

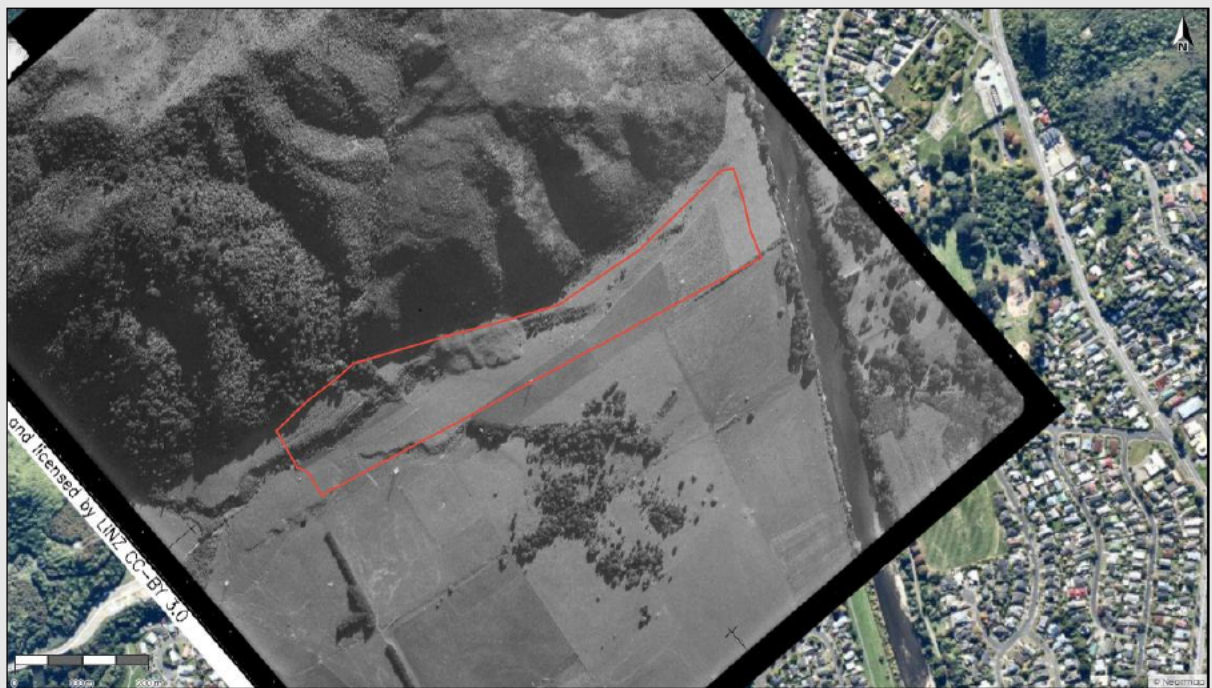


Appendix 2: Historical Aerial Photo Review

1942



1952



1962



1974



1980



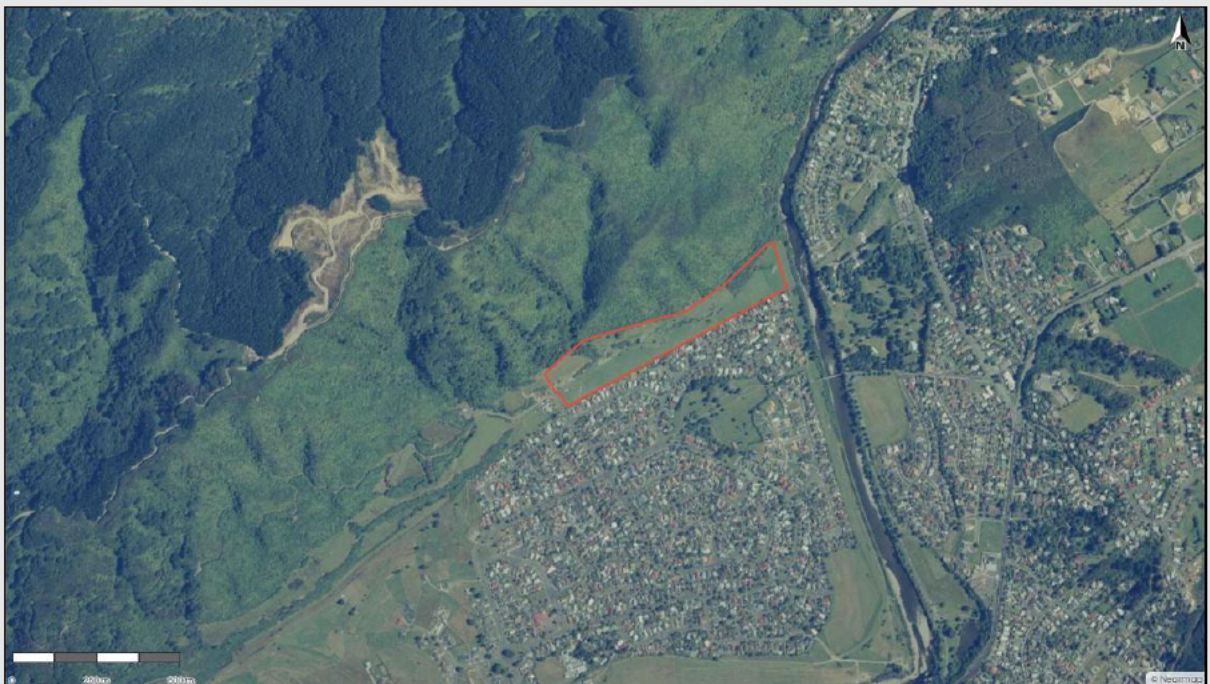
1988



1990



2003





Appendix 3:

Previous Ground Investigation Report Logs

CLIENT: Cannon Point Developments Ltd
PROJECT: Geotechnical Investigation
SITE LOCATION: Cannon Point - East Block
CONTRACTOR: Cohesive
RIG: 14t Excavator

JOB NO.:
1000-007-067

START DATE: 31/10/2024
END DATE: 01/11/2024
LOGGED BY: M.F/D.R

DRILLER: M.F/D.R/A.L

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	DEPTH (m)	LEGEND	USCS	SCALA PENETROMETER (blows / 100mm)																			SHEAR VANE (Corrected)	WATER
TOPSOIL	0.0 - 0.2	TS	OL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		Groundwater Not Encountered
Sandy GRAVEL with some cobbles and minor silt, ornagey brown, moist, medium dense to dense, poorly graded; gravel fine to coarse, angular to rounded, moderately to highly weathered, strong; sand fine to coarse [COLLUVIUM]	0.2 - 1.8	GP																						
End of test pit	1.8 - 3.0																							
PHOTO(S)		LEGEND		REMARKS																				
		-----TP02/DCP02		N/A																				
				WATER																				
				INVESTIGATION TYPE																				
				Static Water Level																				
				Window Sampler																				
				Test Pit																				

CLIENT: Cannon Point Developments Ltd

PROJECT: Geotechnical Investigation

SITE LOCATION: Cannon Point - East Block

CONTRACTOR: Cohesive

RIG: 14t Excavator

DRILLER: M.F/D.R/A.L

JOB NO.:

1000-007-067

START DATE: 31/10/2024

END DATE: 01/11/2024

LOGGED BY: M.F/D.R

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	DEPTH (m)	LEGEND	USCS	SCALA PENETROMETER (blows / 100mm)	SHEAR VANE (Corrected)	WATER
TOPSOIL	0.0 - 0.2	TS TS				

PHOTO(S)

LEGEND

REMARKS

---TP03/DCP03

N/A

WATER

INVESTIGATION TYPE



Static Water Level

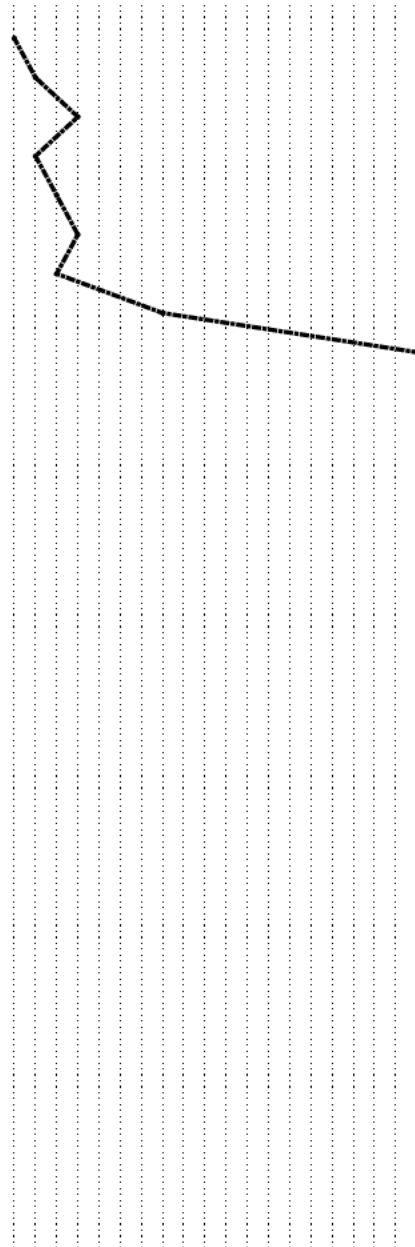


Window Sampler

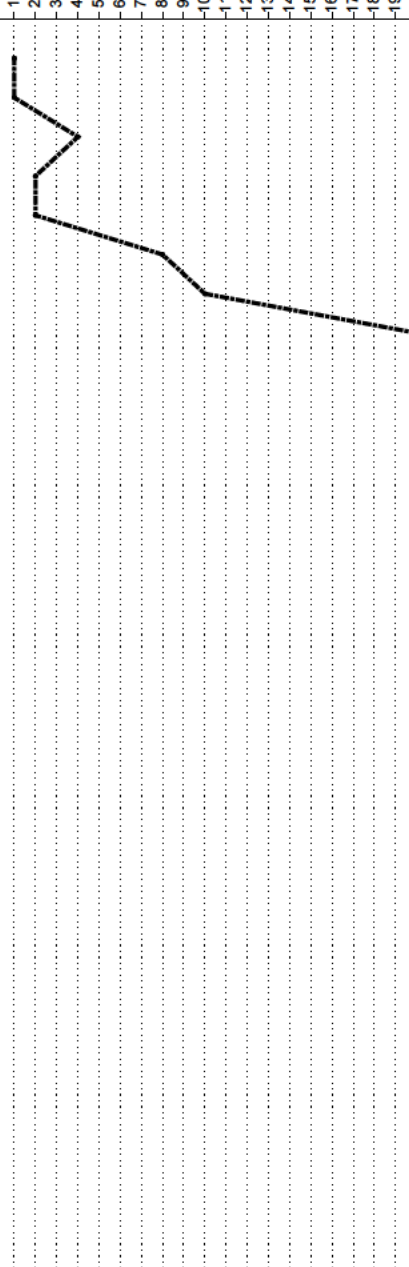


Test Pit

Generated with CORE-GS by Geotec - Window Sampler - Geotechnical Investigation - 18/11/2024 12:33:35 pm

 INVESTIGATION LOG				HOLE NO.: WS02/DCP05		
CLIENT: Cannon Point Developments Ltd				JOB NO.: 1000-007-067		
PROJECT: Geotechnical Investigation				START DATE: 31/10/2024		
SITE LOCATION: Cannon Point - East Block				END DATE: 01/11/2024		
CONTRACTOR: Cohesive				LOGGED BY: M.F/D.R		
RIG: Window Sampler				DRILLER: M.F/D.R/A.L		
MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	DEPTH (m)	LEGEND	USCS	SCALA PENETROMETER (blows / 100mm)	SHEAR VANE (Corrected)	WATER
TOPSOIL			OH			Groundwater Not Encountered
Silty SAND with some gravel and trace rootlets, light grey with orange streaking, dry, loose to medium dense, poorly graded; gravel fine to coarse, rounded to sub-angular, moderately to completely weathered, very weak to strong; sand fine to coarse [ALLUVIUM]	0.2		SM			
Sandy GRAVEL, grey, moist, medium dense to very dense, poorly graded; gravel fine to coarse, sub-angular to rounded, moderately weathered, strong; sand fine to coarse [ALLUVIUM]	0.4		GP			
	0.6					
End of borehole: effective refusal	0.8					
	1.0					
	1.2					
	1.4					
	1.6					
	1.8					
	2.0					
	2.2					
	2.4					
	2.6					
	2.8					
	3.0					
PHOTO(S)	LEGEND		REMARKS			
	---WS02/DCP05		N/A			
			WATER			
			☒ Window Sampler			
			☐ Test Pit			

Generated with CORE-GS by Geotec - Window Sampler - Geotechnical Investigation - 18/11/2024 12:33:35 pm

 INVESTIGATION LOG				HOLE NO.: WS03/DCP06		
CLIENT: Cannon Point Developments Ltd				JOB NO.: 1000-007-067		
PROJECT: Geotechnical Investigation				START DATE: 31/10/2024		
SITE LOCATION: Cannon Point - East Block				END DATE: 01/11/2024		
CONTRACTOR: Cohesive				LOGGED BY: M.F/D.R		
RIG: Window Sampler				DRILLER: M.F/D.R/A.L		
MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	DEPTH (m)	LEGEND	USCS	SCALA PENETROMETER (blows / 100mm)	SHEAR VANE (Corrected)	WATER
TOPSOIL	0.0 - 0.2		OH			Groundwater Not Encountered
Silty SAND with some gravel and trace rootlets, brown, dry to moist, loose to dense, poorly graded; gravel fine to coarse, rounded, slightly weathered, strong; sand fine to coarse [ALLUVIUM]	0.2 - 0.6		SM			
End of borehole: effective refusal	0.6 - 3.0					
PHOTO(S)	LEGEND		REMARKS			
	 WS03/DCP06		N/A			
		WATER		INVESTIGATION TYPE		
		 Static Water Level		☒ Window Sampler ☐ Test Pit		





CLIENT: Cannon Point Developments Ltd

PROJECT: Geotechnical Investigation

SITE LOCATION: Cannon Point - East Block

CONTRACTOR: Cohesive

RIG: Window Sampler

DRILLER: M.F/D.R/A.L

JOB NO.:

1000-007-067

START DATE: 31/10/2024

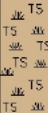
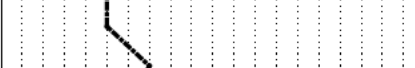
END DATE: 01/11/2024

LOGGED BY: M.F/D.R

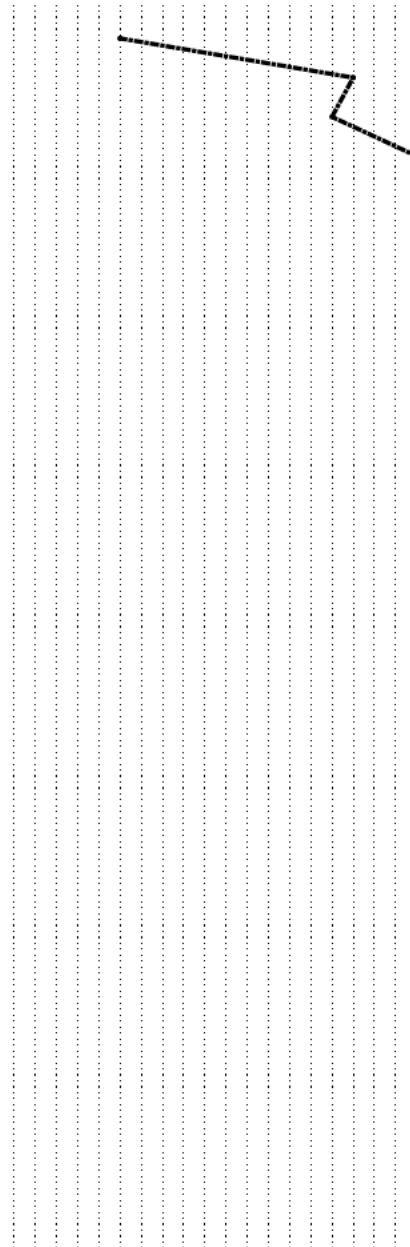
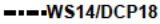
[illegible]

PHOTO(S)	LEGEND	REMARKS
	----WS07/DCP10	N/A
		WATER  Static Water Level INVESTIGATION TYPE ☒ Window Sampler ☐ Test Pit

Generated with CORE-GS by Geoc - Window Sampler - Geotechnical Investigation - 18/11/2024 12:33:35 pm

 INVESTIGATION LOG				HOLE NO.: WS09/DCP12		
CLIENT: Cannon Point Developments Ltd				JOB NO.: 1000-007-067		
PROJECT: Geotechnical Investigation				START DATE: 31/10/2024		
SITE LOCATION: Cannon Point - East Block				END DATE: 01/11/2024		
CONTRACTOR: Cohesive				LOGGED BY: M.F/D.R		
RIG: Window Sampler				DRILLER: M.F/D.R/A.L		
MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	DEPTH (m)	LEGEND	USCS	SCALA PENETROMETER (blows / 100mm)	SHEAR VANE (Corrected)	WATER
TOPSOIL	0.0 - 0.2		OH			Groundwater Not Encountered
SAND with minor silt and trace gravel and rootlets, light brown, dry, medium dense, poorly graded; gravel fine to medium, rounded, slightly weathered, strong; sand fine to coarse [ALLUVIUM]	0.2 - 0.4		SP			
Gravelly Silty SAND with trace rootlets, light brown, dry to moist, medium dense, poorly graded; gravel fine to coarse, rounded, slightly weathered, strong; sand fine to coarse [ALLUVIUM]	0.4 - 0.6					
Silty SAND with trace rootlets and gravel, light brown, dry to moist, medium dense, poorly graded; gravel fine to medium, rounded, slightly weathered, strong; sand fine to coarse [ALLUVIUM]	0.6 - 1.0		SM			
Sandy GRAVEL with some cobbles and minor silt, grey, dry, very dense, poorly graded; gravel fine to coarse, sub-rounded to rounded, slightly to moderately weathered, strong; cobbles up to 150mm; sand fine to coarse [ALLUVIUM]	1.0 - 2.0		GP			
End of borehole: effective refusal	2.0 - 2.2					
PHOTO(S)	LEGEND		REMARKS			
	---WS09/DCP12		N/A			
			WATER			
			☒ Window Sampler			
			☐ Test Pit			

Generated with CORE-GS by Geotec - Window Sampler - Geotechnical Investigation - 18/11/2024 12:33:35 pm

 INVESTIGATION LOG				HOLE NO.: WS14/DCP18		
CLIENT: Cannon Point Developments Ltd				JOB NO.: 1000-007-067		
PROJECT: Geotechnical Investigation				START DATE: 31/10/2024		
SITE LOCATION: Cannon Point - East Block				END DATE: 01/11/2024		
CONTRACTOR: Cohesive				LOGGED BY: M.F/D.R		
RIG: Window Sampler				DRILLER: M.F/D.R/A.L		
MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	DEPTH (m)	LEGEND	USCS	SCALA PENETROMETER (blows / 100mm)	SHEAR VANE (Corrected)	WATER
GRAVEL with some sand and trace silt, brown to bluish grey, dry, dense to very dense, poorly graded; gravel fine to coarse, angular, moderately weathered, moderately strong; sand fine to coarse [COLLUVIUM] End of borehole: effective refusal	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 3.0		GP			undwater Not Encountered
PHOTO(S)	LEGEND		REMARKS			
			N/A			
		WATER		INVESTIGATION TYPE		
 Static Water Level		☒ Window Sampler		☐ Test Pit		



CLIENT: Cannon Point Developments Ltd

PROJECT: Geotechnical Investigation

LOCATION: Cannon Point - East Block

Scala Penetrometer Testing

Date Tested:
31/10/2024

Test ID	DCP19	DCP20	DCP21	DCP22	DCP23	DCP24	DCP25	DCP26	DCP27	DCP28
Test from (m)	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m
Depth (m)	Blows/100mm penetration									
0.1	4	0	6	1	1	1	6	1	1	0
0.2	3	2	20+	2	20+	4	5	6	2	2
0.3	3	3		4		5	6	11	3	7
0.4	4	3		4		16	9	9	3	4
0.5	4	3		11		20+	20+	13	5	4
0.6	6	4		20+				17	4	4
0.7	7	8						13	2	9
0.8	9	6						15	2	18
0.9	8	5						9	3	20+
1.0	9	5						9	20+	
1.1	8	8						6		
1.2	10	4						6		
1.3	7	8						8		
1.4	8	7						10		
1.5	8	12						17		
1.6	7	12						20+		
1.7	5	11								
1.8	5	20+								
1.9	7									
2.0	8									
2.1	8									
2.2	12									
2.3	14									
2.4	20+									
2.5										
2.6										
2.7										
2.8										
2.9										
3.0										

In-situ field testing in accordance with Scala Penetrometer Testing: NZS 4402:1988, Test 6.5.2, Dynamic Cone Penetrometer



CLIENT: Cannon Point Developments Ltd

PROJECT: Geotechnical Investigation

LOCATION: Cannon Point - East Block

Scala Penetrometer Testing

Date Tested:
31/10/2024

Test ID	DCP29	DCP30	DCP31	DCP32	DCP33	DCP34	DCP36	DCP37	DCP38	DCP39
Test from (m)	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m	0.0m
Depth (m)	Blows/100mm penetration									
0.1	0	1	11	3	5	5	4	3	3	0
0.2	1	3	10	8	6	4	4	8	6	5
0.3	2	3	12	4	14	5	6			
0.4	3	2	14	11	10	6	6			
0.5	3	4	9	7	6	7	8	5	4	19
0.6	3	20+	6	12	7	9	4			
0.7	3		7	4	7	16	8			
0.8	4		6	3	11	8	3	4	2	13
0.9	6		6	5	12	6	2			
1.0	10		6	10	17	9	3			
1.1	10		7	9	20+	20+	6	3	3	18
1.2	7		6	12			12			
1.3	17		8	15			4			
1.4	17		10	18			8	3	3	11
1.5	20+		11	20+			8			
1.6			20+				5			
1.7							8	5	6	9
1.8							7			
1.9							5			
2.0							4	5	7	13
2.1							8			
2.2							11			
2.3							10	3	9	13
2.4							6			
2.5							7			
2.6							6	5	16	10
2.7							7			
2.8							8			
2.9							10	7	11	17
3.0							13			
							9	14	13	20+
							14			
								8	19	
								5	19	
								7	20+	
								9		
								9		
								10		
								8		
								7		
								6		

In-situ field testing in accordance with Scala Penetrometer Testing: NZS 4402:1988, Test 6.5.2, Dynamic Cone Penetrometer



CLIENT: Cannon Point Developments Ltd
PROJECT: Geotechnical Investigation
LOCATION: Cannon Point - East Block

Scala Penetrometer Testing

Date Tested:
31/10/2024

Test ID	DCP40									
Test from (m)	0.0m									
Depth (m)	Blows/100mm penetration									
0.1	4									
0.2	9									
0.3	12									
0.4	9									
0.5	4									
0.6	20+									
0.7										
0.8										
0.9										
1.0										
1.1										
1.2										
1.3										
1.4										
1.5										
1.6										
1.7										
1.8										
1.9										
2.0										
2.1										
2.2										
2.3										
2.4										
2.5										
2.6										
2.7										
2.8										
2.9										
3.0										

In-situ field testing in accordance with Scala Penetrometer Testing: NZS 4402:1988, Test 6.5.2, Dynamic Cone Penetrometer

GEOTECHNICAL INVESTIGATION

PROJECT: Cannon Point - East Block
CLIENT: Cannon Point Developments Ltd
ATTENTION: Simon Zhang

ANTICIPATED GEOLOGY (GNS MAPS)



Underlying geology of the investigation area has been mapped as Late Pleistocene River Deposits, Rakaia Terrane Sandstone and Mudstone, and Holocene River Deposits

Source: Geology of the site from GNS 1:250000 Geological Map of New Zealand

TEST METHODS *Boreholes - NZGS: December 2005*

NZGI: April 2017



Maika Fraser
Director, BSc

INTERNAL JOB NO:
1000-007-067

Generated with CORE-GS by Geric - Borehole SWL no samples - 30/04/2025 10:58:00 am

 BOREHOLE LOG							HOLE NO.: MBH01				
CLIENT: Cannon Point Developments Ltd							JOB NO.: 1000-007-067				
PROJECT: Geotechnical Investigation											
SITE LOCATION: Cannon Point - East Block							START DATE: 02/12/2024				
CO-ORDINATES:							END DATE: 03/12/2024				
CONTRACTOR: Pro Drill							LOGGED BY: M.F				
RIG: Rotary-Sonic Dual Rig							ELEVATION: Ground M.F/D.R				
MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)		TCR (%) 	DEPTH 	RL 	USCS 	SPT N-VALUE (Uncorrected) 	SPT DATA (Uncorrected)	GRAPHIC	LABORATORY RESULTS	WATER	INSTALLATION
TOPSOIL Silty Sandy GRAVEL with trace rootlets, brown, dry, poorly graded; gravel fine to coarse, sub-rounded to rounded, slightly to moderately weathered, strong; sand fine to coarse [ALLUVIUM]					OL						
GRAVEL with minor cobbles and silt and some sand, brown to bluish grey, dry to moist, poorly graded; gravel fine to coarse, sub-rounded to rounded, slightly to moderately weathered, strong; sand fine to coarse; cobbles up to 100mm, broken [ALLUVIUM]					GM						
GRAVEL with some silt and minor sand, greyish brown, moist, poorly graded; gravel fine to coarse, sub-rounded to rounded, slightly to moderately weathered, strong; sand fine to coarse [ALLUVIUM]					GP						
SANDSTONE, completely weathered, black to grey with white streaking, very weak to extremely weak, fine to medium grained [CW GREYWACKE]											
End of borehole: target depth reached											
REMARKS SPT-N Values are uncorrected		REF	DATE / TIME	LEVEL	REMARK						
		34 Main Road, Tawa, 5028									
		Ph: 021 158 2366									
		Email: info@csvgeotechnical.co.nz									



BOREHOLE LOG

HOLE NO.:
MBH02

CLIENT: Cannon Point Developments Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
1000-007-067

SITE LOCATION: Cannon Point - East Block

START DATE: 02/12/2024

CO-ORDINATES:

ELEVATION: Ground

END DATE: 02/12/2024

CONTRACTOR: Pro Drill

RIG: Rotary-Sonic Dual Rig

M.F/D.R

LOGGED BY: M.F

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	TCR (%)	DEPTH	RL	USCS	SPT N-VALUE (Uncorrected)	SPT DATA (Uncorrected)	GRAPHIC	LABORATORY RESULTS	WATER	INSTALLATION
	25 50 75				10 20 30 40					
TOPSOIL				OL						
Sandy GRAVEL with trace rootlets, brown, dry, poorly graded; gravel fine to coarse, sub-rounded to sub-angular, moderately weathered, strong; sand fine to coarse [ALLUVIUM]	100			GP						
Silty Sandy GRAVEL with minor cobbles, brown, dry to moist, poorly graded; gravel fine to coarse, rounded to sub-rounded, moderately weathered, strong; sand fine to coarse; cobbles up to 100mm, broken [ALLUVIUM]		1	-1			4, 5 / 6, 8, 7, 10 N=31				
	100	2	-2	GM						
		3	-3			15, 19 / 50 for 70mm N=50 for 70mm				
Sandy GRAVEL with minor silt and cobbles, light grey, dry, poorly graded; gravel fine to coarse, angular, slightly weathered, strong; sand fine to coarse; cobbles up to 100mm [ALLUVIUM]	100	4	-4			20, 30 N=50 for 25mm				
		5	-5	GP						
		6	-6			4, 46 N=50 for 70mm				
SANDSTONE, moderately to highly weathered, bluish grey with orange mottling and black specks, moderately strong [MW-HW GREYWACKE]	100	7	-7							
SANDSTONE, slightly to moderately weathered, dark bluish grey, strong, fine to medium grained [SW-MW GREYWACKE]	100	8	-8							
End of borehole: target depth reached		9	-9							
		10	-10							
		11	-11							
		12	-12							
REMARKS	REF	DATE / TIME	LEVEL	REMARK						
	SPT-N Values are uncorrected							34 Main Road, Tawa, 5028		
							Ph: 021 158 2366			
							Email: info@csvgeotechnical.co.nz			



BOREHOLE LOG

HOLE NO.:
MBH03

CLIENT: Cannon Point Developments Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
1000-007-067

SITE LOCATION: Cannon Point - East Block

START DATE: 21/03/2025

CO-ORDINATES:

ELEVATION: Ground

END DATE: 23/03/2025

CONTRACTOR: Radich Geotechnical

RIG: Rotary Rig

J.R/M.F

LOGGED BY: M.F

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	TCR (%)	DEPTH	RL	USCS	SPT N-VALUE (Uncorrected)	SPT DATA (Uncorrected)	GRAPHIC	LABORATORY RESULTS	WATER	INSTALLATION
	25 50 75				10 20 30 40					
TOPSOIL				OL						
GRAVEL with minor silt and sand, light grey to brownish orange, dry, dense, poorly graded; gravel fine to coarse, sub-rounded to sub-angular, slightly to moderately weathered, strong; sand fine to coarse [ALLUVIUM]		1	-1			4, 4 / 8, 11, 14, 17 N=50				
Cobbly GRAVEL with trace silt and sand, light bluish grey, dry to moist, very dense, poorly graded; gravels fine to coarse, sub-rounded to rounded, slightly weathered, strong to very strong; cobbles up to 200mm; sand fine to coarse [ALLUVIUM]		2	-2	GP		2, 8 / 8, 12, 12, 18 N=50				
		3	-3							
		4	-4							
NO RECOVERY		5	-5			5, 19 / 50 for 40mm N=50 for 40mm				
Cobbly GRAVEL with trace silt and sand, light bluish grey, dry to moist, very dense, poorly graded; gravels fine to coarse, sub-rounded to rounded, slightly weathered, strong to very strong; cobbles up to 200mm; sand fine to coarse [ALLUVIUM]		6	-6			50 for 15mm N=50 for 0mm				
GRAVEL trace silt and sand, light grey to brownish orange, moist, very dense, poorly graded; gravel fine to coarse, angular to rounded, slightly to highly weathered, weak to very strong; sand fine to coarse [ALLUVIUM]		7	-7			50 for 27mm N=50 for 0mm				
		8	-8	GP						
		9	-9			7, 50 for 10mm N=50 for 0mm				
GRAVEL with some silt and sand, bluish grey to brown, wet, very dense, poorly graded; gravel fine to coarse, slightly to moderately weathered, strong; sand fine to coarse [ALLUVIUM]		10	-10			50 for 35mm N=50 for 0mm				
GRAVEL, bluish grey, moist, very dense, poorly graded; gravel fine to medium, sub-angular to angular, slightly weathered, strong [ALLUVIUM]		11	-11							
End of borehole: target depth reached		12	-12			50 for 25mm N=50 for 0mm				

▽
5.20m

REMARKS

SPT-N Values are uncorrected

REF DATE / TIME LEVEL REMARK

34 Main Road, Tawa, 5028

Ph: 021 158 2366

Email: info@csvgeotechnical.co.nz



BOREHOLE LOG

HOLE NO.:
MBH04

CLIENT: Cannon Point Developments Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
1000-007-067

SITE LOCATION: Cannon Point - East Block

START DATE: 21/03/2025

CO-ORDINATES:

ELEVATION: Ground

END DATE: 22/03/2025

CONTRACTOR: Radich Geotechnical

RIG: Rotary Rig

J.R/M.F

LOGGED BY: M.F

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	TCR (%) 25 50 75	DEPTH	RL	USCS	SPT N-VALUE (Uncorrected) 10 20 30 40	SPT DATA (Uncorrected)	GRAPHIC	LABORATORY RESULTS	WATER	INSTALLATION
Cobbly GRAVEL with trace silt and sand, light bluish grey, dry to moist, very dense, poorly graded; gravels fine to coarse, sub-angular to rounded, slightly to highly weathered, moderately strong to very strong; cobbles up to 200mm; sand fine to coarse [COLLUVIUM]		1	-1	GP		7, 50 for 35mm N=50 for 0mm				
Sandy SILT with some gravel, light brownish grey with white specks, wet to saturated, soft to firm, low plasticity; gravel fine to medium, angular, highly to completely weathered, very weak to extremely weak; sand fine to coarse [COLLUVIUM]		3	-3	ML		6, 6 / 4, 4, 4, 4 N=16				
GRAVEL with some sand and silt, bluish grey to brown, moist to wet, very dense, poorly graded; gravel fine to coarse, rounded to sub-angular, slightly to moderately weathered, weak to strong; sand fine to coarse [ALLUVIUM]		4	-4	GP		19, 14 / 20, 30 for 40mm N=50 for 115mm				
Silty Sandy GRAVEL, dark brown to grey, wet, dense to very dense, poorly graded; gravel fine to coarse, sub-angular to sub-rounded, slightly to highly weathered, weak to strong; sand fine to coarse [ALLUVIUM]		6	-6			1, 3 / 8, 17, 23 N=48 for 225mm				
		7	-7							
		8	-8			10, 12 / 50 for 50mm N=50 for 50mm				
		9	-9	GM		9, 16 / 18, 20, 12 N=50 for 225mm				
		10	-10							
		11	-11			4, 11 / 50 for 70mm N=50 for 70mm				
End of borehole: target depth reached		12	-12			50 for 10mm N=50 for 0mm				

Groundwater Not Encountered

REMARKS

SPT-N Values are uncorrected

REF DATE / TIME LEVEL REMARK

34 Main Road, Tawa, 5028

Ph: 021 158 2366

Email: info@csvgeotechnical.co.nz



BOREHOLE LOG

HOLE NO.:
MBH05

CLIENT: Cannon Point Developments Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
1000-007-067

SITE LOCATION: Cannon Point - East Block

START DATE: 21/03/2025

CO-ORDINATES:

ELEVATION: Ground

END DATE: 22/03/2025

CONTRACTOR: Radich Geotechnical

RIG: Rotary Rig

J.R/M.F

LOGGED BY: M.F

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	TCR (%) 25 50 75	DEPTH	RL	USCS	SPT N-VALUE (Uncorrected) 10 20 30 40	SPT DATA (Uncorrected)	GRAPHIC	LABORATORY RESULTS	WATER	INSTALLATION
TOPSOIL SILT with some gravels and trace sand, moist, brown, firm to stiff, high plasticity; gravel fine to coarse, angular, moderately weathered, strong; sand fine to coarse [COLLUVIUM]		1	-1	OL MH		0, 1 / 3, 1, 2, 7 N=50				
SANDSTONE, moderately to highly weathered, dark grey with light grey mottling, moderately strong to strong, fine grained [MW-HW GREYWACKE]		2	-2			1, 50 for 10mm N=50 for 0mm				
SANDSTONE, slightly to moderately weathered, bluish grey with dark grey mottling and white streaking, strong, fine grained [SW-MW GREYWACKE]		3	-3			50 for 20mm N=50 for 0mm				
		4	-4			1, 1 / 4, 46 N=50 for 150mm				
		5	-5			50 for 10mm N=50 for 0mm				
		6	-6			9, 9 / 50 for 20mm N=50 for 20mm				
		7	-7	GP		50 for 20mm N=50 for 0mm				
		8	-8			3, 6 / 50 for 70mm N=50 for 70mm				
		9	-9							
		10	-10							
		11	-11							
		12	-12							
End of borehole: target depth reached										
REMARKS SPT-N Values are uncorrected	REF	DATE / TIME	LEVEL	REMARK	34 Main Road, Tawa, 5028 Ph: 021 158 2366 Email: info@csvgeotechnical.co.nz					

Appendix 4: Geomorphic Constraints Map

LEGEND

Features

Site Boundary

Geomorphic Features

Ridgeline

Convex Break in Slope

Concave Break in Slope

Cliff

Toe of Slope

Major Scarp Inactive

Perennial Stream

Ephemeral Stream

Major Strike/Slip Fault

Hutt River

Boulders

Observed Groundwater Seepage

Geomorphic Polygon Features

Area of Rock Outcrop

Rockfall Debris

Displaced Mass

Alluvial Fan

Geology 1:250k

Rakaia Terrane

Recent Alluvium

Contour 5.0 m

0 50 100 m

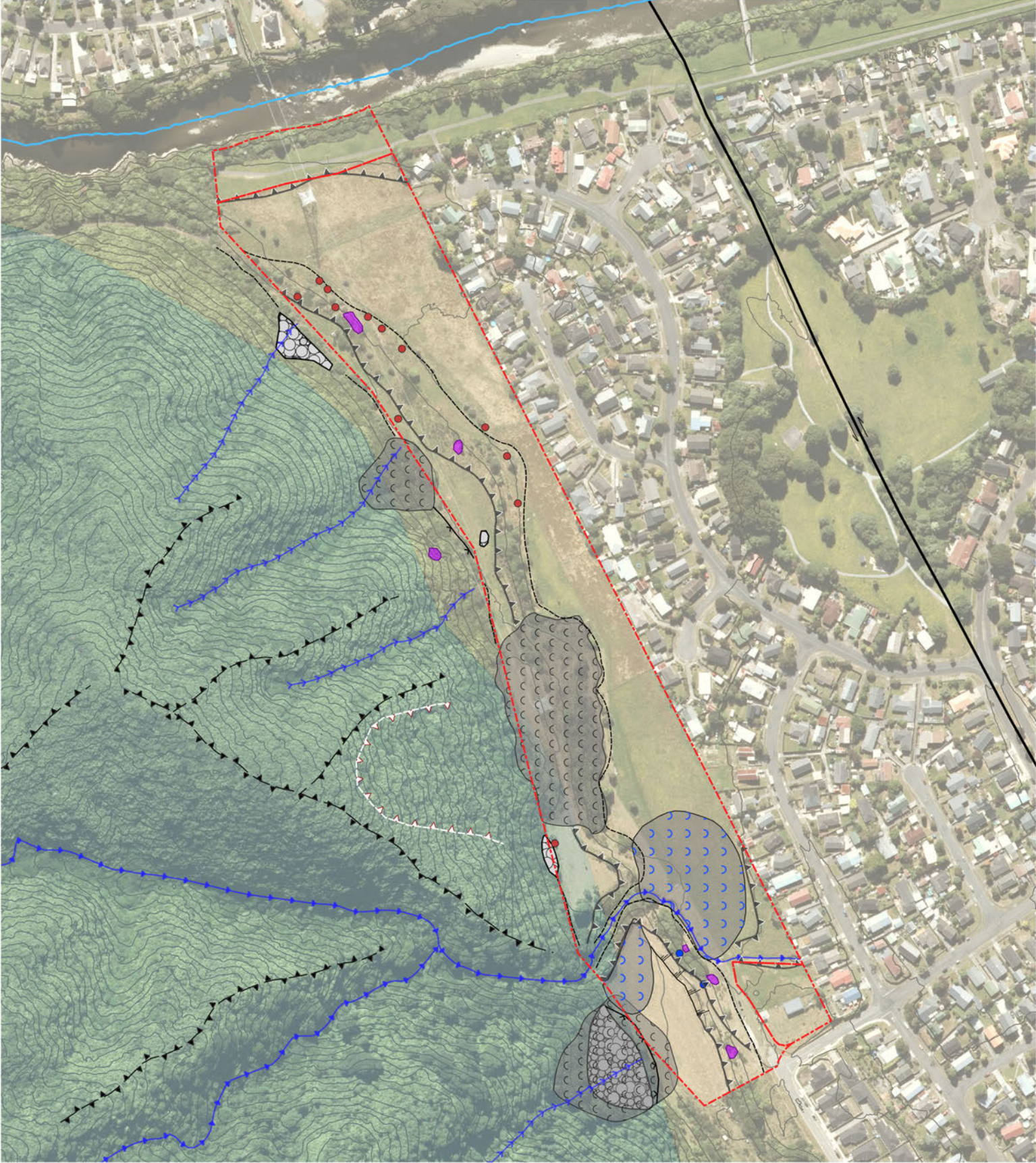
ENGEO

Projection: NZTM 2000NZGD2000 / New Zealand
Transverse Mercator 2000

Client: Simon Zhang C/o Vecta Limited

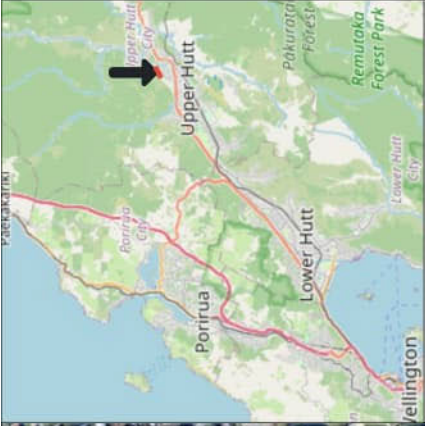
Title: Geomorphic Constraint Map

Appendix No.		Version: 1.0	
Project: Stage 4 - Cannon Point	Drawn: KAJJ	Size: A3 Sheet	
	Checked: RJ	Scale: 2750 @ A3	
	Date: 18/05/2026	Proj No: 16998.000.002	





Appendix 5: Geotechnical Investigation Logs



Legend

- ENGEO Stage 4 TP Locations
- Site Boundary



ENGEO

Produced by **Datanestearth**

Title: Cannon Point Stage 4 Test Location Plan		Size: A4	
Client: Vecta Limited	Project: 10 Cannon Point Stage 4		Appendix No.: 5
	Date: 17-05-2026		Checked: RJ
Proj No: 16998.000.002		Scale: 1:4000 Version: 01	



LOG OF TEST PIT STG4-TP01

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.5 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1029089
Longitude : 175.0857518

Depth (m BGL)	Material	Excavatability (Relative Scale)	Harder	USCS Symbol	DESCRIPTION	Graphic Symbol	Elevation (mRL)	Water Level	Moisture Cond.	Consistency/ Density Index	Shear Vane Peak/Remolded (kPa)	Scala Penetrometer Blows per 100mm
	TS			GW						MD		2 4 6 8 10 12
0.5					[TOPSOIL] Sandy fine to coarse GRAVEL with some silt and some rootlets; dark brown. Well graded. Angular, strong, moderately to slightly weathered, Greywacke sandstone; sand is fine to coarse.							
1.0					Sandy fine to coarse GRAVEL with minor silt; brown. Well graded. Angular, strong, moderately to slightly weathered, Greywacke sandstone; sand is fine to coarse.					MD		
1.5				GW					M			
2.0												
2.5										D to VD		
2.5					Depth of Excavation: 2.5 m Termination Condition: Target depth							
3.0												

Ground water not encountered.

TS = TOPSOIL, M = Moist

MD = Medium Dense, D = Dense, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery



LOG OF TEST PIT STG4-TP02

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.1 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1021969
Longitude : 175.0873934

Depth (m BGL)	Material	Excavatability (Relative Scale)		USCS Symbol	DESCRIPTION	Graphic Symbol	Elevation (mRL)	Water Level	Moisture Cond.	Consistency/ Density Index	Shear Vane Peak/Remolded (kPa)	Scala Penetrometer							
		Easier	Harder									Blows per 100mm							
												2	4	6	8	10	12		
	TS			GW	[TOPSOIL] Sandy fine to coarse GRAVEL with some silt and some rootlets; dark brown. Well graded. Angular to sub-rounded, strong, slightly weathered, Greywacke sandstone; sand is fine to coarse.					MD to D									
0.5	PLEISTOCENE ALLUVIUM			GW	Cobbley fine to coarse GRAVEL with some sand and trace silt; dark brown. Well graded. Gravel and cobbles are sub-rounded to rounded, very strong to extremely strong, slightly weathered to unweathered, Greywacke sandstone, maximum cobbles size 510mm; sand is fine to coarse.				M	MD to VD									
1.0					0.6 m - with trace silt.														
1.5																			
2.0	G			-	Slightly weathered bluish grey; GREYWACKE SANDSTONE. Very strong to extremely strong; very closesly spaced joints.														
2.5					Depth of Excavation: 2.1 m Termination Condition: Practical refusal														
3.0																			

Ground water not encountered.

TS = TOPSOIL, M = Moist

MD = Medium Dense, D = Dense, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery

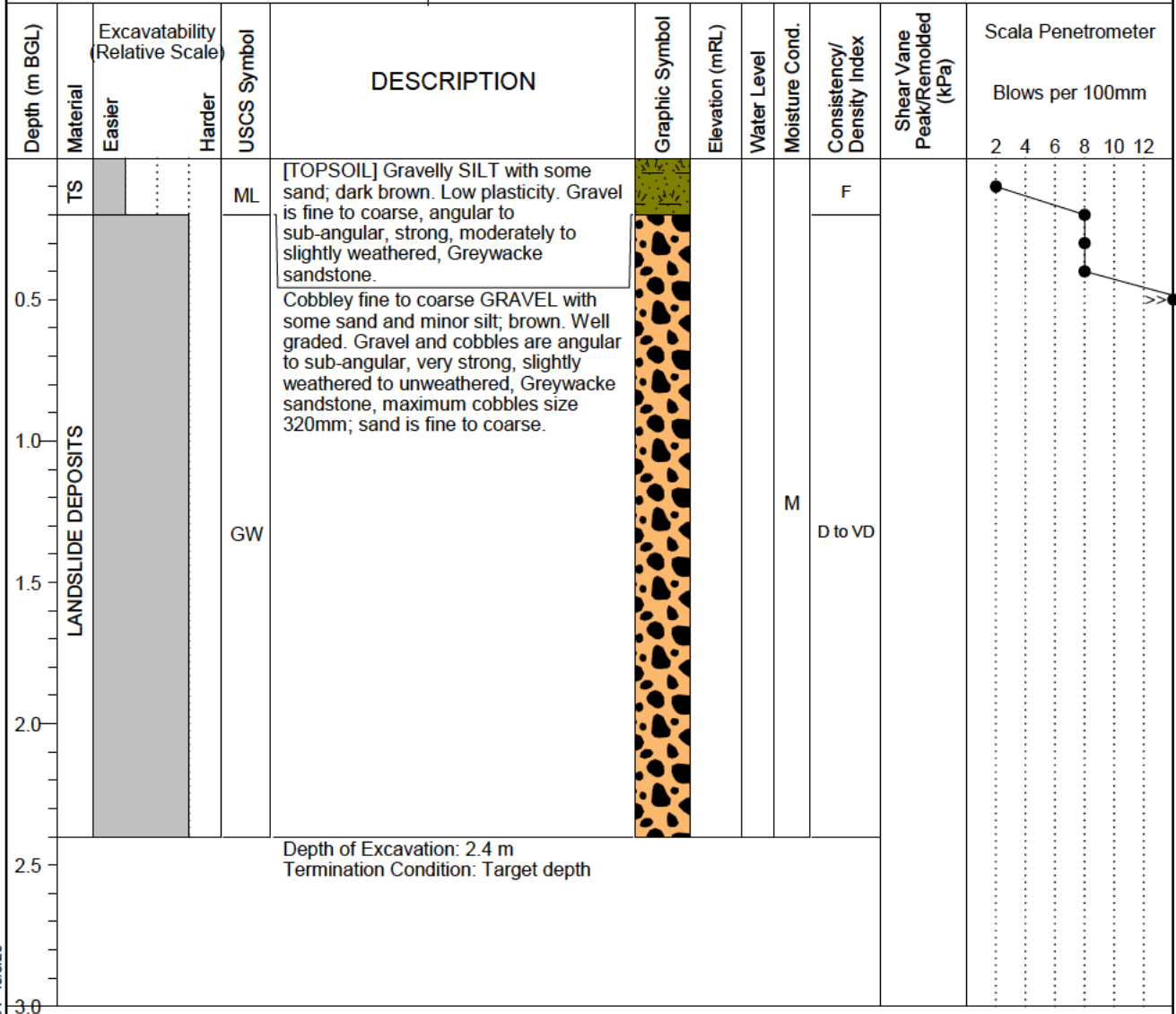


LOG OF TEST PIT STG4-TP03

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.4 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1035254
Longitude : 175.0841337



GEOTECH TEST PIT LOG TP LOGS.GPJ NZ MASTER DATA TEMPLATE GDT 13/3/26

Ground water not encountered.
TS = TOPSOIL, M = Moist
F = Firm, D = Dense, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery



LOG OF TEST PIT STG4-TP04

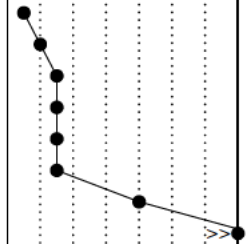
Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.2 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1036871
Longitude : 175.0851331

Depth (m BGL)	Material	Excavatability (Relative Scale)	Harder	USCS Symbol	DESCRIPTION	Graphic Symbol	Elevation (mRL)	Water Level	Moisture Cond.	Consistency/ Density Index	Shear Vane Peak/Remolded (kPa)	Scala Penetrometer Blows per 100mm
	TS			ML	[TOPSOIL] Gravelly SILT with some sand; dark brown. Low plasticity. Gravel is fine to coarse, angular to sub-angular, strong, moderately to slightly weathered, Greywacke sandstone.					F		
0.5				SW	Fine to coarse SAND with minor silt; brown. Well graded.					MD		
1.0				GW	Cobbly fine to coarse GRAVEL with some sand and minor silt; greyish brown. Well graded. Gravel and cobbles are rounded, very strong, slightly weathered to unweathered, Greywacke sandstone, maximum cobbles size 320mm; sand is fine to coarse.				M			
1.5										D to VD		
2.0												
2.5												
3.0												

Depth of Excavation: 2.2 m
Termination Condition: Practical refusal



Ground water not encountered.

TS = TOPSOIL, M = Moist

F = Firm, MD = Medium Dense, D = Dense, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery



LOG OF TEST PIT STG4-TP05

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1018708
Longitude : 175.0893698

Depth (m BGL)	Material	Excavatability (Relative Scale)	Harder	USCS Symbol	DESCRIPTION	Graphic Symbol	Elevation (mRL)	Water Level	Moisture Cond.	Consistency/ Density Index	Shear Vane Peak/Remolded (kPa)	Scala Penetrometer Blows per 100mm
	TS			ML	[TOPSOIL] Gravelly SILT with some sand; dark brown. Low plasticity. Gravel is fine to coarse, sub-rounded to rounded, strong, moderately to slightly weathered, Greywacke sandstone.					F		
0.5				SW	Fine to coarse SAND with minor silt; brown. Well graded.					L		
1.0				GW	Cobbly, sandy fine to coarse GRAVEL; greyish brown. Well graded. Gravel and cobbles are rounded, very strong, slightly weathered to unweathered, Greywacke sandstone, maximum cobbles size 450mm; sand is fine to coarse.				M	VD		
2.0					Depth of Excavation: 2 m Termination Condition: Practical refusal							
2.5												
3.0												

Ground water not encountered.
TS = TOPSOIL, M = Moist
F = Firm, L = Loose, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery

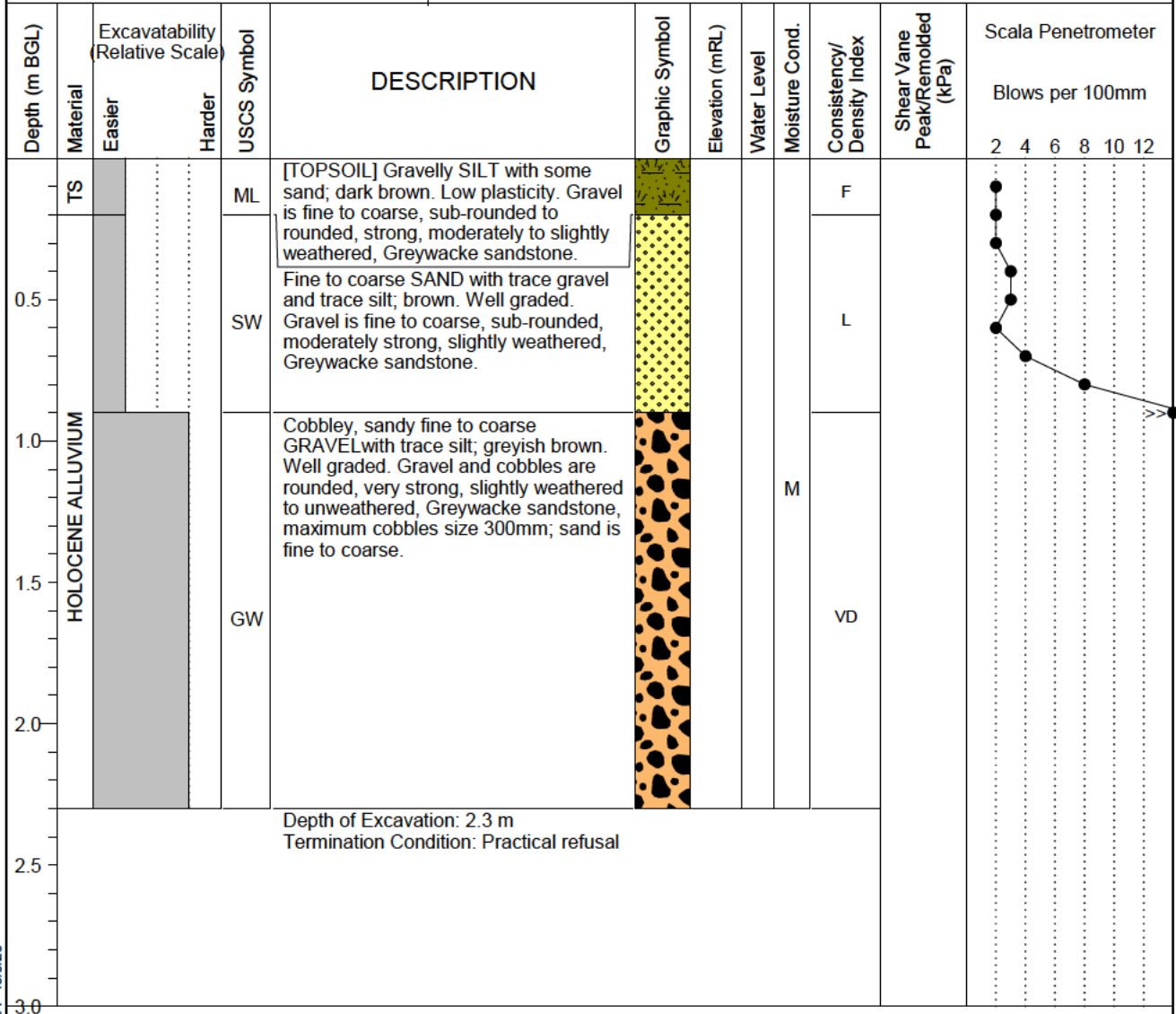


LOG OF TEST PIT STG4-TP06

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.3 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1016148
Longitude : 175.088669



GEOTECH TEST PIT LOG TP LOGS.GPJ NZ MASTER DATA TEMPLATE GDT 13/3/26

Ground water not encountered.
TS = TOPSOIL, M = Moist
F = Firm, L = Loose, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery

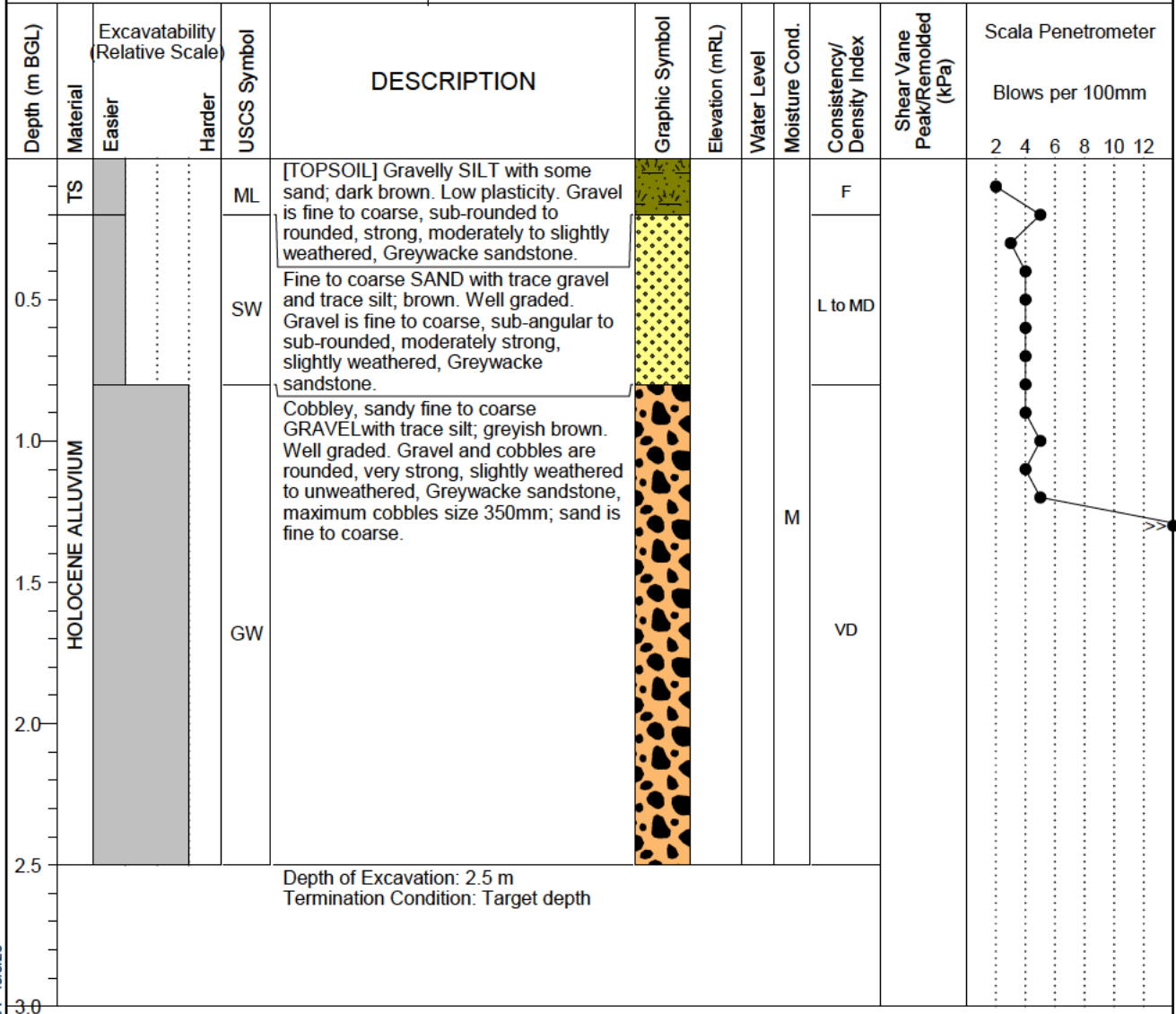


LOG OF TEST PIT STG4-TP07

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.5 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1011886
Longitude : 175.0900051



GEOTECH TEST PIT LOG TP LOGS.GPJ NZ MASTER DATA TEMPLATE GDT 13/3/26

Ground water not encountered.

TS = TOPSOIL, M = Moist

F = Firm, L = Loose, MD = Medium Dense, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery