; clayey; sandy; moist; hard; friable; brown dark brown mottles; gravels to 20mm dia. FILL					utp			>
SILT; clayey; moist; hard; friable; brown		0.5			200+			>
very stiff; moderately plastic		1.0			174		•	
End of borehole 1.0 m		1.0			161		•	
		1.5						
		2.0						
<b>BH 607</b>								
TOPSOIL 50 mm	Fill				utp			>
SILT; sandy; hard; dry; friable; mixed orange brown FILL					200+			>
SILT; clayey; hard; slightly moist; friable; orange brown dark brown and light grey mottles FILL		0.5			200+			>
SILT; sandy; hard; slightly moist; friable; light grey brown yellow, orange and dark brown mottles FILL		1.0			200+			>
SILT; clayey; slightly sandy; hard; dry; friable; yellow orange brown		1.0			utp			>
End of borehole 2.0 m		1.5						
		2.0						

EXCAVATION METHOD: 50mm Diameter Hand Auger





BH 608&609

Site: The Lakes Subdivision, Stage 2K

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 18/04/08

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 608</b>								
TOPSOIL	FILL	0.5		not found	200+			>
SILT; clayey; slightly sandy; moist; hard; friable; brown; dark brown and orange mottles FILL					200+			>
SILT; sandy; clayey; moist; very stiff; friable; brown					200+			>
End of borehole 1.0 m					190			•
		1.0			190			•
		1.5						
		2.0						
<b>BH 609</b>								
TOPSOIL	X	0.5		not found	200+			>
SILT; clayey; moist; hard; moderately plastic; brown					180			•
slightly sandy					120			•
sandy; friable					108			•
End of borehole 1.0 m		1.0			130			•
		1.5						
		2.0						

EXCAVATION METHOD: 50mm Diameter Hand Auger



BH 610&611

Site: The Lakes Subdivision, Stage 2K

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 18/04/08

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 610</b>								
TOPSOIL	Fill			not found	184			
SILT; clayey; moist; hard; moderately plastic; brown dark brown mottles FILL					190			
SILT; clayey; slightly sandy; moist; very stiff; moderately plastic; brown sandy; friable wet; stiff		0.5			200+		>	
		1.0			92			
End of borehole 1.0 m					63			
		1.5						
		2.0						
<b>BH 611</b>								
TOPSOIL				not found	utp		>	
SILT; clayey; moist; hard; friable; brown			0.5			utp		>
very stiff; moderately plastic		1.0			142			
End of borehole 1.0 m					104			
		1.5						
		2.0						

EXCAVATION METHOD: 50mm Diameter Hand Auger



BH 612&613

Site: The Lakes Subdivision, Stage 2K

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 18/04/08

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 612</b>								
TOPSOIL	K				utp			
SILT; clayey; moist; hard; friable; brown very stiff; moderately plastic	X	0.5		not found	196			
orangey brown	X				155			
wet; stiff	X	1.0			117			
End of borehole 1.0 m	X				98			
		1.5						
		2.0						
<b>BH 613</b>								
TOPSOIL	K							
SAND; silty; moist; fine to medium grained; medium dense; brown	x	0.5	2 6 6 8 12	not found				
loose	x		7 8 3					
light brown	x	1.0	1					
End of borehole 1.0 m	x		1					
		1.5						
		2.0						

EXCAVATION METHOD: 50mm Diameter Hand Auger



BH 621&622

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scale blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 621</b>								
TOPSOIL 250 mm	[Symbol]							
SILT; clayey; slightly sandy; hard; moist; friable; orange brown; dark brown and light grey mottles FILL	[Symbol]	0.5		not found	utp			v
	[Symbol]	1.0		not found	utp			v
	[Symbol]	1.5		not found	utp			v
SILT; clayey; slightly sandy; very stiff; moist; friable; orange brown	[Symbol]	2.0		193				.
End of borehole 2.0 m								
<b>BH 622</b>								
TOPSOIL 300 mm	[Symbol]							
SILT; clayey; slightly sandy; hard; moist; friable; orange brown; dark brown and light grey mottles FILL	[Symbol]	0.5		not found	utp			v
	[Symbol]	1.0		not found	utp			v
	[Symbol]	1.5		not found	utp			v
becomes dark grey brown; light grey and orange brown mottles	[Symbol]	2.0		not found	utp			v
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger



BH 623&624

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated:

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 623</b>								
TOPSOIL 250 mm	Fill 							
SILT; clayey; slightly sandy; hard; moist; friable; orange brown; dark brown and light grey mottles FILL		0.5		not found	utp			>
		1.0			utp			>
		1.5			utp			>
		2.0			utp			>
End of borehole 2.0 m								
<b>BH 624</b>								
TOPSOIL 100 mm	Fill 							
SILT; clayey; slightly sandy; hard; moist; friable; orange brown; dark brown and light grey mottles FILL		0.5		not found	utp			>
		1.0			utp			>
SILT; clayey; slightly sandy; very stiff; moist; slightly cohesive; orange brown		1.5			129			
end of slightly sandy; becomes moderately plastic		2.0			129			
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger



BH 625&626

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 625</b>								
TOPSOIL 100 mm	KL							
SILT; clayey; slightly sandy; very stiff; moist; sl. cohesive; orange brown	KL	0.5		not found	172			
SAND (f-m) silty; medium dense; moist; yellow orange brown	KL	1.0		not found	utp			>
SILT; sandy (f); hard; moist; friable; light yellow	KL	1.5		not found	200+			>
SAND (f-m); loose; moist; light grey (Rotoehu Ash)	KL	2.0		not found	utp			>
SILT; clayey; hard; moist; high plasticity; darkish brown (Hamilton Ash)	KL							
End of borehole 2.0 m								
<b>BH 626</b>								
TOPSOIL 100 mm	KL							
SILT; clayey; slightly sandy; very stiff; moist; sl. cohesive; orange brown	KL	0.5		not found	108			
SILT; sandy (f); hard; moist; friable; orange brown	KL	1.0		not found	98			
SILT; clayey; stiff; very moist; moderately plastic; yellow orange brown; black speckles	KL	1.5		not found	95			
becomes wet; low plasticity	KL	2.0		not found	101			
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger





BH 629&630

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scale blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 629</b>								
TOPSOIL 100 mm	Fill 							
SILT; clayey; slightly sandy; hard; moist; friable; orange brown; dark brown and light grey mottles FILL		0.5			utp			>
SILT; slightly sandy; stiff; moist; slightly cohesive; yellow orange; black speckles								
SILT; clayey; stiff; wet; low plasticity; yellow orange brown black speckles		1.0			61			
SILT; slightly clayey; stiff; saturated; sensitive; dilatent; slightly cohesive; light yellow; black speckles		1.5			51			
SILT; sandy; very stiff; moist; slightly cohesive; light grey brown; black speckles		2.0			125			
End of borehole 2.0 m								
<b>BH 630</b>								
TOPSOIL 100 mm	Fill 							
SILT; clayey; slightly sandy; hard; moist; friable; orange brown; dark brown and light grey mottles FILL		0.5			utp			>
SILT; clayey; very stiff; moist; moderately plastic; orange brown								
becomes wet; low plasticity; yellow orange brown		1.0			159			
SILT; very slightly sandy; very stiff; very moist; slightly cohesive; orange; black speckles	1.5			108				
SILT; very slightly sandy; very stiff; very moist; slightly cohesive; orange; black speckles	2.0			186				
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger





BH 631&632

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 631</b>								
SILT; clayey; stiff; moist; moderately plastic; yellow orange brown; black speckles	X X X X X X X X X X	0.5		not found	98			
SILT; slightly sandy; hard; very moist; sl.cohesive; orange; black speckles	X X X X X X X X X X	1.0		not found	utp		>	
SILT; clayey; stiff; wet; low plasticity; yellow orange brown black speckles	X X X X X X X X X X	1.5		not found	71			
becomes saturated; sensitive	X X X X X X X X X X			not found				
becomes firm	X X X X X X X X X X	2.0		not found	44			
End of borehole 2.0 m								
<b>BH 632</b>								
TOPSOIL 50 mm	K							
SILT; clayey' hard; moist; slightly cohesive; orange brown	X X X X X X X X X X	0.5		not found	utp		>	
	X X X X X X X X X X			not found	utp		>	
	X X X X X X X X X X	1.0		not found	utp		>	
becomes very stiff	X X X X X X X X X X			not found				
becomes moderately plastic; yellow orange brown	X X X X X X X X X X	1.5		not found	179			
becomes hard	X X X X X X X X X X	2.0		not found	utp		>	
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger





BH 635&636

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scale blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 635</b>								
TOPSOIL 200 mm	FILL			not found				
SILT; clayey; hard; slightly moist; friable; brown dark brown mottles FILL								
SILT; very slightly sandy; very stiff; moist; sl. cohesive; orange ; black speckles		x x x x	0.5			166		•
SILT; clayey; very stiff; moist; moderately plastic; orange brown		x x x x x x x x	1.0			142		•
SILT; slightly sandy; very stiff; very moist; slightly cohesive; yellow orange; black speckles		x x x x x x x x	1.5			118		•
SILT; sandy; hard; moist; friable; orange brown black mottles		x x x x x x x x	2.0			200+		>
End of borehole 2.0 m								
<b>BH 636</b>								
TOPSOIL 100 mm	FILL			not found				
SILT; clayey; hard; dry; friable; darkish brown (Hamilton Ash)								
becomes moist		x x x x x x x x	0.5			utp		>
becomes moderately plastic		x x x x x x x x	1.0			utp		>
becomes yellow orange brown		x x x x x x x x	1.5			169		•
becomes very stiff		x x x x x x x x	2.0			139		•
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger





BH 639&640

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scale blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)			
						50	100	150	
<b>BH 639</b>									
SILT; very stiff; moist; slightly cohesive; yellow orange brown; black speckles	x x x x			not found	utp				
SAND (f-m); loose; moist; light grey (Rotoehu Ash)	. . . .	0.5							
SILT; clayey; hard; moist; high plasticity; darkish brown (Hamilton Ash)	x x x x x x x x	1.0							
becomes moderately plastic; orange brown	x x x x x x x x								
becomes yellow orange brown	x x x x x x x x	1.5							
becomes very stiff	x x x x x x x x	2.0				156			
End of borehole 2.0 m									
<b>BH 640</b>									
SILT; clayey; hard; moist; slightly cohesive; orange brown	x x x x x x x x			not found	utp				
becomes moderately plastic	x x x x x x x x	0.5							
becomes yellow orange brown	x x x x x x x x	1.0							
becomes yellow orange brown; black speckles	x x x x x x x x	1.5				200+			
SILT; very slightly sandy; very stiff; moist; slightly cohesive; orange	x x x x	2.0				135			
End of borehole 2.0 m									

EXCAVATION METHOD: 150 mm diameter machine auger



BH 641&642

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150

**BH 641**

TOPSOIL 100 mm  
 SILT; clayey; hard; dry; friable; darkish brown (Hamilton Ash)  
 becomes moist; moderately plastic  
 becomes very stiff; yellow orange brown

not found	0.5	utp	>
	1.0	utp	>
	1.5	utp	>
2.0	162		

End of borehole 2.0 m

**BH 642**

TOPSOIL 100 mm  
 SILT; very slightly sandy; very stiff; moist; slightly cohesive; yellow orange; black speckles  
 SILT; clayey; stiff; very moist; low plasticity; yellow orange brown  
 SILT; sandy; very stiff; moist; friable; yellow orange black speckles

not found	0.5	152	
	1.0	57	
	1.5	95	
2.0	125		

End of borehole 2.0 m

EXCAVATION METHOD: 150 mm diameter machine auger





BH 645&646

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 13/11/12 and 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scale blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 645 19/11 /12</b>								
TOPSOIL 50 mm	KL							
SILT; clayey; hard; moist; mod. plastic; orange brown	XX	0.5		not found	utp			v
SILT; very slightly sandy; very stiff; moist; sl. cohesive; orange	XX	1.0		not found	186			
SILT; clayey; stiff; very moist; low plasticity; yellow orange brown; black speckles	XX	1.5		not found	68			
becomes slightly sandy	XX	2.0		not found	101			
SAND (f-m) silty; medium dense; moist; yellow orange brown	XX							
End of borehole 2.0 m								
<b>BH 646 13/11/12</b>								
TOPSOIL 100 mm	KL							
SILT; clayey; very stiff; moist; friable; brown black speckles	XX	0.5		not found	152			
becomes moderately plastic	XX	1.0		not found	108			
becomes low plasticity; yellow orange brown; black speckles	XX	1.5		not found	105			
SILT; slightly sandy; very stiff; very moist; sl. cohesive; yellow orange; black speckles	XX	2.0		not found	112			
SILT; clayey; very stiff; very moist; moderately plastic; orange brown	XX							
End of borehole 2.0 m								
EXCAVATION METHOD: 150 mm diameter machine auger								





BH 647&648

Site: The Lakes (2012) Ltd; Stage 2K, The Lakes Subdivision, Tauriko

Sheet: 1 Of: 1

Job No. 20260

Date Excavated: 19/11/12

RL m Moturiki Datum

Logged By: N.I

Description of Soil	Soil Symbol	Depth (m)	Scala blows/100 mm	Groundwater	Undrained Shear Strength (kPa)	Undrained Shear Strength (kPa)		
						50	100	150
<b>BH 647</b>								
TOPSOIL 100 mm	K			not found				
SILT; very slightly sandy; stiff; moist; slightly cohesive; yellow orange; black speckles		0.5			68			
SILT; clayey; stiff; wet; low plasticity; yellow orange brown black speckles		1.0			81			
SILT; sandy; very stiff; very moist; slightly cohesive; light yellow grey brown; black mottles		1.5			105			
End of borehole 2.0 m		2.0			101			
<b>BH 648</b>								
TOPSOIL 100 mm	Fill			not found				
SILT; clayey; hard; moist; friable; orange brown dark brown mottles FILL		0.5			101			
SILT; clayey; very stiff; moist; moderately plastic; orange brown		1.0			78			
becomes wet; low plasticity; yellow orange brown								
becomes stiff								
SILT; slightly sandy; stiff; wet; slightly cohesive; yellow orange; black speckles		1.5		169				
SAND (f-m) silty; medium dense; moist; yellow orange brown; black speckles		2.0		145				
End of borehole 2.0 m								

EXCAVATION METHOD: 150 mm diameter machine auger







Borehole No. MB 47

Site: Pyes Pa West Urbanisation

Sheet: 1 Of 6

Job No. 16944

Date Excavated: F. 19/9/03

RL Ground:

Logged By: MIA

Description of Soil	Soil Symbol	Depth (m)	SPT	GROUNDWATER	CORE RECOVERY	Undrained Shear Strength (kPa)		
						50	100	150
SILT: very clayey, moderately cohesive pale brown yellow, slightly moist	'x'x'	0.5						
	'x'x'	1.0			100%			
	'x'x'	1.5						
	'x'x'	2.0						
Very sandy, coarse grained pale yellow, stiff, moist	'x'x'	2.5			100%			
Very moist	'x'x'	3.0						
Sand: grey, loose, moist	'x'x'	3.5						
SILT: very clayey, cohesive, brown stiff, moist	'x'x'	4.0						
Brown orange	'x'x'	4.5						
	'x'x'	5.0			100%			

EXCAVATION METHOD: 75mm Ø MACHINE ANGER + HOLLOW SPT.



Borehole No. **MBS 47**

Site: **Pyes Pa West Urbanisation**

Sheet: **2** Of: **6**

Job No. **16944**

Date Excavated: **f. 19/9/03**

RL Ground:

Logged By: **mt**

Description of Soil	Soil Symbol	Depth (m)	SPT	CORE RECOVERY	Undrained Shear Strength (kPa)		
					50	100	150
SILT: Very clayey, cohesive, brown orange, Very stiff, moist	x x	4	2	100%			
		4.5	2				
		5	3				
SPT: Very clayey, cohesive, brown orange silt, very stiff, moist	x x	5.5	1	100%			
		6	2				
		6.5	2				
becoming pale brown orange	x x	7		100%			
		7.5					
		8					
pale yellow, coarse grained slightly cohesive Transition zone between older Ashes & Matua.	x x	8.5		100%			
		9					
		9.5					
SPT: Pumiceous fine grained, silt slightly cohesive, cream, stiff sensitive, very moist	x x	10	1	100%			
		10.5	2				
		11	2				
cream pumiceous silt, slightly cohesive, stiff, very moist.	x x	11.5		100%			
		12					
		12.5					

EXCAVATION METHOD: **75mm φ MACHINE AUGER + HOLLOW SPT**



Borehole No. MB 47

Site: Pyes Pa West Urbanisation

Sheet: 3 Of: 6

Job No. 16944

Date Excavated: F. 19/9/03

RL Ground:

Logged By: MA.

Description of Soil	Soil Symbol	Depth (m)	SPT	CORRECTION	Undrained Shear Strength (kPa)		
					50	100	150
SPT: Coarse grained gritty sand with some glassy pumice shards To Runge HAMMITE		0 - 0.5	1 2 2	100%			
slightly moist		0.5 - 1.0		100%			
SPT: Coarse grained sand, grey. medium dense, slightly moist		1.0 - 1.5	1 1 2	100%			
as per SPT		1.5 - 2.0		100%			
SPT: Sugary sand, grey, medium dense slightly moist		2.0 - 2.5	1 2 2	100%			
Sugary sands, grey ~ medium dense ~ homogeneous ~ Dry		2.5 - 3.5		100%			

EXCAVATION METHOD: 75mm  $\phi$  MACHINE AUGER + HOLLOW SPT



Borehole No. MB 47

Sheet: 4 Of: 6

Site: Pyes Pa West Urbanisation

Job No. 16944

Date Excavated: 4.19/3/03

RL Ground:

Logged By: MHA

Description of Soil	Soil Symbol	Depth (m)	SPT	CORRECTION	Undrained Shear Strength (kPa)		
					50	100	150
SPT: Sand: Sugary, grey, medium dense Dry		3.0	2				
		3.5	2				
		4.0	3	N=5			
Sugary pumice sand ~ homogeneous ~ medium dense ~ Dry		4.5		100%			
		5.0		100%			
SPT: Sand: Sugary, grey, dense, Dry		5.5	2				
		6.0	4				
		6.5	6	N=10			
pumice sands, coarse grained, some pumice gravels and glassy shards grey, dense, Dry.		7.0		100%			
		7.5		100%			
homogeneous pumice sand		8.0		100%			
		8.5		100%			
		9.0		100%			
		9.5		100%			
		10.0		100%			

EXCAVATION METHOD: 75mm  $\phi$  MACHINE AUGER + HOLLOW SPT



Borehole No. MB 47

Sheet: 5 of 6

Site: Pyes Pa West Urbanisation

Job No. 16944

Date Excavated: F-15/5/03

RL Ground:

Logged By: mt

Description of Soil	Soil Symbol	Depth (m)	SPT	CORRECTION	Undrained Shear Strength (kPa)		
					50	100	150
SPT: Pumice sand, coarse grained with glassy pumice shreds, grey Dense Dry	[Symbol]	2.0	2				
		4.0	4				
		5.0	5	100%			
Glassy pumice sand ~ homogeneous ~ Dense ~ grey ~ Dry ~ rods hit from friction	[Symbol]	13.5					
		14.0					
		14.5					
		15.0					
		15.5					
		16.0					
		16.5					
		17.0					
		17.5					
		18.0					
SPT: coarse grained grey pumice sand, Dense, Dry	[Symbol]	18.5	3				
		19.0	5				
		19.5	8	100%			
Pumice sand, coarse grained, grey Dense, Dry	[Symbol]	21.5					
		22.0					
		22.5					
		23.0					
		23.5					

EXCAVATION METHOD: 75mm  $\phi$  MACHINE ANCHER + HOLLOW SPT





Borehole No. MB 47

Site: Pyes Pa West Urbanisation

Sheet: 6 of 6

Job No. 16944

Date Excavated: F. 19/9/05

RL Ground:

Logged By: MA

Description of Soil	Soil Symbol	Depth (m)	Undrained Shear Strength (kPa)		
			50	100	150
SPT: Pumice Sand, coarse, grey, Dense Dry	1008	1 9 10			
Pumice sand: coarse, grey, Dense Dry rods hot from friction	80-90%				
SPT: Pumice Sand coarse grey, Dense Dry	100%	4 10 12			
pumice sand: coarse, grey, Dense, Dry homogeneous rods too hot to handle from friction.	60-80%				
SPT: Sugary pumice sand, grey, Dense Dry	100%	5 10 14			
Homogeneous Sugary grey dense pumice sand Dry	80%				
EOR @ 27.0m: AUGER GETTING STUCK					

EXCAVATION METHOD: 75mm  $\phi$  MACHINE AUGER + HOLLOW SPT