

REPORT ON:
ARATAKI ROAD SUBDIVISION STAGE 2 AND 3

PROJECT:
GEOTECHNICAL INVESTIGATION

CLIENT:
GREENSTONE LAND DEVELOPMENTS LTD

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1 OVERVIEW

Greenstone Land Developments Ltd engaged Resource Development Consultants Ltd. (RDCL) to carry out a geotechnical assessment for Stage 2 and 3 of a proposed subdivision at 139 Arataki Road, Havelock North (Legal Description: LOT 99 DP 527872).

1.1 PURPOSE OF THIS REPORT

The purpose of this report is to provide sufficient information at individual Lot level for Stages 2 and 3, to support subdivision and building consent.

This report should be read in conjunction with the previous RDCL geotechnical report for Stages 1A and 1B, dated 19 December 2018 (Reference R184250602-02).

This report is sufficient for building consent in accordance with NZS 3604:2011 without the requirement for specific design.

1.2 UNDERSTANDING THE PROJECT

We understand the client intends to subdivide and develop the site into thirty-nine (39) new residential lots ranging in size from 400m² to 750m².

The proposed subdivision is divided into two main stages:

- Stage 1A and 1B, 9 lots affronting Arataki Road and presented in the RDCL Geotechnical Report (R_184250602_02), dated 19 December 2019; and
- Stage 2 and 3, remaining 30 lots (this report).

Minor earthworks comprised redistribution of near-surface materials (<2m cut in the southern corner and <0.5m fill over the northern extent) to achieve site levels, and to incorporate roading and service installation to support the development.

1.3 SCOPE OF WORK

The project was undertaken in general accordance with RDCL proposal 18425, dated 17 August 2018.

2 SITE DESCRIPTION

The site comprises a relatively flat section at 139 Arataki Road, Havelock North previously occupied by the Arataki Motor Camp Holiday Park. The Holiday Park comprised office buildings, toilet and shower block facilities, cabins and bare sections for camping. Services included water and stormwater and septic tank facilities.

The buildings and cabins had been removed for Stage 2 and 3 site investigations and new road constructed with associated services.

Stage 2 and 3 of the development comprises thirty (30) Lots, (Lots 10 to 39) to the west of Stage 1A & B and Arataki Road (Figure 1).

2.1 REGIONAL GEOLOGY

The regional geological map indicates the site is underlain by:

- Middle to Late Pleistocene river deposits, comprising moderately weathered undifferentiated, poorly sorted loess-covered alluvial gravel (GNS Science, 2011).

3 GEOHAZARDS

3.1 ACTIVE FAULTS

No active faults directly impacting the proposed development are identified in the GNS Active Faults Database.

3.2 LIQUEFACTION SUSCEPTIBILITY

The site is mapped as having “Medium” liquefaction vulnerability, as indicated in the Hawkes Bay Emergency Management Hazard Portal.

4 PREVIOUS REPORTS

A previous report was completed for Stages 1A and 1B for Lots 1 to 9 at the subdivision (R184250602_02). The site investigations comprised:

- Engineering geological logging of near-surface materials recovered from:
 - Five (5) test pits (TP) excavated to a maximum depth of 3.5 m bgl;
 - Three (3) exploratory pits (EXP), previously excavated by the contractor when removing septic tanks and large trees, to a maximum depth of 3.4 m bgl; and
- Eight (8) Cone Penetration Tests (CPT) distributed across the full development area;
 - All tests meeting refusal at depths < 2.0 m bgl due to maximum (35 MPa) cone resistance.

Our assessment of liquefaction potential based on the results of those investigations suggests:

- The subdivision is at "Low" risk of liquefaction during both SLS and ULS events;
 - Medium dense to dense silty sandy GRAVEL is not expected to liquefy;
 - Little to no surface expression of liquefaction is expected; and
 - Lateral spreading and vertical settlement is considered unlikely due to generally flat topography.

5 SITE INVESTIGATIONS

5.1 INVESTIGATION SUMMARY

Stage 2 & 3 site investigations consisted of site-specific testing at each Lot undertaken by RDCL engineering geologists and technicians. The site testing comprised (Figure 1):

- One (1) site investigation probe consisting of either hand auger (HA), test pit (TP) or exploratory hole (EXP) excavation with engineering geological logging of materials;
 - All tests meeting refusal on gravels at depths <0.8 m bgl; and
- Four (4) Dynamic Cone penetrometer (DCP) tests per lot;
 - Generally meeting refusal at depths <1.5 m bgl.

Soils are logged in general accordance with NZGS (2005) Guidelines for field description of soil and rock.

Site Investigation types and locations relevant to Lot numbers are attached in Appendix A.

All site investigation logs are attached as Appendix B.

5.2 INVESTIGATION RESULTS

Near-surface materials encountered in subsurface investigations (Appendix A) suggest the house sites are generally underlain by:

- 0.1m to 0.5m bgl: TOPSOIL (or landscape fill incorporating organics); underlain by
- 0.2m to 0.6m bgl: Alluvial silty SAND, and/or sandy GRAVEL, loose to medium dense;
- >3.5m bgl: Medium dense silty sandy GRAVEL medium dense to dense (termination depth);

5.3 GROUND WATER

Groundwater was not encountered at the time of these investigations. We do not anticipate groundwater levels to be elevated in this region for prolonged periods of time.

Groundwater levels are likely to depend on seasonal and annual fluctuations.

6 GEOTECHNICAL CONSIDERATIONS

Recommendations and opinions contained in this report are based on data from site investigations as outlined in Section 3. The nature and continuity of subsoils away from these locations are inferred and actual conditions may vary from the assumed model.

6.1 EARTHWORKS

Earthworks at the site consisted of nominal cut (<2m at the southern end and <0.5m fill over the northern extent of the property. The earthworks were undertaken in general accordance with NZS4431:1989 Earthworks for Residential Development.

6.2 LIQUEFACTION ASSESSMENT

Based on the liquefaction assessment undertaken in the previous report (Ref 184250602-02), the results of that assessment indicate, for both the Serviceability Limit State (SLS) and Ultimate Limit State (ULS) design events:

- Medium dense to dense silty sandy gravel layers below the assumed water table (1.5 m) are considered to be very low potential for liquefaction risk; and
- Very low risk for vertical settlement and lateral spreading.

6.3 BEARING CAPACITY

Ultimate Bearing Capacity (UBC) for each individual Lot is in Table 1 and assumes to be at a level stripped of topsoil, between 0.1m and 0.5m depth (See depth achieved).

TABLE 1: INDICATIVE DEPTH TO "GOOD GROUND", LOTS 10-39

Lot Number	Available UBC (kPa)	Depth Achieved (m)	Lot Number	Available UBC (kPa)	Depth Achieved (m)
Lot 10	300	0.4	Lot 25	300	0.1
Lot 11	300	0.4	Lot 26	300	0.1
Lot 12	300	0.5	Lot 27	300	0.1
Lot 13	300	0.3	Lot 28	300	0.4
Lot 14	300	0.3	Lot 29	300	0.2
Lot 15	300	0.4	Lot 30	300	0.1
Lot 16	300	0.1	Lot 31	300	0.1
Lot 17	300	0.4	Lot 32	300	0.3
Lot 18	300	0.3	Lot 33	300	0.2
Lot 19	300	0.4	Lot 34	300	0.2
Lot 20	300	0.2	Lot 35	300	0.1
Lot 21	300	0.1	Lot 36	300	0.1
Lot 22	300	0.3	Lot 37	300	0.3
Lot 23	300	0.3	Lot 38	300	0.2
Lot 24	300	0.2	Lot 39	300	0.3
Notes: Results achieved at tested locations only. "Depth achieved" excludes topsoil material.					

7 RECOMMENDATIONS

Based on the above site testing we consider the following:

- The site ground conditions are suitable for residential development in accordance with NZS3604:2011.
- Ultimate bearing capacity of 300 kPa "Good Ground" in accordance with NZS3604:2011 was achieved across the site at a level stripped of topsoil indicated in Table 1.
- All topsoil, tree roots and deleterious material should be removed in their entirety beneath all building footprints prior to construction.

8 REFERENCES

GNS Science. (2014). HAWKE'S BAY. *Institute of Geological and Nuclear Sciences, 1:250,000 Geological Map 8*. (J. Lee, K. Bland, D. Townsend, & P. Kamp, Compilers) GNS Science.

NZS3604 (2011). NZS3604:2011 Timber-framed Buildings. *Australia/New Zealand Standard*.

NZS4431 (1989) *NZS4431:1989 - Code of Practice for Earthfill for Residential Development. Standards New Zealand*

NZGS (2005) Field Description of Soil and Rock NZS1170.5. (2004, December 22).

Geoligismiki. (2014). CLiq v.1.7.6.34.

9 LIMITATIONS

- This report has been prepared for the particular purpose outlined in the project scope and no responsibility is accepted for the use of any part in other contexts or for any other purpose.
- Ground conditions assessed in this report are inferred from published sources, site inspection and the investigation described. Variations from the interpreted conditions may occur, and special conditions relating to the site may not have been revealed by this investigation, and which are therefore not taken into account. No warranty is included either expressed or implied that the actual conditions will conform to the interpretation contained in this report.
- No responsibility is accepted by Resource Development Consultants Ltd for inaccuracies in data supplied by others. Where data has been supplied by others, it has been assumed that this information is correct.
- Groundwater conditions can vary with season or due to other events. Any comments on groundwater conditions are based on observation at the time.
- This report is provided for sole use by the client and Hastings District Council and is confidential to the client and their professional advisors. No responsibility whatsoever for the contents of this report shall be accepted by any person other than the client.

We trust this meets your current needs. Should you wish to discuss any aspect of the contents of this document please contact the undersigned on 06 877-1652.

Sincerely,

Prepared by:

Approved by:




T Bunney
BSc Geol; PGDip Eng Geol
Snr Engineering Geologist



CA Wylie
MSc, MIPENZ; CPEng
Principal

FIGURE 1 – GENERAL PLAN




				TITLE	Arataki Subdivision General Plan		
				PROJECT	Arataki Road Subdivision		
DRAWN BY	TB	DATE	25/1/19	CLIENT	Greenstone Land Developments Ltd		
CHECKED BY	TB	DATE	25/1/19	PROJECT No.	184250602	FIGURE No.	1

APPENDIX A – SITE INVESTIGATION PLAN



Legend

- ⊗ Dynamic Cone Penetration
- ⌵ Hand Auger
- △ Cone Penetration Test
- ⊞ Test Pit
- ⊞ EXP

	RDCL PO Box 28057 8/308 Queen St East Hastings New Zealand Tel: +64 6 877 1652 Fax: +64 6 877 5015 Email: info@rdcl.co.nz www.rdcl.co.nz	Title	Site Investigation Layout		DRAWN BY	BB	DATE	25/01/19	PLOTTED DRAWING SIZE: A3
		Project	Arataki Road Subdivision_Stage 2 & 3		CHECKED BY	SD	DATE	25/01/19	PROJECT NUMBER: 184250602
		Client	Greenstone Land Development Ltd		APPROVED BY	TB	DATE	25/01/19	Appendix A

APPENDIX B – SITE INVESTIGATION LOGS



HAND AUGER LOG

HA2.01

SHEET 1 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 10
PROJECT: 184250602	EASTING: 1934693.59	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602750.46	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Firm; non-plastic; moist; sand, fine to medium; gravel, fine; some rootlets; [FILL].	M	FM	OL			
				Silty SAND (SM), with some gravel; brown. Medium dense; non-plastic; moist; gravel, fine to medium, subangular to subround; [FILL].		MD	SM			
-0.5	-0.5			EOH: 0.45m Termination: HA grinding on gravel; no recovery. 2 attempts						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.02

SHEET 2 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 11
PROJECT: 184250602	EASTING: 1934675.95	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602740.47	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Firm; non-plastic; moist; sand, fine to medium; gravel, fine; some rootlets; [FILL].	M	FM	OL			
				Silty SAND (SM), with some gravel; brown . Medium dense; non-plastic; moist; gravel, fine to medium, subangular to subround; [FILL].		MD	SM			
-0.5	-0.5			EOH: 0.40m Termination: HA grinding on gravel; no recovery. 2 attempts						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.03

SHEET 3 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 12
PROJECT: 184250602	EASTING: 1934648.74	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602722.76	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5			Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Soft; non-plastic; wet; sand, fine to medium; gravel, fine; some rootlets; [FILL]. EOH: 0.50m Termination: HA grinding on gravel; no recovery.	W	S	OL			
1.0	-1.0									
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow



HAND AUGER LOG

HA2.05

SHEET 5 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 14
PROJECT: 184250602	EASTING: 1934612.18	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602706.46	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Firm; non-plastic; moist; sand, fine to medium; gravel, fine; some rootlets; [FILL].	M	FM	OL			
0.5	-0.5			Silty SAND (SM), with trace gravel; brown . Loose; non-plastic; moist; sand, fine to medium; gravel, fine. EOH: 0.80m Termination: HA grinding on gravel; no recovery		L	SM			
1.0	-1.0									
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow



HAND AUGER LOG

HA2.06

SHEET 6 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 15
PROJECT: 184250602	EASTING: 1934613.21	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602678.34	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some sand, with trace gravel. Firm; non-plastic; moist; sand, fine to medium; gravel, fine; some rootlets; [FILL].	M	FM	OL			
0.5	-0.5			Sandy (SW), with some silt; brown . Medium dense; non-plastic; wet; sand, fine to medium.	W	MD	SW			
				EOH: 0.50m Termination: HA grinding on gravel; no recovery						
1.0	-1.0									
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ◁ Out flow ▷ In flow

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HAND AUGER LOG

HA2.07

SHEET 7 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 17
PROJECT: 184250602	EASTING: 1934632.11	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602640.95	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Firm; non-plastic; moist; sand, fine to medium; gravel, fine; some rootlets; [FILL].	M	FM	OL			
				Sandy SILT (ML); brown with orange mottling. Stiff; non-plastic; moist; sand, fine to medium.		SF	ML			
-0.5	-0.5			Sandy SILT; light brown. Stiff; non-plastic; dry; sand, fine to medium.	D					
				EOH: 0.60m Termination: HA spinning; no recovery						
1.0	-1.0									
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.08

SHEET 8 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 18
PROJECT: 184250602	EASTING: 1934645.99	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602624.63	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Firm; non-plastic; moist; sand, fine to medium; gravel, fine; some rootlets; [FILL].		FM	OL			
				Silty SAND (SM); brown . Medium dense; non-plastic; moist; sand, fine to medium.	M	MD	SM			
-0.5	-0.5			Sandy SILT; light brown. Stiff to very stiff; dry; sand, fine to medium.	D	SF - VSF				
				EOH: 0.75m Termination: HA spinning; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.09

SHEET 9 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 19
PROJECT: 184250602	EASTING: 1934655.27	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602606.05	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5			Organic SILT (OL), with some sand, with trace gravel; dark brown with brown mottling. Firm; non-plastic; moist; Organic, rootlets; sand, fine to medium; gravel, fine; [LANDSCAPE FILL].		FM	OL			
				SAND (SW), with some silt; brown with dark brown mottling. Medium dense; non-plastic; moist; sand, fine to medium.	M	MD	SW			
				SAND (SW), with trace silt; brown with dark brown mottling. Medium dense; non-plastic; wet; sand, fine to medium.						
				GRAVEL (GW), with some sand; brownish. Dense; wet; gravel, fine to medium, subangular to subround; sand, fine to coarse.	W	D	GW			
1.0	-1.0			EOH: 0.80m Termination: HA grinding on gravel; no recovery						
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.10

SHEET 10 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 21
PROJECT: 184250602	EASTING: 1934673.31	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602566.72	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown with brown mottling. Medium dense; moist; TOPSOIL, rootlets.		MD				
				Sandy GRAVEL (GW); brown. Loose; moist; gravel, fine to coarse, subangular to subround, greywacke; sand, fine to coarse; [FILL].	M	L	GW			
				EOH: 0.35m Termination: HA grinding on gravel; no recovery						
-0.5	-0.5									
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.11

SHEET 11 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 23
PROJECT: 184250602	EASTING: 1934710.25	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602585.40	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown with brown mottling. Medium dense; moist; TOPSOIL, rootlets.	M	MD				
				Sandy GRAVEL (GW); brown . Loose; wet; gravel, fine to coarse, subangular to subround, greywacke; sand, medium to coarse; [FILL].	W	L	GW			
-0.5	-0.5			EOH: 0.45m Termination: HA grinding on gravel; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.12

SHEET 12 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 24
PROJECT: 184250602	EASTING: 1934726.97	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602594.96	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL & GRAVEL; dark brown with brown mottling. Medium dense; moist; TOPSOIL, rootlets, gravel, fine to coarse.	M	MD				
				Sandy GRAVEL (GW), with trace rootlets; brown . Loose; wet; gravel, fine to coarse, subangular to subround, greywacke; sand, medium to coarse; [FILL].	W	L	GW			
				EOH: 0.40m Termination: HA grinding on gravel; no recovery						
-0.5	-0.5									
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.13

SHEET 13 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 28
PROJECT: 184250602	EASTING: 1934709.65	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602625.38	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic gravelly SILT (OL); dark brown. Firm; non-plastic; moist; Organic, rootlets, gravel, fine to coarse, subround to round; [FILL].	M	FM	OL			
				EOH: 0.40m Termination: HA grinding on gravel; no recovery. 2 attempts						
-0.5	-0.5									
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS
▼ Standing Water Level
⏏ Out flow
⏚ In flow

RDCL

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HAND AUGER LOG

HA2.14

SHEET 14 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 32
PROJECT: 184250602	EASTING: 1934685.43	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602661.44	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic SILT (OL), with some gravel; dark brown. Soft to firm; wet; gravel, fine to coarse, subround to round; [FILL]; surface water logged. EOH: 0.30m Termination: HA grinding on gravel; no recovery. 2 attempts	W	S - FM	OL			
0.5	-0.5									
1.0	-1.0									
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.15

SHEET 15 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 37
PROJECT: 184250602	EASTING: 1934675.00	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602690.00	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: SD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				Organic gravelly SILT (OL), with some sand. Firm; non-plastic; wet; organic, rootlets, gravel, fine to coarse, subround to round; sand, fine to medium.	W	FM	OL			
				Silty SAND (SM); brown . Medium dense; non-plastic; wet; sand, fine to medium.		MD	SM			
-0.5	-0.5			EOH: 0.30m Termination: HA spinning; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.16

SHEET 16 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 31
PROJECT: 184250602	EASTING: 1934672.36	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602656.84	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Firm; wet; TOPSOIL, minor rootlets.	W	FM				
				Silty SAND (SM); light brown with brown and orange mottling. Medium dense; low plasticity; moist; sand, fine to medium.		MD	SM			
				Sandy SILT (ML); brown with light brown and orange mottling. Firm; low plasticity; moist; sand, fine to medium.	M	FM	ML			
-0.5	-0.5			Sandy SILT; brown . Loose; non-plastic; moist; sand, fine to medium.		L				
				EOH: 0.55m Termination: HA spinning; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.17

SHEET 17 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 30
PROJECT: 184250602	EASTING: 1934684.22	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602633.49	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Firm; wet; TOPSOIL, trace rootlets.		FM				
				Sandy GRAVEL (GW); brown . Loose; wet; well graded; gravel, fine to coarse, subangular to subround, greywacke; sand, medium to coarse; [FILL].	W	L	GW			
				EOH: 0.40m Termination: HA grinding on gravel; no recovery						
-0.5	-0.5									
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.18

SHEET 18 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 36
PROJECT: 184250602	EASTING: 1934658.41	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602681.09	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL OPERATOR:

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Stiff; moist; TOPSOIL, trace rootlets.		SF				
				Sandy GRAVEL (GW); brown . Loose; moist; well graded; gravel, fine to coarse, subangular to subround, greywacke; sand, medium to coarse; [FILL].	M	L	GW			
0.5	-0.5			EOH: 0.25m Termination: HA grinding on gravel; no recovery						
1.0	-1.0									
1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.19

SHEET 19 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 39
PROJECT: 184250602	EASTING: 1934711.73	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602709.34	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; moist; TOPSOIL, some rootlets.	M	MD				
				Sandy SILT, with minor rootlets; brown with orange and dark brown mottling. Medium dense; non-plastic; moist; sand, fine to medium.						
-0.5	-0.5			Sandy GRAVEL (GW), with trace silt; brown . Loose to medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subangular to subround; sand, fine to medium; [FILL].		L - MD	GW			
-1.0	-1.0									
-1.5	-1.5									
				EOH: 0.45m Termination: HA grinding on gravel; no recovery						

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.20

SHEET 20 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 38
PROJECT: 184250602	EASTING: 1934696.08	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602703.48	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; moist; TOPSOIL, minor rootlets.	M	MD				
				Sandy SILT, with minor rootlets; brown with orange and dark brown mottling. Medium dense; non-plastic; moist; sand, fine to medium.		L-MD	GW			
-0.5	-0.5			Sandy GRAVEL (GW), with trace silt; brown . Loose to medium dense; non-plastic; moist; gravel, fine to coarse, subangular to subround; sand, fine to medium; [FILL].						
				EOH: 0.35m Termination: HA grinding on gravel; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.21

SHEET 21 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 35
PROJECT: 184250602	EASTING: 1934710.00	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602682.79	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; dry becoming moist; TOPSOIL, trace rootlets.	becoming	MD				
				Sandy SILT; brown with dark brown and orange mottling. Medium dense; non-plastic; moist; sand, medium.	M	L - MD	GW			
-0.5	-0.5			Sandy GRAVEL (GW), with trace silt; brown . Loose to medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subangular to subround; sand, fine to coarse; [FILL].						
-1.0	-1.0			EOH: 0.20m Termination: HA grinding on gravel; no recovery						
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.22

SHEET 22 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 33
PROJECT: 184250602	EASTING: 1934733.57	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602654.17	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; moist; TOPSOIL, trace rootlets.	M	MD				
				Sandy SILT, with minor [select a composition]; brown with dark brown mottling. Medium dense; non-plastic; moist becoming wet; sand, fine to medium.	becoming wet	L - MD	GW			
-0.5	-0.5			Sandy GRAVEL (GW), with trace silt; brown . Loose to medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subangular to subround; sand, fine to coarse; [FILL].						
				EOH: 0.30m Termination: HA grinding on gravel; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.23

SHEET 23 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 27
PROJECT: 184250602	EASTING: 1934742.13	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602639.32	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; dry becoming moist; TOPSOIL, trace rootlets.	becoming					
				Sandy SILT, with minor rootlets; brown with orange and dark brown mottling. Medium dense; non-plastic; moist; sand, fine to medium.	M	MD	SM			
				Silty SAND (SM); brown with dark brown mottling. Medium dense; non-plastic; moist; sand, fine to medium.		L & MD	GW			
-0.5	-0.5			Sandy GRAVEL (GW), with trace silt; brown . Loose and medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subangular to subround; sand, fine to coarse; [FILL].						
				EOH: 0.35m Termination: HA grinding on gravel; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS ▼ Standing Water Level ⇐ Out flow ⇒ In flow

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HAND AUGER LOG

HA2.24

SHEET 24 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 26
PROJECT: 184250602	EASTING: 1934748.06	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602619.90	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL OPERATOR:

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; moist; TOPSOIL, trace rootlets.	M	MD				
				Sandy GRAVEL (GW), with trace silt; brown . Loose to medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subangular to subround; sand, fine to coarse; [FILL].		MD	GW			
-0.5	-0.5			EOH: 0.15m Termination: HA grinding on gravel; no recovery						
-1.0	-1.0									
-1.5	-1.5									

REMARKS
SYMBOLS
▼ Standing Water Level
⇐ Out flow
⇒ In flow

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HAND AUGER LOG

HA2.25

SHEET 25 OF 25

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 25
PROJECT: 184250602	EASTING: 1934758.04	STARTED: 21-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602606.34	FINISHED: 20-08-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD DATE: 21-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: DATE: 21-01-2019
	DIAMETER: 0mm	STATUS: Final data

CONTRACTOR: RDCL OPERATOR:


DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Medium dense; moist; TOPSOIL, trace rootlets.	M	MD				
				Sandy GRAVEL (GW), with trace silt; brown . Loose to medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subangular to subround; sand, fine to medium; [FILL].		MD	GW			
-0.5	-0.5			EOH: 0.15m Termination: HA grinding on gravel; no recovery						
-1.0	-1.0									
-1.5	-1.5									




REMARKS
SYMBOLS
▼ Standing Water Level
⇐ Out flow
⇒ In flow

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

CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	15-08-2018
PROJECT:	184250602	EASTING:	1934668.06	FINISHED:	15-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602593.21		
	Lot 20	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5	Groundwater Not Encountered		TOPSOIL; dark brown. Firm; moist; non plastic.	M	FM				
				SILT, with some sand; brown. Firm; low plasticity; moist; sand, fine to medium.						
1.0	-1.0			GRAVEL, with some silt; brown. Medium dense; non-plastic; moist; well graded; gravel, fine to coarse, subround to round.		MD				
				EOH: 1.20m						
1.5	-1.5									
2.0	-2.0									
2.5	-2.5									
3.0	-3.0									
3.5	-3.5									

REMARKS
SYMBOLS
 Standing Water Level  Out flow  In flow

CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	15-08-2018
PROJECT:	184250602	EASTING:	1934620.99	FINISHED:	15-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602657.55		
	Lot 16	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5	Groundwater Not Encountered		TOPSOIL; dark brown. Firm; moist; some roots and rootlets; non plastic.	M	FM				
				SILT, with some sand, with trace rootlets; brown. Firm; low plasticity; moist; sand, fine to medium.						
				GRAVEL, with trace silt; brown. Medium dense; non-plastic; moist; gravel, fine to medium, subround.		MD				
1.0	-1.0			GRAVEL, with some silt; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround.						
				EOH: 1.10m						
1.5	-1.5									
2.0	-2.0									
2.5	-2.5									
3.0	-3.0									
3.5	-3.5									

REMARKS
SYMBOLS
 Standing Water Level  Out flow  In flow

CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	15-08-2018
PROJECT:	184250602	EASTING:	1934726.47	FINISHED:	15-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602670.76		
	Lot 34	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5			TOPSOIL; dark brown. Firm; moist; trace rootlets, non plastic.		FM				
				SILT, with trace rootlets and sand; brown. Firm; low plasticity; moist; sand, fine.						
1.0	-1.0			GRAVEL, with some sand; brown. Medium dense; moist; well graded; gravel, fine to coarse, subround; non plastic.	M					
1.5	-1.5					MD				
2.0	-2.0									
2.5	-2.5									
3.0	-3.0									
3.5	-3.5									

Groundwater Not Encountered

EOH: 2.70m

REMARKS
SYMBOLS
<div>▼ Standing Water Level</div> <div>⇐ Out flow</div> <div>⇒ In flow</div>

CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	21-08-2018
PROJECT:	184250602	EASTING:	1934664.00	FINISHED:	21-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602635.00		
	ROW	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Firm; moist; non plastic; some rootlets.		FM				
0.5	-0.5			Sandy SILT; brown. Medium dense; non-plastic; moist; sand, fine to medium.				B		
				SAND, with trace gravel; brown. Medium dense; moist; sand, medium; gravel, fine to medium, subround to round; non plastic.		MD				
1.0	-1.0			Silty sandy GRAVEL; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, medium.				B		
				SAND, with some silt; light brown. Medium dense; non-plastic; moist; sand, fine to medium.						
1.5	-1.5			SAND, with some silt; greyish brown. Medium dense; low plasticity; moist; sand, fine.						
				Silty sandy GRAVEL, with trace cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, fine to medium; cobbles, subround to round.						
2.0	-2.0									
				Silty sandy GRAVEL, with some cobbles; brown. Dense; non-plastic; moist; gravel, subround to round; sand, medium to coarse; cobbles, subround to round.						
2.5	-2.5									
				Silty sandy GRAVEL, with some cobbles. Dense; non-plastic; wet; gravel, fine to coarse, subround to round; sand, medium to coarse; cobbles, subround to round.						
3.0	-3.0									
				Silty sandy GRAVEL, with some cobbles; brown. Dense; non-plastic; saturated; gravel, fine to coarse, subround to round; sand, medium to coarse; cobbles, subround to round.						
3.5	-3.5									
				EOH: 3.50m Termination: HA grinding on gravel; no recovery						

REMARKS
SYMBOLS

- ▼ Standing Water Level
- ⇐ Out flow
- ⇒ In flow

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TEST PIT LOG

TP02

SHEET 2 OF 5

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM2000	STARTED: 21-08-2018
PROJECT: 184250602	EASTING: 1934709.00	FINISHED: 21-08-2018
LOCATION: 139 Arataki Road	NORTHING: 5602642.00	
Lot 29	DATUM:	LOGGED BY: SD DATE: 21-08-2018
OFFICE: RDCL - Hastings	ELEVATION: -	CHECKED BY: TB DATE: 21-01-2019
ENGINEER: TB	DIMENSIONS: m x m	STATUS: Final data

CONTRACTOR: RDCL	MACHINE TYPE & MODEL:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5			TOPSOIL; dark brown. Firm; moist; non plastic; trace rootlets.		FM				
				Sandy SILT, with trace rootlets; brown. Medium dense; non-plastic; moist; sand, fine to medium.					B	
1.0	-1.0			SAND; greyish brown. Medium dense; moist; sand, medium; non plastic.						
				Silty sandy GRAVEL, with trace cobbles; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.					B	
1.5	-1.5				M	MD				
2.0	-2.0									
2.5	-2.5			GRAVEL, with some clay and silt, with trace cobbles; greyish brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.						
3.0	-3.0			Silty sandy GRAVEL, with trace cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, medium to coarse; cobbles, subround to round.		D				
3.5	-3.5			Silty sandy GRAVEL, with some cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, medium to coarse; cobbles, subround to round.						
				EOH: 3.10m Termination: HA grinding on gravel; no recovery						

REMARKS

SYMBOLS

- ▼ Standing Water Level
- ⇐ Out flow
- ⇒ In flow

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CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	21-08-2018
PROJECT:	184250602	EASTING:	1934741.00	FINISHED:	21-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602596.00		
	Lot 25	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Firm; moist; some rootlets; non plastic.		FM				
0.5	-0.5			Silty SAND; brown. Medium dense; non-plastic; moist; sand, fine to medium.					B	
1.0	-1.0			Silty sandy GRAVEL; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, medium to coarse.					B	
1.5	-1.5			SAND, with some rootlets, with trace silt; brown. Medium dense; non-plastic; moist.						
2.0	-2.0			Silty sandy GRAVEL; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, medium to coarse.						
2.5	-2.5			SAND, with trace silt; brown. Medium dense; non-plastic; moist; sand, medium.						
3.0	-3.0			Silty sandy GRAVEL, with trace cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.		D				
				GRAVEL, with trace clay and sand; light grey. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round; sand, coarse.		MD				
				Silty sandy GRAVEL, with some cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.		D				
3.5	-3.5			EOH: 3.10m Termination: HA grinding on gravel; no recovery						

REMARKS
SYMBOLS

- ▼ Standing Water Level
- ⇐ Out flow
- ⇒ In flow

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CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	21-08-2018
PROJECT:	184250602	EASTING:	1934692.00	FINISHED:	21-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602611.00		
	ROW	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5		TS	TOPSOIL; dark brown. Firm; moist; some roots; non plastic.						
				Sandy SILT, with trace gravel; brown. Firm; non-plastic; moist; sand, medium to coarse; gravel, fine, subround to round.		FM				
1.0	-1.0		TS	TOPSOIL; dark brown. Firm; moist; non plastic; some roots.						
				SILT, with some sand; brownish grey. Firm; low plasticity; moist; sand, fine.						
1.5	-1.5			Silty sandy GRAVEL; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round.	M					
2.0	-2.0					MD				
2.5	-2.5									
3.0	-3.0			GRAVEL, with trace clay and cobbles; greyish brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.		D				
3.5	-3.5			Silty sandy GRAVEL, with some cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.						
				EOH: 3.10m Termination: HA grinding on gravel; no recovery						

REMARKS
SYMBOLS

- ▼ Standing Water Level
- ⇐ Out flow
- ⇒ In flow

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CLIENT:	Greenstone Land Developments Ltd	PROJECTION:	NZTM2000	STARTED:	21-08-2018
PROJECT:	184250602	EASTING:	1934694.00	FINISHED:	21-08-2018
LOCATION:	139 Arataki Road	NORTHING:	5602570.00		
	Lot 22	DATUM:		LOGGED BY:	SD
OFFICE:	RDCL - Hastings	ELEVATION:	-	CHECKED BY:	TB
ENGINEER:	TB	DIMENSIONS:	m x m	STATUS:	Final data
CONTRACTOR:	RDCL	MACHINE TYPE & MODEL:			

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
				TOPSOIL; dark brown. Firm; moist; some rootlets; non plastic.						
0.5	-0.5			Sandy SILT, with trace gravel; brown. Firm; non-plastic; moist; gravel, fine, subround to round.		FM				
1.0	-1.0			Silty sandy GRAVEL; brown. Medium dense; non-plastic; moist; gravel, fine to medium, subround; sand, medium to coarse.						
1.5	-1.5			SAND, with some silt; brown. Medium dense; non-plastic; moist; sand, medium to coarse.	M					
2.0	-2.0			Silty sandy GRAVEL; brown. Medium dense; non-plastic; moist; gravel, fine to coarse, subround to round.		MD				
2.5	-2.5									
3.0	-3.0			GRAVEL, with trace clay and cobbles; grey. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.		D				
3.5	-3.5			Silty sandy GRAVEL, with some cobbles; brown. Dense; non-plastic; moist; gravel, fine to coarse, subround to round; cobbles, subround to round.						
				EOH: 3.10m Termination: HA grinding on gravel; no recovery						

REMARKS
SYMBOLS

- ▼ Standing Water Level
- ⇐ Out flow
- ⇒ In flow

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CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 21
PROJECT: 184250602	EASTING: 1934675.19	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602553.23	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 15-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DCP BLOWS				SAMPLES & TESTS	ADDITIONAL REMARKS
0.5	-0.5	Groundwater Not Encountered		DATA					
				11					
				12					
				13					
				14					
				12					
				8					
				14					
				10					
				9					
				8					
				13					
				15					
				13					
			21						
1.5	-1.5			Double bounces					
2.0	-2.0								
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 21
PROJECT: 184250602	EASTING: 1934665.93	STARTED: 07-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602567.17	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 15-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DCP BLOWS				SAMPLES & TESTS	ADDITIONAL REMARKS
				DATA	5	10	15		
0.5	-0.5	Groundwater Not Encountered		6	5	10	15		
			10	10					
			15	15					
			11	10					
			10	10					
			7	5					
			8	5					
			11	10					
			16	15					
			15	15					
			9	5					
			5	5					
			7	5					
			12	10					
			14	15					
1.5	-1.5			Double bounces over 50 mm					
2.0	-2.0								
2.5	-2.5								
3.0	-3.0								
3.5	-3.5								

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 22
PROJECT: 184250602	EASTING: 1934692.43	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602566.32	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 15-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS	
		Groundwater Not Encountered			5 10 15 20			
				7				
				5				
				7				
				13				
0.5	-0.5			15				
				14				
				10				
				7				
				10				
				14				
				9				
				10				
			10					
1.5	-1.5			Double bounces				
2.0	-2.0							
2.5	-2.5							
3.0	-3.0							
3.5	-3.5							

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 22
PROJECT: 184250602	EASTING: 1934698.93	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602574.84	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 15-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
		Groundwater Not Encountered			5 10 15 20		
			7				
			7				
			6				
			4				
0.5	-0.5		11				
			9				
			9				
			18				
			13				
1.0	-1.0		7				
			15				
			17				
			20				
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 22
PROJECT: 184250602	EASTING: 1934693.85	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602582.47	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 15-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Groundwater Not Encountered		3			
				5			
				5			
				15			
0.5	-0.5			16			
				15			
				15			
				14			
				15			
1.0	-1.0			29	>>		
				Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 22
PROJECT: 184250602	EASTING: 1934686.14	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602578.24	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		water Not Encl		8			
				10			
				28	>>		
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 23
PROJECT: 184250602	EASTING: 1934701.28	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602582.76	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		9	10		
				12	12		
				11	11		
				23	23		
				9	10		
				14	14		
				14	14		
				18	18		
				22	22		
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 23
PROJECT: 184250602	EASTING: 1934707.30	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602575.80	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		6	6		
				10	10		
				6	6		
				7	7		
				13	13		
				16	16		
				19	19		
				14	14		
				26	>>		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 23
PROJECT: 184250602	EASTING: 1934717.36	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602580.97	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		11	10		
				17	17		
				16	16		
				15	15		
				12	12		
				11	11		
				12	12		
				26	>>		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 23
PROJECT: 184250602	EASTING: 1934712.28	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602587.36	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		6	5		
				10	10		
				22	22		
				20	20		
				16	16		
				12	12		
				14	14		
				20	20		
				30	>>		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 24
PROJECT: 184250602	EASTING: 1934720.56	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602598.36	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				5			
				7			
				11			
				15			
				13			
-0.5	-0.5			9			
				9			
				8			
				7			
-1.0	-1.0			6			
				7			
				10			
				12			
				16			
-1.5	-1.5			15			
				13			
				11			
				12			
				14			
-2.0	-2.0			15			
				17			
				16			
				15			
				18			
-2.5	-2.5			Double bounce			
-3.0	-3.0						
-3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 24
PROJECT: 184250602	EASTING: 1934737.29	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602593.00	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				2			
				5			
				6			
				11			
				3			
				2			
				1			
				3			
1.0	-1.0			14			
				17			
				22			
1.5	-1.5				Double bounce		
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 24
PROJECT: 184250602	EASTING: 1934728.70	STARTED: 14-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602600.69	FINISHED: 14-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM/KK DATE: 14-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Groundwater Not Encountered		3			
				6			
				13			
				10			
0.5	-0.5			15			
				19			
				19			
				24			
1.0	-1.0			High blow count			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 20
PROJECT: 184250602	EASTING: 1934664.51	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602597.33	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				7			
				5			
				3			
				14			
-0.5	-0.5			25			
				14			
				12			
				12			
				14			
-1.0	-1.0			10			
				12			
				15			
				16			
				13			
-1.5	-1.5			9			
				18			
				17			
				15			
				28	>>		
-2.0	-2.0			8			
				Double bounce			
-2.5	-2.5						
-3.0	-3.0						
-3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 20
PROJECT: 184250602	EASTING: 1934668.38	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602587.31	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				7			
				22			
				25			
				15			
0.5	-0.5			10			
		Groundwater Not Encountered		9			
				13			
				9			
				11			
1.0	-1.0			10			
				10			
				12			
				17			
				24			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 20
PROJECT: 184250602	EASTING: 1934658.43	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602582.95	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		11	10		
				6	5		
				5	5		
				5	5		
				5	5		
				10	10		
				7	7		
				11	11		
				18	18		
1.0	-1.0			15	15		
				21	21		
				14	14		
				15	15		
				15	15		
1.5	-1.5			22	22		
				16	16		
				18	18		
				26	>>		
2.0	-2.0			Double bounce			
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS

SYMBOLS

- ▼ Standing Water Level
- ◁ Out flow
- ▷ In flow

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CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 20
PROJECT: 184250602	EASTING: 1934653.40	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602591.63	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				13			
				14			
				12			
				17			
0.5	-0.5			30	>>		
				17			
				15			
				20			
				15			
1.0	-1.0			17			
				12			
				17			
				21			
				21			
1.5	-1.5			28	>>		
				High blow count			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 19
PROJECT: 184250602	EASTING: 1934648.33	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602602.65	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		10	10		
				9	9		
				7	7		
				4	4		
				9	9		
				13	13		
				11	11		
				10	10		
				10	10		
				10	10		
				12	12		
				16	16		
				14	14		
				15	15		
				21	21		
				19	19		
				21	21		
				24	24		
				5	5		
2.0	-2.0			Double bounce			
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS

SYMBOLS

- ▼ Standing Water Level
- ◁ Out flow
- ▷ In flow

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CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 19
PROJECT: 184250602	EASTING: 1934643.08	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602610.67	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DCP BLOWS				SAMPLES & TESTS	ADDITIONAL REMARKS	
				DATA	5	10	15			20
0.5	-0.5	Groundwater Not Encountered		6	5					
			8	8						
			6	5						
			4	4						
			5	5						
			11	11						
			8	8						
			5	5						
			15	15						
			15	15						
			22	22						
			24	24						
			5	5						
1.5	-1.5			Double bounce						
2.0	-2.0									
2.5	-2.5									
3.0	-3.0									
3.5	-3.5									

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 19
PROJECT: 184250602	EASTING: 1934656.24	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602617.95	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				3			
				3			
				2			
				3			
0.5	-0.5	Groundwater Not Encountered		9			
				10			
				15			
				16			
				14			
1.0	-1.0			12			
				17			
				18			
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 19
PROJECT: 184250602	EASTING: 1934661.34	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602607.74	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DCP BLOWS				SAMPLES & TESTS	ADDITIONAL REMARKS	
				DATA	5	10	15			20
0.5	-0.5	Groundwater Not Encountered		10		10				
			7		7					
			7		7					
			12		12					
			22		22					
			19		19					
			16		16					
			14		14					
			12		12					
1.0	-1.0		17		17					
			21		21					
			18		18					
			17		17					
			19		19					
1.5	-1.5		18		18					
			24		24					
			5		5					
2.0	-2.0			Double bounce						
2.5	-2.5									
3.0	-3.0									
3.5	-3.5									

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 18
PROJECT: 184250602	EASTING: 1934639.92	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602619.08	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5			3			
				2			
				3			
				2			
				3			
				2			
				7			
				10			
				14			
1.0	-1.0			10			
				15			
				16			
				16			
				14			
1.5	-1.5			21			
				21			
				12			
				16			
				16			
2.0	-2.0			17			
				28	>>		
2.5	-2.5			Double bounce			
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 18
PROJECT: 184250602	EASTING: 1934634.88	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602628.60	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		4			
				9			
				7			
				9			
				10			
				12			
				15			
				10			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 18
PROJECT: 184250602	EASTING: 1934651.84	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602626.03	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		5			
				9			
				6			
				9			
				10			
				20			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 17
PROJECT: 184250602	EASTING: 1934630.69	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602636.31	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		7	7		
				11	11		
				10	10		
				9	9		
				10	10		
				14	14		
1.0	-1.0			Double bounce over 50 mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 17
PROJECT: 184250602	EASTING: 1934625.40	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602644.78	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Underwater Not Encountered		3	3		
				9	9		
				9	9		
				7	7		
				12	12		
1.0	-1.0			Double bounce over 50mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	⇐ Out flow
	⇒ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 17
PROJECT: 184250602	EASTING: 1934638.40	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602652.14	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		4			
				9			
				9			
				9			
				8			
				16			
				6			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 17
PROJECT: 184250602	EASTING: 1934641.42	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602644.33	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				6			
				7			
				15			
				20			
				26	>>		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 16
PROJECT: 184250602	EASTING: 1934616.95	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602654.04	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Underwater Not Encountered		2			
				8			
				13			
				17			
				15			
1.0	-1.0			Double bounce over 50mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	⇐ Out flow
	⇒ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 16
PROJECT: 184250602	EASTING: 1934611.88	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602662.54	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		4			
				6			
				6			
				8			
				11			
				14			
				22			
				10			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 16
PROJECT: 184250602	EASTING: 1934623.29	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602668.06	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		10	10		
				11	11		
				8	8		
				7	7		
				13	13		
				19	19		
				15	15		
				20	20		
				8	8		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 16
PROJECT: 184250602	EASTING: 1934628.28	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602659.54	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				5			
				4			
				3			
				4			
0.5	-0.5	Groundwater Not Encountered		10			
				17			
				18			
				15			
				16			
1.0	-1.0			15			
				14			
				12			
				12			
				16			
1.5	-1.5			10			
				Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 15
PROJECT: 184250602	EASTING: 1934597.86	STARTED: 18-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602681.02	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				2			
				7			
				11			
				12			
				10			
				18			
				5			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 15
PROJECT: 184250602	EASTING: 1934613.73	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602684.76	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		7	7		
				6	6		
				4	4		
				7	7		
				17	17		
				9	9		
				7	7		
				12	12		
				10	10		
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 15
PROJECT: 184250602	EASTING: 1934616.35	STARTED: 18-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602676.21	FINISHED: 18-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 18-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		7	~6		
				13	~12		
				12	~11		
				15	~14		
				15	~14		
				9	~8		
				8	~7		
				16	~16		
				24	~24		
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 14
PROJECT: 184250602	EASTING: 1934602.61	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602697.48	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5101520		
		Groundwater Not Encountered		11			
			12				
			5				
			4				
			4				
0.5	-0.5		5				
			5				
			5				
1.0	-1.0		10				
			10				
			10				
					Double bounce		
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 14
PROJECT: 184250602	EASTING: 1934595.23	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602703.23	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				3			
				3			
				4			
				5			
				4			
				4			
				6			
				5			
1.0	-1.0			10			
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 14
PROJECT: 184250602	EASTING: 1934611.10	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602710.65	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5101520		
0.5	-0.5	Groundwater Not Encountered		12			
			11				
			10				
			7				
			5				
			6				
			4				
			6				
			7				
1.0	-1.0		13				
			12				
			15				
			18				
			10				
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 14
PROJECT: 184250602	EASTING: 1934616.68	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602701.51	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
		Groundwater Not Encountered			5 10 15 20		
				13			
				14			
				12			
				7			
0.5	-0.5			4			
				2			
				4			
				4			
1.0	-1.0			12			
			18				
				Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 13
PROJECT: 184250602	EASTING: 1934629.35	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602708.29	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		10	10		
				12	12		
				8	8		
				5	5		
				7	7		
				4	4		
				6	6		
				28	>>		
				10	10		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 13
PROJECT: 184250602	EASTING: 1934623.23	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602718.26	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		9	10		
				10	11		
				11	12		
				6	7		
				5	6		
				7	8		
				4	5		
				4	5		
				18	20		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 13
PROJECT: 184250602	EASTING: 1934632.78	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602723.07	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5101520		
0.5	-0.5	Groundwater Not Encountered		5			
			12				
			16				
			12				
			10				
			3				
			4				
			6				
			4				
1.0	-1.0		5				
			8				
			8				
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 13
PROJECT: 184250602	EASTING: 1934636.74	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602710.69	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		14	14		
				14	14		
				12	12		
				12	12		
				14	14		
				11	11		
				8	8		
				9	9		
				10	10		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 12
PROJECT: 184250602	EASTING: 1934647.59	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602718.03	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		8	8		
				12	12		
				5	5		
				3	3		
				8	8		
				8	8		
				5	5		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 12
PROJECT: 184250602	EASTING: 1934641.25	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602727.90	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		9	9		
				9	9		
				14	14		
				12	12		
				15	15		
				10	10		
				8	8		
				14	14		
				7	7		
1.0	-1.0			3	3		
				5	5		
				8	8		
				10	10		
				14	14		
1.5	-1.5			18	18		
				5	5		
2.0	-2.0			Double bounce			
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 12
PROJECT: 184250602	EASTING: 1934651.27	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602733.17	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		3			
				3			
				6			
				5			
				4			
				3			
				3			
				2			
				12			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 12
PROJECT: 184250602	EASTING: 1934656.85	STARTED: 19-12-2018
LOCATION: 139 Arataki Road	NORTHING: 5602724.47	FINISHED: 19-12-2018
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: LM DATE: 19-12-2018
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 21-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5101520		
0.5	-0.5	Groundwater Not Encountered		10			
			7				
			6				
			4				
			3				
			3				
			10				
			7				
			4				
			4				
1.0	-1.0		8				
			18				
			5				
1.5	-1.5				Double bounce		
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 11
PROJECT: 184250602	EASTING: 1934666.09	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602725.67	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Groundwater Not Encountered		0			
				0			
				10			
				7			
0.5	-0.5			6			
				7			
				5			
				2			
				5			
1.0	-1.0			22			
				Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 11
PROJECT: 184250602	EASTING: 1934662.14	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602733.63	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				1			
				1			
				1			
				11			
0.5	-0.5			4			
				5			
				3			
				5			
				7			
1.0	-1.0			8			
				9			
				12			
				13			
				13			
1.5	-1.5			14			
				Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 11
PROJECT: 184250602	EASTING: 1934671.87	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602739.88	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		2			
				7			
				8			
				16			
0.5	-0.5			Double bounce over 50 mm			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 11
PROJECT: 184250602	EASTING: 1934677.58	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602732.96	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Groundwater Not Encountered		1			
				5			
				8			
				2			
-0.5	-0.5			5			
				16			
-1.0	-1.0			Double bounce			
-1.5	-1.5						
-2.0	-2.0						
-2.5	-2.5						
-3.0	-3.0						
-3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 10
PROJECT: 184250602	EASTING: 1934684.59	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602735.99	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2 4 5 3 13 9 5 8 18			
1.0	-1.0			double bounce over 50 mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 10
PROJECT: 184250602	EASTING: 1934679.07	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602747.35	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

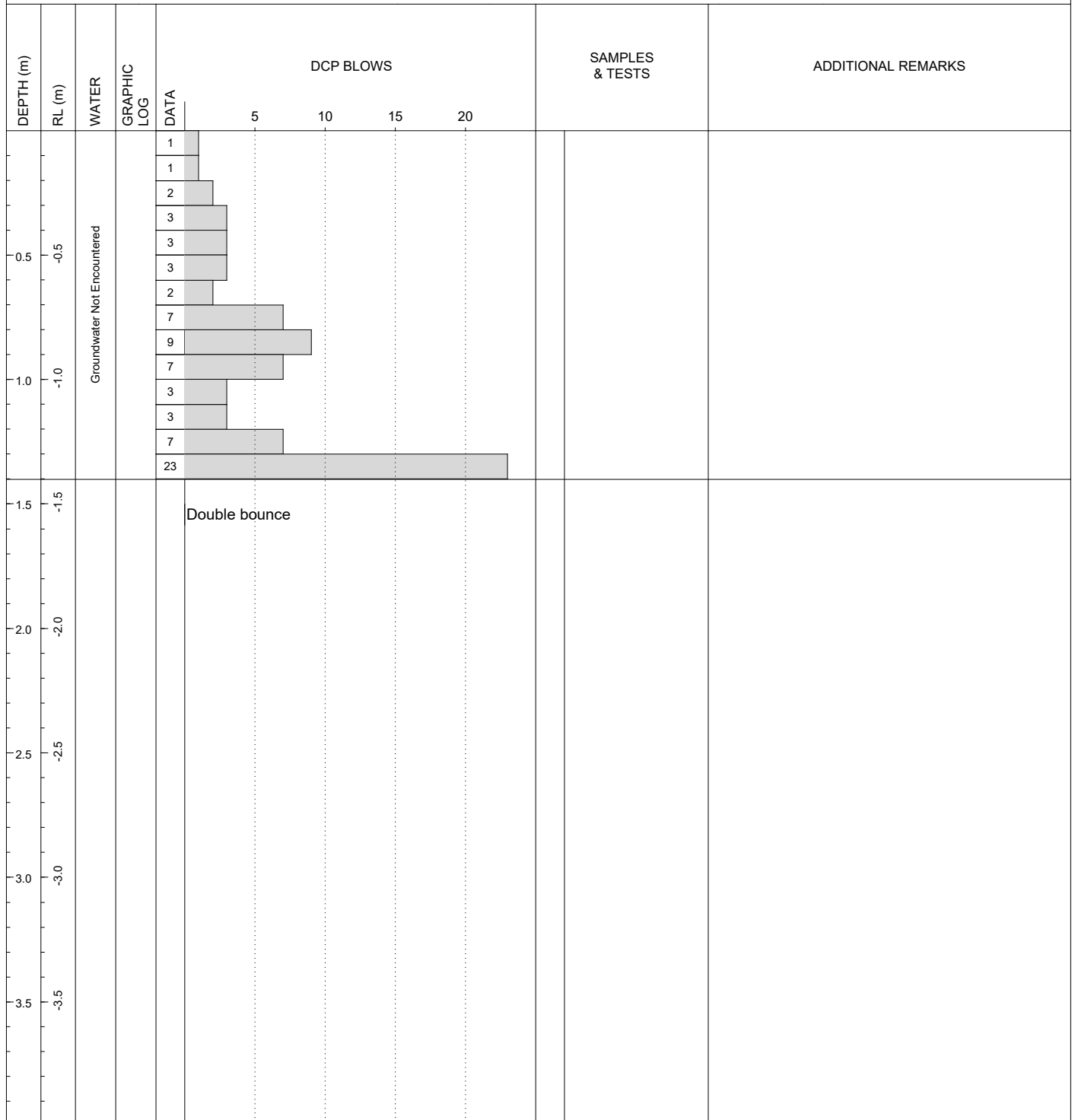
CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		1			
				1			
				1			
				10			
				9			
				4			
				3			
				17			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 10
PROJECT: 184250602	EASTING: 1934689.61	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602752.46	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 10
PROJECT: 184250602	EASTING: 1934693.51	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602743.39	FINISHED: 17-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
				2			
				1			
				1			
				1			
0.5	-0.5	Groundwater Not Encountered		6			
				12			
				10			
				10			
				6			
1.0	-1.0			5			
				12			
				11			
				12			
				13			
1.5	-1.5			15			
				Double bounce over 50 mm			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 39
PROJECT: 184250602	EASTING: 1934711.52	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602722.58	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		7	7		
				5	5		
				3	3		
				7	7		
				3	3		
				5	5		
				18	18		
				10	10		
1.0	-1.0			Double bounce over 50 mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 39
PROJECT: 184250602	EASTING: 1934717.57	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602703.41	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		6			
				6			
				6			
				8			
				8			
				9			
				4			
				11			
				16			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 39
PROJECT: 184250602	EASTING: 1934709.75	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602701.52	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		16	16		
				9	9		
				5	5		
				9	9		
				16	16		
				14	14		
1.0	-1.0			Double bounce over 50 mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 39
PROJECT: 184250602	EASTING: 1934705.13	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602713.96	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		ter Not Er		10			
				19			
0.5	-0.5						
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

Double bounce

REMARKS

SYMBOLS

- ▼ Standing Water Level
- ◁ Out flow
- ▷ In flow

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CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 38
PROJECT: 184250602	EASTING: 1934696.26	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602707.67	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		9	10		
				10	10		
				5	5		
				3	3		
				8	8		
				5	5		
				7	7		
				10	10		
				17	17		
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 38
PROJECT: 184250602	EASTING: 1934690.11	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602704.60	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		7			
				7			
				7			
				7			
				10			
				14			
				11			
				10			
				16			
1.0	-1.0			High blow count			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 38
PROJECT: 184250602	EASTING: 1934697.25	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602690.94	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		7			
				5			
				10			
				13			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 35
PROJECT: 184250602	EASTING: 1934715.22	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602689.05	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		14			
				14			
				11			
				14			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 35
PROJECT: 184250602	EASTING: 1934720.08	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602682.16	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		6	5		
				5	5		
				9	10		
				17	18		
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 35
PROJECT: 184250602	EASTING: 1934709.49	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602675.95	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		10	10		
				14	14		
				16	16		
				14	14		
				10	10		
				12	12		
				15	15		
				10	10		
				12	12		
1.0	-1.0			High blow count			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 34
PROJECT: 184250602	EASTING: 1934710.92	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602669.21	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		water Not Encl		6			
				14			
				21			
0.5	-0.5			High blow count			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 34
PROJECT: 184250602	EASTING: 1934728.08	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602668.46	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		3			
				2			
				5			
				17			
-0.5	-0.5			+ DB			
-1.0	-1.0						
-1.5	-1.5						
-2.0	-2.0						
-2.5	-2.5						
-3.0	-3.0						
-3.5	-3.5						

REMARKS	SYMBOLS
	<div>▼ Standing Water Level</div> <div>◁ Out flow</div> <div>▷ In flow</div>

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 34
PROJECT: 184250602	EASTING: 1934714.83	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602660.14	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		3			
				8			
				13			
				22			
0.5	-0.5						
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

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CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 33
PROJECT: 184250602	EASTING: 1934718.73	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602651.07	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		9			
				6			
				13			
				10			
				11			
				15			
				10			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 33
PROJECT: 184250602	EASTING: 1934733.71	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602659.32	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		14	14		
				10	10		
				8	8		
				10	10		
				12	12		
				16	16		
				11	11		
				10	10		
				12	12		
1.0	-1.0			High blow count			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 33
PROJECT: 184250602	EASTING: 1934739.47	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602653.51	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/DJ DATE: 09-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		8	8		
				6	6		
				13	13		
				16	16		
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 27
PROJECT: 184250602	EASTING: 1934728.45	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602637.30	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		5			
				7			
				16			
				17			
				4			
				6			
				10			
				12			
				14			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 27
PROJECT: 184250602	EASTING: 1934742.52	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602644.47	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		16	16		
				12	12		
				9	9		
				8	8		
				14	14		
				13	13		
				14	14		
				11	11		
				11	11		
1.0	-1.0			10	10		
				14	14		
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 27
PROJECT: 184250602	EASTING: 1934731.49	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602628.27	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		13			
				17			
				21			
				21			
0.5	-0.5						
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 26
PROJECT: 184250602	EASTING: 1934752.04	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602626.26	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		4			
				10			
				12			
				9			
				12			
				8			
				10			
				10			
				13			
1.0	-1.0			14			
				12			
				13			
				17			
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 26
PROJECT: 184250602	EASTING: 1934757.00	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602621.60	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		1			
				6			
				7			
				10			
				10			
				17			
1.0	-1.0			ouble bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 26
PROJECT: 184250602	EASTING: 1934742.83	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602612.20	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		15			
				13			
				7			
				10			
				11			
				10			
				13			
				16			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 25
PROJECT: 184250602	EASTING: 1934747.69	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602605.31	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		8	8		
				8	8		
				4	4		
				7	7		
				11	11		
				16	16		
				14	14		
				13	13		
				12	12		
1.0	-1.0			10	10		
				17	17		
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 25
PROJECT: 184250602	EASTING: 1934762.62	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602612.45	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				4			
				9			
				11			
				12			
				12			
				12			
				12			
				11			
1.0	-1.0			9			
				17			
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 25
PROJECT: 184250602	EASTING: 1934765.81	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602606.75	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		3			
				6			
				8			
				10			
				10			
				13			
				20			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 25
PROJECT: 184250602	EASTING: 1934752.65	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602600.65	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				9			
				9			
				8			
				8			
				8			
				8			
				9			
				8			
1.0	-1.0			14			
				17			
1.5	-1.5			Double bounce			
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 28
PROJECT: 184250602	EASTING: 1934715.71	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602621.17	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		1 4 4 7 10 6 6 15 20			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level < Out flow > In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 28
PROJECT: 184250602	EASTING: 1934704.26	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602614.99	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				5			
				5			
				6			
				6			
				7			
				14			
				21			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 28
PROJECT: 184250602	EASTING: 1934698.55	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602621.92	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Groundwater Not Encountered		1			
				9			
				13			
				10			
				7			
				10			
				15			
				26	>>		
				Double bounce			

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 28
PROJECT: 184250602	EASTING: 1934713.15	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602630.55	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		3			
				6			
				6			
				9			
				8			
				8			
				9			
				11			
				17			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 29
PROJECT: 184250602	EASTING: 1934706.18	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602639.38	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		water Not Encl		1			
				13			
				17			
-0.5	-0.5			+ DB over 50 mm			
-1.0	-1.0						
-1.5	-1.5						
-2.0	-2.0						
-2.5	-2.5						
-3.0	-3.0						
-3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 29
PROJECT: 184250602	EASTING: 1934700.51	STARTED: 09-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602647.42	FINISHED: 09-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: BR/MD DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
		water Not Encl			5 10 15 20		
				1			
				5			
				20			
0.5	-0.5			+ DB over 50 mm			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 29
PROJECT: 184250602	EASTING: 1934699.93	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602634.09	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Underwater Not Encountered		3			
				8			
				13			
				16			
				18			
1.0	-1.0			Double bounce over 50 mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 30
PROJECT: 184250602	EASTING: 1934682.38	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602625.96	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		1 4 5 8 7 8 15 18			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	<div>▼ Standing Water Level</div> <div>◁ Out flow</div> <div>▷ In flow</div>

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 30
PROJECT: 184250602	EASTING: 1934676.86	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602637.32	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		3			
				12			
				8			
				8			
				12			
				13			
				16			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 30
PROJECT: 184250602	EASTING: 1934684.78	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602641.43	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		1 3 6 7 7 9 20			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 31
PROJECT: 184250602	EASTING: 1934669.52	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602646.54	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		4			
				11			
				11			
				12			
				9			
				20			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 31
PROJECT: 184250602	EASTING: 1934662.33	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602659.09	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Groundwater Not Encountered		2			
				9			
				16			
				13			
0.5	-0.5			9			
				12			
				10			
				8			
				12			
1.0	-1.0			21			
				Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 31
PROJECT: 184250602	EASTING: 1934671.20	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602665.38	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				6			
				10			
				10			
				11			
				10			
				8			
				10			
				15			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 32
PROJECT: 184250602	EASTING: 1934678.31	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602670.63	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		1			
				2			
				9			
				22			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 32
PROJECT: 184250602	EASTING: 1934684.64	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602658.12	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		1			
				5			
				13			
				19			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 32
PROJECT: 184250602	EASTING: 1934692.56	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602662.22	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		1			
				7			
				10			
				13			
				10			
				11			
				18			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 32
PROJECT: 184250602	EASTING: 1934685.37	STARTED: 15-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602674.77	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 15-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		1			
				9			
				16			
				19			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 37
PROJECT: 184250602	EASTING: 1934673.51	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602698.65	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		6			
				14			
				7			
				21			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 37
PROJECT: 184250602	EASTING: 1934671.88	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602680.92	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
		Water Not Encountered		1			
				5			
				10			
				17			
0.5	-0.5			Double bounce			
1.0	-1.0						
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 36
PROJECT: 184250602	EASTING: 1934657.71	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602671.53	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				10			
				13			
				11			
				12			
				11			
				15			
				18			
1.0	-1.0			Double bounce over 50 mm			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

CLIENT: Greenstone Land Developments Ltd	PROJECTION: NZTM	LOCATION: Lot 36
PROJECT: 184250602	EASTING: 1934658.49	STARTED: 17-01-2019
LOCATION: 139 Arataki Road	NORTHING: 5602689.29	FINISHED: 15-01-2019
OFFICE: RDCL - Hastings	DATUM:	LOGGED BY: MD/BR DATE: 17-01-2019
ENGINEER: TB	ELEVATION: -	CHECKED BY: SD DATE: 18-01-2019
	AZUMITH: 0° PLUNGE: 90°	STATUS: Final data

CONTRACTOR: RDCL	MACHINE:	OPERATOR:
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DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
					5 10 15 20		
0.5	-0.5	Groundwater Not Encountered		2			
				15			
				15			
				15			
				12			
				17			
1.0	-1.0			Double bounce			
1.5	-1.5						
2.0	-2.0						
2.5	-2.5						
3.0	-3.0						
3.5	-3.5						

REMARKS	SYMBOLS
	▼ Standing Water Level
	◁ Out flow
	▷ In flow

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled.* No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be, and, in general, if you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying it.* A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may

perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old*.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration*. Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists*.



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