# REPORT ON: GREENSTONE – STAGES 3-5, LYNDHUST ROAD (LOTS 1 – 44)

# PROJECT: GEOTECHNICAL ASSESSMENT

CLIENT: GREENSTONE LAND DEVELOPMENTS LTD.

GREENSTONE LAND DEVELOPMENTS LTD.
P O Box 1200
HASTINGS 4122



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#### 1 OVERVIEW

Greenstone Land Developments Ltd. (Greenstone) engaged Resource Development Consultants Ltd (RDCL) to undertake a geotechnical assessment for Stage 3-5 of the Greenstone Subdivision on Lyndhurst Road in Hastings (Legal Description: LOTS 5 45 DP 511209); including:

- Liquefaction assessment for the subdivision; and
- Site specific shallow testing for each of forty-four (44) proposed lots.

#### 1.1 UNDERSTANDING OF THE PROJECT

We understand the intent is to subdivide forty-four (44) residential lots from previously undeveloped land. The site has been in pasture since at least the 1960's, based on historical aerial imagery.

RDCL has previously completed site specific shallow investigations for Stage 2 of the Greenstone development, comprising four residential lots in a neighbouring section on Arbuckle Road.

The site is located in a zone of "high liquefaction vulnerability", as mapped by Hawke's Bay Emergency Management Group (2017); requiring assessment of liquefaction potential and likely ground settlements under seismic conditions.

#### 1.2 SCOPE OF WORK

Work was undertaken in general accordance with RDCL proposal P17\_070/2, dated 9 October 2017, with additional scope for CPT testing and liquefaction assessment for the full development.

#### 1.2.1 STANDARDS

Geotechnical investigations have been completed in accordance with:

- Hastings District Council Guidelines for Subdivision and Land Development (Decemer, 2017 in prep)
- NZS3604:2011 Timber-Framed Buildings, Section 3.



#### 2 SITE DESCRIPTION

Stage 3-5 of the development covers an area of approximately 34,000 m<sup>2</sup>, with forty-four lots accessed by two new roads (Figure 1). The site is surrounded by and comprises generally flat land; with no noticeable change in elevation.

The surface veneer across the development has been altered during subdivision works as part of reshaping for the larger subdivision:

Minor silty fill and trace gravel is present in the upper 0.3-0.5 m adjacent to the road entering from Lyndhurst Road.

#### 2.1 REGIONAL GEOLOGY

Regional geology maps indicate the site is underlain by Holocene river deposits; comprising poorly consolidated alluvial gravel, sand and mud (GNS Science, 2011).

#### 2.1.1 ACTIVE FAULTS

The site is located approximately 2.5 km southeast of the active trace of the Awanui Fault, as identified in the GNS Science Active Faults Database.



#### 3 SUBSOIL INVESTIGATION

Site specific testing completed for:

- Each of the forty-four (44) lots comprised:
- Engineering geological logging of materials recovered from one (1) hand auger; and
- Four (4) dynamic cone penetrometer (DCP) tests.

Subsurface investigations for the assessment of liquefaction potential across the full development including all of Stage 3-5 comprised:

• Eight (8) Cone Penetration Tests (CPT) to 15 m bgl or refusal.

Results of subsurface investigations for individual lots are are attached as Appendix A; with CPT Logs attached as Appendix B.

#### 3.1 Subsoil Conditions

The results of shallow investigations suggest the site, including Lots 1-44, is generally underlain in the near surface by:

- Silty TOPSOIL to between 0.1-0.5 m bgl; overlying
- Soft to firm SILT to at least 2.0 m bgl; with lenses of clay and sand;

The upper 0.3 - 0.5 m on Lots 1-8 consists of silty topsoil fill, with trace gravel likely placed during road construction.

The results of CPT investigations suggest the site is generally underlain by

- Medium dense silty SAND and sandy SILT with lenses of clay to approximately 10-12 m bgl; underlain by
- Soft to firm CLAY with lenses of sand and silt to at least 15 m bgl.

#### 3.2 SHALLOW BEARING

Correlation of DCP results suggests:

 200 kPa Ultimate Bearing Capacity is generally available at a depth stripped of topsoil and/or unsuitable materials;



#### 4 LIQUEFACTION ASSESSMENT

#### 4.1 SEISMIC SOIL CLASSIFICATION

The site is classified as site subsoil "Class D – Deep or Soft Soil Site" in accordance with NZS1170.5:2004, part 5: Earthquake Actions – New Zealand.

The sites subsoil class was determined based on conservative review of the Hawkes Bay well database.

- The Hawkes Bay well database indicates ground conditions are variable in the area, such that the site can be expected to be underlain by deep soils; specifically:
  - Well 10847 consists of sand and clay to 42 m bgl, overlying gravel to at least 44 m bgl;
  - Well 8474 consists of silt to 4.6 m bgl, with clay and sand to 38 m bgl, overlying gravel and sand to at least 44 m bgl; and
  - Well 671 consists of clay to 29 m bgl, with gravel to 32 m bgl, and clay to 44 m bgl overlying gravel to at least 47 m bgl.

#### 4.2 GROUNDWATER

Groundwater was not encountered during shallow investigations.

We consider an appropriate indicative groundwater level to be 2.0 m bgl, based on elevation of the site relative to water levels in open drains in the surrounding area.

#### 4.3 LIQUEFACTION ASSESSMENT

Liquefaction assessment was carried out on CPT results. The site is considered to have:

- Low risk of liquefaction during a SLS earthquake event, and
- Very high risk of liquefaction during an ULS event; with
  - Expected vertical settlements on the order of 100-150 mm.

Liquefaction potential and induced settlement results are summarised in Table 1; lateral displacements are not expected due to the generally flat relief across the site and surrounding area.

The output results of our liquefaction assessment are presented in Appendix C.



TABLE 1: LIQUEFACTION POTENTIAL AND INDUCED SETTLEMENT

SLS Event	Estimated Vertical Settlement (mm)				
170602050_CPT01	Low Risk	14			
170602050_CPT02	Low Risk	19			
170602050_CPT03	Low Risk	17			
170602050_CPT04	Low Risk	13			
170602050_CPT05	Low Risk	20			
170602050_CPT06	Low Risk	7			
170602050_CPT07	Low Risk	8			
170602050_CPT08	Low Risk	20			
ULS Event	Liquefaction Potential Index	Estimated Vertical Settlement (mm)			
ULS Event 170602050_CPT01	_				
	Index	Settlement (mm)			
170602050_CPT01	Index Very High Risk	Settlement (mm) 136			
170602050_CPT01 170602050_CPT02	Index Very High Risk Very High Risk	136 127			
170602050_CPT01 170602050_CPT02 170602050_CPT03	Index Very High Risk Very High Risk Very High Risk	Settlement (mm)  136  127  120			
170602050_CPT01 170602050_CPT02 170602050_CPT03 170602050_CPT04	Very High Risk	Settlement (mm)  136  127  120  131			
170602050_CPT01 170602050_CPT02 170602050_CPT03 170602050_CPT04 170602050_CPT05	Very High Risk	Settlement (mm)  136  127  120  131  112			

#### 4.3.1 Basis of Assessment

The liquefaction analyses for the site were assessed using CLiq, accepted industry software package (Geoligismiki, 2014), CPT data of current ground conditions, soil logs from Test Pit investigations and the following input parameters (NZS1170.5 section 3.1.3, 2004):

- PGA = 0.11g (SLS) & 0.44g (ULS), with:
  - Magnitude (M) = 7.5 (SLS & ULS)
  - Z=0.39 (Hastings),
  - C=1.12 (Class D Soil), and
  - R=0.25 (SLS) & 1.3 (ULS).
- Ground water table 2.0 m bgl.

The design earthquake was chosen on the basis of probability of recurrence. The probability is based on historical earthquakes. A 7.5 magnitude earthquake for an importance level category 3 correlates with a 25 year return period (SLS) and 1000 year return period (ULS). A 50 year design life was assigned.



#### 5 GEOTECHNICAL CONSIDERATIONS

Recommendations and opinions contained in this report are based on data from site investigations as outlined in Section 3. Inferences about the nature and continuity of subsurface geology and ground conditions are made but cannot be guaranteed.

#### 5.1 SITE SPECIFIC ENGINEERING REQUIRED ON ALL LOTS

Based on the results of these investigations, we consider:

- All sites are suitable for residential development subject to specific design of foundations to account for:
  - Bearing capacity  $\leq 200$ kPa.

#### 5.2 FOUNDATION RECOMMENDATIONS

We consider:

- Rib-raft type foundations designed for:
  - Specific bearing capacity tested in each lot; and considering potential for
  - Liquefaction induced deformation.

The footprint of each foundation should be stripped of organic, loose and deleterious materials prior to construction.

Indicative depths likely required to strip unsuitable materials for each lot are presented in Table 2.



TABLE 2. INDICATIVE DEPTH TO 200KPA ULTIMATE BEARING CAPACITY, LOTS 1 - 44

Lot Number	Available Ultimate Beaing Capacity	Indicative depth of strip	Lot Number	Available Ultimate Beaing Capacity	Indicative depth of strip
Lot 1	200 kPa	0.3 m	Lot 23	200 kPa	0.2 m
Lot 2	200 kPa	0.4 m	Lot 24	200 kPa	0.3 m
Lot 3	200 kPa	0.4 m	Lot 25	200 kPa	0.3 m
Lot 4	200 kPa	0.3 m	Lot 26	200 kPa	0.35 m
Lot 5	200 kPa	0.3 m	Lot 27	200 kPa	0.4 m
Lot 6	200 kPa	0.4 m	Lot 28	200 kPa	0.5 m
Lot 7	200 kPa	0.4 m	Lot 29	200 kPa	0.4 m
Lot 8	200 kPa	0.5 m	Lot 30	200 kPa	0.4 m
Lot 9	200 kPa	0.3 m	Lot 31	200 kPa	0.2 m
Lot 10	200 kPa	0.3 m	Lot 32	200 kPa	0.3 m
Lot 11	200 kPa	0.4 m	Lot 33	200 kPa	0.3 m
Lot 12	200 kPa	0.4 m	Lot 34	200 kPa	0.3 m
Lot 13	200 kPa	0.3 m	Lot 35	200 kPa	0.4 m
Lot 14	200 kPa	0.3 m	Lot 36	200 kPa	0.4 m
Lot 15	200 kPa	0.1 m	Lot 37	200 kPa	0.3 m
Lot 16	200 kPa	0.2 m	Lot 38	200 kPa	0.05 m
Lot 17	200 kPa	0.3 m	Lot 39	200 kPa	0.2 m
Lot 18	200 kPa	0.2 m	Lot 40	200 kPa	0.1 m
Lot 19	200 kPa	0.2 m	Lot 41	200 kPa	0.15 m
Lot 20	200 kPa	0.15 m	Lot 42	200 kPa	0.2 m
Lot 21	200 kPa	0.2 m	Lot 43	200 kPa	0.4 m
Lot 22	200 kPa	0.2 m	Lot 44	200 kPa	0.3 m

# 5.3 FURTHER GEOTECHNICAL INPUT

We recommend foundation excavations be inspected during construction:

- should subsurface materials be found to differ from those described in this report; and/or
- to ensure organic, loose and deleterious materials are properly removed from beneath foundations.



#### 6 REFERENCES

- GNS Science. (2004). Active Faults Database. *Institute of Geological and Nuclear Sciences*. GNS Science.
- GNS Science. (2011). 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.
- GNS Science. (2011). HAWKE'S BAY. *Institute of Geological and Nuclear Sciences, 1:250,000 Geological Map 8.* GNS Science.

Hastings District Council. (2014). Online GIS - IntraMaps.

Hawkes Bay Emergency Management Group. (2017). Online Mapping Site.

NZS1170.5. (2004, December 22). NZS1170.5:2004 - Structural Design Actions; Part 5: Earthquake actions - New Zealand. Standards New Zealand.

NZS3604. (2011). NZS3604:2011 - Timber-framed buildings. Standards New Zealand.

#### 7 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 use by the client, section owners, 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 for any
  person other than the client.



#### 8 CLOSURE

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.

Prepared by:

Reviewed by:

**EA Cairns** 

MSc

**Engineering Geologist** 

CA Wylie

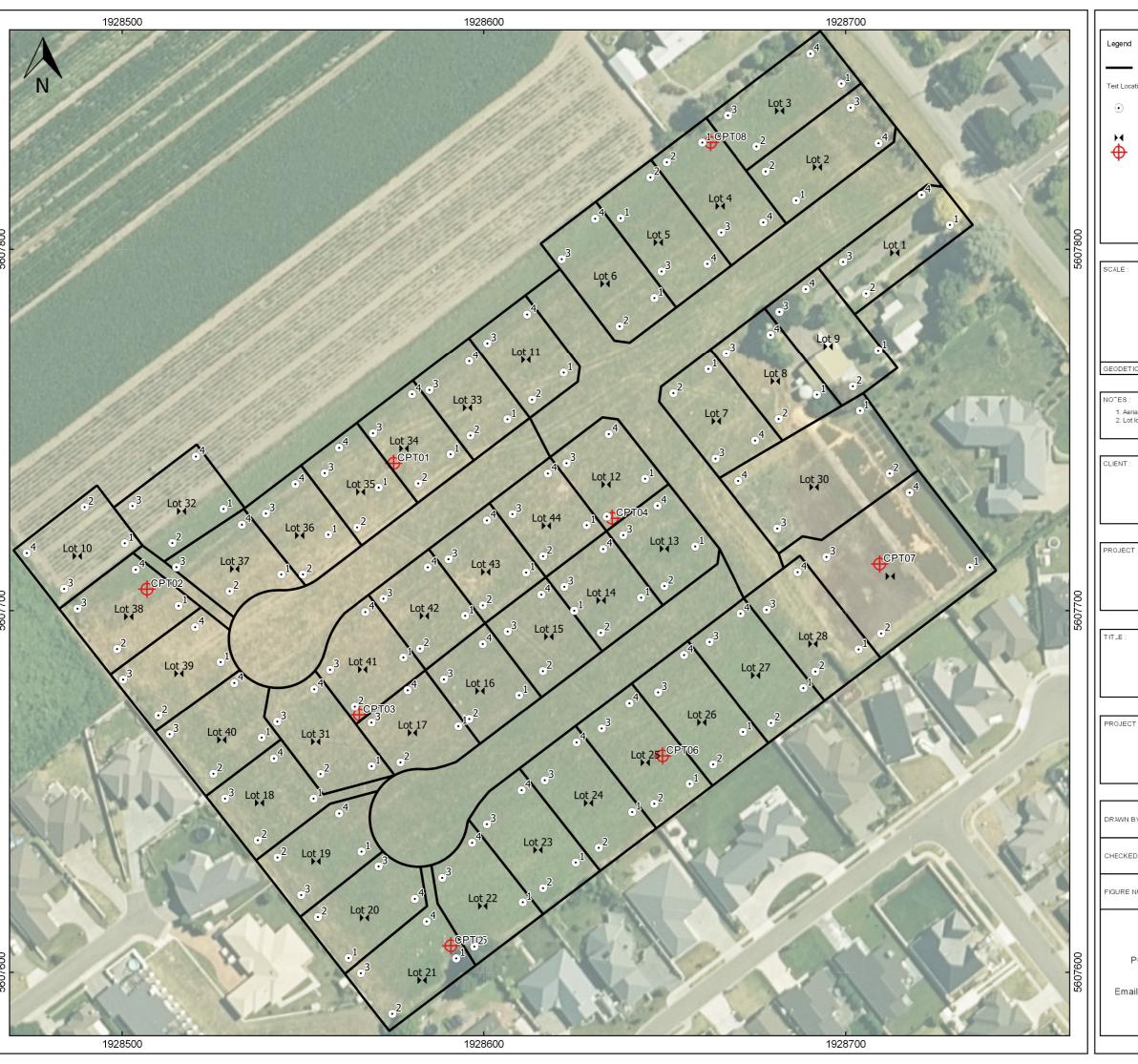
MSc; MIPENZ, CPEng

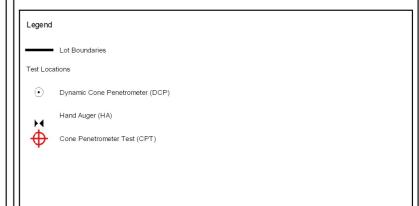
Principal

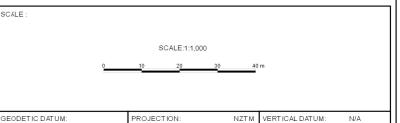


# FIGURE 1 - INVESTIGATION LAYOUT









- Aerial image source Land Information New Zealand
   Lot locations source Strata Group Consulting Engineers

**Greenstone Land Developments** 

Stages 3 - 5 - Lyndhurst Road

Lots 1 - 44 Lyndhurst Road

PROJECT NUMBER

170602050

DRAWN BY: OG	DATE: 08/12/2017	APPROVED BY: ECA	DATE: 08/12/2017
CHECKED BY: ECA	DATE: 08/12/2017	FILE NAME:	Greenstone Map.qgs
FIGURE NUMBER :	01	PLOTTED DRAWING SIZE :	A3 (420 x 297)

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# APPENDIX A - HAND AUGER & DCP LOGS





# HAND AUGER LOG

Lot 01 HA01

SHEET 1 OF 1

DATE: 13/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 13/11/2017 EASTING: 1928714.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607801.00 FINISHED: 13/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CONTRACTOR. OF ENATOR.										
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		× , × ,	SILT; medium brown. Stiff; low plasticity; moist; trace organic silt.		SF				
-0.5	-0.5		× × × × × × × × × × × × × × × × × × ×	SILT; light brown. Firm; low plasticity; moist.	M					
1.0	-1.0		* * <sub>*</sub> ,	EOH: 1.20 m		FM				
-1.5	- 1.5									
-2.0	-2.0									
-2.5	-2.5									
-3.0 -3.0	-3.0									
-3.5	-3.5									
-4.0 -	4.0									
-4.5 -	- 4.5									
	REMARKS									

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



OFFICE:

# **DCP LOG**

# **Lot 01 DCP01**

**SHEET 1 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928729.00

STARTED: 16/11/2017

NORTHING: 5607807.00 FINISHED: 16/11/2017

7

,

DATUM:

LOGGED BY: JB DATE: 16/11/2017

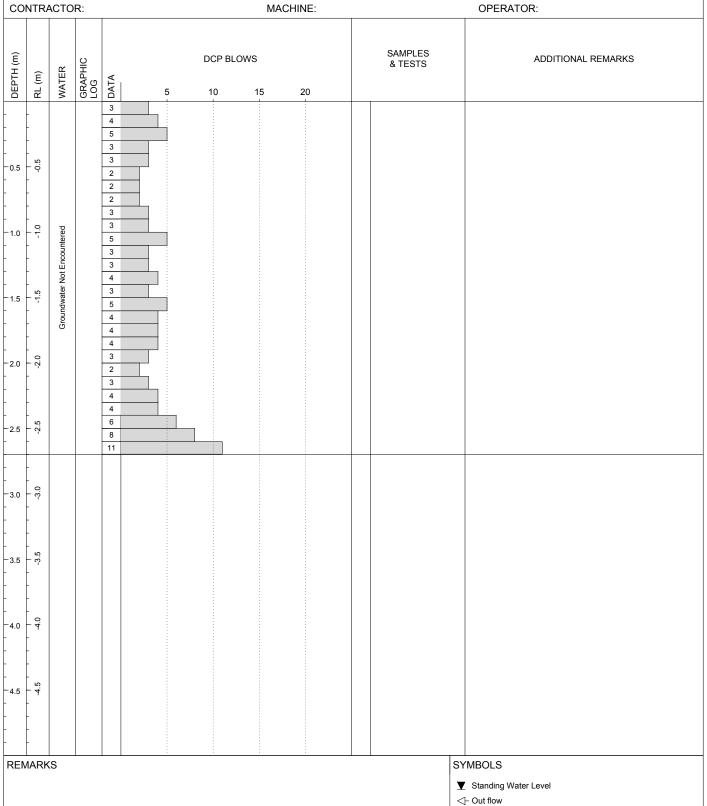
LOCATION: Lyndhurst Road, Frimley

ELEVATION:

CHECKED BY: JM

DATE: 20/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



Produced with Core-GS by Geroc

RDCL

├─ In flow



ENGINEER: CAW

# **DCP LOG**

**Lot 01 DCP02** 

**SHEET 2 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928706.00

STARTED: 16/11/2017

NORTHING: 5607788.00

PLUNGE: 90°

FINISHED: 16/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM:

AZUMITH: 0°

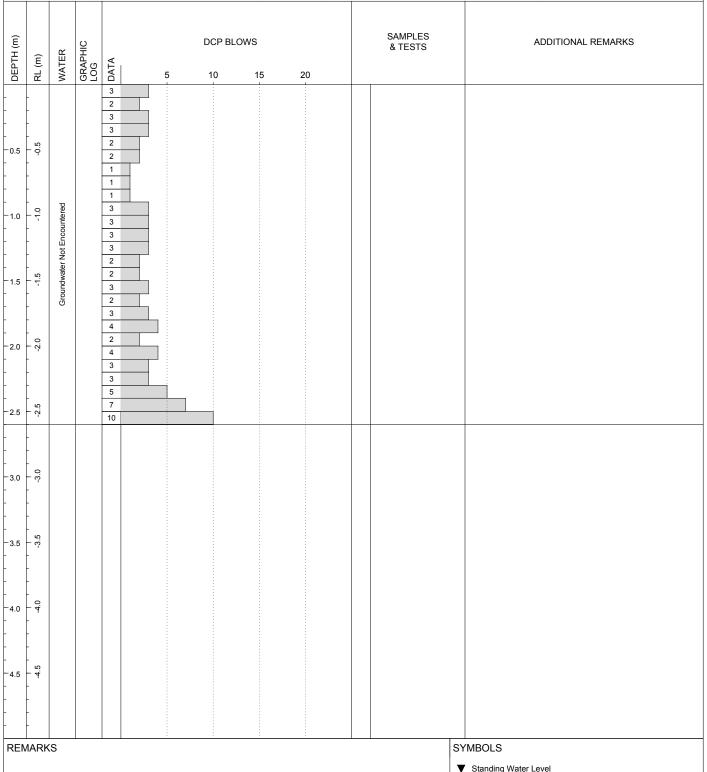
LOGGED BY: JB

DATE: 16/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

CHECKED BY: JM STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



Produced with Core-GS by Geroc

▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



ENGINEER: CAW

# **DCP LOG**

# **Lot 01 DCP03**

**SHEET 3 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928699.00

STARTED: 16/11/2017

LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607797.00

PLUNGE: 90°

FINISHED: 16/11/2017

DATUM:

AZUMITH: 0°

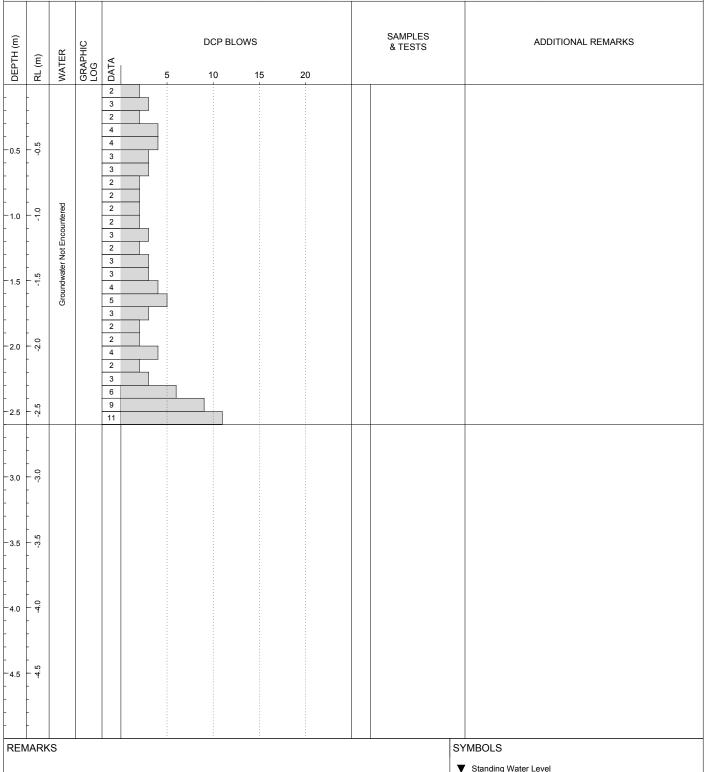
LOGGED BY: JB

DATE: 16/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

CHECKED BY: JM STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



Produced with Core-GS by Geroc

▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



# **Lot 01 DCP04**

**SHEET 4 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928721.00 NORTHING: 5607815.00

DATUM:

STARTED: 16/11/2017

LOGGED BY: JB

CHECKED BY: JM

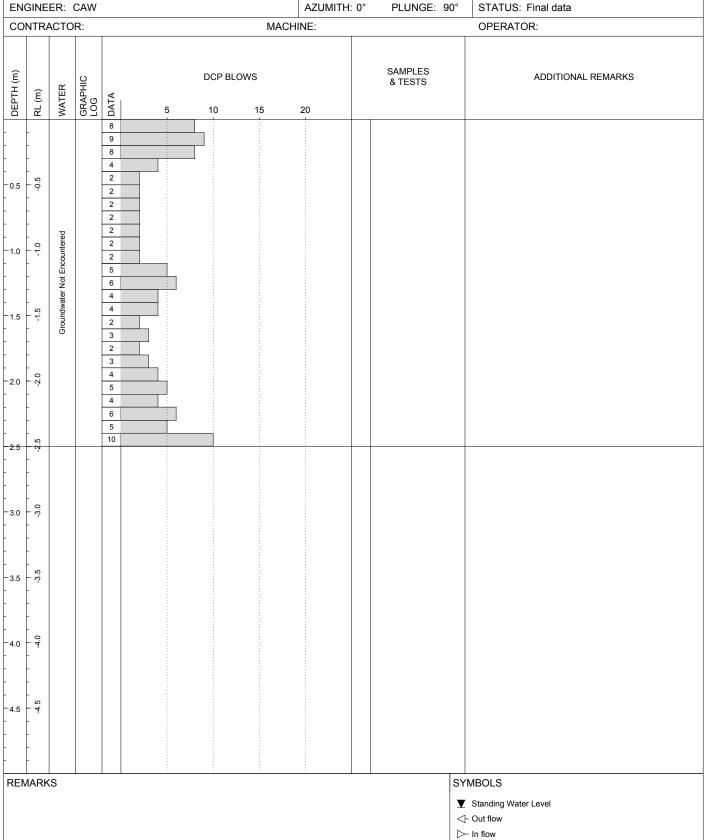
LOCATION: Lyndhurst Road, Frimley

FINISHED: 16/11/2017

DATE: 16/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data





# HAND AUGER LOG

Lot 02 HA01

SHEET 1 OF 43

DATE: 13/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607825.00

FINISHED: 13/11/2017

DATUM: NZTM

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

00	CONTRACTOR.										
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS	
-	-		× × ×	SILT, with trace rootlets; dark brown. Firm; non-plastic; moist.		FM					
- 0.5 - -	-0.5		× × ×	SILT; medium brown. Non-plastic; moist.							
- - -1.0 -	-1.0			SILT, with trace clay; medium brown with orange mottle. Soft; low plasticity; moist.	M						
- - - 1.5 -	-1.5			EOH: 1.80 m		S					
- 2.0 	-2.0			EGI. 1.00III							
- - 2.5 - -	-2.5										
- - -3.0 -	-3.0										
- - -3.5 -	-3.5										
- - -4.0 -	4.0										
- - 4.5 - -	- - 4 - 3:										
-	-								DEMARKO		
	REMARKS										

Too hard to pull auger

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 02 DCP01** 

**SHEET 5 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928686.00

NORTHING: 5607813.00

STARTED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 13/11/2017

LOGGED BY: JB

DATE: 13/11/2017

OFFICE: **RDCL**  **ELEVATION:** AZUMITH: 0°

DATUM:

CHECKED BY: JM PLUNGE: 90°

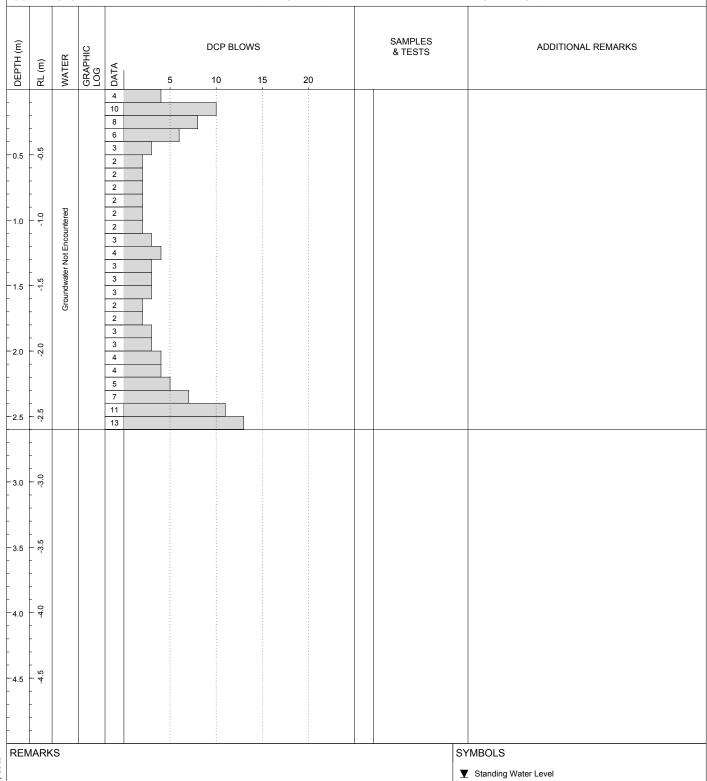
STATUS: Final data

DATE: 24/11/2017

ENGINEER: CAW CONTRACTOR:

MACHINE:

OPERATOR:



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RDCL

<- Out flow ├─ In flow



ENGINEER: CAW

# **DCP LOG**

DATUM:

# **Lot 02 DCP02**

**SHEET 6 OF 176** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

LOCATION: Lyndhurst Road, Frimley EASTING: 1928678.00

NORTHING: 5607821.00

STARTED: 13/11/2017

FINISHED: 13/11/2017 LOGGED BY: JB

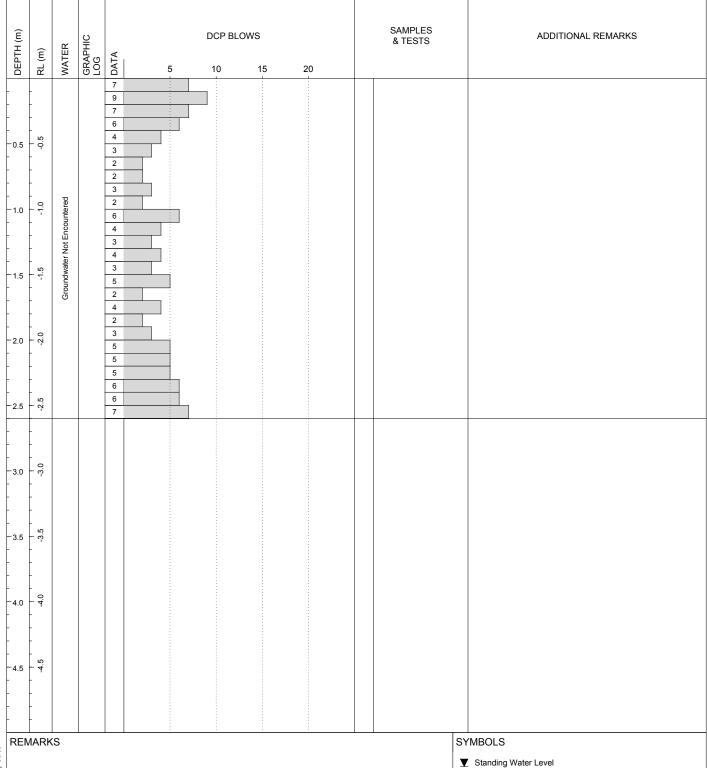
DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90°

CHECKED BY: JM STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



<- Out flow 

RDCL



**Lot 02 DCP03** 

**SHEET 7 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928701.00

DATUM:

NORTHING: 5607839.00

PLUNGE: 90°

LOCATION: Lyndhurst Road, Frimley STARTED: 13/11/2017

FINISHED: 13/11/2017

DATE: 13/11/2017

OFFICE: **RDCL** 

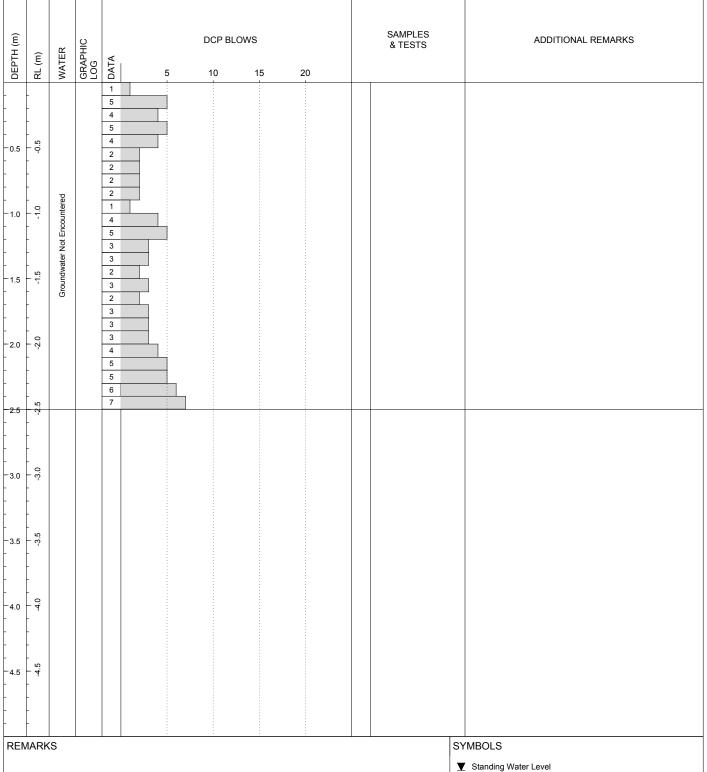
**ELEVATION:** ENGINEER: CAW AZUMITH: 0°

CHECKED BY: JM STATUS: Final data

LOGGED BY: JB

DATE: 24/11/2017

CONTRACTOR: OPERATOR: MACHINE:



Produced with Core-GS by Geroc

RDCL

<- Out flow ├─ In flow



# **Lot 02 DCP04**

**SHEET 8 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928709.00

DATUM:

NORTHING: 5607829.00

STARTED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

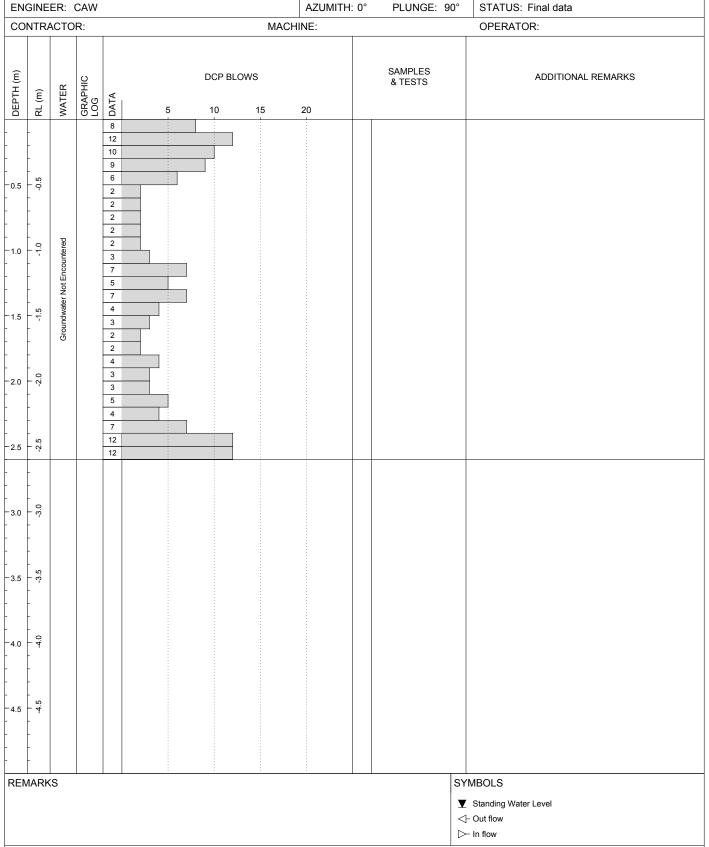
FINISHED: 13/11/2017 LOGGED BY: JB

CHECKED BY: JM

DATE: 13/11/2017 DATE: 24/08/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data





# HAND AUGER LOG

Lot 03 HA01

SHEET 2 OF 43

DATE: 13/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 13/11/2017 EASTING: 1928682.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607840.00 FINISHED: 13/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	CONTRACTOR: OPERATOR:										
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		× × × ×	SILT; light brown. Firm; non-plastic; dry.	D						
-0.5 -	-0.5		× × × ×	SILT, with minor rootlets. Firm; non-plastic; moist; (Clean) with trace of organic silt.		- FM					
- - -1.0	-1.0		× × ×	SILT, with trace sand; med orangish brown. Soft; non-plastic; moist.	М						
- - - -1.5	-1.5		× × ,	EOH: 1.80m		S					
- -2.0	-2.0										
- - -2.5 -	-2.5										
- -3.0 -	-3.0										
- -3.5 -	-3.5										
- -4.0 -	4.0										
- - -4.5 -	4.5										
-	-										
	REMARKS										

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



# **Lot 03 DCP01**

**SHEET 9 OF 176** 

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928699.00

NORTHING: 5607846.00

STARTED: 13/11/2017

FINISHED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

DATE: 13/11/2017

OFFICE: RDCL

ELEVATION:

DATUM:

LOGGED BY: JB CHECKED BY: JM

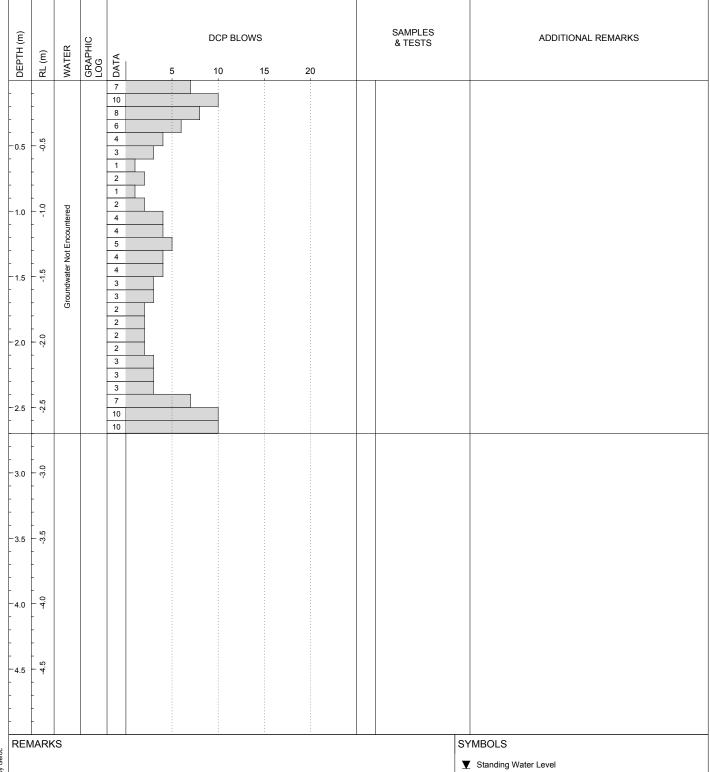
DATE: 24/11/2017

ENGINEER: CAW

AZUMITH: 0°

PLUNGE: 90° | STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



Produced with Core-GS by Geroc

← Out flow

├─ In flow

RDCL



ENGINEER: CAW

# **DCP LOG**

**Lot 03 DCP02** 

SHEET 10 OF 176

CLIENT: Greenstone Land Developments Ltd PRO

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM
EASTING: 1928675.00

DATUM:

NORTHING: 5607828.00

)

STARTED: 13/11/2017

FINISHED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

LOGGED BY: JB
CHECKED BY: JM

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 20 5 10 15 12 10 8 7 -0.5 0.5 4 4 3 2 2 -1.0 Groundwater Not Encountered 5 4 7 7 4 1.5 3 3 3 4 2 2.0 3 4 4 5 5 -2.5 -2.5 6 7 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow

Produced with Core-GS by Geroc

RDCL



ENGINEER: CAW

# **DCP LOG**

**Lot 03 DCP03** 

SHEET 11 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM 1928667.00 EASTING:

STARTED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607838.00

FINISHED: 13/11/2017

DATUM:

AZUMITH: 0°

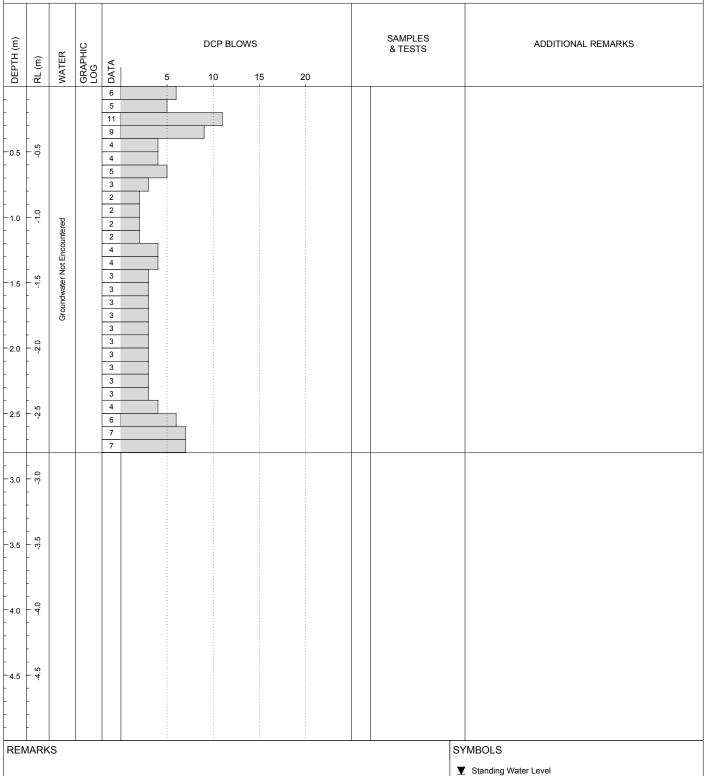
LOGGED BY: JB

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

CHECKED BY: JM PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



<- Out flow ├─ In flow

RDCL



# Lot 03 DCP04

SHEET 12 OF 176

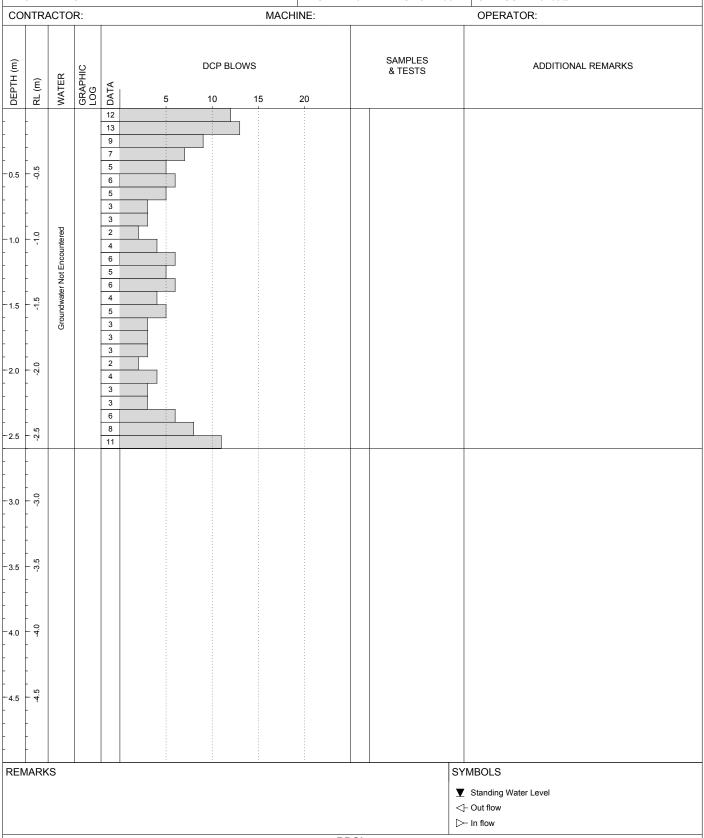
DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607851.00 FINISHED: 14/11/2017 DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





# HAND AUGER LOG

Lot 04 HA01

SHEET 3 OF 43

DATE: 13/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 13/11/2017 EASTING: 1928665.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607814.00 FINISHED: 13/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

00	CONTRACTOR. CI EIGHTOR.										
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS	
-	-		×, , ×,	SILT, with trace rootlets; medium brown. Firm; non-plastic; dry; (Clean).	D	FM					
-0.5	-0.5		XX	SILT; medium brown in dark brown pockets. Soft; non-plastic; moist; with trace organic silt.							
- - - -1.0	-1.0			Sandy SILT; medium brown with orange mottle. Soft; non-plastic; moist.	М	S					
- -1.5	- 1.5			EOH: 1.50m							
-2.0	-2.0										
- -2.5 -	-2.5										
-3.0	-3.0										
- - -3.5 -	-3.5										
- -4.0 -	- 4.0										
- - -4.5 -	4.5										
	-										
						REMARKS					

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 04 DCP01** 

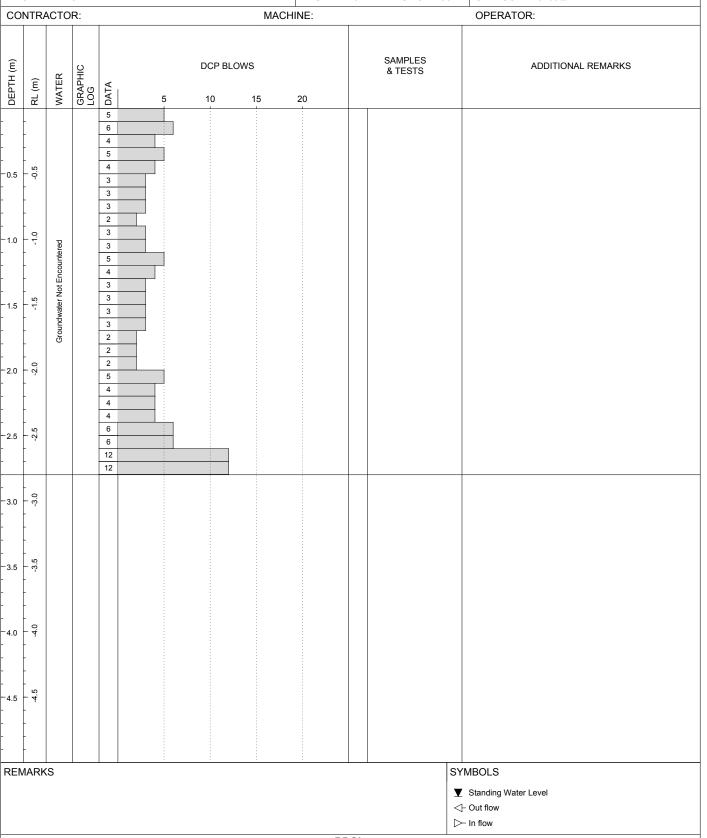
SHEET 13 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

44 Lyndnurst Rd, Hastings | NORTHING: 5607829.00 | FINISHED: 13/11/2017 |
| DATUM: | LOGGED BY: JB | DATE: 13/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



Produced with Core-GS by Geroc



**Lot 04 DCP02** 

SHEET 14 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928647.00

DATUM:

STARTED: 13/11/2017

NORTHING: 5607828.00

FINISHED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

LOGGED BY: JB

CHECKED BY: JM

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 12 13 8 6 5 -0.5 0.5 3 2 3 2 2 -1.0 1.0 4 Groundwater Not Encountered 4 7 4 4 1.5 3 4 3 3 3 2.0 3 3 5 3 4 -2.5 -2.5 3 5 8 10 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow 



Lot 04 DCP03

SHEET 15 OF 176

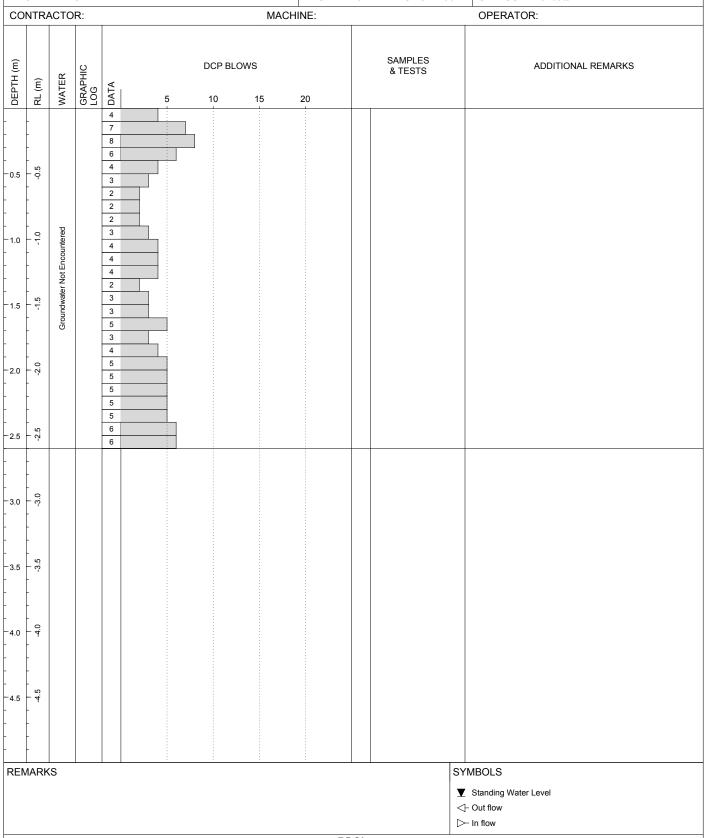
DATE: 13/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

yndhurst Rd, Hastings NORTHING: 5607805.00 FINISHED: 13/11/2017
DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





# Lot 04 DCP04

SHEET 16 OF 176

DATE: 13/11/2017

DATE: 24/11/2017

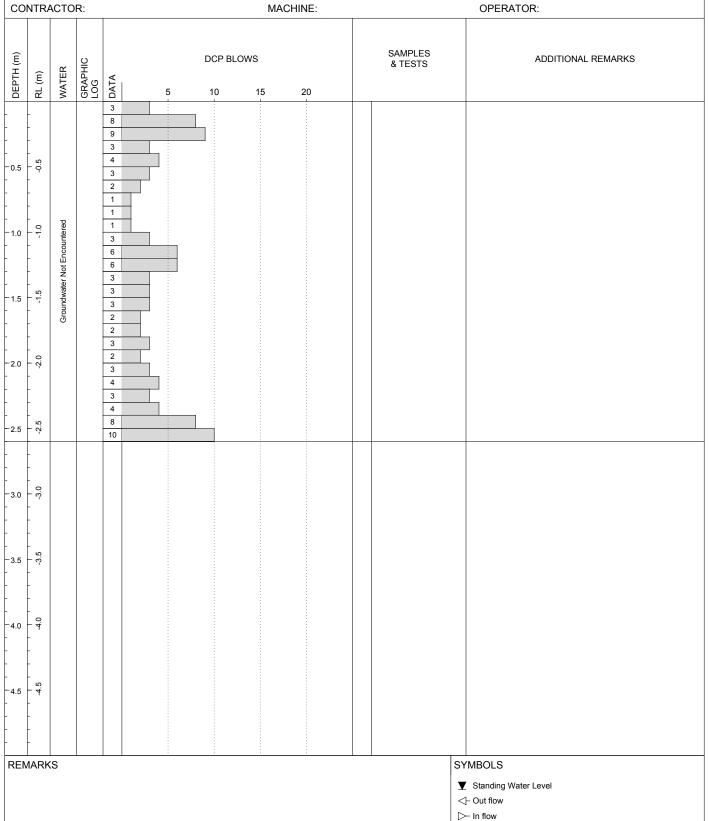
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607807.00 FINISHED: 13/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



Produced with Core-GS by Geroc



# HAND AUGER LOG

Lot 05 HA01

SHEET 4 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607804.00 FINISHED: 13/11/2017

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	ONTRACTOR: OPERATOR:										
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS	
-	_		×	SILT; medium brown. Firm; dry; (Clean).	D	FM					
-0.5	-0.5		* × ,	SILT, with trace rootlets and pockets of dark brown silt; medium yellowish brown. Soft; non-plastic; moist.							
-	-		× ,×	SILT; medium yellowish brown. Soft; moist; trace of sand with depth.							
1.0	-1.0			Sandy SILT, with trace rootlets; medium yellowish brown in trace orange mottle. Soft; non-plastic; moist.	М	s					
- -1.5 -	-1.5										
			× ,	SILT, with trace clay and sand; medium yellowish brown. Soft; moderate plasticity; moist.							
-2.0	-2.0			EOH: 1.90m	/						
- - -2.5	-2.5										
-3.0	-3.0										
- -3.5 -	-3.5										
4.0	4.0										
- -4.5 -	- 4.5										
-											
	REMARKS										

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



ENGINEER: CAW

# **DCP LOG**

# **Lot 05 DCP01**

SHEET 17 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

EASTING: 1928638.00

NORTHING: 5607809.00

STARTED: 13/11/2017 FINISHED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM:

LOGGED BY: JB

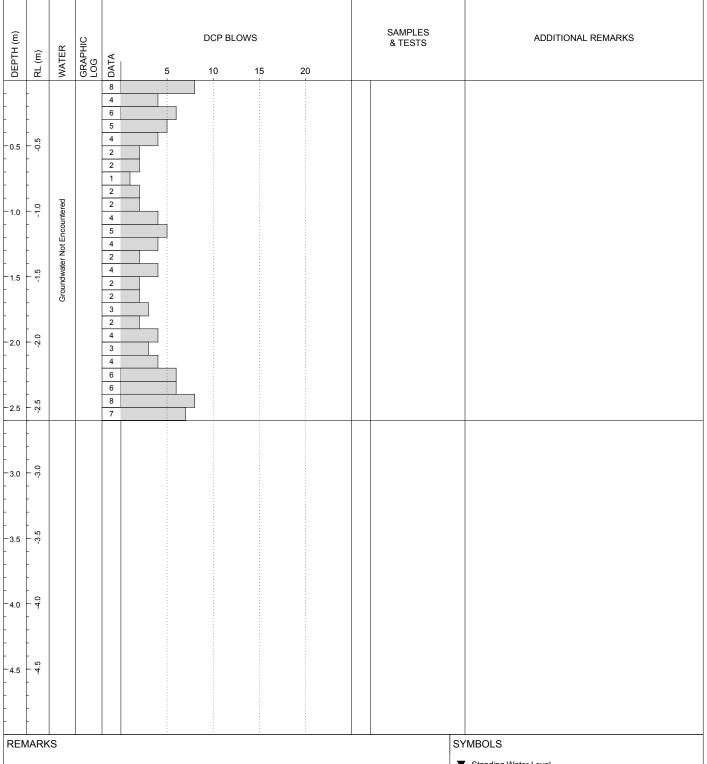
CHECKED BY: JM

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



▼ Standing Water Level

← Out flow

├─ In flow

RDCL



ENGINEER: CAW

#### **DCP LOG**

# **Lot 05 DCP02**

SHEET 18 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928646.00

STARTED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607820.00

FINISHED: 13/11/2017

DATUM:

AZUMITH: 0°

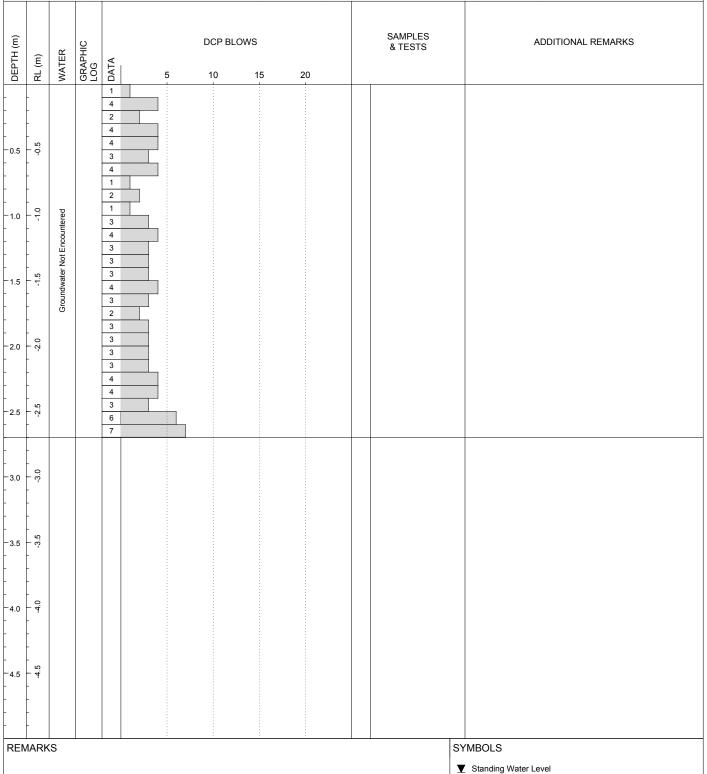
LOGGED BY: JB

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



Produced with Core-GS by Geroc

RDCL

← Out flow

├─ In flow



**RDCL** 

OFFICE:

#### **DCP LOG**

# **Lot 05 DCP03**

SHEET 19 OF 176

DATE: 13/11/2017

DATE: 24/11/2017

LOCATION: Lyndhurst Road, Frimley

STARTED: 13/11/2017

LOGGED BY: JB

CHECKED BY: JM

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

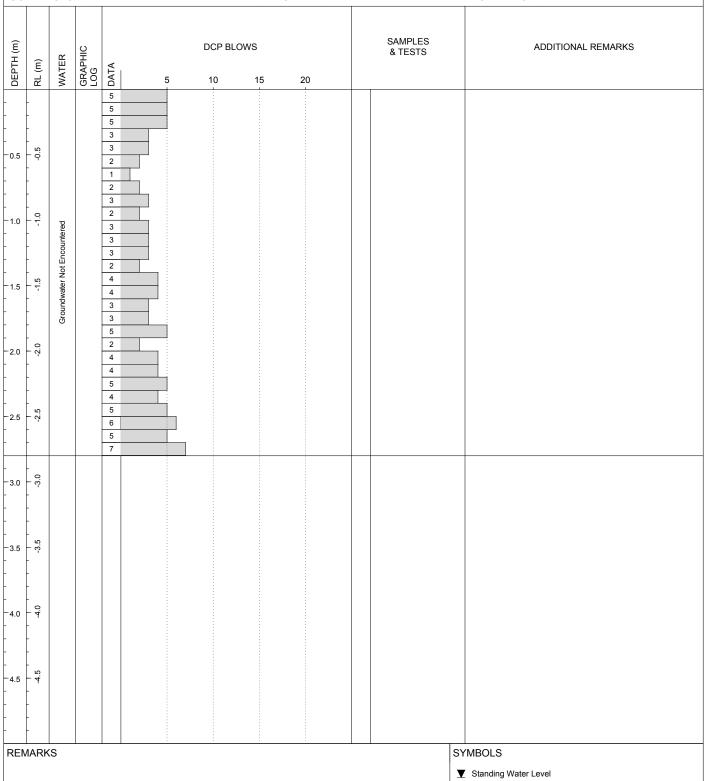
LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607794.00 FINISHED: 13/11/2017

DATUM:

ELEVATION:

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



← Out flow

├─ In flow

RDCL



ENGINEER: CAW

#### **DCP LOG**

# Lot 05 DCP04

SHEET 20 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928662.00

DATUM:

NORTHING: 5607796.00

STARTED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

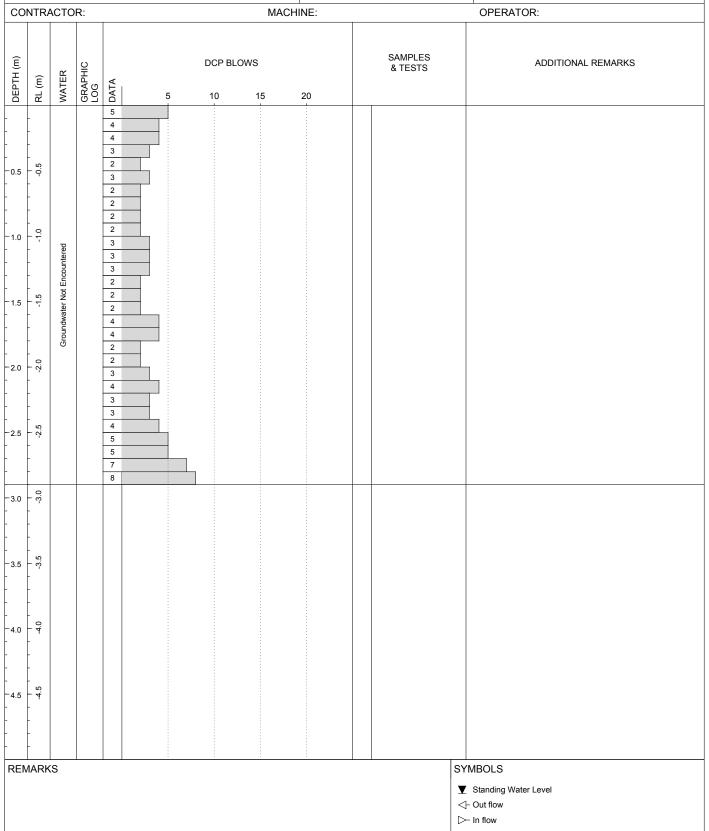
FINISHED: 13/11/2017 LOGGED BY: JB

CHECKED BY: JM

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data





#### HAND AUGER LOG

Lot 06 HA01

SHEET 5 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607767.00
 FINISHED: 13/11/2017

 DATUM: NZTM
 LOGGED BY: SLK
 DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	INIIX	TRACTOR.											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		× × ×	SILT; medium brown. Firm; non-plastic; dry; (clean).	D	FM							
-0.5	- 0.5		× × × ×	SILT, with trace rootlets; medium yellowish brown with dark brown pockets. Soft; non-plastic; moist.									
1.0	-1.0		× × ×		М	s							
- - -1.5	-1.5		× × × × × × × × × × × × × × × × × × ×	Sandy SILT; medium yellowish brown with trace of orange mottle. Soft; non-plastic; moist.									
-2.0	-2.0		.er . [ <sub>22</sub> ] er	EOH: 1.90m									
-2.5	-2.5												
- - -3.0 -	-3.0												
-3.5	-3.5												
-4.0	- 4 - 0:												
-4.5 -	4.5												
-	-												
	REMARKS												

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



# **Lot 06 DCP01**

SHEET 21 OF 176

DATE: 14/11/2017

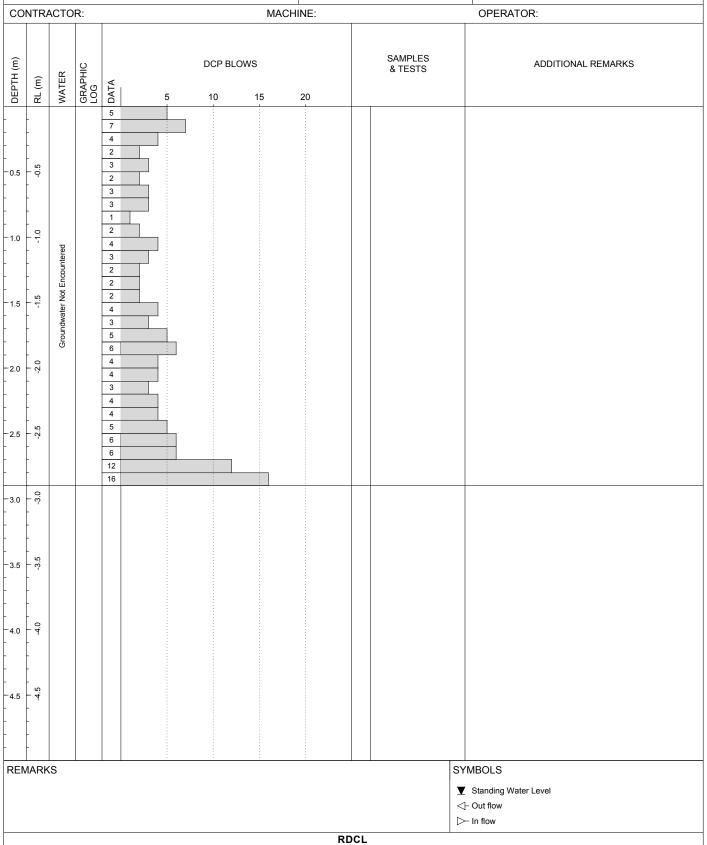
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: 1928647.00 STARTED: 14/11/2017

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607787.00 FINISHED: 14/11/2017 DATUM: LOGGED BY: CI

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





**Lot 06 DCP02** 

SHEET 22 OF 176

DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607779.00 FINISHED: 14/11/2017

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

		ER:						AZUMI	IH. U	PLUNGE: 9	90'	STATUS: Final data
COI	NIRA	ACTO	R:	1			MA	ACHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BI	LOWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
	-			6								
-0.5	-0.5			3 3 3 2 2								
1.0	- 1.0	pə.		1 2 2 2								
1.5	-1.5	Groundwater Not Encountered		3 2 2 2 2								
2.0	-2.0	Groundw		2 1 2 3 3								
2.5	-2.5			3 3 4 4 4 4								
3.0	-3.0			5 6 12								
3.5	-3.5											
4.0	- 4.0											
4.5	4.5											
REM	- - IARK	(S										IBOLS
									RDCI		40	Standing Water Level Out flow In flow

Produced with Core-GS by Geroc



Lot 06 DCP03

SHEET 23 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM
EASTING: 1928622.0

1928622.00 STARTED: 14/11/2017

NORTHING: 5607797.00

FINISHED: 14/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM:

LOGGED BY: CI

DATE: 14/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

PLUNGE: 90° STATUS: Final data

ENGINEER: CAW AZUMITH: 0° CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 5 5 3 -0.5 0.5 2 2 2 1 2 -1.0 Groundwater Not Encountered 2 2 3 4 3 1.5 3 5 3 6 5 2.0 5 4 5 7 -2.5 -2.5 8 8 10 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow

Produced with Core-GS by Geroc

RDCL

├─ In flow



Lot 06 DCP04

SHEET 24 OF 176

DATE: 14/11/2017

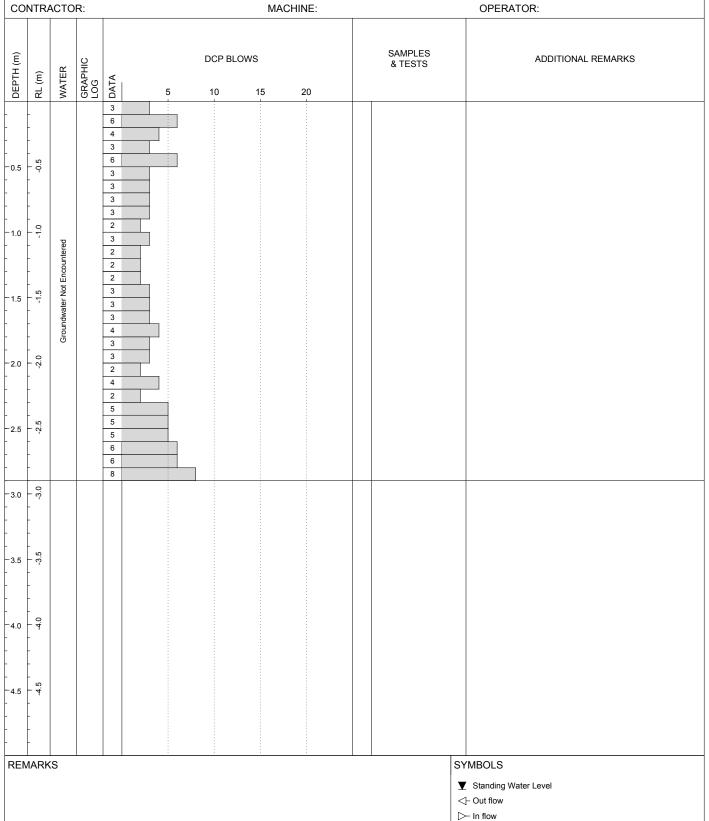
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607808.00 FINISHED: 14/11/2017

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





#### HAND AUGER LOG

Lot 07 HA01

SHEET 6 OF 43

DATE: 13/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607755.00 FINISHED: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

DATUM: NZTM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

11110	VITACION.											
RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS		
-		× × × ×	SILT, with trace gravel; orange mottle. Soft to firm; non- plastic; dry; gravel, round; trace organic silt and gravel to 5mm, trace green clay.	D	S - FM							
- 0.5		* × × × × × × × × × × × × × × × × × × ×	SILT; medium yellowish brown with trace of pockets of dark brown silt. Soft; non-plastic; moist.									
-1.0		× × × × ×	SILT, with trace sand; medium yellowish brown. Soft; moist.	М	s							
- 1.5		× × ×										
		× ′	EOH: 1.90m									
-												
-5.												
-3.0												
-3.5												
4.0												
- - 4.												
-												
			1					RE	MARKS			
	4.0 -3.5 -3.0 -2.5 -2.0 -1.5 -1.0 -0.5 RL (m)	4,0 -3.5 -3.0 -2.5 -2.0 -1.5 -1.0 -0.5 RL (m)	4.0 -3.5 -3.0 -2.5 -2.0 -1.5 -1.0 -0.5 RL (m)  WATER  *** *** *** *** *** *** *** *** *** *	ROCK / SOIL DESCRIPTION  ROCK / SOIL DESCRIPTION  SILT, with trace gravel; orange mottle. Soft to firm; non-plastic; dry; gravel, round; trace organic silt and gravel to 5mm, trace green clay.  SILT; medium yellowish brown with trace of pockets of dark brown silt. Soft; non-plastic; moist.  SILT, with trace sand; medium yellowish brown. Soft; moist.  SILT, with trace sand; medium yellowish brown. Soft; moist.	ROCK / SOIL DESCRIPTION  D  SILT, with trace gravel; orange mottle. Soft to firm; non-plastic; dry; gravel, round; trace organic silt and gravel to 5mm, trace green clay.  SILT; medium yellowish brown with trace of pockets of dark brown silt. Soft; non-plastic; moist.  SILT, with trace sand; medium yellowish brown. Soft; moist.  M  EOH: 1.90m  OF  OF  OF  OF  OF  OF  OF  OF  OF  O	ROCK / SOIL DESCRIPTION  ROCK / SOIL DESCRIPTI	ROCK / SOIL DESCRIPTION    A	ROCK / SOIL DESCRIPTION  ROCK / SOIL DESCRIPTI	ROCK / SOIL DESCRIPTION    NOT   NOTE   NOTE	ROCK / SOIL DESCRIPTION  ROCK / SOIL DESCRIPTI		

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**RDCL** 

OFFICE:

#### **DCP LOG**

1928652.00

# **Lot 07 DCP01**

SHEET 25 OF 176

DATE: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

STARTED: 13/11/2017

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5 EASTING:

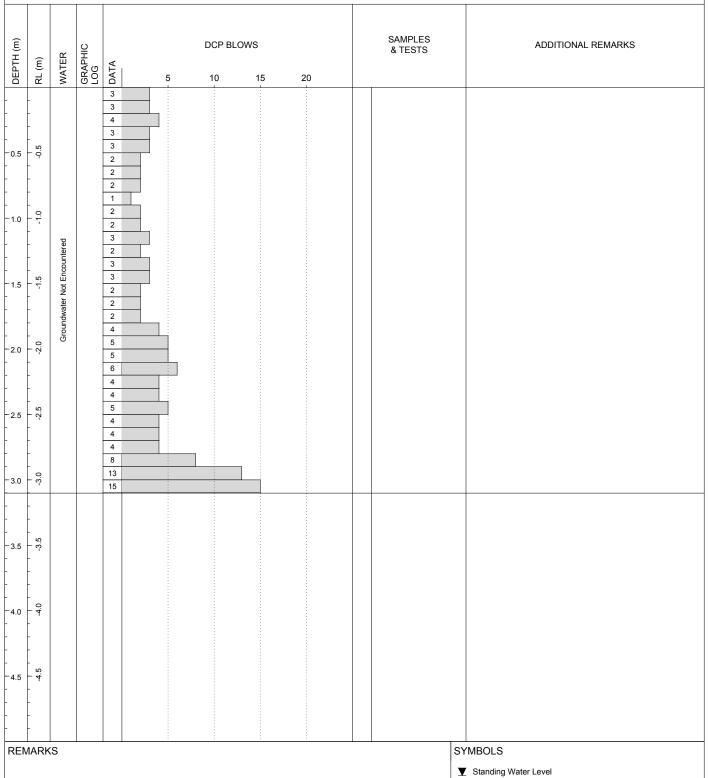
LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607760.00 FINISHED: 13/11/2017

DATUM:

ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



← Out flow

├─ In flow

RDCL



**Lot 07 DCP02** 

SHEET 26 OF 176

DATE: 13/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607742.00

PINISHED: 13/11/2017

DATUM:

LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

COI	NTRA	ACTO	R:				MA	CHINE:			OPERATOR:
DEPTH (m)	m)	WATER	GRAPHIC LOG	4		DCP BL	ows		SAMPLES & TESTS		ADDITIONAL REMARKS
DEF	RL (m)	WA.	GR/ LOG	DATA	5	10	15	20	I		
-0.5	-0.5			4 4 4 6 4 5 3 2							
-1.0	-1.0	! Encountered		2 2 3 4 4	]						
- -1.5	-1.5	Groundwater Not Encountered		3 4 5 4 2							
-2.0	-2.0			3 3 4 4 5							
- 2.5 -	-2.5			6 6 7 7							
-3.0	-3.0										
-3.5	-3.5										
-4.0 -	4.0										
-4.5	4.5										
REM	MARK	(S						<u>:</u>		<	/MBOLS // Standing Water Level



**Lot 07 DCP03** 

SHEET 27 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

LOCATION: Lyndhurst Road, Frimley EASTING: 1928675.00 STARTED: 13/11/2017

NORTHING: 5607747.00 FINISHED: 13/11/2017

DATUM:

LOGGED BY: JB

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 6 5 3 5 -0.5 0.5 2 2 2 2 2 -1.0 Groundwater Not Encountered 5 3 4 3 3 1.5 4 3 2 2 3 2.0 5 5 3 5 6 -2.5 -2.5 6 6 8 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** 

Produced with Core-GS by Geroc

<- Out flow

├─ In flow

▼ Standing Water Level

RDCL



# **Lot 07 DCP04**

SHEET 28 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928675.00

DATUM:

NORTHING: 5607747.00

STARTED: 13/11/2017

LOGGED BY: JB

CHECKED BY: JM

FINISHED: 13/11/2017

LOCATION: Lyndhurst Road, Frimley

DATE: 13/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGINEER: CAW CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 5 4 3 -0.5 0.5 1 1 1 -1.0 1.0 5 Groundwater Not Encountered 4 2 4 3 1.5 3 2 5 4 2 2.0 5 4 4 4 4 -2.5 -2.5 6 5 13 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow ├─ In flow



#### HAND AUGER LOG

Lot 08 HA01

SHEET 7 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NTRA	ACTO	R:	OPERATOR									
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS			
-	-0.5		× × ×	SILT, with trace gravel; medium brown with orange mottle. Firm; non-plastic; dry; gravel, subround, up to 5mm.	D	FM							
-0.5 -	- φ -		X X X	SILT; medium brown. Soft; low plasticity; moist.									
- - -1.0	-1.0		× × × × × × × × × × × × × × × × × × ×		М	S							
-1.5	-1.5		×	EOH: 1.40m									
-2.0	-2.0												
- -2.5 -	-2.5												
-3.0	-3.0												
-3.5	-3.5												
- -4.0 -	4.0												
- - -4.5 -	4.5												
-	-												
									REMARKS				

SYMBOLS

too hard to pull auger

▼ Standing Water Level

← Out flow

├─ In flow



# **Lot 08 DCP01**

SHEET 29 OF 176

DATE: 14/11/2017

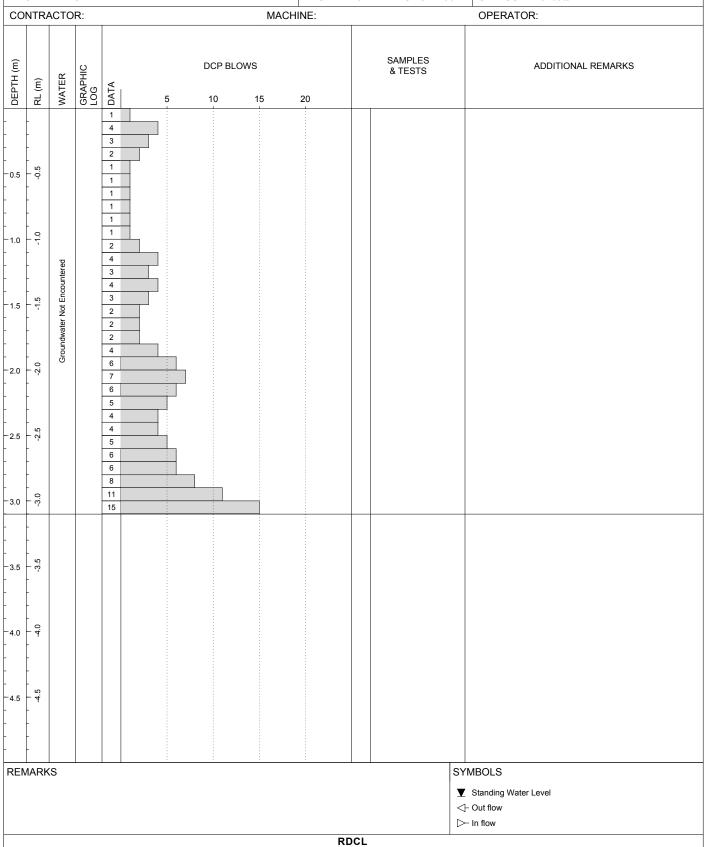
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: 1928692.00 STARTED: 14/11/2017 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607760.00

FINISHED: 14/11/2017 DATUM: LOGGED BY: CI

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





ENGINEER: CAW

#### **DCP LOG**

# **Lot 08 DCP02**

SHEET 30 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928682.00

FINISHED: 14/11/2017

STARTED: 14/11/2017

LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607753.00 DATUM:

AZUMITH: 0°

LOGGED BY: CI

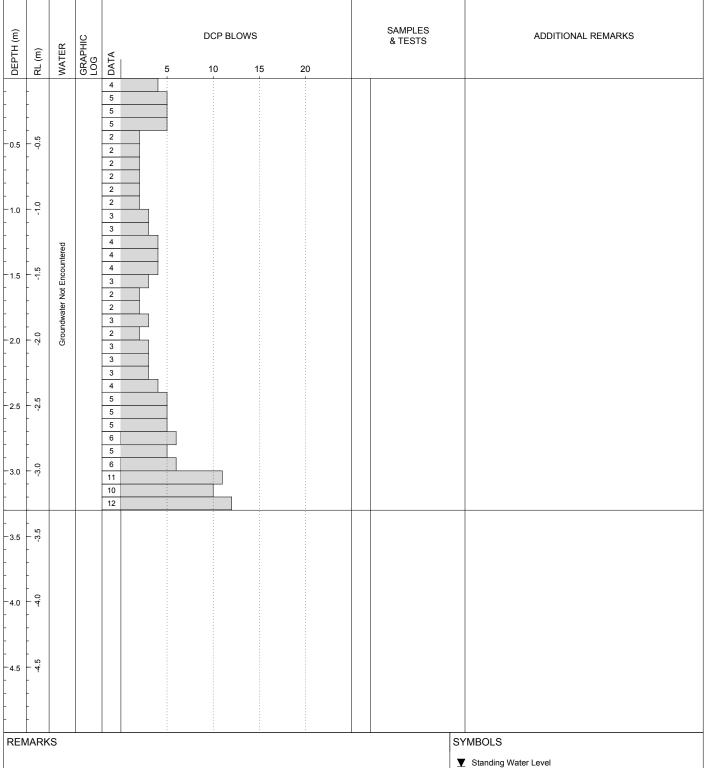
CHECKED BY: JM

DATE: 14/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

PLUNGE: 90° | STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



<⊢ Out flow ├─ In flow

RDCL



**Lot 08 DCP03** 

SHEET 31 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928667.00

DATUM:

NORTHING: 5607771.00

STARTED: 14/11/2017 FINISHED: 14/11/2017

LOCATION: Lyndhurst Road, Frimley

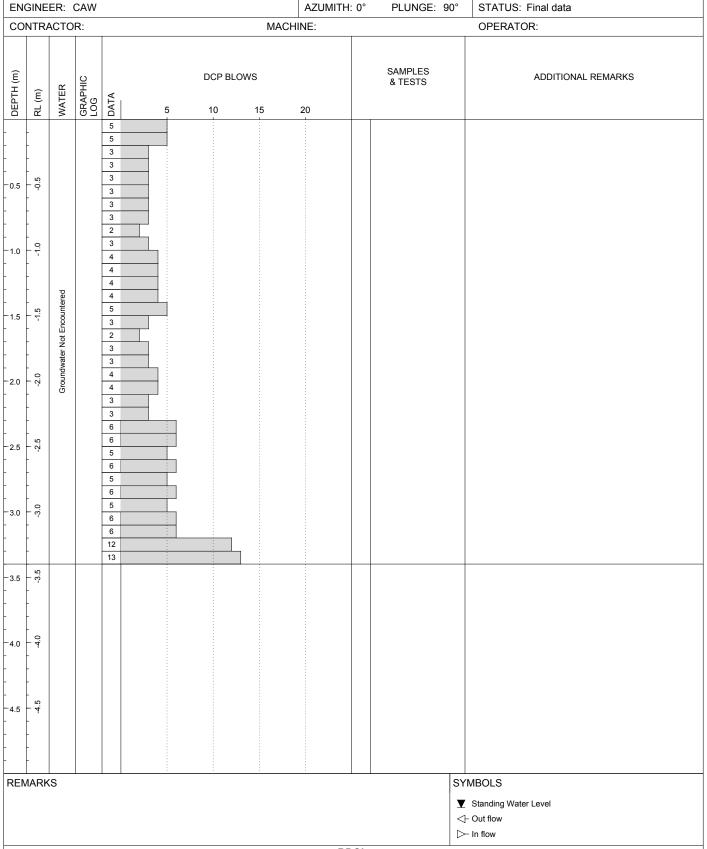
LOGGED BY: CI

CHECKED BY: JM

DATE: 14/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data





# Lot 08 DCP04

SHEET 32 OF 176

DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607776.00

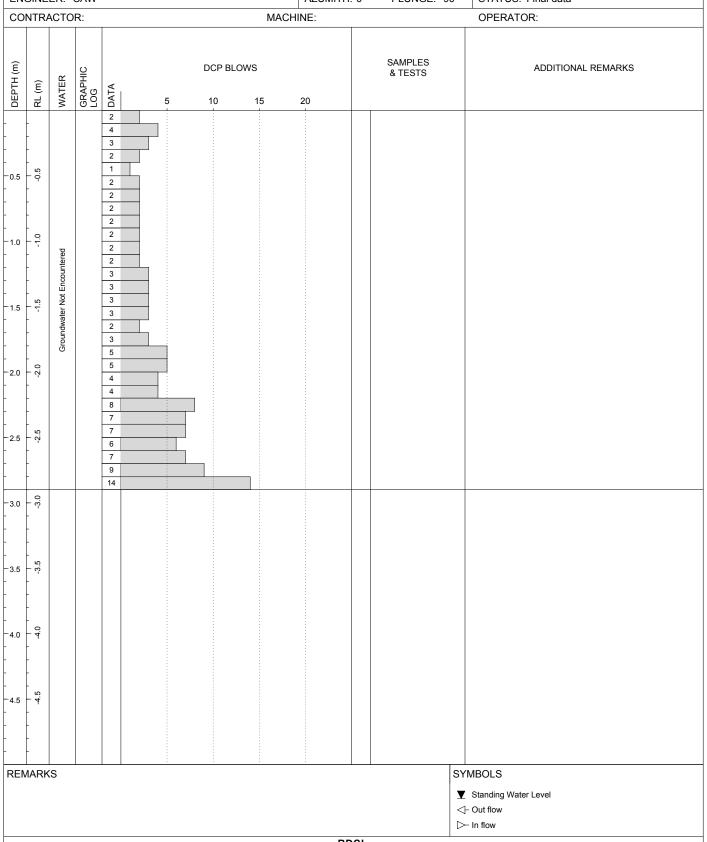
FINISHED: 14/11/2017

DATUM:

LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





#### HAND AUGER LOG

Lot 09 HA01

SHEET 8 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NIRA	ACTO	R:	OPERATOR						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-0.5	-1.0 -0.5		* X X X X X X X X X X X X X X X X X X X	TOPSOIL, with trace gravel; dark brown. Soft; moist; gravel, subround, to 5mm; organic silt, trace rootlets.  SILT; mediium brown with trace dark brown silt. Soft; moist.  SILT, with trace sand; medium yellowish brown. Soft; low plasticity; moist; sand, fine.	М	S				
-	-		××							
- -1.5	-1.5			_ <del>EOH: 1.30m</del>						
-2.0	-2.0									
-2.5	-2.5									
-3.0	-3.0									
- - -3.5	-3.5									
-4.0	4.0									
- - -4.5 -	4.5									
REN too h										

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



ENGINEER: CAW

#### **DCP LOG**

# **Lot 09 DCP01**

SHEET 33 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928709.00

DATUM:

NORTHING: 5607772.00

STARTED: 14/11/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 14/11/2017 LOGGED BY: JB

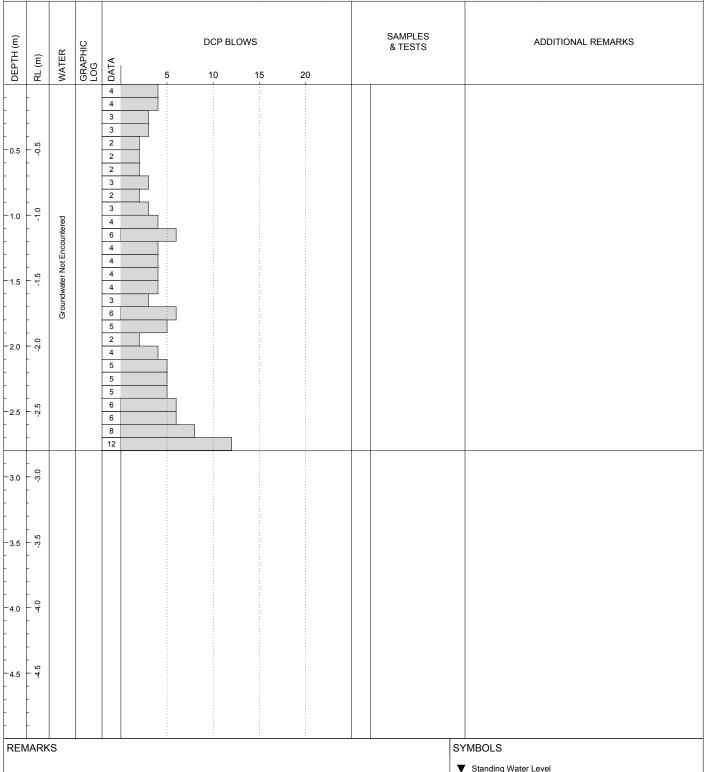
CHECKED BY: JM

DATE: 14/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 

RDCL



**Lot 09 DCP02** 

SHEET 34 OF 176

DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

OCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607762.00 FINISHED: 14/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:

001	1110							CITINE.		OI LIVATOR.	
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BLo	DWS 15	20	SAMPLES & TESTS	ADDITIONAL REMARKS	
-0.5				2 2 2 2 1 1							
1.0	-1.0	ncountered		1 2 1 2 2							
1.5	- 1.5	Groundwater Not Encountered		3 2 3 3 6 3							
2.0	-2.0			5 5 4 7							
2.5	-2.5			6 6 5 7							
3.0	-3.0										
3.5	- 3.5										
4.0	- - 4 - -										
4.5	4.5										
REM	IARK	(S								SYMBOLS  Y Standing Water Level	

<- Out flow ├─ In flow



# **Lot 09 DCP03**

SHEET 35 OF 176

DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 14/11/2017 1928682.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607783.00 FINISHED: 14/11/2017

DATUM: LOGGED BY: JB

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ΔΖΙΙΜΙΤΗ: 0° STATUS: Final data

ENG	GINE	ER:	CAW					AZUMIT	H: 0°	PLUNGE: 90°	STATUS: Final data
COI	NTRA	АСТО	R:				MA	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		5	DCP BLC	DWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
- - - - -0.5	-0.5			2 2 2 2 2 2 1 1							
- - - - -	-1.0	ntered		2 3 3 3 4							
- - -1.5	-1.5	Groundwater Not Encountered		4 3 1 2 2 2							
- -2.0 -	-2.0	Grour		2 2 2 3 3 3							
- -2.5 -	-2.5			2 2 3 3 3							
3.0	-3.0			8 13			1				
-3.5	-3.5										
-4.0	4.0										
-4.5	4.5										
REM	MARK	SS							DCL	<b>\</b>	YMBOLS  ✓ Standing Water Level  †- Out flow  >- In flow



# **Lot 09 DCP04**

SHEET 36 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM
EASTING: 1928689.00

NORTHING: 5607789.00

STARTED: 14/11/2017 FINISHED: 14/11/2017

LOCATION: Lyndhurst Road, Frimley

LOGGED BY: JB

DATE: 14/11/2017

DATUM: ELEVATION:

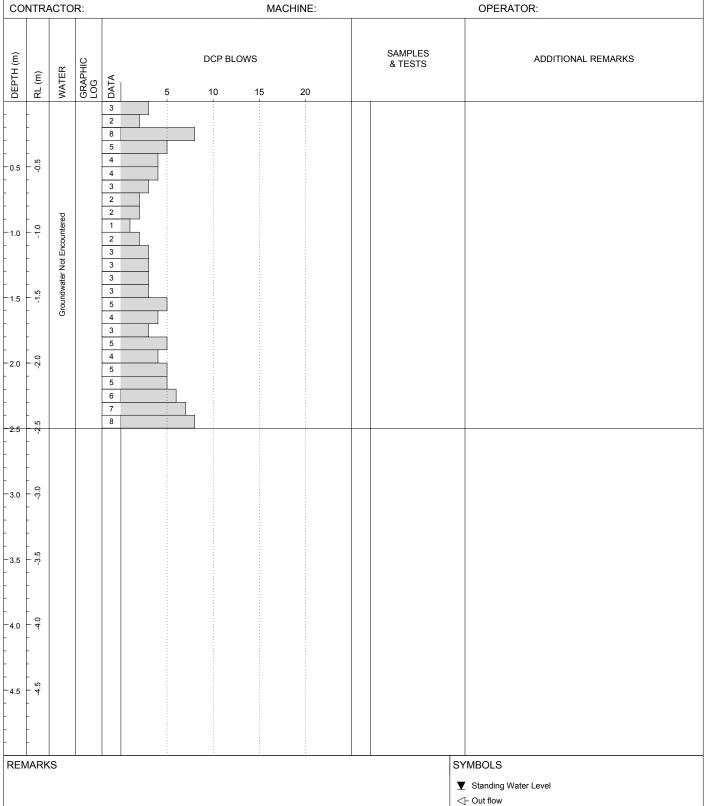
CHECKED BY: JM

DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

ENGINEER: CAW AZUMITH: 0° PL

AZUMITH: 0° PLUNGE: 90° STATUS: Final data
E: OPERATOR:



├─ In flow



#### HAND AUGER LOG

Lot 10 HA01

SHEET 9 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

				0. 2. 0. 1. 0.						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
	-		20 TS <u>∆0</u> TS	TOPSOIL; dark brown. Firm; moist; non plastic, trace roots.		FM				
- -0.5	0.5		× × ×	SILT; medium brown, trace orange mottle. Soft; non-plastic; moist.						
-	0		× ×		М	s				
-1.0 -	-1.0		/ x							
1.5	-1.5		×	EOH: 1.40m						
- - -2.0	-2.0									
-2.5	-2.5									
3.0	-3.0									
-3.5	-3.5									
- - -4.0	4.0									
- - -4.5 -	- 4 - 5:									
	-			_						
	REMARKS									

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



# **Lot 10 DCP01**

SHEET 37 OF 176

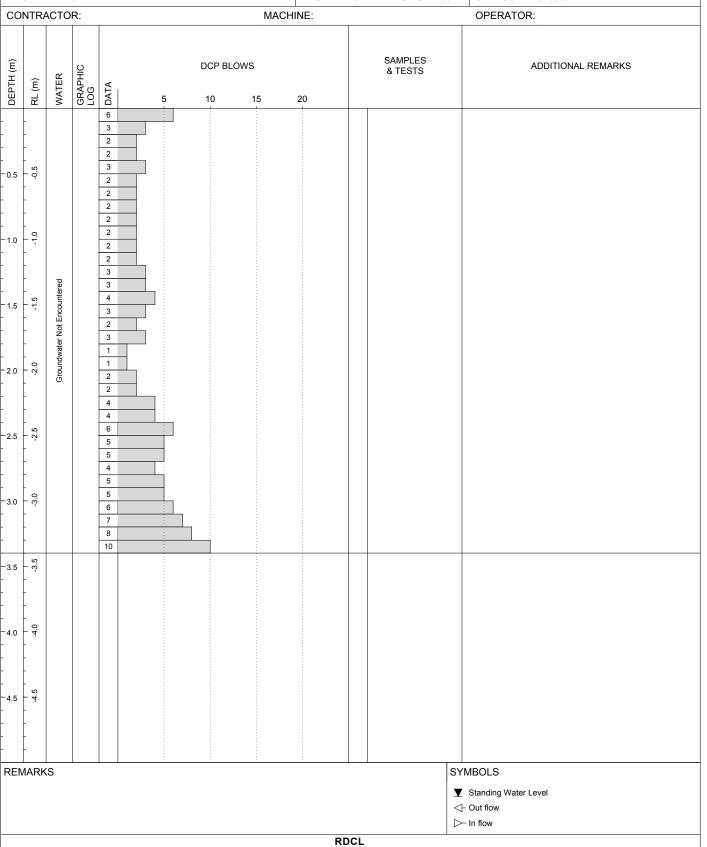
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 1928501.00 EASTING: STARTED: 14/11/2017 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607719.00 FINISHED: 14/11/2017

DATUM: LOGGED BY: JB DATE: 14/11/2017

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





**Lot 10 DCP02** 

SHEET 38 OF 176

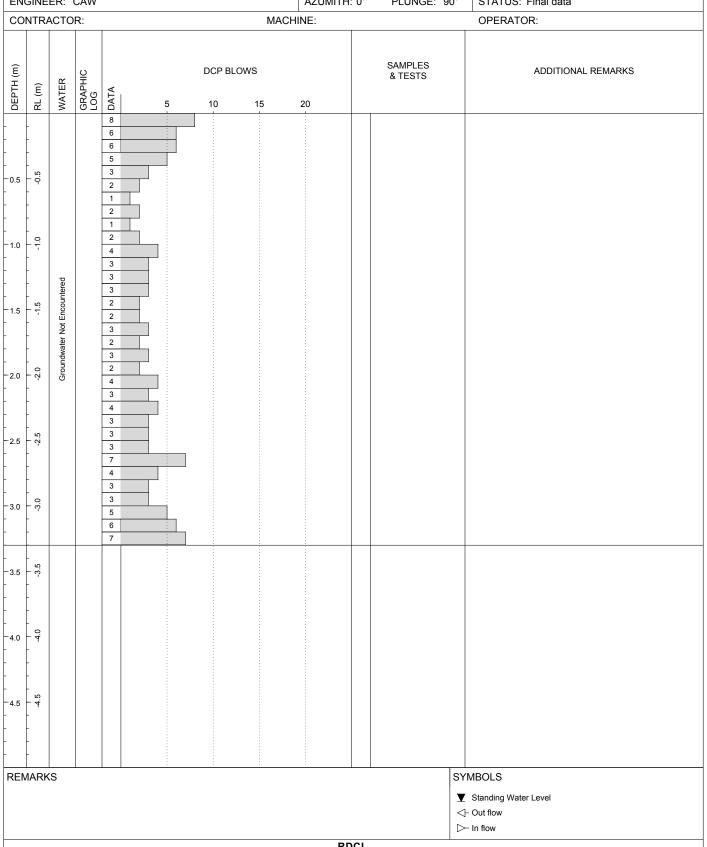
DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607729.00 FINISHED: 14/11/2017 LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





**Lot 10 DCP03** 

SHEET 39 OF 176

DATE: 14/11/2017

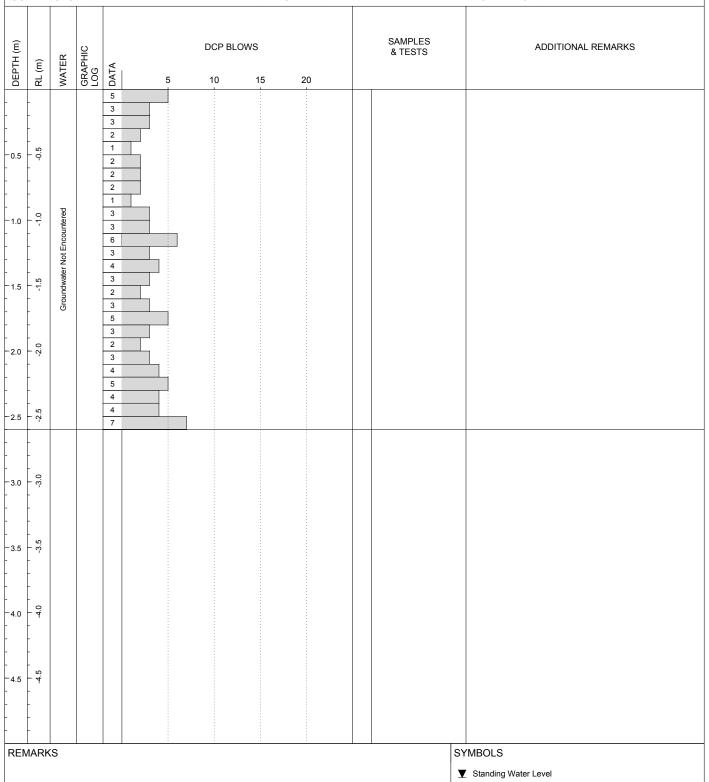
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607706.00 FINISHED: 14/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017
ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



← Out flow

├─ In flow

RDCL



# **Lot 10 DCP04**

SHEET 40 OF 176

DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607719.00 | FINISHED: 14/11/2017 | DATUM: | LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW					AZUMITH	: 0°	PLUNGE: 90	)°	STATUS: Final data
СО	NTRA	ACTO	R:				MAC	CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		5	DCP BLC	DWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
- - - - -0.5	-0.5			1 5 2 3 3 2 2 2								
- -1.0 -	-1.0	countered		1 2 3 4 3								
- - -1.5 -	- 1.5	Groundwater Not Encountered		4 4 4 3								
-2.0	-2.0	Ö		2 2 3 4 4								
- - -2.5 -	-2.5			4 5 4 4 6 6								
- -3.0 -	-3.0											
- - -3.5 -	-3.5											
- - -4.0	4.0											
- - -4.5 -	4.5											
REN	/ /ARK	(S									<b>▼</b>	MBOLS Standing Water Level Out flow
								RI	OCL		$\triangleright$	In flow

Produced with Core-GS by Geroc



**RDCL** 

OFFICE:

#### HAND AUGER LOG

Lot 11 HA01

SHEET 10 OF 43

DATE: 20/11/2017

CHECKED BY: JM

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 13/11/2017 EASTING: 198612.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607772.00 FINISHED: 13/11/2017

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

ELEVATION: 0

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

СО	NTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS ADDITIONAL REMARKS			
-	-		20 2 2 TS 24 34 4 34	TOPSOIL; dark brown. Firm; organic silt, trace rootlets, non plastic.		FM						
-0.5 -	-0.5		× × × ×	SILT; medium yellowish brown. Soft; non-plastic; moist.								
- - -1.0	-1.0		× × × × ×		М	s						
- - - 1.5	- 75		×	SILT, with trace sand; medium yellowish brown. Soft; low plasticity; moist.	_							
-				EOH: 1.50m								
-2.0 -	-2.0											
-2.5	-2.5											
-3.0	-3.0											
-3.5	-3.5											
- -4.0 -	4											
- -4.5 -	- - - 3.4											
						REMARKS						

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



ENGINEER: CAW

#### **DCP LOG**

**Lot 11 DCP01** 

SHEET 41 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928622.00

STARTED: 15/11/2017

NORTHING: 5607766.00

PLUNGE: 90°

FINISHED: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM:

AZUMITH: 0°

LOGGED BY: CI

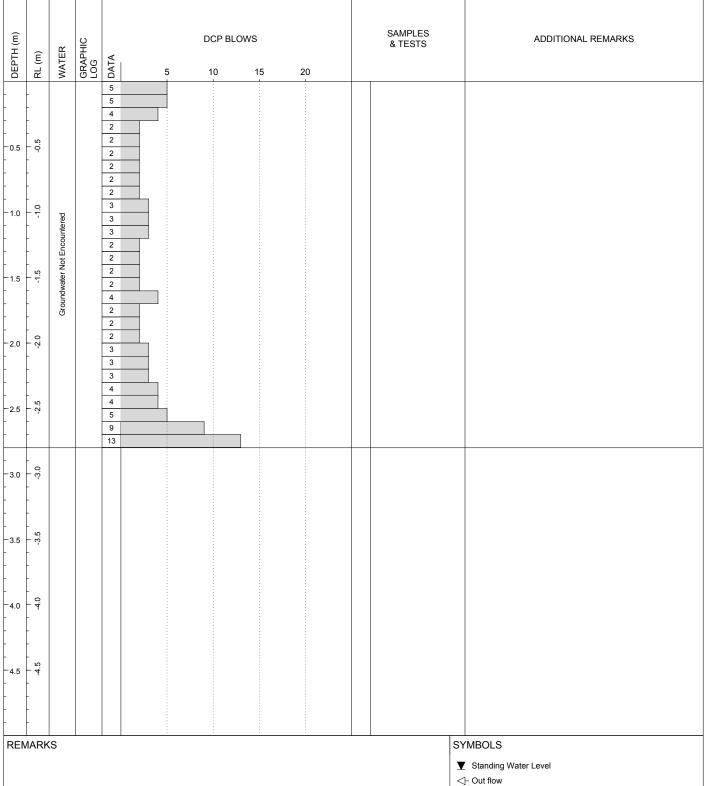
DATE: 15/11/2017

OFFICE: RDCL ELEVATION:

CHECKED BY: JM
STATUS: Final data

DATE: 24/11/2017

CONTRACTOR: MACHINE: OPERATOR:



Produced with Core-GS by Geroc

RDCL

├─ In flow



**Lot 11 DCP02** 

SHEET 42 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928613.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607758.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: CI DATE: 15/11/2017

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ΔΖΙΙΜΙΤΗ: 0° STATUS: Final data

ENG	GINE	ER:	CAW					AZUMIT	H: 0°	PLUNGE: 90°	STATUS: Final data
CO	NTRA	АСТО	R:				MA	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	2 DATA	5	DCP BLO	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS
- - - - - 0.5 - -	-0.5			3 3 3 2 2 2 2							
- 1.0 - -	-1.0	ıntered		1 2 2 3							
- - -1.5 -	- 1.5	Groundwater Not Encountered		2 2 2 4 3	]						
- - -2.0 -	-2.0	Grou		3 4 3 3 2	]						
- - -2.5 -	-2.5			3 2 2 4 5	L						
- - <del>- 3.0 -</del> -	-3.0			7 8							
-3.5	-3.5										
- - -4.0 -	4.0										
- - -4.5 -	4.5										
REM	MARKS										/MBOLS  / Standing Water Level  1- Out flow  → In flow



**Lot 11 DCP03** 

SHEET 43 OF 176

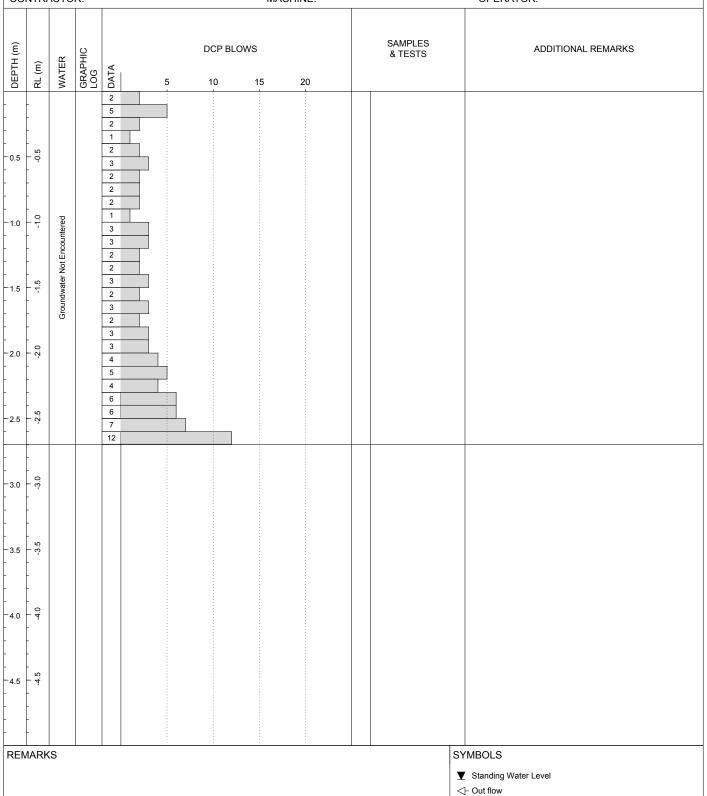
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607774.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: CI DATE: 15/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017
ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



Produced with Core-GS by Geroc

← Out flow

├─ In flow

RDCL



**Lot 11 DCP04** 

SHEET 44 OF 176

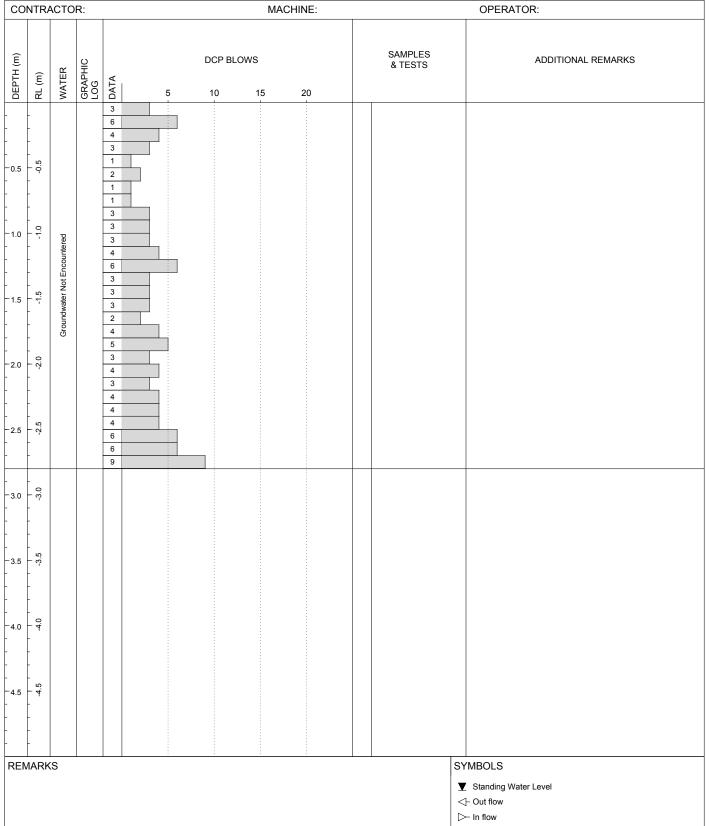
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607782.00 FINISHED: 15/11/2017 DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





#### HAND AUGER LOG

Lot 12 HA01

SHEET 11 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CONTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS
	-		20 2 2 TS 24 - 4 24	TOPSOIL; dark brown. Firm; moist; trace rootlets, non plastic.		FM					
-0.5	-0.5		× × ×	SILT; medium brown. Soft; non-plastic; moist; trace pockets of dark brown silt.	М						
1.0	-1.0		× ×			S					
	-		, ×,	EOH: 1.40m							
-1.5	- 1.										
-2.0	-2.0										
2.5	-2.5										
3.0	-3.0										
-3.5	-3.5										
-4.0	4.0										
-4.5	4.5										
	-										
									REN	MARKS	

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



# **Lot 12 DCP01**

SHEET 45 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 23/11/2017

LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR:							MA	CHINE:	T LONGE. O	OPERATOR:	
DEPTH (m)	RL (m) WATER GRAPHIC LOG DATA				DCP BLOWS			SAMPLES & TESTS	ADDITIONAL REMARKS		
DEP	RL (m)	WATER	GRA	7 DATA	5	10	15	20			
				5							
0.5	-0.5			3							
				2 2							
1.0	-1.0			2							
		countered		2 4							
1.5	-1.5	Groundwater Not Encountered		2 2							
	- -	sroundwat		3							
2.0	-2.0			3 3							
	·			3							
2.5	-2.5			4 4	]						
				5		7					
3.0	-3.0			8							
3.5	-3.5										
4.0	- 4.										
4.5	- 4.5										
	-										
	IARK	S.			<u> </u>					SYMBOLS	
·-!V										▼ Standing Water Level	
										<- Out flow  ├─ In flow	



**Lot 12 DCP02** 

SHEET 46 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607726.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR:

OPERATOR:

CONTRACTOR:						MACHINE:				OPERATOR:			
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA 5	DCP BL				SAMPLES & TESTS	ADDITIONAL REMARKS			
<u> </u>	R	*	6 2	5	10	15	20	+					
	-			3									
	-			5 2									
).5	-0.5			1									
	-			2									
1.0	- 1.0	p g		3									
	-	counte		3									
		Groundwater Not Encountered		3									
1.5	-1.5	ındwate		3 2									
	-	Grou		3									
2.0	-2.0			2 2									
	- '			3 2									
	-			3 4									
2.5	-2.5			5 5									
	-			3									
3.0	-3.0												
	-												
3.5	-3.5												
	-												
4.0	4.0												
	-												
4.5	- 4.5												
	-												
	-								Т	NAME OF THE PROPERTY OF THE PR			
ŒΝ	IARK	3							1	SYMBOLS  ▼ Standing Water Level			
										▼ Standing water Level < Out flow			

Produced with Core-GS by Geroc

← Out flow

├─ In flow

RDCL



**Lot 12 DCP03** 

SHEET 47 OF 176

DATE: 23/11/2017

LOGGED BY: CI

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 567741.00 FINISHED: 23/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

DATUM:

		ER:					AZUMITH	: 0°	PLUNGE: 90	)°	STATUS: Final data
CON	NTR/	ACTO	R:			MAG	CHINE:				OPERATOR:
DЕРТН (m)	RL (m)	WATER	GRAPHIC LOG		DCP BLC	DWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
- - - -0.5	-0.5			4 4 4 5 3 3 3 3 2							
- - -1.0	- 1.0	ered		1 4 3 4							
- - -1.5	-1.5	Groundwater Not Encountered		4 4 5 5 2							
- - -2.0	-5.0	Ground		2 1 2 3 3 3 3 3							
- - -2.5 -	-2.5			2 4 3 2 2 2 3							
3.0	-3.0			5 5							
- - -3.5	- 3:5-										
- - -4.0	- 4 - 6										
- - -4.5	- 4 - 3:										
REM	IARK	(S								▼ 5	BOLS Standing Water Level
							ОГ	OCL			Out flow n flow



**Lot 12 DCP04** 

SHEET 48 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928635.00

NORTHING: 5607749.00

STARTED: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 23/11/2017

DATE: 23/11/2017

DATUM: **ELEVATION:**  LOGGED BY: CI CHECKED BY: JM

DATE: 24/11/2017

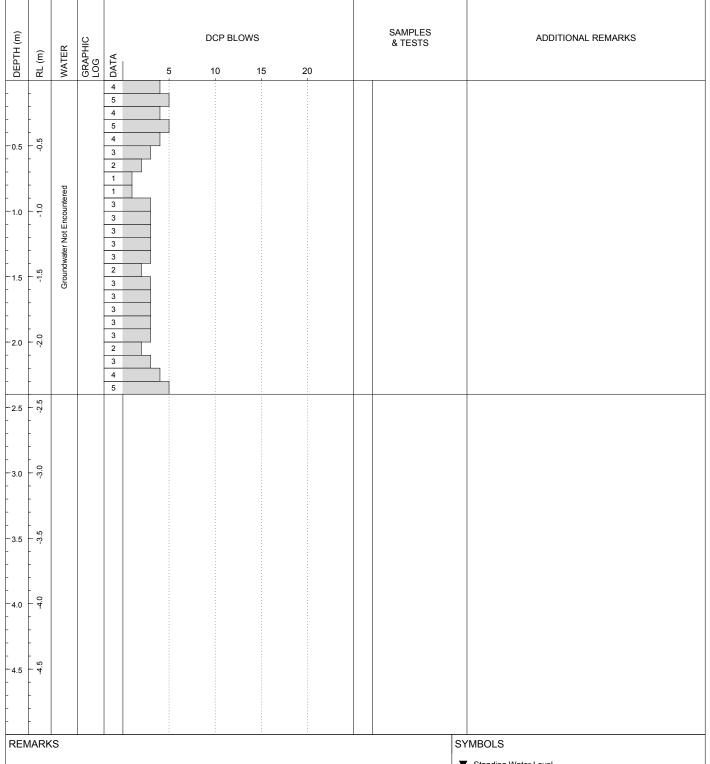
**RDCL** ENGINEER: CAW

OFFICE:

AZUMITH: 0°

PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 

RDCL



# HAND AUGER LOG

Lot 13 HA01

SHEET 12 OF 43

DATE: 13/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607719.00

PINISHED: 13/11/2017

DATUM: NZTM

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

				0. 2.0.101						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
	-		20 TS ⊵ TS	TOPSOIL; dark brown. Firm; dry; trace rootlets, non plastic.						
-0.5	-0.5		<u>0.10</u>	Sandy SILT; medium brown. Firm; non-plastic; dry; sand, fine.	D	FM				
-			× × ,	SILT; medium brown. Soft; non-plastic; moist.						
1.0	-1.0		××		М	S				
			× × ,	EOH: 1.30m						
- -1.5	- 1.5									
-	- '									
-	-									
-2.0 -	-2.0									
-										
-2.5	-2.5									
-3.0	-3.0									
- 3.0	- "									
-										
-3.5	-3.5									
-	-									
- -4.0	0.4									
-										
-	4.5									
-4.5 -	4									
[	[									

REMARKS

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



ENGINEER: CAW

# **DCP LOG**

**Lot 13 DCP01** 

SHEET 49 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING:

STARTED: 23/11/2017 1928658.00

NORTHING: 5607719.00

FINISHED: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

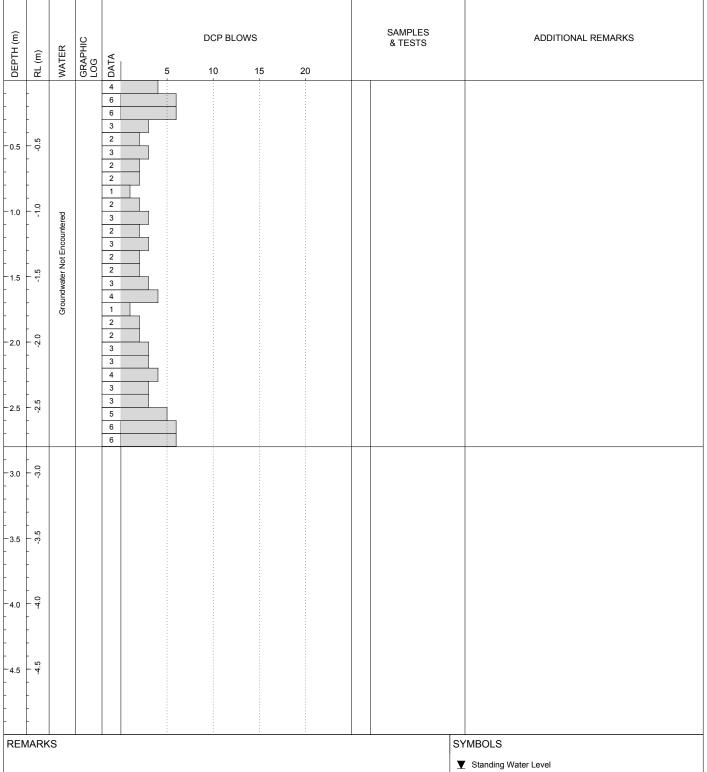
DATUM:

LOGGED BY: JB CHECKED BY: JM DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



<- Out flow ├─ In flow

RDCL



**Lot 13 DCP02** 

SHEET 50 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: JB DATE: 23/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW			AZUMITH:	0° PLUNGE: 90	
CON	NTRA	ACTO	R:		N	ACHINE:		OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		DCP BLOWS	20	SAMPLES & TESTS	ADDITIONAL REMARKS
-0.5				5 6 5 4 2 3 1				
-1.0	-1.0	ncountered		1 2 3 4				
- - -1.5		Groundwater Not Encountered		3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				
-2.0	-2.0			2 2 4 5				
-2.5	-2.5			4 3 5 6 7				
-3.0	-3.0							
- -3.5	- - - - - - - - - - - - - - - - - - -							
- -4.0	- 4 - 6 - 0							
- -4.5	- 4 - 7; - 0							
REM	IARK	S						SYMBOLS  Standing Water Level  Out flow
						RD		├─ In flow

Produced with Core-GS by Geroc



**Lot 13 DCP03** 

SHEET 51 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607721.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

		СТО	R:			MA	CHINE:	 PLUNGE. 9	OPERAT	OR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	4	DCP BLC	ows		SAMPLES & TESTS		ADDITIONAL REMARKS
	귙	WA	8,0	5 3	10	15	20			
	.			4						
	-			3 2						
0.5	- 0.5			3						
	-			2						
1.0	-1.0	ntered		3 2						
-	.   .	Encour		3 4						
		Groundwater Not Encountered		4 3						
1.5	- 1.5	Sroundw		2						
	-	Ü		3 2						
2.0	-2.0			1 3						
_	-			4						
2.5	. 5:			5						
2.5	. "			6						
	-									
3.0	-3.0									
	.									
3.5	- 3.5									
	.   .									
	·									
4.0	- <del>4</del>									
	-									
4.5	- 4.5									
	-									
	-									
REM	IARK	s						 	SYMBOLS	
									▼ Standing Wa	iter Level
									├─ In flow	



# **Lot 13 DCP04**

SHEET 52 OF 176

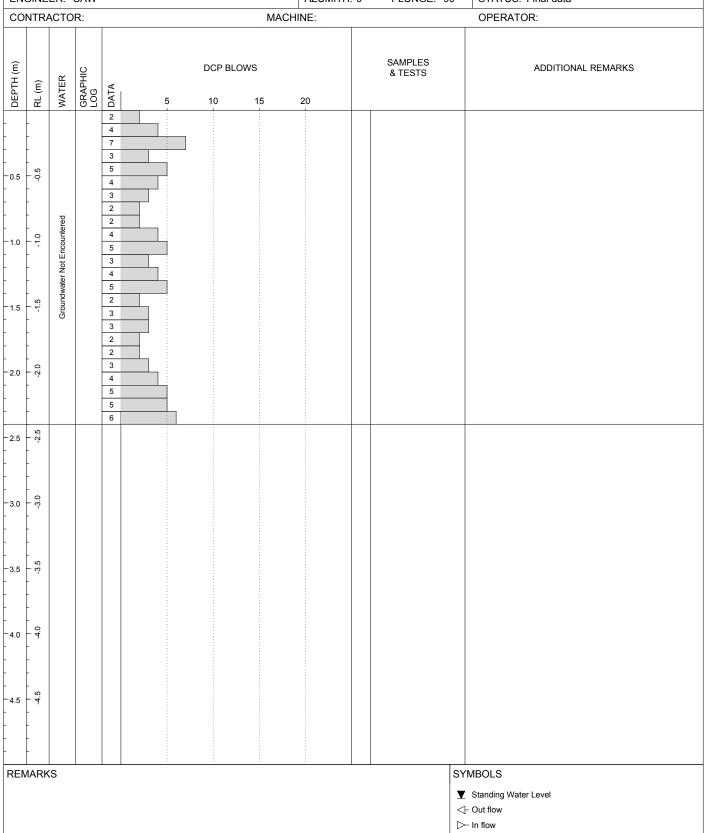
DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 23/11/2017

LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# HAND AUGER LOG

Lot 14 HA01

SHEET 13 OF 43

DATE: 13/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 13/11/2017 EASTING: 1928632.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607705.00 FINISHED: 13/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:
OUNTINAOTOIN.	OI LIVATOR.

CO	NTRA	ACTO	R:	OPERATOR						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		26 2 2 TS <u>24</u> .	TOPSOIL; dark brown. Firm; dry.	D	FM				
- - -0.5	-0.5			Sandy SILT; medium brown. Soft; non-plastic; dry; sand, fine.	}—	S L				
-				SAND, with trace silt; medium brown. Loose; non-plastic; moist; sand, fine.		_				
- -1.0	-1.0			Sandy SILT; medium brown. Soft; non-plastic; moist; sand, fine; sand decreases with depth.	М	S				
-	.5		4	Clayey sandy SILT; medium orangish brown with trace of grey. Soft; low plasticity; moist; sand, fine.						
1.5 - -	-			EOH: 1.50 m						
-2.0	-2.0									
-										
-2.5 -	-2.5									
-	-3.0									
-3.0 -	- Υ -									
-3.5	-3.5									
-	_									
4.0	4.0									
- - -4.5	4.5									
-	- 1									
-									REMARKS	
									too hard to pull auger	

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 14 DCP01** 

SHEET 53 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607704.00 FINISHED: 23/11/2017 DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

		ER:					AZUMITH:	: 0°	PLUNGE: 90	)°	STATUS: Final data
COI	NTRA	ACTO	R:			MAC	CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		DCP BLO	WS 15	20		SAMPLES & TESTS		ADDITIONAL REMARKS
-0.5	-0.5			4 6 2 3 2 2 2 2 3 3 3							
- - -1.0	-1.0	ountered		2 2 3 4							
- - -1.5	-1.5	Groundwater Not Encountered		2 2 2 3 4							
- - -2.0 -	-2.0	Gro		3 3 2 3 4 4							
- - -2.5 -	-2.5			3 2 4 5	1						
- -3.0 -	-3.0										
- - -3.5 -	-3.5										
- - -4.0	4.0										
- - -4.5 -	4.5										
REM	/ / //ARK	(S								•	MBOLS Standing Water Level
							pr	CL			Out flow In flow

Produced with Core-GS by Geroc



**Lot 14 DCP02** 

SHEET 54 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

(00	NTRA	СТО	R:			MA	CHINE:	1. U	PLUNGE. 8	OPERATOR:	
DEPTH (m)	m)	ĒR	GRAPHIC LOG	∢	DCP BLC	ows			SAMPLES & TESTS	ADDITIONAL REMARKS	
DEP	RL (m)	WATER	GRA	DATA 2	10	15	20	<u> </u>			
	-			5							
	-			3							
0.5	- 0.5			2							
	.   .			2 2							
1.0	-1.0	ntered		2 3							
	-	t Encour		4 4							
	. 5	Groundwater Not Encountered		3 4							
1.5	- 1.5	Ground		3							
	.			3 2							
2.0	-2.0			3							
	-			4							
2.5	-2.5			5							
	-							$\dagger \dagger$			
	. 0										
3.0	-3.0										
	.										
3.5	- 65										
	.   .										
4.0	- <del>4</del> - 0.										
	-										
4.5	4.5										
	-										
REM	IARK				<u> </u>	<u> </u>	<u> </u>			SYMBOLS	
		-								▼ Standing Water Level	
										<- Out flow  ├─ In flow	



**Lot 14 DCP03** 

SHEET 55 OF 176

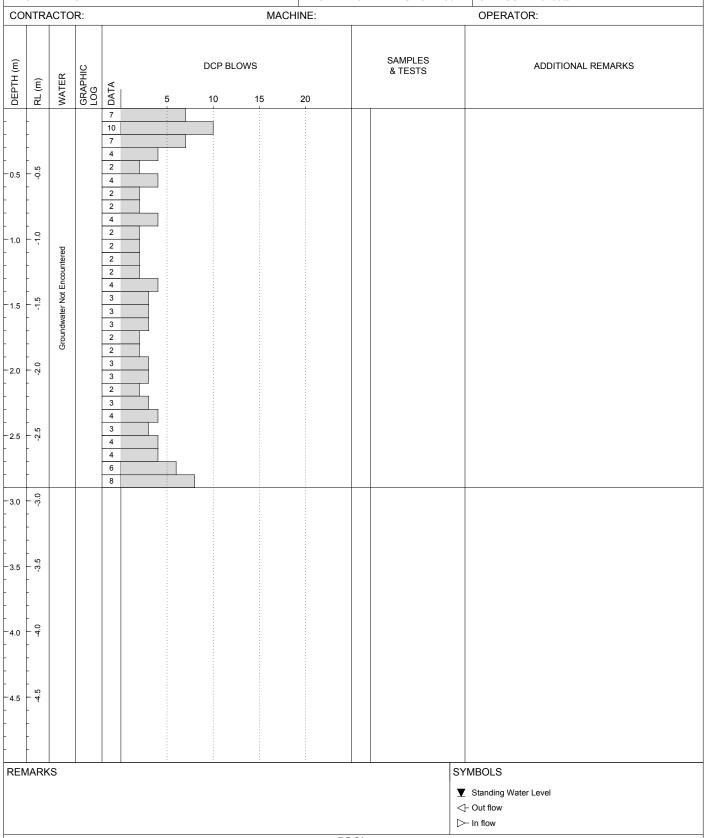
DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607707.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 14 DCP04** 

SHEET 56 OF 176

DATE: 23/11/2017

LOGGED BY: CI

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM:

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607717.00 FINISHED: 23/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENG	SINE	ER:	CAW					AZUMITH	: 0°	PLUNGE: 90°	STATUS: Final data	
CON	ONTRACTOR: MACHINE:							CHINE:	OPERATOR:			
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		5	DCP BL	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS	
-0.5	-0.5			4 5 3 3 3 3 2 3								
1.0	-1.0	incountered		2 2 2 4								
1.5	- 1-	Groundwater Not Encountered		3 3 3 2 2								
2.0	-2.0			3 4 3 2 2								
2.5	-2.5			3 2 5 5								
3.0	-3.0											
3.5	-3.5											
4.0	0.4											
4.5	-4.5											
REM	ARK	S								2	YMBOLS  ▼ Standing Water Level  Out flow  In flow	



# HAND AUGER LOG

Lot 15 HA01

**SHEET 14 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NIRA	ACTO	R:	OPERATOR						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES ADDITIONAL REMAR	KS
	-		<u> 24                                   </u>	TOPSOIL; dark brown. Firm; dry; non plastic, trace rootlets.	D	FM				
- - - -0.5	-0.5		× × × ×	SILT; medium brown. Soft; non-plastic; moist.	М	s				
- - 1.0 -	-1:0			SILT, with trace clay and sand; medium orangish brown with trace grey, trace orange mottle. Soft; non-plastic; moist; sand decreases with depth, clay increases with depth.						
				EOH: 1.30m						
1.5	-1.5									
-	-									
- 2.0	0.5									
2.0	- "									
-	-									
-2.5	-2.5									
-	-									
-										
-3.0 -	-3.0									
-	-									
- 3.5	3.5									
-	_ '									
-										
-4.0	- 4									
	[									
- - -4.5	5:									
-4.5 -	4									
-	ļ									
									DEMARKS	
				REMARKS						
i									I .	

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



ENGINEER: CAW

# **DCP LOG**

**Lot 15 DCP01** 

SHEET 57 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928625.00

STARTED: 23/11/2017

NORTHING: 5607700.00 DATUM:

FINISHED: 23/11/2017

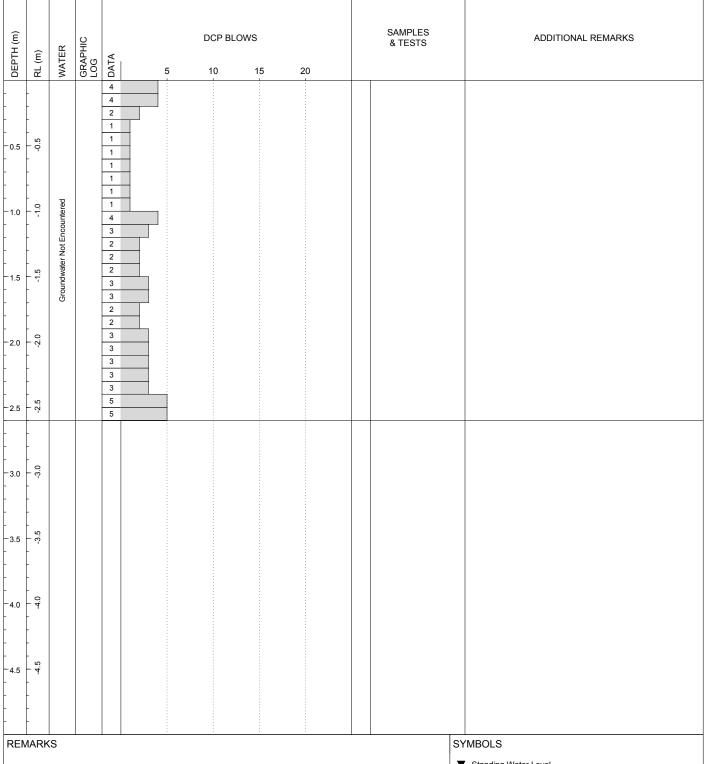
LOCATION: Lyndhurst Road, Frimley

LOGGED BY: CI CHECKED BY: JM DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



▼ Standing Water Level

← Out flow

├─ In flow

RDCL



# **Lot 15 DCP02**

SHEET 58 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 23/11/2017 1928616.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607683.00 FINISHED: 23/11/2017 DATUM: LOGGED BY: CI

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ENG	SINE	ER:	CAW					AZUMITH	H: 0°	PLUNGE: 9	90°	STATUS: Final data
CON	ITR/	ACTO	R:				MA	CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	4 DATA	5	DCP BL	OWS 15	20		SAMPLES & TESTS		ADDITIONAL REMARKS
- - - -0.5 - -	-0.5			3 3 3 2 3 3 4								
1.0	-1.0	countered		3 2 2 2 2								
1.5	- 1-	Groundwater Not Encountered		3 2 3 2 2								
2.0	-2.0	Ō		3 2 2 3 3								
2.5	-2.5			3 4 3 4 4 6								
3.0	-3.0			0								
3.5	-3.5											
4.0	- 4											
4.5	- 4.											
REM	ARK	(S									▼	MBOLS Standing Water Level Out flow
									DCI			In flow



**Lot 15 DCP03** 

SHEET 59 OF 176

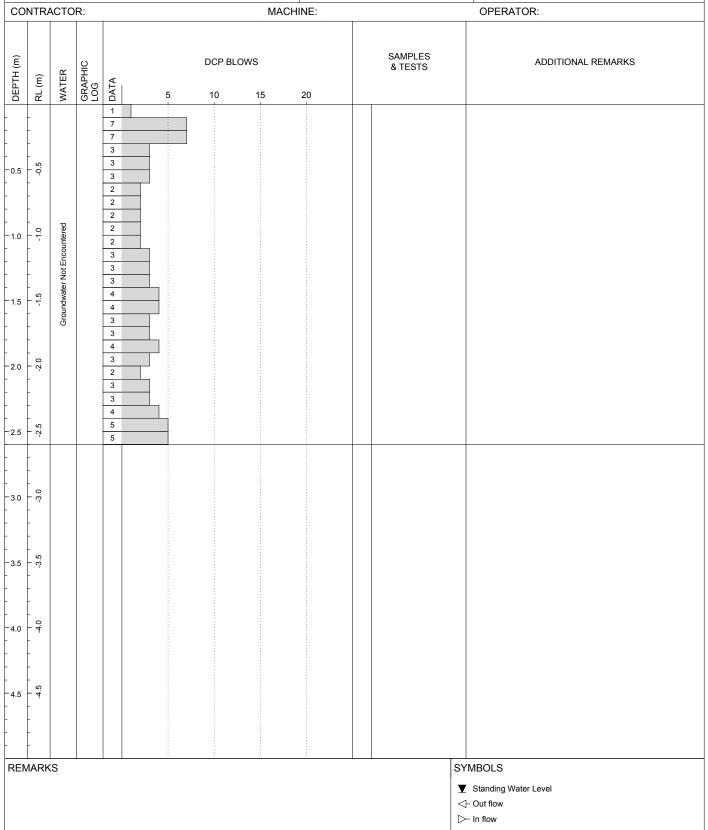
DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607694.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 15 DCP04** 

SHEET 60 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 23/11/2017 LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW				AZUMITH	: 0°	PLUNGE: 90	)°	STATUS: Final data
CON	ITR/	ACTO	R:			MAC	CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA - 2	DCP BLC	DWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
	-0.5			4 5 4 2 3 3 3 1 1 2 2							
 - 1.0 - 	-1.0	untered		3 3 3							
 - 1.5 - 	-1.5	Groundwater Not Encountered		3 5 4 2 2 3							
	-2.0	Gro		3 3 2 4 4 5							
 - 2.5 - 	-2.5			3 4 4 5 5							
-3.0	-3.0			6							
 - 3.5 - 	-3.5										
	0.4										
  -4.5 - 	4.5										
REMA	ARK	SS.								▼ <-	MBOLS Standing Water Level Out flow
							RE	CL		<i>∨</i>	In flow

Produced with Core-GS by Geroc



# HAND AUGER LOG

Lot 16 HA01

SHEET 15 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607680.00 FINISHED: 13/11/2017

DATUM: NZTM LOGGED BY: SLK DATE: 13/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	OF ENATION.													
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS				
	-		20 ± 2 ≥ TS	TOPSOIL; dark brown. Firm to soft; trace rootlets.		FM - S								
- - - -0.5	-0.5		× × × × × × × × × × × × × × × × × × ×	SILT; medium brown. Soft; non-plastic.										
-	-			Sandy SILT, with trace clay; medium yellow brown with trace of grey & mottled orange. Soft; low plasticity; moist.		s								
- 1.0 - -	- - - 1.0			SILT, with some clay; medium yellow brown with trace grey and mottled orange. Soft; low plasticity; moist.	м									
1.5	- 4.			E011. 1.40III										
- - - -2.0 -	-2.0													
- 2.5 - -	-2.5													
- - -3.0 -	-3.0													
- - -3.5 -	-3.5													
- - -4.0 -	- - 4 - 0:4													
- - -4.5 - -	- 4													
	-													
									REMARKS					

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



# **Lot 16 DCP01**

SHEET 61 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928619.00

NORTHING: 5607677.00

STARTED: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 23/11/2017

DATE: 23/11/2017

OFFICE: **RDCL**  **ELEVATION:** 

DATUM:

LOGGED BY: JB CHECKED BY: JM

OPERATOR:

DATE: 24/11/2017

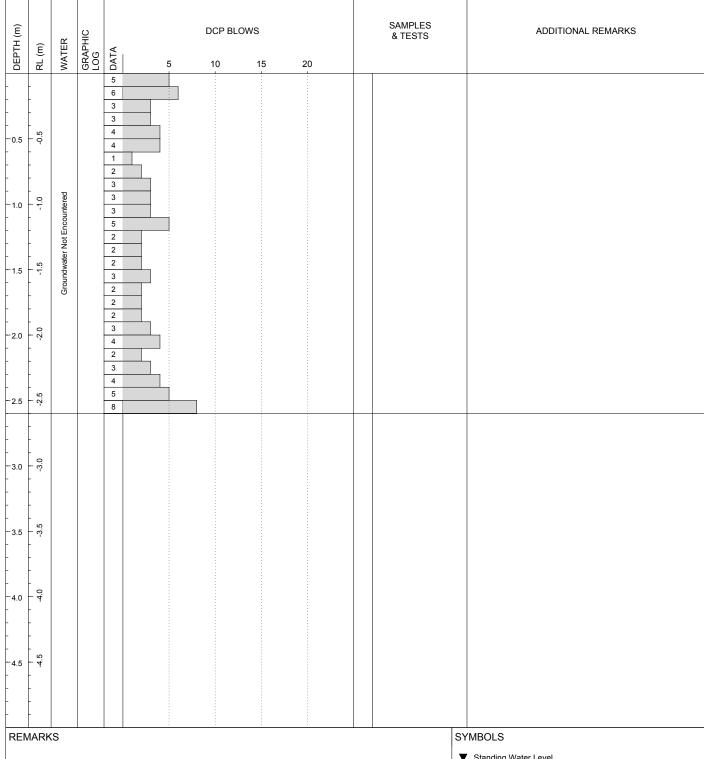
ENGINEER: CAW

AZUMITH: 0°

PLUNGE: 90°

STATUS: Final data

CONTRACTOR: MACHINE:



▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



ENGINEER: CAW

# **DCP LOG**

**Lot 16 DCP02** 

SHEET 62 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

LOCATION: Lyndhurst Road, Frimley STARTED: 23/11/2017 EASTING: 1928596.00

PLUNGE: 90°

NORTHING: 5607670.00 FINISHED: 23/11/2017

DATUM:

AZUMITH: 0°

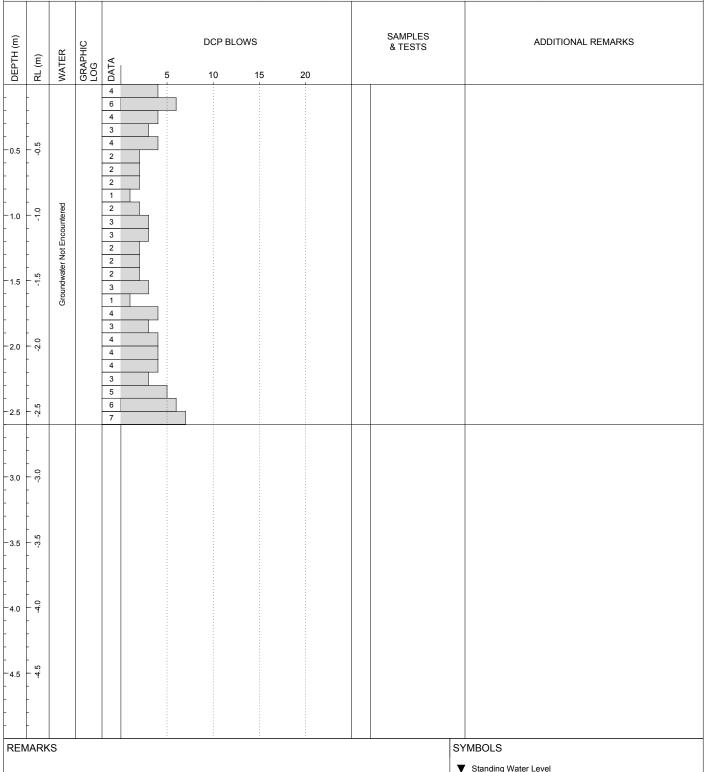
LOGGED BY: JB

DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

CHECKED BY: JM STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



Produced with Core-GS by Geroc

▼ Standing Water Level

<- Out flow 

RDCL



**Lot 16 DCP03** 

SHEET 63 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

EASTING: 1928589.00 NORTHING: 5607681.00

DATUM:

STARTED: 23/11/2017 LOGGED BY: JB

CHECKED BY: JM

FINISHED: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 5 6 2 2 -0.5 0.5 3 1 3 Groundwater Not Encountered -1.0 4 3 2 2 1 -1.5 1.5 3 2 2 5 4 2.0 4 3 3 4 5 -2.5 2.5 7 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow

├─ In flow



# **Lot 16 DCP04**

SHEET 64 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607691.00 FINISHED: 29/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENG	SINE	ER:	CAW					AZUMITH	: 0°	PLUNGE: 90°	STATUS: Final data		
CONTRACTOR: MACHIN											OPERATOR:		
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		5	DCP BL	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS		
-0.5	-0.5			4 5 3 3 4 2 3									
-1.0	- 1.0	countered		2 4 4 3 3	<del> </del>								
1.5	-1.5	Groundwater Not Encountered		2 4 2 3 4									
2.0	-2.0	Ü		2 3 3 3 3									
2.5	-2.5			3 4 4 5 8									
3.0	-3.0												
3.5	-3.5												
4.0	4.0												
·4.5	4.5												
REM	ARK	S									SYMBOLS  ▼ Standing Water Level  <- Out flow  In flow		



# HAND AUGER LOG

Lot 17 HA01

**SHEET 16 OF 43** 

DATE: 13/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 13/11/2017 EASTING: 1928580.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607668.00 FINISHED: 13/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:
-------------	-----------

				0. 2.0.101						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
	-		20 TS 2 TS 30	TOPSOIL; dark brown. Firm; moist; trace rootlets.	М	FM				
-0.5	-0.5			SAND, with trace silt; medium yellowish brown. Loose; non-plastic; dry.	D	L				
-1.0	-1.0		× × ×	SILT, with trace clay and sand; medium yellow brown with orange mottle and grey. Soft; non-plastic; moist.  EOH: 1.20m	М	S				
- - -1.5 -	- 1.5									
-2.0	-2.0									
- -2.5 -	-2.5									
-3.0	-3.0									
-3.5	-3.5									
-4.0 -	4.0									
- -4.5 -	4.5									

REMARKS

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



# **Lot 17 DCP01**

SHEET 65 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928593.00

NORTHING: 5607668.00

STARTED: 23/11/2017 FINISHED: 23/11/2017

DATUM:

LOGGED BY: JB

LOCATION: Lyndhurst Road, Frimley

DATE: 23/11/2017

OFFICE: RDCL

ELEVATION:

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW

AZUMITH: 0°

PLUNGE: 90° | STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 7 5 3 2 -0.5 0.5 2 2 2 1 -1.0 Groundwater Not Encountered 3 2 3 3 3 1.5 3 4 2 2 4 2.0 5 5 3 3 -2.5 -2.5 5 7 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow

Produced with Core-GS by Geroc

RDCL

├─ In flow



**Lot 17 DCP02** 

SHEET 66 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

ndhurst Rd, Hastings | NORTHING: 5607658.00 | FINISHED: 23/11/2017 | DATUM: | LOGGED BY: JB | DATE: 23/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

			CAW			AZUMITH: (	)° PLUNGE: 90	
COI	NTRA	ACTO	R:		MACH	INE:		OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA 6	DCP BLOWS	20	SAMPLES & TESTS	ADDITIONAL REMARKS
- - - -0.5				5				
-1.0	-1.0	countered		2 2 2 3				
- - -1.5	1.5	Groundwater Not Encountered		3 2 4 4				
- - -2.0	-5.0	9		3 3 4 3 3				
- - -2.5	-2.5			4 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5				
- - -3.0	-3.0							
- - -3.5 -	- 3.5							
- - -4.0	. 4.0							
- - -4.5 -	4.5							
REM	IARK	:S						SYMBOLS  Standing Water Level  Out flow
						RDO		├─ In flow



**Lot 17 DCP03** 

SHEET 67 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607669.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGI	NEE	ER: (	CAW						AZUMITI	1: 0°	PLUNGE: 90	)°	STATUS: Final data		
CONTRACTOR: MACHINE:									CHINE:				OPERATOR:		
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG			5	DCP B	sLOWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS		
-0.5 - 6	-0.5			3 4 4 3 2 1											
-1.0 - 7	-1.0	Groundwater Not Encountered		1 1 2 3 3											
1.5	-1.5	Groundwat		3 3 2 2 1											
2.0	-2.0			3 6 5 4 6											
2.5	-2.5														
3.0	-3.0														
3.5	-3.5														
4.0	4.0														
4.5	4. v														
REMAI	RK	S										▼ :	MBOLS Standing Water Level Out flow In flow		



**Lot 17 DCP04** 

SHEET 68 OF 176

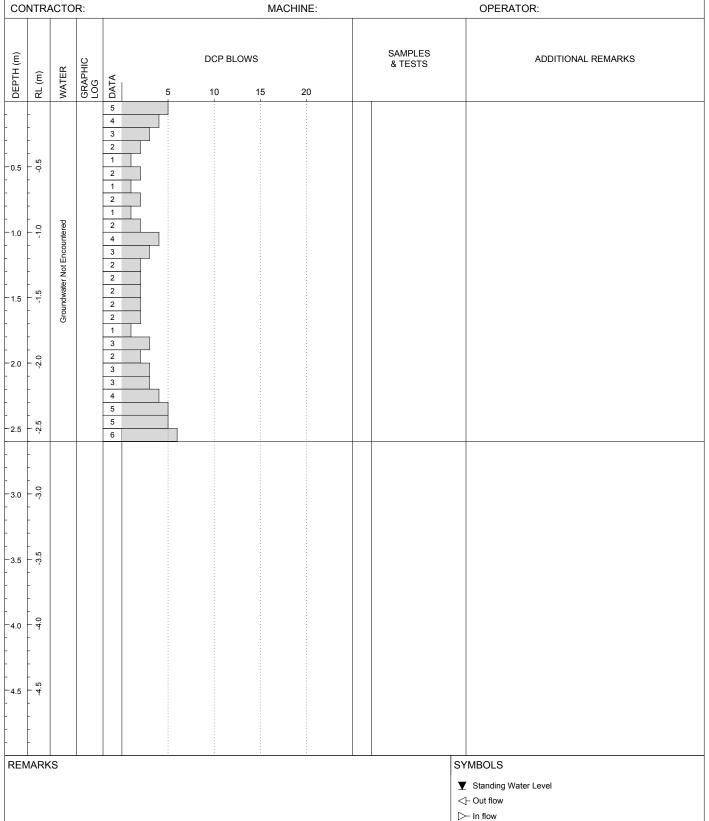
DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607678.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# HAND AUGER LOG

Lot 18 HA01

SHEET 17 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 14/11/2017 EASTING: 1928538.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607649.00 FINISHED: 14/11/2017 DATUM: NZTM LOGGED BY: SLK DATE: 14/11/2017

DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	OPERATOR: OPERATOR:													
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLE & TEST:		ADDITIONAL REMARKS			
-	-		24 TS	TOPSOIL; dark brown. Firm; dry.	D	FM								
-0.5	-0.5		× × ×	SILT; medium yellowish brown, orange mottle. Soft; non-plastic; moist.	М									
-1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	SILT, with trace clay and sand; medium yellowish brown with trace grey and orange mottle. Soft; low plasticity; dry; sand, fine; lenses of fine sand at 1.6m.	D	s								
- - -1.5	-1.5		* * * * * * * * *	EOH: 1.80m										
-2.0	-2.0													
- - -2.5	-2.5													
-3.0	-3.0													
- - -3.5	-3.5													
-4.0	- 4.													
- -4.5 -	4.5													
-	-													
					1	-	I	-	REMARKS		I .			

too hard to pull auger

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



# **Lot 18 DCP01**

SHEET 69 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: | LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR:  MACHINE:  OPERATOR:  SAMPLES & TESTS  ADDITIONAL REMARK	
E DCP BLOWS SAMPLES ADDITIONAL REMARK	
C    C    C    C    C    C    C    C	KS .
5 5 3 1 4 1 1	
1.5 - T	
2 2 2 4	
3 4 3 7 5 7	
-3.0 - $\frac{9}{9}$	
-3.5 - $\frac{\omega}{\varphi}$	
-4.0 - 47	
- LO -4.5 - ¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬	
REMARKS  SYMBOLS  Standing Water Level  Out flow  In flow	

Produced with Core-GS by Geroc



# **Lot 18 DCP02**

SHEET 70 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: CI DATE: 17/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGIN						MAG	AZUMITE	1: 0°	PLUNGE: 90	
CONTR	RACIC	)R:				IVIAU	CHINE:	Т		OPERATOR:
DEPTH (m)	WATER	GRAPHIC LOG	DATA	5	DCP BLC	DWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
			6							
-0.5 - o			4 2 2 2 2							
1.0 - 7	ountered		1 1 3 2 2							
1.5 - 5:	Groundwater Not Encountered		3 3 4 2							
2.0 - ?			2 2 3 2 3 3							
2.5 - 2			2 4 4 5 6							
3.0 – ကို										
3.5 - r										
4.0 - 4										
4.5 - 4·										
-										
REMAF	RKS	1		<u>:</u>	:	:				SYMBOLS  ▼ Standing Water Level
										<- Out flow  ├─ In flow
							R	DCI		



**Lot 18 DCP03** 

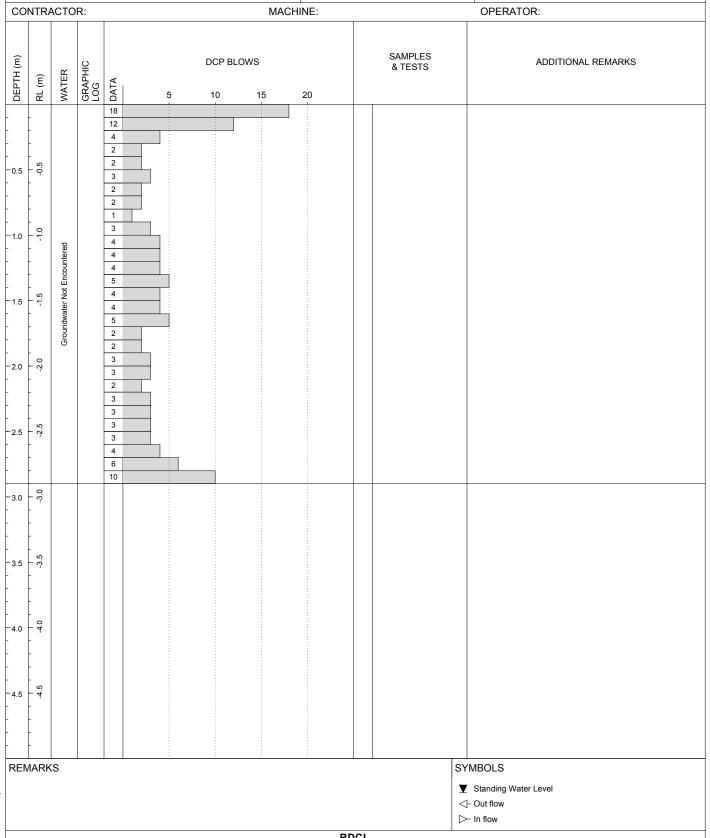
SHEET 71 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607648.00 FINISHED: 17/11/2017 DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 18 DCP04** 

SHEET 72 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

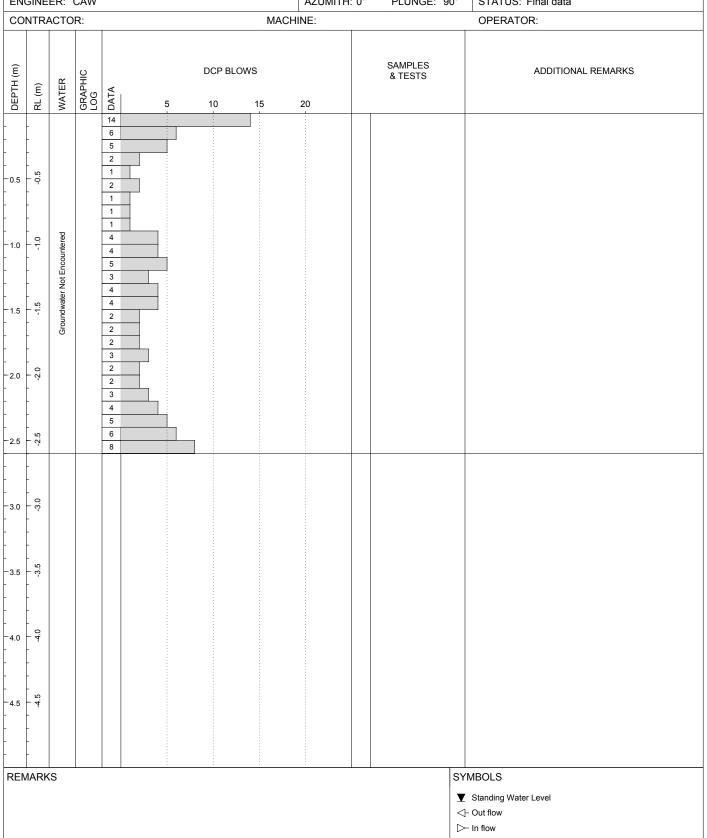
NORTHING: 5607663.00

FINISHED: 17/11/2017

DATUM:

LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# HAND AUGER LOG

Lot 19 HA01

SHEET 18 OF 43

DATE: 14/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 14/11/2017 EASTING: 1928549.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607635.00 FINISHED: 14/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

00	ORTHACTOR.													
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS			
	-		20 ± 2 ≥ TS	TOPSOIL; dark brown. Firm; dry.	D	FM								
- - -0.5	-0.5		* × × × × × × × × × × × × × × × × × × ×	SILT, with trace clay and sand; medium orangish brown with grey and orange mottle. Soft; moist; sand, fine.										
- - - 1.0 - -	-1.0		× × × × × × × × × × × × × × × × × × ×	EOH: 1.40m	M	S								
-1.5	-1.5													
-2.0	-2.0													
- -2.5 -	-2.5													
3.0	-3.0													
-3.5 -	-3.5													
- -4.0 -	4.0													
- -4.5 -	4.5													
_									DE	MARKO				
									RE	MARKS				

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



OFFICE:

# **DCP LOG**

**Lot 19 DCP01** 

SHEET 73 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

EASTING: 1928565.00

NORTHING: 5607633.00

STARTED: 17/11/2017

FINISHED: 17/11/2017

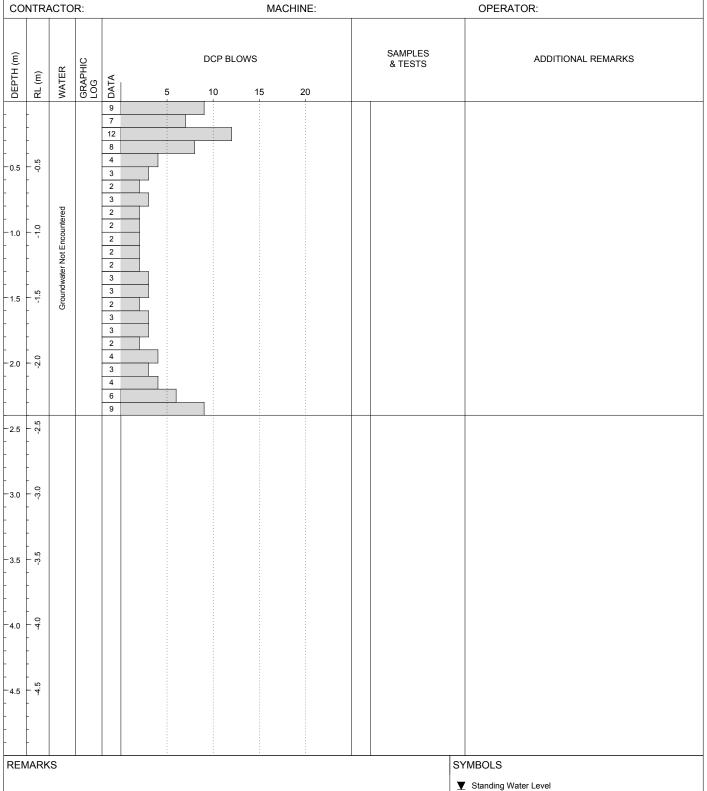
LOCATION: Lyndhurst Road, Frimley

DATE: 17/11/2017

DATUM: **ELEVATION:**  LOGGED BY: JB

CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



Produced with Core-GS by Geroc

RDCL

<- Out flow 



ENGINEER: CAW

# **DCP LOG**

**Lot 19 DCP02** 

SHEET 74 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928552.00 LOCATION: Lyndhurst Road, Frimley

STARTED: 17/11/2017

NORTHING: 3607623.00

FINISHED: 17/11/2017

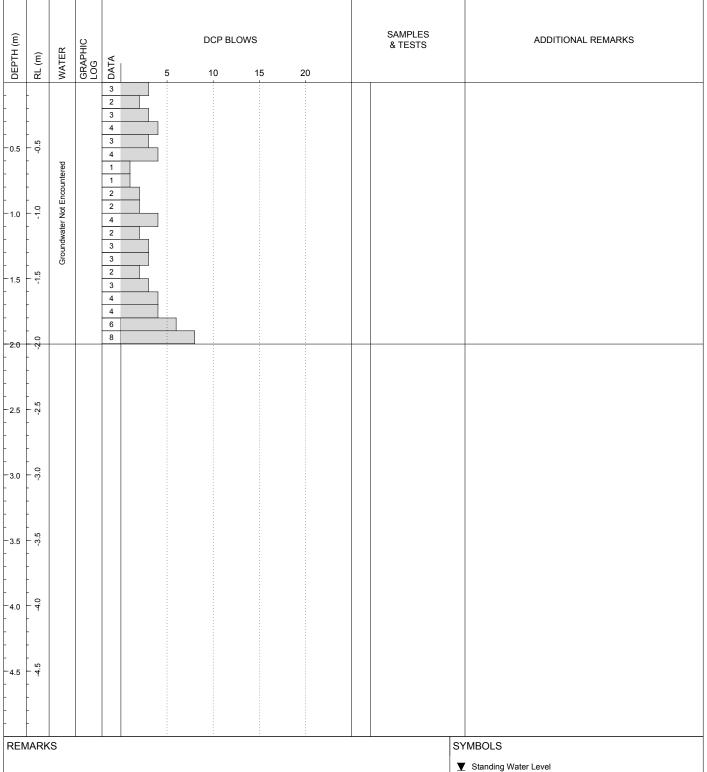
LOGGED BY: JB

DATE: 17/11/2017 DATE: 24/11/2017

DATUM: OFFICE: **RDCL ELEVATION:** 

CHECKED BY: JM AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



<- Out flow

├─ In flow

RDCL



ENGINEER: CAW

# **DCP LOG**

**Lot 19 DCP03** 

SHEET 75 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928544.00

NORTHING: 5607634.00

STARTED: 17/11/2017

LOGGED BY: JB

CHECKED BY: JM

FINISHED: 17/11/2017

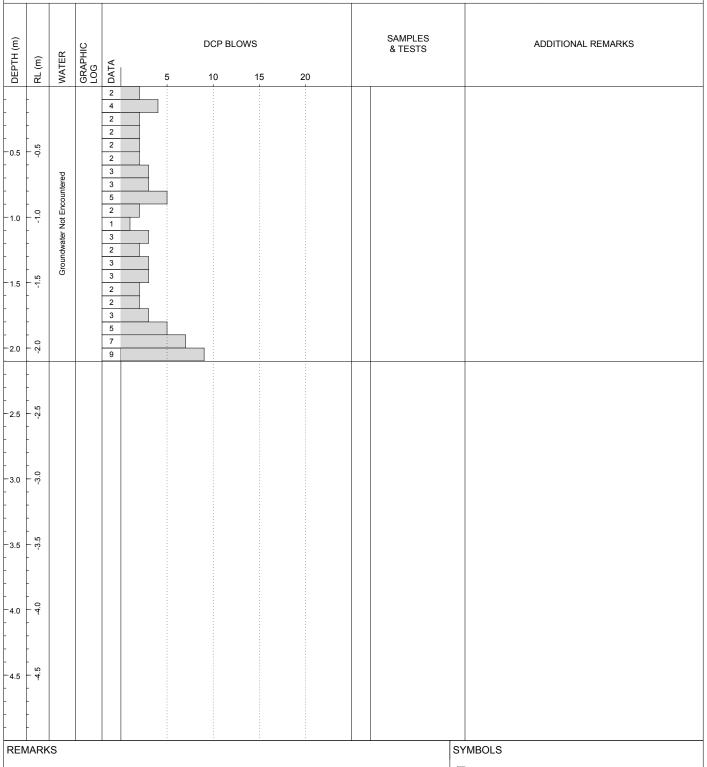
LOCATION: Lyndhurst Road, Frimley

DATE: 17/11/2017 DATE: 24/11/2017

DATUM: OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow ├─ In flow



**RDCL** 

OFFICE:

Produced with Core-GS by Geroc

#### **DCP LOG**

# **Lot 19 DCP04**

SHEET 76 OF 176

DATE: 17/11/2017

DATE: 24/11/2017

LOCATION: Lyndhurst Road, Frimley

STARTED: 17/11/2017

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607643.00 FINISHED: 17/11/2017

DATUM:

ELEVATION: CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR:

MACHINE:

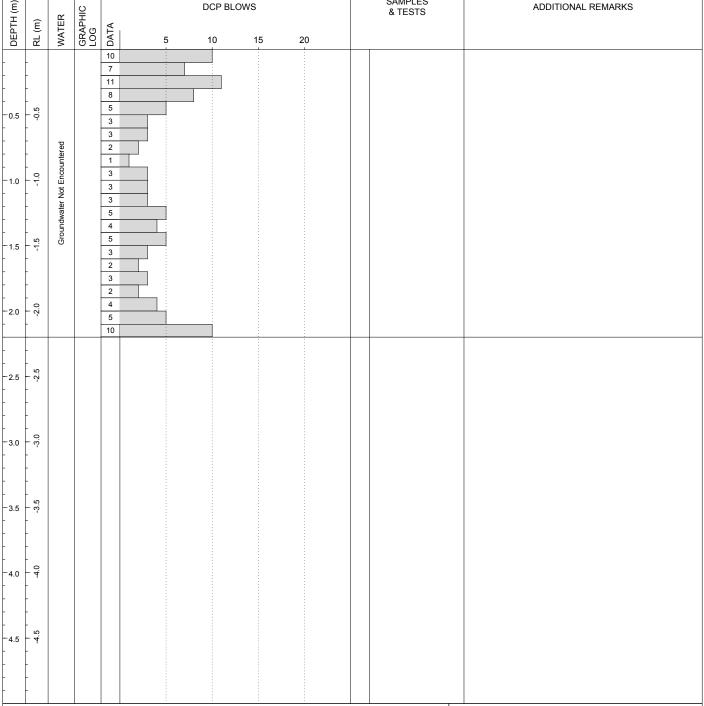
OPERATOR:

SAMPLES & TESTS

ADDITIONAL REMARKS

\*\*TESTS\*\*

ADDITIONAL REMARKS



REMARKS SYMBOLS

▼ Standing Water Level

Out flow



#### HAND AUGER LOG

Lot 20 HA01

SHEET 19 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607636.00 FINISHED: 14/11/2017

DATUM: NZTM LOGGED BY: SLK DATE: 14/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

00		TRACTOR.												
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS			
-	-		24 <u>2</u> 2 2 T S	TOPSOIL; dark brown. Firm; moist.		FM								
-	-		-81	Silty SAND; medium yellowish brown, trace orange mottle. Loose; moist.		L								
-0.5 -	-0.5		× × ×	SILT, with trace clay and sand; medium orangish brown with grey and orange mottle. Soft; non-plastic; moist.	M									
- - -1.0 -	-1.0		× × × × × × × × × × × × × × × × × × ×	EOH: 1.30 m		S								
			×	EOT. 1.30III										
1.5 -	-1.5													
- - - -2.0	-2.0													
- - -2.5 -	-2.5													
- - -3.0 -	-3.0													
- - -3.5 -	-3.5													
- - -4.0 -	4.0													
- - -4.5 -	4.5													
-	-													
	REMARKS													

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**RDCL** 

OFFICE:

#### **DCP LOG**

**Lot 20 DCP01** 

SHEET 77 OF 176

DATE: 23/11/2017

DATE: 24/11/2017

LOCATION: Lyndhurst Road, Frimley

STARTED: 23/11/2017

LOGGED BY: SD

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607617.00 FINISHED: 23/11/2017

DATUM:

ELEVATION: CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 8 9 2 -0.5 0.5 3 Groundwater Not Encountered 2 3 4 2 -1.0 3 6 6 5 4 1.5 4 5 6 5 -2.0 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level

Produced with Core-GS by Geroc

RDCL

← Out flow

├─ In flow



ENGINEER: CAW

#### **DCP LOG**

**Lot 20 DCP02** 

SHEET 78 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928583.00

NORTHING: 5607600.00

DATUM:

STARTED: 23/11/2017

FINISHED: 23/11/2017 LOGGED BY: SD

CHECKED BY: JM

LOCATION: Lyndhurst Road, Frimley

DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 3 3 2 2 -0.5 0.5 1 Groundwater Not Encountered 3 3 3 2 -1.0 4 4 4 5 5 1.5 5 3 4 5 -2.0 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level

Produced with Core-GS by Geroc

RDCL

← Out flow

├─ In flow



ENGINEER: CAW

#### **DCP LOG**

**Lot 20 DCP03** 

SHEET 79 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928601.00

DATUM:

NORTHING: 5607641.00

STARTED: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 23/11/2017

LOGGED BY: SD

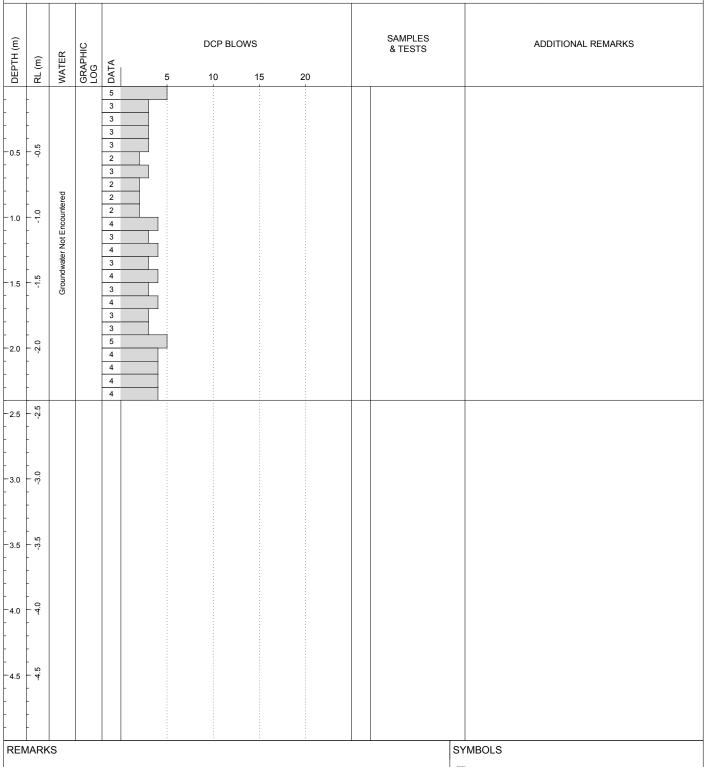
CHECKED BY: JM

DATE: 23/11/2017 DATE: 24/11/2017

**ELEVATION:** 

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 



Lot 20 DCP04

SHEET 80 OF 176

CLIENT: Greenstone Land Developments Ltd PF

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928610.00

NORTHING: 5607650.00

STARTED: 23/11/2017 FINISHED: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

**,** 

DATUM:

LOGGED BY: SD CHECKED BY: JM

DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

ENGINEER: CAW AZUMITH: 0°

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 12 9 8 Groundwater Not Encountered 8 5 -0.5 0.5 4 3 2 3 4 -1.0 1.0 7 8 1.5 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow

Produced with Core-GS by Geroc



#### HAND AUGER LOG

Lot 21 HA01

**SHEET 20 OF 43** 

DATE: 14/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607600.00 FINISHED: 14/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

DATUM: NZTM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NTRACTOR: OPERATOR:												
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		2 TS	TOPSOIL; dark brown. Firm; moist.		FM							
- -0.5	-0.5		× × × × × ×	SILT; medium orangish brown, orange mottle. Soft; non-plastic; moist.									
1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	SILT, with trace clay and sand; medium orangish brown with orange mottle. Soft; non-plastic; moist.	M	S							
_	-		~ × /	EOH: 1.40m									
1.5 -	-1.5												
-2.0	-2.0												
- -2.5 -	-2.5												
3.0	-3.0												
- -3.5 -	-3.5												
- -4.0 -	4.0												
- - -4.5 -	4.5												
-													
	REMARKS												

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 21 DCP01** 

SHEET 81 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 23/11/201.

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGIN	NEEF	R: (	CAW					A	ZUMITH: 0	)°	PLUNGE: 90	)°	STATUS: Final data
CONTI	RAC	TOF	₹:				N	1ACHINE	<b>:</b>				OPERATOR:
DEPTH (m)	ייב (ווו)	WATER	GRAPHIC LOG	o o DATA	5	DCP E	BLOWS	20			SAMPLES & TESTS		ADDITIONAL REMARKS
-0.5 - 9		incountered		3 2 2 2 2 2									
1.0 - 7		Groundwater Not Encountered		1 1 2 3 6									
1.5 - 5.	2			7 4 8 9									
2.0 - Ņ	0.5												
2.5 - 7	2												
3.0 - v													
3.5 – တို	?												
4.0 - 4	ř												
4.5 4	î												
REMAF	RKS				<u>:</u>	:	<u>:</u>	Ē	BDC			▼	MBOLS Standing Water Level Out flow In flow



**RDCL** 

OFFICE:

#### **DCP LOG**

**Lot 21 DCP02** 

SHEET 82 OF 176

DATE: 23/11/2017

LOCATION: Lyndhurst Road, Frimley

STARTED: 23/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607589.00 FINISHED: 23/11/2017

DATUM:

ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 2 2 2 2 Groundwater Not Encountered -0.5 0.5 3 3 2 2 -1.0 3 3 4 4 -1.5 6 1.5 12 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5

REMARKS

SYMBOLS

▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



**Lot 21 DCP03** 

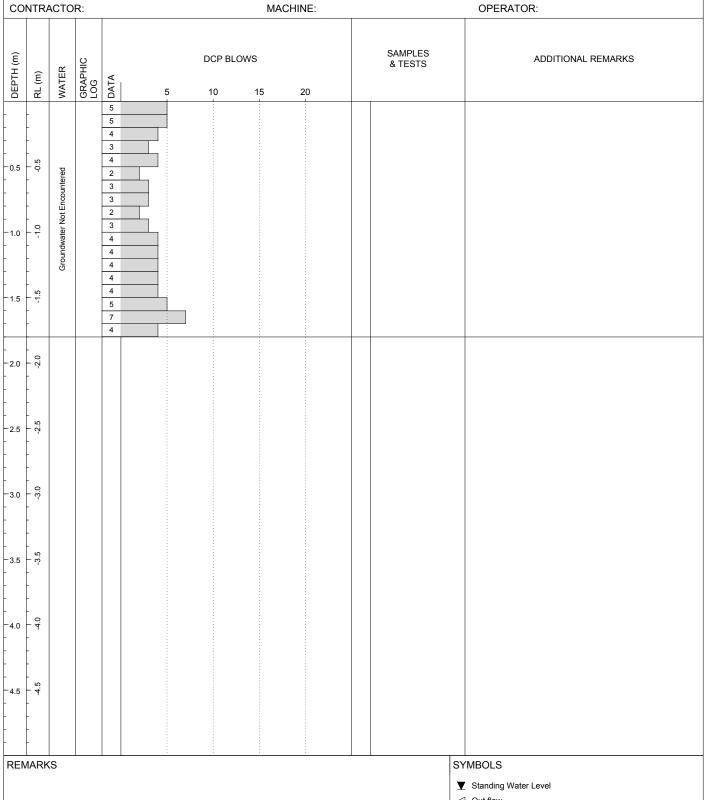
SHEET 83 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: SLK DATE: 23/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



Produced with Core-GS by Geroc

← Out flow

├─ In flow

RDCL



**Lot 21 DCP04** 

SHEET 84 OF 176

DATE: 23/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

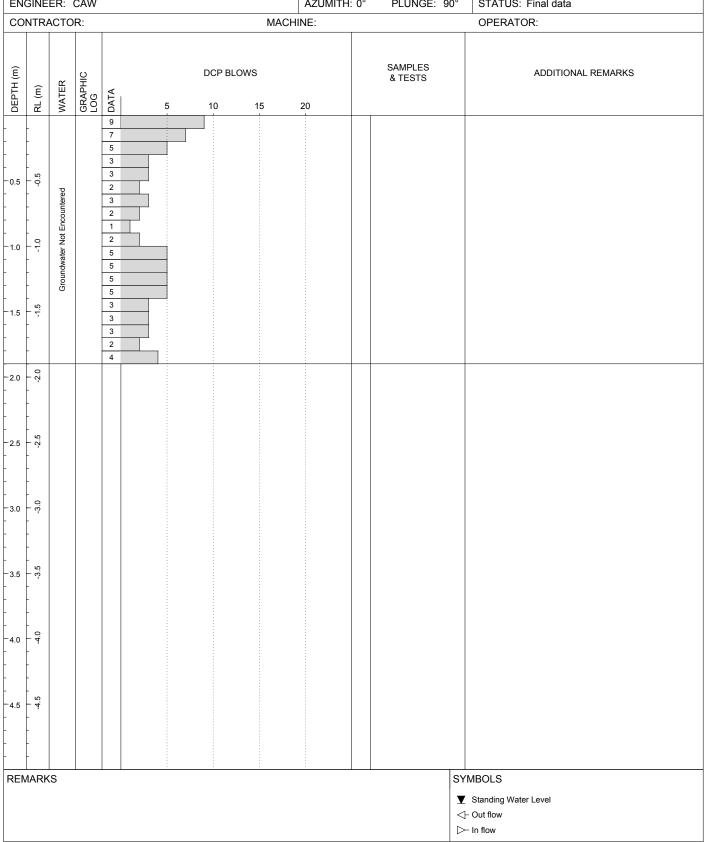
PROJECT: 170602050\_Stages 3-5 STARTED: 23/11/2017 EASTING: 1928584.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607614.00 FINISHED: 23/11/2017

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017

DATUM:

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





#### HAND AUGER LOG

Lot 22 HA01

SHEET 21 OF 43

DATE: 14/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 14/11/2017 EASTING: 1928600.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607621.00 FINISHED: 14/11/2017

DATUM: NZTM OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS
	-		20 ≥ 2 TS	TOPSOIL; dark brown. Firm; moist.		FM					
-0.5	-0.5		× × ×	SILT, with trace clay and sand; medium orangish brown with grey and mottled orange. Soft; non-plastic; moist; sand increases with depth and clay increases at 1m.	М						
-			×			s					
1.0	-1.0		< × ×								
F			××××	EOH: 1.30m							
- 1.5	.5										
-1.5											
-											
-2.0	-2.0										
-											
-	_										
-2.5 -	-2.5										
	-										
- -3.0	-3.0										
- 3.0	- '										
Ł											
-3.5	-3.5										
F	0										
-4.0 -	- 4										
-	-										
- -4.5	- 4.5										
-	-										
-											
			-		-		I	-	RE	MARKS	
1									1		

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



ENGINEER: CAW

#### **DCP LOG**

**Lot 22 DCP01** 

SHEET 85 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

LOCATION: Lyndhurst Road, Frimley STARTED: 23/11/2017

NORTHING: 5607619.00

1928611.00

FINISHED: 23/11/2017

DATUM:

EASTING:

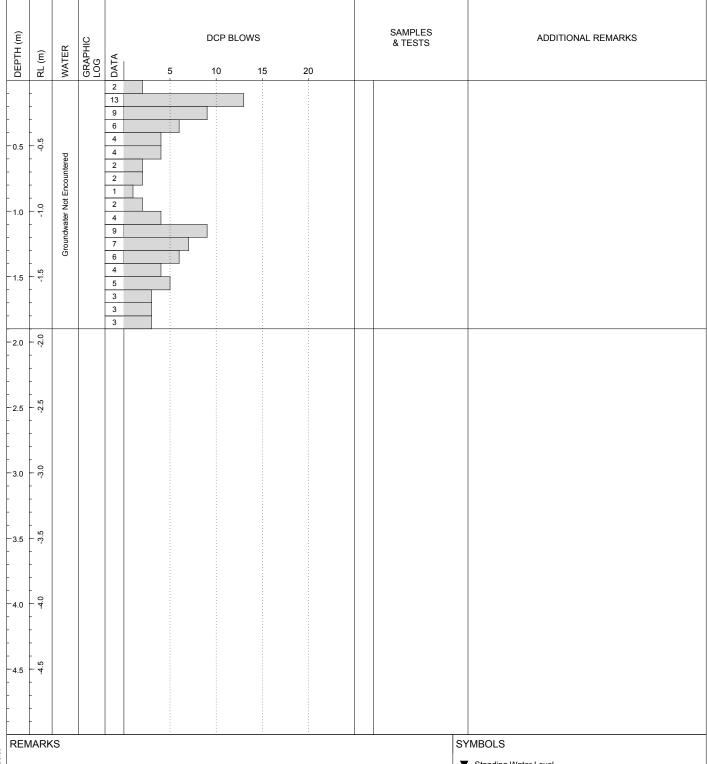
LOGGED BY: SD CHECKED BY: JM

DATE: 23/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 

RDCL



Lot 22 DCP02

SHEET 86 OF 176

DATE: 23/11/2017

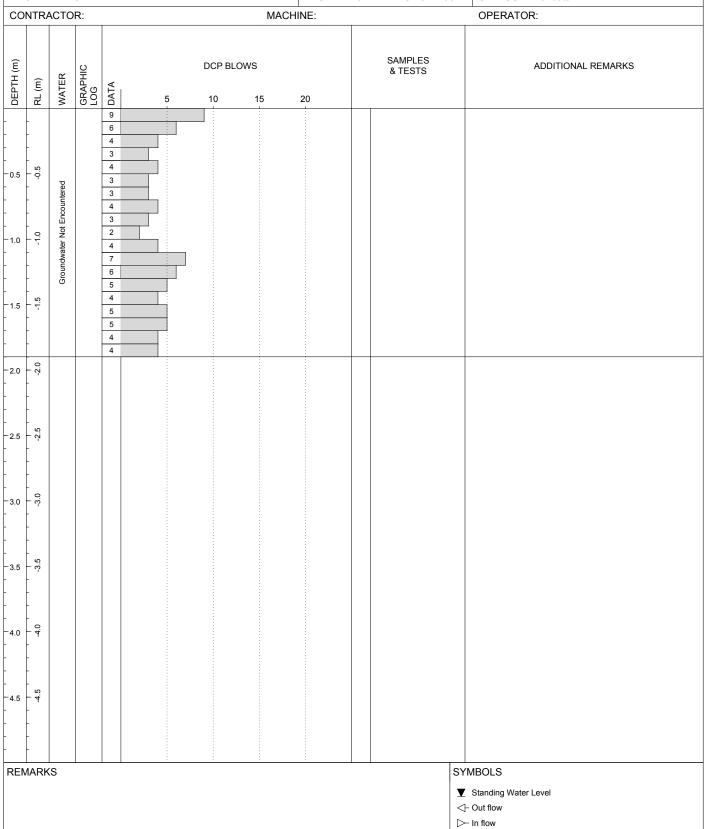
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607607.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: SD

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





Lot 22 DCP03

SHEET 87 OF 176

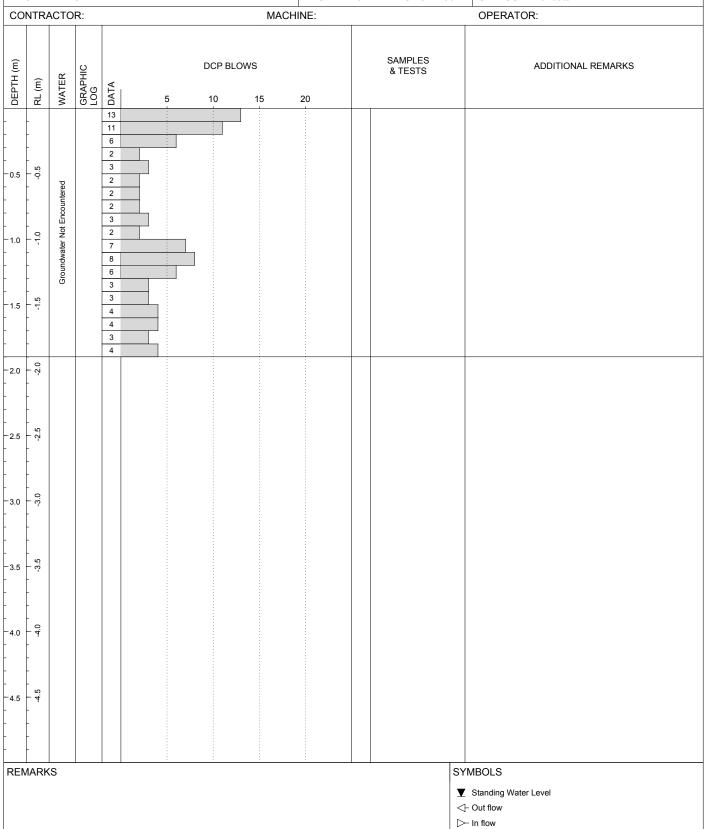
DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607626.00 FINISHED: 23/11/2017 DATUM: LOGGED BY: SD

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





Lot 22 DCP04

SHEET 88 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 23/11/2017 1928597.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607636.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: SD DATE: 23/11/2017

	FICE:		RDCL CAW					ELEVATION: AZUMITH		PLUNGE: 90	- 1	CHECKED BY: JM DATE: 24/11/2017 STATUS: Final data
		ACTO					MACHI		. 0	T LONGE. 90	<i>y</i>	OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	4	D	CP BLOWS				SAMPLES & TESTS		ADDITIONAL REMARKS
DEF	귙	× AA	S, S	DA	5 ′	10	15	20				
- - - - -0.5		ncountered		5 4 2 3 2 2 3								
- -1.0 -	- 1:0	Groundwater Not Encountered		3 3 5 6 5								
- - - 1.5 -		Ö		5 3 4 6 3								
-2.0	-2.0			3								
- 2.5 -	-2.5											
- - -3.0 -	-3.0											
- -3.5 -	-3.5											
- -4.0 -	- 4.0											
- -4.5 -	- 4.5											
REN	ИARK	(S										BOLS Standing Water Level

<- Out flow ├─ In flow

RDCL



#### HAND AUGER LOG

Lot 23 HA01

**SHEET 22 OF 43** 

LOGGED BY: PGR/SBD DATE: 14/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607636.00 FINISHED: 14/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

DATUM: NZTM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

00		TIMACTOR.												
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS			
-	-		24 3 ≥ TS	TOPSOIL; dark brown. Firm; dry; non plastic.	D	FM								
- - -0.5			× × × × × ×	SILT; medium orange brown with grey and orange mottle. Soft; low plasticity; moist.	М	s								
- - -1.0	-1.0		× × ×	SILT, with trace sand; medium oranish brown with grey and orange mottle. Soft; low plasticity; moist.										
- - -1.5 -	-1.5													
- - -2.0	-2.0													
- - -2.5 -	-2.5													
- -3.0 -	-3.0													
-3.5 -	-3.5													
- -4.0 -	- 4													
- - -4.5 -	- - - 3:													
-	-								D.	MAA DIKO				
									KE	MARKS				

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



#### **DCP LOG**

**Lot 23 DCP01** 

SHEET 89 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928625.00

STARTED: 15/11/2017

NORTHING: 5607630.00

FINISHED: 15/11/2017

DATUM:

LOGGED BY: PGR/SBD DATE: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

ELEVATION:

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 12 8 3 -0.5 0.5 4 Groundwater Not Encountered 2 2 3 2 -1.0 4 9 8 6 5 1.5 4 4 3 3 -2.0 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level

Produced with Core-GS by Geroc

RDCL

← Out flow

├─ In flow



**Lot 23 DCP02** 

SHEET 90 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928616.00 NORTHING: 5607623.00

STARTED: 15/11/2017

FINISHED: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM:

LOGGED BY: PGR/SBD DATE: 15/11/2017 CHECKED BY: JM

DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGINEER: CAW CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 9 6 5 -0.5 0.5 4 3 3 2 3 -1.0 1.0 4 Groundwater Not Encountered 8 7 5 6 1.5 5 4 4 5 2.0 9 7 6 8 5 -2.5 -2.5 6 9 9 10 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow 



#### **DCP LOG**

**Lot 23 DCP03** 

SHEET 91 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928601.00 LOCATION: Lyndhurst Road, Frimley STARTED: 15/11/2017

NORTHING: 5607641.00

FINISHED: 15/11/2017

DATUM: ELEVATION: LOGGED BY: PGR/SBD DATE: 15/11/2017

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 5 5 2 3 -0.5 0.5 2 2 1 2 -1.0 1.0 3 Groundwater Not Encountered 5 6 4 4 1.5 2 3 3 3 3 2.0 5 5 5 6 7 -2.5 -2.5 9 9 8 6 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow

Produced with Core-GS by Geroc

RDCL

├─ In flow



#### **DCP LOG**

**Lot 23 DCP04** 

SHEET 92 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 198610.00 NORTHING: 5607650.00 STARTED: 15/11/2017

FINISHED: 15/11/2017

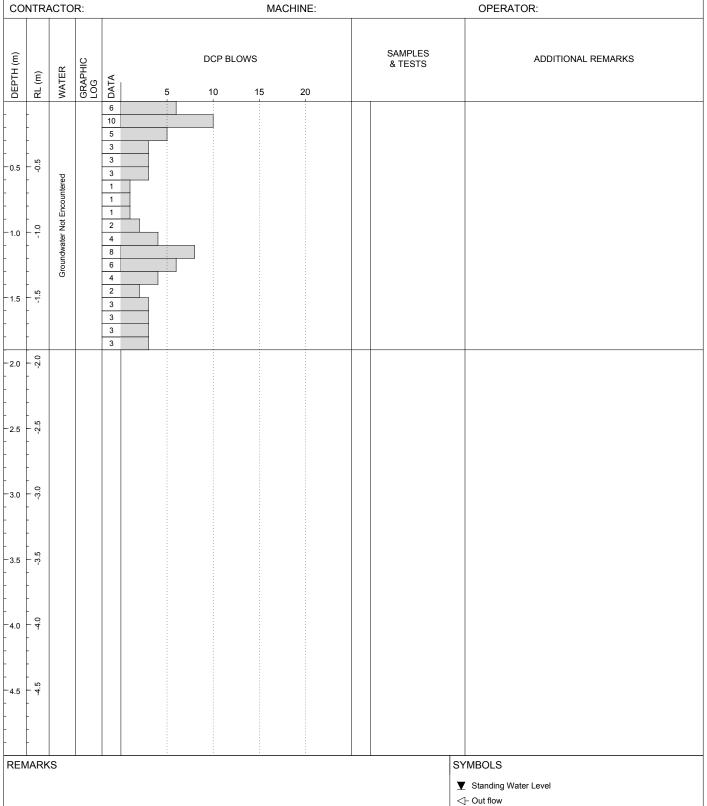
LOCATION: Lyndhurst Road, Frimley

DATUM: **ELEVATION:**  LOGGED BY: PGR/SBD DATE: 15/11/2017

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



├─ In flow



#### HAND AUGER LOG

Lot 24 HA01

**SHEET 23 OF 43** 

DATE: 22/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607652.00

PINISHED: 22/11/2017

DATUM: NZTM

LOGGED BY: PGR/JM

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		<u>ω</u> ν ω Δ TS <u>ων</u> .	TOPSOIL; dark brown. Soft; dry.	D					
-0.5	-0.5			Clayey SILT; light brown. Soft; low plasticity; moist.	М	S				
-	- 0.1-			Clayey SILT; brown . Firm; low plasticity; moist; clay increasing with depth.	•••	FM				
- 1.0 - -	-			EOH: 1.00m						
- -1.5 -	- 1.5									
-2.0	-2.0									
- - -2.5 -	-2.5									
-3.0	-3.0									
- - -3.5	-3.5									
4.0	- 4.0									
- - -4.5	4.5									
-	-									

REMARKS

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 24 DCP01** 

SHEET 93 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

STARTED: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607611.00

1928641.00

FINISHED: 15/11/2017

LOGGED BY: PGR/SBD DATE: 15/11/2017

DATUM: **ELEVATION:** 

EASTING:

CHECKED BY: JM

DATE: 24/11/2017

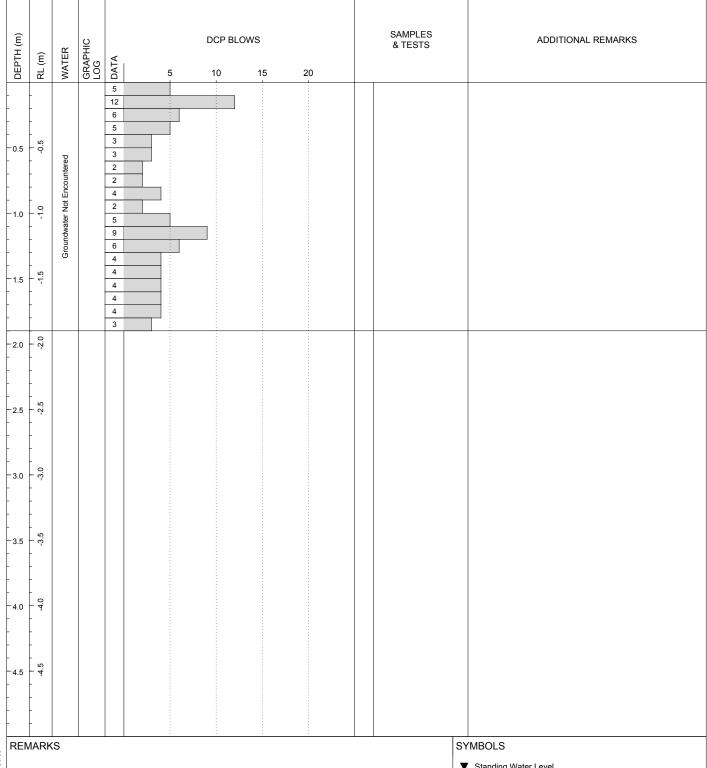
ENGINEER: CAW

OFFICE:

AZUMITH: 0°

PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 

RDCL



#### **DCP LOG**

**Lot 24 DCP02** 

SHEET 94 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928632.00

NORTHING: 5607634.00

STARTED: 15/11/2017 FINISHED: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

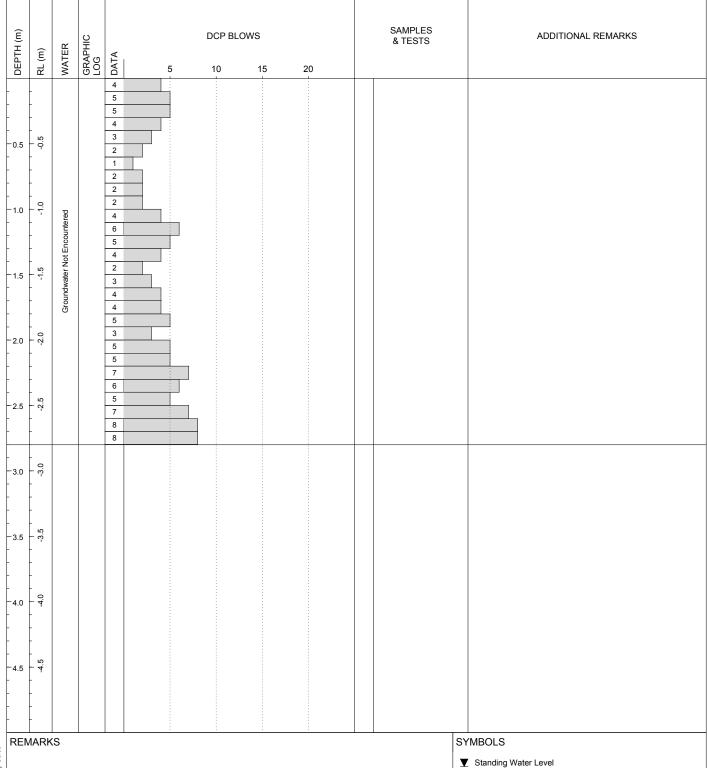
DATUM: ELEVATION: LOGGED BY: PGR/SBD DATE: 15/11/2017

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:





#### **DCP LOG**

**Lot 24 DCP03** 

SHEET 95 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928417.00

LOCATION: Lyndhurst Road, Frimley STARTED: 15/11/2017

NORTHING: 5607653.00

FINISHED: 15/11/2017

DATUM:

LOGGED BY: PGR/SBD DATE: 15/11/2017

ELEVATION:

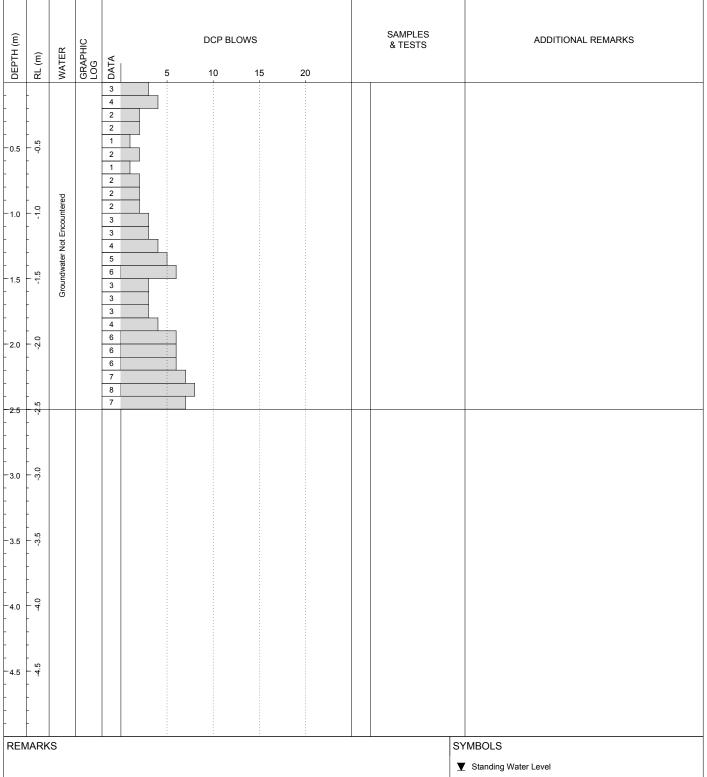
CHECKED BY: JM

STATUS: Final data

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90°

CONTRACTOR: MACHINE: OPERATOR:



<⊢ Out flow ├─ In flow

RDCL



ENGINEER: CAW

#### **DCP LOG**

**Lot 24 DCP04** 

SHEET 96 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928626.00

STARTED: 16/11/2017

NORTHING: 5607661.00

FINISHED: 16/11/2017

DATUM:

LOGGED BY: PGR/SBD DATE: 16/11/2017 DATE: 24/11/2017

LOCATION: Lyndhurst Road, Frimley

**ELEVATION:** 

CHECKED BY: JM

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 4 4 2 -0.5 0.5 3 2 2 2 3 -1.0 1.0 Groundwater Not Encountered 3 5 3 3 1.5 5 5 5 4 2.0 4 6 5 6 6 -2.5 -2.5 6 8 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow ├─ In flow



#### HAND AUGER LOG

Lot 25 HA01

**SHEET 24 OF 43** 

DATE: 15/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607666.00 FINISHED: 15/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

DATUM: NZTM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NITACTOR: OPERATOR:												
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		<u>2</u> 6 TS <u>26</u> −	TOPSOIL; dark brown. Firm; dry.	D	FM							
- -0.5	-0.5		_	SILT; medium yellowish brown. Soft; non-plastic; moist.									
- - - 1.0 -	-1.0		×××	SILT, with trace clay; medium yellowish brown with grey and orange mottle. Soft; non-plastic; moist; fine sand lenses at 1.1m.	М	S							
_	- 10		, ×,	EOH: 1.40m									
1.5 -	-1.5												
-2.0	-2.0												
- - -2.5 -	-2.5												
3.0	-3.0												
- -3.5 -	-3.5												
- -4.0 -	- 4												
- -4.5 -	4.5												
	-												
									REI	MARKS			

too hard to pull auger

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



### **Lot 25 DCP01**

SHEET 97 OF 176

DATE: 15/11/2017

DATE: 24/11/2017

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

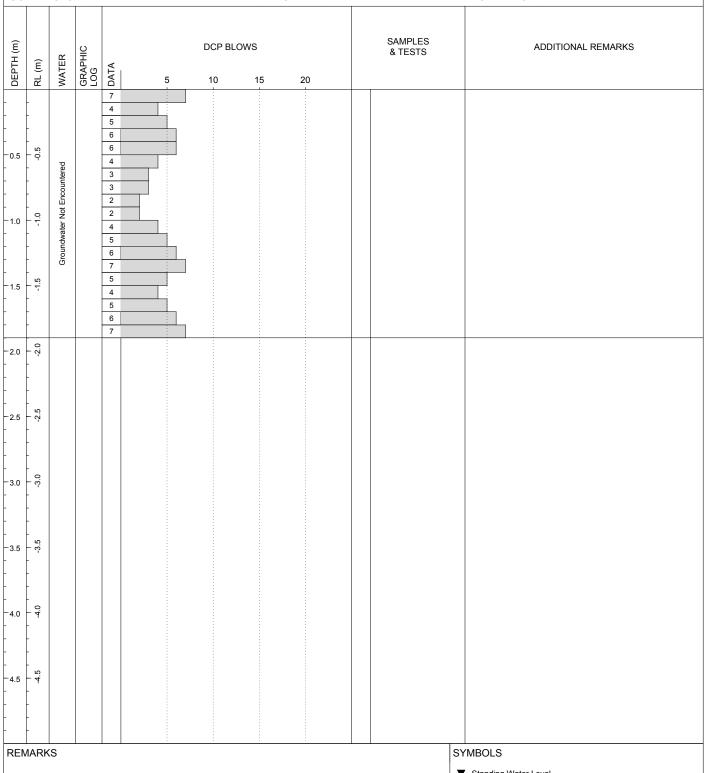
DATUM:

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607647.00 FINISHED: 15/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



Produced with Core-GS by Geroc

▼ Standing Water Level

← Out flow

├─ In flow

RDCL



#### **DCP LOG**

**Lot 25 DCP02** 

SHEET 98 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928633.00

NORTHING: 5607667.00

STARTED: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

7

FINISHED: 15/11/2017 LOGGED BY: JB

STATUS: Final data

DATE: 15/11/2017

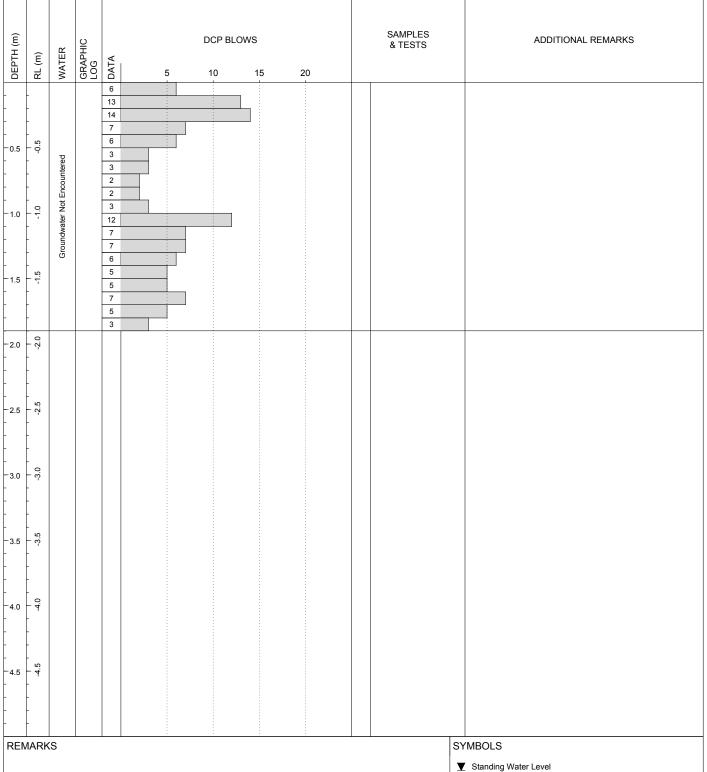
DATUM: ELEVATION:

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90°

CONTRACTOR: MACHINE: OPERATOR:



<⊢ Out flow ├─ In flow

RDCL



**Lot 25 DCP03** 

SHEET 99 OF 176

DATE: 15/11/2017

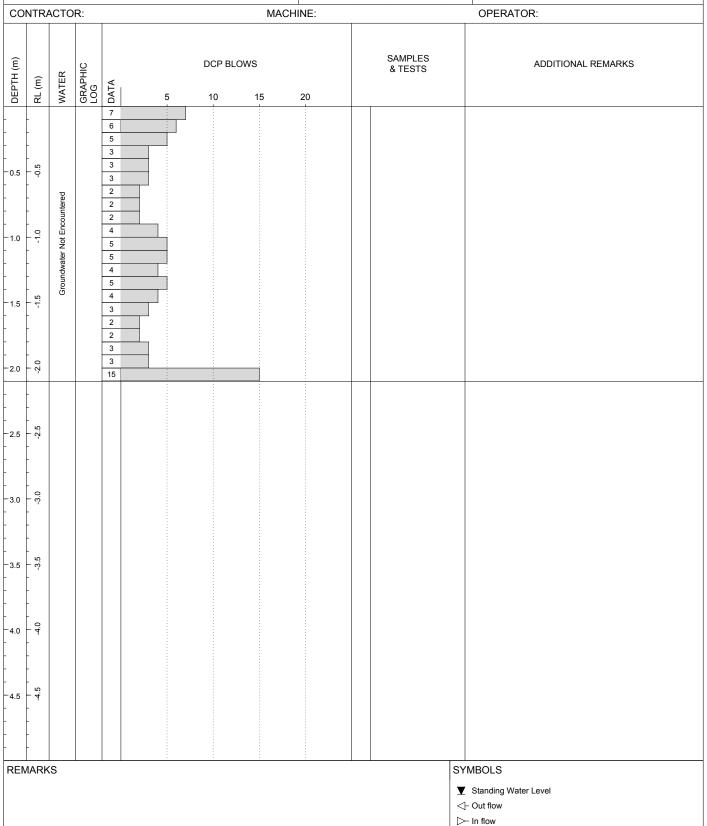
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607671.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





## Lot 25 DCP04

SHEET 100 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607660.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CO	NTRA	ACTO	R:				MA	CHINE:			OPERATOR:
DEPTH (m)	m)	ER	GRAPHIC LOG	A		DCP BL	ows		SAMPLES & TESTS		ADDITIONAL REMARKS
DEP	RL (m)	WATER	GRA LOG	DATA	5	10	15	20			
- 0.5	-			5 7 6 5 4 4 4							
- -1.0 -	-1.0	ncountered		2 3 3 6 6 5 5							
- -1.5 -	-1.5	Groundwater Not Encountered		4 4 4 3							
-2.0	-2.0	9		4 4 5 5 5							
- -2.5 -	-2.5			5 5 7 6							
-3.0	-3.0			5							
-3.5	-3.5										
-4.0	- 4.0										
-4.5 -	4.5										
REM	//ARK	KS	I		1	:	; ;	:		<	/MBOLS / Standing Water Level  - Out flow In flow

Produced with Core-GS by Geroc

RDCL



#### HAND AUGER LOG

Lot 26 HA01

**SHEET 25 OF 43** 

DATE: 15/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 15/11/2017 EASTING: 1928661.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607671.00 FINISHED: 15/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:
OUNTINAOTOIN.	OI LIVATOR.

				0. 2. 0. 1. 0.						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		24 3 2 TS 24 3	TOPSOIL; dark brown. Firm; dry.	D	FM				
- -0.5	-0.5		× ×	SILT; medium orangish brown with trace grey. Soft; non-plastic; moist.						
- - -1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	SILT; medium yellowish brown. Soft; moist; with trace dark brown silt pockets.	M	S				
- -1.5 -	-1.5		×	EOH: 1.30m						
-2.0	-2.0									
- - -2.5 -	-2.5									
-3.0	-3.0									
- - -3.5	-3.5									
- - -4.0	- - 4 - 0:									
- - -4.5 -	- 4.5									
-	-									
	REMARKS									

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 26 DCP01** 

SHEET 101 OF 176

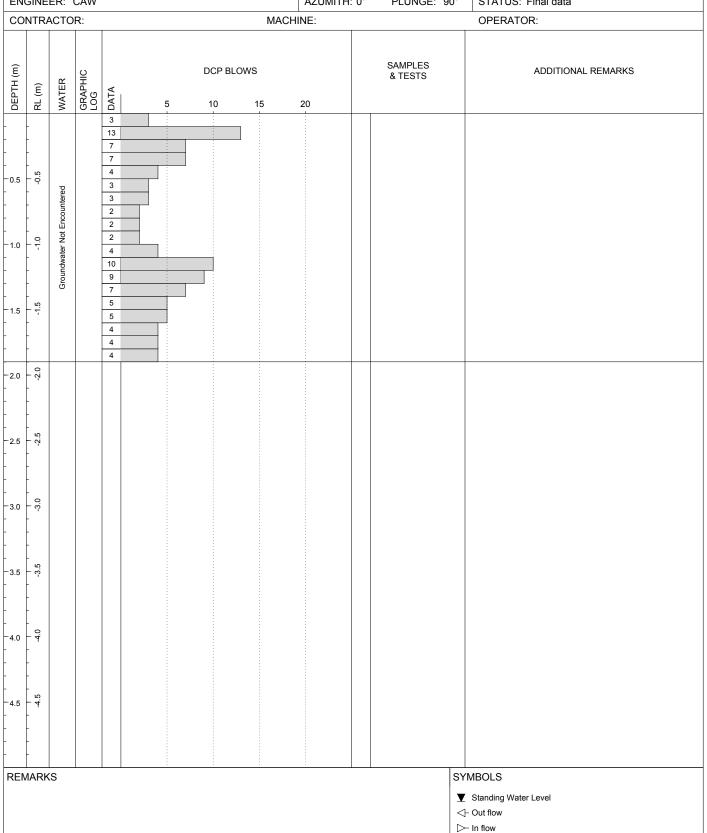
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607657.00 FINISHED: 15/11/2017 DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





**Lot 26 DCP02** 

SHEET 102 OF 176

DATE: 15/11/2017

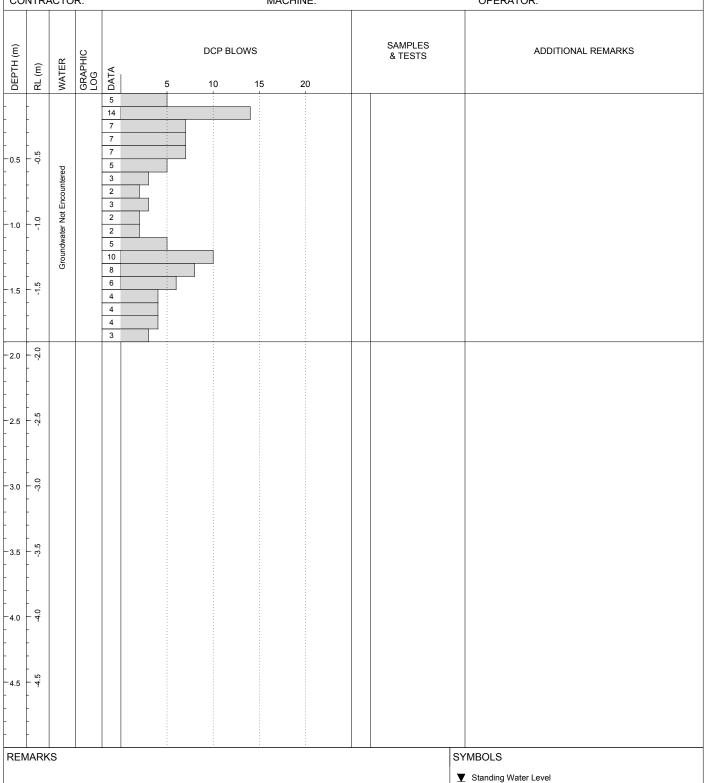
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 1928663.00 EASTING: STARTED: 15/11/2017

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607661.00 FINISHED: 15/11/2017 DATUM: LOGGED BY: JB

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017 ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



<- Out flow 



## Lot 26 DCP03

SHEET 103 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928651.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607676.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ΔΖΙΙΜΙΤΗ: 0° STATUS: Final data

ENGINEER: CAW AZUMIT									ZUMITH: 0°	PLUNGE:	90°	STATUS: Final data
CONTRACTOR: MACHINE									:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	6	5	DCF	P BLOWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
- - -0.5 -	-0.5	Groundwater Not Encountered		3 3 2 2 2 4								
- - -1.0 -	-1.0			3 3 4 6 5								
- - 1.5 - -	- 1.5			4 3 4 4 3								
-2.0 -2.0 -	-2.0	0		3 3 4 5								
-2.5	-2.5			5 5 7 8 8								
-3.0	-3.0											
-3.5	-3.5											
-4.0 -	4.0											
- - -4.5 - -	4.5											
REM	MARK	(S					₹	MBOLS Standing Water Level Out flow In flow				



Lot 26 DCP04

SHEET 104 OF 176

DATE: 15/11/2017

LOGGED BY: JB

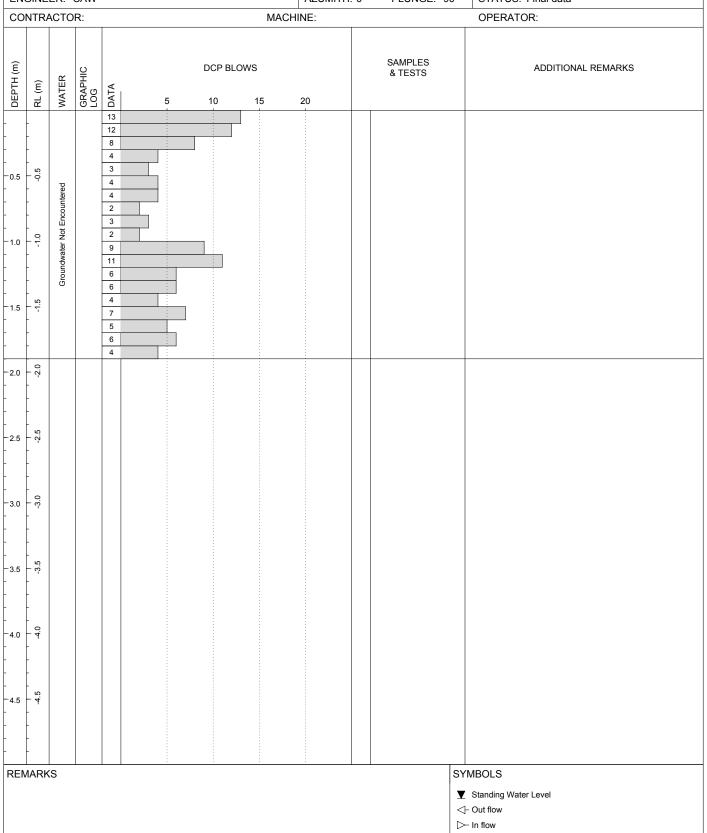
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM:

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607692.00 FINISHED: 15/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





## HAND AUGER LOG

Lot 27 HA01

**SHEET 26 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607682.00
 FINISHED: 16/11/2017

 DATUM: NZTM
 LOGGED BY: SLK
 DATE: 16/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

				0. 2.00.						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		20 2 2 TS 20 -	Topsoil; dark brown. Firm; moist; trace rootlets.		FM				
- -0.5 -	-0.5		× × ×	SILT; medium yellowish brown with dark brown silt pockets. Soft; low plasticity; moist.	М					
1.0	-1.0		× × ×	EOH: 1.30m		s				
- 1.5 -	-1.5		×	20.7.1.00.11						
-2.0	-2.0									
- - -2.5	-2.5									
-3.0	-3.0									
- -3.5	-3.5									
- -4.0 -	- 4.0									
- - -4.5	4.5									
-	-									
						I			REMARKS	1

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



# **Lot 27 DCP01**

SHEET 105 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607677.00 FINISHED: 15/11/2017
DATUM: LOGGED BY: JB

DATUM: LOGGED BY: JB DATE: 15/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGI	INE	ER:	CAW					AZUMITH	: 0°	PLUNGE: 90°	STATUS: Final data
CON	TRA	CTO	R:				MA	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG		5	DCP BL	OWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
-0.5	-0.5	untered		2 5 4 4 2 1 1							
1.0	-1.0	Groundwater Not Encountered		3 2 4 6 8							
1.5	-1.5	Ö		5 6 3 4 6							
2.0	-2.0			4							
2.5	-2.5										
3.0	-3.0										
3.5	-3.5										
4.0	4.0										
4.5	4.5										
REMA	MARKS									<u> </u>	YMBOLS  ▼ Standing Water Level  <- Out flow  >- In flow



**Lot 27 DCP02** 

SHEET 106 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607673.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGIN							AZUMITH	: 0°	PLUNGE: 90	
CONTR	RACTO	R:				MA	CHINE:			OPERATOR:
DEPTH (m) RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BLC	ows 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
- 0.5 - o			5 6 4 3 3 3							
-1.0	Groundwater Not Encountered		3 2 2 3 4 5							
-1.5 - \frac{\sqrt{1}}{\sqrt{1}}			4 4 5 5 6 4							
-2.0 - ?										
-2.5 - 2.5										
-3.0 - e										
-3.5 - $\overset{\Omega}{\varphi}$										
4.0 - 7										
-4.5 - <del>4</del>										
REMAR	MARKS									SYMBOLS  Standing Water Level  Out flow In flow

Produced with Core-GS by Geroc

RDCL

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**Lot 27 DCP03** 

SHEET 107 OF 176

DATE: 15/11/2017

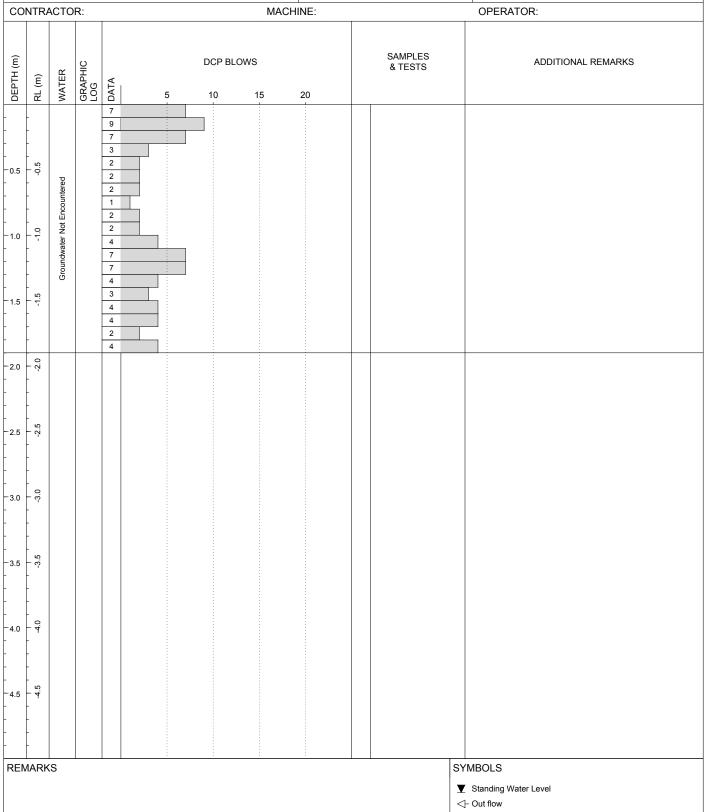
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 15/11/2017

LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



├─ In flow



# **Lot 27 DCP04**

SHEET 108 OF 176

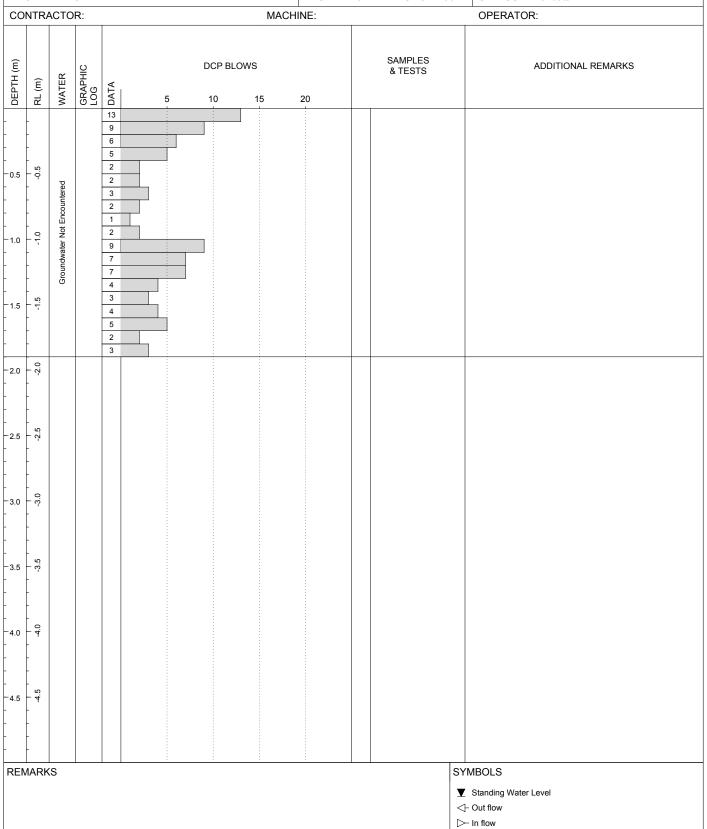
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607699.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





## HAND AUGER LOG

Lot 28 HA01

SHEET 27 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928691.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607693.00 FINISHED: 16/11/2017

DATUM: NZTM LOGGED BY: SLK DATE: 16/11/2017 DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS		
-	.5		20 2 2 TS 20 20 20 20	TOPSOIL; dark brown. Firm; moist.		FM						
-0.5 -	- o		, x,	SILT; medium yellowish brown with trace orange mottle and grey. Soft; moist; trace pockets of dark brown silt.	М							
1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	EOH: 1.30 m		S						
- 1.5 -	-1.5											
-2.0	-2.0											
-2.5	-2.5											
-3.0	-3.0											
- -3.5	-3.5											
- -4.0 -	4.0											
4.5	4.5											
-	-								REMARKS			
						ILIWARKS						

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 28 DCP01** 

SHEET 109 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607689.00
 FINISHED: 15/11/2017

 DATUM:
 LOGGED BY: PGR/SD
 DATE: 15/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGI	INE	ER:	CAW						AZUN	/IITH: 0°	PLUNGE:	90°	STATUS: Final data
CON	TRA	CTO	R:					MA	CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	3 4	5		DCP BLC	DWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
0.5	-0.5	ountered		5 5 2 2 2									
1.0	-1.0	Groundwater Not Encountered		1 3 5 6 7									
1.5	-1.5	Ø		7 6 5 4 4									
2.0 -	-2.0			3									
2.5	-2.5												
3.0	-3.0												
3.5	-3.5												
4.0	4.0												
4.5	4.5												
REMA	MARKS											▼	MBOLS Standing Water Level
										BDCI			- Out flow - In flow



**Lot 28 DCP02** 

SHEET 110 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928692.00

DATUM:

STARTED: 15/11/2017

NORTHING: 5607683.00

FINISHED: 15/11/2017

LOCATION: Lyndhurst Road, Frimley

LOGGED BY: PGR/SD CHECKED BY: JM

DATE: 15/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGINEER: CAW CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 4 6 6 1 -0.5 0.5 2 Groundwater Not Encountered 2 2 3 3 -1.0 6 8 7 7 6 1.5 5 5 5 4 -2.0 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level <- Out flow



**Lot 28 DCP03** 

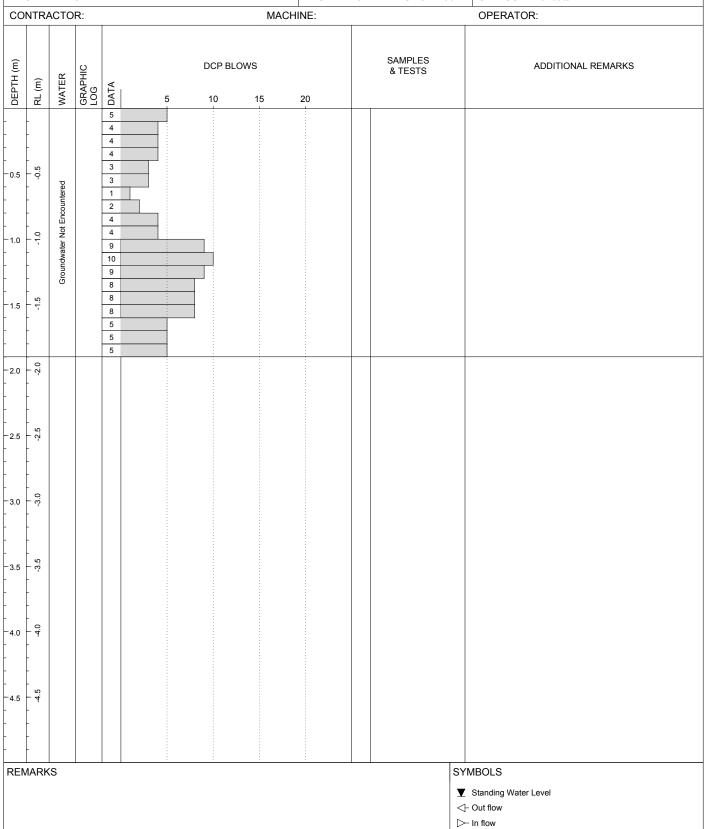
SHEET 111 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607700.00 FINISHED: 15/11/2017
DATUM: LOGGED BY: PGR/SD

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# **Lot 28 DCP04**

SHEET 112 OF 176

DATE: 24/11/2017

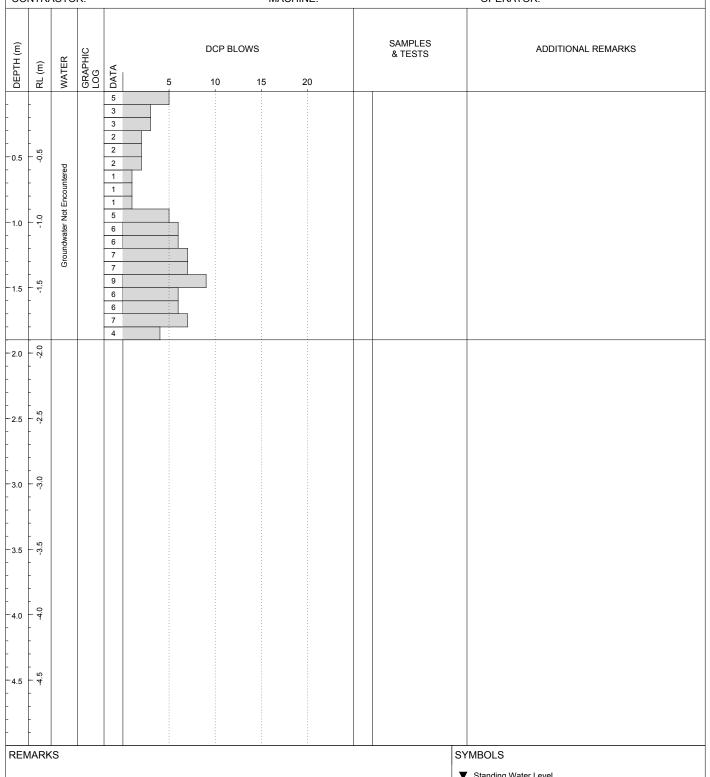
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 1928687.00 EASTING: STARTED: 15/11/2017 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607711.00 FINISHED: 15/11/2017 DATUM: LOGGED BY: PGR/SD DATE: 15/11/2017

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 

RDCL

8/308 Queen St East, Hastings | PO Box 28057, Havelock North 4130 | New Zealand Ph: +64 6 8771652 | Email: info@rdcl.co.nz



## HAND AUGER LOG

Lot 29 HA01

**SHEET 28 OF 43** 

DATE: 16/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607701.00 FINISHED: 16/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

DATUM: NZTM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

00	11110	7010	١.	OI LIXION	٠.						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		26 S ≥ TS <u>24</u> -	TOPSOIL; dark brown. Firm; moist.		FM					
- -0.5	-0.5		<u>k</u> <u>3k</u>	SILT; medium yellowish brown. Soft; moist; some pockets of dark brown silt.	м						
- - - 1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	SILT, with trace clay; medium yellowish brown, trace orange mottle and grey. Soft; non-plastic; moist.  EOH: 1.30m	IVI	S					
- 1.5	-1.5										
- -2.0 -	-2.0										
- - -2.5 -	-2.5										
- -3.0 -	-3.0										
- - -3.5 -	-3.5										
4.0	- 4.										
- - -4.5 -	- - 4 - 5:										
_	-									44.51/0	
	REMARKS										

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 29 DCP01** 

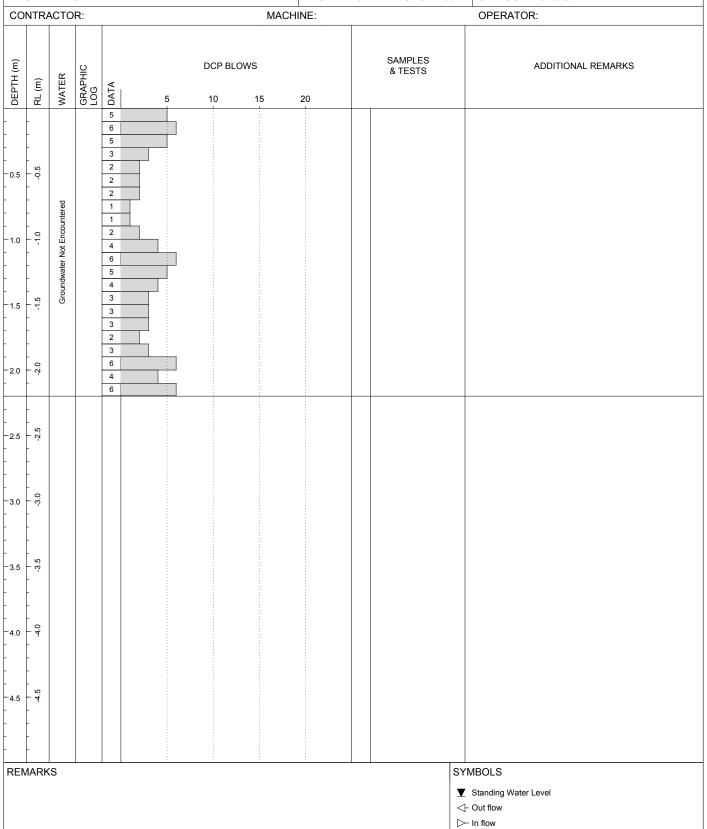
SHEET 113 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607712.00 FINISHED: 23/11/2017
DATUM: LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# **Lot 29 DCP02**

SHEET 114 OF 176

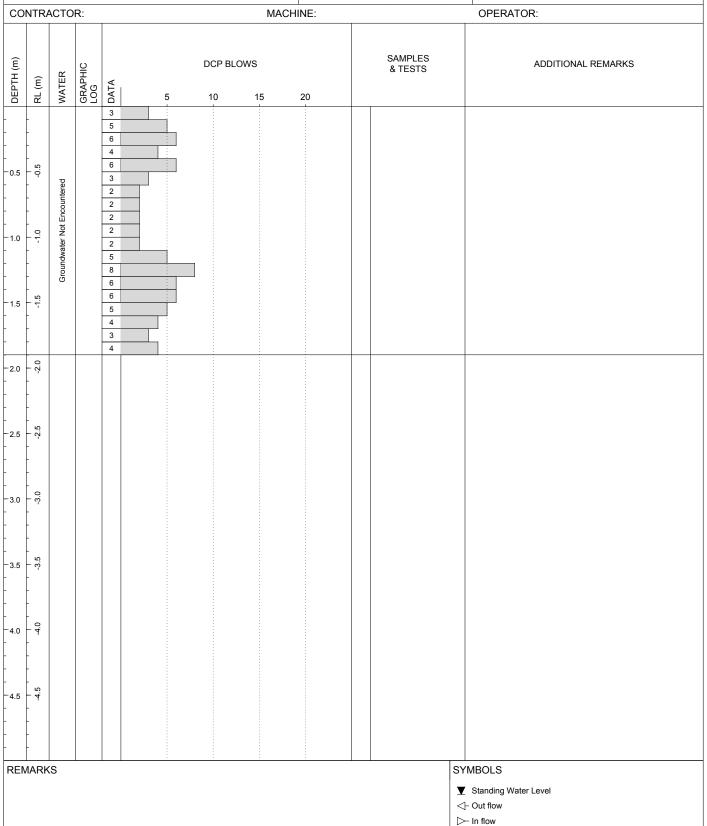
DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607694.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 29 DCP03** 

SHEET 115 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

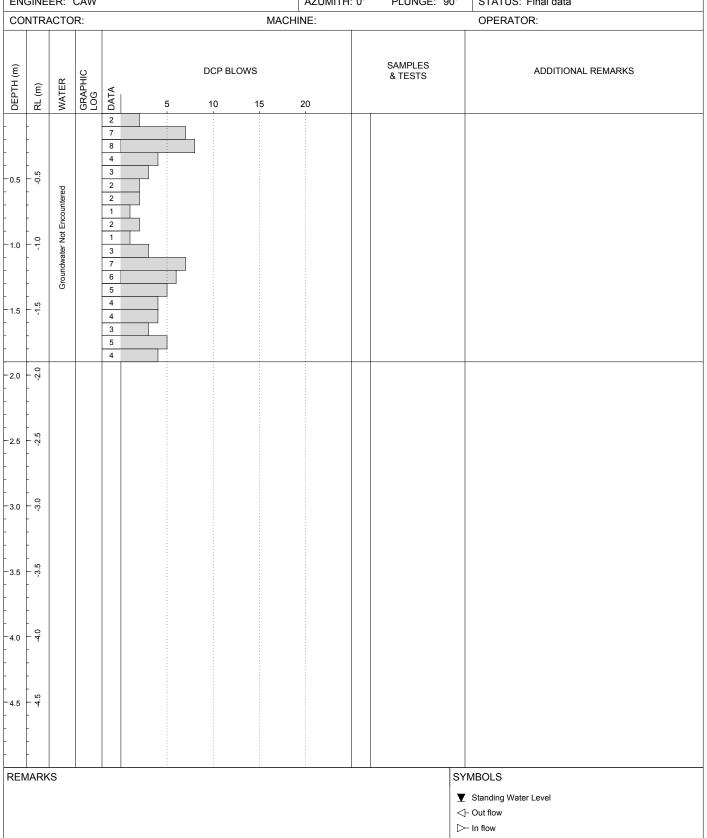
NORTHING: 5607715.00

FINISHED: 23/11/2017

DATUM:

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# **Lot 29 DCP04**

SHEET 116 OF 176

DATE: 23/11/2017

DATE: 24/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

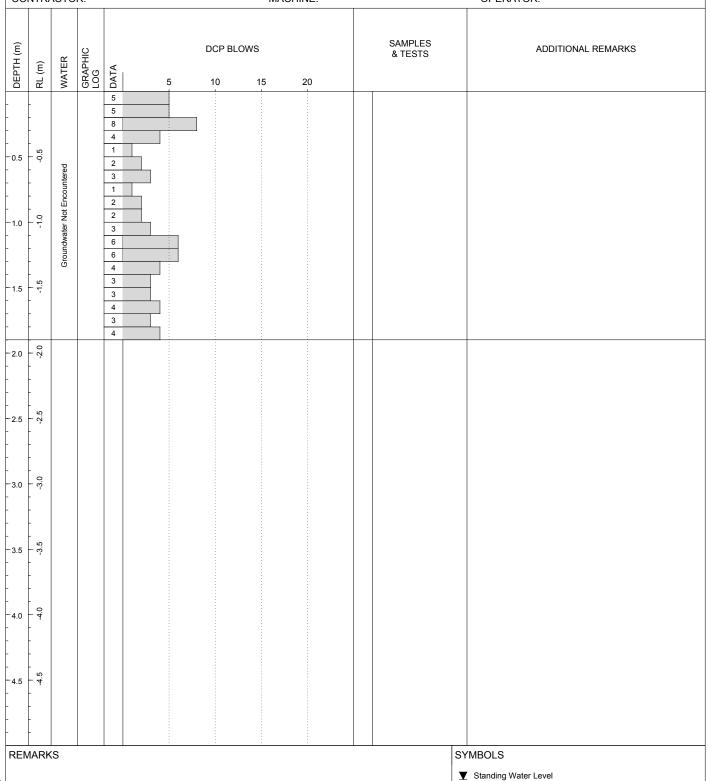
DATUM:

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607733.00 FINISHED: 23/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



← Out flow

├─ In flow

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## HAND AUGER LOG

Lot 30 HA01

SHEET 29 OF 43

DATE: 16/11/2017

STATUS: Final data

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928686.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607731.00 FINISHED: 16/11/2017 DATUM: NZTM LOGGED BY: SLK

DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm

СО	NTRA	ACTO	R:	OPERATOR	:				-	
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		$\frac{\Delta D}{2}$ -	TOPSOIL; dark brown. Firm; moist.		FM				
- -0.5 -	-0.5		<u>te</u> <u>5te</u>	SILT; medium yellowish brown with orange mottle and trace grey. Soft; moist; pockets of dark brown silt to 0.6m.						
1.0	-1.0		× ,* × ,* × (× ,*)	SILT; medium yellowish brown. Soft; moist.	М	S				
-			× ×	EOH: 1.40m						
1.5  -	- 1.5									
-2.0	-2.0									
- - -2.5	-2.5									
-3.0	-3.0									
- -3.5	-3.5									
- -4.0	4.0									
- - -4.5 -	4.5									
	-								REMARKS	
									TALIWI WAY	
									SYMBOLS	
									▼ Standing Water Level	

<-- Out flow 



**Lot 30 DCP01** 

SHEET 117 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607755.00 FINISHED: 23/11/2017

DATUM: LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW					ZUMITH: 0°	PLUNGE	: 90°	STATUS: Final data
COI	NTR/	ACTO	R:				MACHINE	:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	∞ DATA	5	CP BLOWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
0.5		countered		3 3 4 3 2 2 2							
.0	- 1.0	Groundwater Not Encountered		1 1 4 4							
.5	- 1.5	9n		3 3 3 5 4							
2.0	-2.0			4							
.5	-2.5										
.0	-3.0										
.5	- 3.5										
.0	- 4 - 6 -										
1.5	- 4.5										
!EM	IARK	(S								▼	MBOLS Standing Water Level - Out flow

Produced with Core-GS by Geroc

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**Lot 30 DCP02** 

SHEET 118 OF 176

DATE: 23/11/2017

DATE: 24/11/2017

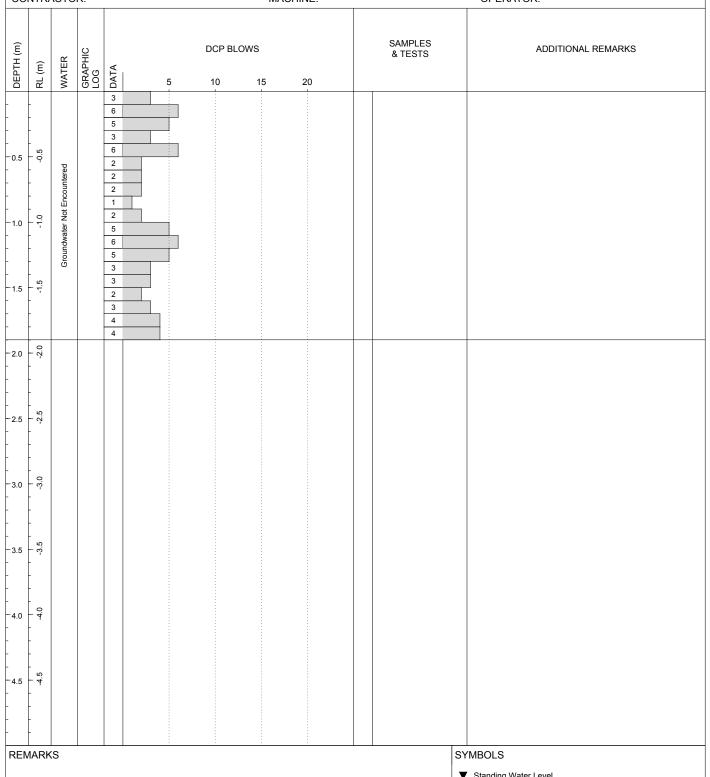
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 23/11/2017 EASTING: 1928712.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607738.00 FINISHED: 23/11/2017 DATUM: LOGGED BY: SLK

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow 

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**Lot 30 DCP03** 

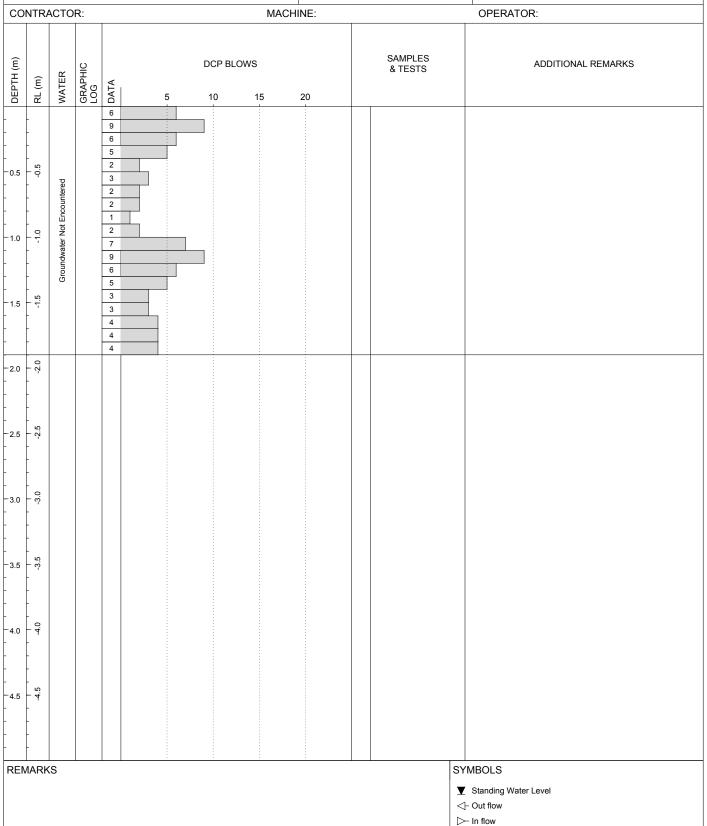
SHEET 119 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

ngs NORTHING: 5607723.00 FINISHED: 23/11/2017
DATUM: LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 30 DCP04** 

SHEET 120 OF 176

DATE: 23/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 23/11/2017

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CON	ITRA	СТО	R:						MACHI	NE.							
										INC.			_	OPERATOR:			
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA		5	DCP E	BLOWS 15		20		SAMPLES & TESTS		ADDITIONAL REMARKS			
_				1 3													
-0.5	-0.5	ountered		5 4 3 3 3 2													
-1.0	-1.0	Groundwater Not Encountered		2 3 4 3 4													
-1.5 <del>-</del>	-1.5	g		6 5 5 4 3													
-2.0	-2.0			4													
2.5	-2.5																
-3.0	-3.0																
3.5	-3.5																
4.0	4.0																
-4.5 - -	3.																
REMA												¥	MBOLS Standing Water Level Out flow				

Produced with Core-GS by Geroc

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# HAND AUGER LOG

Lot 31 HA01

**SHEET 30 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607662.00
 FINISHED: 16/11/2017

 DATUM: NZTM
 LOGGED BY: SLK
 DATE: 16/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

		1010		OI LIVATOI	٠.					
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		20 ± 2 ≥ TS	TOPSOIL; dark brown. Firm; trace rootlets.		FM				
- - -0.5	5.			Sandy SILT; medium brown. Soft; non-plastic; dry; sand, fine; becomes moist at 0.4m.	D	S				
-0.5 - -	-		X	SILT, with trace sand; medium orangish brown with orange mottle and trace grey. Soft; non-plastic; moist.		5				
- - -1.0	-1.0		× × ×	SILT, with some clay; medium orangish brown with orange mottle and grey. Non-plastic; moist.	М					
			- ×	EOH: 1.30m	+					
- 1.5 -	-1.5									
- - -2.0	-2.0									
- - -2.5 -	-2.5									
- - -3.0 -	-3.0									
- - -3.5 -	-3.5									
- - -4.0 -	4.0									
- - -4.5 -	- - 4 - 3:									
<u>-</u>										
									REMARKS	

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 31 DCP01** 

SHEET 121 OF 176

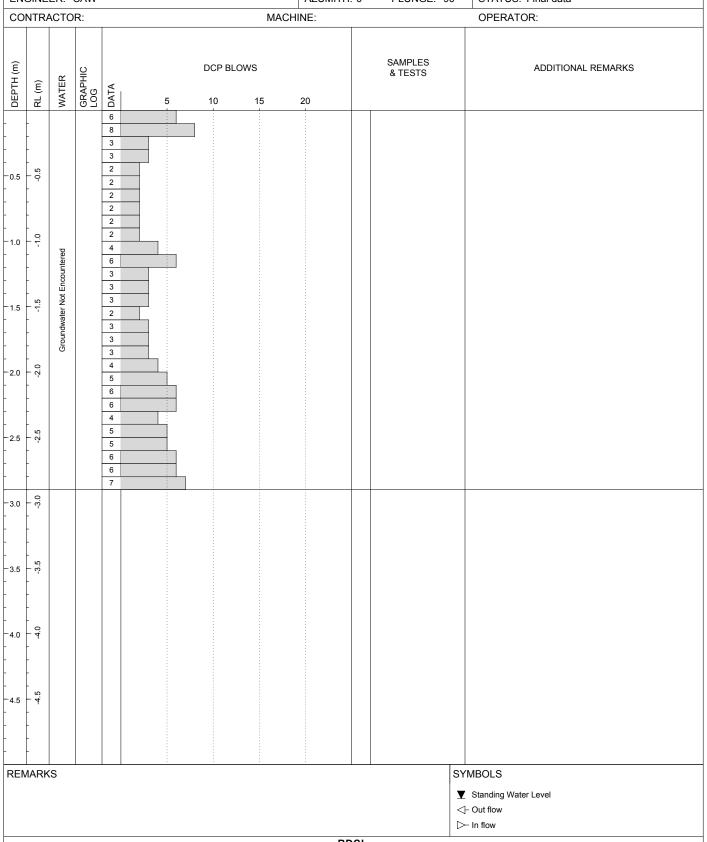
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607659.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





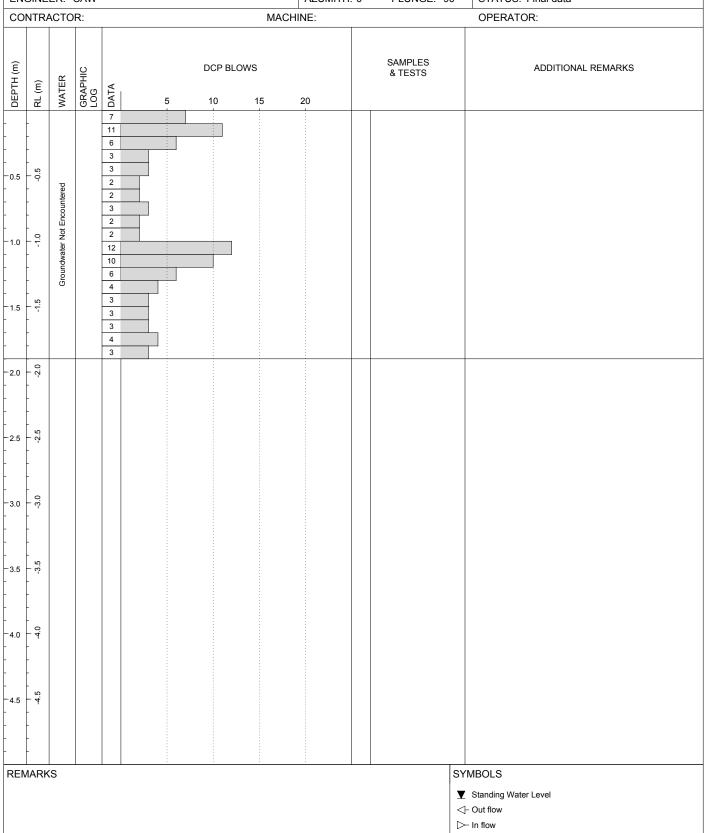
**Lot 31 DCP02** 

SHEET 122 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 31 DCP03** 

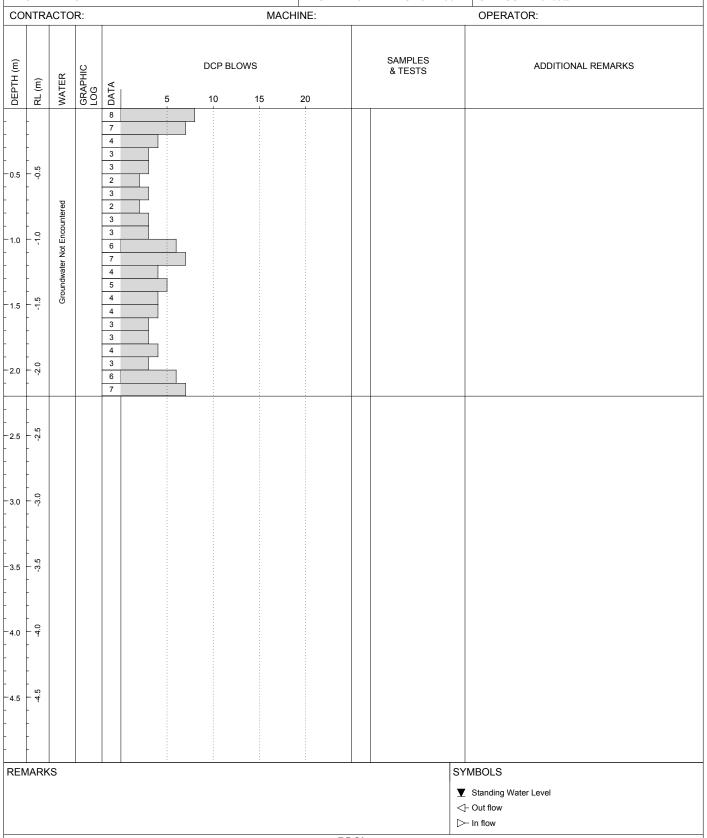
SHEET 123 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 15/11/201
LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 31 DCP04** 

SHEET 124 OF 176

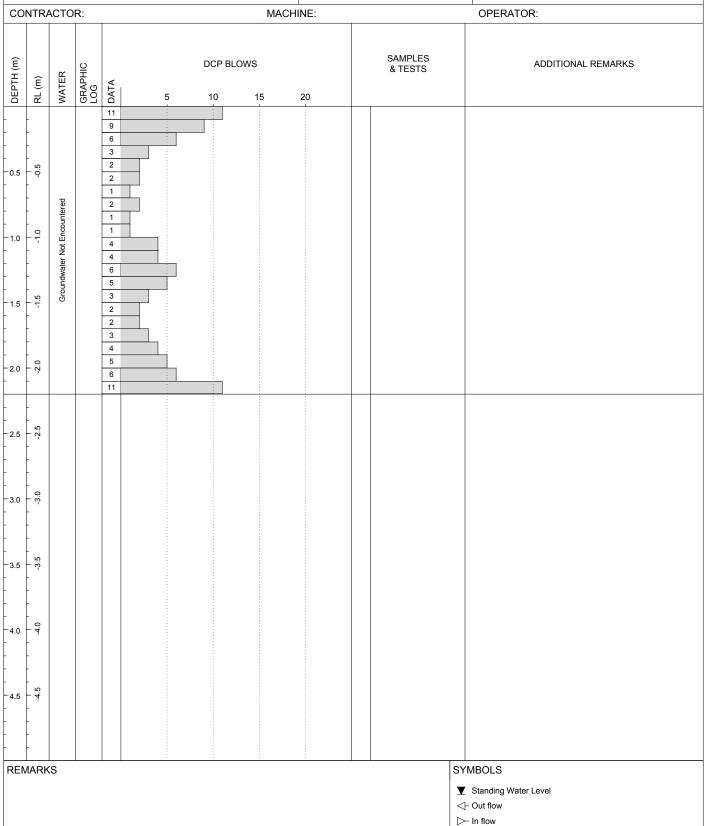
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607661.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





## HAND AUGER LOG

Lot 32 HA01

**SHEET 31 OF 43** 

DATE: 16/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928512.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607732.00 FINISHED: 16/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		<u>o</u> ∧ <u>o</u> ⊵ TS <u>o</u> ∧	TOPSOIL. Firm; dry.	D	FM				
-0.5	-0.5		× × ×	SILT; medium orangish brown with dark brown silt pockets. Soft; non-plastic; moist; with trace organic silt.						
- - - -1.0	-1.0		* × × × × × × × × × × × × × × × × × × ×	SILT, with trace clay and sand; medium orangish brown. Soft; non-plastic; moist; trace of sand at 1.2m increasing with depth.	М	s				
- - - -1.5	 		× × / × /		IVI					
-	-			Silty SAND; medium greyish brown. Medium dense; non- plastic; moist; lenses of sand and silt.		MD				
<del>-2.0</del> - -	- 7			SILT, with trace clay and sand; medium orange brown with trace orange mottle and grey. Soft; low plasticity; moist.		3				
- - -2.5	-2.5			EOH: 2.00 m						
-	- "									
3.0	-3.0									
-	-3.5									
-3.5 - -	Γ <sup>γ</sup>									
-4.0	4.0									
- - -4.5	- 4.5									
-	-									
									REMARKS	<u> </u>

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 32 DCP01** 

SHEET 125 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607737.00 FINISHED: 16/11/2017

DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGI	NE	ER:	CAW					AZUMITH	: 0°	PLUNGE: 90°	STATUS: Final data
CONT	TRA	СТО	R:	_			MAG	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL	OWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
	_			2							
-0.5	-0.5			4 1 2 2 1 1 2							
-1.0	-1.0	red		1 3 3 4							
-1.5	-1.5	Groundwater Not Encountered		3 2 2 1 3							
-2.0	-2.0	Groundw		3 2 5 4 4							
-2.5	-2.5			3 4 4 5 5							
-3.0	-3.0			6 6 8 9		1					
-3.5	-3.5										
-4.0	4.0										
-4.5	4.5										
REMA	RK	 S								   	/MBOLS
										<b>\</b>	<ul><li>✓ Standing Water Level</li><li>☐ Out flow</li><li>─ In flow</li></ul>
								RE	CL		



**Lot 32 DCP02** 

SHEET 126 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607721.00 FINISHED: 16/11/2017 DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

	IEER:			AZUMITH: 0	PLUNGE: 90°	STATUS: Final data
CONTR	RACTO	R:	M	ACHINE:		OPERATOR:
DEPTH (m) RL (m)	WATER	GRAPHIC LOG	DCP BLOWS  5 10 15 2	20	SAMPLES & TESTS	ADDITIONAL REMARKS
-0.5	;		4 5 3 2 1 1 2 2 1 2 1 1 2 1 1 1 1 1 1 1 1 1			
1.0			2 2 2 3 3 3 3			
1.5 - 7	Groundwater Not Encountered		3 3 3 3 5			
2.0 - 7	Ground		3 4 4 4 3 3			
2.5 - 7			3 5 6 4 5 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			
3.0 - 8			7 6 7 11			
3.5 – ကို						
4.0 - 4						
4.5 7						
REMAR	RKS				<b>Y</b>	/MBOLS  / Standing Water Level  - Out flow  - In flow



**Lot 32 DCP03** 

SHEET 127 OF 176

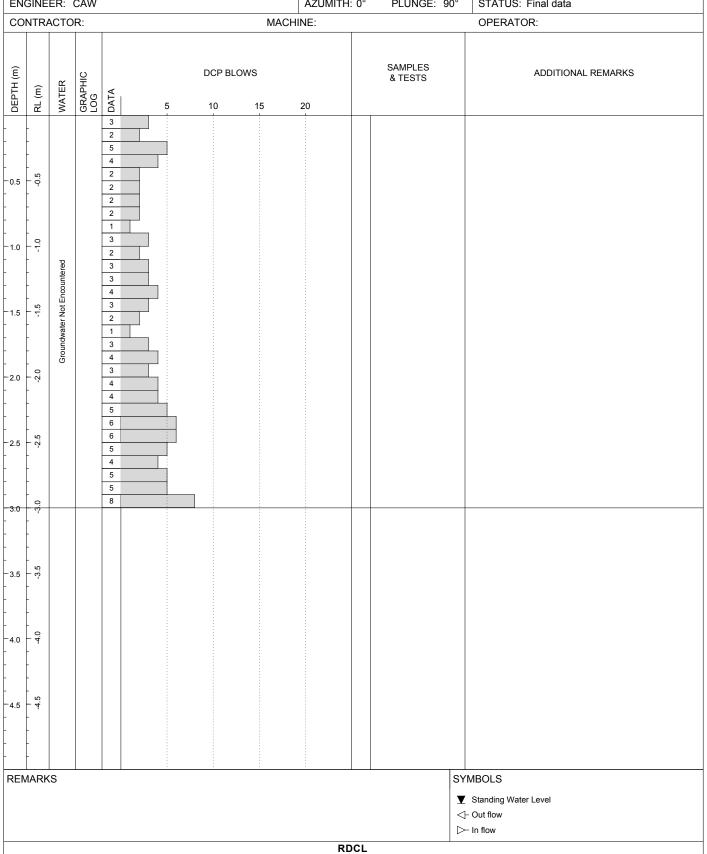
DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928500.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607725.00 FINISHED: 16/11/2017 DATUM: LOGGED BY: CI

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017





ENGINEER: CAW

## **DCP LOG**

**Lot 32 DCP04** 

SHEET 128 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928522.00

DATUM:

NORTHING: 5607744.00

STARTED: 16/11/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 16/11/2017

LOGGED BY: CI

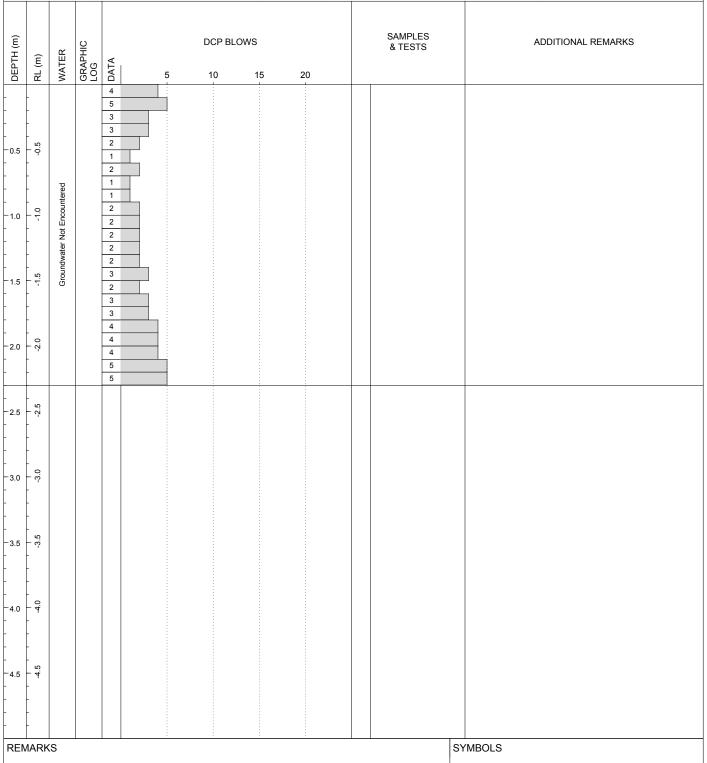
CHECKED BY: JM

DATE: 16/11/2017 DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



▼ Standing Water Level

Out flow

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## HAND AUGER LOG

Lot 33 HA01

**SHEET 32 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607759.00
 FINISHED: 14/11/2017

 DATUM: NZTM
 LOGGED BY: CI
 DATE: 16/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 20/11/2017
ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

	SOUTHOUSE.												
DEРТН (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		<u>2</u> / TS <u>ab</u>	TOPSOIL; light brown.									
- - -0.5	-0.5			SILT, with trace topsoil; medium orangish brown with some dark brown pockets. Soft; non-plastic; moist.									
- - - - -1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	SILT; medium orangish brown with grey. Soft; non-plastic; moist.	М	S							
-	- ' -		×	Sandy SILT; medium orangish brown with grey. Non-plastic; sand increasing with depth.									
1.5 	-1.5			\EOH: 1.40 m									
- - - -2.0 -	-2.0												
- - -2.5 -	-2.5												
- - -3.0 -	-3.0												
- - -3.5 -	-3.5												
- - -4.0 -	- 4												
- - -4.5 - -	4 - 5:												
- 	-								REI	MARKS			

. .\_... .. .. ..

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 33 DCP01** 

SHEET 129 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607764.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW				AZUMITH:	0°	PLUNGE:	90°	STATUS: Final data
CON	ITRA	СТО	R:			MAC	CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA 5	DCP BLC	0WS 15	20		SAMPLES & TESTS		ADDITIONAL REMARKS
- 0.5 -	-0.5			2 2 2 1 2							
 - 1.0 - 	-1.0	ountered		2 3 2 4 6 6							
- 1.5 - 1.5 -	- 1.5	Groundwater Not Encountered		5 3 3 3 2							
-2.0 -	-2.0	9		3 3 4 2 4 5							
	-2.5			5 5 4 6	7						
-3.0 -	-3.0										
-3.5	-3.5										
-4.0 - - - - -	4.0										
-4.5 -	4.5										
RFM	ARK	S.		:	:	:	:			SY	MBOLS
, scivi/	REMARKS									▼ <-	Standing Water Level Out flow

Produced with Core-GS by Geroc



**Lot 33 DCP02** 

SHEET 130 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928397.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607750.00 FINISHED: 15/11/2017 DATUM: LOGGED BY: JB

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ΔΖΙΙΜΙΤΗ: 0° STATUS: Final data

ENG	GINE	ER:	CAW				AZUMITH	l: 0°	PLUNGE: 90°	STATUS: Final data
CONTRACTOR: MAC							CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	3	DCP BL0	DWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS
- - -0.5 -	-0.5			5 3 2 2 2 2 2						
- - 1.0 - -	-1.0	ountered		1 2 3 3 3 3 3						
- - 1.5 - -	- 1.5	Groundwater Not Encountered		4 4 2 2 2 3						
- 2.0 - -	-2.0	9		2 2 2 4 6 6						
- 2.5 - - -	-2.5			6 4 5 5 5 6 7	l L					
-3.0 -	-3.0									
- -3.5 -	-3.5									
- - -4.0 -	4.0									
- - -4.5 -	4.5									
REM	MARK	(S						DCL	₹	MBOLS Standing Water Level - Out flow - In flow



**RDCL** 

OFFICE:

## **DCP LOG**

**Lot 33 DCP03** 

SHEET 131 OF 176

DATE: 15/11/2017 DATE: 24/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM:

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607761.00 FINISHED: 15/11/2017

ELEVATION: CHECKED BY: JM

LOGGED BY: JB

ENGIN	EER:	CAW					AZUMITH	: 0°	PLUNGE: 90°	STATUS: Final data	
CONTR	R:				MAG	CHINE:			OPERATOR:		
DEPTH (m)	WATER	GRAPHIC LOG		5	DCP BLo	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS	
0.5 - 0			3 5 6 3 2 2 2 2								
1.0 - 5			2 2 3 3								
1.5 - 7	Groundwater Not Encountered		4 4 5 2 3 2								
2.0 - 7-			3 3 2 3 2	]							
2.5 - 7			3 3 4 4 5								
- - 3.0 - φ			7 9								
- 3.5 – ဗု											
4.0 - 4											
- 4.5 – <del>†</del> -											
REMAR	RKS								<b>Y</b>	/MBOLS // Standing Water Level 1- Out flow In flow	
							RD	CL			



Lot 33 DCP04

SHEET 132 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928596.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607769.00 FINISHED: 15/11/2017 DATUM: LOGGED BY: JB

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

AZUMITH: 0° FNGINFFR: CAW STATUS: Final data PLLINGE: 90°

EN	GINE	ER:	CAW					AZUMITH	l: 0°	PLUNGE: 90°	STATUS: Final data
CONTRACTOR: MACH								CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL 10	OWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
_				1							
-0.5				3 4 4 4 3 3							
-1.0	-1.0	ountered		2 1 3 4 3							
1.5	- 1.5	Groundwater Not Encountered		4 3 2 1							
2.0	-2.0	Gr		2 1 2 2 2							
2.5	-2.5			4 3 5 6 7		7					
3.0	-3.0			10							
3.5	-										
	-										
4.0	- 4										
4.5	- 4.5										
	-										
REN	I IARK	KS	1		:	:	:	<u>:</u>		SY	MBOLS
											Standing Water Level - Out flow - In flow
								RI	OCL		



**RDCL** 

OFFICE:

## HAND AUGER LOG

Lot 34 HA01

**SHEET 33 OF 43** 

DATE: 24/11/2017

CHECKED BY: JM

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928578.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607747.00 FINISHED: 16/11/2017 DATUM: NZTM LOGGED BY: CI DATE: 16/11/2017

ELEVATION: 0

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

СО	NTR	ACTO	R:	OPERATOR	•					
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
-	-		26 TS ⊵ TS <u>56</u>	TOPSOIL; light brown.						
- - -0.5			* × \	SILT; medium orangish brown. Soft; non-plastic; with trace organic silt (pockets).						
- 1.0	-1.0		× × × × × × × × × × × × × × × × × × ×	SILT, with trace rootlets; medium orangish brown with trace orange mottle. Soft; non-plastic; moist.	М	s				
-	- '		××							
-1.5	- 1-5:		××	EOH: 1.40m						
	<u>'</u>									
-2.0	-2.0									
-2.5	-2.5									
-3.0	-3.0									
-3.5	-3.5									
-4.0	- 6.4									
-	<u> </u>									
- -4.5 -	- 4									
	-									
									REMARKS	

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 34 DCP01** 

SHEET 133 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607748.00 FINISHED: 14/11/2017 DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGINEER: CAW	AZUMITH: 0°	PLUNGE: 90°	STATUS: Final data							
CONTRACTOR: MAC	CHINE:		OPERATOR:							
MATER (m)  WATER GRAPHIC LOG DATA  12 12 14 15 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	20	SAMPLES & TESTS	ADDITIONAL REMARKS							
0.5 - $\frac{10}{9}$										
1.0 - Q 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2										
1.5 - L. Soundwater No Encountered 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3										
2.0 - \( \frac{\omega}{\sqrt{\omega}} \) \( \frac{2}{\omega} \) \( \frac{3}{3} \) \( \frac{4}{4} \) \(										
2.5 - N										
3.0 - $\frac{\circ}{\circ}$										
3.5 - vi										
4.0										
4.5										
+										
REMARKS	·	▼ <-	MBOLS Standing Water Level Out flow							
	D In flow RDCL									

Produced with Core-GS by Geroc



**Lot 34 DCP02** 

SHEET 134 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607734.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE:									1: 0*	PLUNGE: 90	0°	STATUS: Final data
CONTRACTOR: MACHINE:								CHINE:				OPERATOR:
DЕРТН (m)	RL (m)	WATER	GRAPHIC LOG		5	DCP BL	OWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
	-0-5			5 2 2 2 1 1 2 3 3								
 - 1.0 - 	-1.0	countered		3 1 2 3 3 3								
 - 1.5 - 	- 1-	Groundwater Not Encountered		3 3 3 3								
-2.0	-2.0	9		3 3 3 3 3 3								
-2.5	-2.5			3 4 5 6 8								
-3.0	-3.0											
3.5	-3.5											
-4.0 -	0.4											
	- 4-											
REM	ARK	S									▼ <-	MBOLS Standing Water Level Out flow In flow

Produced with Core-GS by Geroc

RDCL



**Lot 34 DCP03** 

SHEET 135 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 15/11/2017 LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0°  CONTRACTOR: MACHINE:									PLUNGE: 90°	STATUS: Final data		
CONTRACTOR: MACHINE:								MA			OPERATOR:	
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA		5	DCP BL	OWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
_	-		-	3								
	-			2								
	-			2								
0.5	-0.5			1								
	-			3								
				2								
1.0	-1.0	ered		3								
	-	ncount		3								
	- 10	Groundwater Not Encountered		3								
1.5	-1.5	idwatei		3								
	-	Grour		4								
	-2.0			3								
2.0	-2			4								
	-			5		j						
2.5	-2.5			5 6								
2.0	-			7								
				9								
3.0	-3.0											
	-											
	-											
3.5	-3.5											
	-											
	-											
4.0	- <del>4</del>											
	-											
	-											
4.5	- 4.5											
	-											
	-											
REM	1ARK	S.	1			-		•			s	YMBOLS
												Standing Water Level
												→ Out flow  >- In flow
									R	DCL		



Lot 34 DCP04

SHEET 136 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928577.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607760.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ΔΖΙΙΜΙΤΗ: 0° STATUS: Final data

ENC	SINE	ER:	CAW					AZUMIT	H: 0°	PLUNGE: 90°	STATUS: Final data
CONTRACTOR: MACHINE							MA	CHINE:			OPERATOR:
DEРТН (m)	6 7							20		SAMPLES & TESTS	ADDITIONAL REMARKS
- - - -0.5				5 4 2 2 2 2 2							
- 1.0 - -	-1.0	ntered		2 2 2 2							
- - -1.5 -	- 1.5	Groundwater Not Encountered		3 4 4							
- - -2.0	-5.0	Groun		2 3 2 2 2							
- - -2.5 -	2.5			1 3 3 4 5							
- - -3.0	- - 0. - -			5 7 10							
- -3.5	- - - - - - -										
- - -4.0	- 4 - 6 -										
- - -4.5	- - 4 - 75										
REM	IARK	SS								3	YMBOLS  ▼ Standing Water Level  Out flow  In flow



#### HAND AUGER LOG

Lot 35 HA01

**SHEET 34 OF 43** 

DATE: 16/11/2017

LOGGED BY: CI

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928566.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607735.00 FINISHED: 16/11/2017

DATUM: NZTM OFFICE: DATE: 20/11/2017 **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	ONTRACTOR: OPERATOR:														
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS					
_	-		20 2 2 TS 20 3	TOPSOIL; light brown. Firm.		FM									
-0.5	-0.5		× × ×	SILT; medium orangish brown with grey. Soft; non-plastic; moist.											
1.0	-1.0		× × ×		М	s									
- - 1.5 -			( × )	EOH: 1.50m											
-2.0	-2.0														
- -2.5 -	-2.5														
-3.0	-3.0														
-3.5	-3.5														
- -4.0 -	4.0														
- - -4.5 -	4.5														
-	-								REMARKS						
				REMARKS											

SYMBOLS

▼ Standing Water Level

<- Out flow ├─ In flow



**Lot 35 DCP01** 

SHEET 137 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 15/11/2017 LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

	CONTRACTOR: MACHINE:								: 0°	PLUNGE: 90	
CON	CONTRACTOR: MACHINE										OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL	OWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
_				3							
- - - -0.5	-0.5			2 3 2 2 2 2	_						
-1.0	-1.0	ıntered		3 1 2 2 2 2							
-1.5	-1.5	Groundwater Not Encountered		3 3 2 2 2 2 3	]						
-2.0	-2.0	Gr		2 1 2 3 2 2							
-2.5	-2.5			3 3 3 3 5							
-3.0	-3.0			10							
3.5	-3.5										
-4.0	- 4 - 6.										
-4.5	- 4.										
REM	IARK	(S									SYMBOLS  ▼ Standing Water Level <- Out flow  - In flow

Produced with Core-GS by Geroc

RDCL



**Lot 35 DCP02** 

SHEET 138 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: JB DATE: 15/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW					AZUMITH	: 0°	PLUNGE:	90°	STATUS: Final data
CONTRACTOR: MACHINE:								CHINE:				OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	2 DATA	5	DCP BLC	DWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
- - - -0.5	-0.5			2 3 1 1 2 1								
- - -1.0	-1.0	:ountered		1 2 3 5								
- - -1.5 -	- 1.5	Groundwater Not Encountered		2 2 2 2 2								
- - -2.0 -	-2.0	Ō		1 1 2 2 2 4 3								
- - -2.5 -	-2.5			4 5 3 7								
-3.0	-3.0											
- - -3.5 -	-3.5											
- - -4.0 -	4.0											
- - -4.5 -	4.5											
REM	IARK	(S									▼	MBOLS Standing Water Level Out flow
								DI	OCL			· In flow

Produced with Core-GS by Geroc

RDCL



**Lot 35 DCP03** 

SHEET 139 OF 176

DATE: 15/11/2017

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928556.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607738.00 FINISHED: 15/11/2017

DATUM: DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° STATUS: Final data PLUNGE: 90°

			CAW							AZUMITH	: 0°	PLUNGE:	90°	STATUS: Final data
CON	CONTRACTOR: MAC								MACH	INE:				OPERATOR:
DЕРТН (m)	RL (m)	WATER	GRAPHIC LOG			5	DC	P BLOWS	15	20		SAMPLES & TESTS		ADDITIONAL REMARKS
-0.5	-0.5			4 3 4 3 3 2 2										
1.0	-1.0	ntered		2 1 2 2 3 3										
1.5	-1.5	Groundwater Not Encountered		3 3 3 5										
2.0	-2.0	Gro		3 4 4 3 4										
2.5	-2.5			2 3 4 7 6										
3.0	<del>ن</del> 0:			7 12										
3.5	-3.5													
4.0	0.4													
-4.5 -	4.5													
REMA	ARK	S									OCL		▼ <	MBOLS Standing Water Level - Out flow - In flow



# **Lot 35 DCP04**

SHEET 140 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607745.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGIN						AZUMITH	: 0°	PLUNGE: 90	0°	STATUS: Final data
CONTRACTOR: MACHINE:										OPERATOR:
DEPTH (m)	WATER	GRAPHIC LOG		DCP BLC	15	20		SAMPLES & TESTS		ADDITIONAL REMARKS
			4 5 5 3 2 1 2 2							
- - -1.0 - \frac{1}{7}	untered		2 2 3 3 5 5							
	Groundwater Not Encountered		5 4 2 3 1							
-2.0			1 2 3 3 3							
-2.5 - N	Qi		3 5 4 2 7							
-3.0 - m	2		10							
-3.5 — ကို										
4.0 - 4	7									
-4.5 - 4	P									
REMAF	RKS		1 1 :	·	· ·	· .			<b>▼</b>	MBOLS Standing Water Level Out flow
	RDCL									



#### HAND AUGER LOG

Lot 36 HA01

**SHEET 35 OF 43** 

DATE: 16/11/2017

LOGGED BY: CI

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 16/11/2017 EASTING: 1928549.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5067717.00 FINISHED: 16/11/2017

DATUM: NZTM DATE: 20/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	NTRACTOR: OPERATOR:											
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; light brown. Firm.  SILT, with trace sand; medium orangish brown. Sand decreases with depth.		FM						
- - -1.0 -	-1.0		× × ×	EOH: 1.30 m								
- 1.5 -	- 1.5											
- - -2.0	-2.0											
- - -2.5 -	-2.5											
- -3.0	-3.0											
- -3.5	-3.5											
- -4.0	4.0											
- - -4.5 -	- - 4 - 3:											
_	-											
									REMARKS			

SYMBOLS

▼ Standing Water Level

<- Out flow ├─ In flow



**Lot 36 DCP01** 

SHEET 141 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 15/11/2017 1928557.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607721.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

AZUMITH: 0° FNGINFFR: CAW STATUS: Final data PLLINGE: 90°

ENGI								PLUNGE: 90°	STATUS: Final data		
CONTRACTOR: MACHINE:							MAG	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL	OWS 15	20		SAMPLES & TESTS	ADDITIONAL REMARKS
	_		-	2							
0.5	-0.5			2 2 1 2 2 2							
1.0	-1.0			2 2 3 3 2							
1.5	-1.5	Groundwater Not Encountered		1 2 1 3	]						
2.0	-2.0	Groundwate		2 2 2 3 3 5							
2.5	-2.5			3 4 4 4							
3.0	-3.0			5 5 6 7							
3.5	-3.5										
4.0	4.0										
4.5	4.5										
REMA	ARK	S								SY	/MBOLS
										<b>Y</b>	/ Standing Water Level  - Out flow   In flow
								RE	CL		



## **Lot 36 DCP02**

SHEET 142 OF 176

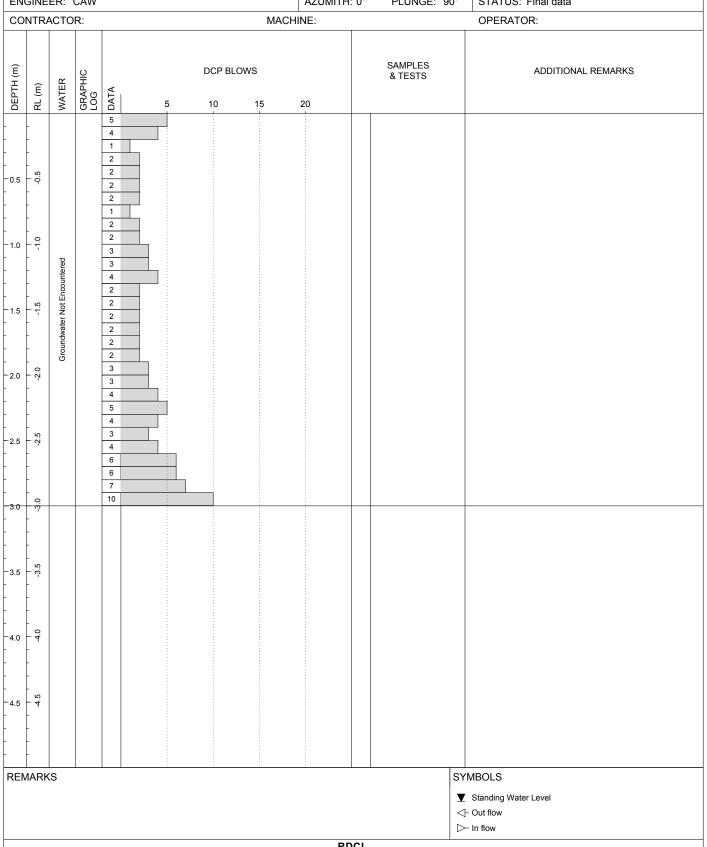
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607710.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 36 DCP03** 

SHEET 143 OF 176

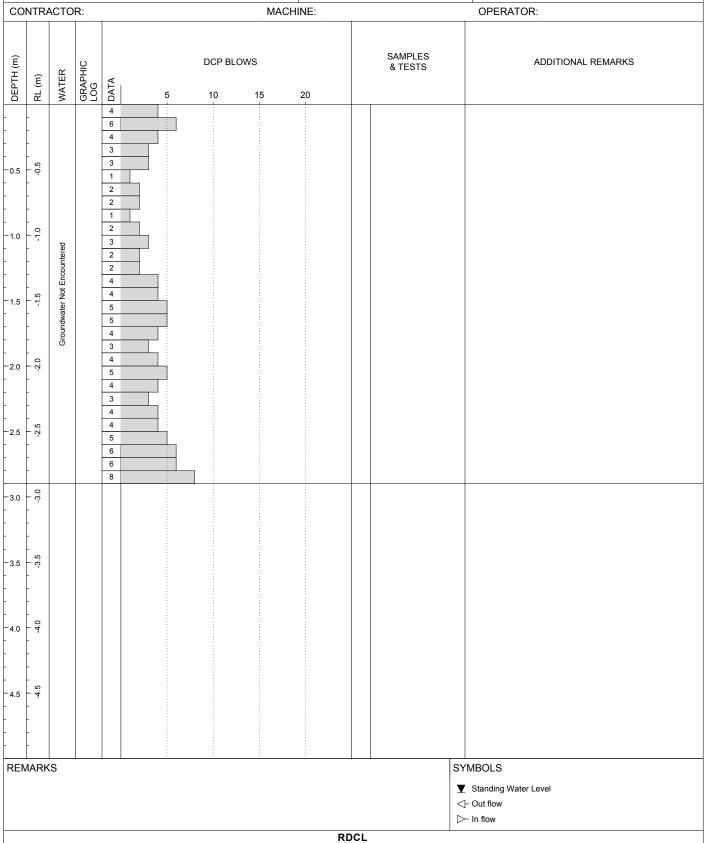
DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: 1928545.00 STARTED: 15/11/2017 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607728.00 FINISHED: 15/11/2017

DATUM: LOGGED BY: JB

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017





**Lot 36 DCP04** 

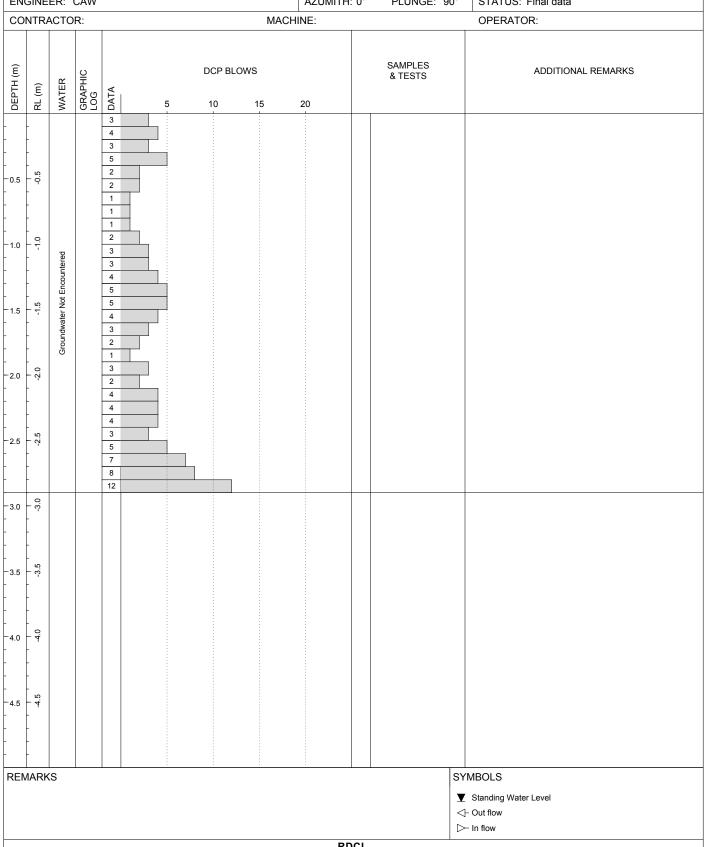
SHEET 144 OF 176

DATE: 15/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607733.00 FINISHED: 15/11/2017
DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





#### HAND AUGER LOG

Lot 37 HA01

**SHEET 36 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 DATUM:
 NZTM
 LOGGED BY:
 CI
 DATE:
 16/11/2017

 OFFICE:
 RDCL
 ELEVATION:
 0
 CHECKED BY:
 JM
 DATE:
 20/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	ONTRACTOR: OPERATOR:												
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS			
-	-		<u>2</u> ∧ 3 <u>2</u> TS =	Topsoil; light brown. Firm.		FM							
-0.5	-0.5		× ,	SILT; medium orangish brown, trace orange mottle. Soft; non-plastic; moist; sand increases with depth.									
1.0	-1.0		× × × × × × × × × × × × × × × × × × ×		М	S							
- - -1.5	- 1.5		, × × , × , × , × , × , × , × , × , × ,										
			× ×	EOH: 1.80m									
-2.0	-2.0												
-2.5	-2.5												
-3.0	-3.0												
-3.5	-3.5												
-4.0	- 4.0												
- -4.5	4.5												
	-												
									REMARKS				
1									1				

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



## **Lot 37 DCP01**

SHEET 145 OF 176

DATE: 16/11/2017

LOCATION: Lyndhurst Road, Frimley

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 16/11/2017 1928544.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607710.00 FINISHED: 16/11/2017

DATUM: DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

			CAW							IITH: 0°	PLUNGE:	90°	STATUS: Final data
СО	ONTRACTOR: MACHINE:												OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA		5	DCP B	LOWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
-	-			6									
-	-			3									
-0.5	-0.5			3									
-	-			1									
-	-	ntered		2									
- 1.0	-1.0	Encon		2									
-	-	ter Not		3		1							
-	-	Groundwater Not Encountered		3		l							
-1.5	-1.5	์ อั		2									
_	-			6									
-				6									
-2.0 -	-2.0			7									
-	-												
- -2.5	-2.5												
-	<u>'</u>												
_	-												
-3.0	-3.0												
-	-												
-	- -												
-3.5 -	-3.5												
-													
- 4.0	0.												
-4.0 -	- 4												
-	-								:				
- -4.5	- 4.5												
-	-												
-	-												
REN	/ //ARK	 ⟨S				<u>:</u>	:	<u>:</u>	:			SY	MBOLS
												▼	Standing Water Level
													- Out flow - In flow
L													



## **Lot 37 DCP02**

SHEET 146 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM 1928530.00 EASTING:

NORTHING: 5607706.00

STARTED: 16/11/2017

FINISHED: 16/11/2017

LOCATION: Lyndhurst Road, Frimley Frimley

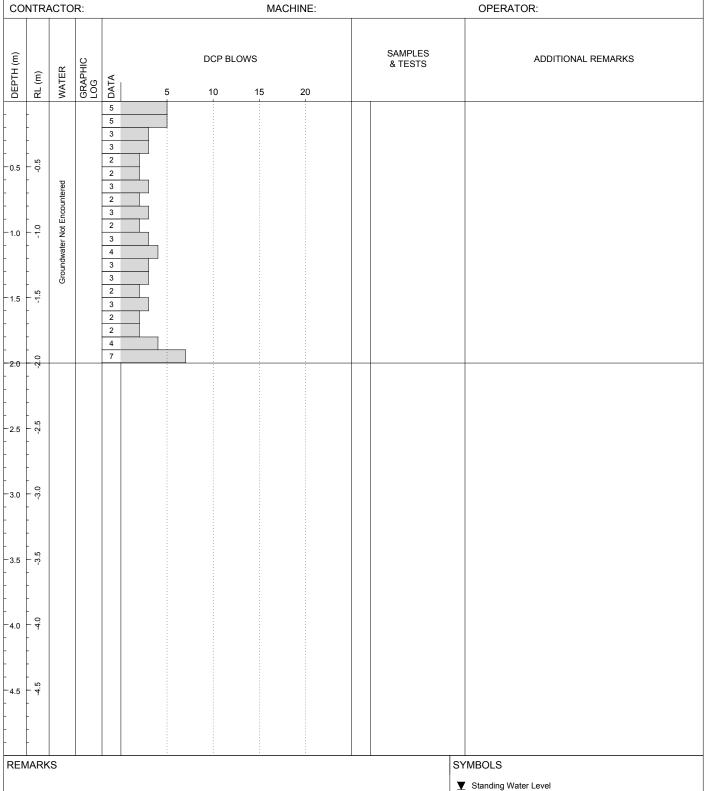
DATE: 16/11/2017

DATUM: OFFICE: **RDCL ELEVATION:** 

LOGGED BY: JB CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



Produced with Core-GS by Geroc

RDCL

<- Out flow ├─ In flow



## **Lot 37 DCP03**

SHEET 147 OF 176

DATE: 16/11/2017

DATE: 24/11/2017

LOCATION: Lyndhurst Road, Frimley

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

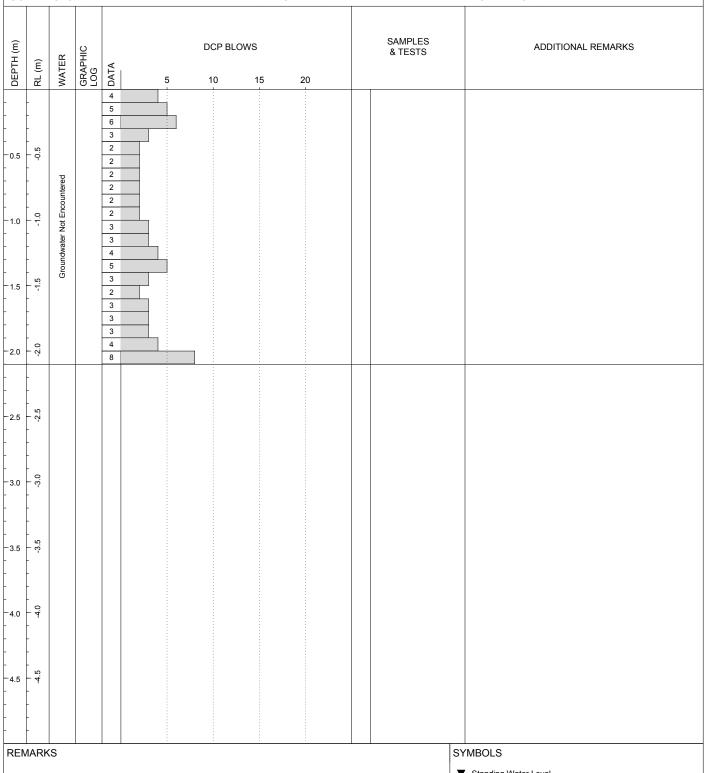
PROJECT: 170602050\_Stages 3-5 EASTING: 1928515.00 STARTED: 16/11/2017

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607712.00 FINISHED: 16/11/2017

> DATUM: **ELEVATION:**

OFFICE: **RDCL** CHECKED BY: JM ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



# **Lot 37 DCP04**

SHEET 148 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607725.00 FINISHED: 16/11/2017 DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENG							AZUWITI	1. U	PLUNGE. 90	STATUS. FIIIai data
CON	TRA	СТО	R:	I		MA	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	4	DCP BL	ows			SAMPLES & TESTS	ADDITIONAL REMARKS
DEF	귙	×	R O	DATA 2	10	15	20			
-				5						
+				4						
Į				3		:				
0.5	-0.5			2						
		p <sub>e</sub> .		2						
+		Groundwater Not Encountered		2						
1.0	-1.0	t Enc		3						
+		ter N		5		:				
ļ		ewpur		3						
+	-1.5	Grot		3						
1.5	7			4						
+				3 4						
-				5						
2.0	-2.0			9						
ŀ										
ţ										
2.5	-2.5									
ţ										
ŀ										
3.0	-3.0									
-										
ļ						:				
ŀ	2									
3.5	-3.5									
+										
ļ										
4.0	4.0									
F										
ŀ										
4.5	4.5									
ŧ										
-										
						:				
REMA	٩RK	S							S	YMBOLS
										Standing Water Level
										1- Out flow

├─ In flow



#### HAND AUGER LOG

Lot 38 HA01

**SHEET 37 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 STARTED: 22/11/2017 EASTING: 1928502.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607701.00 FINISHED: 22/11/2017

DATUM: NZTM LOGGED BY: PGR DATE: 22/11/2017 DATE: 24/11/2017 OFFICE: **RDCL** ELEVATION: 0 CHECKED BY: JM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

СО	CONTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		- A.A A. 	TOPSOIL; dark brown. Soft; dry; trace rootlets.		S						
-0.5	-0.5			Clayey SILT; light brown. Firm; low plasticity; dry.	D	FM						
1.0	-1.0		**************************************	Clayey SILT; light brown, orange mottle. Soft; low plasticity; moist; increasing clay content with depth.	М	S						
-	- 75		***	EOH: 1.50m								
<del>- 1.5</del>	- +			E01. 1.50III								
-2.0	-2.0											
2.5	-2.5											
3.0	-3.0											
-3.5	-3.5											
4.0	4.0											
-4.5 -	4.5											
									REMARKS			
	TCW/TCO											

SYMBOLS

▼ Standing Water Level

 $\triangleleft$  Out flow ├─ In flow



**Lot 38 DCP01** 

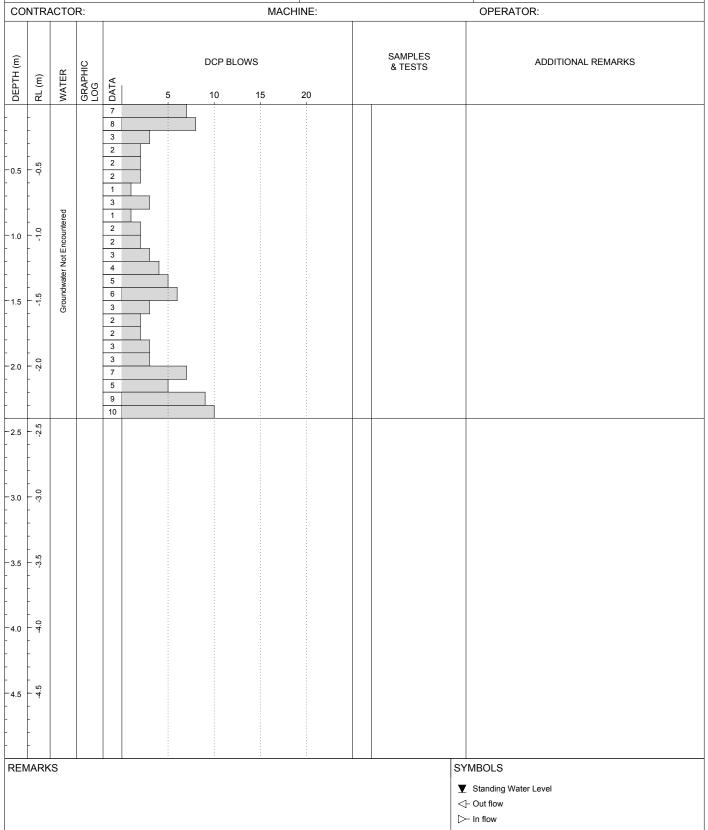
SHEET 149 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 10/11/2017 LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 38 DCP02** 

SHEET 150 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 17/11/2017 LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGIN	NEE	R: (	CAW					AZUMITH	: 0°	PLUNGE: 90°	STATUS: Final data		
CONT	ONTRACTOR: MAC							CHINE:			OPERATOR:		
DEPTH (m)	RE (III)	WATER	GRAPHIC LOG	o DATA	5	DCP BL	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS		
0.5 - o	G: O-	ered		3 3 5 3 2 2 2									
1.0 - 5	0.1	Groundwater Not Encountered		1 2 4 3 6									
1.5	C	Groun		5 6 3 4 5									
2.0 - %	0.2-			4 7 8		1							
2.5	6.2-												
3.0 - ფ	0.6-												
3.5 – ຫຼື	6.5												
4.0 - 7	4 5.												
4.5 - 4	ý.												
REMAF	RKS	6									SYMBOLS  Standing Water Level  Out flow  In flow		



**Lot 38 DCP03** 

SHEET 151 OF 176

DATE: 17/11/2017

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607705.00 FINISHED: 17/11/2017

DATUM:

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

EN	GINE	ER:	CAW						AZUMIT	H: 0°	PLUNGE: 90	)°	STATUS: Final data
СО	ONTRACTOR: MACHINE:												OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA		5	DCP B	BLOWS	20		SAMPLES & TESTS		ADDITIONAL REMARKS
-0.5		Groundwater Not Encountered		5 6 5 3 2 2 1 2									
- - - 1.0	-1.0	Groundwater N		3 2 5 7 9									
- - 1.5	- 75			10									
- 2.0	-2.0												
- -2.5 - - -	-2.5												
-3.0 - - -	-												
-3.5 - - - - - -	-4.0 -3.5												
- - - -4.5 -	- 4.5												
REN	ИARK	(S										<b>▼</b>	MBOLS Standing Water Level Out flow In flow



ENGINEER: CAW

#### **DCP LOG**

**Lot 38 DCP04** 

SHEET 152 OF 176

DATE: 24/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

EASTING: 1928505.00

DATUM:

NORTHING: 5607714.00

STARTED: 17/11/2017

LOGGED BY: JB

CHECKED BY: JM

FINISHED: 17/11/2017

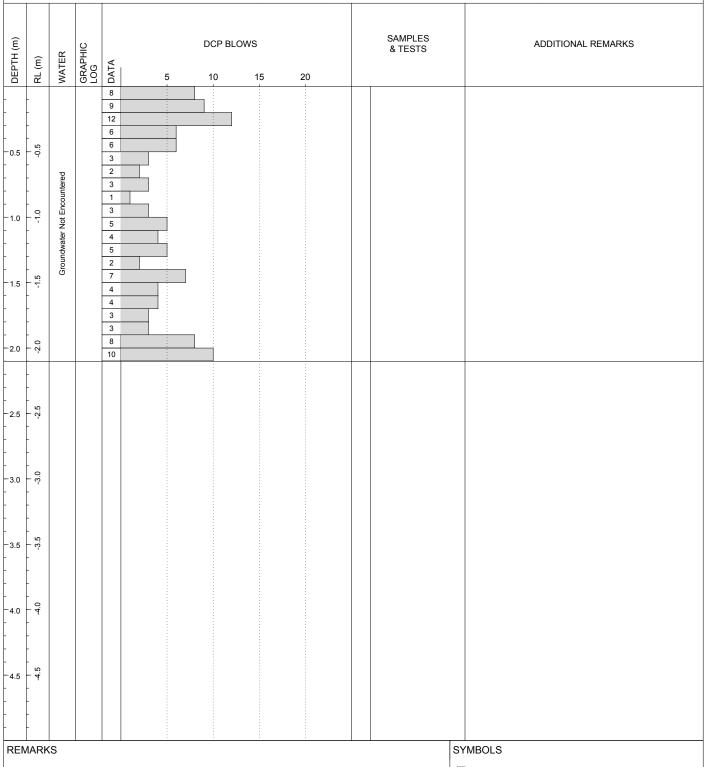
LOCATION: Lyndhurst Road, Frimley

DATE: 17/11/2017

OFFICE: RDCL ELEVATION:

AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



#### HAND AUGER LOG

Lot 39 HA01

**SHEET 38 OF 43** 

DATE: 22/11/2017

LOGGED BY: PGR

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607685.00 FINISHED: 22/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 24/11/2017

DATUM: NZTM

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	CONTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		24 ± 2 ⊵ TS	TOPSOIL; dark brown. Soft; dry; trace rootlets.	D							
-0.5	-0.5			Clayey SILT; light brown. Soft; low plasticity; moist.		s						
- -1.0 -	-1.0			Clayey SILT; brow, grey and orange mottle. Soft; low plasticity; moist; increasing clay to base.	M							
- -1.5	- 1.5			EOH: 1.50m								
-2.0	-2.0											
- -2.5 -	-2.5											
-3.0	-3.0											
-3.5	-3.5											
-4.0	- 4-											
- -4.5 -	4.5											
									REMARKS			
									T. C.IVIII II II I			

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 39 DCP01** 

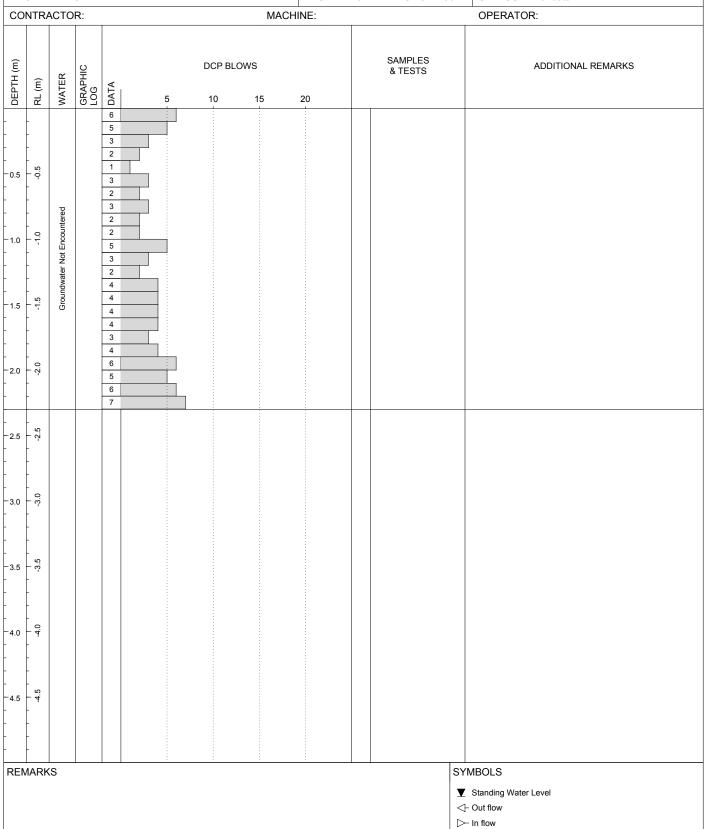
SHEET 153 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 17/11/2017
LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 39 DCP02** 

SHEET 154 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 PROJECT:
 170602050\_Stages 3-5
 EASTING:
 1928510.00
 STARTED:
 17/11/2017

 LOCATION:
 Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING:
 5607671.00
 FINISHED:
 17/11/2017

NORTHING: 5607671.00 FINISHED: 17/11/2017 DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGINI							AZUMITH	: 0°	PLUNGE: 90	
CONTR	RACTO	)R:				MAG	CHINE:			OPERATOR:
DEPTH (m) RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS
-0.5 - 0	countered		6 5 3 3 3 2 2 2 2							
-1.0	Groundwater Not Encountered		1 3 3 2 4							
-1.5 - \(\sigma\)			5 5 6 6 7							
-2.0 - <sup>0</sup> .										
2.5 - 2.5										
-3.0 - e										
3.5 – ซ										
-4.0 - 4										
-4.5 - 4										
REMAR	KS	l	1	:	<u> </u>	: 	:			SYMBOLS  Standing Water Level  Out flow  In flow

Produced with Core-GS by Geroc

RDCL



**Lot 39 DCP03** 

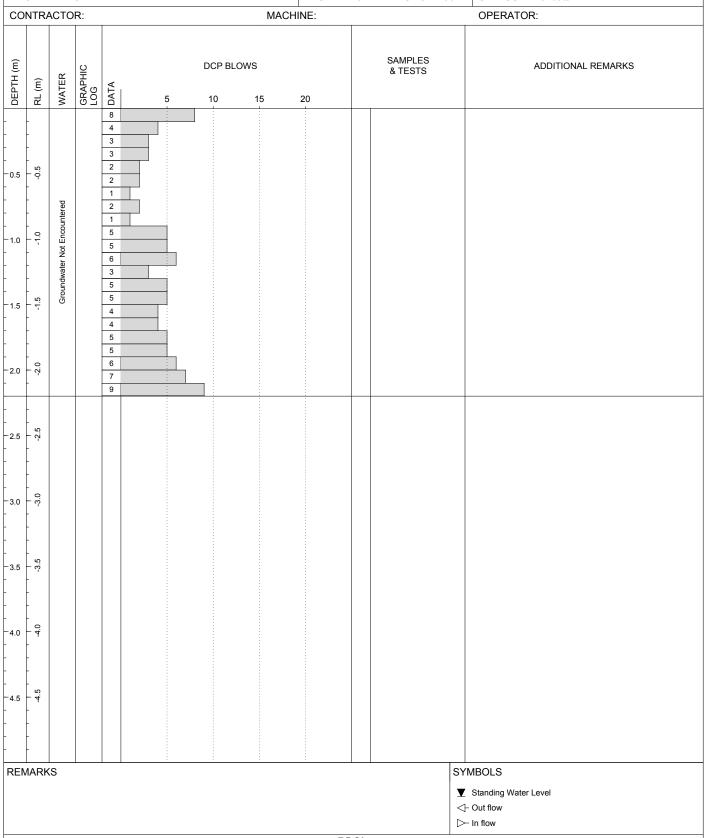
SHEET 155 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607674.00 | FINISHED: 17/11/2017 | LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





# **Lot 39 DCP04**

SHEET 156 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607694.00 FINISHED: 17/11/2017 DATUM: LOGGED BY: CI

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

											JMIIH: (	)°	PLUNGE: 90	U°	STATUS: Final data
CONT	ONTRACTOR: MACHINE:									CHINE:					OPERATOR:
DEPTH (m)										20			SAMPLES & TESTS		ADDITIONAL REMARKS
				6 3 3 2 4											
-1.0	0.1.	Groundwater Not Encountered		2 3 2 1 2											
-1.5		Groundwate		2 2 1 2 3 4											
-2.0 - 9	0.2-			4 4 5											
-2.5 - q	6.2-														
-3.0 - «	9.0														
-3.5 - «	ç. Ç.														
-4.0 - <del>1</del>	5.														
-4.5 - 4 - 4.5 - 4	4. v														
REMAI	RKS						<u>:</u>							▼	MBOLS Standing Water Level Out flow In flow

Produced with Core-GS by Geroc

RDCL



#### HAND AUGER LOG

Lot 40 HA01

**SHEET 39 OF 43** 

DATE: 22/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607666.00

FINISHED: 22/11/2017

DATUM: NZTM

LOGGED BY: PGR

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:
CONTINACTOR.	OI LIXATOIX.

00	NIIV	1010	١.	OI LIVATOR	•						
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS
-			24 2	TOPSOIL; dark brown. Soft; dry; trace rootlets.	D						
			<del>-</del>	Clayey SILT; light brown. Soft; low plasticity; moist.							
- -0.5	-0.5										
-			* *	Clayey SILT; dark brown and orange mottle. Soft; low plasticity; moist; increasing clay content toward base.	М	s					
1.0	-1.0			plasticity, moist, increasing day content toward base.							
-											
-			- S - S - S								
-1.5	-1.5		- × - ×	EOH: 1.60m							
ŀ											
	-2.0										
-2.0											
-											
- -2.5	-2.5										
	<u>'</u>										
-											
-3.0	-3.0										
-	-										
-											
-3.5	-3.5										
-	-										
F	0										
-4.0 -	- 4.0										
- -4.5	- 4.5										
	<u>'</u>										
-	-										
									DE	MARKS	
									KE	CANAINI	

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



## **Lot 40 DCP01**

SHEET 157 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

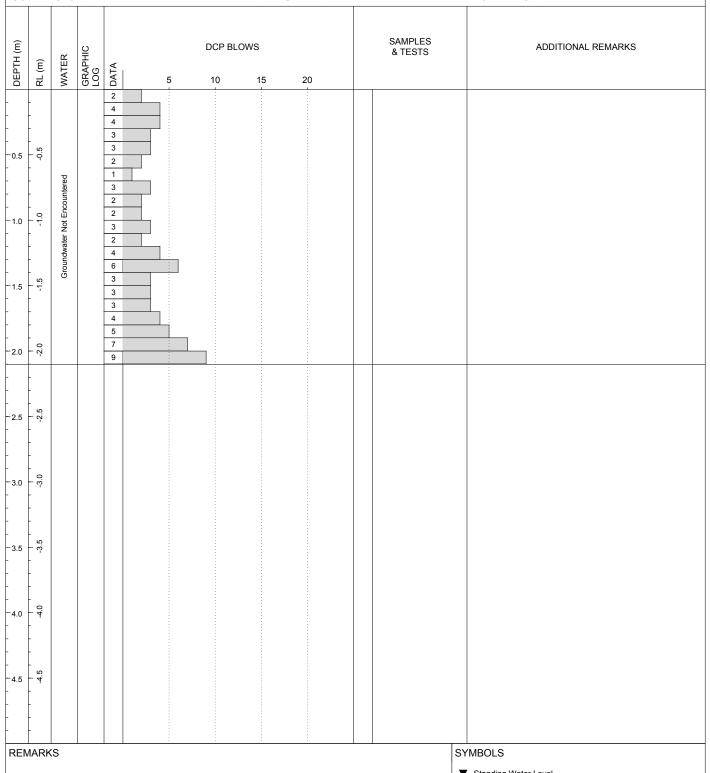
PROJECT: 170602050\_Stages 3-5 EASTING: 1928540.00 STARTED: 17/11/2017

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607667.00 FINISHED: 17/11/2017 DATUM: LOGGED BY: JB DATE: 17/11/2017

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017 ENGINEER: CAW AZUMITH: 0° STATUS: Final data

PLUNGE: 90°

CONTRACTOR: OPERATOR: MACHINE:



Produced with Core-GS by Geroc

▼ Standing Water Level

<- Out flow ├─ In flow

RDCL



## **Lot 40 DCP02**

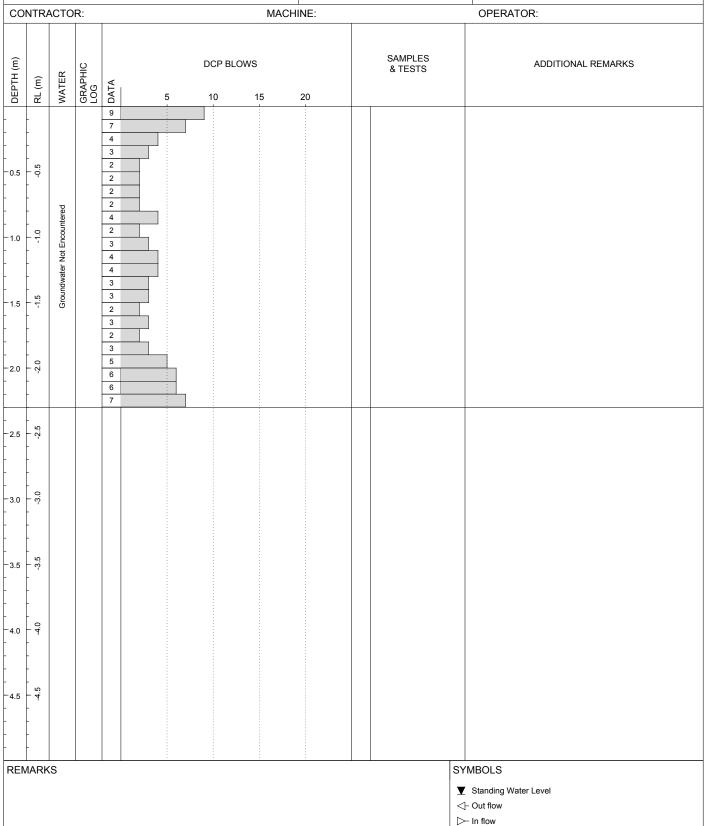
SHEET 158 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607649.00 FINISHED: 17/11/2017
DATUM: LOGGED BY: JB

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 40 DCP03** 

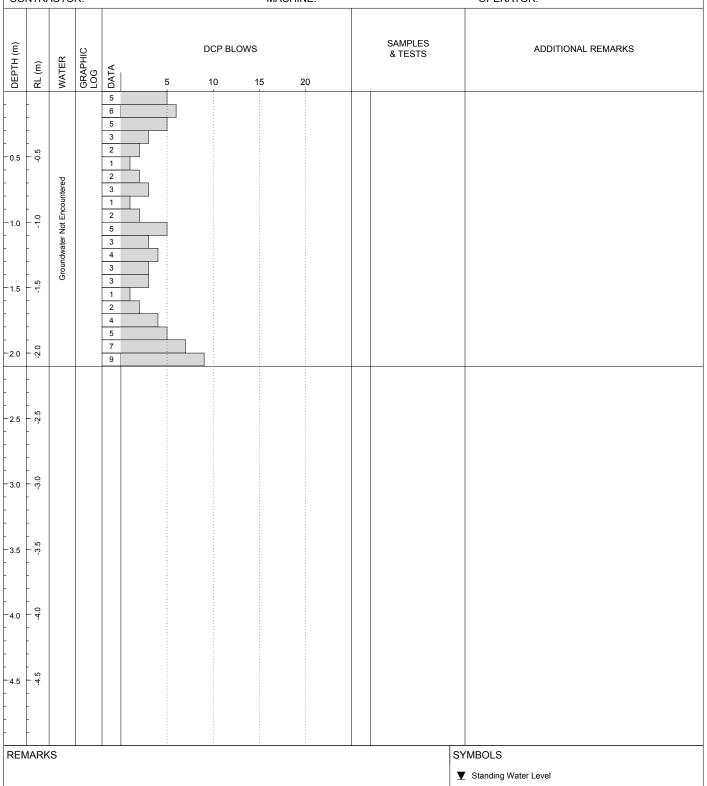
SHEET 159 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: JB DATE: 17/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017
ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



← Out flow

├─ In flow

RDCL



**RDCL** 

OFFICE:

#### **DCP LOG**

# Lot 40 DCP04

SHEET 160 OF 176

DATE: 17/11/2017

LOCATION: Lyndhurst Road, Frimley

STARTED: 17/11/2017

LOGGED BY: JB

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

PROJECT: 170602050\_Stages 3-5 EASTING: 1928531.00

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607680.00 FINISHED: 17/11/2017

DATUM:

**ELEVATION:** CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 4 2 2 2 -0.5 0.5 3 2 Groundwater Not Encountered 1 2 -1.0 1 3 2 2 2 -1.5 1.5 4 4 3 5 8 -2.0 2.0 10 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** ▼ Standing Water Level

Produced with Core-GS by Geroc

RDCL

<- Out flow ├─ In flow



#### HAND AUGER LOG

Lot 41 HA01

**SHEET 40 OF 43** 

DATE: 22/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607686.00

FINISHED: 22/11/2017

DATUM: NZTM

LOGGED BY: PGR

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:
CONTINACTOR.	OI LIXATOIX.

DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
			20 ± 2 2 T S	TOPSOIL; dark brown. Soft; dry; trace rootlets.	D					
-	- 1			Clayey SILT; light brown. Soft; low plasticity; moist.						
F	[ ]		- S							
-0.5	-0.5				м	S				
	-			Clayey SILT; brown, orange mottle, dark lenses. Soft; low plasticity; moist.						
1.0	0.		S - S	E <del>OH: 1.00m</del>						
- 1.0	- '			(C-1)	1					
Ī										
- 1.5	-1.5									
- 1.5	``									
-										
-2.0	-2.0									
- 2.0	- 4									
	-2.5									
-2.5 -	F 7									
ţ										
-	-3.0									
-3.0 -	- <sub>γ</sub>									
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-3.5	rċ									
-3.5 -	- <sub>γ</sub>									
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-4.0 -	- 4									
t										
-	ري ا									
-4.5 -	4.5									
t	t l									
-	-									
-					_		-	-	<del></del>	

REMARKS

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 41 DCP01** 

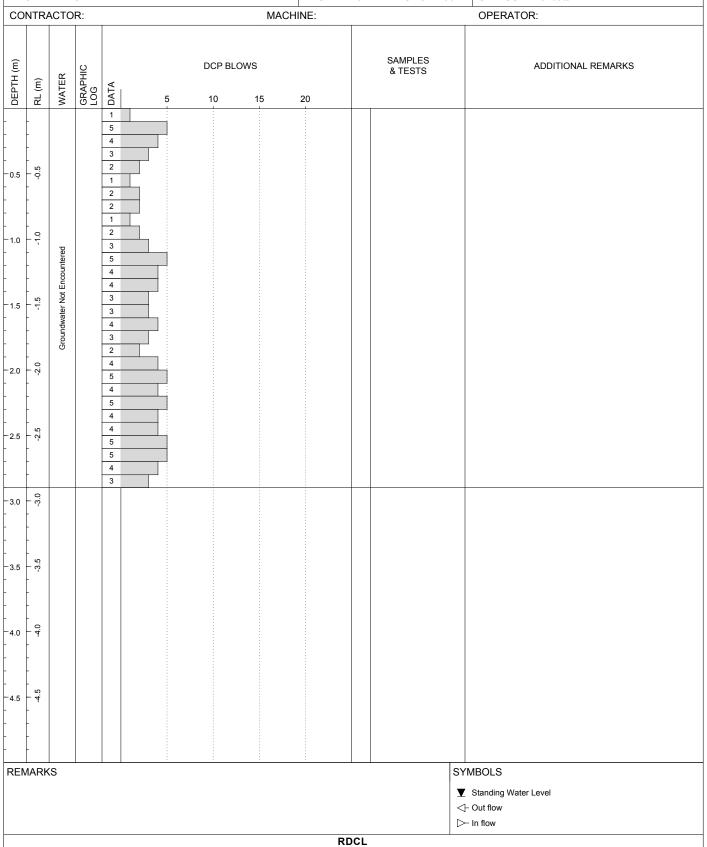
SHEET 161 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607687.00 FINISHED: 16/11/2017 DATUM: LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017





**Lot 41 DCP02** 

SHEET 162 OF 176

DATE: 16/11/2017

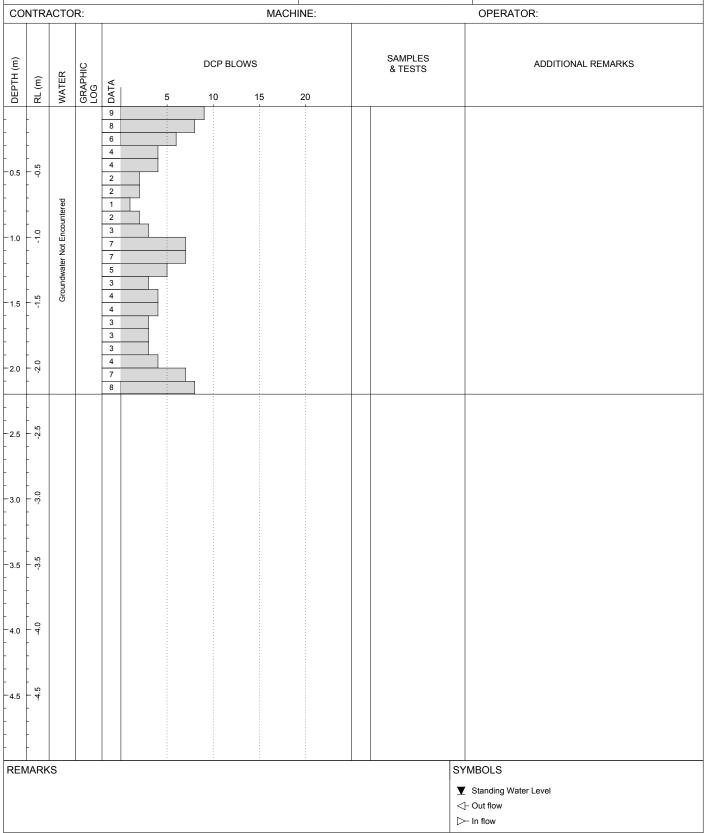
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 1928557.00 EASTING: STARTED: 16/11/2017 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5617673.00 FINISHED: 16/11/2017 DATUM: LOGGED BY: SLK

OFFICE: **RDCL ELEVATION:** CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





**Lot 41 DCP03** 

SHEET 163 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 16/11/2017
LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR:							MA	CHINE:	TESTICE: 00	OPERATOR:		
DEPTH (m)	RL (m) WATER GRAPHIC LOG DATA					DCP BL	.ows		SAMPLES & TESTS	ADDITIONAL REMARKS		
DEP	RL (m)	WATER	GRA	2 ATAO	5	10	15	20	T			
	-			3								
	-			3								
).5	-0.5			2								
	-			2								
.0	-1.0	untered		2	4							
	-	ot Enco		3	7							
1.5	-1.5	Groundwater Not Encountered		4								
1.5	- -	Ground		5								
				2 2								
2.0	-2.0			4								
	-			4								
2.5	-2.5			6 8								
	-											
3.0	-3.0											
	-											
	- 2											
3.5	-3.5											
	-											
4.0	- - 4											
	-											
4.5	- 4.5											
	-											
ΕN	IARK	(S								YMBOLS		
										▼ Standing Water Level → Out flow		
										- Out now - In flow		

Produced with Core-GS by Geroc



**Lot 41 DCP04** 

SHEET 164 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 16/11/2017 1928567.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5617700.00 FINISHED: 16/11/2017

DATUM: LOGGED BY: SLK

DATE: 24/11/2017 OFFICE: **RDCL ELEVATION:** CHECKED BY: JM

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

COI	NTRA	ACTO	R:				MA	CHINE:		OPERATOR:		
DEPTH (m)	(u	H H	GRAPHIC LOG	đ		DCP BL	ows		SAMPLES & TESTS	ADDITIONAL REMARKS		
DEP.	RL (m)	WATER	GRA	DATA	5	10	15	20				
-				3								
-	-	p <sub>e</sub>		3	7							
-0.5	-0.5	counter		3 2								
-	-	Not En		2								
-	-	Groundwater Not Encountered		2								
-1.0 -	-1.0	Groun		3								
-	-			5								
1.5	- 1-5			5								
- 1.5	-											
_	-											
-2.0	-2.0											
-	_											
-	- 22											
-2.5 -	-2.5											
-	-											
-3.0	-3.0											
-	-											
-	-											
-3.5 -	-3.5											
-	-											
-4.0	- 4.0											
- 4.0	-											
	_											
-4.5	4.5											
	_											
-	-											
REM	/ARK	(S				· · · · · · · · · · · · · · · · · · ·			 1	/MBOLS		
										<ul><li>✓ Standing Water Level</li><li>☐ Out flow</li></ul>		

├─ In flow

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### HAND AUGER LOG

Lot 42 HA01

SHEET 41 OF 43

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607701.00
 FINISHED: 22/11/2017

 DATUM: NZTM
 LOGGED BY: PGR/JM
 DATE: 22/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 24/11/2017
ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	CONTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS		
-	-		20 2 2 TS	TOPSOIL; dark brown. Soft; dry.								
-	-		× × ×	SILT; brown . Soft; dry.	D							
-0.5	-0.5		××			s						
-	-			Clayey SILT; light brown, grey and orange mottle. Soft; low plasticity; moist.	М							
1.0	6.		- <del></del> ×	EOH: 1.00m	<del> </del>							
- - - - -1.5	-1.5											
- - -2.0 -	-2.0											
- - -2.5 -	-2.5											
- - -3.0 -	-3.0											
-3.5	-3.5											
- -4.0 -	4.0											
- - -4.5 - -	4.5											
				<u> </u>					REMARKS			

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 42 DCP01** 

SHEET 165 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 16/11/2017

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

		ER:							AZUMIT	H: 0°	PLUNGE: 90	
СО	CONTRACTOR: MACHINE								CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA		5	DCP BL	.OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS
- - - -0.5	-0.5			3 5 6 4 2 2 2								
- - -1.0 -	-1.0	Groundwater Not Encountered		2 2 2 3 6 5								
- -1.5 -	-1.5	Groundwate		4 4 4 4 2								
- - -2.0 - -	-2.0			3 3 4 5								
-2.5 -	-2.5			6								
- - -3.0 -	-3.0											
- - -3.5 -	-3.5											
- -4.0 -	- 4											
- -4.5 -	4.5											
REN	I MARK	(S										SYMBOLS  ▼ Standing Water Level  - Out flow  - In flow



**Lot 42 DCP02** 

SHEET 166 OF 176

DATE: 16/11/2017

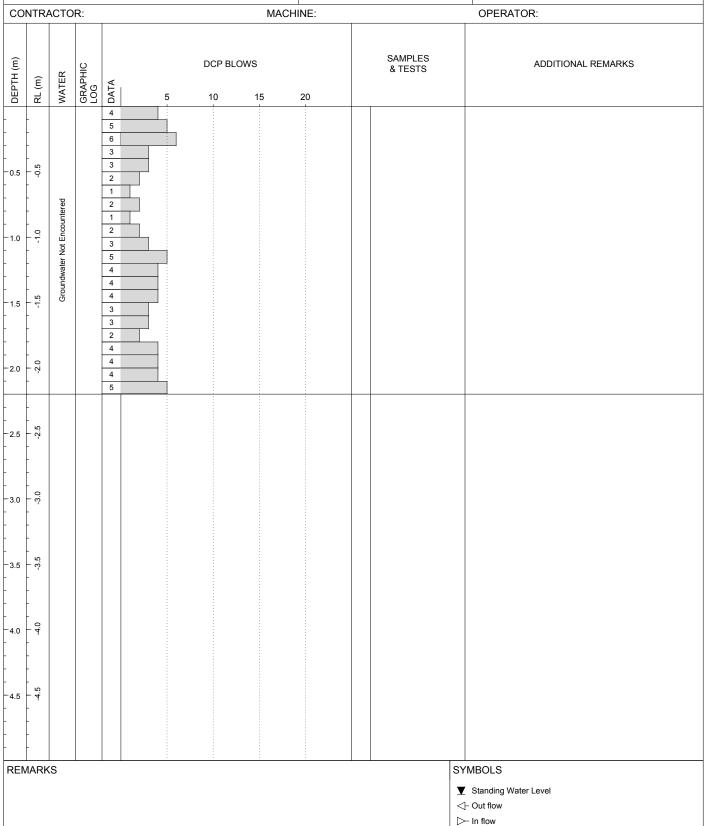
CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: FINISHED: 16/11/201.

LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data



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**Lot 42 DCP03** 

SHEET 167 OF 176

DATE: 16/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

NORTHING: 5607703.00 | FINISHED: 16/11/2017 | DATUM: | LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

-		ER:						AZUMITH	l: 0°	PLUNGE: 90°	
СО	CONTRACTOR: MACHINE										OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS
-				2 3 3 2 1							
-0.5 - - -	-	7		2 1 2 1 2							
- 1.0 - - -	-	Groundwater Not Encountered		4 4 3 3 2							
-1.5 - - -	- - -	Groundwa		2 3 2 2 3							
-2.0 - - - - -2.5	- - -			5 4 5 5 6							
-	-			5							
-3.0 - - - -3.5											
-4.0	-4.0										
-4.5	4.5										
- - -	-										
REN	MARK	(S								\ \frac{1}{2}	YMBOLS  ▼ Standing Water Level  - Out flow  In flow



# Lot 42 DCP04

SHEET 168 OF 176

DATE: 16/11/2017

LOGGED BY: SLK

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM:

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607712.00 FINISHED: 16/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

ENGINEER. CA		AZUWITH. U	PLUNGE. 90	STATUS. FIIIdi data
CONTRACTOR:	MAC	CHINE:		OPERATOR:
DEPTH (m) RL (m) WATER GRAPHIC	DCP BLOWS  5 10 15	20	SAMPLES & TESTS	ADDITIONAL REMARKS
	TS 6			
ountere	2		_	
	6 6 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			
-2.0 - <del>Q</del> i	4			
-2.5 - 7				
-3.0 - $\overset{\circ}{\varphi}$				
-3.5 - v				
-4.0 - <del>4</del>				
REMARKS			▼	MBOLS Standing Water Level
				Out flow In flow



**RDCL** 

OFFICE:

### HAND AUGER LOG

**LOT 43 HA01** 

**SHEET 42 OF 43** 

DATE: 24/11/2017

CHECKED BY: JM

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings
 NORTHING: 5607719.00
 FINISHED: 22/11/2017

 DATUM: NZTM
 LOGGED BY: PGR/JM
 DATE: 22/11/2017

ELEVATION: 0

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR: OPERATOR:

CO	CONTRACTOR: OPERATOR:											
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS		SAMPLES & TESTS	ADDITIONAL REMARKS	
-0.5	-0.5		<u>36 3</u> <u>5 TS</u> <u>36 36</u> ★ <u>36</u>	TOPSOIL; dark brown. Soft; dry.  SILT; brown . Firm; dry.	D	S						
	- 0.		× × × × × × × × × × × × × × × × × × ×	Clayey SILT, with trace rootlets; light brown. Soft; low plasticity; moist.	М	S						
- - -	-1.5			\EOH: 1.00m								
-1.5												
-2.0	-2.0											
-2.5 ·	-2.5											
-3.0	- 3.0											
-3.5	-3.5											
-4.0 -	- 4											
-4.5 -	4.5											
	-								DC	AADICS		
REMARKS												

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**Lot 43 DCP01** 

SHEET 169 OF 176

DATE: 17/11/2017

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607711.00 FINISHED: 17/11/2017

DATUM: LOGGED BY: SLK

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

			CAW					AZUMITH	: 0°	PLUNGE: 90°	
СО	CONTRACTOR: MACHINE:										OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA	5	DCP BL	OWS	20		SAMPLES & TESTS	ADDITIONAL REMARKS
-0.5				2 6 6 4 2 2 2							
- - -1.0 -	-1.0	rt Encountered		2 2 2 2 6							
- - -1.5 -	-1.5	Groundwater Not Encountered		4 3 5 3 2							
-2.0	-2.0			2 3 3 4 4							
-2.5	-2.5			5 5							
-3.0 -	-3.0										
-3.5 -	-3.5										
- -4.0 -	4.0										
- -4.5 -	4.5										
REN	MARK	(S								-	YMBOLS  ✓ Standing Water Level  <- Out flow  >- In flow



**Lot 43 DCP02** 

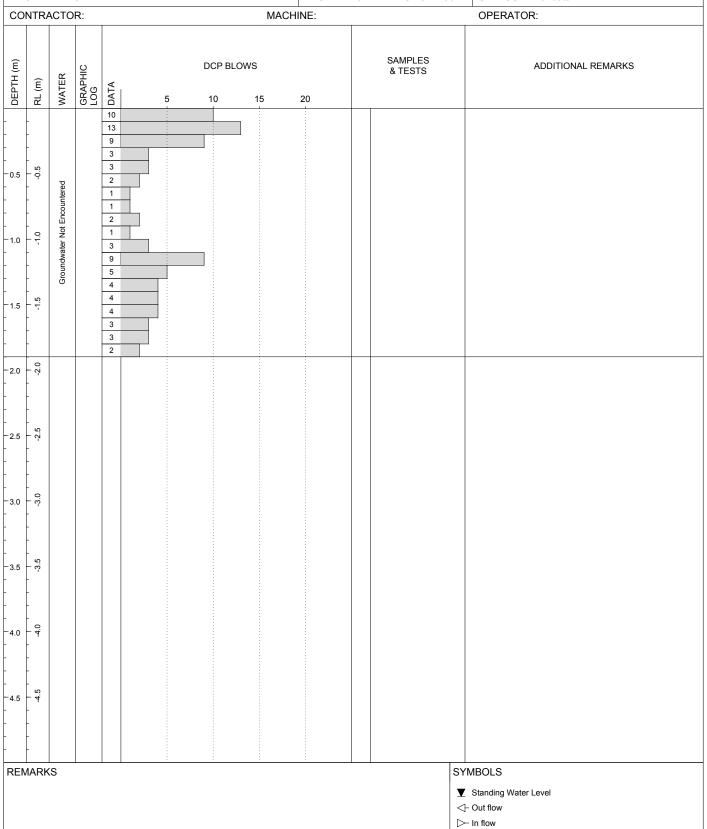
SHEET 170 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

DATUM: LOGGED BY: SLK DATE: 17/11/2017

OFFICE: RDCL ELEVATION: CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data





ENGINEER: CAW

### **DCP LOG**

**Lot 43 DCP03** 

SHEET 171 OF 176

LOCATION: Lyndhurst Road, Frimley, Frimley

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928590.00

STARTED: 11/11/2017 NORTHING: 5607712.00

DATUM:

FINISHED: 11/11/2017 LOGGED BY: SLK

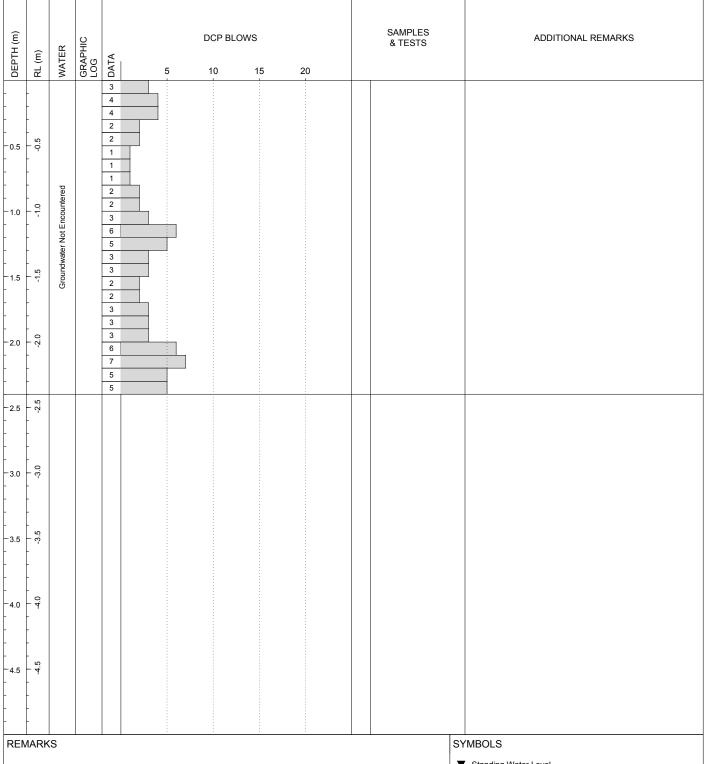
CHECKED BY: JM

DATE: 17/11/2017 DATE: 24/11/2017

OFFICE: **RDCL ELEVATION:** 

> AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE:



▼ Standing Water Level

<- Out flow ├─ In flow

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### **DCP LOG**

Lot 43 DCP04

SHEET 172 OF 176

DATE: 24/11/2017

CHECKED BY: JM

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

PROJECT: 170602050\_Stages 3-5 EASTING: STARTED: 17/11/2017 1928601.00 LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607725.00 FINISHED: 17/11/2017

DATUM: LOGGED BY: SLK DATE: 17/11/2017 ELEVATION:

	ENGINEER: CAW							AZUMIT	PLUNGE: 90	0°	STATUS: Final data	
СО	CONTRACTOR: MA							MAG	CHINE:			OPERATOR:
DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	DATA		5	DCP BL	.OWS	20	SAMPLES & TESTS		ADDITIONAL REMARKS
- - - -0.5		countered		2 3 3 3 3 2								
- -1.0 - -	-1.0	Groundwater Not Encountered		2 2 5 5 4 4								
- 1.5 - -	- 1.5			4 3 4 2 3								
-2.0 - -	-2.0											
- 2.5 - -	-2.5											
- -3.0 - -	-3.0											
- -3.5 - -	-3.5											
- - -4.0 -	4.0											
- - -4.5 - -	4.5											
REN	/ //ARK	(S									▼	MBOLS Standing Water Level - Out flow

Produced with Core-GS by Geroc

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├─ In flow

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### HAND AUGER LOG

Lot 44 HA01

**SHEET 43 OF 43** 

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM LOCATION: Lyndhurst Road, Frimley

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

NORTHING: 5607726.00

PINISHED: 22/11/2017

DATUM: NZTM

LOGGED BY: PGR/JM

DATE: 22/11/2017

OFFICE: RDCL ELEVATION: 0 CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW DIAMETER: 0mm STATUS: Final data

CONTRACTOR:	OPERATOR:
CONTINACTOR.	OI LIVATOR.

ROCK / SOIL DESCRIPTION  ROCK / SOIL DESCRIPTI	-				0	•					
1.5	DEPTH (m)	RL (m)	WATER	GRAPHIC LOG	ROCK / SOIL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / DENSITY	CLASSIFICATION	DCP BLOWS	SAMPLES & TESTS	ADDITIONAL REMARKS
SILT; brown . Firm; low plasticity; moist; clay increasing with depth.  1.0		-		24 TS	TOPSOIL; dark brown. Soft; dry.						
1.0   1.5	-0.5	-0.5		× , × ,	SILT; brown . Firm; dry.	D					
$-1.5 - \frac{6}{7}$ $-2.5 - \frac{6}{7}$ $-3.5 - \frac{6}{7}$ $-3.5 - \frac{6}{7}$		-		- X - X		М	FM				
2.0 - $\frac{7}{2}$ -2.5 - $\frac{7}{2}$ -3.0 - $\frac{9}{2}$ -3.5 - $\frac{9}{2}$ -4.0 - $\frac{4}{4}$	1.0	-1.0			EOH: 1.00m						
$-2.5 - \frac{9}{9}$ $-3.5 - \frac{9}{9}$ $-4.0 - \frac{9}{9}$	- - -1.5	-1.5									
-3.0 - \$\vec{\vec{\vec{\vec{\vec{\vec{\vec{	-2.0	-2.0									
-3.5 - $\frac{1}{6}$	- - -2.5 -	-2.5									
-4.0 - <del>Q</del>	-3.0	-3.0									
	-3.5	-3.5									
-4.5 - 4	- -4.0 -	4.0									
	-4.5 -	4.5:									
	_	-									

REMARKS

SYMBOLS

▼ Standing Water Level

← Out flow

├─ In flow



**RDCL** 

OFFICE:

### **DCP LOG**

**Lot 44 DCP01** 

SHEET 173 OF 176

CLIENT: Greenstone Land Developments Ltd PROJECTION: NZTM

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings NORTHING: 5607724.00 FINISHED: 17/11/2017

DATUM: ELEVATION:

LOGGED BY: SBD/SLK DATE: 17/11/2017

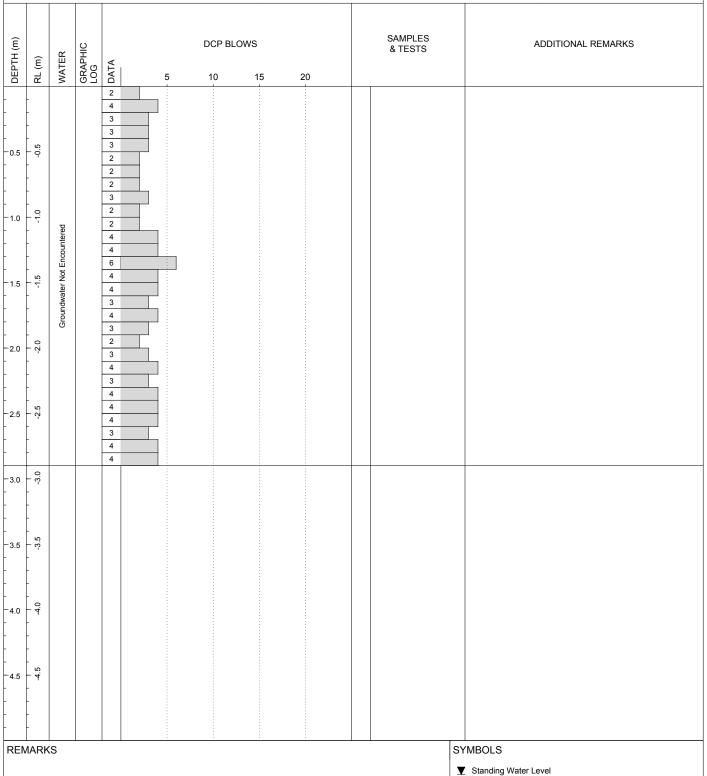
N: CHECKED BY: JM DATE: 24/11/2017

STARTED: 17/11/2017

LOCATION: Lyndhurst Road, Frimley

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: MACHINE: OPERATOR:



← Out flow

├─ In flow

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### **DCP LOG**

**Lot 44 DCP02** 

SHEET 174 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

EASTING: 1928616.00 STARTED: 17/11/2017

NORTHING: 5607715.00

FINISHED: 17/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM: **ELEVATION:**  LOGGED BY: SBD/SLK DATE: 17/11/2017

CHECKED BY: JM

DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 7 6 3 3 -0.5 Groundwater Not Encountered 0.5 2 1 2 1 -1.0 2 6 5 4 4 1.5 5 4 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** 

▼ Standing Water Level

<- Out flow 

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**Lot 44 DCP03** 

SHEET 175 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM

LOCATION: Lyndhurst Road, FrimleyFrimley STARTED: 17/11/2017

EASTING: 1928608.00 STA NORTHING: 5607727.00 FINIS

FINISHED: 17/11/2017

DATUM:

LOGGED BY: SBD/SLK DATE: 17/11/2017

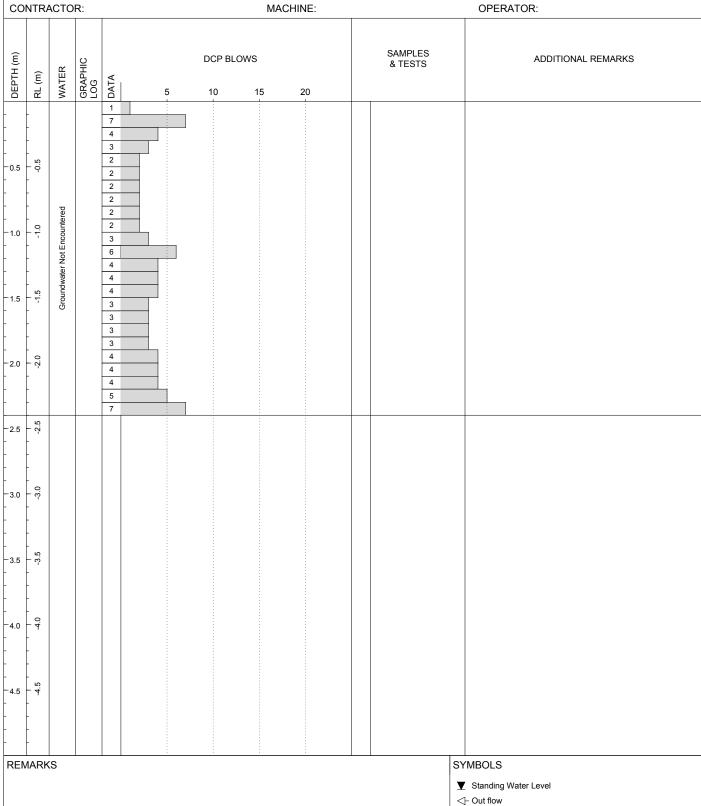
CHECKED BY: JM

DATE: 24/11/2017

OFFICE: RDCL ELEVATION:

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90°

STATUS: Final data



├─ In flow



### **DCP LOG**

**Lot 44 DCP04** 

SHEET 176 OF 176

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM EASTING: 1928618.00

STARTED: 17/11/2017

NORTHING: 5607738.00

FINISHED: 17/11/2017

LOCATION: Lyndhurst Road, Frimley

DATUM: **ELEVATION:**  LOGGED BY: SBD/SLK DATE: 17/11/2017

CHECKED BY: JM DATE: 24/11/2017

ENGINEER: CAW AZUMITH: 0° PLUNGE: 90° STATUS: Final data

CONTRACTOR: OPERATOR: MACHINE: SAMPLES DEPTH (m) DCP BLOWS ADDITIONAL REMARKS GRAPHIC LOG & TESTS RL (m) DATA 5 20 10 15 2 4 3 3 3 -0.5 0.5 2 Groundwater Not Encountered 2 2 2 -1.0 5 6 4 3 3 1.5 3 4 4 4 -2.0 2.0 -2.5 -2.5 3.0 -3.5 3.5 4.0 4.5 **REMARKS SYMBOLS** 

Produced with Core-GS by Geroc

▼ Standing Water Level

<- Out flow 

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## **APPENDIX B - CPT Logs**





## **CONE PENETRATION TEST LOG**

CPT01

SHEET 1 OF 1

DATE: 05/12/2017

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

EASTING: 1928583.00

NORTHING: 5607750.00

STARTED: 04/12/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 04/12/2017

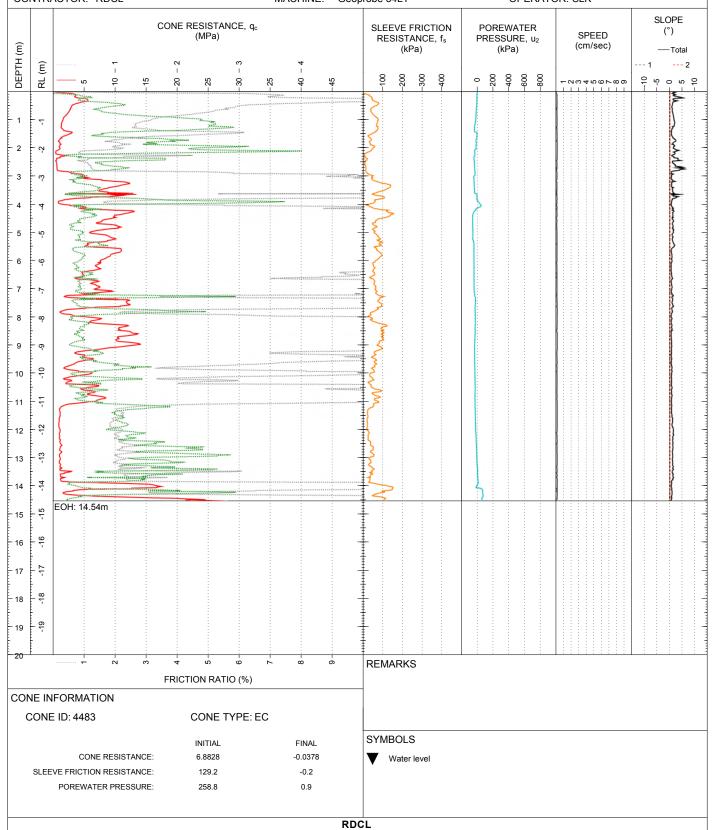
DATUM:

ELEVATION: 0

CHECKED BY: PG

ENGINEER: CAW STATUS: Final data

CONTRACTOR: RDCL MACHINE: Geoprobe 54LT OPERATOR: SLK





ENGINEER: CAW

CONTRACTOR: RDCL

## **CONE PENETRATION TEST LOG**

CPT02

SHEET 1 OF 1

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

NORTHING: 5607682.00

1928512.00

STARTED: 04/12/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 04/12/2017

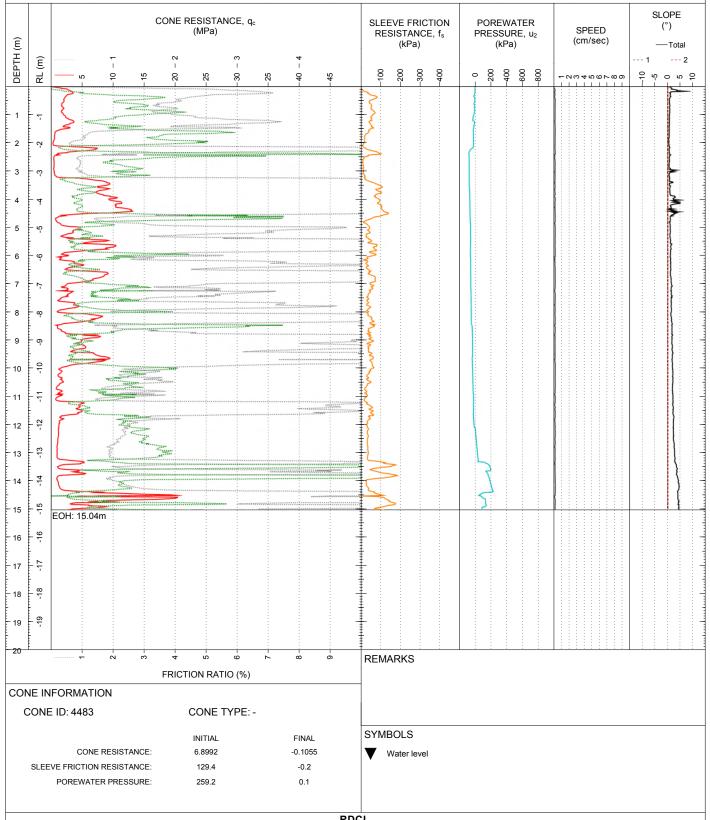
DATUM:

EASTING:

ELEVATION: 0

CHECKED BY: PG STATUS: Final data DATE: 05/12/2017

MACHINE: Geoprobe 54LT OPERATOR: SLK





ENGINEER: CAW

## **CONE PENETRATION TEST LOG**

CPT03

SHEET 1 OF 1

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

EASTING: 1928584.00

NORTHING: 5607650.00

STARTED: 04/12/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 04/12/2017

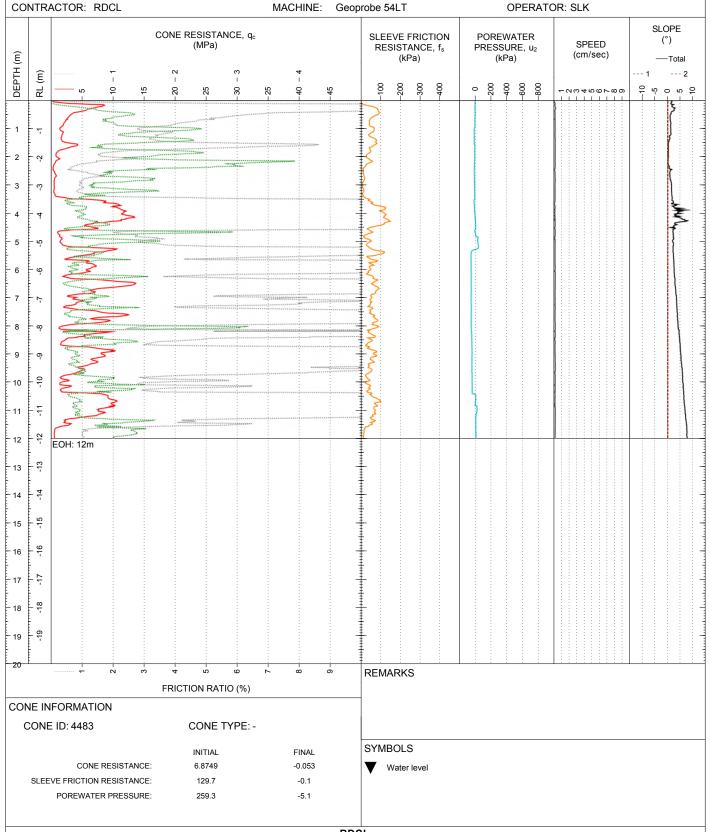
DATUM:

ELEVATION: 0

CHECKED BY: PG

DATE: 05/12/2017

STATUS: Final data





## **CONE PENETRATION TEST LOG**

CPT04

SHEET 1 OF 1

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

NORTHING: 5607725.00

1928635.00

DATUM:

EASTING:

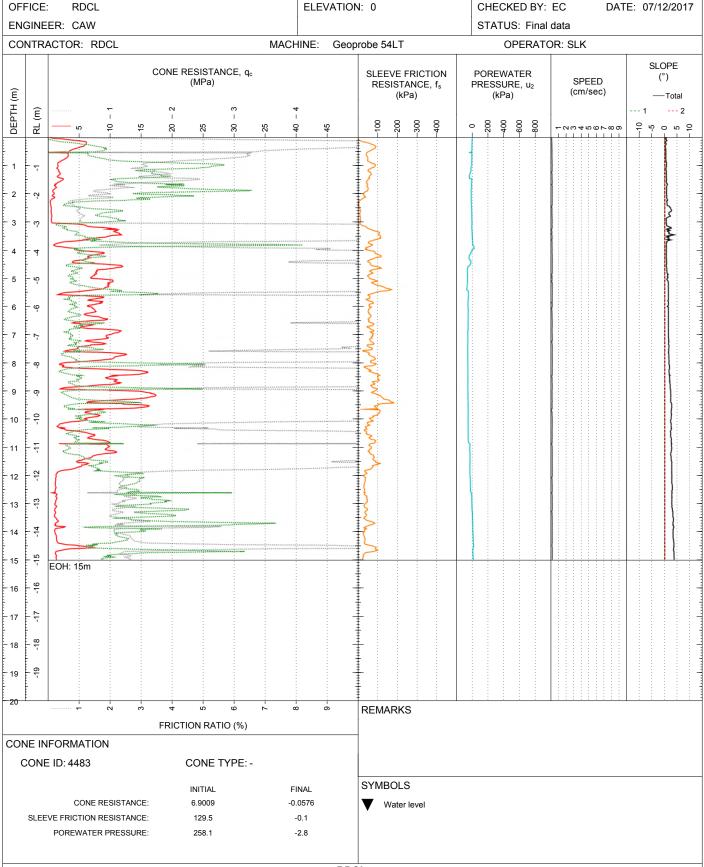
ELEVATION: 0

STARTED: 05/12/2017

FINISHED: 05/12/2017

CHECKED BY: EC DATE: 07/12/2017

LOCATION: Lyndhurst Road, Frimley





## **CONE PENETRATION TEST LOG**

CPT05

SHEET 1 OF 1

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

NORTHING: 5607607.00

1928590.00

DATUM:

EASTING:

ELEVATION: 0

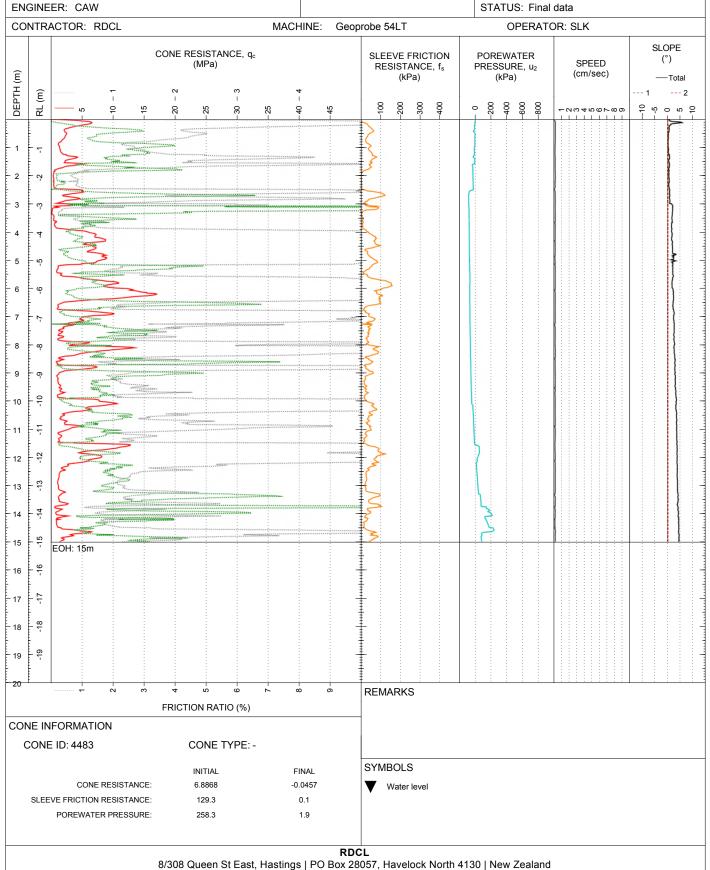
LOCATION: Lyndhurst Road, Frimley

STARTED: 05/12/2017

FINISHED: 05/12/2017

CHECKED BY: EC DATE: 07/12/2017

STATUS: Final data



Ph: +64 6 8771652 | Email: info@rdcl.co.nz



## **CONE PENETRATION TEST LOG**

CPT06

SHEET 1 OF 1

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

EASTING:

DATUM:

1928649.00

NORTHING: 5607659.00

STARTED: 05/12/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 05/12/2017

CHECKED BY: EC

DATE: 07/12/2017

OFFICE: **RDCL** ELEVATION: 0 ENGINEER: CAW STATUS: Final data CONTRACTOR: RDCL MACHINE: Geoprobe 54LT OPERATOR: SLK SLOPE CONE RESISTANCE, qc SLEEVE FRICTION POREWATER (°) (MPa) SPEED RESISTANCE, f<sub>s</sub>
(kPa) PRESSURE, u<sub>2</sub> (cm/sec) DEPTH (m) (kPa) ---Total --- 2  $\widehat{\mathsf{E}}$ 100 200 300 400 - 0 -200 -400 -600 -800 귐 20 25 30 25 8 -26450V80 5 0 0 1 2 3 ကု 4 5 2 6 ဖှ 8 φ 9 EOH: 9.3m -10 10 --12 12 -13 13 4 14 -15 15 -16 16 -17 4 18 6 19 REMARKS FRICTION RATIO (%) CONE INFORMATION **CONE ID: 4483** CONE TYPE: -**SYMBOLS** INITIAL FINAL -4.6556 CONE RESISTANCE: 6.8935 Water level SLEEVE FRICTION RESISTANCE: 129.4 0 POREWATER PRESSURE: 258.6 -45.6



## **CONE PENETRATION TEST LOG**

CPT07

SHEET 1 OF 1

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000 EASTING: 1928709.00

NORTHING: 5607712.00

STARTED: 05/12/2017

FINISHED: 05/12/2017

LOCATION: Lyndhurst Road, Frimley

DATUM:

ELEVATION: 0

CHECKED BY: EC

DATE: 07/12/2017

OFFICE: **RDCL** ENGINEER: CAW STATUS: Final data CONTRACTOR: RDCL MACHINE: Geoprobe 54LT OPERATOR: SLK SLOPE CONE RESISTANCE, qc SLEEVE FRICTION POREWATER (°) (MPa) SPEED RESISTANCE, f<sub>s</sub>
(kPa) PRESSURE, u<sub>2</sub> DEPTH (m) (cm/sec) (kPa) ---Total --- 2  $\widehat{\mathsf{E}}$ 100 200 300 400 - 0 -200 -400 -600 -800 귐 20 8 25 25 8 -26450V80 5 0 0 1 Ņ 3 ကု 4 4 5 5 6 ဖှ EOH: 7.36m 8 φ 9 တု -10 10 --12 12 -13 13 4 14 -15 15 -16 16 -17 4 18 6 19 REMARKS FRICTION RATIO (%) CONE INFORMATION **CONE ID: 4483** CONE TYPE: -**SYMBOLS** INITIAL FINAL CONE RESISTANCE: 6.8664 -0.071 Water level SLEEVE FRICTION RESISTANCE: 129.9 -0.2 POREWATER PRESSURE: 258.6 -1.3



## **CONE PENETRATION TEST LOG**

CPT08

SHEET 1 OF 1

DATE: 07/12/2017

CLIENT: Greenstone Land Developments Ltd

PROJECT: 170602050\_Stages 3-5

**RDCL** 

LOCATION: Lots 1 - 44 Lyndhurst Rd, Hastings

PROJECTION: NZTM2000

ODTI IINO: 5007000 00

1928662.00

NORTHING: 5607829.00

STARTED: 05/12/2017

LOCATION: Lyndhurst Road, Frimley

FINISHED: 05/12/2017

DATUM:

EASTING:

ELEVATION: 0

CHECKED BY: EC

ENGINEER: CAW STATUS: Final data CONTRACTOR: RDCL MACHINE: Geoprobe 54LT OPERATOR: SLK SLOPE CONE RESISTANCE, qc SLEEVE FRICTION POREWATER (°) (MPa) SPEED RESISTANCE, f<sub>s</sub>
(kPa) PRESSURE, u<sub>2</sub> DEPTH (m) (cm/sec) (kPa) ---Total --- 2  $\widehat{\mathsf{E}}$ 100 200 300 400 - 0 -200 -400 -600 -800 귐 20 25 30 25 8 -26450V80 5 0 0 1 3 ကု 4 5 5 6 8 φ 9 -10 10 --12 12 -13 13 EOH: 13.6m 4 14 -15 15 -16 16 -17 4 18 6 19 REMARKS FRICTION RATIO (%) CONE INFORMATION **CONE ID: 4483** CONE TYPE: -**SYMBOLS** INITIAL FINAL 140.97 CONE RESISTANCE: 6.8732 Water level SLEEVE FRICTION RESISTANCE: 129.9 -0.1 POREWATER PRESSURE: 258.3 4458.2

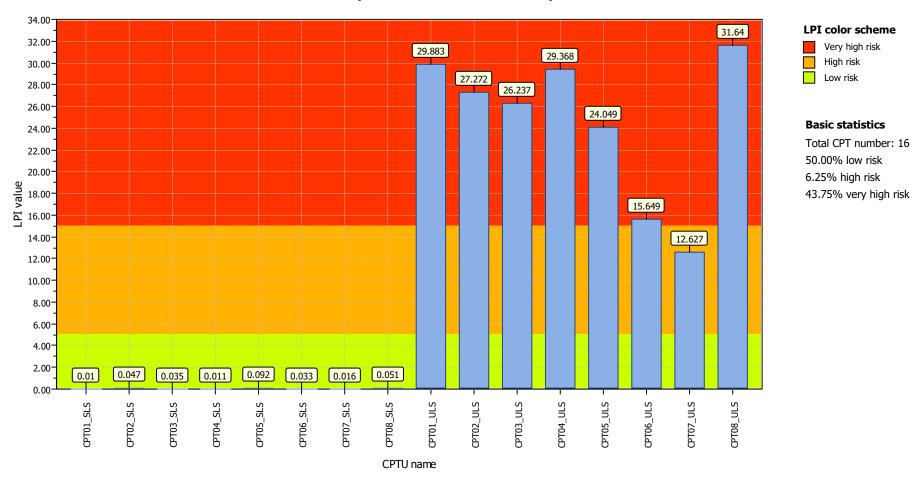
## APPENDIX C - LIQUEFACTION ASSESSMENT OUTPUTS



Project title: 170602050\_Greenstone Stages 3-5

Location: Lots 1 - 44 Lyndhurst Rd

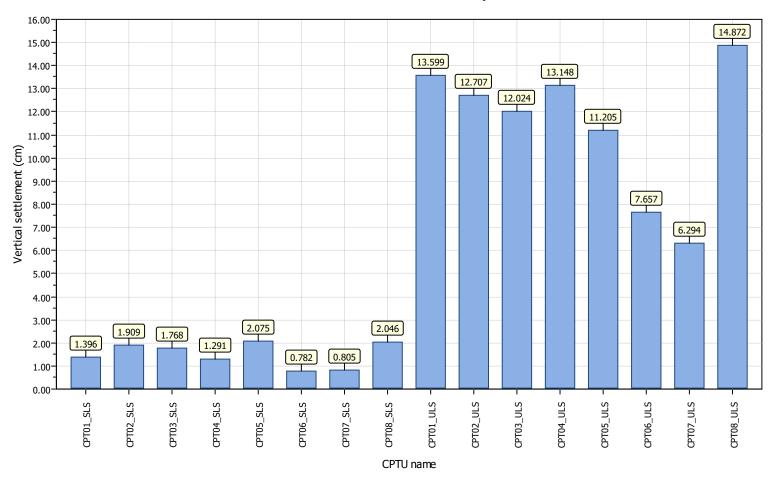
#### **Overall Liquefaction Potential Index report**



Project title: 170602050\_Greenstone Stages 3-5

Location: Lots 1 - 44 Lyndhurst Rd

#### **Overall vertical settlements report**





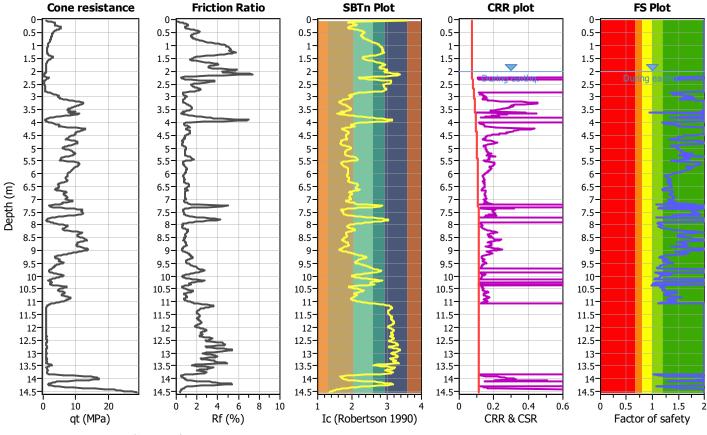
### LIQUEFACTION ANALYSIS REPORT

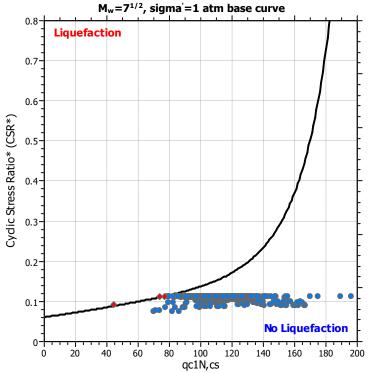
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

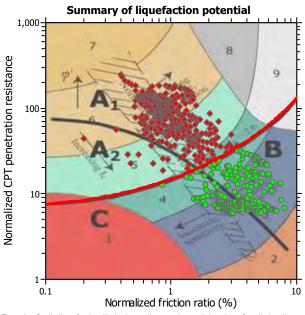
CPT file: CPT01\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method



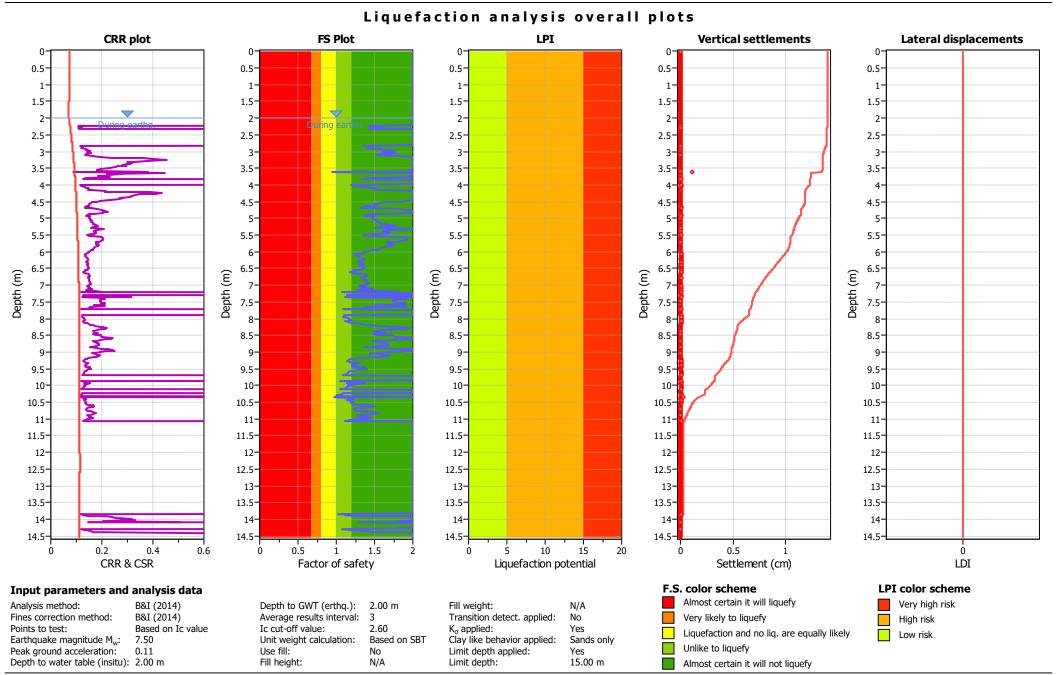




Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT01\_SLS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:48:58 AM
Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins.clq



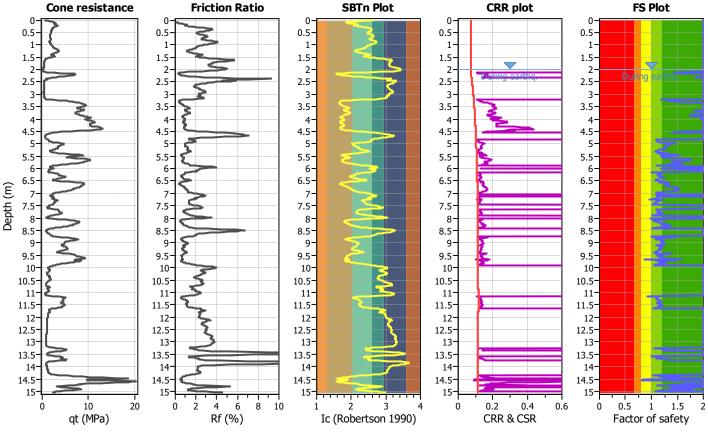
### LIQUEFACTION ANALYSIS REPORT

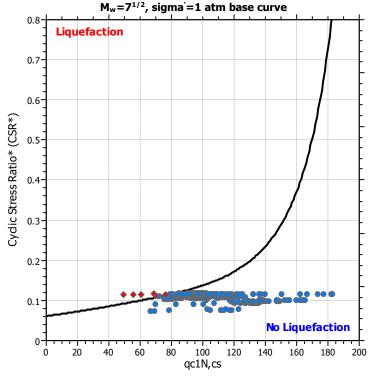
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

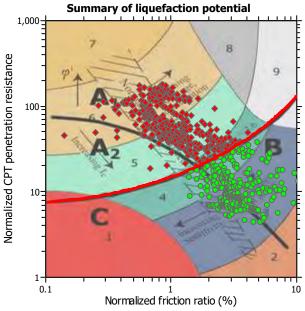
CPT file: CPT02\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: G.W.T. (earthq.): Fines correction method: B&I (2014) 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

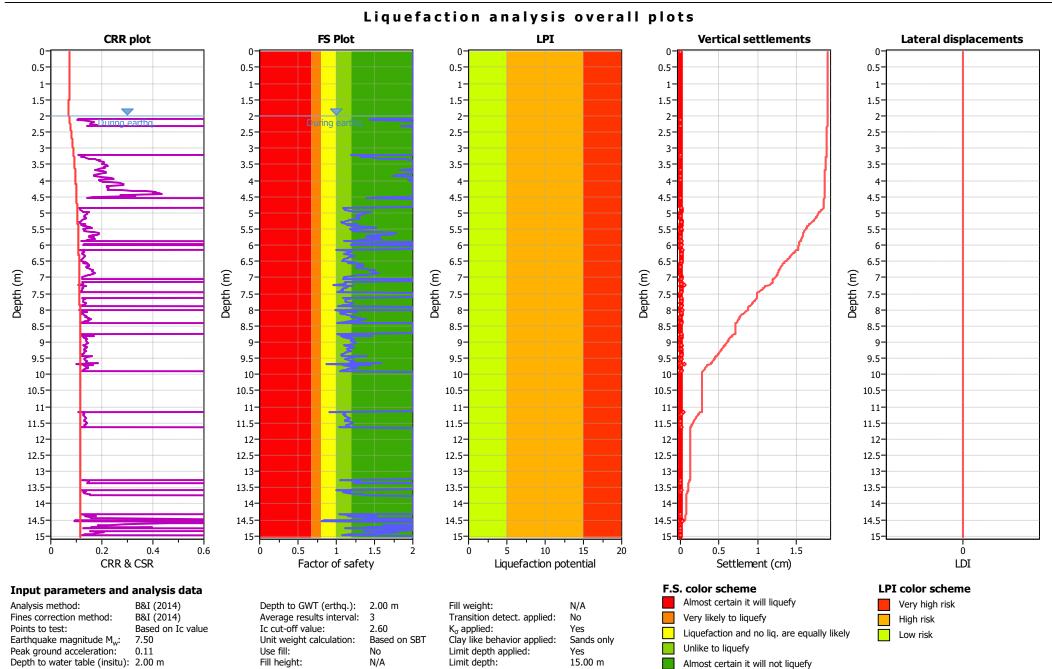






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry This software is licensed to: Cameron Wylie CPT name: CPT02\_SLS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:48:59 AM
Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Clauser



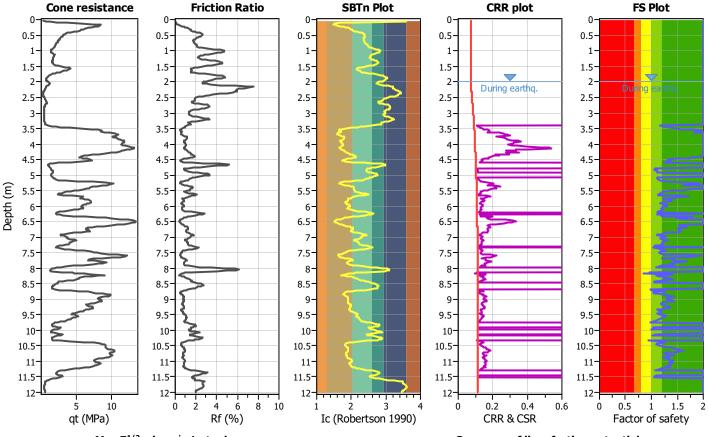
### LIQUEFACTION ANALYSIS REPORT

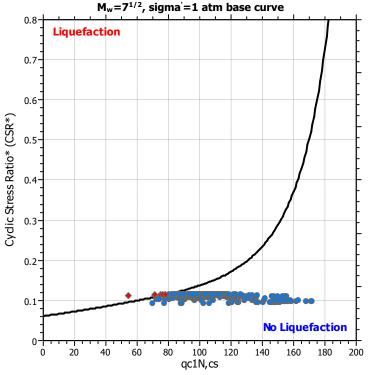
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

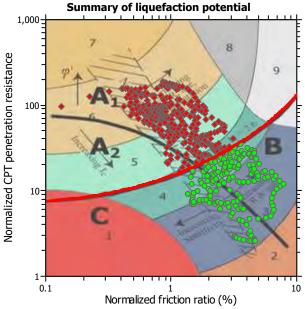
CPT file: CPT03\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

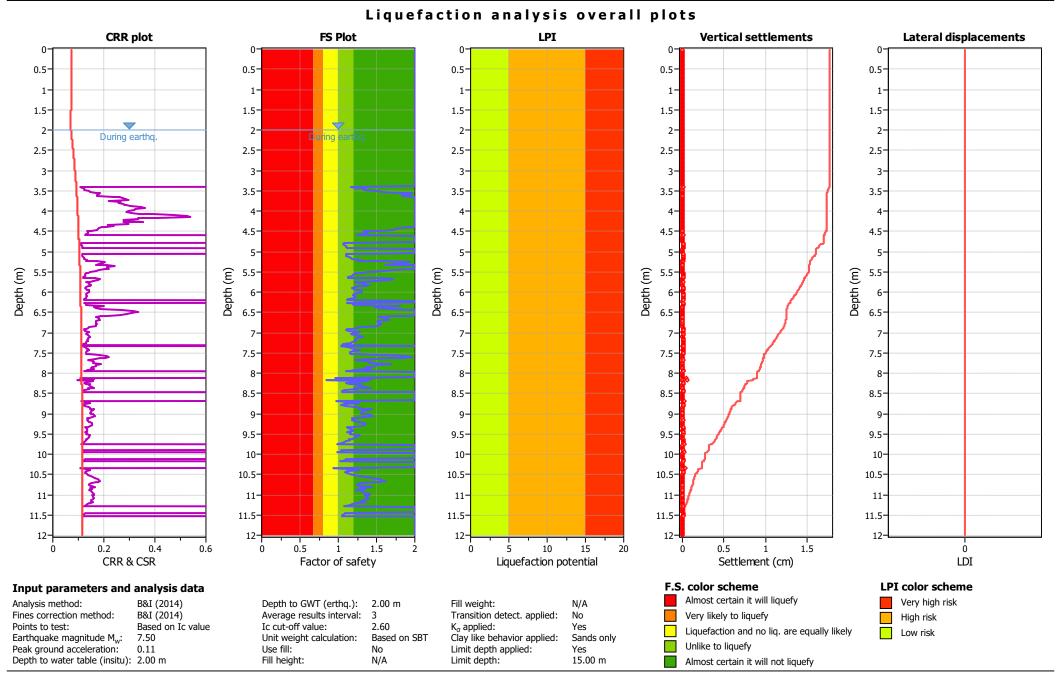






Zone A<sub>1</sub>: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A<sub>2</sub>: Cyclic liquefaction and strength loss likely depending on loading and ground

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry This software is licensed to: Cameron Wylie CPT name: CPT03\_SLS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:00 AM
Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\classed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\tagenta CPT Data\170602050\_Greenstone (Arbuck

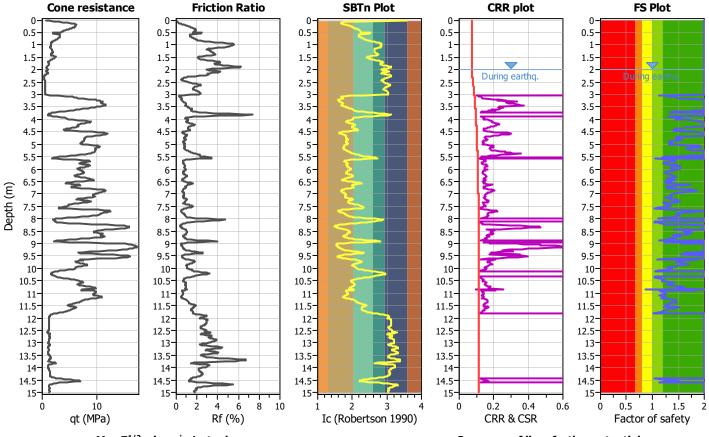


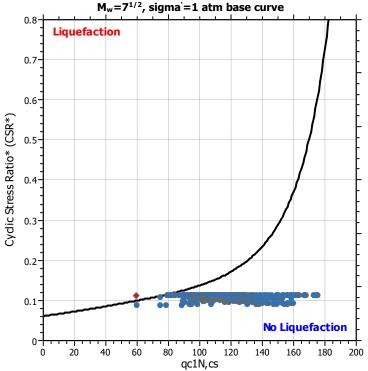
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

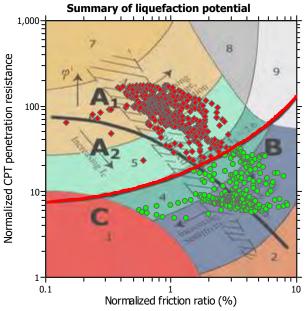
CPT file: CPT04\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

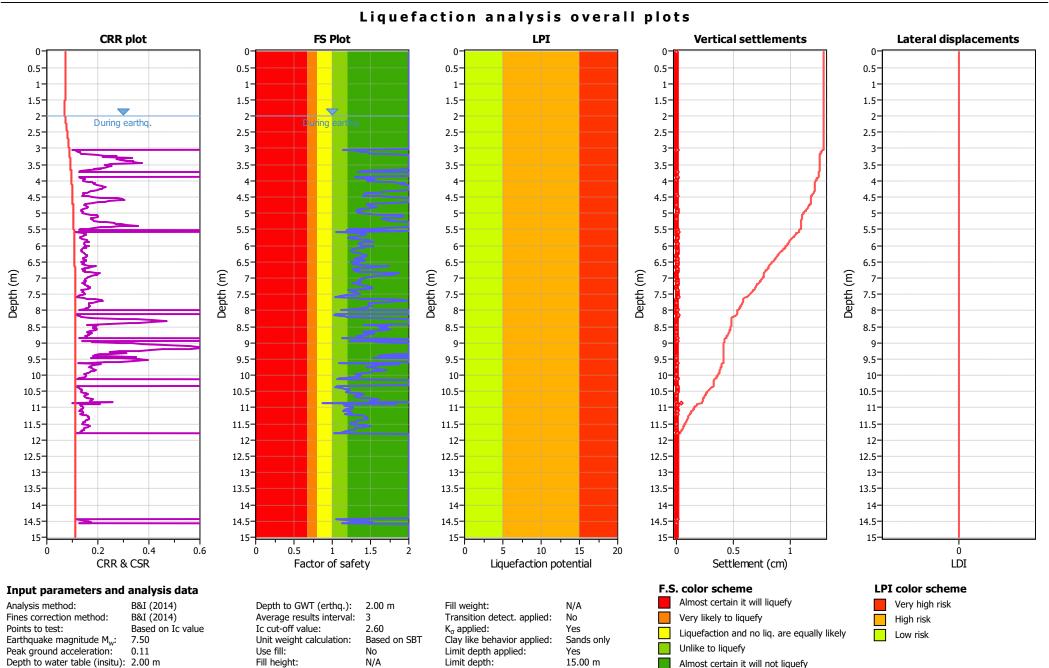






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT04\_SLS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:01 AM
Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\classed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\tagenta CPT Data\170602050\_Greenstone (Arbuck

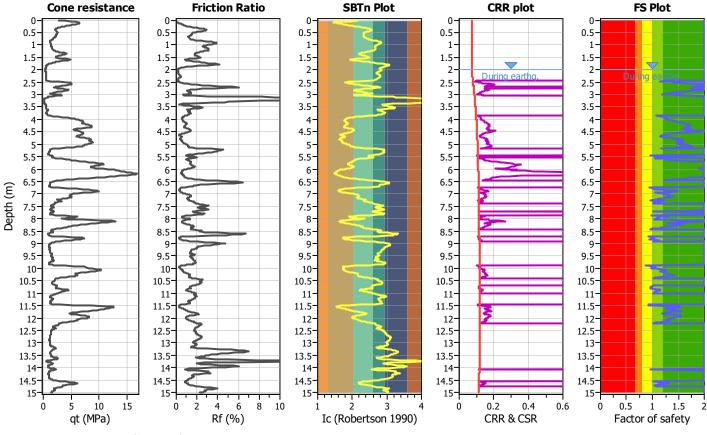


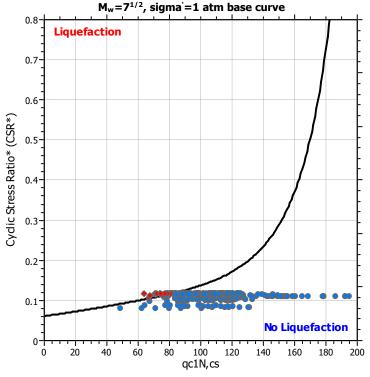
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

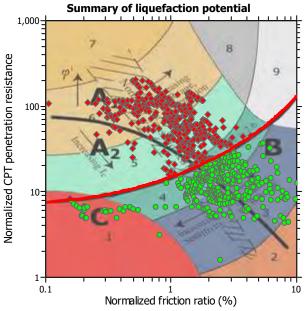
CPT file: CPT05\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

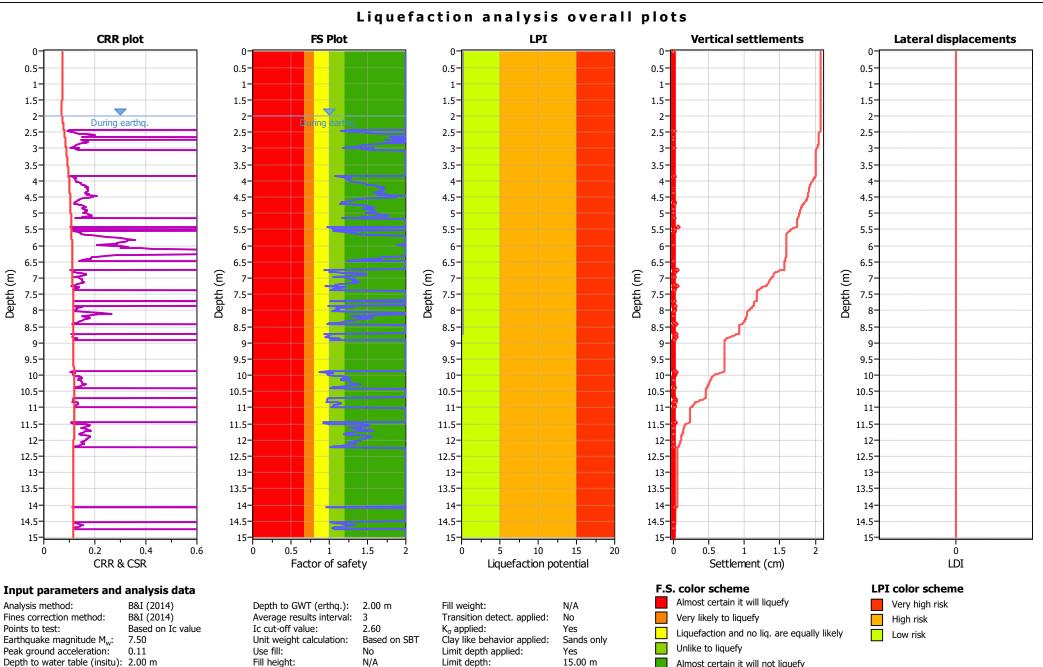






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT05 SLS



Almost certain it will not liquefy

CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:02 AM 

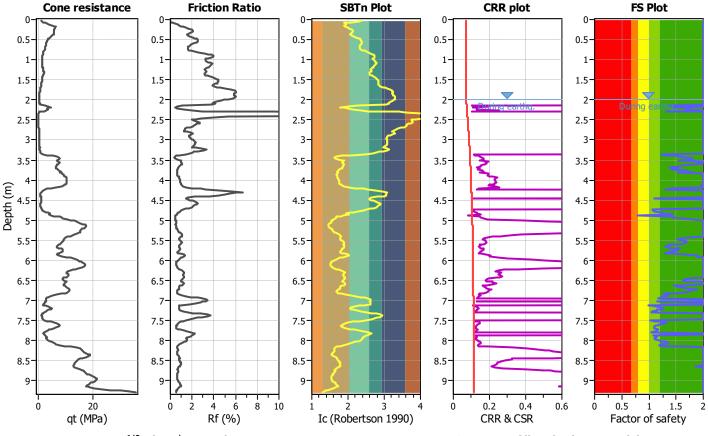


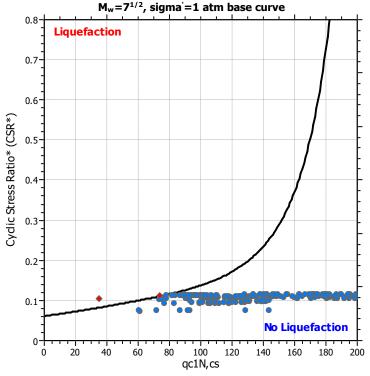
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

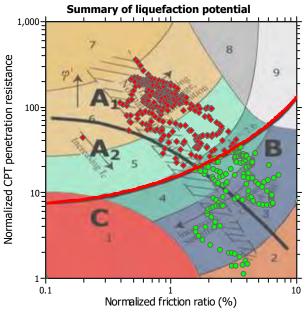
CPT file: CPT06\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: G.W.T. (earthq.): Fines correction method: B&I (2014) 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

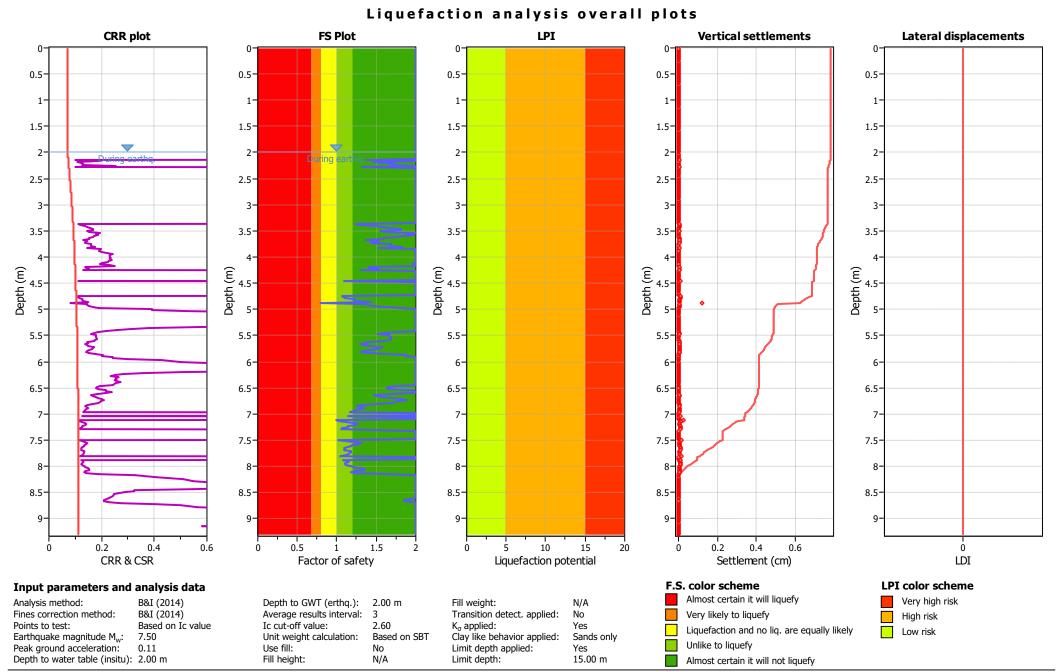






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT06\_SLS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:04 AM
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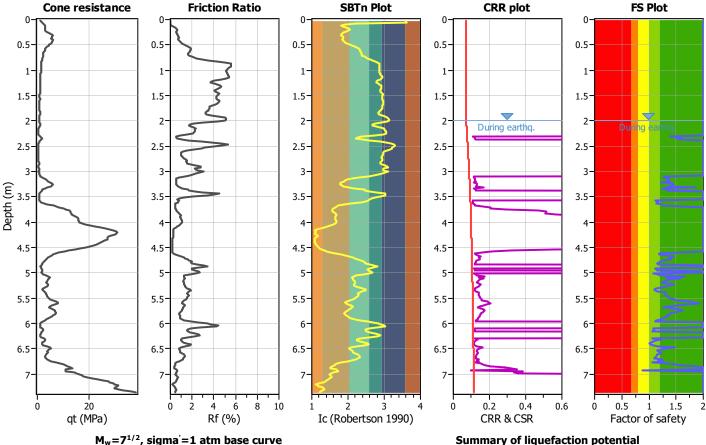


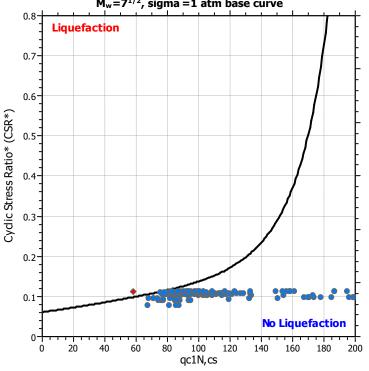
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

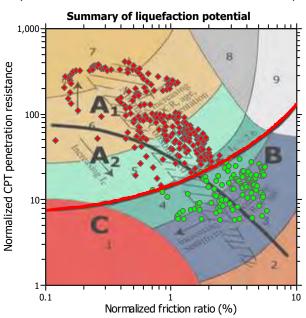
CPT file: CPT07\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: G.W.T. (earthq.): Fines correction method: B&I (2014) 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method







Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT07\_SLS

#### Liquefaction analysis overall plots CRR plot FS Plot LPI **Vertical settlements Lateral displacements** 0.2 0.2-0.2 0.2 0.2 0.4 0.4 0.4 0.4-0.4-0.6 0.6-0.6-0.6-0.6-0.8 0.8-0.8-0.8-0.8-1 1-1-1-1-1.2-1.2-1.2-1.2-1.2-1.4 1.4-1.4 1.4-1.4-1.6-1.6-1.6-1.6 1.6-1.8 1.8-1.8-1.8-1.8- $\nabla$ 2-2-2-2-During earthq. 2.2 2.2-2.2-2.2-2.2-2.4-2.4 2.4-2.4-2.4 2.6 2.6-2.6-2.6-2.6-2.8 2.8 2.8 2.8-2.8-3-3-3-3-3-3.2-3.2-3.2-3.2-3.2-3.4-3.6-3.8-4-3.4-3.6-3.8-4-Depth (m) 3.4-Depth (m) 3.4-3.4-3.6-3.8-4-4.2 4.2 4.2 4.2-4.2 4.4 4.4 4.4 4.6 4.6-4.6 4.6-4.6-4.8 4.8-4.8 4.8-4.8-5-5-5-5-5-5.2 5.2-5.2-5.2-5.2-5.4 5.4-5.4 5.4 5.4-5.6-5.6 5.6 5.6 5.6-5.8 5.8-5.8-5.8-5.8-6-6. 6.2 6.2-6.2 6.2 6.2-6.4 6.4 6.4 6.4-6.4-6.6-6.6 6.6 6.6 6.6 6.8 6.8-6.8 6.8 6.8-7-7.2 7.2-7.2-7.2-7.2-0.2 0.4 0.2 0.4 0.6 0.5 1.5 0.6 0.8 CRR & CSR Factor of safety Liquefaction potential Settlement (cm) LDI F.S. color scheme LPI color scheme Input parameters and analysis data Almost certain it will liquefy Very high risk Analysis method: B&I (2014) Depth to GWT (erthq.): 2.00 m Fill weight: N/A Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No Very likely to liquefy High risk Ic cut-off value: Points to test: Based on Ic value 2.60 $K_{\sigma}$ applied: Yes Liquefaction and no liq. are equally likely Low risk Unit weight calculation: Based on SBT Clay like behavior applied: Sands only Earthquake magnitude M<sub>w</sub>: 7.50

Limit depth applied:

Limit depth:

Yes

15.00 m

Unlike to liquefy

Almost certain it will not liquefy

CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:05 AM
Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins.clq

N/A

Use fill:

Fill height:

Peak ground acceleration:

Depth to water table (insitu): 2.00 m

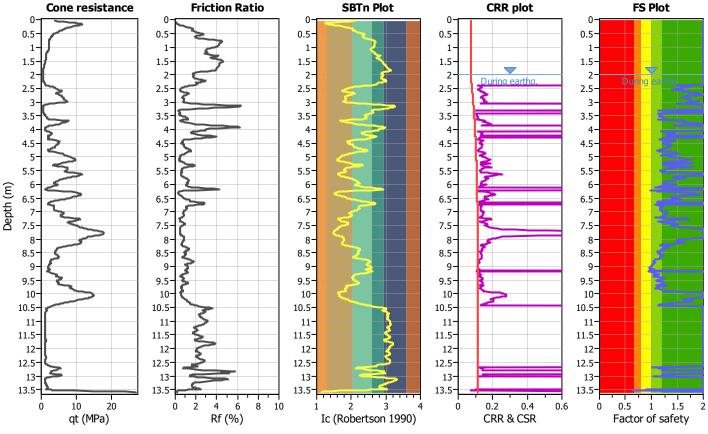


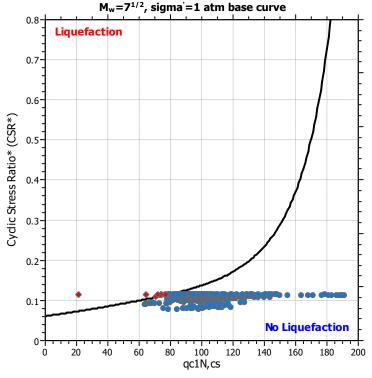
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

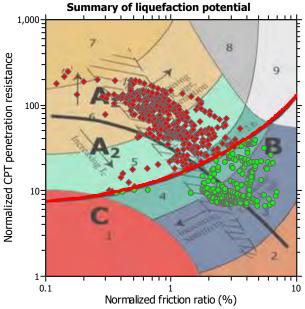
CPT file: CPT08\_SLS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

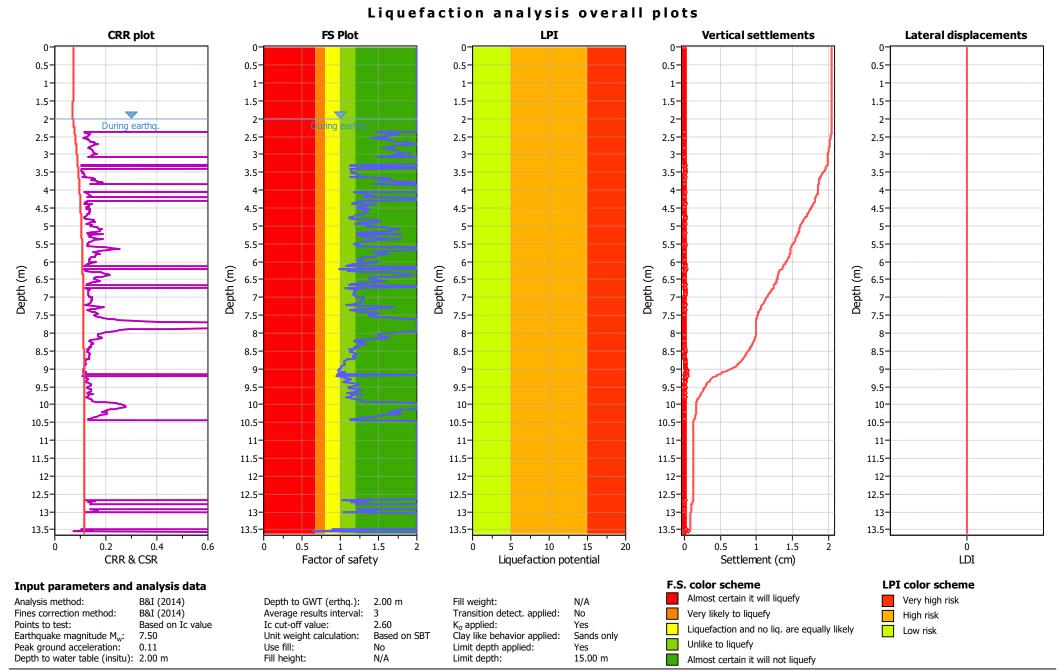






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT08\_SLS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:07 AM
Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\classed Rd)

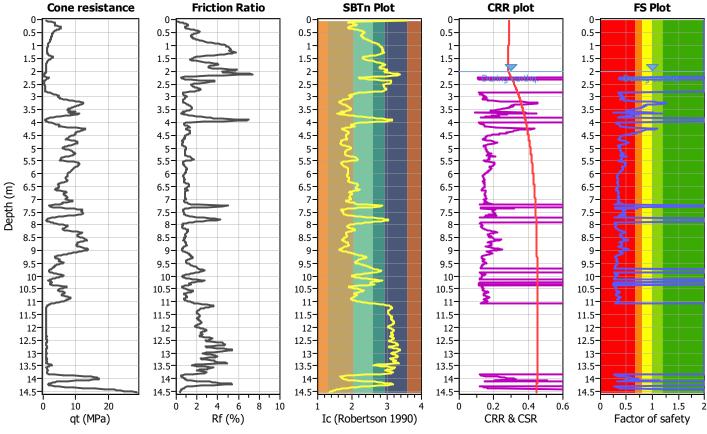


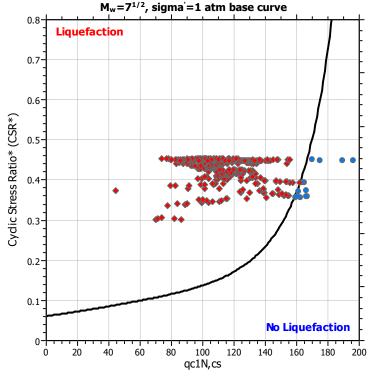
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

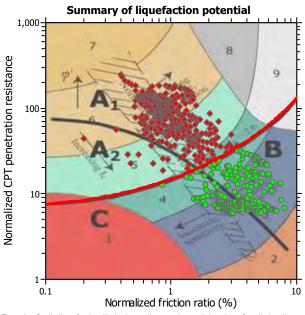
CPT file: CPT01\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

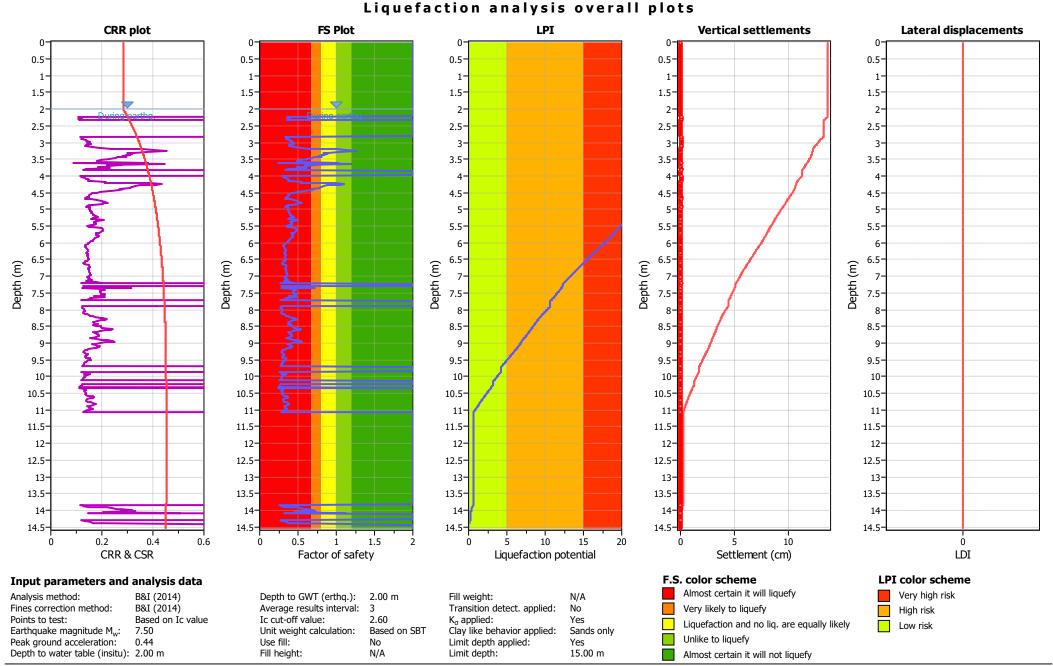






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT01\_ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:09 AM
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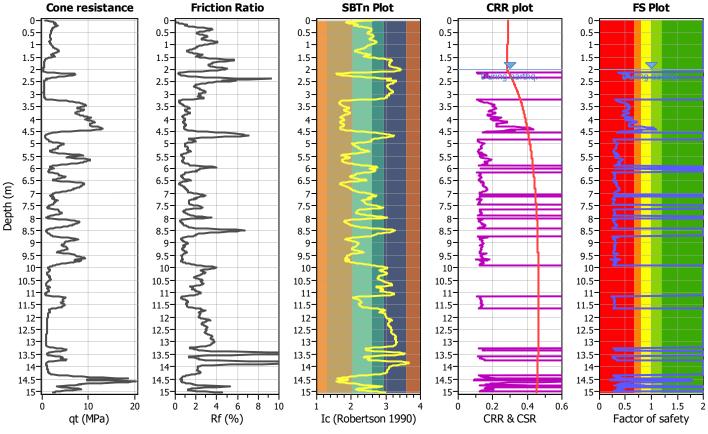


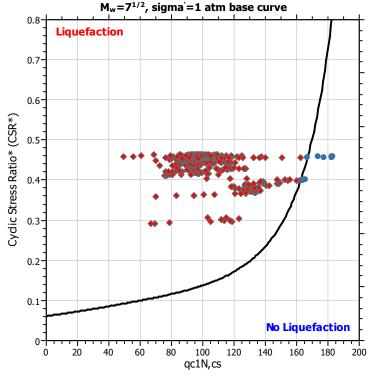
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

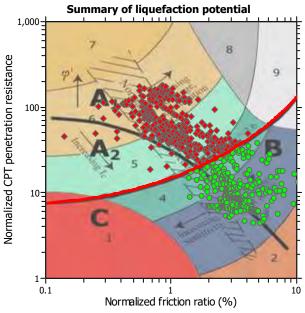
CPT file: CPT02\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: G.W.T. (earthq.): Fines correction method: B&I (2014) 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

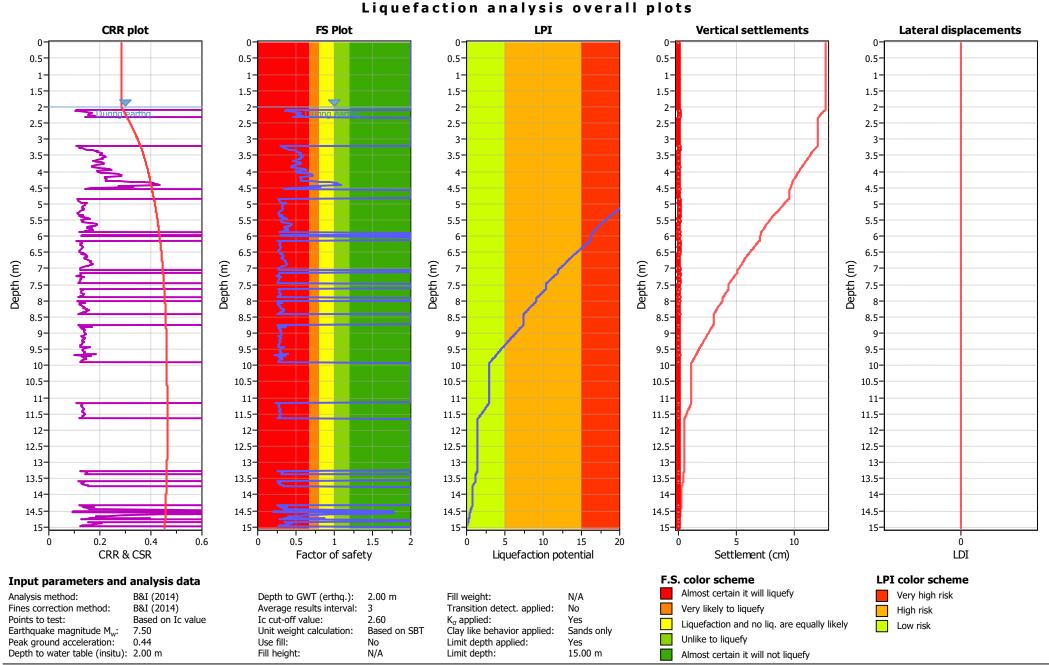






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT02\_ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:11 AM
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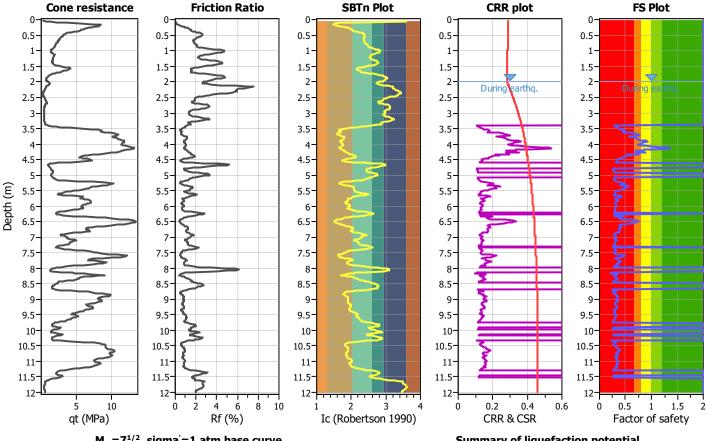


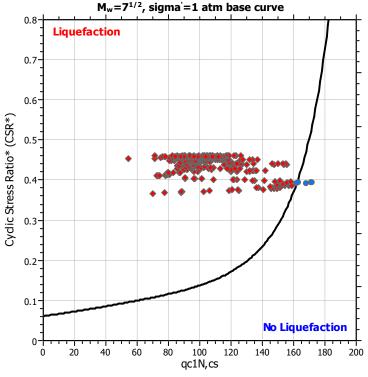
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

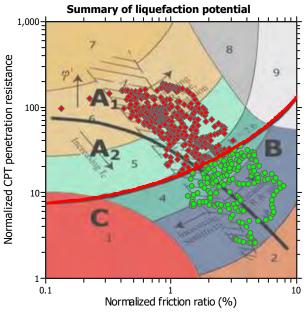
CPT file: CPT03\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

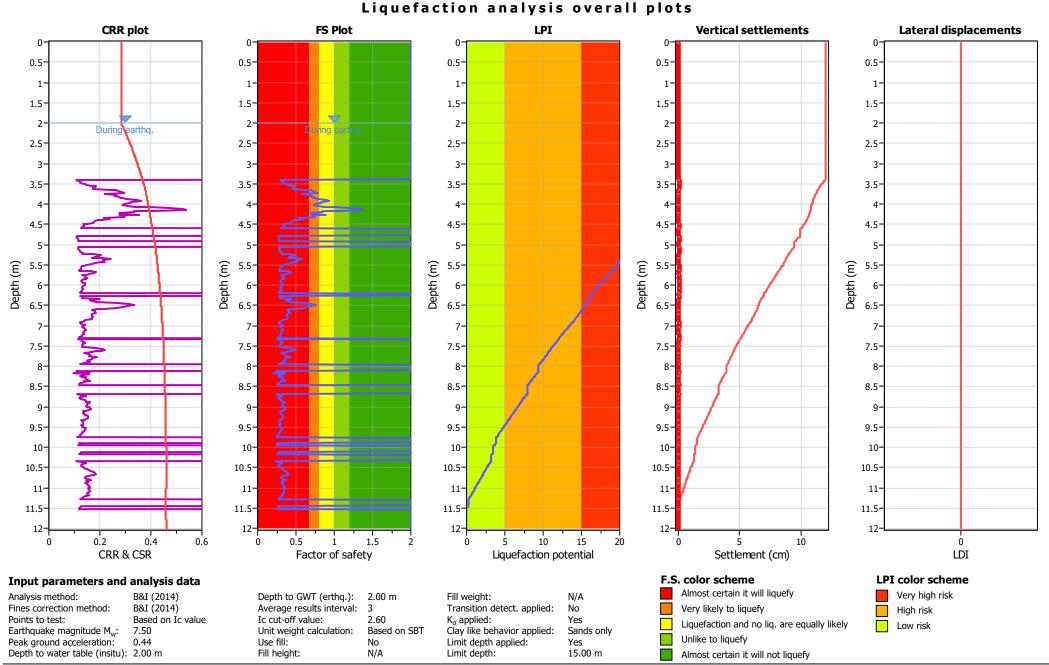






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT03\_ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:14 AM
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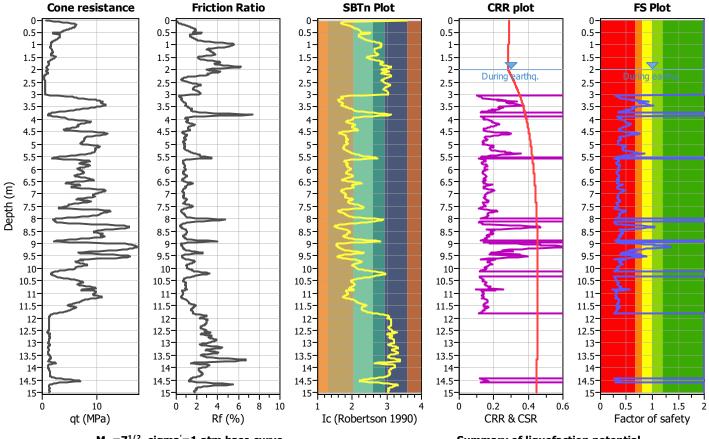


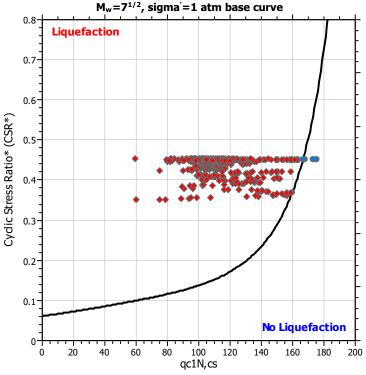
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

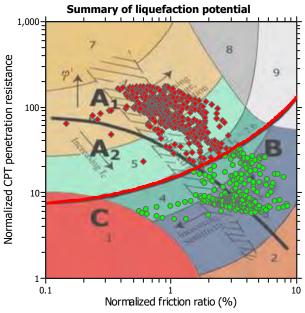
CPT file: CPT04\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

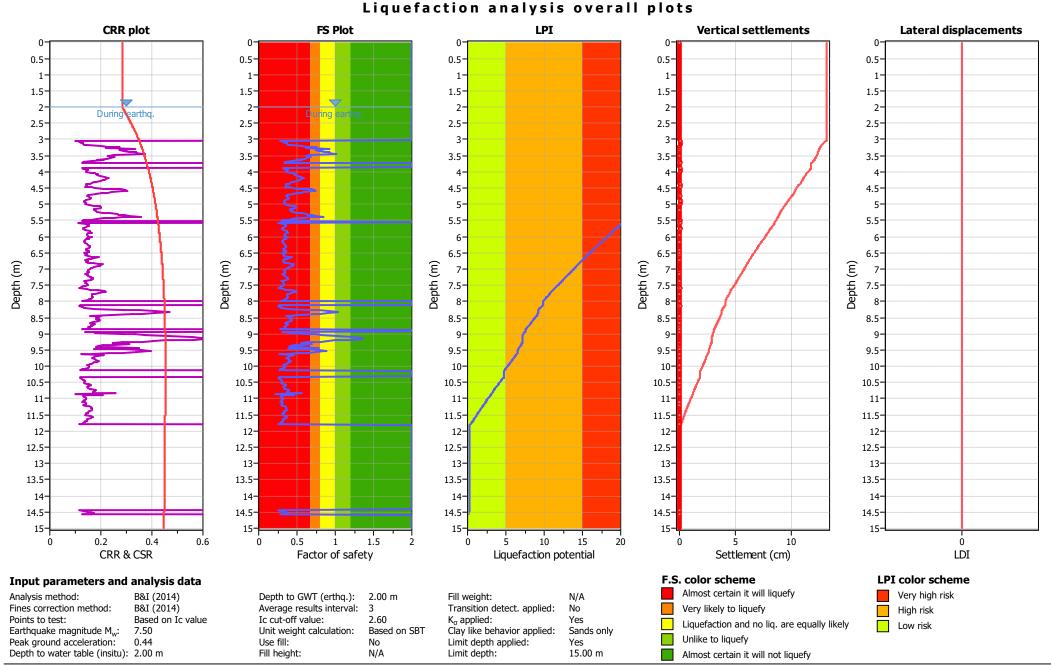






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT04\_ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:16 AM
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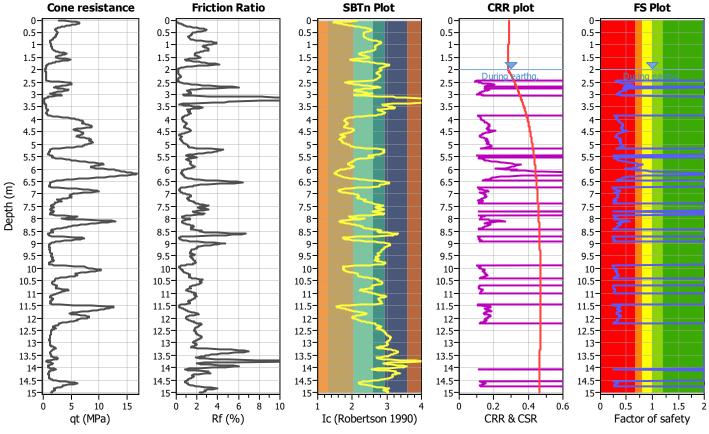


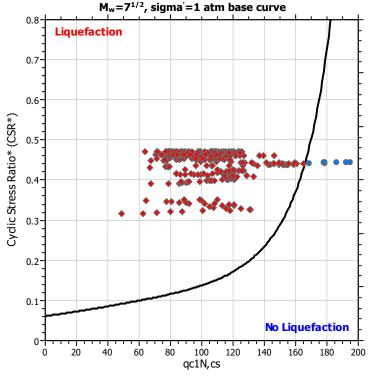
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

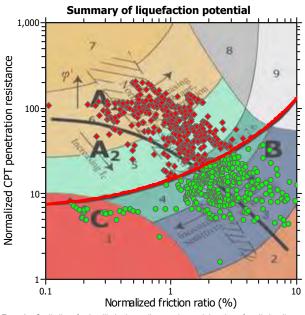
CPT file: CPT05\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

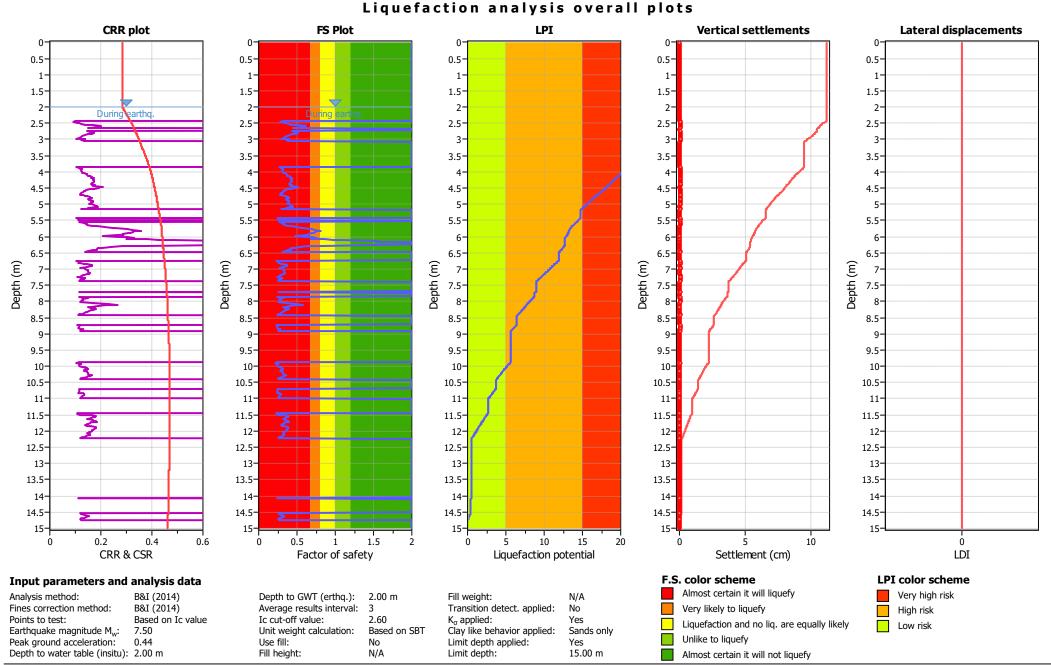






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT05\_ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:18 AM
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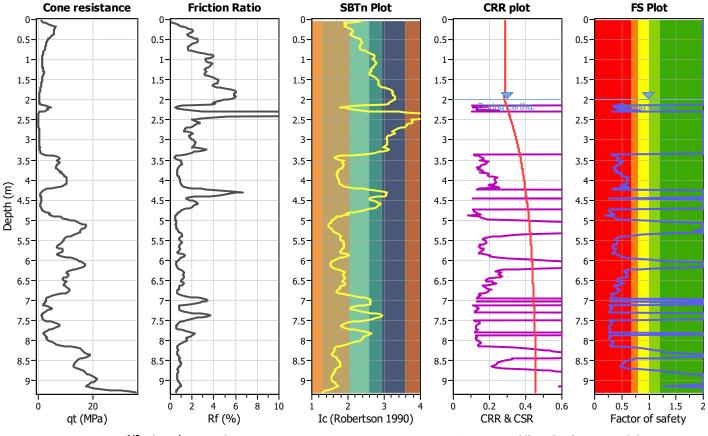


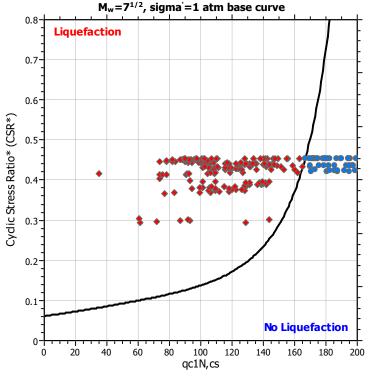
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

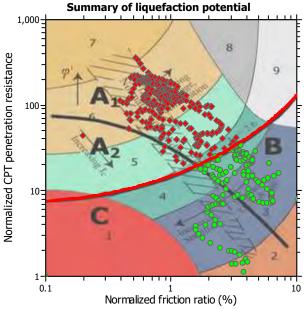
CPT file: CPT06\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: Fines correction method: B&I (2014) G.W.T. (earthq.): 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

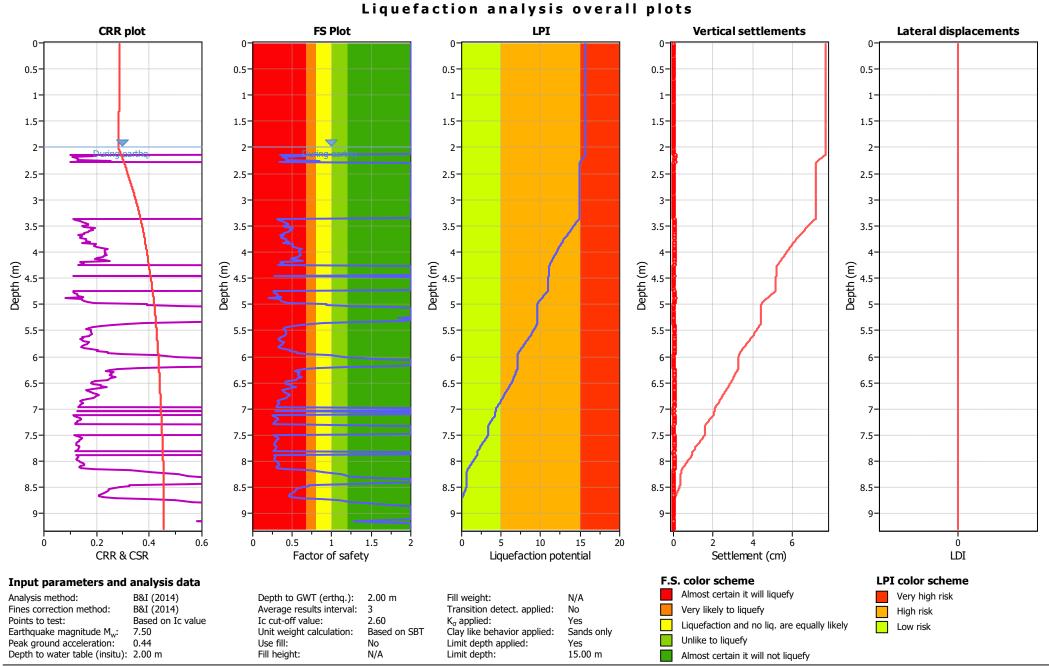






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT06\_ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:20 AM
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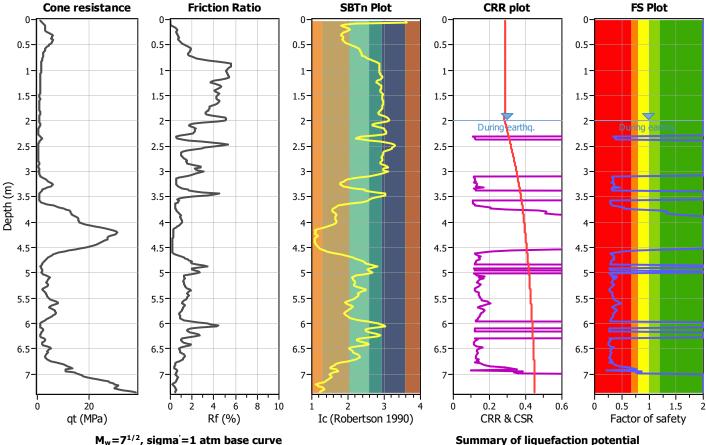


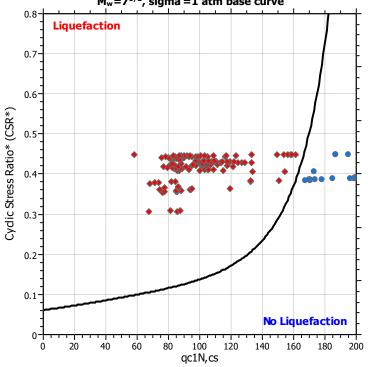
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

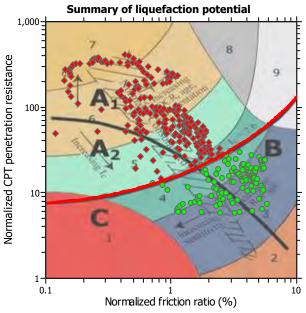
CPT file: CPT07\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: G.W.T. (earthq.): Fines correction method: B&I (2014) 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method







Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT07\_ULS

#### Liquefaction analysis overall plots CRR plot FS Plot LPI **Vertical settlements Lateral displacements** 0.2 0.2 0.2-0.2 0.2 0.4 0.4 0.4 0.4-0.4-0.6 0.6-0.6-0.6-0.6-0.8 0.8-0.8-0.8-0.8-1-1-1-1-1-1.2-1.2-1.2-1.2-1.2-1.4 1.4-1.4 1.4-1.4-1.6-1.6-1.6 1.6-1.6-1.8 1.8-1.8-1.8-1.8-2-2-2-2-During earthq. 2.2 2.2-2.2-2.2-2.2-2.4 2.4-2.4 2.4-2.4-2.6 2.6-2.6 2.6-2.6-2.8 2.8-2.8 2.8-2.8-3-3-3-3-3-3.2-3.2-3.2-3.2-3.2-3.4-3.6-3.8-4-3.4-3.6-3.8-4-Depth (m) 3.4-Depth (m) -9.8 -4 -4 3.4-3.6-3.8-4-4.2 4.2-4.2 4.2 4.2-4.4 4.4-4.4 4.6 4.6-4.6-4.6-4.6-4.8-4.8 4.8 4.8-4.8-5-5-5-5-5-5.2 5.2-5.2-5.2-5.2-5.4-5.4 5.4 5.4 5.4-5.6-5.6-5.6 5.6-5.6-5.8-5.8-5.8-5.8-5.8 6-6. 6-6-6.2 6.2 6.2-6.2-6.2-6.4 6.4-6.4 6.4-6.4-6.6 6.6 6.6-6.6 6.6 6.8 6.8 6.8 6.8-6.8-7.2 7.2-7.2-7.2-7.2-1.5 0.2 0.4 0.6 10 LDI CRR & CSR Factor of safety Liquefaction potential Settlement (cm) F.S. color scheme LPI color scheme Input parameters and analysis data Almost certain it will liquefy Very high risk Analysis method: B&I (2014) Depth to GWT (erthq.): 2.00 m Fill weight: N/A Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No Very likely to liquefy High risk Ic cut-off value: Points to test: Based on Ic value 2.60 $K_{\sigma}$ applied: Yes Liquefaction and no liq. are equally likely Low risk Unit weight calculation: Based on SBT Clay like behavior applied: Sands only Earthquake magnitude M<sub>w</sub>: 7.50

Limit depth applied:

Limit depth:

Yes

15.00 m

Unlike to liquefy

Almost certain it will not liquefy

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Project file: S:\Projects\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\Stages 3-5 - Lots 1-44 Lyndhurst Rd\Processed CPT Data\170602050\_Greenstone (Arbuckle Rd)\_Tim Wilkins\classed Rd)

N/A

Use fill:

Fill height:

Peak ground acceleration:

Depth to water table (insitu): 2.00 m

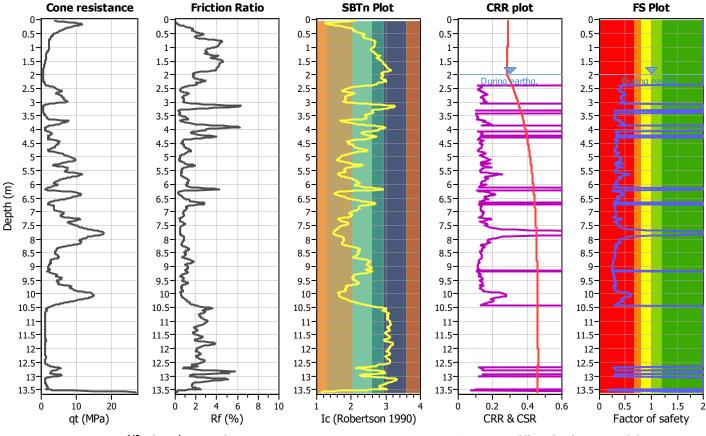


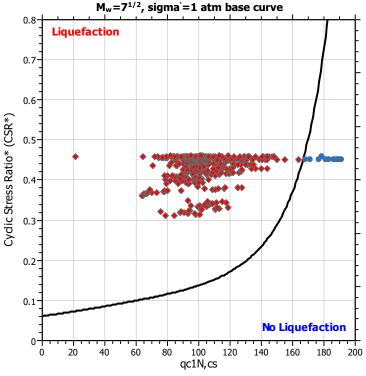
Project title: 170602050\_Greenstone Stages 3-5 Location: Lots 1 - 44 Lyndhurst Rd

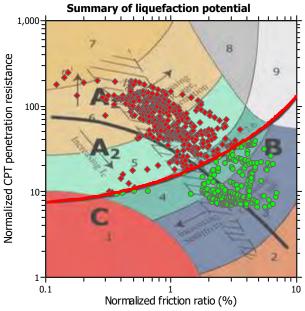
CPT file: CPT08\_ULS

#### Input parameters and analysis data

Clay like behavior Analysis method: B&I (2014) G.W.T. (in-situ): 2.00 m Use fill: G.W.T. (earthq.): Fines correction method: B&I (2014) 2.00 m Fill height: N/A applied: Sands only Yes 15.00 m Points to test: Based on Ic value Average results interval: 3 Fill weight: N/A Limit depth applied: Earthquake magnitude Mw: Ic cut-off value: 2.60 Trans. detect. applied: No Limit depth: Peak ground acceleration: Unit weight calculation: Based on SBT  $K_{\sigma}$  applied: MSF method: Method

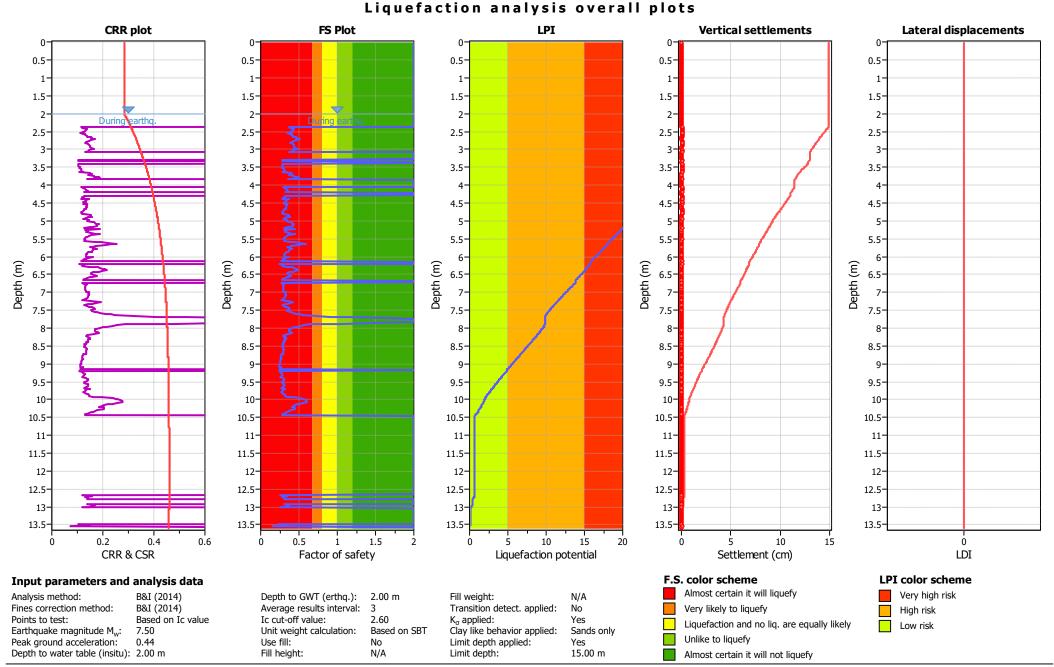






Zone  $A_1$ : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone  $A_2$ : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

This software is licensed to: Cameron Wylie CPT name: CPT08 ULS



CLiq v.2.1.6.7 - CPT Liquefaction Assessment Software - Report created on: 07-Dec-17, 11:49:25 AM

## **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 civilworks 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 geotechnicalengineering 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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