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Appendix C
Geotechnical Factual Report

18 July 2023

Project No. 65547

Toitū Te Whenua Land Information New Zealand
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FORMER TOKANUI HOSPITAL CLOSED LANDFILL, TOKANUI – GEOTECHNICAL FACTUAL REPORT

As requested, eleven hand augured boreholes, numbered HA1 to HA11 inclusive, fifty-one machine excavated test pits, numbered TP1 to TP40 inclusive, TP46 to TP52 inclusive and TP54 to TP57 inclusive, forty machine excavated shallow trenches, numbered TR1 to TR40 inclusive and a visual assessment of the overall area reported to encompass the former Tokanui Hospital closed landfill, were undertaken at the locations shown on the appended Fraser Thomas Ltd drawings 33097/007 and 33097/008 in order to investigate the depth/extent of the former Tokanui Hospital closed landfill material and overall condition of the site.

The hand augured borehole and test pit logs are appended to this report.

A site walkover and visual assessment of the subject site was undertaken during the investigation reported herein. The areas where landfill material was encountered were generally observed to comprise grassed, flat lying farm paddocks. Evidence of shallow soil creep, including terracettes and hummocky topography, were observed in areas where the site topography sloped at, or was steeper than 14° to the horizontal (1V:4H), as shown on the appended Fraser Thomas Ltd drawing 65547/101.

The approximate inferred footprint of the landfill area and lateral extent of non-engineered fill, based on the visual appraisal of the site and fill material identified within the trenches, is shown on the appended Fraser Thomas Ltd drawing 33097/008.

In situ undrained shear strength measurements were carried out in the sides and base of the test pits using hand held field shear vane equipment in accordance with the NZ Geotechnical Society 'Test Method for Determining the Vane Shear Strength of a Cohesive Soil using a Hand Held Shear Vane, August 2001'. These tests were carried out in the walls and floor of the test pits at 0.5 m depth intervals, where possible, enabling a strength profile of **cohesive soils** to be obtained from the test pits.

It is noted that in situ undrained shear strength measurements were not generally undertaken in the granular material i.e. landfill refuse.

It is also noted that due to instability of the area surrounding the test pits, dynamic cone (Scala) penetrometer (DCP) tests were not undertaken in the landfill refuse. However, a DCP test was conducted in the base of Borehole HA1. The results of the DCP test conducted in the base of Borehole HA1 generally ranged between 2 and 7 blows per 50 mm penetration, corresponding to a loose to medium dense consistency.

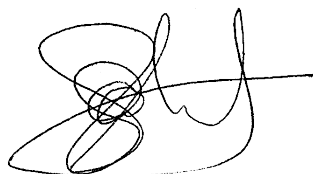
In situ undrained shear strength values measured in the landfill capping material were generally greater than 100 kPa, corresponding to a very stiff to hard consistency.

In situ undrained shear strength values measured in the Hamilton Ash and Tauranga Group alluvial sediments ranged between 31 kPa and greater than 200 kPa, corresponding to a firm to hard consistency.

It should be noted that the field investigation data provided is factual only. No liability is accepted by this firm or by any principal, or director, or any servant or agent of this firm, in respect of the use or interpretation of the data by any other person or entity and any liability arising from the use of the appended data is solely that of that person or entity.

Yours sincerely

FRASER THOMAS LIMITED

A handwritten signature in black ink, appearing to read 'A G J Stuart', with a horizontal line extending to the right.

A G J STUART

Director – Geotechnical Engineering
Chartered Professional Engineering Geologist

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HAND AUGERED BOREHOLE AND MACHINE EXCAVATED TEST PIT LOGS

Proactively Released



HAND AUGER LOG

Hole No:

HA1

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane:	Date Drilled: 17/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)								
0.0 - 0.2	[TOPSOIL] SILT, black, dry, friable	T/S													
0.2 - 0.6	[TOPSOIL STOCKPILE/FILL] SILT, sandy (fine), dark brown speckled brown, firm, dry, friable	Fill													
0.6 - 0.8	GRAVEL (fine to medium, sub-angular), minor silt, dark brown mottled light brown, medium dense, moist, poorly graded														
0.8 - 0.8	EOH: 0.70 m TOO DENSE TO AUGER (REFUSAL ON GRAVEL)														
0.8 - 0.9											7				
0.9 - 1.0											5				
1.0 - 1.1											5				
1.1 - 1.2											4				
1.2 - 1.3											2				
1.3 - 1.4											2				
1.4 - 1.5											2				
1.5 - 1.6											2				
1.6 - 1.7											3				
1.7 - 1.8											3				
1.8 - 1.9											4				
1.9 - 2.0											4				
2.0 - 2.1															
2.1 - 2.2															
2.2 - 2.3															
2.3 - 2.4															
2.4 - 2.5															
2.5 - 2.6															
2.6 - 2.7															
2.7 - 2.8															
2.8 - 2.9															
Remarks:							Datum:								
1. Groundwater not encountered on 17/04/23.															
2. DCP test undertaken in the base of the borehole from 0.6 m to 1.9 m.															
							Coordinates:								



HAND AUGER LOG

Hole No:

HA2

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Drilled: 17/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)								
0.0 - 0.2	[TOPSOIL] SILT, black, dry, friable	T/S		●											
0.2 - 1.0	SILT, sandy (fine), light brown, stiff, moist, friable [HAMILTON ASH] 0.8 m: becomes light brown/light grey	Kauroa-Hamilton Ash		○	●	50 (11)									GWNE
1.0	EOH: 1.00 m TARGET DEPTH			○	●	71 (14)									
1.0 - 2.8															

Remarks: 1. Groundwater not encountered on 17/04/23.	Datum:
	Coordinates:



HAND AUGER LOG

Hole No:
HA3

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Drilled:
17/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)								
				●	○		2	4	6	8	10	12	14	16	
0.2	[TOPSOIL] SILT, trace sand (fine), black/dark grey, moist, slightly plastic	T/S													
0.4	SILT, sandy (fine), brown, stiff, moist, friable [HAMILTON ASH]	Kauroa-Hamilton Ash			●	85 (25)									GWNE
1.0	EOH: 1.00 m TARGET DEPTH			○	●	89 (14)									
1.2															
1.4															
1.6															
1.8															
2.0															
2.2															
2.4															
2.6															
2.8															
Remarks: 1. Groundwater not encountered on 17/04/23.						Datum:									
						Coordinates:									



HAND AUGER LOG

Hole No:
HA4

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Drilled: 17/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)							
0.2	[TOPSOIL] SILT, trace sand (fine), black/dark grey, moist, slightly plastic	T/S												
0.4	SILT, sandy (fine), brown, very stiff, moist, friable [HAMILTON ASH]	Kauroa-Hamilton Ash												
1.0	EOH: 1.00 m TARGET DEPTH													
1.95				●	○	195 (32)								
2.10				○	●	128 (21)								
2.8														

Remarks:
1. Groundwater not encountered on 17/04/23.

Datum:

Coordinates:



HAND AUGER LOG

Hole No:
HA5

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Drilled: 17/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater			
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)										
				50	100	150	200	Values	2	4	6	8	10	12	14	16	
0.2	[TOPSOIL] SILT, trace sand (fine), black/dark grey, moist, slightly plastic	T/S															
0.4	SILT, some sand (fine), light grey/light brown, hard, moist, friable [HAMILTON ASH]	Kauroa-Hamilton Ash															
0.6																	
0.8	0.8 m: becomes light grey/light orange, very stiff																
1.0	EOH: 1.00 m TARGET DEPTH							216 (35)									
1.2																	
1.4																	
1.6																	
1.8																	
2.0																	
2.2																	
2.4																	
2.6																	
2.8																	

Remarks: 1. Groundwater not encountered on 17/04/23.	Datum:
	Coordinates:

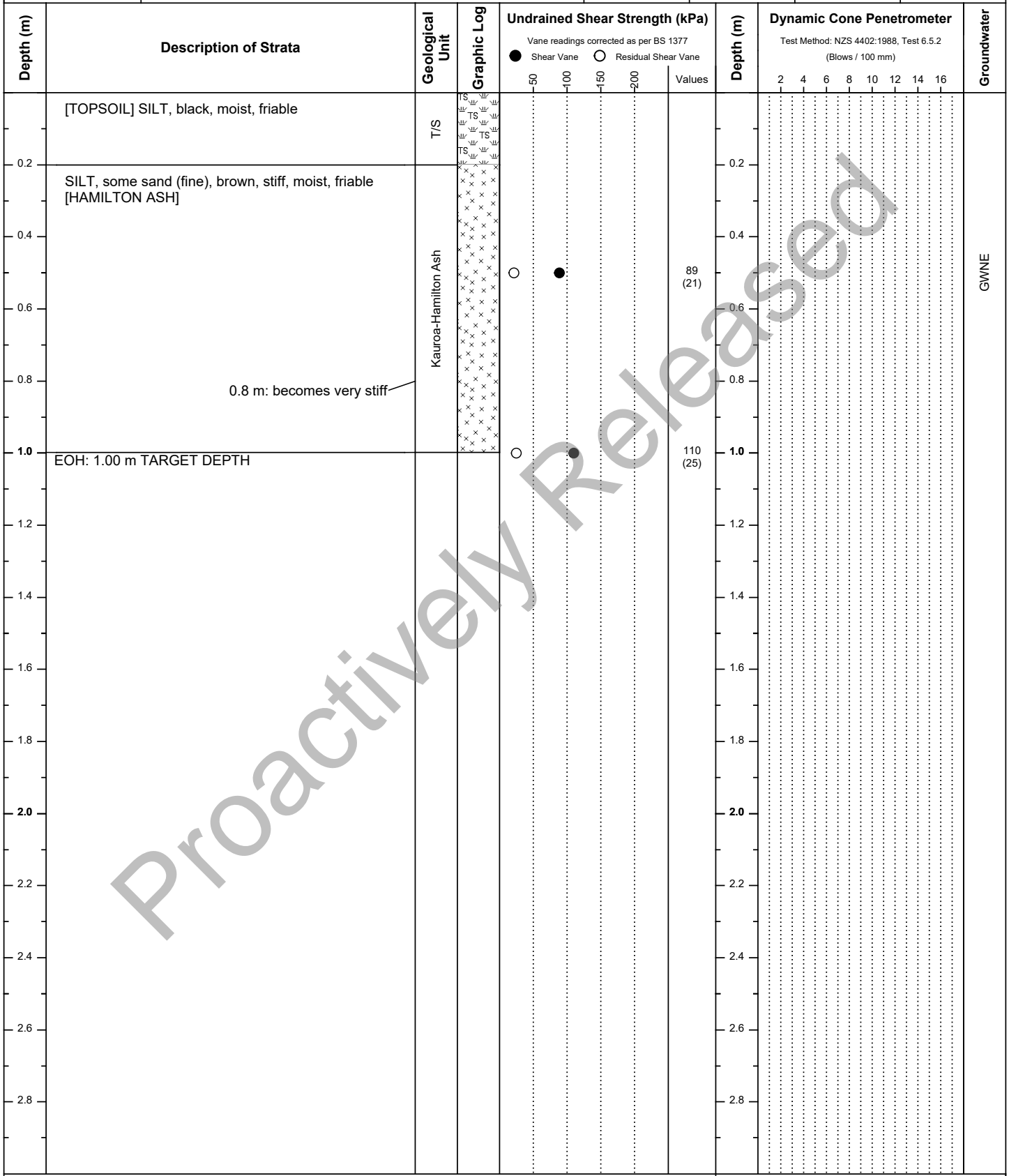


HAND AUGER LOG

Hole No:

HA6

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Drilled: 18/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Remarks:
1. Groundwater not encountered on 18/04/23.

Datum:

Coordinates:



HAND AUGER LOG

Hole No:
HA7

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Drilled:
18/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater			
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)										
				50	100	150	200	Values	2	4	6	8	10	12	14	16	
0.0 - 0.2	[TOPSOIL] SILT, black, moist, friable	T/S	[Symbol]														
0.2 - 1.0	SILT, some sand (fine), orange/brown, very stiff, moist, friable [HAMILTON ASH]	Kauroa-Hamilton Ash	[Symbol]														
0.7	0.7 m: tree root																
0.8	0.8 m: becomes trace sand, slightly plastic																
1.0	EOH: 1.00 m TARGET DEPTH								160 (18)								
1.0									199 (32)								
1.2 - 2.8																	
Remarks:							Datum:										
1. Groundwater not encountered on 18/04/23.																	
							Coordinates:										



HAND AUGER LOG

Hole No:

HA8

Project No:
65547

Project: Toitū Te Whenua Land Information New Zealand
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Drilled:
18/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater		
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)									
				●	○		2	4	6	8	10	12	14	16		
0.0 - 0.2	[TOPSOIL] SILT, black, moist, friable	T/S	[Symbolic representation]													
0.2 - 0.4	SILT, sandy (fine), dark brown, firm, moist, friable [HAMILTON ASH]	Kauroa-Hamilton Ash	[Symbolic representation]													
0.4 - 0.6	0.6 m: becomes orange/brown															
0.6 - 1.0	1.2 m: becomes minor sand (fine), stiff, slightly plastic															
1.0 - 1.4	1.4 m: becomes dark orange, very stiff															
1.4 - 2.0	EOH: 2.00 m TARGET DEPTH															
2.0 - 2.2																
2.2 - 2.4																
2.4 - 2.6																
2.6 - 2.8																
Remarks: 1. Groundwater not encountered on 18/04/23.							Datum:									
							Coordinates:									



HAND AUGER LOG

Hole No:

HA9

Project No:
65547

Project: Toitū Te Whenua Land Information New Zealand
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Drilled:
18/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)								
				●	○		2	4	6	8	10	12	14	16	
0.0 - 0.2	[TOPSOIL] SILT, black, moist, friable	T/S													
0.2 - 1.0	SILT, some sand (fine), light brown, very stiff, moist, slightly plastic [HAMILTON ASH] 0.6 m: tree roots	Kauroa-Hamilton Ash		○	●	106 (35)									GWNE
1.0	EOH: 1.00 m TARGET DEPTH			○	●	121 (32)									
1.0 - 2.8															

Remarks:

- Groundwater not encountered on 18/04/23.

Datum:

Coordinates:



HAND AUGER LOG

Hole No:
HA10

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Drilled: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)								
0.2	[TOPSOIL] SILT, minor gravel (fine, sub-angular), dark brown, moist, friable	T/S													
0.4	SILT, minor clay, trace sand (fine), light grey/light brown, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash													GWNE
0.6	0.6 m: becomes some sand (fine), trace clay														
1.0	EOH: 1.00 m TARGET DEPTH					124 (21)									
1.0						124 (32)									
1.2															
1.4															
1.6															
1.8															
2.0															
2.2															
2.4															
2.6															
2.8															
Remarks: 1. Groundwater not encountered on 19/04/23.						Datum:									
						Coordinates:									



HAND AUGER LOG

Hole No:
HA11

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Drilled: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 100 mm)							
0.0 - 0.2	[TOPSOIL] SILT, minor gravel (fine, sub-angular), dark brown, moist, friable	T/S	[Symbolic representation]	●	○									
0.2 - 0.6	SILT, minor clay, trace sand (fine), light grey/light brown, very stiff, moist, slightly plastic [HAMILTON ASH] 0.6 m: becomes brown streaked orange		[Symbolic representation]	●	○	145 (25)								
0.6 - 1.0			[Symbolic representation]	●	○	195 (39)								
1.0 - 1.5	EOH: 1.50 m TARGET DEPTH		[Symbolic representation]	●	○	191 (43)								
1.5 - 2.8			[Symbolic representation]											

Remarks: 1. Groundwater not encountered on 19/04/23.	Datum:
	Coordinates:



TEST PIT LOG

Hole No:
TP1

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 01/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, minor clay, dark brown, dry, friable	T/S												
0.2 - 0.4	[CAPPING MATERIAL] SILT, minor sand (fine), grey mottled orange/black, hard, moist, slightly plastic	LFC												
0.4 - 0.8	[LANDFILL] SILT, some sand (fine to coarse), brown mottled black/orange/grey, stiff, moist, friable, contains abundant (20%) construction/building debris including asphalt, concrete, brick and steel													
0.8 - 2.0	1.7 m: becomes dark brown mottled orange/black, up to 50% construction debris and general refuse including porcelain, timber, cloth and pipes, minor pit collapse	F/III		●	○	1.55								
2.0 - 2.5	2.5 m: glass bottles noted			○	●	2.0								
2.5 - 3.0	2.7 m: up to 10% organic material noted including tree stumps and wood fragments													
3.0 - 3.8	EOTP: 3.00 m TEST PIT COLLAPSING - UNSAFE TO PROGRESS													

Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater not encountered on 1/11/22

Datum: _____

Coordinates: _____



TEST PIT LOG

Hole No:
TP2

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 01/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[ASH/TOPSOIL] SILT, some sand (fine), black speckled white, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, some clay, minor gravel (fine, subangular), orange/brown mottled grey/black, very stiff, moist, slightly plastic	LFC				126 (15)								
1.0	[LANDFILL] SILT, some sand (fine to coarse), black mottled orange/grey, stiff, moist, slightly plastic, contains abundant (20%) general refuse and construction debris including metal, concrete wood and bottles	Fill				64 (28)								
1.3 - 1.8	CAPPING MATERIAL					80 (31)								
2.2 - 2.5	CAPPING MATERIAL					107 (15)								
2.5 - 2.8	contains 50% refuse including steel framing/wires and timber fragments													
2.8	becomes wet (leachate), minor pit collapse occurring													
3.4	SILT, clayey, grey streak black, stiff, moist, slightly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group				92 (43)								
3.8	EOTP: 3.70 m TARGET DEPTH													

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater strike recorded at 2.8 m BGL on 1/11/2022.
- Standing groundwater measured at 3.4 m BGL following completion of excavation on 1/11/2022.
- Permeability sample of the cap material taken from 0.3 m to 0.4 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP3

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 01/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater		
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)									
0.2	[TOPSOIL] SILT, minor clay, dark brown, dry, friable	T/S				0.2										
0.4	[CAPPING MATERIAL] SILT, minor gravel (fine, sub angular), brown mottled orange/grey, hard, moist, slightly plastic	LFC				0.4										
0.8	[LANDFILL] SILT, some sand (fine to coarse), brown mottled black/orange/grey, very stiff, moist, friable, contains abundant (20%) construction/building debris including asphalt, concrete, wood, brick, pipes and steel up to 1 m long 1.3 m - 1.5 m: CAPPING MATERIAL 2.0 m: contains 30% concrete beams and sheet metal present, trace general refuse including bottles 2.2 m - 2.4 m: CAPPING MATERIAL 2.6 m: 800 mm diameter steel tank 2.8 m: 2 m long log 3.5 m: becomes wet	Fill				0.8										
1.0						187 (15)										
1.4								1.4								
1.6								1.6								
2.0								2.0								
2.2								2.2								
2.4								2.4								
2.6								2.6								
2.8								2.8								
3.0								3.0								
3.6					3.6											
3.8	SILT, clayey, grey streak orange, very stiff, moist, slightly plastic [ALLUVIAL SEDIMENTS]	C/S				3.8										
4.0	EOTP: 3.70 m TARGET DEPTH					4.0										

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater strike recorded at 3.5 m BGL on 1/11/2022.
- Standing groundwater measured at 3.4 m BGL following completion of excavation on 1/11/2022.

Datum:

Coordinates:





TEST PIT LOG

Hole No:

TP4

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 01/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S				0.2								
0.4	[CAPPING MATERIAL] SILT, minor clay, grey/orange mottled black, hard, moist, slightly plastic	LFC				0.4								
0.6	SILT, minor clay, grey mottled black/orange, hard, moist, slightly plastic 0.7 m: concrete block	LFC				0.6								
0.8														
1.0	[LANDFILL] SILT, some sand (fine to coarse), brown mottled black/orange/grey, very stiff, moist, friable, contains abundant (40%) construction/building debris including asphalt, concrete, wood, brick, pipes and steel	Fill				1.0								
1.2														
1.4														
1.6														
1.8														
2.0														
2.2														
2.4														
2.6														
2.8														
3.0														
3.2														
3.4														
3.6														
3.8														
4.0	SILT, clayey, grey, stiff, wet, slightly plastic [ALLUVIAL SEDIMENTS] EOTP: 4.10 m TARGET DEPTH	TG				4.0								
4.2														
4.4														
4.6														
4.8														

Profile:  	Excavation Method: 13t Excavator
	Remarks: <ol style="list-style-type: none"> Groundwater strike recorded at 4.0 m BGL on 1/11/2022. Standing groundwater measured at 4.0 m BGL following completion of excavation on 1/11/2022. Permeability sample of the cap material taken from 0.3 m to 0.4 m below the ground surface. TG: Tauranga Group.
	Datum:
	Coordinates:



TEST PIT LOG

Hole No:
TP5

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 02/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, sub angular), orange/brown mottled grey, hard, moist, slightly plastic	LFC				>200								
0.6	SILT, trace sand (fine), grey mottled orange/brown, very stiff, moist, friable													
1.0	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, stiff, moist, slightly plastic, contains abundant (20%) construction debris including concrete, brick, timber and wire fragments			●		135 (15)								
1.2	1.2 m - 1.4 m: CAPPING MATERIAL													
1.6	1.6 m: general refuse and construction debris including glass bottles													
2.0	2.0 m: pipes, concrete blocks and sheet metal													
2.5	2.5 m: hole collapsing due to larger (>0.5m) debris of concrete encountered	FIII												
4.2	SILT, some clay, grey, stiff, moist, moderately plastic [ALLUVIAL SEDIMENTS] EOTP: 4.30 m TARGET DEPTH	T/G		●		64 (18)								

Profile: 	Excavation Method: 13t Excavator
	Remarks: 1. Groundwater not encountered on 2/11/22 2. TG: Tauranga Group.
	Datum:
	Coordinates:



TEST PIT LOG

Hole No:

TP6

Project No:
65547

Project: Toitū Te Whenua Land Information New Zealand
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
01/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/ S													
0.4	[CAPPING MATERIAL] SILT, minor gravels (fine, sub angular), orange/brown mottled grey, hard, moist, slightly plastic	LFC													
0.6	[ASH/LANDFILL] SILT, sandy (fine to coarse), black speckled orange/white, stiff, moist, friable, trace brick fragments	FI II													
1.0	[CAPPING MATERIAL] SILT, minor clay, trace sand (fine), grey mottled black/orange, very stiff, moist, friable	LFC		○	●	168 (31)									
1.4	[LANDFILL] SILT, minor sand (fine to coarse), black/grey mottled orange, stiff, moist, slightly plastic, contains abundant (20%) construction debris including metal pipes, concrete, fabric, fence posts and wires														
2.4	2.4 m: becomes black, inferred boiler ash matrix			○	●	64 (15)									
3.0	3.0 m: contains 30% general refuse including glass bottles	FI III													
4.0	4.0 m: becomes wet														
4.4	SILT, clayey, grey streaked orange, stiff, moist, slightly plastic	TG		○	●	80 (25)									
4.6	[ALLUVIAL SEDIMENTS]														
4.8	EOTP: 4.50 m TARGET DEPTH														

Profile:

Excavation Method:
13t Excavator



Remarks:
1. Groundwater strike recorded at 4.0 m BGL on 1/11/2022.
2. Standing groundwater measured at 4.3 m BGL following completion of excavation on 1/11/2022.
3. TG: Tauranga Group.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP7

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 02/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]											
0.2 - 1.0	[CAPPING MATERIAL] SILT, trace gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LFC	[Symbol]			>200								
1.0 - 2.0	[LANDFILL] SILT, sandy (fine to coarse), black mottled grey/orange, hard, moist, slightly plastic, contains 20% burnt debris and inferred boiler ash 1.5 m: contains 20% construction debris including red brick and concrete 1.8 m - 2.0 m: CAPPING MATERIAL, very stiff 2.0 m: contains 40% general refuse including waste, fence post/wire, metal pipes and concrete	Fill	[Symbol]			>200								
2.0 - 3.0	SILT, clayey, grey streaked orange, stiff, moist, slight plastic [ALLUVIAL SEDIMENTS] EOTP: 3.10 m TARGET DEPTH	Tauranga Group	[Symbol]			122 (31)								
3.0 - 3.2			[Symbol]			80 (34)								

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater not encountered on 2/11/2022.
- Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP8

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 02/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, some clay, minor gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic					>200								
0.6	SILT, minor clay, light grey/light brown mottled orange/black, very stiff, moist, slightly plastic	LFC												
1.0				○	●	135 (34)								
1.4	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, very stiff, moist, slightly plastic, contains minor burnt debris < 150 mm			○	●	110 (15)								
2.0														
2.4	2.3 m: asbestos tiles present with other construction debris including pipes and general waste	Fill												
3.0														
3.6														
3.8	SILT, clayey, grey streaked orange, stiff, moist, moderately plastic	Tauranga Group												
4.0	[ALLUVIAL SEDIMENTS] 3.9 m: becomes blueish grey EOTP: 4.00 m TARGET DEPTH			○	●	80 (15)								

Profile: 	Excavation Method: 13t Excavator
	Remarks: 1. Groundwater strike recorded at 3.6 m BGL on 2/11/2022. 2. Standing groundwater measured at 3.8 m BGL following completion of excavation on 2/11/2022.
Datum:	
Coordinates:	





TEST PIT LOG

Hole No:

TP9

Project No:
65547

Project: Toitū Te Whenua Land Information New Zealand
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
02/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, some clay, minor gravel (fine, sub-angular), orange/brown mottled grey, hard, moist, slightly plastic	LFC				>200								
1.0	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, very stiff, moist, slightly plastic, contains 20% 50 mm diameter burnt debris	Fill		●		141 (15)								
1.5	1.5 m: contains construction debris													
1.8	1.8 m: contains general refuse													
2.0	2.0 m: contains wooden post/fencing and steel/metal pipes													
2.6	2.6 m: becomes larger debris (>1 m), car axle, 80% refuse													
2.8	2.8 m: becomes wet													
3.4	SILT, some sand (fine), minor clay, grey streaked orange, very stiff, moist, slightly plastic	Tauranga Group		○		110 (34)								
3.6	[ALLUVIAL SEDIMENTS]													
3.6	EOTP: 3.50 m TARGET DEPTH													

Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater strike recorded at 2.8 m BGL on 2/11/2022.
2. Standing groundwater measured at 3.0 m BGL following completion of excavation on 2/11/2022.

Datum: _____

Coordinates: _____



TEST PIT LOG

Hole No:
TP10

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 02/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]											
0.2 - 0.4	[CAPPING MATERIAL] SILT, clayey, trace gravel (fine, subangular), orange/light brown mottled grey, hard, moist, slightly plastic	LFC	[Symbol]			>200								
0.4 - 1.0	[LANDFILL] SAND (fine to coarse), silty, black mottled white/orange, loose, moist, poorly graded, contains <100 mm diameter burnt debris	Fill	[Symbol]											
1.0 - 1.1	1.1 m: becomes dense													
1.1 - 1.5	1.5 m: 30% general refuse present													
1.5 - 1.8	1.8 m: becomes 80% refuse including bottles, asbestos, newspapers and cans, minor pit collapse													
1.8 - 2.8	2.8 m: becomes wet, pit collapsing													
2.8 - 3.0														
3.0 - 3.4	SILT, clayey, blueish grey streaked black, stiff, wet, slightly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group	[Symbol]											
3.4 - 3.8	EOTP: 3.40 m TARGET DEPTH			○ ●		64 (31)								

▼ 02/11/2022
▽ 02/11/2022

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater strike recorded at 2.8 m BGL on 2/11/2022.
- Standing groundwater measured at 2.4 m BGL following completion of excavation 2/11/2022.
- Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP11

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
02/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater			
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)										
				50	100	150	200	Values	2	4	6	8	10	12	14	16	
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S															
0.2 - 0.4	[CAPPING MATERIAL] SILT, some clay, minor gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic																
0.4 - 0.6		LFC						>200									
0.6 - 1.0	SILT, sandy (fine), grey/brown mottled orange/black, very stiff, moist, friable																
1.0 - 1.2		Fill						126 (18)									
1.2 - 1.4	[LANDFILL] SILT, minor sand (fine), black mottled orange/dark red, moist, very stiff, slightly plastic, contains minor refuse debris <100 mm																
1.4 - 2.0	SILT clayey, brown streaked grey/orange, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash						110 (43)									
2.0 - 2.2	1.8 m: becomes trace sand (fine) 2.0 m: becomes sandy (fine), minor clay							122 (31)									
2.2 - 2.4	EOTP: 2.20 m TARGET DEPTH																
2.4 - 2.6																	
2.6 - 2.8																	
2.8 - 3.0																	

Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater not encountered on 2/11/2022.

Datum: _____

Coordinates: _____



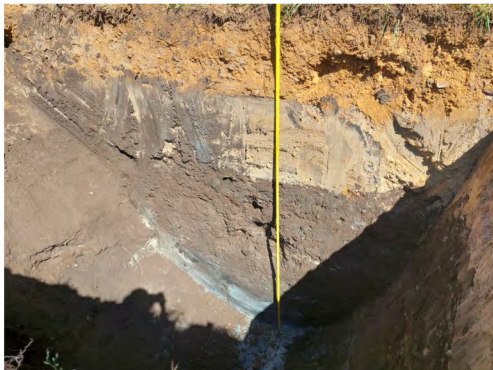
TEST PIT LOG

Hole No:
TP12

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 02/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.2 - 0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown, mottled grey, hard, moist, slightly plastic	LFC	[Cross-hatched pattern]											
0.4 - 0.6	SILT, clayey, minor sand (fine), grey streaked orange/brown, very stiff, moist, slightly plastic													
0.6 - 1.0	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, very stiff, moist, slightly plastic, contains general refuse (10%) including glass and plastic	Fill	[Cross-hatched pattern]											
1.0 - 1.2	2.0 m: 10% wood and concrete debris present													
1.2 - 1.6	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, very stiff, moist, slightly plastic, contains general refuse (10%) including glass and plastic	Tauranga Group	[Cross-hatched pattern]											
1.6 - 2.0	2.0 m: 10% wood and concrete debris present													
2.0 - 2.8	SILT, some sand (fine), blueish grey, very stiff, moist, slightly plastic	Tauranga Group	[Cross-hatched pattern]											
2.8 - 3.0	[ALLUVIAL SEDIMENTS]													
3.0 - 3.2	EOTP: 3.10 m TARGET DEPTH													
3.2 - 3.8														

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater strike recorded at 2.8 m BGL on 2/11/2022.
- Standing groundwater measured at 3.0 m BGL following completion of excavation on 2/11/2022.
- Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP13

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
02/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater		
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)									
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S														
0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LFC														
0.6	[LANDFILL] SILT, sandy (fine to coarse), dark grey mottled black, stiff, moist, slightly plastic, contains 40% plastic, burnt debris, steel debris, concrete, wires and cables	Fill														
1.4 - 1.6	1.4 m - 1.6 m: CAPPING MATERIAL															
1.7	1.7 m: contains 50% general demolition debris and rubble including tiles, GIB board and glass															
2.6	2.6 m: contains 30% timber logs, paper and concrete															
3.2	SILT, clayey, minor sand (fine), blueish grey, stiff, wet, slightly plastic	Tauranga Group														
3.6	[ALLUVIAL SEDIMENTS]															
3.6	EOTP: 3.60 m TARGET DEPTH															

Profile:  **Excavation Method:** 13t Excavator



Remarks:

- Groundwater strike recorded at 3.2 m BGL on 2/11/2022.
- Standing groundwater measured at 3.4 m BGL following completion of excavation on 2/11/2022.
- Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP14

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, some gravel (fine, subangular), minor clay, orange/brown, hard, moist, slightly plastic	LFC				>200								
0.6	SILT, sandy (fine to coarse), trace gravel (fine, subangular), brown mottled orange/grey, very stiff moist, slightly plastic													
1.0	[LANDFILL] SILT, trace clay and sand (fine to coarse), black, very stiff, moist, slightly plastic, inferred boiler ash	Fill		○	●	141 (31)								
1.4	SILT, clayey, grey/light brown streaked orange, stiff, moist, slightly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group		○	●	92 (31)								
2.0	EOTP: 2.00 m TARGET DEPTH					○	●	86 (34)						

Profile:




Excavation Method:
13t Excavator

Remarks:
1. Groundwater not encountered on 3/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP15

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]											
0.2 - 0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LFC	[Symbol]			>200								
0.4 - 0.6	[LANDFILL] SILT, minor sand (fine), black, very stiff, moist, slightly plastic, contains 20% small tiles, building material and a pipe	Fill	[Symbol]											
0.6 - 1.0	[LANDFILL] SILT, minor sand (fine), black, very stiff, moist, slightly plastic, contains 20% small tiles, building material and a pipe	Fill	[Symbol]											
1.0 - 1.8	SILT, minor clay, light brown streaked orange, stiff, moist, slightly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group	[Symbol]											
1.8 - 2.0	EOTP: 1.70 m TARGET DEPTH					73 (31)								
2.0 - 2.8														

Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater not encountered on 3/11/2022.

Datum: _____

Coordinates: _____



TEST PIT LOG

Hole No:
TP16

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
03/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S													
0.2 - 0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LF C													
0.4 - 0.6	[LANDFILL] SILT, minor clay, black mottled orange/dark brown, very stiff, moist, slightly plastic, contains abundant (50%) construction debris including bricks and asbestos	Fill													
0.6 - 1.0	SILT, light brown streaked orange, very stiff, moist, slightly plastic [HAMILTON ASH] 1.0 m: becomes sandy (fine to coarse), orange, stiff	Kauroa-Hamilton Ash				126 (58)									
1.0 - 1.2	1.2 m: becomes sandy (fine), grey/light brown streaked orange, very stiff					92 (28)									
1.2 - 1.4	EOTP: 1.30 m TARGET DEPTH					126 (34)									

Profile: _____ Excavation Method: 13t Excavator

Remarks: 1. Groundwater not encountered on 3/11/2022.



Datum: _____
Coordinates: _____



TEST PIT LOG

Hole No:
TP17

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LFC												
0.6	0.2 m: some gravel (fine, subangular)													
0.8	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, stiff, moist, slightly plastic, contains 50% general waste and construction debris													
1.2	1.2 m - 1.5 m: [CAPPING MATERIAL] SILT, clayey, blueish grey													
1.6	1.5 m: large construction debris and general waste including steel and plastic (80%)													
2.2	2.1 m: becomes wet, large wood fragments	Fill												
2.6	2.6 m: pit collapsing													
3.8	ORGANIC SILT, some clay and wood fragments, dark grey streaked black/dark brown, firm, moist, slightly plastic	Tauranga Group												
4.0	[ALLUVIAL SEDIMENTS]													
4.2	EOTP: 4.00 m TARGET DEPTH													

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater strike recorded at 2.1 m BGL on 3/11/2022.
- Standing groundwater measured at 2.3 m BGL following completion of excavation on 3/11/2022.
- Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP18

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater			
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)										
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S															
0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LFC															
0.6	SILT, some clay, light brown streaked orange, very stiff, moist, slightly plastic [HAMILTON ASH] 0.9 m: becomes light brown/grey streaked orange 1.2 m: becomes minor sand (fine) and clay, stiff 1.6 m: becomes sandy (fine)	Kauroa-Hamilton Ash															
1.0																	
1.4																	
1.6																	
2.0	EOTP: 2.00 m TARGET DEPTH																

Profile:




Excavation Method:
13t Excavator

Remarks:
1. Groundwater not encountered on 3/11/2022.
2. Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP19

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable, contains some refuse debris including nails, plastic, bricks and tiles	T/S	[Symbol]											
0.2 - 0.5	[CAPPING MATERIAL] SILT, brown/grey mottled orange/dark brown, very stiff, moist, slightly plastic	LFC	[Symbol]											
0.5 - 1.6	SILT, clayey light brown streaked orange/grey, very stiff, moist, slightly plastic [HAMILTON ASH] 1.2 m: becomes minor sand (fine), orange	Kauroa-Hamilton Ash	[Symbol]	135 (34)										
1.6 - 2.4	CLAY, silty, blueish grey, firm, wet, moderately plastic [ALLUVIAL SEDIMENTS] EOTP: 1.60 m TARGET DEPTH	TG	[Symbol]	107 (31)										
				31 (15)										

Profile:	Excavation Method: 13t Excavator
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Remarks:
1. Groundwater not encountered on 3/11/2022.
2. TG: Tauranga Group.

Datum:

Coordinates:



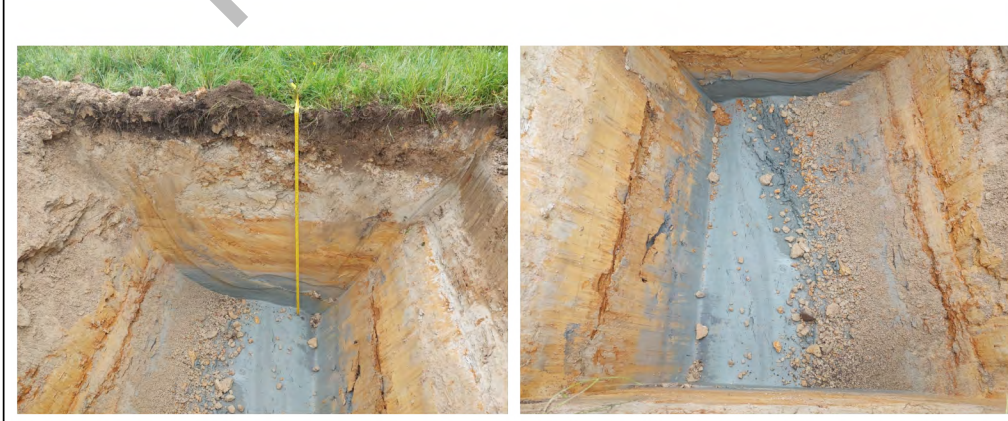
TEST PIT LOG

Hole No:
TP20

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Values	Depth (m)	Dynamic Cone Penetrometer							Groundwater		
				● Shear Vane	○ Residual Shear Vane			Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)									
				-50	-100	-150	-200	2	4	6	8	10	12	14	16		
0.2	[TOPSOIL] SILT, dark brown, moist, friable, contains trace refuse debris <50 mm	T/S															
0.4	[NON-ENGINEERED FILL] SILT, minor clay, brown mottled orange/grey/dark brown, stiff, moist, slightly plastic	Fill															
0.6	SILT, minor sand (fine), grey streaked orange/brown, very stiff, moist, slightly plastic [HAMILTON ASH]	Karoora-Hamilton Ash		○	●		110 (37)										
1.0	0.8 m: becomes orange streaked light brown/grey, stiff, moderately plastic			○	●		58 (31)										
1.4	SILT, sandy (fine), grey, firm, moist, slightly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group															
1.6	1.7 m: becomes stiff			○	●		52 (28)										
1.8	EOTP: 1.70 m TARGET DEPTH																
2.0																	
2.2																	
2.4																	
2.6																	
2.8																	

Profile:	Excavation Method: 13t Excavator
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Remarks:
1. Groundwater not encountered on 3/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP21

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[TOPSOIL] SILT, dark brown, moist, friable, contains 20% fragments of plate, porcelain and glass	T/S		●	○										
0.4	[NON-ENGINEERED FILL] SILT, trace gravel (fine, subangular), brown mottled grey/orange/black, very stiff, moist, slightly plastic	Fill		○	●	150 (46)									
0.6	0.6 m: becomes orange/grey streaked brown, stiff														
1.0	SILT, some sand (fine), dark grey mottled orange, stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash		○	●	73 (34)									
1.4	SILT, some sand (fine), light brown streaked orange, stiff, moist, slightly plastic			○	●	58 (28)									
2.0	SILT, sandy (fine), minor clay, blueish grey, stiff, moist, slightly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group		○	●	58 (31)									
2.4	2.4 m: becomes firm			○	●	46 (28)									
2.4	EOTP: 2.40 m TARGET DEPTH			○	●										

Profile:




Excavation Method:
13t Excavator

Remarks:
1. Groundwater not encountered on 3/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP22

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[TOPSOIL] SILT, dark brown, moist, friable, contains construction debris/glass	T/S		●	○										
0.4	SILT, some clay, trace sand (fine), grey streaked orange/light brown, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash		○	●	110 (31)									
1.0	1.0 m: becomes sandy (fine), orange streaked grey/light brown, stiff			○	●	104 (37)									
1.4	SILT, clayey, trace sand (fine), light blueish grey, firm, moist, highly plastic [ALLUVIAL SEDIMENTS]	Tauranga Group		○	●	43 (28)									
2.0	1.9 m: becomes minor sand, blueish grey			○	●	49 (25)									
2.4	2.3 m: becomes stiff EOTP: 2.40 m TARGET DEPTH			○	●	61 (28)									

Profile:




Excavation Method:
13t Excavator

Remarks:
1. Groundwater not encountered on 3/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP23

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]											
0.2 - 0.4	SILT, trace sand (fine), grey/brown streaked orange, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash	[Symbol]											
0.4 - 0.6	0.3 m: becomes orange/brown streaked grey													
0.6 - 0.8	0.6 m: becomes sandy (fine)													
0.8 - 1.0	0.8 m: becomes stiff													
1.0 - 1.2														
1.2 - 1.4	SILT, clayey, minor sand (fine), grey streaked orange, firm, moist, moderately plastic [ALLUVIAL SEDIMENTS]	TG	[Symbol]											
1.4 - 1.6	EOTP: 1.40 m TARGET DEPTH													
1.6 - 1.8														
1.8 - 2.0														
2.0 - 2.2														
2.2 - 2.4														
2.4 - 2.6														
2.6 - 2.8														
2.8 - 3.0														

Profile: 	Excavation Method: 13t Excavator
	Remarks: 1. Groundwater not encountered on 3/11/2022. 2. TG: Tauranga Group.
	Datum: Coordinates:





TEST PIT LOG

Hole No:
TP24

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 03/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0	[TOPSOIL] SILT, dark brown, moist, friable	T/S												
0.2	SILT, minor clay and sand (fine), light brown/grey streaked orange, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash	[X pattern]	○	●	104 (37)								
1.0	1.1 m: becomes sandy (fine), stiff			○	●	126 (46)								
1.6	SILT, clayey, trace sand (fine), grey streaked dark grey, stiff, moist, moderately plastic [ALLUVIAL SEDIMENTS]			Tauranga Group	[X pattern]	○	●	61 (28)						
2.0	2.5 m: becomes firm	○	●			58 (25)								
2.4	2.6 m: becomes wet, grey, sandy (fine), very stiff, slightly plastic	○	●			49 (28)								
2.6		○	●			168 (58)								
2.8	EOTP: 2.70 m TARGET DEPTH													

Profile:

Excavation Method:
13t Excavator

Remarks:
1. Groundwater strike recorded at 2.7 m BGL on 3/11/2022.
2. Standing groundwater measured at 2.7 m BGL following completion of excavation on 3/11/2022.

Datum:

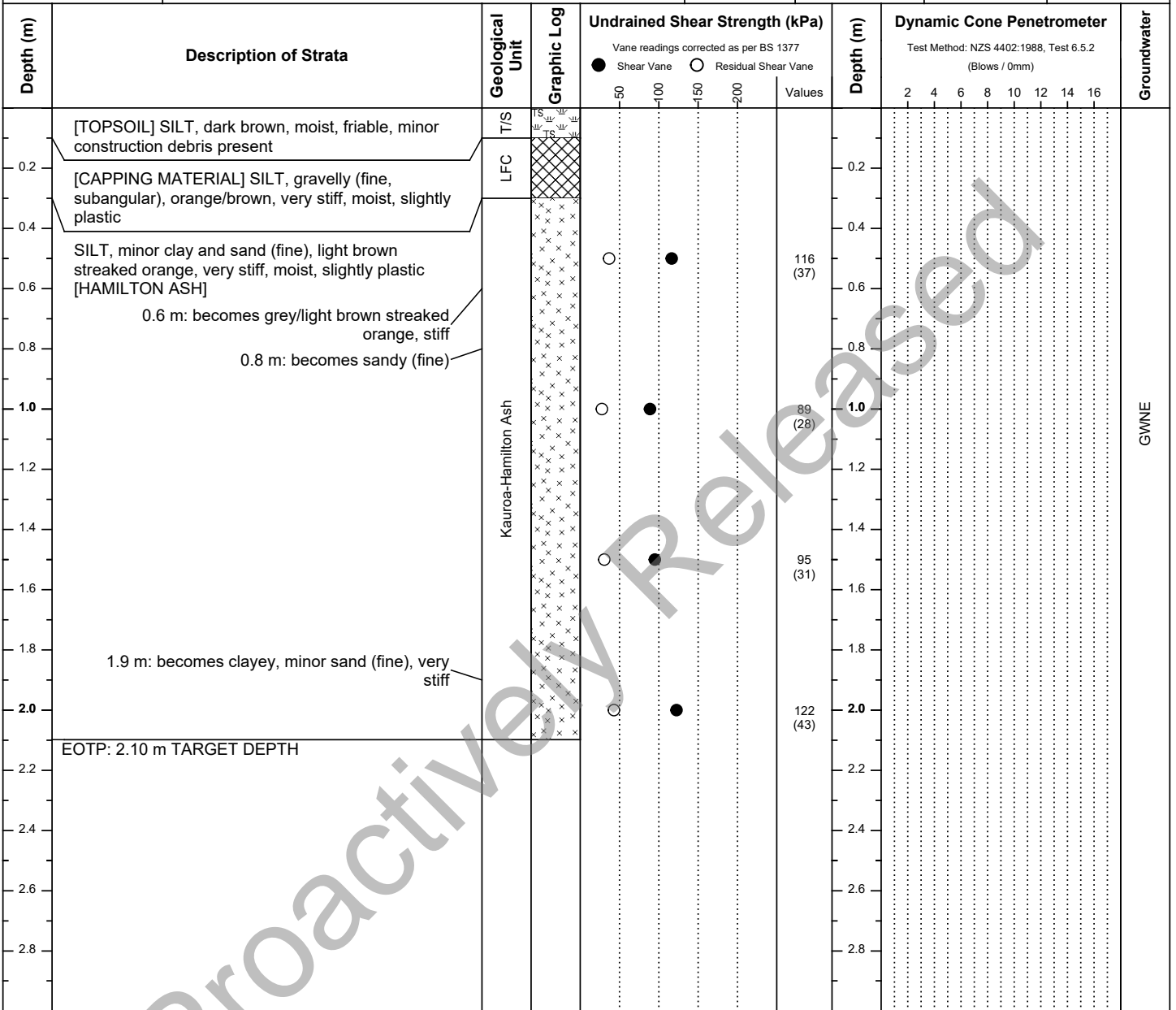
Coordinates:



TEST PIT LOG

Hole No:
TP25

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 04/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater not encountered on 4/11/2022.
2. Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.

Datum: _____

Coordinates: _____



TEST PIT LOG

Hole No:
TP26

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Takanui	Shear Vane: GEO2032	Date Excavated: 04/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)					Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Vane readings corrected as per BS 1377						Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
				● Shear Vane	○ Residual Shear Vane	Values		2	4	6	8	10	12	14	16		
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/ S															
0.4	[CAPPING MATERIAL] SILT, some gravel (fine, subangular), orange/brown, hard, moist, slightly plastic	LFC S				>200											
1.0	[NON-ENGINEERED FILL] SILT, sandy (fine), minor clay, light brown mottled orange/grey, firm, moist, friable, minor pit collapse occurring	Fill															
1.6	[LANDFILL] MEDICAL WASTE including needles, razors and bottles (no soil matrix)																
4.0	4.0 m: inferred boiler ash noted in 1/4 offal pits																
4.6	SILT, clayey, grey, stiff, wet, moderately plastic [ALLUVIAL SEDIMENTS]	Tauranga Group															
5.6	EOTP: 5.50 m TARGET DEPTH																

Profile:	Excavation Method: 13t Excavator
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Remarks:

- Groundwater strike recorded at 5.5 m BGL on 4/11/2022.
- Standing groundwater measured at 5.3 m BGL following completion of excavation on 4/11/2022.
- Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.
- Four 600 mm diameter bored offal pits encountered within the area of the test pit. Log represents the general profile of the offal pits encountered.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP27

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 04/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Pattern]											
0.2 - 0.4	[CAPPING MATERIAL] SILT, some gravel (fine, subangular), orange/brown, hard, moist, slightly plastic	LFC	[Pattern]											
0.4 - 1.8	[LANDFILL] SILT, sandy (fine to coarse), brown speckled white/orange, stiff, moist, slightly plastic, contains 40% construction debris including wood, metal, concrete and bricks	Fill	[Pattern]											
1.8 - 2.6	SILT, minor clay and sand (fine), brown streaked orange, stiff, moist, slightly plastic [HAMILTON ASH] 2.0 m: becomes very stiff 2.1 m: becomes grey/light brown streaked orange	Kauroa-Hamilton Ash	[Pattern]	●	○	101 (34)								
2.6 - 2.6	EOTP: 2.60 m TARGET DEPTH			●	○	104 (31)								
2.6 - 3.8														

Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater not encountered on 4/11/2022.

Datum: _____

Coordinates: _____



TEST PIT LOG

Hole No:
TP28

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 04/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater				
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)											
				50	100	150	200	Values	2	4	6	8	10	12	14	16		
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/ S	[Cross-hatch pattern]															
0.2 - 0.4	[CAPPING MATERIAL] SILT, gravelly (fine, subangular), orange/brown, hard, moist, slightly plastic	LFC S	[Cross-hatch pattern]															
0.4 - 0.8	SILT, sandy (fine), grey/light brown streaked orange, stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash	[Dotted pattern]	○	●			92 (34)										
0.8 - 1.0	0.8 m: becomes minor clay and sand (fine)				○	●			89 (28)									
1.0 - 1.4	1.4 m: becomes orange streaked grey				○	●			95 (43)									
1.4 - 1.8	1.8 m: becomes light brown streaked orange/grey				○	●			73 (31)									
1.8 - 2.0					○	●			77 (34)									
2.0 - 2.8	2.8 m: becomes sandy (fine)			○	●			58 (15)										
3.0	EOTP: 3.00 m TARGET DEPTH			○	●													

Profile:




Excavation Method:
13t Excavator

Remarks:
1. Groundwater not encountered on 4/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP29

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
04/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
				●	○		2	4	6	8	10	12	14	16	
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S													
0.4	SILT, sandy (fine), light brown/grey streaked orange, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash													
1.0	0.9 m: becomes orange/light brown, stiff														
1.2	SILT, clayey, minor sand (fine), grey streaked orange, stiff, moist, moderately plastic [ALLUVIAL SEDIMENTS]	Tauranga Group													
1.4	EOTP: 1.50 m TARGET DEPTH														
1.6															
1.8															
2.0															
2.2															
2.4															
2.6															
2.8															

Profile: **Excavation Method:**
13t Excavator



Remarks:
1. Groundwater not encountered on 4/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP30

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 04/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable, minor construction debris	LFC S	[Cross-hatched pattern]			0.2								
0.4	[CAPPING MATERIAL] SILT, minor clay and gravels (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic		[Cross-hatched pattern]			0.4								
0.6						0.6								
0.8	[LANDFILL] SILT, sandy (fine to coarse), dark brown, stiff, moist, slightly plastic, contains 40% construction waste including concrete, bricks, <5 m long pipes and steel		[Cross-hatched pattern]			0.8								
1.0						1.0								
1.2	1.0 m: minor pit collapse, construction and building debris present					1.2								
1.4						1.4								
1.6						1.6								
1.8						1.8								
2.0						2.0								
2.2						2.2								
2.4						2.4								
2.6						2.6								
2.8						2.8								
3.0						3.0								
3.2						3.2								
3.4	SILT, clayey, trace sand (fine), blueish grey streaked black, firm, moist, moderately plastic [ALLUVIAL SEDIMENTS]	Tauranga Group	[X-pattern]			3.4								
3.6	EOTP: 3.50 m TARGET DEPTH					3.6								
3.8						3.8								
4.0						4.0								
4.2						4.2								
4.4						4.4								
4.6						4.6								
4.8						4.8								

Profile:	Excavation Method: 13t Excavator
	Remarks: 1. Groundwater not encountered on 4/11/2022. 2. Permeability sample of the cap material taken from 0.2 m to 0.3 m below the ground surface.
	Datum:
	Coordinates:



TEST PIT LOG

Hole No:
TP31

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 04/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]	○											
0.2 - 1.0	SILT, sandy (fine), light brown/grey streaked orange, stiff, moist, slightly plastic [HAMILTON ASH] 1.0 m: becomes orange streaked light brown	Kauroa-Hamilton Ash	[Symbol]	○	●	77 (34)									
1.0 - 1.4	SILT, clayey, trace sand (fine), dark grey streaked orange, stiff, moist, moderately plastic [ALLUVIAL SEDIMENTS] EOTP: 1.40 m TARGET DEPTH	TG	[Symbol]	○	●	64 (37)									
1.4 - 2.8				○	●	58 (28)									

Profile: _____ **Excavation Method:** 13t Excavator



Remarks:
1. Groundwater strike recorded at 1.4 m BGL on 4/11/2022.
2. Standing groundwater measured at 1.4 m BGL following completion of excavation on 4/11/2022.
3. TG: Tauranga Group.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP32

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 09/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL/FILL] GRAVEL (fine, sub-angular), silty, brown mottled grey, medium dense, moist, poorly graded	Fill		50	100	0.2								
0.4	[LANDFILL] SILT, sandy (fine to coarse), black speckled white/orange, stiff, moist, friable, up to 40% general refuse present throughout			150	200	0.4								
1.6	CLAY/SILT, minor sand (fine), grey streaked orange, stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash				1.6								
2.0	EOTP: 2.00 m TARGET DEPTH					2.0	80 (18)							

Profile:	Excavation Method: 13t Excavator
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Remarks:
1. Groundwater not encountered on 9/11/22.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP33

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO2032

Date Excavated:
09/11/2022

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater			
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)										
				50	100	150	200	Values	2	4	6	8	10	12	14	16	
0.2	[TOPSOIL/FILL] GRAVEL (fine, sub-angular), silty, dark brown mottled grey, medium dense, moist, poorly graded	Fill															
0.4	SILT, clayey, minor sand (fine), grey/light brown streaked orange, stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash															
1.3	EOTP: 1.30 m TARGET DEPTH							89 (28)									

Profile:

Excavation Method:
13t Excavator



Remarks:
1. Groundwater not encountered on 9/11/22.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP34

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 09/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[FILL/TOPSOIL] SILT, gravelly (fine, sub-angular), dark brown speckled grey, stiff, moist, friable, minor construction debris present	Fill	[Cross-hatch pattern]											
0.6	SILT, clayey, minor sand (fine), grey/light brown streaked orange, stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash	[X-pattern]											
1.3	EOTP: 1.30 m TARGET DEPTH			●	○	86 (18)								
0.2														
0.4														
0.6														
0.8														
1.0														
1.2														
1.4														
1.6														
1.8														
2.0														
2.2														
2.4														
2.6														
2.8														

Profile:	Excavation Method: 13t Excavator
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Remarks: 1. Groundwater not encountered on 9/11/22.



Datum:
Coordinates:



TEST PIT LOG

Hole No:
TP35

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 09/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/ S												
0.4	[CAPPING MATERIAL] SILT, clayey, grey mottled brown/black, very stiff, moist, slightly plastic	LFC												
0.6	0.6 m: becomes some gravel (fine, sub-angular)													
0.8	[LANDFILL] SILT, sandy (fine to coarse), black/orange speckled white, stiff, moist, friable, 40% general refuse present including plastic and burnt debris													
1.0														
1.2														
1.4														
1.6														
1.8														
2.0		Fill												
2.2														
2.4														
2.6														
2.8														
3.0	3.0 m: becomes wet													
3.2	EOTP: 3.10 m TEST PIT COLLAPSING - UNSAFE TO PROGRESS													
3.4														
3.6														
3.8														
4.0														
4.2														
4.4														
4.6														
4.8														

Profile:	Excavation Method: 13t Excavator
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Remarks:
1. Groundwater strike recorded at 3.0 m BGL on 9/11/2022.
2. Standing groundwater measured at 2.9 m BGL following completion of excavation on 9/11/2022.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP36

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO2032	Date Excavated: 10/11/2022	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]											
0.2 - 0.4	[CAPPING MATERIAL] SILT, minor clay and gravel (fine, subangular), orange/brown mottled grey, hard, moist, slightly plastic	LF C	[Symbol]											
0.4 - 2.0	[LANDFILL] SILT, brown/dark brown, stiff, moist, friable, abundant construction debris (60%) including bricks, vinyl, cloth and tiles	Fill	[Symbol]											
2.0 - 2.2	SILT, clayey, orange/brown, very stiff, moist, slightly plastic [HAMILTON ASH] EOTP: 2.20 m TARGET DEPTH	Kauroa-Hamilton Ash	[Symbol]	○	●	119 (31)								

Profile:	Excavation Method: 13t Excavator
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Remarks:
1. Groundwater not encountered on 10/11/22.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP37

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[FILL] GRAVEL (fine, sub-angular), silty, trace brick fragments and 'burnt' debris, dark brown mottled grey, medium dense, moist, poorly graded	Fill													
0.4	SILT, minor clay, trace sand (fine), light brown, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash													
0.6	0.7 m: becomes light grey/light brown, stiff														
1.0	EOTP: 1.10 m TARGET DEPTH					85 (21)									
1.2															
1.4															
1.6															
1.8															

Profile:		Excavation Method: 10t Excavator
		Remarks: 1. Groundwater not encountered on 19/04/23.
		Datum:
		Coordinates:



TEST PIT LOG

Hole No:
TP38

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Excavated:
19/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater				
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)											
				50	100	150	200	Values	2	4	6	8	10	12	14	16		
0.2	[TOPSOIL] SILT, minor gravel (fine, sub-angular), brown, moist, friable	T/S																
0.4	[CAPPING MATERIAL] GRAVEL (fine to medium, sub-angular), sandy (fine to coarse), grey/dark grey, medium dense, dry, poorly graded	LFC																
0.6	[LANDFILL] SILT, some sand (fine to coarse), orange/brown mottled black/grey, stiff, moist, friable, contains 20% construction/building debris including asphalt and tiles	Fill																
1.0																		
1.4	1.4 m: becomes 'burnt' fill with up to 60% general refuse and up to 40% construction debris including steel, brick and glass																	
2.0																		
2.5	2.5 m: pit collapsing																	
3.0																		
3.2	SILT, clayey, minor sand (fine), orange/brown, stiff, wet, slightly plastic [HAMILTON ASH]	a-Hamilton																
3.4	EOTP: 3.20 m TARGET DEPTH																	
3.8																		

Profile:

Excavation Method:
10t Excavator



Remarks:

- 1. Groundwater strike recorded at 3.0 m BGL on 19/04/2023.
- 2. Standing groundwater measured at 2.9 m BGL following completion of excavation on 19/04/2023.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP39

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, gravelly (fine, sub-angular), dark brown, dry, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, minor gravels (fine, sub-angular), grey/orange mottled black, hard, moist, friable	LFC												
0.6	SILT, minor clay, trace gravel (fine, sub-angular), grey mottled orange/brown, very stiff, moist, slightly plastic													
0.8	[LANDFILL] SILT, sandy (fine to coarse), black/dark brown, stiff, moist, friable, contains up to 50% construction/building debris including concrete, brick and steel													
1.0	1.1 m - 1.2 m: CAPPING MATERIAL													
1.2	1.3 m: becomes up to 60% construction and 'burnt' debris													
1.4	1.6 m: pit collapsing	Fill												
2.0														
2.2														
2.4	EOTP: 2.30 m TEST PIT COLLAPSING - UNSAFE TO PROGRESS													
2.6														
2.8														

Profile:	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum:
	Coordinates:



TEST PIT LOG

Hole No:
TP40

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.2	[TOPSOIL] SILT, gravelly (fine, sub-angular), dark brown, dry, friable	T/S												
0.4	[CAPPING MATERIAL] SILT, minor gravel (fine, sub-angular), grey/orange mottled black, hard, moist, friable	LFC												
0.6	SILT, minor clay, trace gravels (fine, sub-angular), grey mottled orange/brown, stiff, moist, slightly plastic													
0.8	[LANDFILL] SAND (fine to coarse), silty, black/dark brown, loose, moist, poorly graded, contains up to 50% construction/building debris including concrete, brick, roof tiles and steel	FII												
1.0	1.1 m: minor pit collapse													
2.0	SILT, some clay, trace sand (fine), light brown/grey streaked orange, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash				128 (25)								
2.2	EOTP: 2.20 m TARGET DEPTH													
2.4														
2.6														
2.8														

Profile:	Excavation Method: 10t Excavator
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Remarks: 1. Groundwater not encountered on 19/04/23.
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Datum:
Coordinates:



TEST PIT LOG

Hole No:
TP46

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[FILL] SILT, minor gravel (fine, sub-angular), dark brown, dry, friable	Fill	[Cross-hatch pattern]												
0.4	[PALAEOSOL] SILT, sandy (fine to coarse), black mottled dark brown, moist, friable	T/S	[Dotted pattern]												
0.6	SILT, minor sand (fine), minor clay, orange/brown, stiff, moist, slightly plastic [HAMILTON ASH] 0.6 m: becomes some sand, friable	Kauroa-Hamilton Ash	[Cross-hatch pattern]	●	○	60 (21)									GWNE
1.0	0.9 m: becomes grey/brown		[Cross-hatch pattern]	○	●	78 (28)									
1.2	EOTP: 1.10 m TARGET DEPTH														

Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum:
Coordinates:	



TEST PIT LOG

Hole No:
TP47

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[TOPSOIL] SILT, minor sand (fine), black, moist, friable	T/S													
0.4	SILT, minor clay, orange/brown, very stiff, moist, slightly plastic [HAMILTON ASH]														
0.5	0.5 m: becomes grey/light brown					110 (21)									
0.9	0.9 m: becomes orange/grey					113 (18)									
1.3	EOTP: 1.30 m TARGET DEPTH														
1.4															
1.6															
1.8															

Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum: Coordinates:



TEST PIT LOG

Hole No:
TP48

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Excavated:
20/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Values	Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				● Shear Vane	○ Residual Shear Vane			Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
				-50	-100	-150	-200	2	4	6	8	10	12	14	16	
0.2	[TOPSOIL] SILT, minor sand (fine), black, moist, friable	T/S														
0.4	SILT, minor clay, trace sand (fine), orange/brown streaked grey, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash														
0.8	0.8 m: becomes stiff															
1.0																
1.8	1.8 m: becomes grey/orange, firm															
2.0																
2.2	EOTP: 2.20 m TARGET DEPTH															
2.4																
2.6																
2.8																

Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum: Coordinates:



TEST PIT LOG

Hole No:
TP49

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Excavated:
20/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater					
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)												
				50	100	150	200	Values	2	4	6	8	10	12	14	16			
0.2	[FILL] SILT, minor sand (fine), black, moist, friable	Fill																	
0.4	SILT, minor clay, trace sand (fine), orange/brown streaked grey, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash			●			103 (32)											
1.0					○	●			121 (21)										
1.4	1.4 m: becomes grey streaked orange					○	●			106 (25)									
1.6	EOTP: 1.60 m TARGET DEPTH																		
1.8																			
2.0																			
2.2																			
2.4																			
2.6																			
2.8																			

Profile:



Excavation Method:
10t Excavator

Remarks:
1. Groundwater not encountered on 19/04/23.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP50

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 20/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, minor gravels (fine, sub-angular), brown, moist, friable	T/S	[Symbol]											
0.2 - 0.8	[LANDFILL] SAND (fine to coarse), minor silt and gravel (fine, sub-angular), black/ brown, loose, moist, poorly graded, contains up to 30% construction/building debris including concrete and bricks	Fill	[Symbol]											
0.8 - 2.0	SILT, sandy (fine to coarse), dark brown, stiff, moist, friable, contains up to 10% construction debris													
2.0 - 2.2	[PALAEOSOL] SILT, sandy (fine to coarse), black mottled dark brown, moist, friable	T/S	[Symbol]											
2.2 - 2.4	SILT, minor sand (fine), minor clay, orange/brown, stiff, moist, slightly plastic [HAMILTON ASH] EOTP: 2.20 m TARGET DEPTH	Kaurora Hamilton Ash	[Symbol]	85	(21)									

Profile: _____ **Excavation Method:** 10t Excavator



Remarks:
1. Groundwater not encountered on 19/04/23.

Datum: _____

Coordinates: _____



TEST PIT LOG

Hole No:
TP51

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 20/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Values	Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				● Shear Vane	○ Residual Shear Vane			Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
				50	100	150	200	2	4	6	8	10	12	14	16	
0.2	[FILL] SILT, minor gravel (fine, sub-angular), brown, moist, friable	Fill														
0.4	[PALAEOSOL] SILT, minor sand (fine), black mottled dark brown, moist, friable	T/S														
0.6	SILT, minor clay, orange/brown, very stiff, moist, slightly plastic [HAMILTON ASH]	Kauroa-Hamilton Ash		○	●		106 (32)									
1.0				○	●		128 (35)									
1.6	1.6 m: becomes grey streaked orange			○	●		103 (21)									
1.8	EOTP: 1.80 m TARGET DEPTH															
2.0																
2.2																
2.4																
2.6																
2.8																

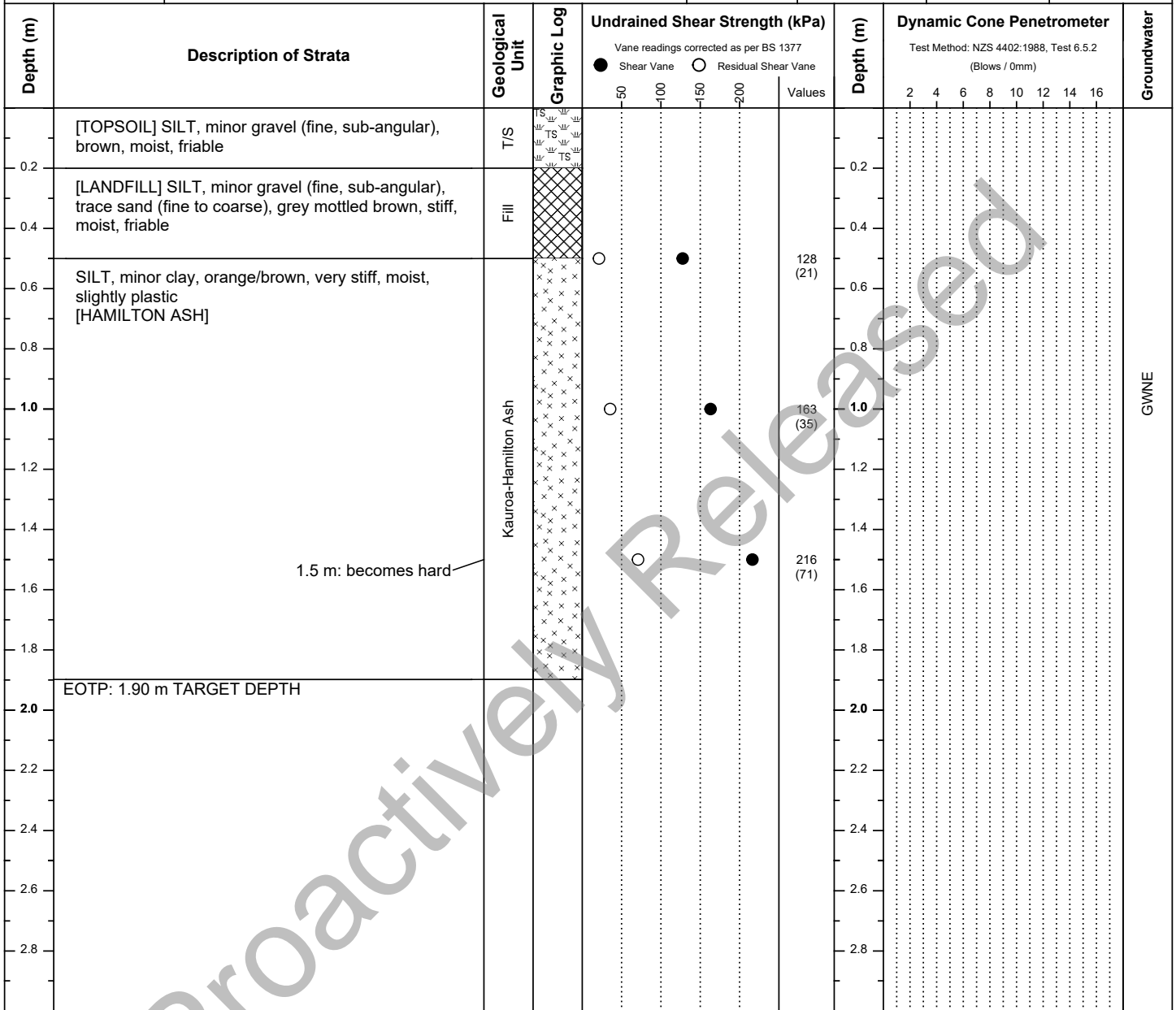
Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum:
Coordinates:	



TEST PIT LOG

Hole No:
TP52

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 20/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum: Coordinates:



TEST PIT LOG

Hole No:
TP54

Project No:
65547

Project: **Toitū Te Whenua Land Information New Zealand**
Former Tokanui Hospital Closed Landfill,
Tokanui

Shear Vane:
GEO517

Date Excavated:
19/04/2023

Logged By:
C. Lee

Checked By:
A. Stuart

Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater			
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)										
				50	100	150	200	Values	2	4	6	8	10	12	14	16	
0.2	[FILL] SILT, sandy (fine to coarse), minor gravel (fine, sub-angular), dark brown, moist, friable 0.1 m: becomes gravelly, trace sand	Fill															
0.4	SILT, minor clay, trace sand (fine), orange/brown, very stiff, moist, slightly plastic [HAMILTON ASH]	Kaurua-Hamilton Ash															
0.6	0.8 m: becomes grey streaked orange																
1.0	EOTP: 1.10 m TARGET DEPTH																
1.2																	
1.4																	
1.6																	
1.8																	

Profile:  **Excavation Method:** 10t Excavator

Remarks:
1. Groundwater not encountered on 19/04/23.

Datum:

Coordinates:



TEST PIT LOG

Hole No:
TP55

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 19/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater	
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)								
0.2	[FILL] SILT, sandy (fine to coarse), minor gravel (fine, sub-angular), dark brown, moist, friable 0.1 m: becomes gravelly, minor sand	Fill		●	○										
0.4	SILT, minor clay, trace sand (fine), light brown, stiff, moist, slightly plastic [HAMILTON ASH]	Kaurua-Hamilton Ash		○	●										
0.6	0.8 m: becomes grey streaked orange, very stiff														
1.0	EOTP: 1.10 m TARGET DEPTH			○	●										
1.2															
1.4															
1.6															
1.8															

Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum:
Coordinates:	



TEST PIT LOG

Hole No:
TP56

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 20/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater				
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)											
				50	100		2	4	6	8	10	12	14	16				
0.2	[LANDFILL] SILT, minor clay and gravel (fine, sub-angular), trace rootlets/organic material, brown mottled black/orange, stiff, moist, friable	Fill																
0.4																		
0.6																		
0.8																		
1.0																		
1.2																		
1.4																		
1.6																		
1.8																		
2.0																		
2.4	[PALAEOGOL] SILT, black mottled dark brown, moist, friable	T/ Karoora- Hamilton Ash																
2.6	SILT, minor sand (fine), minor clay, orange/brown, hard, moist, slightly plastic [HAMILTON ASH]																	
2.8	EOTP: 2.70 m TARGET DEPTH																	
3.0																		
3.2																		
3.4																		
3.6																		
3.8																		

Profile: 	Excavation Method: 10t Excavator
	Remarks: 1. Groundwater not encountered on 19/04/23.
	Datum: Coordinates:



TEST PIT LOG

Hole No:
TP57

Project No: 65547	Project: Toitū Te Whenua Land Information New Zealand Former Tokanui Hospital Closed Landfill, Tokanui	Shear Vane: GEO517	Date Excavated: 20/04/2023	Logged By: C. Lee	Checked By: A. Stuart
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Depth (m)	Description of Strata	Geological Unit	Graphic Log	Undrained Shear Strength (kPa)		Depth (m)	Dynamic Cone Penetrometer							Groundwater
				Shear Vane	Residual Shear Vane		Test Method: NZS 4402:1988, Test 6.5.2 (Blows / 0mm)							
0.0 - 0.2	[TOPSOIL] SILT, dark brown, moist, friable	T/S	[Symbol]											
0.2 - 1.1	[LANDFILL] SILT, minor sand (fine to coarse) and rootlets/organic material, dark brown mottled black/grey/orange, stiff, moist, friable, contains up to 10% construction debris and general refuse including concrete, brick and plastic bottles 1.1 m: becomes up to 40% construction debris with up to 600 mm diameter concrete blocks and bricks, minor pit collapse	Fill	[Symbol]											
1.1 - 2.0	[PALAEOSOL] SILT, black mottled dark brown, moist, friable	T/S	[Symbol]											
2.0 - 2.4	SILT, minor sand (fine), minor clay, orange/brown, very stiff, moist, slightly plastic [HAMILTON ASH] EOTP: 2.35 m TARGET DEPTH	Kauroa-Hamilton Ash	[Symbol]			181 (39)								

Profile:		Excavation Method: 10t Excavator
		Remarks: 1. Groundwater not encountered on 19/04/23.
		Datum:
		Coordinates: