

BOREHOLE LOG

BOREHOLE No.:

BH117

SHEET: 1 OF 5

DRILLED BY: Mackenzie

LOGGED BY: ROM

CHECKED: CBM

START DATE: 06/11/2020

FINISH DATE: 09/11/2020

CONTRACTOR: McMillan Drilling

PROJECT: Watercare Whenuapai-Redhill GI
JOB No.: 1014985.0000
LOCATION: Whenuapai

CO-ORDINATES: 5926691.00 mN
(NZTM2000) 1743092.70 mE

DIRECTION:
ANGLE FROM HORIZ.: -90°

R.L. GROUND: 10.90m
R.L. COLLAR:
DATUM: NZVD2016
SURVEY: Total
Station\Surveyed

GEOLOGICAL UNIT	DESCRIPTION OF CORE	Rock Weathering	Rock Strength	Sampling Method	Core Recovery (%)	Testing	RL (m)	Depth (m)	Graphic Log	ROCK DEFECTS				Fluid Loss (%)	Water Level	Casing	Installation	Core Box No
										Defect Log	Fracture Spacing (mm)	RQD (%)	Description & Additional Observations					
TSoil	SOIL: Classification, colour, consistency / density, moisture, plasticity ROCK: Weathering, colour, fabric, name, strength, cementation																	
	Sandy SILT, trace organics; dark brown. Firm, saturated, low plasticity; Sand, fine; organics, rootlets [TOPSOIL].					2 @ 0.10m												
Tauranga Group	Sandy SILT, some clay, trace organics; Brown mottled orange. Stiff, moist, moderate plasticity; Sand, fine; organics, rootlets 0.55m: Brown mottled orange speckled white			PQTT	52	3 @ 0.50m		0.5										
	0.78 - 1.5m: Core Loss							1.0										
	Silty fine grained SAND, minor organics; brown-grey. Medium dense, moist, poorly graded; organics, wood.			SPT	84	1/3 4/5 5/5 N=19		1.5										
	Clayey SILT, minor sand, trace organics; grey-brown speckled black. Stiff, moist, moderate plasticity; Sand, fine; organics, rootlets			PQTT	64	4 @ 2.00m		2.0										
	2.63 - 3.0m: Core Loss							2.5										
	Organic SILT, some clay, trace organics; dark grey - brown. Stiff, moist, low plasticity; organics, wood.			SPT	100	5 @ 3.00m 1/1 1/1 N=4		3.0										
	Grades to: Organic Clayey SILT, trace organics; dark grey-brown. Stiff, moist, low plasticity; organics, wood.			PQTT	83	6 @ 4.00m		4.0										
	4.5 - 5.0m: PUSH TUBE			PT	0	1 @ 4.50m		4.5										

COMMENTS: 50 mm standpipe piezometer with screened interval from 2.0 - 4.0 m.

Hole Depth
21.15m

Scale 1:25

Rev.: A

BOREHOLE LOG

BOREHOLE No.:

BH117

SHEET: 2 OF 5

DRILLED BY: Mackenzie

LOGGED BY: ROM

CHECKED: CBM

START DATE: 06/11/2020

FINISH DATE: 09/11/2020

CONTRACTOR: McMillan Drilling

PROJECT: Watercare Whenuapai-Redhill GI
JOB No.: 1014985.0000
LOCATION: Whenuapai

CO-ORDINATES: 5926691.00 mN
(NZTM2000) 1743092.70 mE

DIRECTION:

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R.L. GROUND: 10.90m

R.L. COLLAR:

DATUM: NZVD2016

SURVEY: Total
Station\Surveyed

GEOLOGICAL UNIT	DESCRIPTION OF CORE	Rock Weathering	Rock Strength	Sampling Method	Core Recovery (%)	Testing	RL (m)	Depth (m)	Graphic Log	ROCK DEFECTS				Fluid Loss (%)	Water Level	Casing	Installation	Core Box No
										Defect Log	Fracture Spacing (mm)	RQD (%)	Description & Additional Observations					
Tauranga Group	Organic Clayey SILT; dark grey-brown. Stiff, moist, low plasticity; organics, wood. 5.20m: grey-brown, mottled brown speckled black			SPT	100	7 @ 5.00m 0/0 1/1 2/1 N=5		5.5										
				PQTT	100			5										
				SPT	133	0/0 1/1 1/1 N=4		6.0										
	Sandy organic SILT; dark brown speckled black. Stiff, moist, low plasticity; Sand, fine; organics, fibrous							6.5										
	6.85m: Sand inclusions (5%); dark brown, speckled black spotted grey							7.0										
	7.10m: Grades: grey-brown			PQTT	100			7.5										
	Sandy SILT, trace organics; light grey-green, speckled black. Stiff, moist, low plasticity; Sand, fine; organics, fibrous			SPT	100	0/0 2/1 2/2 N=7		8.0										
	8.10m: Grades: grey-brown, mottled brown, speckled black							8.5										
	8.90 - 9.00m: Fine to medium grained SAND; grey. Medium dense, moist, poorly graded.							9.0										
	Sandy SILT, trace organics; grey speckled black. Stiff, moist, low plasticity; Sand, fine; organics, fibrous 9.28 - 9.29m: Wood (10mm) 9.34 - 9.35m: Wood (10mm)			SPT	100	1/2 2/3 4/3 N=12		9.5										
	Fine to coarse SAND, minor silt, trace organics; grey. Medium dense, moist, poorly graded; organics, wood.																	
	Sandy SILT, some clay, trace organics; grey speckled black. Stiff, moist, low plasticity; sand, fine; organics, fibrous.																	

COMMENTS: 50 mm standpipe piezometer with screened interval from 2.0 - 4.0 m.

Hole Depth
21.15m

Scale 1:25

Box 2, 3, 5-7, 1m

Box 3, 7, 1-9, 8m

BOREHOLE LOG

BOREHOLE No.:
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SHEET: 3 OF 5

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CONTRACTOR: McMillan Drilling

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JOB No.: 1014985.0000

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R.L. COLLAR:

DATUM: NZVD2016

SURVEY: Total Station\Surveyed

GEOLOGICAL UNIT	DESCRIPTION OF CORE		Rock Weathering	Rock Strength	Sampling Method	Core Recovery (%)	Testing	RL (m)	Depth (m)	Graphic Log	ROCK DEFECTS				Fluid Loss (%)	Water Level	Casing	Installation	Core Box No
	SOIL: Classification, colour, consistency / density, moisture, plasticity ROCK: Weathering, colour, fabric, name, strength, cementation										Defect Log	Fracture Spacing (mm)	RQD (%)	Description & Additional Observations					
Tauranga Group	Fine SAND, some silt, trace organics; grey & brown. Loose, moist, poorly graded; organics, wood				PQTT	100													
	Fine SAND, some silt, some organics; grey. Loose, moist, poorly graded; organics, wood 9.75 - 9.80m: Wood								10.5										
	Clayey SILT, trace organics; light green. Stiff, moist, moderate plasticity; organics, fibrous. 10.34 - 10.39m: Wood				SPT	113	1/2 1/2 2/2 N=7												
	Sandy SILT, some clay, trace organics; light grey-green. Stiff, moist, low plasticity; organics, fibrous. 10.40m: brown								11.0										
	Silty SAND, trace organics; brown mottled grey. Medium dense, moist, poorly graded; sand, fine; organics, fibrous. 11.03 - 11.07m: Wood				PQTT	80			11.5										
	Silty SAND, some clay, trace organics; brown. Medium dense, moist, poorly graded; sand, fine; organics, wood.				SPT	108	1/2 3/4 4/4 N=15		12.0										
	SAND, some silt, trace organics; grey. Medium dense, moist, poorly graded; sand, fine; organics, wood.								12.5										
	Grades to: Sandy SILT, minor clay, trace organics; grey. Very stiff, moist, low plasticity; Sand, fine; organics, wood				PQTT	90			13.0										
	13.50m: Grey & brown, speckled black				SPT	124	1/1 2/2 3/3 N=10		13.5										
	13.90m: Grey								14.0										
	Sandy SILT, some clay, trace organics. Grey & brown speckled black. Very stiff, moist, low plasticity; Sand, fine; organics, carbonaceous.				PQTT	100			14.5										

Box 4, 9.8-12.6m

Box 5, 12.6-15.0m

COMMENTS: 50 mm standpipe piezometer with screened interval from 2.0 - 4.0 m.

Hole Depth
21.15m

Scale 1:25

Box 4, 9.8-12.6m

Box 5, 12.6-15.0m

BOREHOLE LOG

BOREHOLE No.:
BH117

SHEET: 4 OF 5

DRILLED BY: Mackenzie

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JOB No.: 1014985.0000

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GEOLOGICAL UNIT	DESCRIPTION OF CORE		Rock Weathering	Rock Strength	Sampling Method	Core Recovery (%)	Testing	RL (m)	Depth (m)	Graphic Log	ROCK DEFECTS				Fluid Loss (%)	Water Level	Casing	Installation	Core Box No
	SOIL: Classification, colour, consistency / density, moisture, plasticity ROCK: Weathering, colour, fabric, name, strength, cementation										Defect Log	Fracture Spacing (mm)	RQD (%)	Description & Additional Observations					
East Coast Bays Formation	Sandy SILT, some clay, trace carbonaceous. Grey & brown speckled black. Very stiff, moist, low plasticity; Sand, fine				SPT	144	2/2 3/3 3/5 N=14						0						
	Fine to medium grained SAND, some silt, trace carbonaceous; light green & brown. Medium dense, moist, poorly graded				PQTT	85			15.5				0						
	16.35 - 16.5m: Core Loss																		
	Sandy SILT, some clay, trace carbonaceous light green. Stiff, moist, low plasticity; Sand, fine				SPT	128	2/3 2/4 3/4 N=13						0						
	Fine SAND, some silt, trace carbonaceous; light green - grey. Loosely packed, moist, poorly graded				PQTT	80			17.0				0						
	17.30m: minor silt.																		
	17.60m: some silt																		
	18.10 - 18.14m: Wood (40mm)																		
	Slight weathered, brown, fine grained SANDSTONE; Very weak				SPT	100	6/6 4/4 4/6 N=18						0						
	Highly weathered, grey-green speckled white, coarse, SANDSTONE. Extremely Weak, (Recovered as fine to coarse SAND, minor gravel; grey-green speckled white, red, brown & green. Medium dense, moist, poorly graded).																		
18.75 - 19.5m: Core Loss				PQTT	28							0							
Highly weathered, grey-green speckled white, red, brown & green, coarse, SANDSTONE. Extremely Weak, (Recovered as Fine to coarse SAND, minor gravel; grey-green speckled white, red, brown & green. Very dense, moist, poorly graded).				SPT	77	4/4 5/7 21/18 for 50mm N>=50						0							

Box 6, 15.0-17.8m

COMMENTS: 50 mm standpipe piezometer with screened interval from 2.0 - 4.0 m.

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21.15m

Scale 1:25

Box 6, 15.0-17.8m

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GEOLOGICAL UNIT		DESCRIPTION OF CORE		Rock Weathering	Rock Strength	Sampling Method	Core Recovery (%)	Testing	RL (m)	Depth (m)	Graphic Log	ROCK DEFECTS			Fluid Loss (%)	Water Level	Casing	Installation	Core Box No
		SOIL: Classification, colour, consistency / density, moisture, plasticity ROCK: Weathering, colour, fabric, name, strength, cementation		UNW MW SW VSW CSW CS	CS 														

CORE PHOTOS

PROJECT: Watercare Whenuapai-Redhill GI		LOCATION: Whenuapai	JOB No.: 1014985.0000
CO-ORDINATES:	5926691.00 mN (NZTM2000)	DRILL TYPE: Track-mounted	HOLE STARTED: 06/11/2020
R.L.:	1743092.70 mE	DRILL METHOD: RC	HOLE FINISHED: 09/11/2020
DATUM:	10.90m	LOGGED BY: ROM	CHECKED: CBM
	NZVD2016		



0.00-3.75m



3.75-7.05m

CORE PHOTOS

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	1743092.70 mE	DRILL METHOD: RC	HOLE FINISHED: 09/11/2020
	R.L.: 10.90m		DRILLED BY: McMillan Drilling
DATUM:	NZVD2016		LOGGED BY: ROM CHECKED: CBM



7.05-9.75m



9.75-12.60m

CORE PHOTOS

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R.L.:	10.90m	DRILL METHOD: RC	HOLE FINISHED: 09/11/2020
DATUM:	NZVD2016	LOGGED BY: ROM	CHECKED: CBM



12.60-15.00m



15.00-17.80m

CORE PHOTOS

BOREHOLE No.: **BH117**

SHEET: 4 OF 4

PROJECT: Watercare Whenuapai-Redhill GI		LOCATION: Whenuapai	JOB No.: 1014985.0000
CO-ORDINATES: (NZTM2000)	5926691.00 mN 1743092.70 mE	DRILL TYPE: Track-mounted	HOLE STARTED: 06/11/2020
R.L.:	10.90m	DRILL METHOD: RC	HOLE FINISHED: 09/11/2020
DATUM:	NZVD2016		DRILLED BY: McMillan Drilling
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17.80-21.15m