BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

WOLFDEN RESOURCES INC.

2006 GEOTECHNICAL INVESTIGATION PROGRAM

HIGH LAKE PROJECT, NU

FINAL

PROJECT NO.: 0385-003-15
DATE: MARCH 26, 2007

DISTRIBUTION LIST:

WOLFDEN RESOURCES LTD.	2 COPIES
GARTNER LEE LTD.	2 COPIES
WARDROP ENGINEERING	2 COPIES
BGC CALGARY	2 COPIES
BGC VANCOUVER	1 COPY

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
1605, 840 - 7 Avenue SW
Calgary, Alberta T2P 3G2
Tel.: (403) 250-5185
Fax: (403) 250-5330

Project No. 0385-003-15
Date: March 26, 2007

Wolfden Resources Inc.
401-1113 Jade Court,
Thunder Bay, Ontario
P7B 6M7

Attention: Mr. Andrew Mitchell, P. Geo. – Project Manager

RE: 2006 GEOTECHNICAL INVESTIGATION PROGRAM
HIGH LAKE PROJECT, NU

Dear Andrew:

Please find attached our final version of our above referenced report for distribution to the High Lake project team. This report summarizes available information from the geotechnical investigations conducted at various locations at the High Lake Property in 2006, including permafrost characterization and thermistor monitoring results.

Should you have any questions or comments regarding this report, please contact BGC at your convenience.

Regards,
BGC Engineering Inc.
per:

James W. Cassie, M.Sc., P.Eng.
Specialist Geotechnical Engineer

JWC/sf

Enclosure: Final Report

TABLE OF CONTENTS

1.0 Introduction 1

2.0 Background information 2

3.0 Geotechnical Investigation Program 2
3.1 2006 Site Investigation Program 2
3.1.1 Geotechnical Investigation 3
3.1.2 Geological Field Mapping Program 4
3.2 Borehole and Instrumentation Summary 5
3.2.1 2006 Instrumentation Installations 8

4.0 Geotechnical Investigation Results 9
4.1 High Lake Property 9
4.1.1 Plant Site 9
4.1.2 East Dam 11
4.1.3 Polishing Pond Dam 14
4.1.4 Northeast Dam 15
4.1.5 Northwest Dam 18
4.1.6 Northwest Channel Dam 19
4.1.7 Contact Lake Dam 20
4.1.8 A/B Toe Dike 22
4.1.9 Water Retention Dam 24
4.1.10 L-8 Dam 25
4.2 Dock Site Investigations 26
4.2.1 Field Reconnaissance, Site Selection and Previous Work 26
4.2.2 2006 Geotechnical Investigation 27
4.2.3 Ground Conditions 27
4.2.4 Comparison of Marine Geophysical Survey and 2006 Geotechnical Investigation 29

5.0 Thermistor Monitoring Results 31
5.1 High Lake Thermistors 31
5.2 Summary of Permafrost Monitoring 39

6.0 Conclusions 40

7.0 Recommendations 40

8.0 Closure 41

References 42

TABLES

Table 1 Summary of Borehole and Thermistor Information for High Lake 6
Table 2 Summary of Borehole Information for Proposed Dock Site 7
Table 3 Toe Dike Geotechnical Investigation Results 23
Table 4 2006 Proposed Dock Site Borehole Summary 28
Table 5 Comparison of Marine Geophysics and 2006 Geotechnical Investigation 30
Table 6 Comparison of Marine Geophysics and 2006 Geotechnical Investigation Bedrock Depths 30

LIST OF FIGURES

Figure 1 Project Location Map
Figure 2 High Lake Site Plan
Figure 3 High Lake Borehole Locations
Figure 4 Locations of Boreholes, Dam and Dam Sections at the North End of High Lake
Figure 5 Locations of Boreholes, Dam and Dam Sections at the South End of High Lake
Figure 6 Dock Site Borehole Locations

APPENDICES

Appendix I 2006 High Lake Geotechnical Investigation Borehole Logs
Appendix II 2006 Dock Site Geotechnical Investigation Borehole Logs
Appendix III 2006 High Lake and Dock Site Investigation Photographs (CD)
Appendix IV 2006 Representative Site Photographs
Appendix V 2006 Laboratory Testing Results
Appendix VI 2006 Geological Field Mapping
Appendix VII 2006 Geological Field Mapping Photos
Appendix VIII 2006 Instrument Calibration Sheets
Appendix IX 2006 Dam Section Profiles
Appendix X Thermistor Monitoring Data
Appendix XI Geomechanical Logs

LIMITATIONS OF REPORT

BGC Engineering Inc. (BGC) prepared this report for the account of Wolfden Resources Inc. The material in it reflects the judgement of BGC staff in light of the information available to BGC at the time of report preparation. Any use which a third party makes of this report, or any reliance on decisions to be based on it are the responsibility of such third parties. BGC accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

As a mutual protection to our client, the public, and ourselves, all reports and drawings are submitted for the confidential information of our client for a specific project. Authorization for any use and/or publication of this report or any data, statements, conclusions or abstracts from or regarding our reports and drawings, through any form of print or electronic media, including without limitation, posting or reproduction of same on any website, is reserved pending BGC's written approval.

1.0 INTRODUCTION

The High Lake Project, being developed by Wolfden Resources Inc. (Wolfden), is located in Nunavut within the High Lake greenstone belt, as shown in Figure 1. The proposed mining development in 2006 encompasses two distinct components:

- The High Lake Property (polymetallic), located about 175 km to the east/southeast of Kugluktuk (formerly Coppermine) near the Kennarctic River; and
- A port site located on Grays Bay in Coronation Gulf, approximately 50 km north of High Lake.

In addition to these two components, an all weather access road will be required between the proposed mine and the port site. Applications have been made to the Nunavut Impact Review Board (NIRB) to proceed with the High Lake Project. The High Lake Project includes two open pits (AB and D Zones), three underground mining areas (AB, D and West Zone) and a mill to process the ore. The project also includes a tailings management facility and concentrate loading facility at the Grays Bay Dock Site (Wolfden, 2006).

Dock site surveys and limited geotechnical site investigations were completed by BGC in 2004 and Wardrop in 2005, which are documented in BGC (2006a) and BGC (2006b). The boreholes drilled did not determine the ground ice conditions or the frost affected bedrock (FAB) depth as they were drilled with warm water, and not chilled brine.

Therefore, further geotechnical investigations were conducted by BGC in 2006 to collect site information required for the preliminary geotechnical and permafrost engineering and mine waste design for their project. The objectives of the 2006 site investigation program were to collect the following information:

- Overburden thickness, material type and ground ice condition.
- Depth of the FAB (located between overburden and underlying intact bedrock).
- An assessment of lithology, strength and geological structures including faults, shear zones and foliation within the bedrock under structures.
- Confirmation of continuous permafrost thermal regime, including extrapolation of temperature information for deep talik potential.
- Collection of appropriate soil and bedrock samples for testing and estimation of design parameters.

The 2006 site investigation program was centered on the dams surrounding High Lake, the mill site and the dock site at Grays Bay.

The current report provides a summary of the geotechnical and permafrost data collected in 2006, including the following:

- Preliminary geotechnical investigation data from the proposed dam sites and plant site;
- Preliminary geotechnical investigation data from the Grays Bay Dock Site.

- Comparison of the preliminary geophysical data and the geotechnical investigations from the proposed dam sites and Grays Bay Dock Site.
- Current monitoring results from instruments installed during the investigations for confirmation of a continuous permafrost thermal regime.

An outline of the proposed 2006 geotechnical work was submitted to Wolfden in January 2006. Verbal authorization to proceed with the work was provided by Mr. Andrew Mitchell of Wolfden.

2.0 BACKGROUND INFORMATION

Section 2.0 within BGC (2006b) provides a review of the relevant background information on the project area, including the following topics:

- Exploration history.
- Location, physiography, topography and drainage.
- Regional geology.
- Regional Permafrost conditions.

As such, this information is not repeated herein and the reader is directed to BGC (2006b).

3.0 GEOTECHNICAL INVESTIGATION PROGRAM

3.1 2006 Site Investigation Program

Additional geotechnical drilling was required in 2006 to support the geotechnical engineering and design for a feasibility study that will be prepared later. As noted earlier, drilling investigations conducted in 2004 by BGC and 2005 by Wardrop used warm water in the overburden and FAB. Therefore, the ground ice conditions and FAB depth information could not be ascertained. The geotechnical drilling program conducted in 2006 utilized chilled brine (water with salt for freezing point depression) for coring the overburden and FAB.

A site reconnaissance was performed by Messieurs Mike McCrank, E.I.T. and Geoff Claypool, P.Eng. between March 31, 2006 and April 3, 2006. The purpose of this trip was to scrutinize the proposed locations for boreholes in the vicinity of dam abutments and centrelines and plant site and determine the locations of potential water sources for the drill rigs.

3.1.1 Geotechnical Investigation

Geotechnical investigations at the High Lake site and the dock site location on Grays Bay were completed between March 31 and May 27, 2006. Drilling was conducted by Major Midwest Drilling of Yellowknife. Drilling was completed using a heli-portable diamond drill rig (BBS1), except when the larger heli-portable B37 diamond drill rig was required for the 125 m deep borehole near the Kennarctic River. NQ-sized core (core diameter of 47.6 mm) was recovered during the field program and overburden classification and geomechanical core logging were completed as the drilling progressed. Thermistors were installed in eleven boreholes (BGC06-04, BGC06-05, BGC06-06, BGC06-07, BGC06-08, BGC06-11, BGC06-13, BGC06-15, BGC06-17, BGC06-20, BGC06-25) to monitor ground temperatures.

The geotechnical drilling was conducted typically using a 5% calcium chloride brine solution as the drilling fluid for the overburden and FAB so that the ground ice content and FAB depth could be determined in the vicinity of High Lake. Ambient temperature lake water was subsequently used as the drilling fluid after the calcium chloride brine was depleted. This brine was typically depleted 1 or 2 m below the FAB and intact bedrock contact. At the proposed dock site location, ambient temperature sea water was solely utilized as the drilling fluid.

Twenty five boreholes were drilled in the vicinity of High Lake at the proposed locations for the Polishing Pond Dam, Plant Site, Contact Lake Dam, Northeast Dam, A/B Toe Dike, East Dam, Northwest Dam, Water Dam, L-8 Dam and Northwest Channel Dam from April 3 to April 23 and May 7 to 27, 2006. Figure 2 shows the location of the elements while Figure 3 shows the location of the boreholes drilled in the vicinity of the High Lake Site. The boreholes ranged in depth from 7.2 m to 126.0 m.

Drilling ceased between April 23 and 29, 2006 so Majors Drilling could prepare the heli-portable drill rig for drilling on the sea ice at the dock site location. During this time period, the field engineers programmed and installed the dataloggers and placed protective thermistor casings on the installed thermistors. The engineer's core logging shack was also prepared for the dock site drilling.

Drilling at the dock site location commenced on April 29, 2006 and was completed on May 6, 2006. The drilling was supervised by Eric Niven, E.I.T., Alena James, E.I.T. and Holger Hartmaier, P.Eng. Drilling was suspended in the afternoon of April 29, 2006 due to a blizzard. Eleven boreholes (DS-BGC06-01 through DS-BGC06-12, with the exception of the inland hole DS-BGC06-10 which was cancelled from the drilling program) were drilled from the sea ice at the dock site, ranging in depth from 15.5 m to 24.9 m in depth. On May 7, 2006, the drilling supplies and drill rig were mobilized from the dock site location back to High Lake.

Retrieved core samples were logged for lithology, overburden particle size, ice content, depth to FAB and intact bedrock, core recovery, rock quality designation (RQD) and rock fracture frequency. Borehole logs for both High Lake and the proposed dock site are included in Appendices I and II.

The borehole locations (from 2004 to 2006) for both High Lake and the proposed dock site location are shown on Figures 3, 4, 5 and 6 while photographs of the bedrock core recovered are provided in Appendices III. Appendix IV contains selected photographs of the site and ground conditions encountered.

It should be noted that the coordinates from the boreholes in the vicinity of High Lake were obtained from a hand-held GPS and have an accuracy of approximately 5 to 15 m. The borehole locations were not surveyed in after the completion of the drilling, so the surface elevation was estimated from available topographic information. It is recommended that the boreholes be surveyed at a later date to obtain accurate elevations and co-ordinate locations. With the exception of DS-BGC06-11, the locations of the boreholes at the proposed dock site were surveyed with a differential GPS. The location of DS-BGC06-11 was also obtained from a hand-held GPS.

Laboratory testing was completed on selected samples after the completion of the geotechnical drilling program. Index testing such as moisture content, Atterberg Limits and grain size analysis was conducted on the overburden samples while Point Load Testing (PLT) was performed on the intact bedrock samples. The PLT results shown on the borehole logs are an average of the two tests conducted on an intact rock sample at a specified depth. A summary of the laboratory testing and individual testing results are provided in Appendix V.

3.1.2 Geological Field Mapping Program

A geological field mapping program was completed between August 25, 2006 and September 1, 2006 by Ms. Alena James, E.I.T. and Mr. Holger Hartmaier, P.Eng. The objectives of the site reconnaissance were as follows:

- Review proposed dam locations and optimize according to surficial ground conditions.
- Map abutment areas and surrounding topography of proposed retention structures.
- Map potential seepage areas, if any exist.
- Download thermistor data.

Detailed information from the geological field mapping program is provided in Appendix VI. The geological mapping program consisted of terrain and field mapping and identified potential active layer seepage areas. The field mapping outlined visual observations made in the field and potential active layer seepage areas while the terrain mapping classified the surficial geology and bedrock units in the vicinity of the proposed dams. Selected site photographs from the field mapping are provided in Appendix VII.

3.2 Borehole and Instrumentation Summary

During the geotechnical program conducted in 2006, 25 boreholes were drilled in the vicinity around High Lake and 11 thermistors were installed. Table 1 below provides a summary of the boreholes and the instruments installed in the vicinity of High Lake in 2006.

Table 1: Summary of Borehole and Thermistor Information for High Lake

Borehole No.	Location Description	Approximate UTM Coordinates (NAD 83)	Cable Length (m)	Borehole Inclination (°)	Thermistor Vertical Depth (m bgs)	Instrumentation Installed
BGC06-01	Plant Site	506 030 E/7 473 285 N	N/A	90	N/A	N/A
BGC06-02	Plant Site	506 125 E/7 473 225 N	N/A	90	N/A	N/A
BGC06-03	Plant Site	506 080 E/7 472 875 N	N/A	90	N/A	N/A
BGC06-04	East Dam	507 411E/7 474 412 N	125	70	117.4	385-003-10
BGC06-05	East Dam	507 159 E/7 473 977 N	50	70	46.0	50-1
BGC06-06	East Dam	507 185 E/7 473 902 N	50	70	47.0	50-2
BGC06-07	Polishing Pond	506 661E/7 475 839 N	25	90	25.0	25-1
BGC06-08	Polishing Pond	506 718 E/7 475 786 N	25	90	25.0	25-2
BGC06-09	Northeast Dam	506 560 E/7 475 590 N	N/A	65	N/A	N/A
BGC06-10	Northeast Dam	506 421 E/7 475 615 N	N/A	90	N/A	N/A
BGC06-11	Northeast Dam	506 505 E/7 475 567 N	50	70	47.2	385-003-03
BGC06-12	Northeast Dam	506 521 E/7 475 570 N	N/A	90	N/A	N/A
BGC06-13	Northwest Dam	506 384 E/7 475 325 N	50	70	47.0	385-003-09
BGC06-14	A/B Toe Dike	506 471 E/7 474 502 N	N/A	90	N/A	N/A
BGC06-15	Northwest Channel Dam	506 236 E/7 475 116N	50	70	46.6	50-3
BGC06-16	Northwest Channel Dam	506 250 E/7 475 144 N	N/A	90	N/A	N/A
BGC06-17	Water Dam	505 344 E/7 475 428 N	50	70	46.9	385-003-08
BGC06-18	Water Dam	505 346 E/7 475 473 N	N/A	90	N/A	N/A
BGC06-19	South Dam	506 798 E/7 473 221 N	N/A	90	N/A	N/A
BGC06-20	South Dam	506 765 E/7 473 273 N	50	90	46.9	385-003-04
BGC06-21	L8 Dam	505 974 E/7 473 902 N	N/A	70	N/A	N/A
BGC06-22	L8 Dam	506 000 E/7 473 962 N	N/A	90	N/A	N/A
BGC06-23	A/B Toe Dike	506 460 E/7 474 547 N	N/A	90	N/A	N/A
BGC06-24	East Dam	507 171 E/7 473 884 N	N/A	90	N/A	N/A
BGC06-25	East Dam	507 149 E/7 473 995 N	20	90	18.3	EBA 1822[2]

[1] It should be noted that the UTM coordinates are approximate and were taken with hand-held GPS units with an accuracy of 5 to 15 m.
[2] Since the thermistors installed at BGC06-05 and BGC06-06 ceased operating a couple of weeks after installation a spare thermistor from the site office (ie EBA 1822) was installed in BGC06-25 so ground temperature measurements could be obtained from the East Dam area.

Eleven thermistors were installed during the geotechnical investigation in 2006 while twelve thermistors were installed in 2004 and 2005 as part of the High Lake Project to determine the thermal regime in the area. The ground thermal regime at each location is a function of site specific conditions and must be measured to assess if permafrost or talik (thawed zone within continuous permafrost conditions) conditions exist. Instrumentation specifics are discussed in further detail in Section 3.2.1 of this report.

At the proposed dock site location, 11 boreholes were drilled during the 2006 geotechnical investigation. Table 2 provides a summary of the boreholes drilled at the dock site location.

Table 2 Summary of Borehole Information for Proposed Dock Site

Borehole No.	Approximate UTM Coordinates (NAD 83)	Borehole Inclination (^{o})	Hole Depth (m bgs)
DS-BGC06-01	505 350 E/ 7 521 131 N	90	19.9
DS-BGC06-02	505 400 E/ 7 521 186 N	90	23.6
DS-BGC06-03	505 450 E/ 7 521 210 N	90	21.2
DS-BGC06-04	505 450 E/ 7 521 194 N	90	19.9
DS-BGC06-05	505 500 E/ 7 521 228 N	90	20.3
DS-BGC06-06	505 500 E/ 7 521 200 N	90	21.3
DS-BGC06-07	505 550 E/ 7 521 240 N	90	24.9
DS-BGC06-08	505 550 E/ 7 521 220 N	90	20.9
BGC06-09	505 550 E/ 7 521 200 N	90	20.0
DS-BGC06-11	505 421 E/ 7 521 1157 N	65	15.0
DS-BGC06-12	505 350 E/ 7 521 131 N	65	15.5

As noted above, with the exception of DS-BGC06-11, the locations of the boreholes were surveyed prior to the commencement of the geotechnical investigation. The location of DS-BGC06-11 was taken with a hand held GPS that has an accuracy of 5 to 15 m.

3.2.1 2006 Instrumentation Installations

Eleven thermistors attached to the dataloggers were installed in 2006 to determine the thermal ground regime within the footprint of the proposed retention structures at High Lake.

Ten (10) thermistor cables installed in 2006 were fabricated by M-Squared Instruments of Cochrane, Alberta while one (1) thermistor cable was fabricated by EBA Engineering Consultants Ltd (EBA). The thermistors provided by M-Squared Instrument are type YSI 44007 with a MS3106A 20-29P termination. The accuracy of the thermistors, as suggested by the manufacturer, is +/- 0.2°C. The two 25 m long cables contained 10 beads, the seven 50 m long cables contained 16 beads, the one 20 m cable contained 7 beads and the one 125 m long cable contained 16 beads. Each cable was ice-bath calibrated by the manufacturer prior to shipment to site. The calibration sheets for all eleven (11) thermistors are included in Appendix VIII.

The dataloggers for each cable were fabricated by Lakewood Systems Ltd. (Lakewood) of Edmonton, Alberta. Each datalogger unit is a type R-X 16 and is read with Lakewood's Prolog software. The dataloggers were programmed to take temperature measurements every 12 hours, at 12:00 am and 12:00 pm. The dataloggers were then placed inside a weather resistant casing in order to protect the unit and the connection to the thermistor. It should be noted that dataloggers can be corrupted for a variety of reasons, and as such, manual readings are always recommended to back up the automated readings.

All thermistors were installed within a 25 mm diameter PVC pipe with a piece of B-sized drill rod attached to the end after the borehole was flushed clean with fresh water and the drill rods were tripped out. A cap was placed on the downhole end of the PVC pipe and then the PVC pipe was lowered in 3 m sections. After installation of the PVC pipe, sand was poured around the outside of the PVC pipe. The top 0.3 to 1.0 m of each borehole was backfilled with bentonite pellets around the surface casing to prevent surface water from infiltrating into the borehole. Electrical tape was wrapped around the top of the PVC pipe to prevent possible water transfer down the pipe around the thermistor cable.

Elevated metal casings were installed around the thermistor for protection, identification and housing of the dataloggers. After the installation of each thermistor, an initial reading was taken to ensure the thermistor cable was working properly. Typically a period of several weeks to a month is required before the thermistor readings are indicative of actual in situ ground temperatures ("freeze-back" period).

4.0 GEOTECHNICAL INVESTIGATION RESULTS

The following sections summarize the activities completed and observations made during the investigations at each specific location. Details of the geological field mapping are provided in Appendix VI and will also be included in Sections 4.1.1 through 4.1.10 below. As noted earlier, photographs of selected recovered core are provided in Appendices III and IV while borehole logs are provided in Appendices I and II. A legend of ground ice logging terminology and bedrock logging details are provided in Appendix I. Thermistor monitoring results are reviewed in Section 5 of this report.

In total, 25 holes were drilled in the vicinity of High Lake at the proposed plant site and in the foundation footprint of the retention structures while an additional 11 boreholes were drilled at the proposed Gray's Bay Dock Site. Geotechnical drilling was completed at the following locations in 2006:

- Plant Site
- East Dam
- Polishing Pond Dam
- Northeast Dam
- Northwest Dam
- Northwest Channel Dam
- Contact Lake Dam
- A/B Toe Dike
- Water Retention Dam (no longer proposed)
- L-8 Water Supply Dam (no longer proposed)
- Dock Site

Figures 3, 4 and 5 show the approximate borehole locations.

The following sections outline the ground conditions encountered in the boreholes. A comparison of previous geotechnical investigations and the geophysical surveys conducted in 2004 are also provided below.

4.1 High Lake Property

4.1.1 Plant Site

Boreholes BGC06-01, BGC06-02 and BGC06-03 were drilled at the proposed plant site.

BGC06-01 was drilled at the proposed tank farm location. At this borehole location, frost affected gabbro bedrock with silty sand till on the joint surfaces was encountered to approximately 2 m below ground surface (bgs). The till on the joint surfaces was found to be frozen and the ground ice was logged as Nbn. From 2 m bgs (the top of intact rock) to the end of the borehole at 9.6 m, a fresh to slightly weathered gabrro was encountered. The unit is generally strong (R4). The rock was moderately jointed and fractured with calcite infill on the joint surfaces. The RQD ranged between 78 and 100% (good to excellent rock mass quality).

Samples of the silty sand till on the joint surfaces were taken at 0.5 and 1.7 m bgs, respectively. Soluble sulphate and moisture content testing was conducted on the sample at 1.7 m bgs while moisture content testing was conducted on the sample collected at 0.5 m. Soluble sulphate testing was conducted to determine the concentration of sulphates in the overburden material and if Portland cement would be vulnerable to attack by soluble sulphates. The moisture content of the collected samples ranged from 7 to 8%. The soluble sulphate testing indicated that the soluble sulphate concentration was negligible.

BGC06-02 was drilled in the vicinity of the proposed maintenance garage location. At this borehole location, 1 m of metavolcanic and granitic cobbles with interbeded till was encountered above 0.2 m of frost affected granodiorite bedrock. Thus, the top of intact bedrock was encountered at 1.2 m bgs. The ice content of the till on the joint surfaces was Nbn. Intact granodiorite bedrock was encountered from approximately 1.2 to 19.2 m bgs, where it was terminated. The RQD values ranged from 75 to 99% (good to excellent) with the exception of 16.5 to 17.7 m bgs where the RQD value was poor (RQD value of approximately 40%).

The granodiorite bedrock encountered at boreholes BGC06-02 and BGC06-03 was found to be coarse grained, fresh with fractures and joints healed with 1 to 2 mm of calcite. The bedrock unit was generally strong (R4) which corresponds to a uniaxial compressive strength ranging between 50 to 100 MPa.

Samples of the till (gravely silty sand) found on the joint surfaces were taken from BGC06-02 at 0.55 and 1.1 m bgs respectively. A grain size analysis was completed on Sample #1 while Atterberg Limits and soluble sulphate testing was completed on Sample #2. The grain size analysis and Atterberg Limits testing indicated the till was non-plastic gravely, silty sand to a silty sand and gravel. The soluble sulphate testing indicated that the potential for soluble sulphate attack was negligible.

BGC06-03 was drilled at the proposed plant site location. At this borehole location, 1.9 m of gravel and cobbles and gravel and sand till was encountered above the intact granodiorite bedrock. The depth to intact bedrock was determined to be 1.9 m. The ice content was Nbe in the topsoil and Nbn in the gravel and cobbles and sand till. The gravel till was estimated to have 30 to 40% stratified ice lenses. The RQD values ranged between 55 and 99% (fair to excellent) but poor quality rock was encountered between 8.5 m and 11.5 m (RQD ranging between 18 and 33%). The lower RQD values encountered between 8.5 m and 8.8 m may have been caused by drilling activities.

Samples of the overburden material were collected at 0.05, 0.9, 1.2 and 1.8 m at BGC06-03. Moisture content testing was conducted on all samples and soluble sulphate testing was conducted on the sample located at 0.9 m bgs. The soluble sulphate test determined that the sulphate concentration in the overburden was negligible. The results of the moisture content testing indicated the moisture content of the topsoil was 200% while the moisture content of the till ranged between 6.5 and 12.1%, with the sandy gravel till having the highest moisture content.

4.1.2 East Dam

Boreholes BGC06-05, BGC06-06, BGC06-24 and BGC06-25 were drilled within the proposed footprint of the East Dam while BG06-04 was drilled on a lower bench above the Kennarctic River. Refer to Appendix IX for the longitudinal and transverse cross-sections of the East Dam showing detailed borehole information along with conceptual dam design details.

BGC06-04 was drilled on the western bank of the Kennarctic River at an azimuth of 70^{o} (in the direction of the Kennarctic River) with a dip of 70^{o} to a depth of approximately 126 m (horizontal distance of 43.0 m). The borehole extended far enough in the horizontal direction that it intersected the western edge of the Kennarctic River, but it did not extend under the centre of the river. A thermistor was installed in BGC06-04 to determine the thermal regime in the vicinity of the Kennarctic River. The ground temperature profile at BGC06-04 is discussed in Section 5.1 below.

BGC06-05 was the drilled in the centre of the proposed East Dam with a dip of 70^{o}. A thin layer of peat (0.05 m) was found to be overlying frost affected tuff bedrock. Sand and gravel and clay till were encountered on the frost affected bedrock joint surfaces. Non visible ice was noted between 1.1 and 1.8 m while 10% individual ice inclusions or ice coatings on particles were noted between 2.4 and 2.43 m and 3.2 to 3.9 m. The depth to the top of intact bedrock was 4.4 m. A light grey, fine grained, fresh to slightly weathered tuff foliated at 30^{o} to the core axis was encountered between 4.4 and 50.5 m (end of the borehole). The unit was generally strong (R4) and iron oxide and calcite infill was noted on the joint surfaces. Calcite veining was common and trace sulphides were noted from 25.0 m to the end of the borehole. The RQD ranged between 78 to 100% (good to excellent); however, the RQD was poor to fair (49% to 67%) in several runs of core. A 50 m thermistor was installed in the borehole.

Samples of the till were collected at 0.5, 1.6, 2.4 and 3.4 m bgs. Moisture content testing was conducted on all samples while a sieve analysis and Atterberg Limit testing was completed on the samples at 1.6 and 3.4 m respectively. The moisture content of the samples ranged from 7 to 19% and the moisture content was found to increase with depth. The grain size analysis indicated that the till at 1.6 m was sand and gravel with trace silt. The silt till sample from 3.4 m was determined to be non-plastic from Atterberg Limit testing.

Borehole BGC06-06 was also drilled in the centre of the proposed East Dam with a dip of 70^{o}. A thin layer of peat was found to be overlying silty sand till. Poorly bonded ice was noted in the till and peat. The top of intact bedrock was encountered at approximately 0.2 m bgs. The intact bedrock encountered from 0.2 to the end of the borehole at 53.5 m bgs was a light grey, fine grained and fresh tuff. The unit was generally strong to very strong (R4 to R5) and was foliated at 30^{o} to the core axis. Calcite infill and iron oxidation was noted on the joint surfaces in addition to sulphide mineralization. Chloritic alteration was also prevalent throughout the rock in addition to calcite banding. The RQD values typically ranged from 75 to 100% (good to excellent). The RQD was poor (RQD values ranging from 39 to 45%) from 2.5 to 4.7 m and 8.5 to 10.0 m. The fracturing between 2.5 m and 4.65 m occurred along the quartz veins. A 50 m thermistor was installed in the borehole.

A sample of the silty sand till was collected at 0.15 m and moisture content and Atterberg Limit testing was conducted on the sample. The moisture content of the till was determined to be approximately 14% and the till was determined to be non-plastic.

Borehole BGC06-24 was drilled vertically in the right abutment area of the proposed East Dam. A thin layer of topsoil was observed to be overlying a frost affected fine grained tuff with silty sand till on some joint surfaces. The ice content of the soil particle coating was estimated to range between 5 to 10%. The depth to the top of intact rock was 2.8 m and the borehole was terminated at 9.8 m. The intact rock was also a light grey, fine grained, fresh tuff with foliation from sub parallel to 15^{o} to the core axis. The rock broke easily along the foliation planes. Quartz infill and hematite alteration was noted on the joint surfaces. The unit was typically very strong (R5). The RQD values ranged between good to excellent (RQD ranging from 78 to 100%).

A sample of the sandy silt till encountered on the joint surfaces was collected at 0.2 m while intact bedrock was collected at 3.5 m and 7.0 m. Moisture content testing was completed on the till sample while point load testing (PLT) was conducted on the intact bedrock. The moisture content of the till was determined to be 20% while the uniaxial compressive strength of the intact rock was estimated from PLT to range between 140 MPa and 255 MPa (R5 to R6).

Borehole BGC06-25 was drilled vertically in the left abutment area of the proposed East Dam. A thin layer of topsoil and cobbles was found to be overlying frost affected tuff bedrock that had silty sand till on the joint surfaces. The till was determined to be V_x with approximately 20 to 30% individual ice inclusions. The depth to the top of the intact rock was 5.9 m and the borehole was terminated at 19.9 m bgs. The intact bedrock was a fine grained, moderately jointed, fresh to slightly weathered tuff, foliated sub parallel to the core axis. Calcite infill and hematite alteration was noted on some joint surfaces. The unit was typically very strong (R5). The RQD values typically ranged from fair to good (67 to 90%). Lower RQD values were noted between 10.4 and 15.1 m (52 to 59%). A 20 m thermistor was installed in the borehole.

Samples of the till on the joint surfaces were collected at 0.3, 2.2 and 3.38 m. Intact rock was collected at 8.1 and 18.3 m. PLT was conducted on the two intact rock samples. The uniaxial compressive strength of the intact rock was estimated to range between 134 and 180 MPa (R5).

The geological field mapping revealed that there was frost jacked bedrock and overburden present on the flanks of the left abutment, but otherwise the rock was fairly tight and massive. An occasional joint set perpendicular to the foliation was observed during the bedrock mapping and a joint set with 10 m continuity that extended upstream and downstream of the dam was also noted. The latter joint could potentially serve as a seepage conduit, unless frozen in permafrost. A potential low spot was observed in the vicinity of the left abutment, but it is completely closed off by bedrock so seepage should not be a problem. Frost jacked bedrock was also observed in the vicinity of the right abutment. Otherwise, the bedrock was noted to be fairly massive with a veneer of organic or till material.

A seepage zone was noted immediately east of the downstream toe of the East Dam in the frost jacked bedrock. A bedrock toppling failure was observed between the upper and lower benches, directly east of the proposed East Dam while the plunge pool on the lower bench was observed to be dry. Detailed results of the geological mapping program are provided in Appendix VI.

AMCL conducted geophysical surveys in the vicinity of the proposed dams in 2004. The results of these surveys were presented in Appendix IX of the 2004-2005 Geotechnical Investigation Report (BGC, 2006b). Geophysical line 1 across the dam length indicated two regions of relatively low resistivity material that range from 1 to 5 m in thickness. This correlated well with BGC04-07, BGC06-06 and BGC06-05, where the active layer and frost affected bedrock thickness ranged from 1 to 5 m in depth in the regions of the relatively low resistivity. However, the active layer and frost affected bedrock thicknesses at BGC06-25 and BGC06-24 were thicker than the geophysics originally predicted.

4.1.3 Polishing Pond Dam

Two vertical boreholes, BGC06-07 and BGC06-08 were drilled to 26.5 m below ground surface in the vicinity of the Polishing Pond Dam footprint. The longitudinal cross section and maximum transverse cross section showing detailed borehole information and conceptual dam design details for the Polishing Pond Dam are provided in Appendix IX.

At borehole BGC06-07 a thin peat layer was found to be overlying sandy silt till. The till unit contained 1 to 5% individual ice inclusions in the upper 0.6 m while the lower 0.8 m contained 30 to 40% stratified ice lenses. The depth to intact metavolcanic bedrock was determined to be 1.4 m. The RQD values were poor to fair (RQD values ranging between 29 to 51%) between 1.4 and 10.0 m and were good to excellent (RQD values ranging between 75 to 100%) at greater than 10 m in depth. A near vertical joint with 2 mm chloritic gouge was noted at 12.1 m. A 25 m thermistor was installed in the borehole.

At BGC06-07 samples were collected at 0.25, 0.75 and 1.2 m below the ground surface. Moisture content testing was completed on all samples and Atterberg Limit testing was completed on the sample collected at 0.75 m. The results of the moisture content testing determined that the moisture content varied between approximately 17 and 23% and the till was non-plastic.

At Borehole BGC06-08, a thin layer of peat was found to be overlying silty sand till with some gravel that grades to sandy gravel at depth. The stratified and individual ice inclusions ranged between 3 and 35%. The depth to intact bedrock was determined to be 3.6 m. The RQD varied between very poor to excellent (RQD values ranging between 0 and 97%). Very poor to poor (RQD values ranging from 0 to 49%) RQD values were noted between 5.5 to 11.3 m, 17.5 to 19.0 m and 20.5 to 23.5 m. A relict fault zone that was partially healed with calcite and partially infilled with crush rock and fault gouge was observed between 6.1 and 7.0 m. An old shear zone healed with calcite was encountered between 17.5 m and 18.2 m. A 25 m thermistor was installed in the borehole upon completion.

Six samples were collected at 0.2, 0.5, 1.8, 2.3, 2.8 and 3.5 m bgs from BGC06-08. Moisture content testing was conducted on all samples and Atterberg Limits and sieve analysis were completed on the samples collected at 0.2 m and 0.5 m respectively. The moisture content of the samples ranged between 7 and 15%. The grain size analysis of the till indicated the material tested was silty sand with some gravel.

Metavolcanic bedrock was encountered at both borehole locations. The bedrock was light greyish green to dark greyish green, very fine grained, fresh to slightly weathered and strong to very strong rock (R4 to R5). Calcite infilling and iron staining were noted on the joint surfaces and healed calcite fractures were prevalent. Quartz veining was also common in addition to sulphide mineralization. The primary joints and foliation at BGC06-08 were observed to be 25^{o} from the core axis while three joint sets were noted at BGC06-07.

The geological field mapping program conducted in late August revealed that the left abutment of the Polishing Pond Dam was located on a 5 m knob of sandy silt till with some gravel. Massive, rounded metavolcanic bedrock was noted between BGC06-07 and the bend in the proposed dam. Downstream of the dam bend, 1.6 m of frost jacked bedrock was observed and the bedrock outcrop was imprinted with a veneer of glaciofluvial material and large rounded boulders.

The north/south trending portion of the Polishing Pond Dam was found to traverse an ancient channel and till blanket. Large quantities of boulders, up to 2 m in diameter, were encountered between the dam bend and the right abutment of the Polishing Pond Dam. The right abutment of the Polishing Pond Dam was originally terminated on a solifluction lobe at the base of a steep bedrock controlled slope. Therefore, the right abutment of the dam was extended in length so it abuts against solid bedrock (preventing end run around the abutment).

The results of the geological mapping program are shown in Appendix VI.

4.1.4 Northeast Dam

Four boreholes, BGC06-09 through BGC06-12 were drilled within the proposed footprint of the Northeast Dam. Longitudinal and transverse sections of the Northeast Dam showing detailed borehole information and conceptual dam design details are provided in Appendix IX.

Borehole BGC06-09 was drilled at an azimuth of 220^{o} and a dip of 65^{o} at the base of a bedrock cliff. A thin organic layer was found to be overlying interbeded silt colluvium, boulders and ice. The stratified ice content was found to range between 20 and 40% while an interbed of approximately 70% ice was encountered between 2.5 and 3.8 m. The depth to intact rock was determined to be 5.7 m and the borehole was terminated at 50.2 m. The RQD was generally good to excellent (RQD values ranging between 80 and 100%) with the exception of 11.5 to 13.0 m and 35.5 to 41.5 m where the RQD was poor to fair (RQD values ranging between 43 and 67%) respectively. The tuff bedrock was fine grained, very strong (R5) and fresh. Calcite veining and chloritic alteration was also prevalent throughout the core.

Five samples were collected in the silt till and the samples ranged in depth from 1.4 to 5.2 m below the ground surface. A grain size analysis was conducted on the sample taken at 1.4 m while Atterberg Limit testing was performed on the samples collected at 2.5 and 5.2 m. The till samples were determined to be non-plastic sandy silt with some gravel. The moisture content of the samples ranged between 13 and 80% with the exception of the ice sample where the moisture content was calculated to be 700%. The moisture content of the lower till layer was found to have a moisture content of 80% and the moisture content was noted to decrease with depth.

BGC06-10 was drilled vertically in the centre portion of the left side of proposed dam alignment. A thin layer of topsoil was found to be overlying silty sand till and frost affected bedrock. The depth to the top of the intact rock was 3.4 m and the hole was terminated at 25.1 m. The ice content in the topsoil and till layers were found to vary between 3 and 5% while the ice content of the till infill on the frost affected bedrock joint surfaces was 30%. The RQD was very poor between 7.6 and 9.7 m (RQD values ranging between 0 and 11%) and are typically fair to excellent (RQD values ranging between 58 and 97%) for the remainder of the rock. Calcite infilled fractures were noted between 10^o and 20^o from the core axis.

Borehole BGC06-11 was drilled at a 70^o angle with a 220^o azimuth in the downstream toe area of the Northeast Dam. At this borehole, a thin layer of organic material was found to be overlying sand till and frost affected bedrock. The ice coatings of the particles in the topsoil and till were estimated to range between 30 and 50%. The depth to intact rock was 0.6 m and the hole was terminated at 50.3 m. A 5 to 10 cm wide fracture zone was observed at 18.7 m bgs. The RQD was very poor to fair (RQD ranging between 0 and 61%) between 32.5 and 35.2 m and 35.9 and 37.6 m. The RQD generally ranged from fair to excellent (RQD values ranging between 68 and 100%) in the core intervals not identified above. A 50 m thermistor was installed in the borehole.

Borehole BGC06-12 was drilled vertically on the right side of a melt water channel to 7.5 m bgs. Organic soil was found to be overlying cobbles and frost affected bedrock. It was estimated that approximately 15 to 30% ice content was visible as ice coatings on the particles in the overburden and frost affected bedrock between 0.3 and 2.1 m. The depth to the top of the intact rock was 2.1 m bgs. Very poor to poor RQD (RQD ranging between 17 and 25%) was noted between 5.8 and 7.3 m while fair RQD (RQD value of 56%) was noted between 2.8 and 4.2 m. Excellent RQD (RQD ranging from 90 to 100%) was noted in the remainder of the core intervals.

The metavolcanic bedrock encountered in the vicinity of the proposed Northeast Dam footprint was dark green, strong to very extremely strong (R4 to R6) and fresh to slightly weathered. Quartz and calcite infill with hematite and chloritic alteration on joint surfaces were noted. Quartz and calcite veins/veinlets were also observed. Quartz phenocrysts (1 to 5 mm in diameter) were noted in the core at BGC06-11.

Representative samples of the till and bedrock were collected at each borehole. Grain size analysis and moisture content testing was conducted on the sample taken at 1.9 m bgs at BGC06-10 and 0.2 m bgs at BGC06-11. Atterberg Limit testing was conducted on the sample taken at 1.2 m at BGC06-12 while a grain size analysis was performed on the sample collected at 2.0 m. The grain size analyses was completed on till encountered on the frost affected bedrock joint surface while the Atterberg Limits testing was completed on the frozen silt material. PLT was performed on at least one intact bedrock sample collected at each borehole.

The moisture content of the silty sand, trace to some gravel till at BGC06-10 and BGC06-11 was found to range between 5 and 9% at BGC06-10 and was found to be approximately 13% at BGC06-11. The grain size analysis conducted on the sample at BGC06-12 determined the till to be a non-plastic gravel and sand, trace silt. The moisture content of the samples taken at BGC06-12 was determined to range between 3 and 11%.

Point load testing of the intact bedrock at BGC06-10 indicated that the uniaxial compressive strength ranged between 84 and 162 MPa (R4 to R5) while the uniaxial compressive strength ranged between 173 and 355 MPa (R5 to R6) at BGC06-11.

During the geological field mapping conducted in late August, it was noted that the left abutment of the proposed Northeast Dam was located on a veneer of till overlying bedrock. The metavolcanic bedrock in the vicinity of the left abutment was noted to be massive and tight with no frost jacking. The rock in the vicinity of the right abutment and the bend in the dam was also noted to be tight and massive.

The eastern section of the proposed dam centreline crosses old fluvial channels and topographic low points that may act as potential seepage conduits. The channels vary from 1 to 3 m wide and are generally filled with alluvium and boulders. To the southeast of the Northeast Dam, a seepage zone filled with boulders was encountered during the field traverse. It is possible for water in the seepage area to flow either through the active layer or frost affected bedrock into High Lake or in a northerly direction to the downstream side of the Polishing Pond. For details of the geological field mapping program, refer to Appendix VI.

AMCL conducted geophysical surveys in the vicinity of the proposed dams in 2004. The results of these surveys were presented by BGC in the 2004-2005 Geotechnical Investigation Report (BGC, 2006b). The geophysical survey indicated low resistivity material was located to the west of boreholes BGC04-03 and BGC06-10 on Line 1. However, borehole BGC06-10 was located within a low resistivity region on Line 2. Another low resistivity zone possibly comprising of shattered bedrock or overburden over bedrock, was shown at the north end of Line 2, but no boreholes were drilled in the vicinity of this region

A third survey line, E1, was completed in the north/south trending channel in the vicinity of the Northeast Dam. Lower resistivity values were encountered on Line 3 compared to Lines 1 and 2, potentially due to different bedrock lithologies, unfrozen bedrock, thicker overburden or frost shattered bedrock. The vegetation type and wet soil conditions encountered at the north end of Line 3 during the survey did suggest a thicker organic layer. BGC06-11, BGC06-12 and BGC06-09 were all drilled within the vicinity of the lower resistivity regions and the results of the drilling investigation correlate well with the results of the geophysical surveys. The depths of the overburden and frost affected bedrock encountered at each of the boreholes correlated well with the low resistivity region’s thickness.

4.1.5 Northwest Dam

Borehole BGC06-13 was located within the proposed footprint of the Northwest Dam. The borehole was drilled at a 305^{o} azimuth and a 70^{o} dip. The borehole was terminated at 50.3 m and a 50 m thermistor was installed. A longitudinal and transverse cross section showing detailed borehole information and conceptual dam design details for the Northwest Dam are provided in Appendix IX.

At borehole BGC06-13, a thin layer of organic material overlaid frost affected bedrock. Sandy silt till was noted on the fracture surfaces of the frost affected bedrock and approximately 5% residual ice inclusions were noted in the joint infill. The depth to the top of the intact metavolcanic bedrock was 3.4 m. The RQD typically ranged from fair to excellent (RQD values ranging between 50 and 100%). Very poor to poor RQD intervals were encountered between 3.4 to 5.4 m, 15.4 to 16.5 m and 17.8 to 20.8 m (RQD values ranging between 23 and 48%). Minor chloritic alteration was noted at 44.9 m.

The metavolcanic bedrock encountered at borehole BGC06-13 was dark greyish green and strong rock (R5). The rock was fresh to slightly weathered and calcite and quartz were noted on the joint surfaces. Hematite alteration was prevalent throughout the rock mass. Sulphide mineralization was noted on some joint surfaces.

Grain size analysis and moisture content of the till was completed in addition to PLT on an intact sample of the metavolcanic bedrock. The grain size analysis indicates the till material is a sandy silt, trace gravel and the moisture content was 14%. The results of the PLT indicated that the strength of the intact bedrock ranged from 107 to 123 MPa (R5).

The metavolcanic bedrock encountered in the right abutment area of the Northwest Dam was massive and tight while the bedrock located at the dam bend was tight with minor frost jacking. Some of the bedrock at the dam bend was covered with a veneer of ablation till or glaciofluvial material. The left abutment area of the Northwest Dam was found to contain frost jacked bedrock with a veneer of glaciofluvial material or ablation till. Potential seepage problems were noted between the Northwest Dam and the Northwest Channel Dam. The metavolcanic bedrock was found to be frost jacked with a veneer of till. For details regarding the geological field mapping program refer to Appendix VI.

4.1.6 Northwest Channel Dam

Boreholes BGC06-15 and BGC06-16 were drilled within the proposed footprint of the Northwest Channel Dam. BGC06-15 was drilled in the vicinity of the left abutment with a dip of 70^{o} and a 45^{o} azimuth. The borehole was terminated at 51.3 m. BGC06-16 was drilled vertically within the vicinity of the right abutment and was terminated at 11.7 m bgs. A 50 m thermistor was installed in borehole BGC06-15 upon completion to monitor the ground temperature. Longitudinal and transverse cross section profiles showing detailed borehole information and conceptual dam design details for the Northwest Channel Dam are provided in Appendix IX.

At the location of BGC06-15, a thin layer of organic soil was overlying non-plastic silty sand till and frost affected bedrock. Approximately 30% randomly or irregularly oriented ice formations were noted in the till between 0.09 and 0.19 m while the organic soil was noted to be poorly bonded. The moisture content of the till was approximately 15%. The depth to intact bedrock was approximately 0.8 m. The RQD values between 0.8 and 35.5 m were highly variable (0 to 99%) with at least half of the runs having an RQD less than 60%. The RQD between 35.5 m and 51.3 m was good to excellent (RQD values ranging between 76 and 94%) with the exception of 43.4 and 43.6 m where the RQD was poor (RQD value of 48%). At 33.8 m, the rock was decomposed to soil and slickensides were visible. Between 49.7 m and 50.0 m, crushed rock coated with silty clay was visible.

A sample of the silty sand was collected at 0.6 m at BGC06-15. Moisture content testing was conducted on the sample identified above. The moisture content was determined to be 15%. PLT was performed on intact meta-volcanic bedrock samples collected at 35.7 m and 50.0 m. The results of the PLT indicated that the uniaxial compressive strength of the intact bedrock ranged between 80 MPa and 585 MPa (R4 to R6).

Borehole BGC06-16 encountered a thin layer of organic soil overlying frost affected metavolcanic bedrock. The ice content of the organic layer was approximated to be 15%. Frozen silty sand till was noted on the joint surfaces and the ice content of the individual ice coatings on the soil particles in the till was estimated to be approximately 10% between 0.05 and 1.7 m. The depth to intact bedrock was 2.7 m. The RQD between 2.7 and 10.2 m ranged from very poor to poor (RQD values ranging between 0 to 46%) as the rock is highly fractured. Below 10.2 m bgs, the RQD improved to good (RQD of 85%). Sloughing was encountered in the borehole between 8.0 and 8.2 m.

Samples of the silty sand till were collected at 0.2 and 1.5 m at BGC06-16. Moisture content and Atterberg Limit were performed on the till samples. The moisture content of the organic soil was determined to be approximately 72% while the moisture content of the silty sand till was determined to be approximately 14%. The till was determined to be non-plastic.

The metavolcanic bedrock was dark greyish green, strong to extremely strong (R4 to R6), fresh to slightly weathered, moderately jointed with calcite and quartz infill on the joint surfaces. Quartz and feldspar phenocrysts and quartz and calcite veins/veinlets were observed in the rock mass. Chloritic alteration was noted in the rock mass. At Borehole BGC06-16, minor hematite staining was noted.

The geological field mapping revealed that the rock is frost jacked within the seepage zone between the left abutment of the Northwest Dam and the right abutment of the Northwest Channel Dam. In the vicinity of the right abutment, frost jacked bedrock with a veneer of glaciofluvial material or ablation till was overlying the bedrock. Pegmatite boulders up to 1.5 m in diameter were also observed. In the vicinity of the left abutment, frost jacked bedrock up to 1.8 m in depth was observed. A veneer of glaciofluvial material or ablation till was overlying the bedrock. For details of the geological field mapping program, refer to Appendix VI.

4.1.7 Contact Lake Dam

Two boreholes were drilled within the proposed footprint of the Contact Lake Dam. BGC06-19 was drilled vertically in the vicinity of the right abutment while BGC06-20 was inclined at 70^{o} to the horizontal at an azimuth of 110^{o} in the area of the left abutment. Transverse and longitudinal sections of the Contact Lake Dam showing detailed borehole information and conceptual dam design are provided in Appendix IX.

At Borehole BGC06-19, a thin organic layer was found to be overlying frost affected bedrock. The depth to the top of intact bedrock was found to be 1.2 m. The intact meta-volcanic bedrock was found to have a good to excellent RQD rating (RQD values ranging between 81 and 98%). The bedrock was greenish grey, moderately jointed with quartz and calcite veins. Siliceous epidote alteration was noted throughout the rock mass. The hole was terminated at 7.2 m bgs. Samples of intact rock samples were collected at 4.9 and 6.25 m bgs and PLT was conducted on the sample taken at 6.25 m. The results indicated that the uniaxial compressive strength of the intact rock sample ranged between 180 and 266 MPa (R5 to R6).

Borehole, BGC06-20, was drilled in the vicinity of the D-Zone Pit. During drilling, silt till was encountered over gravel and cobbles and frost affected metavolcanic bedrock. The ice content of the overburden material in the upper 0.3 m ranged between 20 and 40% while the ice content ranged between 5 and 20% between 0.3 and 5.1 m. The ice in the overburden material was identified as individual ice inclusions or random or irregularly oriented ice formations. The depth to intact bedrock was 5.1 m and the borehole was terminated at 50.2 m. A 50 m thermistor was installed in the borehole.

Between 5.1 and 15.6 m, the RQD was very poor (0%) and decomposed rock (S5 to R0) was commonly noted between 12.1 m and 15.1 m. As indicated by the very poor RQD values, the rock was very broken between 5.6 and 12.1 m. Slicken sides were noted on the decomposed rock between 14.2 and 15.1 m. The poor RQD values and decomposed rock are likely attributed to the proximity of the borehole to the D-Zone, where geological processes have resulted in the weathering of the upper bedrock. Below 15.6 m, the bedrock was more competent (RQD values ranging between 68 and 100%) with the exception of 23.0 to 23.5 m, 29.0 to 30.5 m and 37.9 to 38.5 m where the RQD was very poor (RQD values ranging between 0 and 20%). Sub parallel jointing was noted between 23.0 and 23.5 m and decomposed rock (S5) with angular rock fragments was noted between 38.0 and 38.5 m. Fracture zones were also noted between 36.2 and 37.1 m.

The metavolcanic bedrock encountered in the competent zone was grey, very strong to extremely strong (R5 to R6) and fresh to slightly weathered. Calcite and quartz infill were noted on the joint surfaces in addition to calcite and quartz veinlets. Hematite alteration was also prevalent. Quartz phenocrysts were observed in the rock mass from 26.0 m to the end of the borehole and siliceous epidote alteration was noted from 35.0 m to the end of the borehole.

Samples of the sandy silt and sandy gravel till were collected at 1.1, 1.9, 3.1 and 4.5 m and tested for moisture content. The moisture content of the samples ranged between 4 and 8%. The samples collected at 1.1, 3.1 and 11.8 m were tested for Atterberg Limits and grain size analysis respectively. The results of the grain size analysis and Atterberg Limits testing indicated that the till is sandy gravel with trace to some silt at 3.1 m while the sample collected at 1.1 m is non-plastic. The grain size analysis conducted at 11.8 m indicated the material was sand with some silt, clay and gravel. PLT was conducted on intact bedrock samples collected at 16.4 and 37.1 m. The results of the testing indicate that the uniaxial compressive strength of the intact rock samples ranged between 175 and 266 MPa (R5 to R6).

The geological field mapping conducted in the vicinity of Contact Lake Dam determined that highly weathered, gossaneous material and fractured bedrock and boulders up to 1 m in diameter were present along the valley bottom and western side slopes between Contact Lake and L-17. The left abutment of the Contact Lake Dam was founded on competent bedrock. The right abutment was also founded on massive bedrock with few joints and no frost jacking. Along the shoreline of Contact Lake, 1.5 m of frost jacked bedrock was observed.

The proposed spillway from Contact Lake to the Kennarctic River is located in an organic covered felsenmeer valley. Massive bedrock is located on both sides of the valley. No obvious problems were observed with the spillway. The results of the geological field mapping program are provided in Appendix VI.

4.1.8 A/B Toe Dike

Three boreholes were drilled in the vicinity of the A/B toe dike. The locations of the boreholes drilled are outlined below:

- BGC06-14 was drilled through approximately the middle of the dike
- BGC06-23 was drilled approximately 50 m to the north of BGC06-14.
- BGC06-23a was drilled approximately 1 to 2 m north of BGC06-23 to obtain a sample of the lakebed sediments.

A Shelby Tube was used in an attempt to collect a sample at BGC06-14. However, the lakebed sediments were so saturated and soft it was not possible to collect a sample with the Shelby Tube. As such, an Eckman Dredge was used to collect two samples of the lakebed sediment from Borehole BGC06-23a at approximately 12 m and 13 m below the ice surface (depth was determined by a weighted tape measure). Since it was difficult to get an exact sample depth with the Eckman Dredge and it would only sample the top portion of the lakebed sediment, a lakebed sediment sampler (proprietary design by Manitoba Hydro and Major Drilling) was used to obtain a disturbed lakebed sample at approximately 13.4 m below ice surface at BGC06-23a.

It was not possible to obtain a sample of the gravely till (inferred from drilling but not directly observed) beneath the lakebed sediment because the till was too coarse grained to obtain a sample by utilizing the available sampling procedures (i.e., Shelby Tube and core barrel). The till was cored using the wireline coring system, but the soil matrix was washed out during coring.

The simplified and interpreted results of the 2006 geotechnical investigation are outlined in Table 3:

Table 3 Toe Dike Geotechnical Investigation Results

Borehole	Ice Thickness (m)	Water Depth (m)	Lakebed Sediment Depth (m)	Till Depth (m)	Top of Bedrock (m)	Total Borehole Depth (m)	Comments
BGC06-14	1.8	1.8-9.2	9.2-10.6	10.6-12.8	12.8	18.0	Sloughing was encountered between 10.6 and 12.8 m. Bedrock very broken between 12.8 and 15.0 m. Metavolcanic bedrock encountered. Drilling was slow as tube was continually being blocked with fractured rock.
BGC06-23	1.8	1.8-13.2	13.2-14.5	14.5-19.5	19.5	25.8	Metavolcanic bedrock encountered between 19.5 m and 23.6 m. Basaltic dike encountered between 23.6 m and 25.8 m.
BGC06-23a	1.8	1.8-13.4	13.4-14.3	N/A	N/A	14.3	Hole was terminated at the base of the lakebed sediments.

* All depths are referenced to the top of the High Lake ice surface

The lakebed sediments were likely derived from till that was eroded by wave and water action proximal to the lake, supplemented by some fine organic material. The fine-grained sediments were probably transported by wind, wave and benthic currents into various calm areas of the lake. Hydrometer and Atterberg Limits testing were conducted on the three sediments samples collected during the site investigation. The sediments were primarily composed of silt, with some sand to sandy and trace clay. The hydrometer testing revealed the silt size particles ranges from 66 to 77% while the clay size particles range from 6 to 7%. The sand size particles range from 16 to 28%. The Atterberg Limit testing concluded the lake bed sediments are non-plastic.

Testing was also conducted on till samples collected from boreholes drilled in the vicinity of High Lake. The till was primarily composed of silt and sand and trace to some gravel. The grain size analyses concluded that the silt size particles range from approximately 20 to 55% while the sand size particles range from 40 to 65%. The Atterberg Limit testing concluded that the till samples are non-plastic.

The metavolcanic bedrock encountered below the till layer at BGC06-14 was found to be very broken, but recovery of the core was generally around 100%. Drilling was slow as the tube was continually being blocked with fractured bedrock. The RQD between 12.8 m and 15.0 m was found to be 0%. The RQD between 15.0 m and 18.0 m (termination depth) ranged between 20 and 40%.

The metavolcanic bedrock encountered below the till layer at BGC06-23 was determined to have a RQD ranging from 80 to 90% and recovery ranging from 90 to 100%. The bedrock was found to be relatively intact and un-fractured. The RQD and recovery of the diabase dike located below the metavolcanic bedrock at BGC06-23 had similar geomechanical properties to the metavolcanic bedrock. PLT of the diabase dike indicated it had a uniaxial compressive strength that ranged between 170 and 350 MPa (R5 to R6).

4.1.9 Water Retention Dam

Two boreholes, BGC06-17 and BGC06-18 were drilled in the vicinity of the proposed Water Dam, west of Granite Lake at the outlet of L5. This water retention dam is no longer proposed for the High Lake project and a fresh water intake and water line are planned instead.

Borehole BGC06-17 was drilled within the proposed right abutment of the water dam. It was drilled at a 10^{o} azimuth and a 70^{o} dip. The borehole was terminated at a depth of 50.0 m and a 50 m thermistor was installed to monitor the ground temperature. At BGC06-17 frost affected granodiorite bedrock with frozen silty sand till with some gravel on the joint surfaces was observed to 2.7 m. The top of intact bedrock was noted to be 2.7 m. The individual ice inclusions in the interbeded till and the till on the joint surfaces was estimated to range between 10 and 25% between 1.1 and 1.3 m and 1.5 and 2.2 m. The RQD values typically ranged from good to excellent (RQD values ranging between 75 and 100%); however, lower RQD values (36 to 61%) were encountered between 22.4 to 26.9 m and 37.4 to 46.96 m respectively.

Borehole BGC06-18 was drilled vertically in the vicinity of the proposed left abutment to 8.8 m bgs. Frost affected granodiorite bedrock with silty sand till on the joint surface was encountered to approximately 2.4 m bgs. The stratified ice and individual ice inclusions of the till were estimated to range between 10 and 30% between 0.7 and 0.8 m and 0.8 and 1.3 m. The depth to intact bedrock was 2.4 m bgs. The RQD values were fair (RQD values ranging between 57 and 67%) from 2.4 to 3.6 m and good to excellent (83 to 100%) below 3.6 m in depth.

Samples of the till were collected at 1.2 and 1.9 m at BGC06-17 and were tested for moisture content, Atterberg Limits and grain size. PLT was also conducted on two intact rock samples at 26.1 and 49.6 m. The moisture content of the non-plastic sandy silt till with some gravel was estimated to range between 7 and 8%. The uniaxial compressive strength of the intact bedrock samples was estimated to be 182 MPa (R5) and 303 MPa (R6) respectively.

At BGC06-18, a till sample was collected at 1.0 m bgs and was tested for moisture content and Atterberg Limits. The moisture content of the non-plastic till was 17%. A sample of the granodiorite bedrock taken at 2.6 m was subjected to point load testing. From the test, the uniaxial compressive strength was estimated to range between 189 and 221 MPa (R5).

The granodiorite bedrock encountered in both boreholes was dark greyish green, coarse grained, very strong to extremely strong (R5 to R6) and fresh to slightly weathered. Calcite and quartz infill and pyrite mineralization were noted on the joint surfaces and quartz veins/veinlets were also observed. Hematite alteration was noted in Borehole BGC06-17.

4.1.10 L-8 Dam

Two boreholes, BGC06-21 and BGC06-22, were drilled within the proposed footprint of the L-8 Dam in the left and right abutments respectively. It should be noted that the L-8 Dam is no longer proposed for the High Lake Project. BGC06-21 was drilled at an azimuth of 15^{o} and a dip of 70^{o}. The borehole was terminated at 50.0 m. BGC06-22 was drilled vertically and was terminated at 14.5 m bgs.

At Borehole BGC06-21, a veneer of organic material was found to be overlying frost affected granodiorite bedrock. A 1 cm lens of visible ice was noted on a joint surface at 3.7m. The depth to the top of intact bedrock was determined to be 4.1 m. The RQD values were typically very poor to poor (RQD values ranging between 0 and 43%) between 6.9 to 10.8 m, 11.6 to 18.5 m, 22.1 to 23.6 m and 34.1 to 37.1 m. The RQD values for the remainder of the core were typically fair to excellent (60 to 100%). The rock was very fractured between 8.6 m and 10.3 m and this interval could be a possible fault zone. A zone of highly fractured and crushed rock was also observed between 14.4 and 15.8 m. The fracturing observed between 34.1 and 37.1 m was found to have occurred along joint surfaces with calcite infilling.

PLT on a sample of intact rock at 8 and 48.7 m bgs, indicated that the unconfined compressive strength ranged between 200 and 310 MPa (R5 to R6).
At BGC06-22, organic soil, cobbles, boulders, ice and silty sand till was found to overlie frost affected bedrock. The ice content of the overburden material (cobbles and silty sand till) was estimated to be approximately 5 to 20%. Approximately 30 to 40% individual ice inclusions in the organic soil were identified. An ice layer with soil inclusions was encountered between 2.2 and 2.8 m bgs. The depth to the top of intact bedrock was 5.9 m bgs. The RQD values from 5.9 to 8.9 m and 9.9 to 11.2 m were very poor to poor (RQD ranging between 0 and 44%). The RQD values improved with depth and ranged from fair to excellent (60 to 100%) between 11.2 m and 14.9 m. The rock was noted to be heavily fractured between 7.4 m and 7.9 m and an 8 cm crushed rock zone was encountered at 11.2 m.

Samples of the gravely sand till were collected at 1.0 m, 1.6 m, 2.7 m and 3.8 m while silt till was collected at 4.8 m from borehole BGC06-22. All samples were tested for moisture content while the sample taken at 1.6 m was tested for Atterberg Limits. The moisture content of the samples was estimated to range from 2 to 13% and the till was determined to be non-plastic. Two intact bedrock samples were collected at 6.7 and 9.4 m. Point load testing was conducted on the two intact bedrock samples and the results of the point load testing indicate the uniaxial strength of the intact bedrock was found to range between 123 MPa (R5) and 290 MPa (R6).

The granodiorite bedrock was dark pinkish grey, medium to coarse grained, very strong to extremely strong (R5 to R6), fresh to slightly weathered and closely to moderately jointed. Calcite and quartz infill and pyrite mineralization were noted on the joint surfaces. Hematite alteration was also observed on the joint surfaces and outside of the rock mass.

4.2 Dock Site Investigations

4.2.1 Field Reconnaissance, Site Selection and Previous Work

In June 2004, a site reconnaissance of the proposed port site was conducted by Wolfden, in conjunction with Portplan Consultants, BGC and GLL to select a dock site on Grays Bay. The site reconnaissance involved a walkover and aerial reconnaissance of four potential port sites.

A marine geophysical survey was conducted in 2005 over the proposed dock site area to obtain bathymetry and top of bedrock details on 5 m grid spacing. A diving inspection was also performed to visually assess the sea bed and confirm the geophysical interpretation. The bathymetric survey included the approaches to Grays Bay from Coronation Gulf, as well as Grays Bay itself to confirm that a viable shipping channel exists. The proposed dock site was selected from four dock site options on the basis of location, water depth, marine sediment depth and navigability. A complete data report summarizing the results of the 2005 investigations was prepared by BGC (2006a).

A drilling program was carried out in September 2004 at inland portions of the proposed dock site. Two holes were drilled to check overburden depths and to obtain core samples of the near surface bedrock. Details of these investigations are provided in the 2004 site investigation report (BGC, 2006b). In addition, BGC conducted route studies in 2004 and 2005 for an all-weather road between Grays Bay and High Lake. The initial reconnaissance study looked at various road alternatives to the various port sites being considered. The choice of the present dock site was determined in part by the feasibility of constructing an all weather road to the site. The present arrangement includes provision for a winter road route that parallels the all-weather route. The winter road will be used for the initial mobilization of equipment into the site, until the all-weather route has been constructed.

4.2.2 2006 Geotechnical Investigation

In 2006, a drilling program was conducted to verify bedrock depth and rock mass quality within the foundation footprint of the proposed cellular sheet pile dock structure. The results of the drilling program were used in conjunction with the results of the 2005 marine geophysical program to verify water depth, marine sediment thickness and bedrock type.

In total, eleven (11) holes were drilled during the 2006 geotechnical investigation program between April 29 and May 6, 2006. Figure 6 outlines the location of the boreholes drilled in the area of the dock site. Drilling was completed using a helicopter portable BBS1 drill rig. NQ-sized bedrock core was recovered during the program and geomechanical core logging was completed as the drilling progressed. The thicknesses of the sea ice, marine sediments and till were also recorded. All of the boreholes drilled during the 2006 dock site investigation were drilled from the sea ice.

HW casing with serrated edges was initially used to cut through the sea ice. After the ice was cut, HW casing was set down the hole to the top of marine sediments (if present). The casing was then slowly lowered through the marine sediments to the top of the till or bedrock so the thickness of the marine sediments could be determined. The HW casing was then set into the top of the till (if present) or left in-situ. Once the HW casing was set, NW casing was placed down the borehole and advanced approximately 0.3 m into the bedrock. After the NW and HW casing were set, drill rods and a 10 foot core barrel were lowered down the borehole so bedrock coring could commence.

4.2.3 Ground Conditions

The ground conditions encountered at each borehole were recorded and detailed geomechanical logging was also completed. Boreholes were drilled to the shorter length of either 5 m into bedrock or a total of 20 m in depth before the borehole was terminated. Results of the 2006 geotechnical drilling program at the Grays Bay Dock Site are provided in Table 4 below.

Table 4 2006 Proposed Dock Site Borehole Summary

Borehole Number	Plunge (°)	Hole Depth (m)	Water Depth (m)	Borehole Summary (Refer to borehole logs for details)
DS-BGC06-01	90	19.9	Very shallow	0.6 m of marine sediments overlying granodiorite, very strong, fresh to slightly weathered, rough and planar joints.
DS-BGC06-02	90	23.6	16.2	1.4 m of marine sediments overlying granodiorite (as above).
DS-BGC06-03	90	21.2	15.7	0.17 m of marine sediments overlying granodiorite (as above).
DS-BGC06-04	90	19.9	8.4	0.05 m of marine sediments overlying granodiorite from 8.4 to 15.3 m (as above). Basalt dike from 15.3 to 17.1 m, medium grey, very strong to extremely strong, fresh. Granodiorite from 17.1 to 19.9 m (as above).
DS-BGC06-05	90	20.3	7.8	2.77 m of marine sediments overlying granodiorite (as above). Granitic dike encountered at 20.3 m.
DS-BGC06-06	90	21.3	3.9	Granodiorite from 3.9 to 15.17 m (same as above). Granite from 15.17 to 17.2 m, mottled dark green, black and pink, very strong, fresh to slightly weathered. Granodiorite from 17.2 to 21.3 m (same as above).
DS-BGC06-07	90	24.9	15.9	2.95 m of marine sediments overlying granodiorite (same as above).
DS-BGC06-08	90	20.9	8.4	0.6 m of marine sediments overlying granodiorite (same as above).
DS-BGC06-09	90	20.0	2.8	Granodiorite (same as above).
DS-BGC06-11	65	15.0	2.3	Granodiorite (same as above). Very strong to extremely strong.
DS-BGC06-12	65	15.5	0	0.27 m of marine sediments overlying granodiorite (same as above). Very strong to extremely strong.

For each borehole, the thicknesses of the ice, soft marine sediments and till were measured. The ice thickness ranged from 1.4 to 2.1 m and the depth to the soft marine sediments or bedrock ranged from 2.1 to 18.8 m. It was not possible to obtain samples of the soft marine samples with the wire line core barrel assembly, but small amounts of marine sediments could sometimes be observed at the base of the HW or NW casing.

The granodiorite bedrock encountered during the dock site investigation was medium to coarse grained, very strong to extremely strong (R5 to R6) and fresh to slightly weathered on the joint surfaces. The rock typically had three to four joint sets plus random and were often infilled with calcite and sometimes silt. The granodiorite core contained trace quartz veins and calcite veinlets and there was occasional chloritic alteration, trace pyrite and iron oxide mineralization on some joint surfaces. The joints were typically rough and planar.

The granitic bedrock encountered during the site investigation was mottled dark green, black and pink and was medium to coarse grained. The granite bedrock was very strong rock (R5) with fresh to slightly weathered joint surfaces. The granite was moderately jointed with trace pyrite mineralization on the joint surfaces. Some joints were found to be healed with epidote.

At Borehole DS-BGC06-04, a basalt dike was encountered from 15.3 to 17.1 m bgs. The dike was medium grey and very strong to extremely strong (R5 to R6). The basalt was found to be fresh and had three joint sets. Silt infill was noted on some joint surfaces. There was also chlorite alteration and trace iron oxidation on some joint surfaces. Sub-horizontal calcite veinlets were visible in the core.

4.2.4 Comparison of Marine Geophysical Survey and 2006 Geotechnical Investigation

Table 5 below outlines the thickness of the sea water and sea bed sediments at the proposed dock site borehole locations compared to the thicknesses of the sea water and sea bed sediments predicted using the marine geophysics. The difference in the results between the two field investigations are outlined in the last two columns of Table 5.

The water depths predicted from the geophysical survey ranged from 2 to 18 m, while the actual water depth determined during the geotechnical field investigation ranged from 1.3 to 16 m. The sediment thickness predicted from the geophysical marine survey ranged from 0 to 8 m, while the actual sediment thickness was determined to range from 0 to 3 m.

It should be noted that when referring to Table 5 below, the predicted water depths were determined from the marine geophysical survey conducted in August 2005 while the actual water depth was encountered during the 2006 geotechnical site investigation.

Table 5 Comparison of Marine Geophysics and 2006 Geotechnical Investigation

Hole #	Water Depth[1] (m)	Sea Bed Sediment Thickness[1] (m)	Predicted Water[2] Depth (m)	Predicted Sea Bed Sediment[2] Thickness (m)	Difference Between Predicted and Actual Water Depth (m)	Difference Between Predicted and Actual Sediment Depth (m)
DS-BGC06-01	1.3	0.6	2	0	0.7	-0.6
DS-BGC06-02	16.0	1.4	14	2	-2.0	0.6
DS-BGC06-03	15.5	0.2	18	0	2.5	-0.2
DS-BGC06-04	8.2	0.1	8	1	-0.2	0.9
DS-BGC06-05	7.7	2.8	12	2	4.3	-0.8
DS-BGC06-06	3.7	0.0	6	0	2.3	0.0
DS-BGC06-07	15.7	3.0	12	8	-3.7	5.0
DS-BGC06-08	8.2	0.6	6	2	-2.2	1.4
DS-BGC06-09	2.6	0.0	6	1	3.4	1.0
DS-BGC06-11	2.3	0	N/A	0	N/A	N/A
DS-BGC06-12	0	0.7*	2	0	2	-0.7

1 Determined during the 2006 geotechnical investigation

2 Determined during the 2005 geophysical survey

* Sediment encountered at the borehole location was till and not soft marine sediment.

By referring to Table 5 above and Figure 6, it was determined that sea bed sediments (marine) increased in thickness to the northeast and decreased in the thickness to the southwest.

Table 6 below provides a summary of the bedrock depth encountered during the 2006 geotechnical field investigation and the depth of bedrock predicted by the marine geophysics.

Table 6 Comparison of Marine Geophysics and 2006 Geotechnical Investigation Bedrock Depths

Hole #	Bedrock Depth[1] (m)	Till Thickness[1] (m)	Predicted Bedrock[2] Depth (m)	Difference Between Predicted and Actual Bedrock Depths (m)
DS-BGC06-01	2.1	0	2	-0.1
DS-BGC06-02	17.6	0	16	-1.6
DS-BGC06-03	15.9	0	18	2.1
DS-BGC06-04	8.4	0	9	0.6
DS-BGC06-05	10.6	0	14	-3.4
DS-BGC06-06	3.9	0	6	2.1
DS-BGC06-07	18.8	0	20	1.2
DS-BGC06-08	9	0	8	-1
DS-BGC06-09	3.2	0	7	3.8
DS-BGC06-11	2.3	0	0	-2.3
DS-BGC06-12	2.8	0.7	0	-2.8

1 Determined during the 2006 geotechnical investigation

2 Determined during the 2005 geophysical survey

5.0 THERMISTOR MONITORING RESULTS

Both “trumpet” (date versus depth versus temperature) curves and long term plots of temperature versus date are provided in Appendix X for the various cables. Simplified borehole logs are provided along the margin of the trumpet curves as information for consideration.

5.1 High Lake Thermistors

A total of eleven thermistors are installed around the High Lake property in 2006 while ten thermistors were installed around the property in 2004 and 2005.

All eleven thermistors installed in 2006 were located at possible dam site locations. Five of the thermistors installed in 2004 and 2005 were located at possible dam locations around High Lake and Granite Lake. Four thermistors were deep installations located in the West Zone ore deposit and there is one thermistor installed in the proposed plant site location. The locations of the thermistor in the High Lake area are shown on Figure X-1.

The thermistors installed at the possible dam locations were installed for the purpose of determining the depth of the active zone and will be used to determine the extent of any taliks that may exist under the proposed dam footprint areas. The deep thermistors in the West Zone were installed to develop a thermal profile of the regional permafrost conditions which will be used in the overall mine design and as part of the baseline study. The plant site thermistor was designed to provide information on the depth of the active zone at that location and may be used for potential geothermal design of the foundation elements of the plant site.

Kennarctic River

BGC06-04

Borehole BGC06-04 was drilled on the lower bench immediately above the Kennarctic River to the northeast of the proposed East Dam. A 125 m thermistor and data logger were installed on April 13, 2006. A manual reading was taken on May 24, 2006 and the datalogger was downloaded on August 26, 2006.

The active layer, based on August 2006 data, was approximately 3.5 m. However, a full season of freezing and thawing will be required to accurately estimate the active layer depth at this location. The 5 m depth bead varied between -1^{o} and -2^{o} C while the 25 m bead was relatively stable at -3^{o} C during the recorded interval. Below the 25 m bead, the ground temperature was found to increase with depth. Between 70 and 117 m bgs (located at the western edge of the Kennarctic River), the ground temperature was found to range between -0.2^{o} and -0.4^{o} C. The thermistor did not extend below the centre of the Kennarctic River and thus the ground temperature could not be recorded below the centre of the river.

Within the depth interval and time period investigated, no talik was indicated, although the deep readings are only marginally zero.

East Dam

BGC06-05

Borehole BGC06-05 was drilled within the proposed East Dam footprint. A 50 m thermistor and datalogger were installed on April 14, 2006. On May 20, 2006, the datalogger was downloaded but it was found that temperature data was only collected until April 26, 2006. The thermistor cable and connections were inspected in the field to determine if the cause of the thermistor malfunction but visual site inspections did not reveal any obvious problems with the thermistor.

Manual readings taken on May 20, 27 and August 26, 2006 also revealed that the thermistor cable was not functioning properly. As result, no readings past April were available and the cable is deemed inoperative.

Within the 12 day period after installation, no talik was noted and the temperature was approximately -3.2^{o} C at 46 m depth.

BGC06-06

Borehole BGC06-06 was also drilled within the footprint of the proposed East Dam. A 50 m thermistor cable and datalogger were installed on April 17, 2006. On May 20, 2006, the datalogger was downloaded but it was found to have only collected data until April 25, 2006. The thermistor cable and connections were also visually inspected but no problems were noted.

Manual readings taken on May 20, 27 and August 26, 2006 confirmed that the thermistor cable was not working properly. As a result, no readings past April were available and the cable is considered to be inoperative.

Within the 8 day period after installation, no talik was noted and the temperature was approximately -3.6^{o} C at 46 m depth.

BGC06-25

Borehole BGC06-25 was drilled in the vicinity of the left abutment of the proposed East Dam. A 20 m thermistor cable and datalogger were installed on May 25, 2006. The datalogger was successfully downloaded on August 26, 2006. Manual readings were taken on May 26 and August 26, 2006.

The active layer depth, based on the August 2006 data, was approximately 6.5 m. The 10 m depth bead varied between -2.2^{o} and -2.8^{o} C while the 20 m depth bead was stable at -2.7^{o} C during the recorded interval. As such, no talik has been observed at this location to date.

The active layer depth at this location appears to be much deeper than in other locations. The thaw depth is mostly likely attributed to proximal flowing water from High Lake and the relatively high thermal conductivity of the barren bedrock. However, a complete season of freezing and thawing needs to be measured properly to estimate the active layer depth at this location.

BGC04-07

BGC 04-07 was drilled near the east outlet of High Lake within the proposed footprint of the East Dam. A 25 m cable and datalogger were installed on Sept 13, 2004. The datalogger was successfully downloaded on Nov. 30, 2004, May 17 and October 24, 2005, and April 2 and August 26, 2006.

The active layer depth at this location appears to be much deeper than at other locations. Above 0°C temperatures were observed to a depth of approximately 7 m at the end of August in 2006. This thawed layer typically cools off as the winter progresses and is generally completely frozen by mid-December. This deep thaw depth is due to the proximal flowing water from the outlet stream along with the relatively high thermal conductivity of barren bedrock in the area.

At a depth of 10 m, the temperature varied from -2.2^{o} to -6.4^{o} C during the recorded interval. However, at a depth of 25 m, the ground temperature was stable at around -3.4^{o} to -3.6^{o} C. The temperature at 25.0 m depth is significantly warmer (1.5^{o} C) than BGC04-02, which indicates the warming impact of the surface water flow in this area.

No talik was observed within the 25 m depth monitored but a significant active layer depth was noted.

Polishing Pond Dam

BGC06-07

Borehole BGC06-07 was drilled within the footprint of the proposed Polishing Pond Dam, in the centre of the western section. A 25 m thermistor cable and datalogger were installed on April 19, 2006. The data logger was successfully downloaded on August 29, 2006. Manual readings were also taken on May 25 and August 29, 2006.

The active layer depth, based on the August 2006 data, was approximately 1.5 m. However, a full season of freezing and thawing will be required to accurately estimate the active layer depth at this location. The 10 m bead varied between -6.0^{o} and -6.5^{o} C while the 25 m bead was relatively stable at -5.5^{o} C during the recorded interval during the recorded period. Therefore, no talik was recorded at this site to date.

BGC06-08

Borehole BGC06-08 was drilled within the footprint of the proposed Polishing Pond Dam, in the approximate centre of the south section. A 25 m thermistor cable and datalogger were installed on April 19, 2006. The datalogger was downloaded on August 29, 2006; however, the datalogger did not record the ground temperature between the installation and download dates. The datalogger was taken back to the High Lake camp and repaired. Manual readings were taken on May 25 and August 29, 2006. Based on the limited manual readings collected in 2006, it appears that the depth of the active layer is between 1.5 and 2.0 m. The ground temperature at 25 m depth is approximately -5^{o} C.

Northeast Dam

BGC06-11

Borehole BGC06-11 was drilled within the proposed footprint of the Northeast Dam. A 50 m thermistor cable and datalogger were installed on May 10, 2006. The datalogger was successfully downloaded on August 29, 2006 while manual readings were taken on May 25 and August 29, 2006. The 14.3 m bead ceased functioning on May 22, 2006 while the 1.5 m bead was sometimes found to be malfunctioning.

The active layer depth, based on the August 2006 data, was approximately 4.2 m but a full season of freezing and thawing will be required to accurately estimate the active layer depth at this location. At a depth of 10 m, the ground temperature ranged between -4.4^{o} and -4.7^{o} C while at 25 m depth, the ground temperature was relatively stable at -4.2^{o} C during the recorded interval. No talik was recorded at this site to date.

BGC04-03

BGC 04-03 was drilled in the proposed footprint of the Northeast Dam site. A 25 m thermistor cable and datalogger were installed on Sept 7, 2004. Initial testing showed that the bottom (25 m) thermistor bead was non-functional and no readings have been successfully taken from this depth. Thus, data was only collected from thermistor beads in the top 10 m. The datalogger was successfully downloaded on May 18 and October 24, 2005, and April 2 and August 29, 2006.

The active layer thaw at this location, based on summer 2005 and 2006 data, was recorded at a depth of approximately 1.8 m. The 10 m depth bead varied between -4.9^{o} and -7.0^{o} C during the recorded interval. Therefore, no talik was observed within the 10 m depth monitored. Based on visual estimation of the trumpet curve, the mean annual ground temperature is approximately -6^{o} C.

Northwest Dam

BGC06-13

Borehole BGC06-13 was drilled within the vicinity of the proposed Northwest Dam. A 50 m thermistor and datalogger were installed on May 11, 2006. The datalogger was successfully downloaded on August 29, 2006. Manual readings were taken on May 25 and August 29, 2006 as well.

The active layer depth, based on the August 2006 data, was approximately 4 m but a full season of freezing and thawing will be required to accurately estimate the active layer depth at this location. The 10 m depth bead varied between -4.3^{o} and -5.6^{o} C while the 25 m bead was relatively stable with temperatures ranging between -4.1^{o} and -4.3^{o} C during the recorded period. Therefore, no talik has been observed at this location to date.

BGC04-02

Borehole BGC 04-02 was drilled within the footprint of the original proposed Northwest Dam, to the north of L-15. A 25 m thermistor and datalogger were installed on Sept 8, 2004. The datalogger was successfully downloaded on May 18 and October 26, 2005, and April 2 and August 29, 2006.

The active layer depth, based on summer 2005 and 2006 data, was approximately 3 m. The 10 m depth bead varied between -4.5^{o} and -6.6^{o} C. The 25 m depth bead was relatively stable at -4.8^{o} C during the recorded interval. Based on visual estimation from this trumpet curve, the mean annual ground temperature is approximately –6^{o} C.

BH-GT-05-07

Thermistor BH-GT-05-07 is a 20 m cable that was installed in a vertical hole on September 12, 2005 within the footprint of the proposed dam between High Lake and Lake L15. The datalogger was successfully downloaded on October 21, 2005, and April 2 and August 29, 2006.

The active layer thaw at this location, based on two summers of data, was recorded at a depth of approximately 6 m. The 10 m bead varied between -2.7^{o} to -5.0^{o} C while the 20.1 m bead ranged in ground temperature from -3.1^{o} to -3.8^{o} C during the recorded interval. Based on a visual estimation of the trumpet curve, the mean annual ground temperature was estimated to

be approximately -4.0° C.
The active layer depth at this location appears to be deeper than at other locations. This could be attributed to the proximal location of this borehole to surface water flows from both High Lake and L-15.

Northwest Channel Dam

BGC06-15

Borehole BGC06-15 was drilled within the proposed footprint of the Northwest Channel Dam in the left abutment. A 50 m thermistor cable and datalogger were installed on May 14, 2006 and the datalogger was successfully downloaded on August 29, 2006. Manual readings were taken on May 25 and August 29, 2006.

The active layer depth, based on the August 2006 data, was approximately 4 m. However, a full season of freezing and thawing will be required to accurately estimate the active layer depth. The 10 m depth bead varied between -4.5° and -5.6° C while the 25 m bead was relatively stable at -4.2° C during the recorded interval. Thus, no talik has been recorded at this location to date.

Water Dam

BGC06-17

Borehole BGC06-17 was drilled within the proposed footprint of the Water Dam, which has no been removed from the project plan. A 50 m thermistor cable and datalogger were installed on May 18, 2006 and the datalogger was successfully downloaded on August 28, 2006. Manual readings were taken on May 27 and August 28, 2006. Data between May 18 and July 19, 2006 was only collected due to a programming error in the datalogger. The datalogger was re-programmed to record the ground temperature at the proper time interval.

The active layer depth, based on the August 2006 data, was approximately 3.5 m to 4 m but a full season of freezing and thawing will be required to accurately estimate the active layer depth. The 10 m depth bead varied between -3.6° and -4.1° C while the 25 m depth bead ranged between -2.5° and -2.7° C during the recorded interval. Therefore, no talik has been observed at this location to date.

Since the Water Dam is no longer proposed, the datalogger could be removed and used for other purposes, if so required.

Contact Lake Dam

BGC06-20

Borehole BGC06-20 was drilled within the proposed footprint of Contact Lake Dam, in the vicinity of the right abutment. A 50 m thermistor cable and datalogger were installed on May 20, 2006. The datalogger was successfully downloaded on August 25, 2006. Manual readings were taken on May 25 and August 25, 2006.

The active layer depth, based on August 2006 data, was approximately 2 m. A full season of freezing and thawing will be required to accurately estimate the active layer depth. The 10 m depth bead varied between -3.0^{o} to -3.5^{o} C while the 25 m deep bead was relatively stable at -4.1^{o} C during the recorded interval. No talik has been observed at this location to date.

West Zone

HLW-05-171

Thermistor HLW-05-171 is a 500 m long cable that was installed in an angled drill hole on August 26, 2005 in the West Zone ore deposit. The borehole was inclined at 70^{o} from the horizontal and the vertical depth of the lowest bead is estimated at 470 m bgs.

Due to datalogger software issues, readings for the deeper nodes were only available for October 27, 2005. The datalogger was removed from site at the end of October 2005 and was not re-attached until September 1, 2006. A manual reading was taken on August 28, 2006.

It should be noted that the thermistor readings for HLW-05-171 from October 27, 2005 were taken while a drill rig was drilling directly over top of the thermistor cable. The drill shack was heated and running 24 hours a day so surficial readings should be neglected during this period. The depth of the active layer, based on the data collected in August 2006, was approximately 2 m. A complete season of recorded temperatures during the freezing and thawing will be required to estimate the active layer thaw depth at this location.

The temperature recorded at 281.9 m bead varied between -2.7 to -2.8^{o} C while the temperature at the 399.4 m depth bead varied between -0.7 and -0.8^{o} C. The temperature at the 469.9 m depth bead was found to be 0.9^{o} C. The base of the permafrost was estimated to be approximately 440 m bgs and this value lies within the expected depth interval. The geothermal gradient was found to be 1.6^{o} C/100 m depth.

BGC04-08

Thermistor BGC 04-08 is a 200 m cable and datalogger that was installed in an angled drill hole (Wolfden exploration hole HLW04-106) on Sept 27, 2004 in the West Zone ore deposit. The borehole was inclined at 72^{o} from the horizontal and the vertical depth of the lower bead is estimated to be 132 m bgs.

The cable took considerable time to freeze back and did not reach equilibrium for several months, which is typical of deep thermistor installations. The cable appears to have reached equilibrium by early January 2005. Between January 5, 2005 and August 31, 2006, the temperature at 33 m depth varied between -5.4º and -5.8ºC, while at 66 m, it varied between -5.5º and -5.8ºC and the 132 m depth bead varied between -4.4º and -4.5ºC.

The active layer depth in 2006 at this location was approximately 2 m, based on the latest reading from August 28, 2006. Based on visual estimation from the trumpet curve, the mean annual ground temperature is approximately -6ºC.

Granite Lake Dam

BH-GT-05-05

Thermistor BH-GT-05-05 is a 20 m cable that was installed in an angled drill hole on September 2, 2005 within the footprint of the proposed Granite Lake Dam (no longer in current project description). The borehole was inclined at 45^{o} from the horizontal and therefore, the lower thermistor beads are located under the Granite Lake outflow channel. The vertical depth of the lower bead is estimated at 14.4 m bgs. The datalogger was successfully downloaded on October 21, 2005 and April 2 and September 1, 2006.

This thermistor data indicates that a talik exists at this location. The 14.4 m depth bead varied between 1.5^{o} and 3.9^{o} C during the recorded interval while the bead at 7.3 m measured a wide range of ground temperatures from -1.7^{o} to 12.9^{o} C. These wide variations are likely due to the groundwater flow from Granite Lake within the deepening active layer over the summer.

Plant Site

BH-GT-05-11

Thermistor BH-GT-05-11 is a 20 m cable that was installed in a vertical hole on September 3, 2005 within the footprint of the proposed plant site. The datalogger was successfully downloaded on October 14, 2005 and April 2 and August 30, 2006. Only the 1.4, 1.9 and 20.9 m depth beads were still operational in April 2006.

A shallow active layer depth of approximately 2 m is indicated by the 2005 and 2006 readings to date. The 10.9 m bead varied between -5.2^{o} and -5.9^{o} C while the 20.9 m bead was relatively stable at -5.5^{o} to -5.6^{o} C during the recorded interval. Based on a visual estimation of the trumpet curve, the mean annual ground temperature was estimated to be approximately -6.0^{o} C.

Ulu Site

BGC04-01

BGC 04-01 is a 25 m thermistor string and datalogger installed near the Ulu project site on September 5, 2004. The data from this unit was downloaded during a site visit on November 29, 2004. The data at this time showed that the datalogger had malfunctioned for several days in early October and became completely inoperable on October 30, 2004. A manual reading was taken on November 29, 2004; it was noted at this time that the 3.4 m bead was no longer functional. The datalogger was replaced and another manual reading was taken on May 25, 2005. The next successful download of the datalogger occurred on August 30, 2006. A manual reading was also taken on this date. During the manual reading, it was determined that the 2.4 m bead was no longer operational. This bead ceased operating on November 26, 2005.

An active layer depth of approximately 4 m was determined from the 2004, 2005 and 2006 data. The 10 m bead varied between -4.6^{o} and -7.1^{o} C while the 25.4 m thermistor bead varied between -5° and -5.2^{o} C during the recorded interval. Based on the data, the mean annual ground temperature is estimated to be between –5^{o} and -5.5 ^{o}C.

5.2 Summary of Permafrost Monitoring

Based on the permafrost monitoring results collected to date, the following conclusions are provided:

1. The main component sites of the overall High Lake Project site are located on continuous permafrost. Based on data collected to date, the estimated mean annual ground temperatures are -5^{o} C for Ulu and -5^{o} to -6^{o} C for the High Lake area respectively. These values are within expected ranges as predicted by regional information summarized in BGC (2006b).
2. Relative to the proposed dam locations, the ground temperature is approximately -4^{o} to 5^{o} C at 10 to 25 m depth under the Polishing Pond Dam, the Northeast Dam and the Northwest Channel Dam. Both the East Dam and the Northwest Dam are located on slightly warmer permafrost; -3.5^{o} to -4^{o} C. These warmer temperatures are related to the nearby surface water flow.
3. Active layer depths of 2 m to 4 m were encountered in the High Lake area, with the exception of the East Dam area where active layer depths of 6.5 m to 7.0 m were measured.
4. An active layer depth of approximately 4 m is indicated for barren rock surfaces at the Ulu site.
5. Only one talik appears to be indicated by the thermistors. It is located at the outflow channel of Granite Lake, in BH-GT-05-05, but no dam is proposed for this location.

6.0 CONCLUSIONS

The geotechnical program completed in 2004 and 2005 provided preliminary information regarding overburden thickness, bedrock type and quality in the High Lake area. The drilling program also allowed for the collection of subsurface thermal information since that time.

A geotechnical investigation program was completed in 2006 for the High Lake Project, focussing on the potential dam areas around High Lake (the tailings containment area and polishing pond), the plant site location and the port site at Grays Bay. Drilling was completed with chilled brine under all proposed major surface structures and facilities, with the exception of the potential dock site location where warm water was used, so that the depth of overburden and frost affected bedrock could be determined in addition to the ground ice content. It was critical to evaluate these units to aid in the design of seepage cut-off elements for the retaining structures.

Limited thermal information was available from the 2004/2005 programs, specifically with respect to the existence of talik zones beneath proposed dam locations. The geotechnical investigations completed in 2006 included the installation of eleven thermistors to monitor the ground temperature regime under the proposed retention structures. The limited data collected to date indicates there are no taliks under the proposed dam locations.

7.0 RECOMMENDATIONS

The following recommendations are provided as follow-up from the 2006 site investigation program:

- The borehole co-ordinates and elevations for all 2006 High Lake boreholes should be accurately determined using differential GPS. This information should be then forwarded to BGC.
- The thermistor cable at BGC06-05 is inoperative and the cable at BGC06-17 is redundant. Thus, the dataloggers at BGC06-05 and BGC06-17 could be used for other project purposes, if so required.
- At Grays Bay, future geotechnical investigations for lay down pads, minor structures such as camps and storage building and an access road will have to focus on areas of overburden cover on top of the bedrock, to assess the material type, thickness and ice content. The concentrate loader and dock structure will require geotechnical input, but bedrock is exposed on the surface. It should be noted that frost affected bedrock may contain significant ground ice within open fractures and joints which may settle under load or thawing conditions. Hence, proper geotechnical investigations are required for settlement-intolerant structures founded on bedrock.

Additional site investigation work will be required for the final design of the noted dams. Any recommendations will be provided under the dam design report, expected later this year.

8.0 CLOSURE

We trust the enclosed report meets your requirements and thank you for the opportunity to be of service to Wolfden Resources Inc. Should you have any questions, or require any other services, please contact any of the undersigned at your convenience.

BGC Engineering Inc.

Per: **Reviewed by:**

Alena James, P.Eng.
Geotechnical Engineer

Holger Hartmaier, M.Eng., P.Eng.
Senior Geotechnical Engineer

Eric Niven, M.Sc., E.I.T.
Engineer-in-Training

James W. Cassie, M.Sc., P.Eng.
Specialist Geotechnical Engineer

REFERENCES

BGC Engineering Inc. 2004. Wolfden Resources Inc., High Lake Project – All-Weather Access Road Design and Costs. Draft memo prepared for Gartner Lee Limited., July 19, 2004, 16 pages.

BGC Engineering Inc. 2005. Geomechanical Logging of A/B Zone Drill, Core, High Lake Deposit. Report prepared for Wolfden Resources Inc., January 25, 2005, 41 pages plus figures and appendices.

BGC Engineering Inc. 2006a. Dock Site Investigations, Grays Bay, NU. Report prepared for Wolfden Resources Inc., May 26, 2006, 22 pages plus figures and appendices.

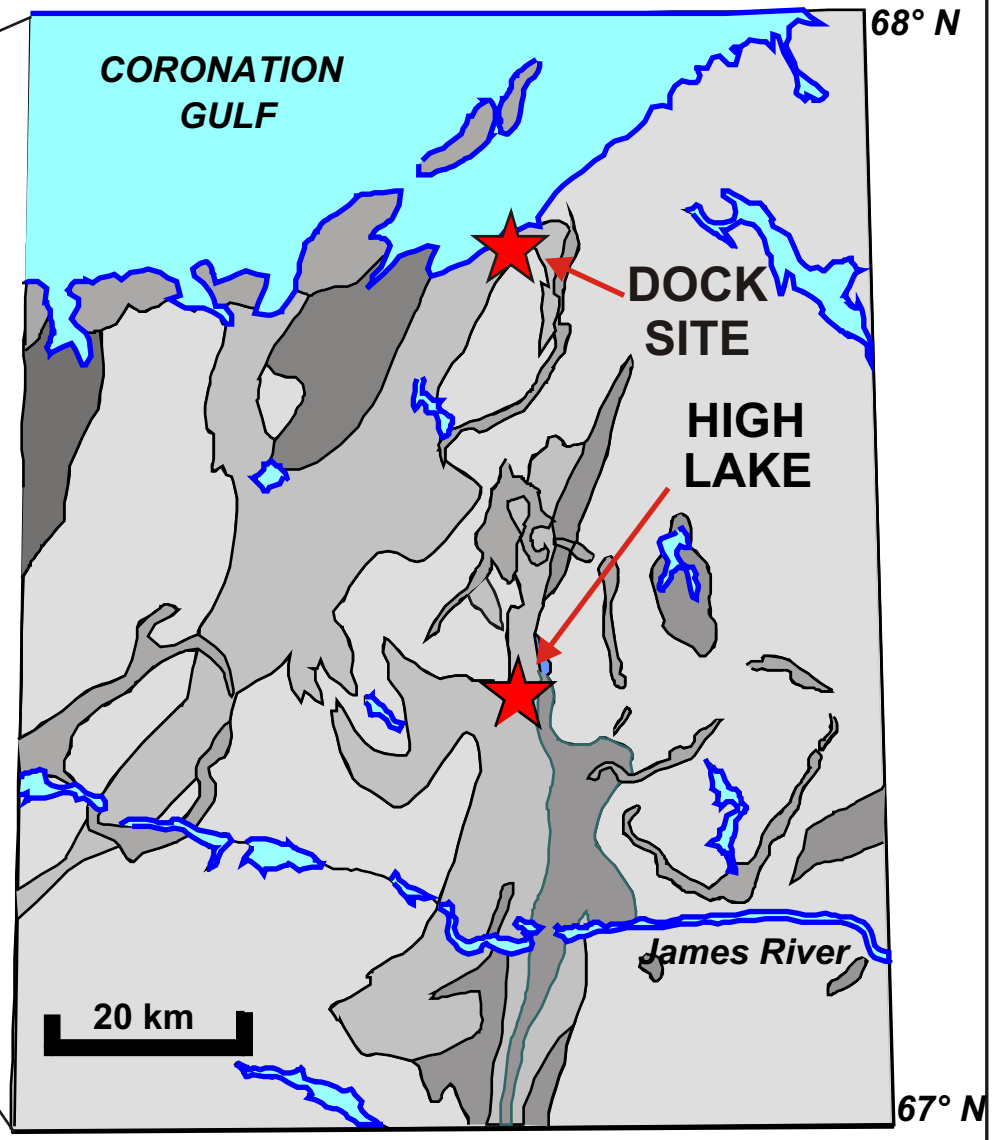
BGC Engineering Inc. 2006b. 2004-2005 Geotechnical Investigations Report, High Lake Project, NU. Report prepared for Wolfden Resources Inc., October 23, 2006, 38 pages plus figures and appendices.

BGC Engineering Inc. 2006c. Conceptual Design Outline – A/B Waste Dump Toe Dike, High Lake, NU. Report prepared for Wolfden Resources Inc., October 19, 2006, 27 pages plus 10 Figures.

http://www.wolfdenresources.com/s/HighLake.asp

http://www.wolfdenresources.com/s/Prefeasibility.asp

FIGURES



DATE: JAN 2007	DRAWN SLF

REFERENCED DRAWING DESCRIPTION

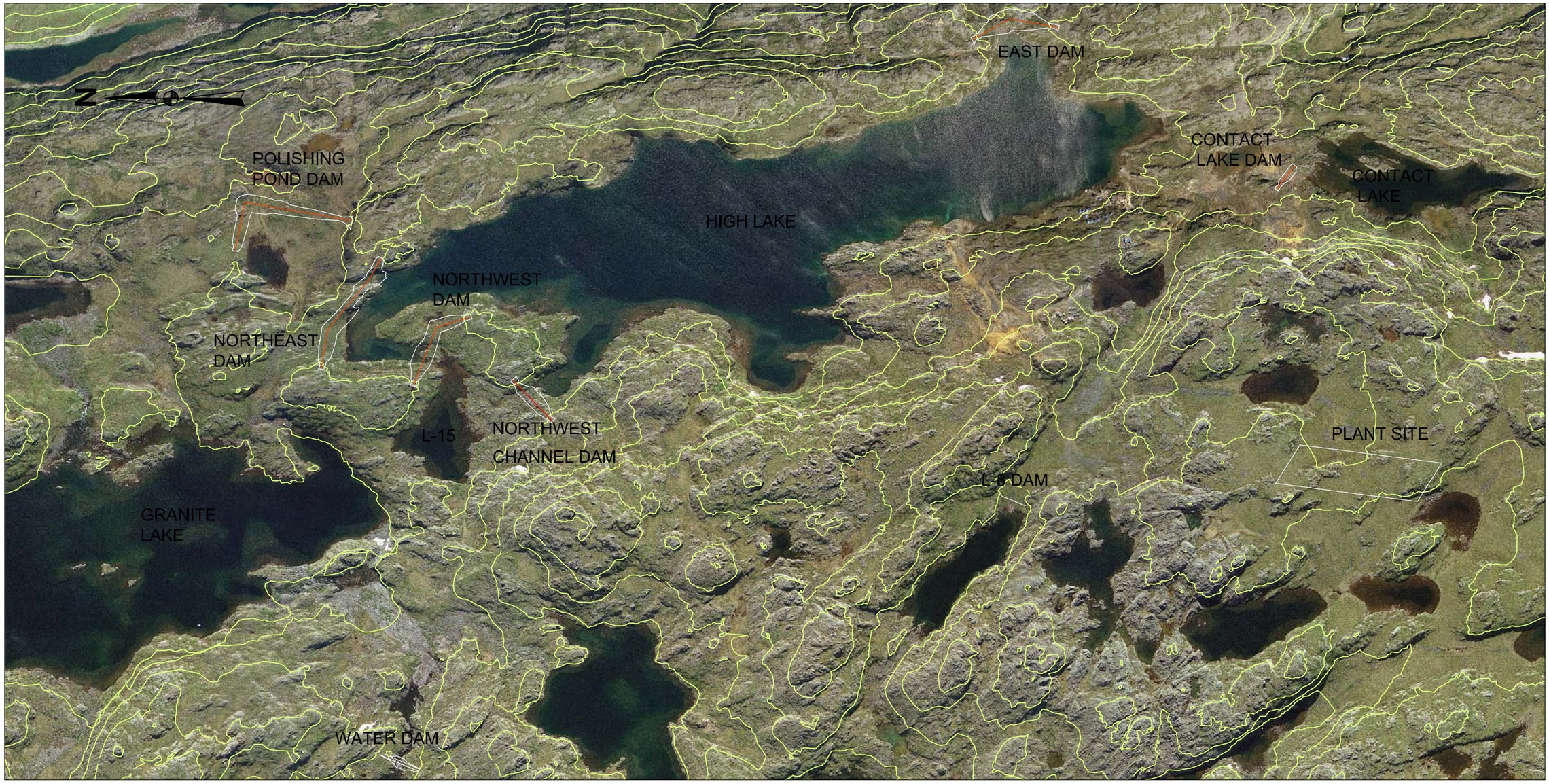
BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, Alberta Phone: (403) 250-5185

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: PROJECT LOCATION MAP

CLIENT: WOLFDEN Resources Inc.

PROJECT No.	FIGURE NO.	REV.
0385-003-15	1	0



Scale 1:10000

200 0 200 400 600

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

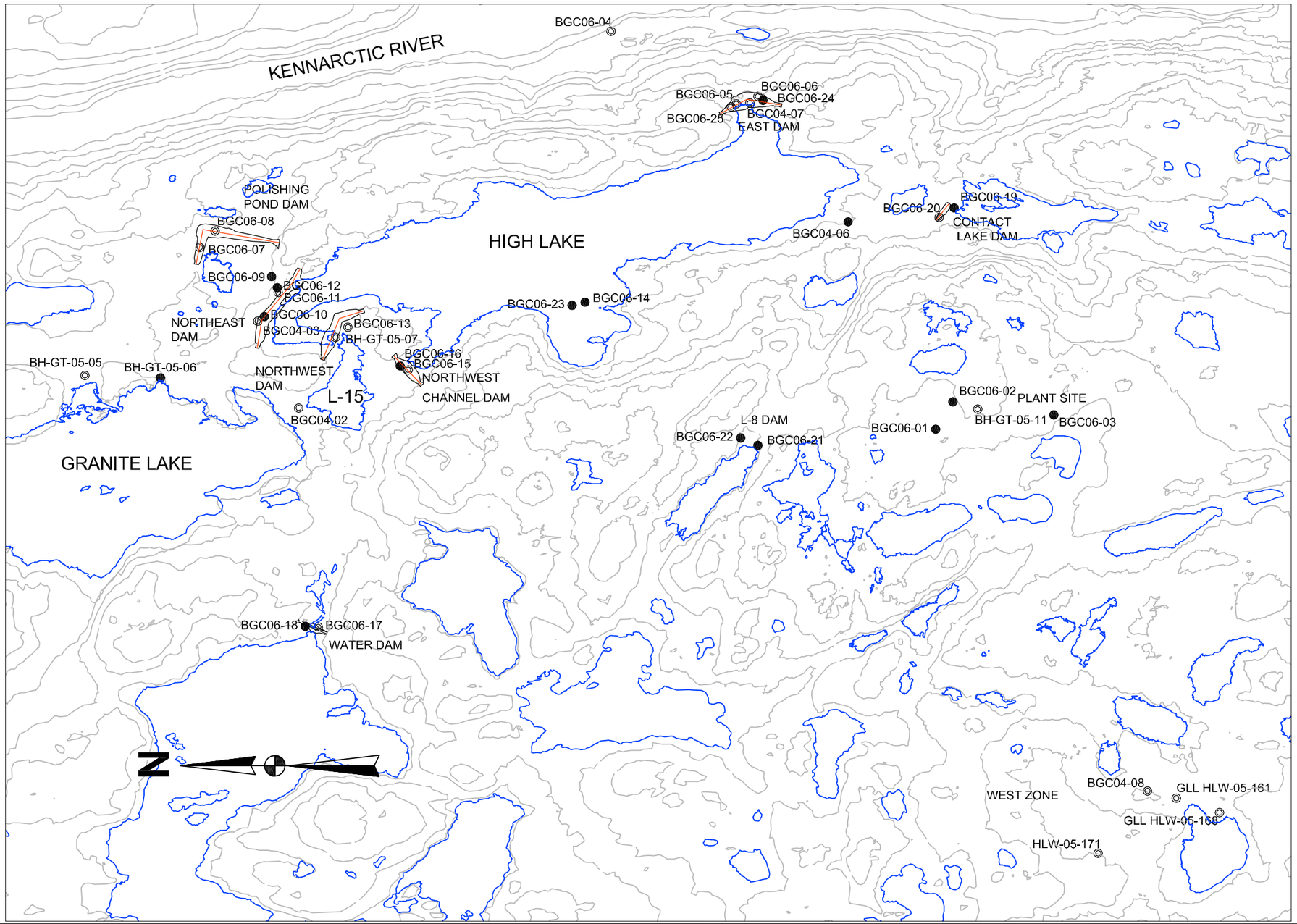
CLIENT: WOLFDEN Resources Inc.

PROJECT:
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE:
HIGH LAKE SITE PLAN

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	2	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 DamLocations(2).dwg Layout: High Lake Site Plan Plot Date: Mar 26 07 Time: 8:42 AM



LEGEND

- BOREHOLES WITH THERMISTOR
- BOREHOLES WITHOUT THERMISTOR

Scale 1:15000

300 0 300 600 900

metres

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

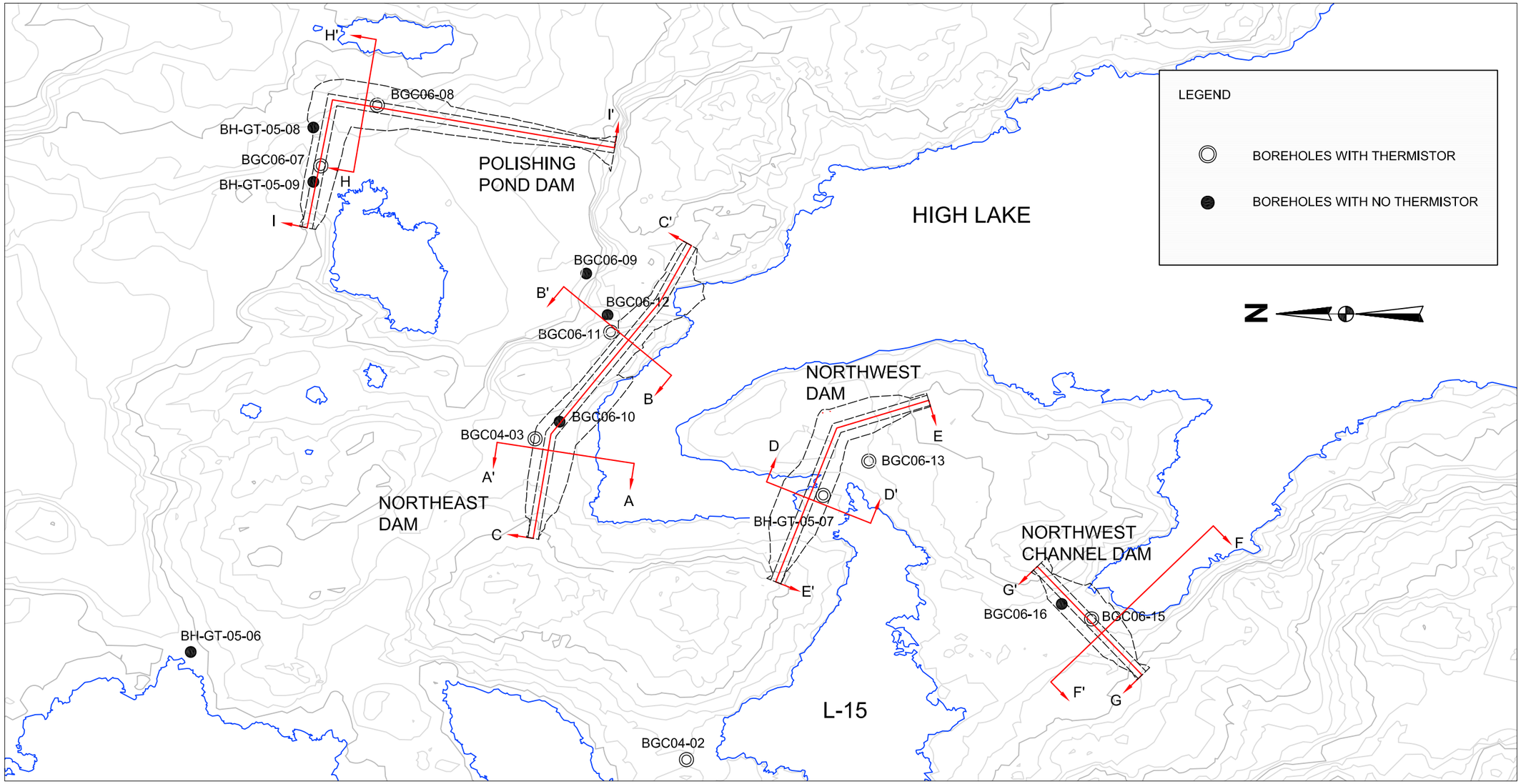
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: 2004, 2005 AND 2006
HIGH LAKE BOREHOLES LOCATIONS

PROJECT No.:	DWG No.	REV.:
0385-003-15	3	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report Graphics\Drawings\0385-003-15 BH_Location.dwg Layout: BH_Locations Plot Date: Jun 20 05 Time: 9:36 AM



NOTE: BOREHOLE LOCATIONS ARE APPROXIMATE

Scale 1:4000

80 0 80 160 240

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

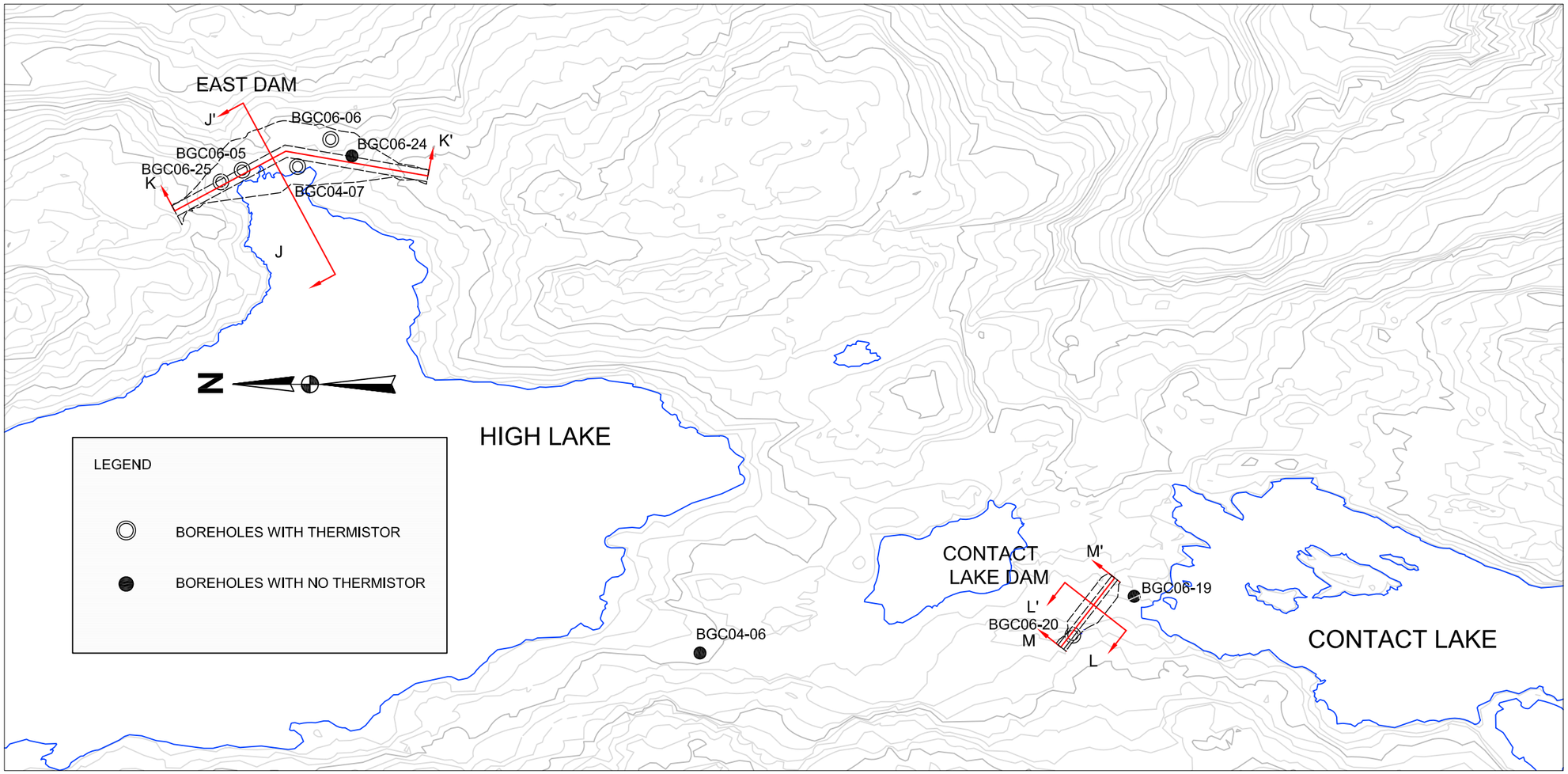
CLIENT: WOLFDEN Resources Inc.

PROJECT:
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE:
LOCATION OF BOREHOLES, DAMS AND DAM SECTIONS AT NORTH END OF HIGH LAKE

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	4	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 NS_Sections(2).dwg Layout: Dams At North End Plot Date: Mar 28 07 Time: 12:04 PM



NOTE: BOREHOLE LOCATIONS ARE APPROXIMATE

Scale 1:4000

80 0 80 160 240

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

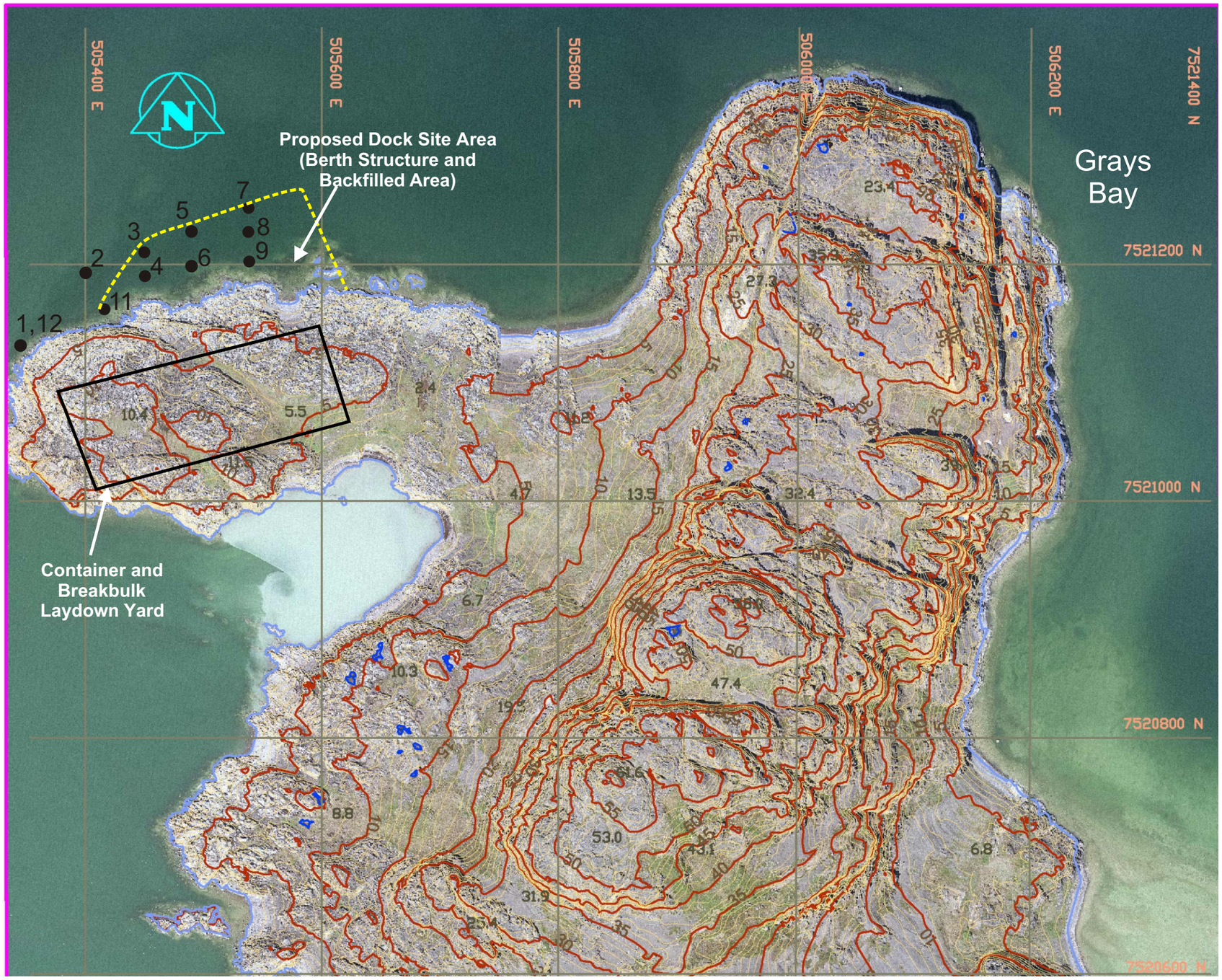
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: LOCATION OF BOREHOLES, DAMS AND DAM SECTIONS AT SOUTH END OF HIGH LAKE

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	5	

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 NS_Sections\(2).dwg Layout: Dams At South End Plot Date: Mar 28 07 Time: 12:05 PM



Source: Wardrop Engineering Inc.
Drawing #: 0551310100-DWG-G0015

Note: 1. Borehole locations are approximate.
2. Proposed docksite area and laydown area derived from:
Source: Gartner Lee Limited - Sketches by C. Anderson
Portplan Consultants, November 2004.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	AS SHOWN
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
GRAYS BAY DOCK SITE BOREHOLE LOCATIONS

PROJECT No.	FIGURE No.	REV.
0385-003-15	6	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta Phone: (403) 250-5185

APPENDIX I
2006 HIGH LAKE GEOTECHNICAL INVESTIGATION BOREHOLE LOGS

SYMBOLS AND TERMS

FOR SOIL DESCRIPTIONS ON BOREHOLE AND TEST PIT LOGS

SAMPLE SYMBOLS

AUGER | CORE | GRAB | NO RECOVERY | SHELBY TUBE | SPT

CLASSIFICATION BY PARTICLE SIZE[1]			
	SIZE RANGE		
		US STANDARD SIEVE SIZE	
NAME	(mm) [2]	Retained	Passing
Boulders	>200	8 inch	-
Cobbles	75 - 200	3 inch	8 inch
Gravel:			
Coarse	19 - 75	0.75 inch	3 inch
Fine	5 - 19	No. 4	0.75 inch
Sand:			
Coarse	2 - 5	No. 10	No. 4
Medium	0.4 - 2	No. 40	No. 10
Fine	0.074 - 0.4	No. 200	No. 40
Fines (Silt or Clay)[3]	<0.074	-	No. 200

PROPORTION OF MINOR COMPONENTS BY WEIGHT	
"and"	40% to 50%.
"y/ey"	25% to 40%
"Some"	10% to 25%
"Trace"	0% to 10%

PARTICLE SHAPE	
Flat	Particles with width/thickness >3
Elongated	Particles with length/width >3
Flat and Elongated	Particles that meet both criteria

DENSITY OF GRANULAR SOILS		
DESCRIPTION	SPT - "N"[4]	FIELD IDENTIFICATION
"Very Loose"	0-4	
"Loose"	4-10	Easy to drive wooden stake
"Compact"	10-30	
"Dense"	30-50	Difficult to drive wooden stake more then 50 mm.
"Very dense"	>50	

ANGULARITY	
"Angular"	Particles have sharp edges and relatively plane sides with un-polished surfaces.
"Subangular"	Particles are similar to angular description but have rounded edges.
"Subrounded"	Particles have nearly plane sides but have well rounded corners and edges.
"Rounded"	Particles have smoothly curved sides and no edges.

CONSISTENCY OF COHESIVE SOILS			
DESCRIPTION	SPT-"N" [6]	UNDRAINED	FIELD IDENTIFICATION
"Very soft"	<2	<12	Easily penetrated several centimetres by the fist.
"Soft"	2-4	12-25	Easily penetrated several centimetres by the thumb.
"Firm"	4-8	25-50	Can be penetrated several centimetres by the thumb with
"Stiff"	8-15	50-100	Readily indented by the thumb but penetrated only with
"Very Stiff"	15-30	100-200	Readily indented by the thumb nail.
"Hard"	>30	>200	Indented with difficulty by the thumbnail.

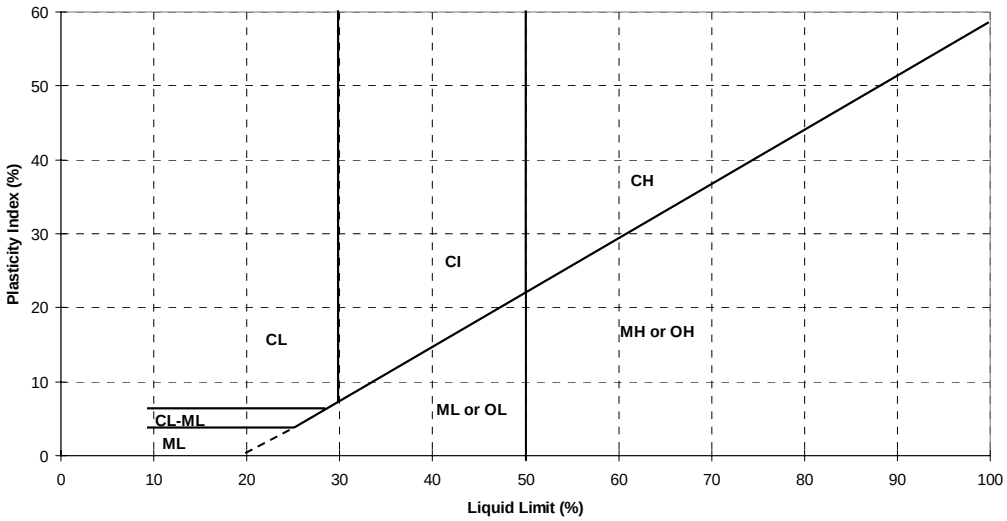
(1) Unified Soil Classification (USCS).
(2) Approximate metric conversion.
(3) Fines are classified as silt or clay on the basis of Atterberg limits (refer to Plasticity Chart).
(4) Standard Penetration Test (SPT) blow count uncorrected, after Terzaghi and Peck, 1948.
(5) Undrained shear strength can be estimated by vane (gives S_u), pocket penetrometer (gives unconfined compressive strength, i.e., 2 S_u), or unconfined compression test (gives 2 S_u).
(6) Very approximate correlation with Standard Penetration Test blow counts, after Terzaghi and Peck, 1948.

SYMBOLS AND TERMS

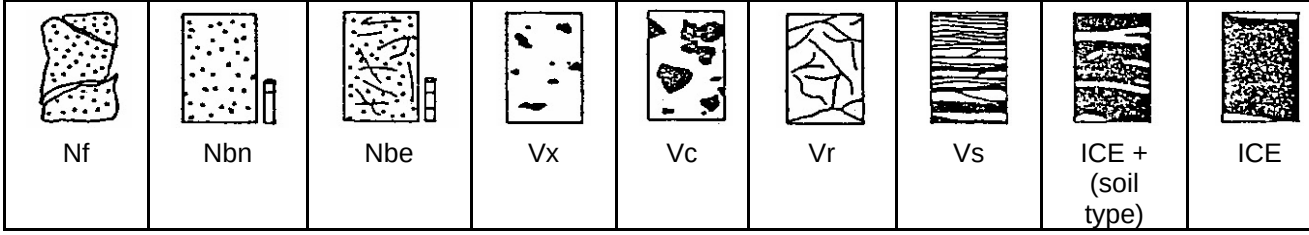
FOR SOIL DESCRIPTIONS ON BOREHOLE AND TEST PIT LOGS

PLASTICITY OF COHESIVE SOILS [7]			
DESCRIPTION	**SILT**	**CLAY**	**CRITERIA**
High	W_L [8] >50	W_L >50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.
Medium	-	30 <W_L<50	The thread is easy to roll and not much time is required to reach the plastic limit. The lump crumbles when drier than the plastic limit.
Low	W_L<50	W_L<30	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Non-Plastic	NP	-	A 1/8 inch (3 mm) thread cannot be rolled at any water content.

PLASTICITY OF COHESIVE SOILS[7]



CLASSIFICATIONS OF GROUND ICE [9]			
SYMBOL	**DESCRIPTION**	**SYMBOL**	**DESCRIPTION**
N	Ice not visible by unaided eye	Nf	Poorly bonded or friable
		Nbn	Well bonded, no excess ice
		Nbe	Well bonded, excess ice
V	Visible ice less than 25 mm thick	Vx	Individual ice crystals or inclusions
		Vc	Ice coatings on soil particles
		Vr	Random or irregularly oriented ice
		Vs	Stratified or distinctly oriented ice
ICE	Visible ice greater than 25 mm thick	ICE + (soil type)	Ice with soil inclusions
		ICE	Ice without soil inclusions



(7) This plasticity classification conforms to the Unified Soil Classification System (USCS) and the ASTM D-2487 plasticity cart, except for the addition of an intermediate category for clay, where the liquid limit is between 30% and 50% (CI). Under ASTM and USCS, all clays with a liquid limit less than 50% are classified as low plasticity (CL).

(8) W_L = Liquid Limit (%)

(9) For soil descriptions, estimate percentage of ground ice based on volume, after national Research Council of Canada, 1963.

Table 3 Criteria for Describing Moisture Condition

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

Table 4 Criteria for Describing the Reaction with HCl

Description	Criteria
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

Table 5 Criteria for Describing Consistency

Description	Criteria
Very Soft	Exudes between fingers when squeezed by hand
Soft	Easily indented by fingers or easily moulded with fingers
Firm	Moderately indented by fingers or moulded only by strong pressure of fingers
Hard	Slightly indented by fingers or cannot be moulded in fingers
Very Hard	Thumbnail will not indent soil

Table 6 Criteria for Describing Cementation

Description	Criteria
Weak	Crumbles or breaks with handling or little pressure
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure

Table 7 Criteria for Describing Structure

Description	Criteria
Stratified	Alternating layers of varying material or colour with layers at least 6 mm thick; note thickness
Laminated	Alternating layers of varying material or colour with the layers less than 6 mm thick; note thickness
Fissured	Breaks along definite planes or fracture with little resistance to fracturing
Slickensided	Fracture planes appear polished or glossy, sometimes striated
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness
Homogeneous	Same colour and appearance throughout

Table 8 Criteria for Describing Dry Strength

Description	Criteria
None	The dry specimen crumbles into powder with mere pressure or handling
Low	The dry specimen breaks into pieces or crumbles with considerable finger pressure
High	The dry specimen cannot be broken with finger pressure. Specimen will break into pieces between thumb and a hard surface
Very High	The dry specimen cannot be broken between the thumb and a hard surface

Table 9 Criteria for Describing Dilatancy

Description	Criteria
None	No visible change in the specimen
Slow	Water appears slowly on the surface of the specimen during shaking and does not disappear or disappears slowly upon squeezing
Rapid	Water appears quickly on the surface of the specimen during shaking and disappears quickly upon squeezing

Table 10 Criteria for Describing Toughness

Description	Criteria
Low	Only slight pressure is required to roll the thread near the plastic limit. The thread and the lump are weak and soft.
Medium	Medium pressure is required to roll the thread to near the plastic limit. The thread and the lump have medium stiffness
High	Considerable pressure is required to roll the thread to near the plastic limit. The thread and the lump have very high stiffness

Table 11 Criteria for Describing Plasticity

Description	Criteria
Nonplastic	A 1/8 in (3 mm) thread cannot be rolled at any water content
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

Table 12 Identification of Inorganic Fine-Grained Soils from Manual Tests

Soil Symbol	Dry Strength	Dilatancy	Toughness
ML	None to Low	Slow to rapid	Low or thread cannot be formed
CL	Medium to High	None to slow	Medium
MH	Low to Medium	None to slow	Low to medium
CH	High to Very High	High to Very High	High

Table 13 Checklist for Description of Soils

1. Group name
2. Group symbols
3. Percent of cobbles or boulders, or both (by volume)
4. Percent of gravel, sand, or fines, or all three (by dry weight)
5. Particle-size range:
   Gravel - fine, coarse
   Sand - Fine, medium, coarse
6. Particle angularity: angular, subangular, subrounded, rounded
7. Particle shape: if appropriate) flat, elongated, flat and elongated
8. Maximum particle size or dimension
9. Hardness of coarse sand and larger particles
10. Plasticity of fines: nonplastic low, medium high
11. Dry strength: non, low, medium, high, very high
12. Dilatancy: non, slow rapid
13. Toughness: low, medium, high
14. Colour (in moist condition)
15. Odor (mention only if organic or unusual)
16. Moisture: dry, moist, wet
17. Reaction with HCI: none, weak, strong

For intact samples

18. Consistency (fine grained soils only): very soft, soft, firm, hard, very hard
19. Structure: Stratified, laminated, fissured, slickensided, lensed, homogeneous, blocky
20. Cementation: weak, moderate, strong
21. Local name
22. Geologic interpretation
23. Additional comments: resence of roots or root holes, presence of mica, gypsum, etc., surface coatings on coarse-grained particles, caving or sloughing of auger hole or trench sides, difficulty in augering or excavating etc.

SYMBOLS AND TERMS

FOR ROCK DESCRIPTIONS ON BOREHOLE LOGS

RQD AND ENGINEERING QUALITY OF ROCK[10]

RQD	Rock Quality Description
<25%	Very Poor
25% – 50%	Poor
50% – 75%	Fair
75% – 90%	Good
90% – 100%	Very Good

HARDNESS GRADES FOR ROCK [11]

Strength Grade	Rock Strength Description	Unconfined Compressive Strength (MPa)	Point Load Index (MPa)
R6	Extremely Strong	>250	>10
R5	Very Strong	100 – 250	4 - 10
R4	Strong	50 – 100	2 – 4
R3	Medium Strong	25 – 50	1 – 2
R2	Weak	5 – 25	-
R1	Very Weak	1 – 5	-
R0	Extremely Weak	<1	-

RMR CLASSIFICATION FOR ROCK [12]

Rockmass Class	RMR Value
I - Very Good Rock	81-100
II - Good Rock	61-80
III - Fair Rock	41-60
IV - Poor Rock	21-40
V - Very Poor Rock	<20

(10) As proposed by Deere, 1964.
(11) Based on CFEM, 1992 and ISRM, 1978
(12) Based on Bieniawski, 1989

SYMBOLS AND TERMS

FOR ROCK DESCRIPTIONS ON BOREHOLE LOGS

DEGREE OF BREAKAGE [13]

Mean Spacing of Breaks or Diameter of Fragments	Quality Descriptions	Breakage Rating
< 12 mm (<0.5 inch)	Mostly fault gouge with/without minor rock fragments	1
	Gouge and crushed rock	2
	Crushed rock with/without gouge	3
12 to 50 mm (0.5 to 2 inches)	Crushed rock with no gouge	4
	Crushed rock with diameter of pieces < 50 mm (or < 2 inches)	5
	Broken rock with fracture spacing < 50 mm (or < 2 inches)	6
50 to 100 mm (2 to 4 inches)	Mean spacing 50 mm to 75 mm (2 to 3 inches)	7
	Mean spacing 75 mm (3 inches)	8
	Mean spacing 75 mm to 100 mm (3 to 4 inches)	9
100 to 200 mm (4 to 8 inches)	Mean spacing 100 mm to 150 mm (4 to 6 inches)	10
	Mean spacing 150 mm (6 inches)	11
	Mean spacing 150 mm to 200 mm (6 to 8 inches)	12
>200 mm (>8 inch)	Mean spacing 200 mm to 300 mm (8 to 12 inches)	13
	Mean spacing 300 mm to 350 mm (12 to 14 inches)	14
	Mean spacing >350 mm (or > 12 inches)	15

(13) Based on Martin (1991)

SYMBOLS AND TERMS

FOR ROCK DESCRIPTIONS ON BOREHOLE LOGS

DEGREE OF ALTERATION AND WEATHERING [14]

Degree of Weathering	Description	Rating
Residual Soil	Original fabric destroyed	W6
Completely weathered/altered	Original fabric and relict structures remain, but rock is decomposed and friable.	W5
Highly weathered/altered	Rock is discoloured and strength is significantly reduced by weathering.	W4
Moderately weathered/altered	Rock is discoloured, but rock strength only slightly affected, discontinuities weathered.	W3
Slightly weathered/altered	Rock strength unchanged, weathering on joints only.	W2
Fresh	No visible signs of weathering/alteration	W1

(14) Based on Martin (1991)

BOREHOLE # BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,030E, 7,473,285N
Ground Elevation (m) : 356
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 2.00

Start Date : 04 Apr 06
Finish Date: 05 Apr 06
Final Depth of Hole (m) : 9.6
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa (40 80 120 160) / Pocket Pen /2 / Excess Ice (%) / Moisture Content (%) (10 20 30 40)
0	1 (50%)	-3.5		Nbn		GABBRO (Frost Affected Bedrock) Interbedded frozen silty sand (TILL), trace gravel on joint surfaces. -Till samples from the joint surfaces were collected.		1	○
1	2 (0%)					-Hole sloughed between 1.0 and 1.5m.			
2	3 (82%)					Intact Bedrock encountered at 2.0 m. -Refer to BGC06-01 ROCK LOG for details below 2.0 m.		2	○
3									
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,030E, 7,473,285N
Ground Elevation (m) : 356
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.00

Start Date : 04 Apr 06
Finish Date: 05 Apr 06
Final Depth of Hole (m) : 9.6
Depth to Top of Rock (m) : 2.0
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to BGC06-01 PERMAFROST LOG for details above 2 m.	
2		3	W1		GABBRO Strong rock, fresh to slightly weathered, moderately jointed, moderately fractured, calcite infill on joint surfaces, 2 joint sets dipping opposite direction at approximately 40° to core axis.	
3		4				
4		5	W2			
5		6	W2			
6					-Joints healed with calcite below 6.2 m. -Rock becomes very strong below 6.2 m.	
7		7	W2			
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,030E, 7,473,285N
Ground Elevation (m) : 356
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.00

Start Date : 04 Apr 06
Finish Date: 05 Apr 06
Final Depth of Hole (m) : 9.6
Depth to Top of Rock (m) : 2.0
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8						
9		8	W2			
					END OF BOREHOLE AT 9.6 m. -Hole backfilled to surface with Portland Cement.	
10						
11						
12						
13						
14						
15						
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BOREHOLE # BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,125E, 7,473,225N
Ground Elevation (m) : 351
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 06 Apr 06
Finish Date: 07 Apr 06
Final Depth of Hole (m) : 19.2
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0		-6.6 to -7.3		Nbn		COBBLES Silty, sandy, gravelly till between cobbles, well graded, angular, cobbles up to 18 cm in diameter, cobbles are metavolcanic and granitic in origin.		1
1	1 (100%)					GRANODIORITE (Frost Affected Bedrock) Pink and grey, coarse grained, strong rock, slightly weathered. -Joint infilled with till between 1.07 m and 1.18 m. Intact Bedrock encountered at 1.2 m. -Refer to BGC06-02 ROCK LOG for details below 1.2 m.		2
2								
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BOREHOLE # BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,125E, 7,473,225N
Ground Elevation (m) : 351
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 06 Apr 06
Finish Date: 07 Apr 06
Final Depth of Hole (m) : 19.2
Depth to Top of Rock (m) : 1.2
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-02 PERMAFROST LOG for details above 1.2 m.	
1						
2		2	W2		GRANODIORITE Pink and grey, coarse grained, strong, fresh, primary fractures 75 degrees to core axis with secondary fractures 15 degrees to core axis, most fractures and joints healed with 1 to 2 mm thick calcite infilling, rough and planar fractures.	
3		3	W1			
4		4	W1		-Rock is massive between 4.0 m and 7.0 m.	
5		5	W1			
6		6	W1			
7						
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU

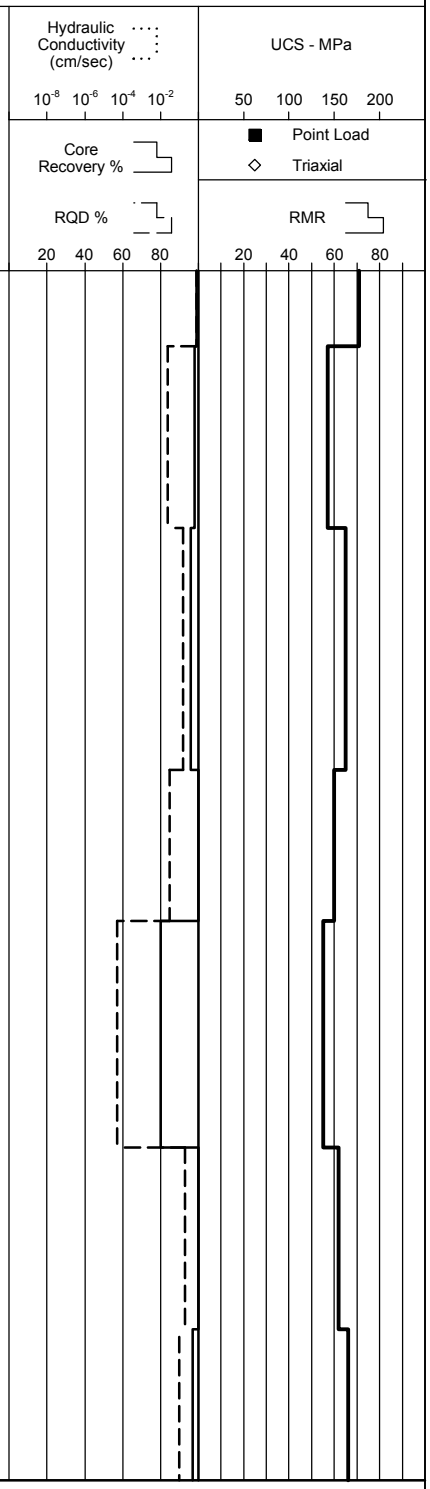
Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,125E, 7,473,225N
Ground Elevation (m) : 351
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 06 Apr 06
Finish Date: 07 Apr 06
Final Depth of Hole (m) : 19.2
Depth to Top of Rock (m) : 1.2
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8			W1			
					-Lithologic description as above.	
9		7	W1			
10		8	W1			
11		9	W1			
12						
		10	W1			
13						
14		11	W1			
15					-Rock is slightly more fractured between 15.0 m and 16.5 m.	
		12	W1			
16						



(Continued on next page)

BOREHOLE # BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU

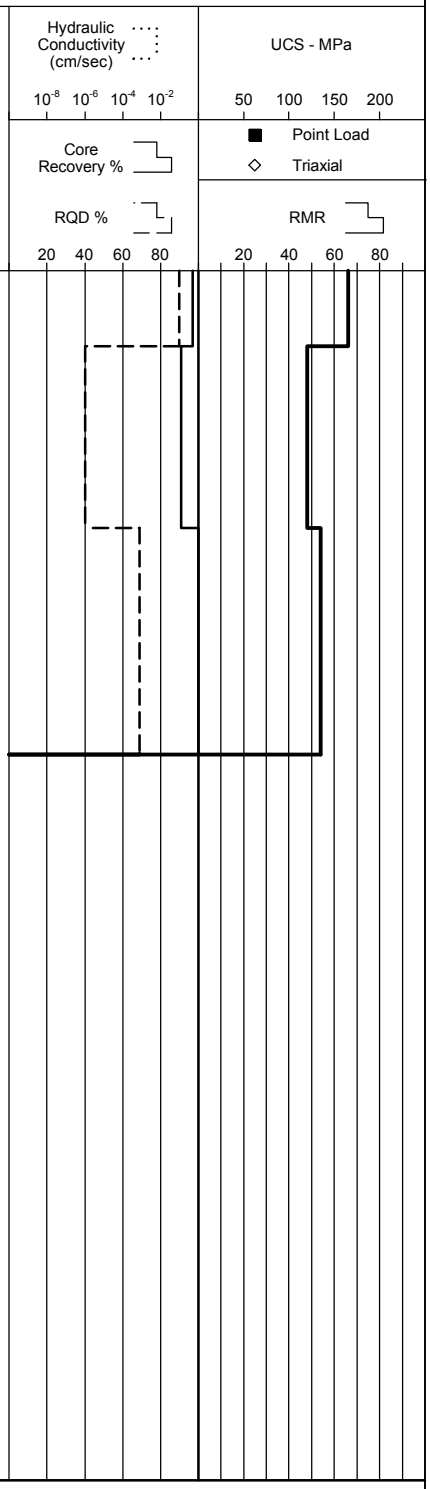
Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,125E, 7,473,225N
Ground Elevation (m) : 351
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 06 Apr 06
Finish Date: 07 Apr 06
Final Depth of Hole (m) : 19.2
Depth to Top of Rock (m) : 1.2
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16			W1		-Lithologic description same as above.	
17		13	W1			
18		14	W1			
19					END OF BOREHOLE AT 19.2 m. -Hole backfilled to surface with Portland Cement.	
20						
21						
22						
23						
24						



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,080E, 7,472,875N
Ground Elevation (m) : 354
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 07 Apr 06
Finish Date: 08 Apr 06
Final Depth of Hole (m) : 13.0
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (60%)	-4		Nbe Nbn		TOPSOIL Organic soil, trace sand and gravel. GRAVEL AND COBBLES		1
	2 (60%)							
1				Vs 30-40%		SAND (TILL) Silty, some gravel.		2
	3 (100%)					GRAVEL (TILL) Sandy, some silt, some cobbles (up to 15 cm in diameter, angular), well graded.		3
								4
2						Intact Bedrock encountered at 1.9 m. -Refer to BGC06-03 ROCK LOG for details below 1.9 m.		
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40
>>○

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Plant Site
Co-ordinates (m) : 506,080E, 7,472,875N
Ground Elevation (m) : 354
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 07 Apr 06
Finish Date: 08 Apr 06
Final Depth of Hole (m) : 13.0
Depth to Top of Rock (m) : 1.9
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-03 PERMAFROST LOG for details above 1.9 m.	
2					GRANODIORITE Pink and grey, coarse grained, strong rock, fresh, most fractures and joints healed with 1 to 2 mm calcite, rough and planar fractures.	
3		4	W1			
4		5	W1			
5					Warm water used as the drilling fluid beginning at 5.5 m.	
6		6	W1			
7		7	W1			
8		8	W1			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

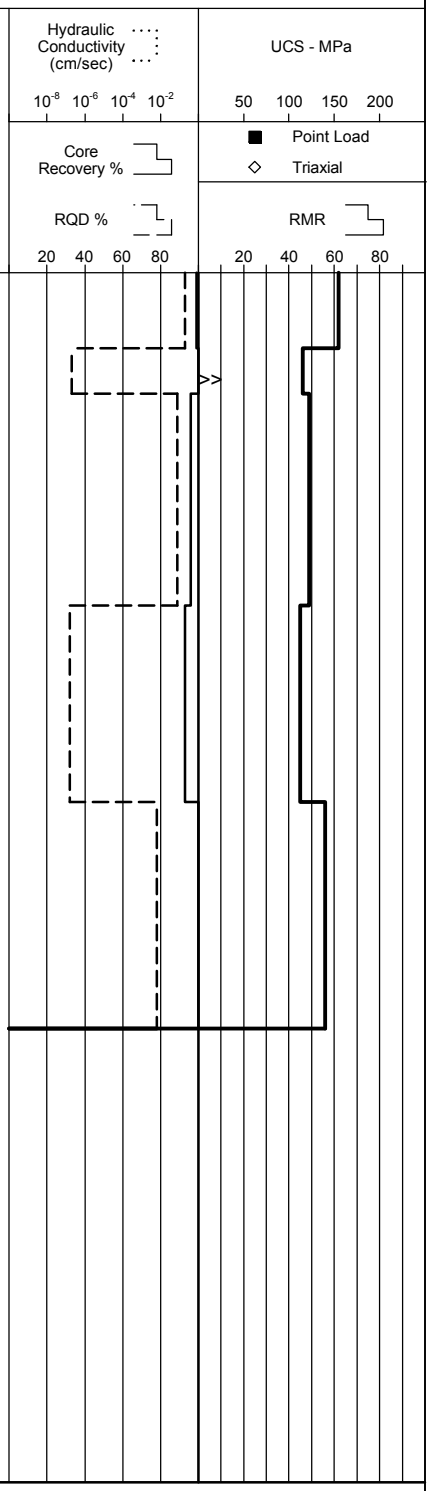
Location : Plant Site
Co-ordinates (m) : 506,080E, 7,472,875N
Ground Elevation (m) : 354
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 07 Apr 06
Finish Date: 08 Apr 06
Final Depth of Hole (m) : 13.0
Depth to Top of Rock (m) : 1.9
Logged by : GKC/MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W1		
		9	W1		-Blocked Run at 8.8 m depth. Drilling activity may have caused lower RQD.
9		10	W1		
10		11	W1		-Many fractures between 10.2 and 11.5 m depth.
11		12	W1		
12					
13					END OF BOREHOLE AT 13.0 m. -Hole backfilled to surface with Portland Cement.
14					
15					
16					

Instrument Details



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Kennarctic River
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Warm Water
Casing : NW **Cased To (m)** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Logged by : MJM
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / △ Pocket Pen /2 / ◓ Excess Ice (%) / ○ Moisture Content (%) 10 20 30 40
0						TILL Only rock fragments recovered. Fragments of rock ranging from 1 cm to 30 cm in diameter. Rock fragments composed of volcanic and meta-sedimentary lithologies. Chilled brine was not used during the drilling of the borehole. The overburden and frost affected bedrock was not logged within this borehole.			
1									
2									
3									
4									
5									
6									
7						Intact Bedrock encountered at 7.2 m. -Refer to BGC06-04 ROCK LOG for details below 7.2 m.			
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-04 PERMAFROST LOG for details above 7.2 m.	
7					TUFF Dark to light grey, very fine grained, very strong to extremely strong, fresh, very thin calcite foliations at approximately 30 to 40 degrees wrt core axis, calcite healing on joints, joints parallel to foliation, joints slightly rough and planar, trace sulphide minerals and quartz	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		4			banding. Description applies from 7.2 to 126 m depth.	
9						
10		(1)				
11		5	W1			
12						
13						
14		6	W1			
15						
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

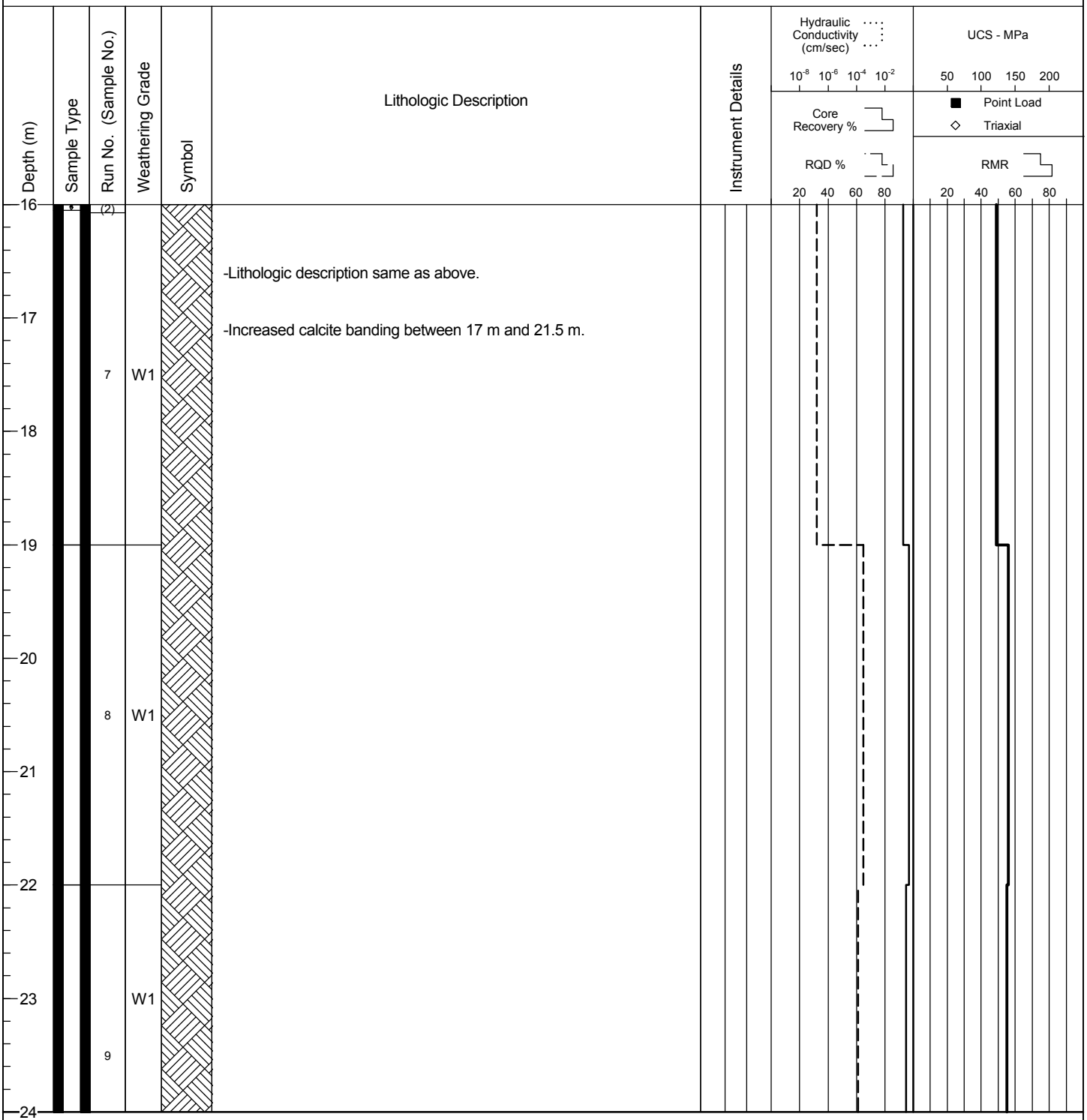
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH



(Continued on next page)

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
24			W1		-Lithologic description same as above.	
25						
26		10	W1			
27						
28						
29		11	W1			
30						
31						
32			W1			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2} / Core Recovery % / RQD % (20 40 60 80)	UCS - MPa (50 100 150 200) ■ Point Load ◇ Triaxial / RMR (20 40 60 80)
32		12	W1		-Lithologic description same as above.			
33								
34		13	W1					
35								
36								
37		14	W1					
38								
39								
40								

(Continued on next page)

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
40					-Lithologic description same as above. -Vertical fractures with 1 cm wide healed calcite fracture between 40.3 m and 40.9 m.	
41		15	W1			
42						
43						
44		16	W1			
45						
46						
47		17	W1			
48						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
48			W1		-Lithologic description same as above.
49					
50		18	W1		-Increased calcite, very thin veins, ~1 - 4mm between 50.3 m and 51.8 m.
51					
52					
53		19	W1		
54					
55					
			W1		
56					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load
◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
56						
		20	W1		-Lithologic description same as above.	
57						
58						
59		21	W1			
60						
61						
62		22	W1			
63						
64						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2} / Core Recovery % / RQD % (20 40 60 80)	UCS - MPa (50 100 150 200) ■ Point Load ◇ Triaxial / RMR (20 40 60 80)
64					-Sulphides 1% - 2%, pyrite up to 3% locally at 64.0 m.			
					-Lithologic description same as above.			
65		23	W1					
66								
67								
68		24	W1					
69								
70								
71		25	W1					
72								

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
72			W1		-Lithologic description same as above.	
73						
74		26	W1			
75						
76						
77		27	W1			
78						
79			W1			
80						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
80						
		28			-Lithologic description same as above.	
81			W1			
82					-5% of rockmass composed of calcite veins between 82.0 m and 85.0 m.	
83		29	W1			
84						
85					-Approximately 1% pyrite between 85.0 m and 88.0 m.	
86						
		30	W1			
87						
88						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
88					-Slickensides encountered between 88.0 m and 91.0 m. -Lithologic description same as above.	
89		31	W1			
90						
91						
92		32	W1			
93						
94						
95		33	W1			
96						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
96			W1		-Lithologic description same as above.
97					
98		34	W1		
99					
100					
101		35	W1		Core appears to have been broken during transportation to Core Shack.
102					
103			W1		-Slickenslides on 50% of fractures/foliation between 103.0 m and 106.0 m.
104					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load ■

Triaxial ◇

RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
104						
		36			-Lithologic description same as above.	
105			W1			
106					-Slickensides on all discontinuities and foliation between 106.0 and 115.0 m.	
107						
		37	W1			
108						
109						
110						
		38	W1			
111						
112						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
112					-Lithologic description same as above.	
113		39	W1			
114						
115						
116					-Many slickensides along foliation from 115 to 118 m.	
117		40	W1			
118						
119		41	W1			
120						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,411E, 7,474,412N
Ground Elevation (m) : 221
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 070

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 9.00

Start Date : 13 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 126.0
Depth to Top of Rock (m) : 7.2
Logged by : MJM
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
120			W1		-Lithologic description same as above.
121					
122		42	W1		
123					
124					
125		43	W1		
126					END OF BOREHOLE AT 126.0 m. 125.0 m M-Squared thermistor cable was installed in 25 mm PVC pipe in the borehole. Cable zero marker is 0.1 m ags. Outside of pipe was backfilled with 1.0 m of sand. Surface casing was backfilled with bentonite pellets. Cable connected to the data logger.
127					
128					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

BOREHOLE # BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa (40 80 120 160); △ Pocket Pen /2; ◓ Excess Ice (%); ○ Moisture Content (%) (10 20 30 40)
0				Nf		PEAT Some clay, some silt, dark brown to black			
						TUFF (Frost Affected Bedrock) Fine grained, foliated, discontinuitity surfaces not discrete. -Overburden is 80% rock, 20% soil.			
1	1 (50%)	-4				-Clay unit in frost affected bedrock, blue grey, non-plastic between 1.1 and 1.3 m.		1	○
	2 (108%)			Nbn		-Sand and gravel, trace silt, poorly graded between 1.5 and 1.6 m.		2	○
2	3 (100%)			Vc 10%		-2.5 cm band of brown silt and crushed rock at 2.4 m. -Foliated at 20 degrees wrt core axis between 2.4 m and 2.9 m.		3	○
3	4 (100%)			Vx 10%		-Highly fractured tuff with infill of well graded, frozen grey sand between 3.2 m and 3.9 m.		4	○
4						Intact Bedrock encountered at 4.4 m. -Refer to BGC06-05 ROCK LOG for details below 4.4 m.			
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-05 PERMAFROST LOG for details above 4.4 m.	
4		5	W1/2		TUFF Light grey, slight sheen, white bands, fine grained, strong rock, fresh to slightly weathered, foliation at 30 degrees to core axis, three joint sets plus random (30, 60 and 80 degrees wrt core axis), iron and calcite infill on joint surfaces, discontinuities along foliation. -Some healed calcite joints between 4.6 m and 5.5 m.	
5		6	W1/2			
6		7	W1/2		-Some calcite veining at 6.0 m. -Fragmented zone (elongated, platy) between 6.3 m and 6.6 m (most likely broken during drilling)	
7		8	W1			
8		9	W1		-Calcite vein along foliation at 7.6 m.	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W1		-Discontinuities at 8.1 m and 8.4 m.
					-Calcite vein at 30 degrees to core axis at 8.6 m.
9		10	W1		-Calcite vein at 80 degrees to core axis at 9.2 m.
					-Calcite vein at 80 degrees to core axis at 9.5 m.
10		11	W1		
11					
					-Calcite veining between 11.5 m and 13.0 m.
12		12	W1		-Healed joint at 30 and 80 degrees to core axis at 11.9 m. -Calcite veining between 12.1 m and end of borehole. -Fractures occur along quartz vein from 11.5 to 13.0 m.
13		13	W1		
14					-Calcite veining with hematite alteration between 13.0 m and 14.5 m.
15		14	W1		
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16					
		15	W1		-Lithologic description same as above.
17					
		16	W1		
18					
		17	W1		
19					
		18	W1		
20					
21					
		19	W1		-Increased drill fractures between 22.0 m and 23.5 m.
22					
			W1		
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24		20	W1		-Lithologic description same as above.
25					-Trace sulphides beginning at 25.0 m. -Disseminated pyrite in veins between 25.0 m and 26.5 m.
		21	W1		
26					
		22	W1		
27					
		23	W1		
28					
29					-Pyrite on joint surfaces between 29.5 m and 31.0 m.
		24	W1		
30					
31					
		25	W1		-Higher calcite concentration between 31.7 m and 31.8 m.
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
32			W1		
					-Lithologic description same as above.
33		26	W1		
34					-Increased drill breaks encountered between 34.0 m and 35.5 m.
		27	W1		
35					-1 cm thick band of calcite at 35.5 m.
36		28	W1		
37					
		29	W1		
38					
					-Increased drill breaks encountered between 38.5 m and 40.0 m.
39		30	W1		
40					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
40					
		31	W1		-Lithologic description same as above.
41					
		32	W1		
42					
		33	W1		
43					
		34	W1		-Calcite partings commencing at 44.5 m.
44					
		35	W1		-1 cm calcite vein at 46.55 m.
45					
					-Chlorite alteration encountered from 47.0 m to end of borehole
46			W1		
47					
48					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-05

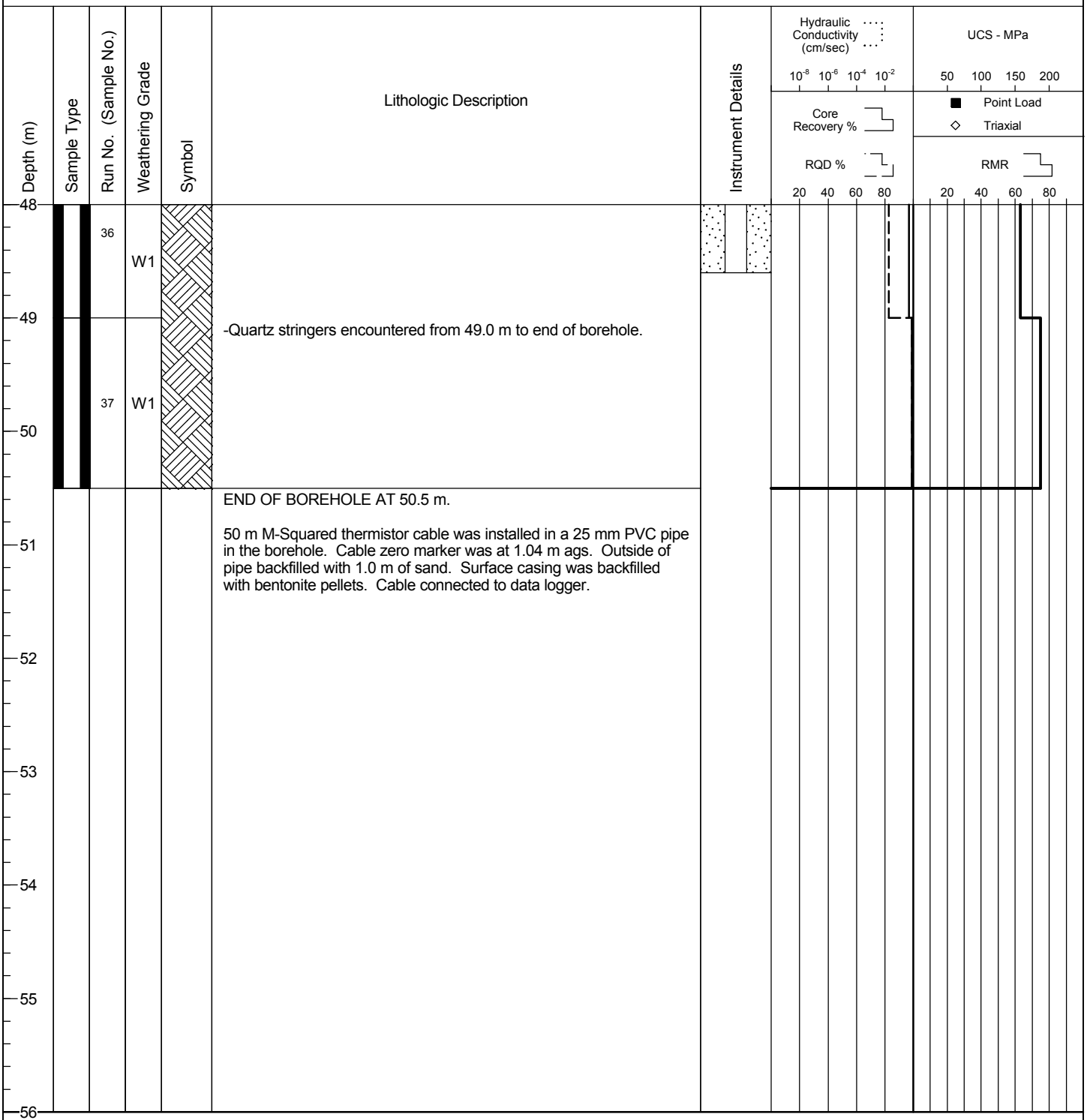
Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,159E, 7,473,977N
Ground Elevation (m) : 282
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 160

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.60

Start Date : 12 Apr 06
Finish Date: 14 Apr 06
Final Depth of Hole (m) : 50.5
Depth to Top of Rock (m) : 4.4
Logged by : MJM/JMS
Reviewed by : HHH



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0				Nf		PEAT Organic soil, with silt and sand, dark brown, non frozen.		1
	1 (97%)	-1.5				SAND Silty, some sand and gravel (max 2 cm in diameter and tuff/metavolcanic in origin), brown. Intact Bedrock encountered at 0.2 m. -Refer to BGC06-06 ROCK LOG for details below 0.2 m.		
1								
2								
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
0					-Refer to BGC06-06 PERMAFROST LOG for details above 0.2 m.
0		1	W1		TUFF Light grey, fine grained, strong to very strong rock, fresh, two joint sets plus random (30 and 65 degrees wrt core axis), foliation at 30 degrees wrt the core axis, light and dark green bands up to 2 mm thick, calcite infill on joint surfaces, joint surfaces planar, trace pyrite and iron oxide on joint surfaces, chloritic alteration.
1		2	W1		
2		3	W1		-Warm water used below 2.5 m depth. Brine mixture was used up. -Fractures occur along quartz veins from 2.5 to 4.5 m
3		4	W1		
4		5	W1		
5		6	W1		
6		7	W1		-1.5 cm calcite band at 7.25 m.
7			W1		
8					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		8	W1		-Lithologic description same as above.	
9		9	W1			
10		10				
11		11	W1			
12		12	W1			
13		13	W1			
14		14	W1			
15						
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16					
		15	W1		-Lithologic description same as above.
17					
		16	W1		
18					
		17	W1		
19					
		18	W1		
20					
		19	W1		-3 cm quartz vein at 21.8 m. -10 % to 15% broken and healed quartz stringers between 22.0 m 26.5 m -1 % to 2% pyrite along joints and disseminated within the core between 22.0 m and 27.5 m.
21					
22					
23			W1		-Chloritic alteration on outside of core but not on joint surfaces at 23.5 m.
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24		20	W1		-Lithologic description same as above.
25		21	W1		
26					
27		22	W1		-Quartz content ranges between 2% and 3% at 27.5 m
28					-Discontinuities along foliation at 30 degrees wrt core axis. -Calcite infill on joints
29		23	W1		-Sulphide content <1% between 29.0 m and 31.0 m.
30		24	W1		-10 cm broken zone along foliation between 30.4 m and 30.5 m.
31		25	W1		
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
32			W1		-10 cm broken zone along foliation between 32.2 m and 32.3 m.
33		26	W1		-Healed joint with iron oxide staining at 33.8 m.
34		27	W1		-Sulphides (1% to 2%) and discontinuities along foliation at 34.0 m.
35					-2 mm calcite vein at 35.1 m.
36		28	W1		
37		29	W1		
38					
39		30	W1		-Healed fractures at 39.4 m and 39.6 m. -3 mm calcite vein at 39.4 m. -Discontinuity at 39.6 m has 1-2 mm of calcite and iron oxide infill
40					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
40					
		31	W1		-Lithologic description same as above.
41					
		32	W1		
42					
		33	W1		-Calcite vein (2 mm wide) at 43.3 m and 44.4 m.
43					
		34	W1		
44					
		35	W1		-Iron or manganese oxides on joint surface at 46.5 m.
45					
			W1		
46					
47					
48					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,158E, 7,473,902N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 040

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.50

Start Date : 16 Apr 06
Finish Date: 17 Apr 06
Final Depth of Hole (m) : 53.5
Depth to Top of Rock (m) : 0.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
48		36	W1		-Lithologic description same as above.
49		37	W1		
50		38	W1		
51		39	W1		
52					END OF BOREHOLE AT 53.5 m.
53					50 m M-Squared thermistor cable installed in 3/4" HDPE flexible tubing in the borehole. Cable zero marker at ground surface. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to data logger.
54					
55					
56					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load
◇ Triaxial

RMR 20 40 60 80

BOREHOLE # BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,661E, 7,475,839N
Ground Elevation (m) : 276
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 1.80

Start Date : 18 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa (40 80 120 160) / Pocket Pen /2 / Excess Ice (%) / Moisture Content (%) (10 20 30 40)
0	1 (98.7%)	-2.7 to -4.7	Frozen	Vx 1-5%		PEAT Organic soil, sandy silt, some clay, some gravel, dark brown.		1	Moisture Content (%) ○
				Vs 30%		SILT (TILL) Sandy, some clay, some gravel (up to 7 mm in diameter, metavolcanic rock in origin), non plastic, dark brown, frozen. Large gravel fragments in till are metavolcanic in origin.		2	Moisture Content (%) ○
1				Vs 40%		-Stratified ice in soil at 1.0 m		3	Moisture Content (%) ○
1.4						Intact Bedrock encountered at 1.4 m. -Refer to BGC06-07 ROCK LOG for details below 1.4 m.			
2									
3									
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,661E, 7,475,839N
Ground Elevation (m) : 276
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.80

Start Date : 18 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 1.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-07 PERMAFROST LOG for details above 1.4 m.	
1						
2		2	W1		METAVOLCANICS Light greyish green to dark greyish green, very fine grained, strong to very strong rock, fresh, 3 joint sets plus random (20, 60 and 90 degrees wrt core axis), some calcite healed fractures, iron staining and calcite infilling on joint surfaces, some quartz and trace sulphides (<1% pyrite and bornite) on joint surfaces.	
3		3	W1		-Two 15 mm quartz veins, 15mm at 20 degrees to the vertical core axis at 3.6 m. -Iron oxide staining on joints between 3.7 m and 11.5 m.	
4		4	W1			
5		5	W1		-Poor core quality between 5.5 m and 7.0 m due to vertical jointing. -Very poor rock between 6.1 m and 7.0 m.	
6		6	W1			
7						
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,661E, 7,475,839N
Ground Elevation (m) : 276
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.80

Start Date : 18 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 1.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W1		
		7	W1		-Lithologic description as above.
9					
		8	W1		
10					
		9	W1		-Near vertical joint with 2mm chloritic gouge at 12.1 m.
11					
		10	W1		-2 mm to 5 mm quartz stringers between 13.5 m and 14.0 m.
12					
13					
14					
		11	W1		
15					
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,661E, 7,475,839N
Ground Elevation (m) : 276
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.80

Start Date : 18 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 1.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16					
		12	W1		-1 cm thick quartz vein at 16.3 m. -Lithologic description same as above.
17					
		13	W1		-Calcite infill on joint surfaces between 17.5 m and 22.0 m.
18					
		14	W1		
19					
		15	W1		
20					
		16	W1		- 5 mm to 20 mm quartz veins at 22.5 m, 22.8 m and 23.2 m.
21					
			W1		
22					
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,661E, 7,475,839N
Ground Elevation (m) : 276
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.80

Start Date : 18 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 1.4
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
24		17	W1		-Lithologic description same as above.	
25						
		18	W1			
26					END OF BOREHOLE AT 26.5 m. 25 m M-Squared thermistor cable was installed in 25 mm PVC pipe in borehole. Cable zero marker at ground surface. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to the data logger.	
27						
28						
29						
30						
31						
32						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

BOREHOLE # BGC06-08

Permafrost Log Page 1 **of** 1

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,718E, 7,475,786N
Ground Elevation (m) : 272
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 19 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / Pocket Pen /2 / Excess Ice (%) / Moisture Content (%) 10 20 30 40
0				Nbn		PEAT			
				Vs 20%		Silty sand, some organics (30%), trace clay, dark grey, slightly stratified.		1	
	1 (98%)	-1.3 to -2.2		Vx 3-5%		SAND (TILL) silty, some gravel, trace cobbles, trace clay (non-plastic), grey, massive, angular clasts, clasts up to 8 cm in diameter.		2	
1				V? Ice melted					
				Vs 25-30%		-Coarser material at 1.5 m depth (sand and gravel).		3	
	2 (107%)			Vs 3-5%				4	
2				Vx 20-30%		-Grades to sandy gravel, trace silt at 2.5 m.			
						-Granite clast at 3.0 m.		5	
	3 (100%)			Vx 30-35%		METAVOLCANIC ROCK (Frost Affected Bedrock) Up to 10 cm of till on joint surfaces.		6	
3						Intact Bedrock encountered at 3.6 m. -Refer to BGC06-08 ROCK LOG for details below 3.6 m.			
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-08

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,718E, 7,475,786N
Ground Elevation (m) : 272
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 19 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 3.6
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to BGC06-08 PERMAFROST LOG for details above 3.6 m.	
2						
3						
4		3			METAVOLCANIC ROCK Light greenish grey, very fine grained, foliated, strong to very strong, fresh to slightly weathered, primary joints and foliation at 25 degrees wrt core axis, calcite healing in old fractures, trace iron oxide staining on some joint surfaces. -Joint with degraded calcite at 3.8 m. -Near vertical undulating discontinuities between 4.2 and 4.7 m.	
5		4	W2			
6		5				
7		6	W2		-Relict fault zone between 6.1 and 7.0 m. Fault zone is partially calcite healed and partially infilled with crushed rock and fault gouge. Calcite infill is up to 10.0 cm thick.	
8		7	W2		-Highly broken rock (likely caused by drilling) at 7.4 m.	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,718E, 7,475,786N
Ground Elevation (m) : 272
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 19 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 3.6
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W2		-1 cm calcite healed fracture at 8.0 m. -1 cm penetrative staining into metavolcanic rock at 8.1 m. -Iron oxide staining below 8.1 m. -Pyrite and calcite on joint surfaces between 8.3 and 9.7 m.
9		8	W1		
10		9	W1		
11					-Calcite healed fracture zone at 11.3 m.
12		10	W1		
13		11	W1		
14					
15		12	W1		-Multiple fractures @ 25 degrees to core axis between 15.4 and 16.0 m.
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Polishing Pond
Co-ordinates (m) : 506,718E, 7,475,786N
Ground Elevation (m) : 272
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 19 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 3.6
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		13	W1		-Lithologic description same as above.
17					
		14	W1		-Old shear zone, calcite healed, between 17.5 and 18.2 m. -Vertical joint between 17.5 and 19.0m.
18					
19		15	W1		
20					
		16	W1		-Vertical joints with quartz infill and poor/broken rock between 20.5 and 21.3 m.
21					
		17	W1		-Very high quartz content, between 21.1 and 21.5 m. -Quartz vein at 21.3 m. -High quartz content between 21.3 and 22.0 m.
22					
		18	W1		
23					
24			W1		

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-08

Project : 2006 Site Investigation Program, High Lake, NU

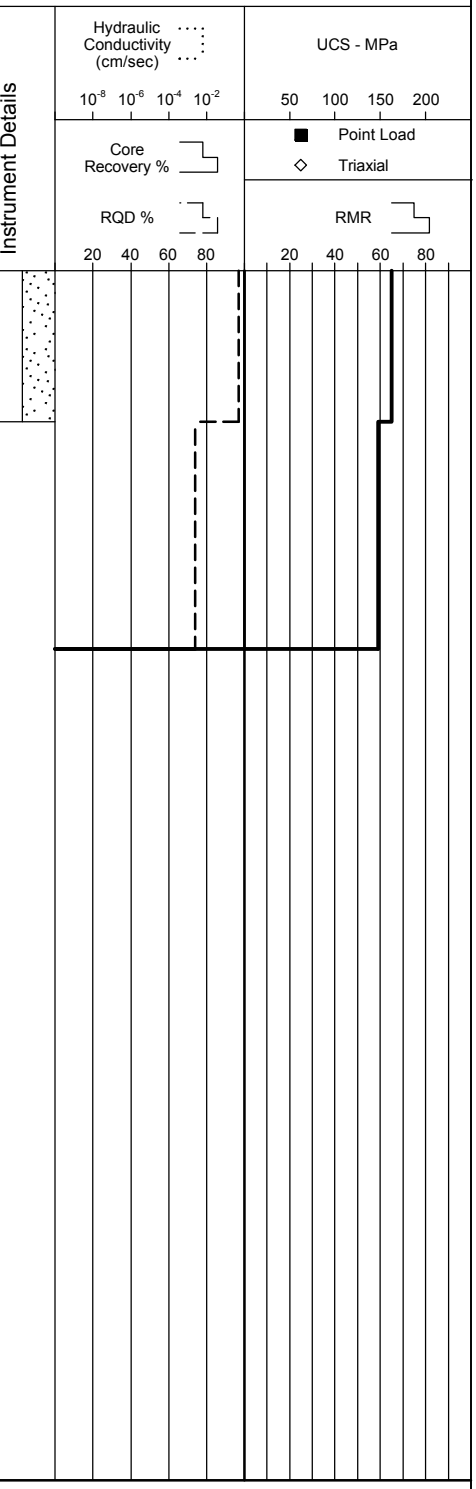
Project No. : 0385-003-15

Location : Polishing Pond
Co-ordinates (m) : 506,718E, 7,475,786N
Ground Elevation (m) : 272
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 19 Apr 06
Finish Date: 19 Apr 06
Final Depth of Hole (m) : 26.5
Depth to Top of Rock (m) : 3.6
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
24		19	W1		-Lithologic description same as above.	
25					-Core not put together properly in core box between 25.0 and 26.5 m.	
26		20	W1			
					END OF BOREHOLE AT 26.5 m. 25 m M-Squared thermistor cable installed in 25 mm PVC pipe in the borehole. Cable zero marker at ground surface. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to the data logger.	
27						
28						
29						
30						
31						
32						



BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 21 Apr 06
Finish Date: 21 Apr 06
Final Depth of Hole (m) : 50.2
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (85%)	-1.9 to -3.4	Frozen	Ve 10-40%		ORGANIC SOIL With roots/plants, ice content increases with depth (40% at rock contact).		
				Nbe		METAVOLCANIC BOULDER (TUFF) -very fine grained, light grey green. -4 mm of frozen organic infill at 0.7 m.		
1	2 (100%)			Vx 5%		SILT sandy, some gravel, trace clay, trace metavolcanic gravel, brown.		1
						METAVOLCANIC BOULDER		
2				Vs 40%		SAND Some silt and clay, trace gravel, grey.		2
	3 (100%)			Ice		ICE Some silt inclusions, trace rock fragments with ice.		3
3								
						METAVOLCANIC BOULDER		
4	4 (100%)			Vs 40%		SAND (TILL) Silty, trace gravel, greyish brown, sand content increases and ice content decreases with depth, ice inclusions up to 10 mm thick.		4
				Vs 20%				
5				Vs 20-25%				5
						GRAVEL Silty, some sand, gravel is angular and metavolcanic in origin.		
6						Intact Bedrock encountered at 5.7 m. -Refer to BGC06-09 ROCK LOG for details below 5.7 m.		
7								
8								

Su - kPa: 40, 80, 120, 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%): 10, 20, 30, 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-09 PERMAFROST LOG for details above 5.7 m.	
5.7		5	W1		BEDROCK (TUFF) Dark green, fine grained, very strong, fresh, two major joint sets at 45 and 70 degrees wrt core axis, calcite veining, chlorite alteration, joints are rough and planar. -Heavily altered, white to light green, very hard, likely relict volcanic feature at 6.3 m.	
7		6	W1			
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8			W1			
					-Lithologic description same as above.	
9		7	W1			
10		8	W1			
11						
12		9	W1			
					-Primary joint set at 35-45 degrees wrt core axis from 12.5 to 16.0 m.	
13						
14		10	W1			
15		11	W1			
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery % 20 40 60 80
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-09

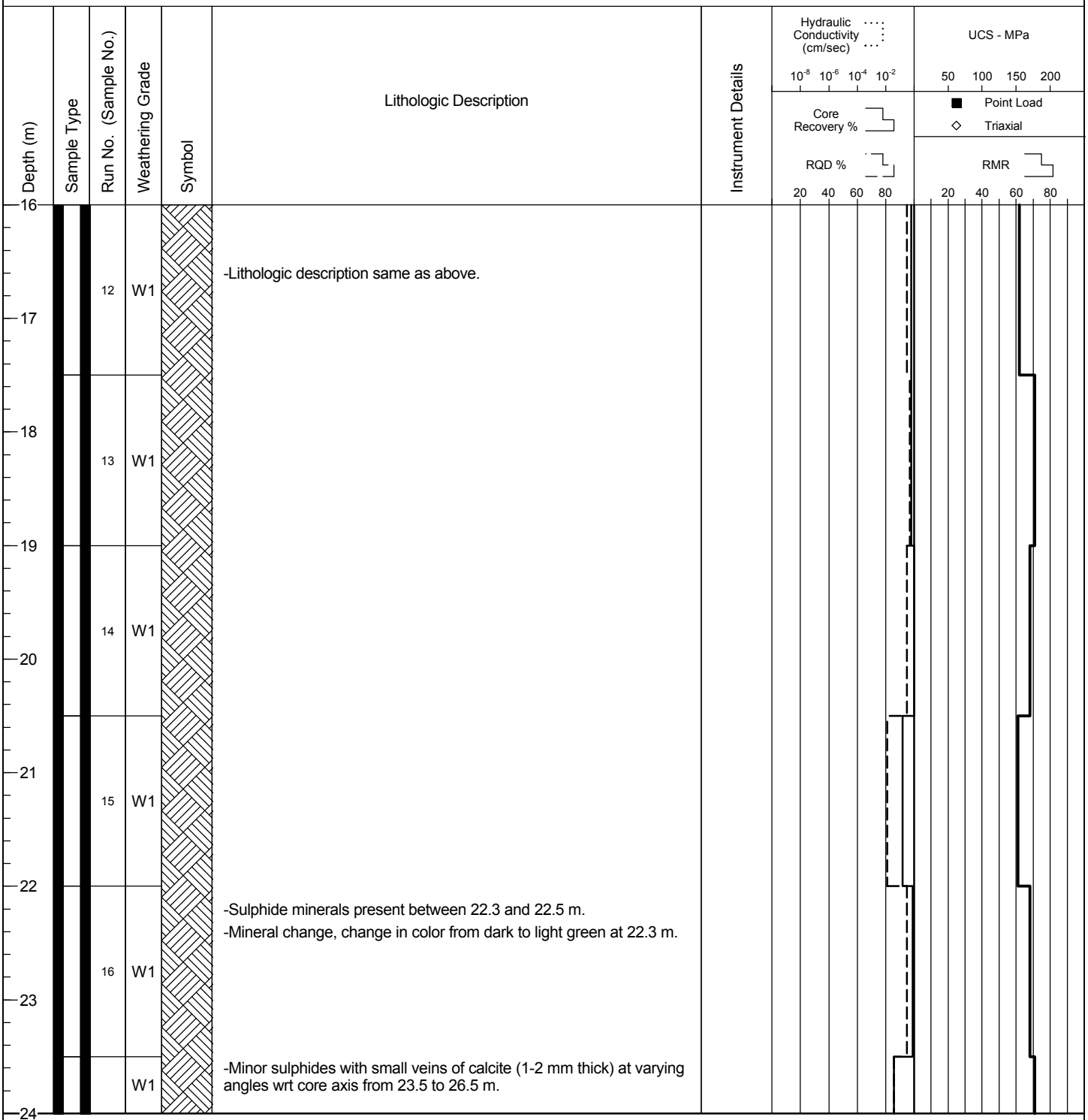
Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH



(Continued on next page)

BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
24		17	W1		-Lithologic description same as above.	
25		18	W1			
26						
27		19	W1		-Near vertical joint at 27.7 m. Vertical joint has chlorite and calcite infill on joint surface from 27.4 to 27.7 m.	
28		20	W1		-Quartz and calcite veins present from 28.5 to 32.5m.	
29						
30		21	W1			
31		22	W1			
32						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery % 20 40 60 80
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
32			W1			
					-Lithologic description same as above.	
33		23	W1			
					-Approx. 1% sulphides (pyrite/pyrrhotite) at 33.5 m.	
34		24	W1			
35						
36		25	W1			
37		26	W1			
38						
39		27	W1			
40						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
40						
		28	W1		-Lithologic description same as above.	
41						
		29	W1			
42						
		30	W1			
43						
		31	W1			
44						
		32	W1			
45						
			W1			
46						
47						
48						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,560E, 7,475,590N
Ground Elevation (m) : 279
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 220

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 21 Apr 06
Finish Date: 23 Apr 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.7
Logged by : MJM/JMS
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
48		33	W1		-Lithologic description same as above.	
49						
		34	W1			
50					END OF BOREHOLE AT 50.2 m. -Hole backfilled to surface with Portland cement.	
51						
52						
53						
54						
55						
56						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

BOREHOLE # BGC06-10

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,421E, 7,475,615N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 2.40

Start Date : 08 May 06
Finish Date: 08 May 06
Final Depth of Hole (m) : 25.1
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0				Vr 3% Vx 5%		TOPSOIL Silty, some organic material (roots), black.		
	1 (100%)	-1.0 to -3.0				SAND (TILL) Silty, gravelly (metavolcanic in origin, angular), trace clay, brown.		1
1				Nbn		METAVOLCANIC ROCK (Frost Affected Bedrock) Highly fractured bedock. -Frozen till observed at 1.4 m depth.		
	2 (68%)					-No recovery from 1.5 to 1.74 m.		
2				Vc 30%		METAVOLCANIC ROCK (Frost Affected Bedrock) Dark green, strong to very strong, foliated, quartz stringers subparallel to core axis, quartz vein at approximately 20 degrees wrt core axis. -silty sand with trace gravel till between 1.9 and 2.1 m.		2
	3 (100%)					-2 to 5 mm thick sand matrix on rock joint at 2.8 m.		3
3						-Interbed of angular gravel and equigranular sand (5 cm thick) at 3.3 m. Intact Bedrock encountered at 3.4 m. -Refer to BGC06-10 ROCK LOG for details below 3.4 m.		
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-10

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,421E, 7,475,615N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.40

Start Date : 08 May 06
Finish Date: 08 May 06
Final Depth of Hole (m) : 25.1
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-10 PERMAFROST LOG for details above 3.4 m.	
4		4	W1		METAVOLCANIC ROCK Dark green, medium strong to strong, fresh to slightly weathered, four major joint sets at 55, 10, 65, 80 degrees wrt core axis, quartz veins/veinlets up to 1 cm wide, minor oxidation on outside of core, quartz and calcite infill on joint surfaces.	
5		5	W1		-Quartz and calcite veins at approx. 10 to 15 degrees wrt core axis at 4.5 m. -Microfolds visible between 4.5 and 6.0 m. -Quartz fold (1 cm wide) at 20 degrees wrt core axis at 5.1 m.	
6		6	W1/W2		-Quartz veinlets 10 degrees and 30 degrees wrt core axis from 6.0 to 6.8 m.	
7					-Quartz veins up to 0.5 cm wide oriented at 20 degrees wrt core axis below 6.8 m.	
8			W2		-Fractured angular metavolcanic fragments approx. 1 - 3 cm in diameter from 7.5 to 7.6 m. -Fracturing between 10 and 20 degrees along calcite infilling at 7.56	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-10

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,421E, 7,475,615N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 2.40

Start Date : 08 May 06
Finish Date: 08 May 06
Final Depth of Hole (m) : 25.1
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		7	W2		m.	
9		(1) 8	W2		-Quartz veining up to 0.5 cm wide approximately 20 degrees wrt core axis and rock fractures at 10 degrees from core axis along calcite planes of weakness at 8.8 m. -Yellowish weathering / oxidation from 8.8 to 9.3 m (possibly limonite).	
10		9	W1/W2		-Quartz veinlets at 15 degrees wrt core axis between 9.7 and 11.3 m. -Quartz vein (3 cm wide) with pyrite at 10.2 m.	
11						
12		10	W1/W2		-Quartz veinlets at 10 degrees wrt core axis from 11.3 to 12.9 m. -Fractured zone (angular fragments 1 to 5 cm in diameter) between 12.3 and 12.5m.	
13		(2) 11	W1		-Quartz veinlets at 20 degrees wrt core axis between 12.9 and 14.3 m. -Quartz vein (1 cm wide) 20 degrees from core axis at 13.0 m.	
14						
15		12	W1		-Quartz stringers and veins between 14.3 and 15.9 m.	
16			W1		-Quartz vein (1 cm wide) at 10 degrees wrt core axis at 15.4 m.	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-10

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,421E, 7,475,615N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 2.40

Start Date : 08 May 06
Finish Date: 08 May 06
Final Depth of Hole (m) : 25.1
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16						
		13	W1		-Quartz veinlets at 10 and 30 degrees wrt core axis between 15.9 and 17.5 m.	
17						
		14	W1		-Quartz veinlets approximately 12 degree wrt core axis from 17.5 to 19.1 m.	
18						
		15	W1		-Quartz veining up to 2 cm wide at 16 to 20 degrees wrt core axis between 19.1 and 20.7 m.	
19						
20						
		16	W1		-Quartz veinlets at 10 degrees wrt core axis between 20.7 and 22.3 m. Rose quartz on fracture surfaces and quartz veins up to 2 cm wide at 20.7 m.	
21						
22		(3)				
		17	W1		-Quartz veinlets at 45 to 60 degrees wrt core axis between 22.3 and 23.9 m.	
23					-Vertical fractures between 23.0 and 23.5 m.	
24						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-10

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,421E, 7,475,615N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 2.40

Start Date : 08 May 06
Finish Date: 08 May 06
Final Depth of Hole (m) : 25.1
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
24		(4)			-Rose quartz with brecciated rock, 10.5 -15 cm diameter clasts at 24.0 m. -Chalcopyrite on joint surface at 24.2 m.	
		18	W1			
25		(5)			END OF BOREHOLE AT 25.1 m. -Hole backfilled to surface with Portland cement.	
26						
27						
28						
29						
30						
31						
32						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BOREHOLE # BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 0.90

Start Date : 09 May 06
Finish Date: 09 May 06
Final Depth of Hole (m) : 50.3
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (100%)	-1.6 to -1.8		Vc 30-50%		ORGANIC SOIL		1
						SAND (TILL) Silty, some gravel, trace clay, fine to coarse grained, well graded, light to medium brown.		2
1						METAVOLCANIC ROCK (Frost Affected Bedrock) Light greenish grey, strong to very strong rock, quartz veining. -5 cm sand till joint infill, dark brown, grading to a silty sand, medium brown, saturated at 0.4 m.		
						Intact Bedrock encountered at 0.6 m. -Refer to BGC06-11 ROCK LOG for details below 0.6 m.		
2								
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-11

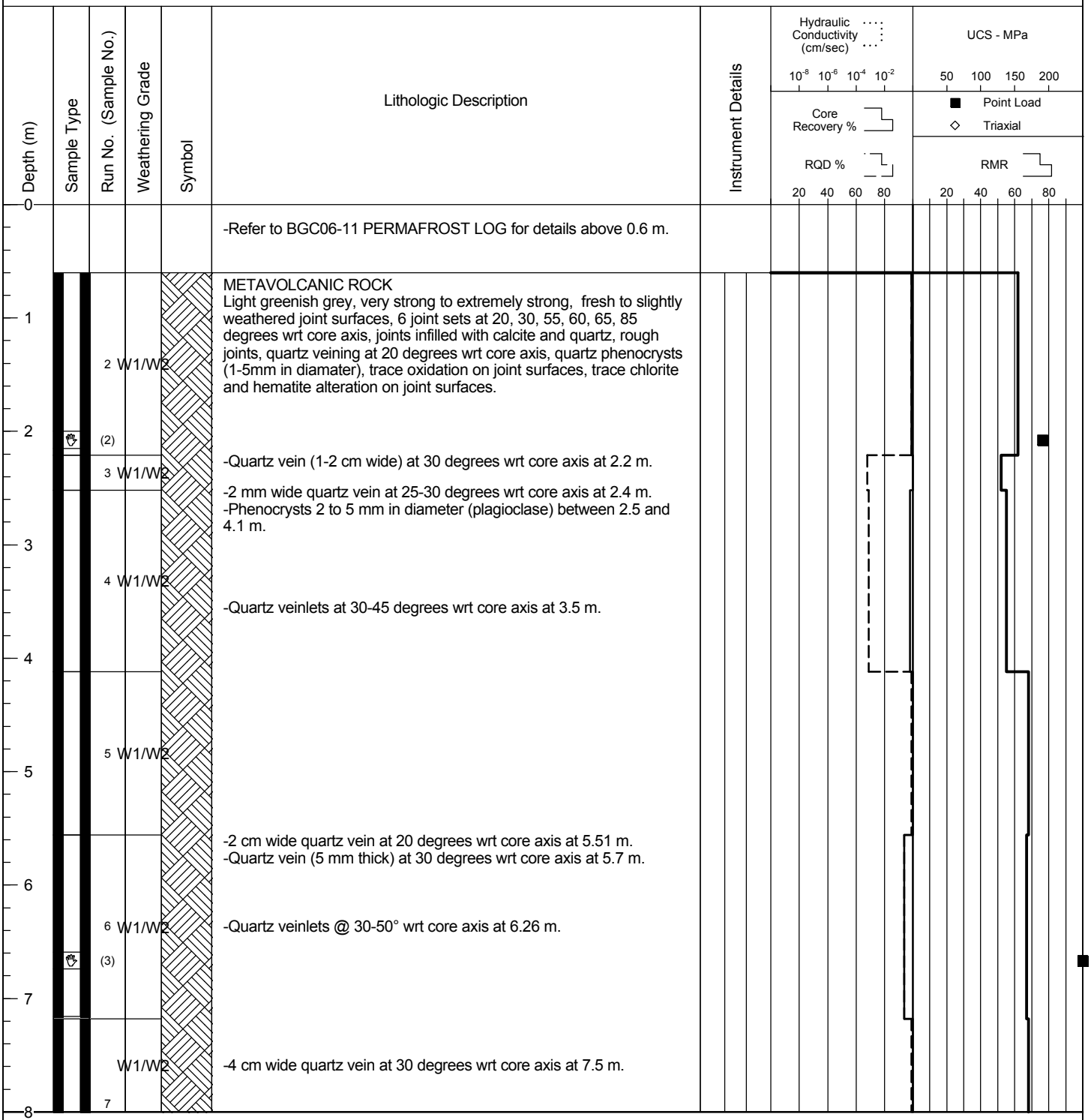
Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 0.90

Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH



(Continued on next page)

BOREHOLE # BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.90

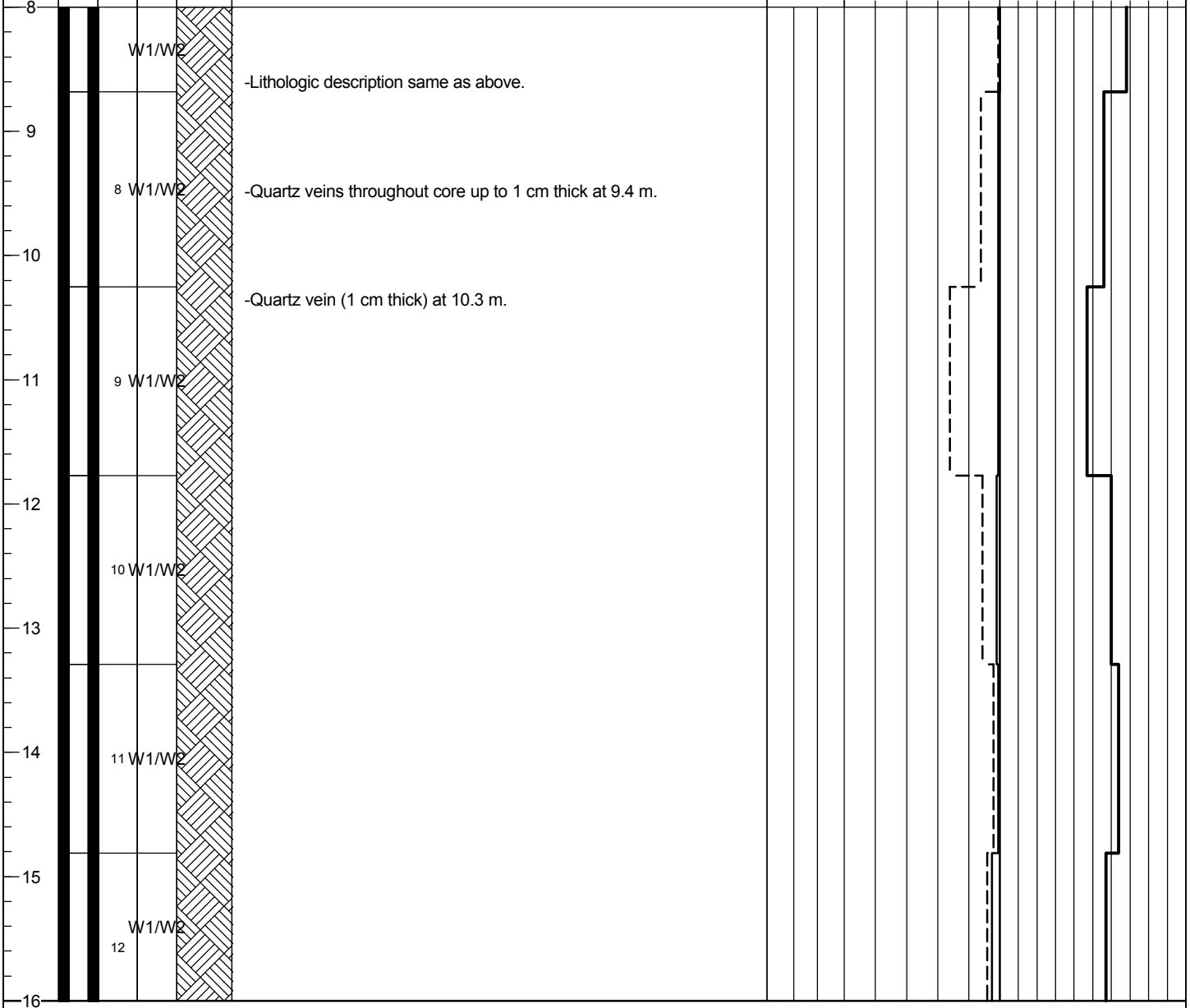
Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W1/W2		-Lithologic description same as above.
9		8	W1/W2		-Quartz veins throughout core up to 1 cm thick at 9.4 m.
10					-Quartz vein (1 cm thick) at 10.3 m.
11		9	W1/W2		
12		10	W1/W2		
13					
14		11	W1/W2		
15					
16		12	W1/W2		

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80



(Continued on next page)

BOREHOLE # BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.90

Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16			W1/W2		
					-Lithologic description same as above.
17		13	W1/W2		
18		14	W2/W3		
		(4)			-Fractured zone (5 - 10 cm wide) at 18.7 m (possible fault zone).
19		15	W2/W3		
20					
		16	W1/W2		
21					
		17	W2		
22					
23		18	W1/W2		
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.90

Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24					-Oxidation of joint surfaces between 23.9 and 25.4 m.
		19	W1/W2		-Lithologic description same as above.
25					
26		20 (5)	W1/W2		-Hematite alteration at 26.1 m.
27		21	W1/W2		
28					
29		22	W2 W1/W2		
30		23			
31			W1/W2		
32		24			

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.90

Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
32			W1/W2			
		25	W1/W2		-Lithologic description same as above.	
33						
		26	W1/W2			
34						
		27	W1/W2			
35						
		28	W1/W2			
36						
		29	W1/W2			
37						
		30	W1/W2			
38		31	W1/W2			
39						
		32	W1/W2			
40						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.90

Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
40		33	W1/W2		-Lithologic description same as above.	
41		34	W1/W2			
42		35	W1/W2			
43		36	W1/W2			
44						
45		37	W1/W2			
46		38	W1			
47			W1			
48						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,505E, 7,475,567N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 0.90

Start Date : 09 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 0.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
48		39 (6)	W1		-Lithologic description same as above.	
49		40	W1			
50					END OF BOREHOLE AT 50.3 m. 50 m M-Squared thermistor cable installed in 25mm PVC in the borehole. Cable zero marker at 0.25 m bgs. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to data logger.	
51						
52						
53						
54						
55						
56						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BOREHOLE # BGC06-12

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,521E, 7,475,570N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 10 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 7.5
Logged by : EN
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (65%)	-0.8 to -1.8		Vc 15% (For 3 cm section @ 0.3 m)		ORGANIC SOIL Roots.		1
						COBBLES Gravelly, some silt (frozen till), some boulders. Cobbles and gravel are angular to subangular, metavolcanic and granite in origin, silt is brown. Boulder fragments range from 0.03 to 0.7 m in diameter.		
1	2 (55%)			Vc 20% (In frozen sections)				2
	3 (100%)			Vc 30% (Till on joint surfaces)		METAVOLCANIC ROCK (Frost Affected Bedrock) With gravel and sand, trace silt on joint surfaces, joint separation is approx 3 to 6 cm.		
2						Intact Bedrock encountered at 2.1 m. -Refer to BGC06-12 ROCK LOG for details below 2.1 m.		3
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-12

Project : 2006 Site Investigation Program, High Lake, NU

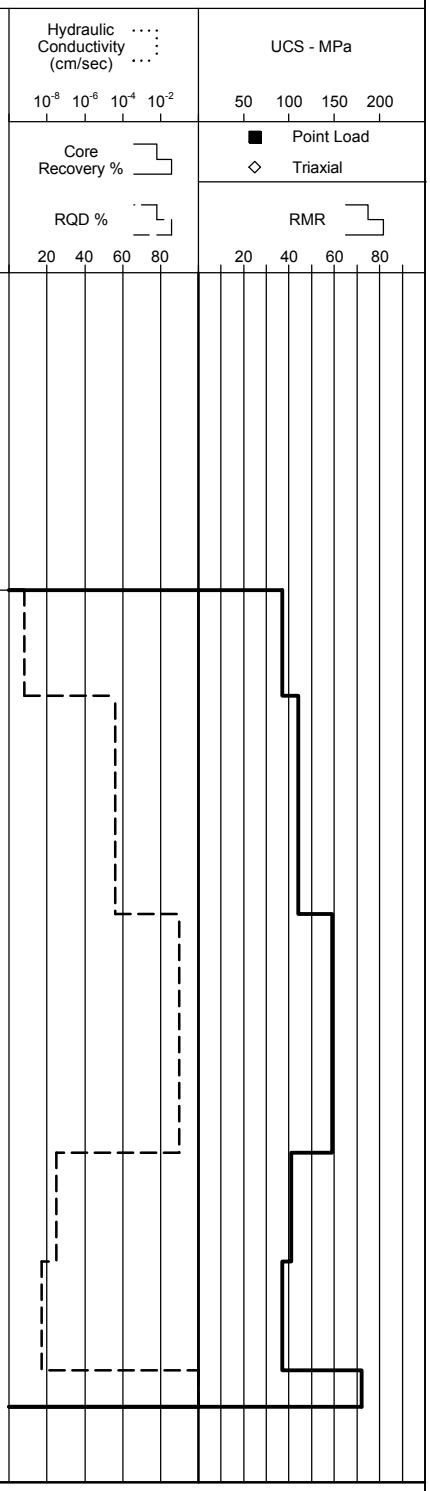
Project No. : 0385-003-15

Location : Northeast Dam
Co-ordinates (m) : 506,521E, 7,475,570N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 10 May 06
Finish Date: 10 May 06
Final Depth of Hole (m) : 7.5
Depth to Top of Rock (m) : 2.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to BGC06-12 PERMAFROST LOG for details above 2.1 m.	
2						
		3	W2		METAVOLCANIC ROCK Dark green, strong, fresh to slightly weathered, 3 joint sets (20, 60 and 80 degrees wrt core axis), joint sets are typically planar and rough, calcite and quartz infill on joint surfaces, quartz veining (generally less than 3 cm wide).	
3						
		4	W1/W2			
4						
		5	W1/W2			
5						
		6	W1/W2			
6						
		7	W1/W2			
7						
		8	W1			
					END OF BOREHOLE AT 7.5 m. -Hole backfilled to surface with Portland Cement.	
8						



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-13

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / △ Pocket Pen /2 / ◓ Excess Ice (%) / ○ Moisture Content (%) 10 20 30 40
0	1 (17%)	-0.3 to -1.0	Frozen	Nf		ORGANIC SOIL Black to medium brown.			
	2 (23%)					METAVOLCANIC ROCK (Frost Affected Bedrock) Dark greyish green, strong, angular to subangular fragments, joints infilled with 1 to 2 cm silty sand, trace clay, trace gravel, medium brown. Note: Infill on joints was not recovered in frozen state due to drilling with warm brine.			
	3 (20%)					-Rock fragments from 0.5 - 5 cm in diameter at 1.0 m depth.			
1	4 (46%)			Vx 5%		-Silty sand till encountered on joint surfaces between 1.1 and 3.4 m.		1	○
	5 (53%)								
2	6 (119%)								
3	7 (136%)					-Drillers had problems with casing/coring from 3.2 to 3.4 m, resulting in re-drilling of some material and greater than 100% recovery. Material was heavily disturbed due to drilling.			
						Intact Bedrock encountered at 3.4 m. -Refer to BGC06-13 ROCK LOG for details below 3.4 m.			
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-13

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-13 PERMAFROST LOG for details above 3.4 m.	
3.4		8	W1/W2		METAVOLCANIC ROCK Dark greyish green, very strong, fresh to slightly weathered, four joint sets plus random (10, 40, 60 and 80 degrees wrt core axis), joint sets are rough and planar, calcite and quartz infill on joint surfaces, hematite alteration. -Some quartz and hematite alteration between 3.5 and 5.0 m.	
5		9	W1/W2			
6		10	W1/W2			
7			W1/W2			
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8		11	W1/W2		-Lithologic description same as above.
9		12	W1/W2		
10		13	W1/W2		
11		14	W1/W2		
12		15	W1/W2		
13					-Hematite alteration between 13.2 and 14.8 m.
14		16	W1/W2		
15		17	W1/W2		-Trace pyrite on joint surfaces between 14.8 and 15.4 m.
16		18	W1/W2		

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-13

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16			W1/W2		
					-Lithologic description same as above.
17		19	W1/W2		
18		20	W1/W2		
19					-Fractures sub-parallel to core axis between 19.4 and 20.8 m.
20		21	W1/W2		
21					-Pyrite on joint surfaces between 20.8 and 22.4 m.
22		22	W1/W2		
23		23	W1/W2		
24			W1/W2		

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24		24	W1/W2		-Lithologic description same as above.
25					-Rose quartz veining between 25.3 and 26.8 m.
26		25	W1		
27		26	W1/W2		
28					
29		27	W1		
30		28	W1		
31			W1		
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-13

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
32		29	W1		-Lithologic description same as above.
33		30	W1/W2		
34					
35		31	W1		
36		32	W1		-Trace sulphides at 35.9 m.
37					
38		33	W1		
39		34	W1		
40					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-13

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
40			W1		
		35	W1		-Lithologic description same as above.
41					
		36	W1		
42					
		37	W1		
43					
		38	W1		-Minor chlorite alteration at 44.9m.
44					
		39	W1		
45					
46					
47					
48					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-13

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Dam
Co-ordinates (m) : 506,384E, 7,475,325N
Ground Elevation (m) : 286
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 305

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 1.20

Start Date : 11 May 06
Finish Date: 11 May 06
Final Depth of Hole (m) : 50.3
Depth to Top of Rock (m) : 3.4
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
48						
		40	W1		-Lithologic description same as above.	
49						
		41	W1			
50					END OF BOREHOLE AT 50.3 m. 50 m M-Squared thermistor cable installed in 25 mm PVC pipe in borehole. Cable zero marker at the ground surface. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to data logger.	
51						
52						
53						
54						
55						
56						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

DRILL HOLE # BGC06-14

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Toe Dike (D2)
Co-ordinates (m) : 506,471E, 7,474,502N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Majors Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 11.79

Start Date : 12 May 06
Finish Date: 13 May 06
Final Depth of Hole (m) : 12.8
Depth to Top of Rock (m) : 12.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa (40, 80, 120, 160); VANE FIELD LAB: PEAK ◆ ■, REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); Atterberg Limits, Moisture Content & SPT N: W_P% × — W% ○ — W_L% × (20, 40, 60, 80)
0					ICE			
1.8					WATER			
8								

(Continued on next page)

DRILL HOLE # BGC06-14

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Toe Dike (D2)
Co-ordinates (m) : 506,471E, 7,474,502N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Majors Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 11.79

Start Date : 12 May 06
Finish Date: 13 May 06
Final Depth of Hole (m) : 12.8
Depth to Top of Rock (m) : 12.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
8							
9							
		1			SILT (ML) Some clay, trace sand, low plasticity, very soft, medium brown, saturated. -Lake bottom sediment was sampled unsuccessfully with a shelby tube (ie. no recovery) -Thickness of lake bottom sediment was determined when setting the HW casing.		
10							
11					TILL Gravelly, clasts are meta volcanic (pyrite mineralization with minor hematite staining) and granitic in origin, up to 4 cm in diameter. -Hole sloughed between 10.6 and 12.1 m when drill rods were pulled up.		
12					The driller indicated that drilling was hard when drilling through the cobbles and then soft when drilling through the till matrix between 12.3 m and 12.8 m. The matrix of the till was most likely washed away during coring and was not observed.		
13					Bedrock encountered at 12.80 m depth. -Refer to BGC06-14 (ROCK LOG) for details below 12.8 m.		
14							
15							
16							

Su - kPa
40 80 120 160
VANE FIELD LAB ▲ UC/2
PEAK ◆ ■
REMOLD ◇ □ △ Pocket Pen /2
★ % Fines ● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-14

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Toe Dike (D2)
Co-ordinates (m) : 506,471E, 7,474,502N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 13.60

Start Date : 12 May 06
Finish Date: 13 May 06
Final Depth of Hole (m) : 18.0
Depth to Top of Rock (m) : 12.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8					-Refer to BGC06-14 OVERBUDEN LOG for details above 12.8 m.	
13					METAVOLCANIC BEDROCK (FAB) Dark gey, medium strong to strong rock, fresh, three joint sets plus random, joints oriented at 10, 20 and 70 degrees to core axis, quartz phenocrysts up to 5 cm in diameter, weathered feldspar, calcite infill on joint surfaces, very broken.	
14		1	W1			
		2	W1		-Blocky between 14.1 m and 15 m.	
		3	W1			
15		4a				
		4	W1		FELSIC METAVOLCANIC BEDROCK Light grey, medium strong to strong rock, fresh, three joint sets plus random, quartz veinlets, calcite infill on joint surfaces (with minor chloritic alteration), healed calcite veinlets.	
16			W1		-Fracture zone between 15.1 m and 15.2 m	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-14

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Toe Dike (D2)
Co-ordinates (m) : 506,471E, 7,474,502N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 13.60

Start Date : 12 May 06
Finish Date: 13 May 06
Final Depth of Hole (m) : 18.0
Depth to Top of Rock (m) : 12.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		5	W1		-Joints oriented 12, 42, 58, 68 and 80 degrees from core axis between 15.1 m and 15.7 m. -Joints oriented 8, 30, 46 and 70 degrees from the core axis between 15.7 m and 16.3 m. -Feldspar phenocrysts (0.5cm in diameter) between 16.1 m and 16.2 m. -Joints oriented 46, 56 and 62 degrees from the core axis between 16.3 m and 17.2m. -Joints oriented 25, 46, 60 and 74 degrees from the core axis between 17.2 m and 18 m.
17		6	W1		
		7	W1		METAVOLCANIC BEDROCK Dark gey, medium strong to strong rock, fresh, two joint sets plus random, quartz phenocrysts up to 1.5 cm to 2 cm in diameter, quartz infill on joint surfaces, quartz veinlets.
18					END OF BOREHOLE AT 18.0 m.
19					
20					
21					
22					
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load
◇ Triaxial

RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-15

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (62%)	-0.7 to -1.3		Nf Vr 30%		ORGANIC SOIL Dark brown to black, frozen.		
						SAND (TILL) Some silt, some gravel (fine grained), trace roots, medium brown, frozen.		
1						METAVOLCANIC ROCK (Frost Affected Bedrock) Angular fragments up to 3 cm in diameter, with medium brown till on joints from 0.1 to 0.8 m depth, till is silty, sand, with some fine grained gravel.		1
	2 (95%)					Intact Bedrock encountered at 0.8 m. -Refer to BGC06-15 ROCK LOG for details below 0.8 m.		
2								
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-15

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-15 PERMAFROST LOG for details above 0.8 m.	
1		2	W1		METAVOLCANIC ROCK Dark greyish green, strong to extremely strong, fresh to slightly weathered, 4 joint sets plus random (30, 40, 50 and 60 degrees wrt core axis), moderately jointed, calcite and quartz infill on joint surfaces, quartz veinlets, chlorite alteration, quartz and feldspar phenocrysts.	
2		3	W1			
3		4	W1		-Minor oxidation on joint surface at 3.3 m.	
4						
5		5	W1		-5 mm of decomposed rock (soil-like) at 4.9 m.	
6		6	W1		-Silt infill with some clay (approx. 5 mm) at 5.7 m. -Minor hematite alteration on joints at 6.3 m.	
7		7	W1		-Minor hematite alteration on joint surfaces between 6.6 and 7.7 m.	
8			W1			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8		8	W1		
		9	W1		-Lithologic description same as above.
9		10	W1		
10		11	W1		-Fractured mafic zone
		12	W1		
11		13	W1		
12		14	W1		
13		15	W1		
		16	W1		-Fractured mafic zone.
14		17	W1/W2		
15			W1		
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		18	W1		-Lithologic description same as above.
17		19	W1		
18		20	W1		-Fractured mafic zone.
19		21	W1		
20		22	W1		
21		23	W1		
22		24	W1		
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-15

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24			W1		-Lithologic description same as above.
					-Trace sulphides on joint surfaces from 24.4 to 25.9 m.
25		25	W1		
26		26	W1		
27		27	W1/W2		
28		28	W1		-Fractured mafic zone.
29		29	W1		
30		30	W1		
31			W1/W2		-Fractured mafic zone.
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-15

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
32		31	W1/W2		-Lithologic description same as above.
33		32	W1/W2		-Fractured rock (angular fragments from 1 to 6 cm in diameter) between 33.3 and 33.9 m. -Trace quartz veining and sulphides in more competent zone at 33.7 m. -Rock decomposed to soil with visible slickensides at 33.8 m. -Hematite alteration between 33.9 and 35.5 m.
34		33	W2		
35		34	W1		
36		35	W1		
37		36	W1		-Hematite alteration on joints between 38.7 and 40.3 m.
38					
39					
40					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-15

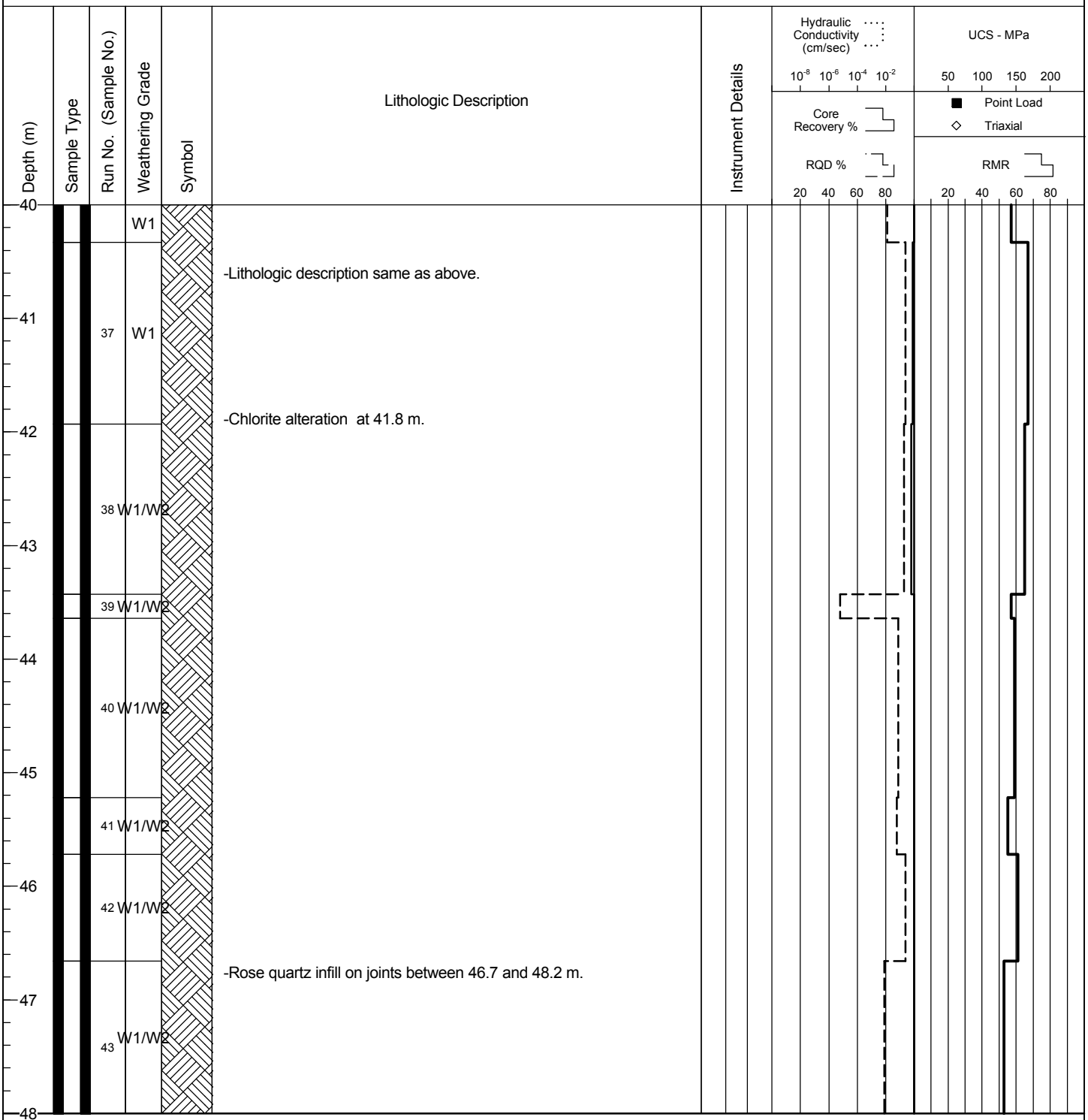
Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH



(Continued on next page)

BOREHOLE # BGC06-15

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,236E, 7,475,116N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 045

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 0.98

Start Date : 14 May 06
Finish Date: 14 May 06
Final Depth of Hole (m) : 51.3
Depth to Top of Rock (m) : 0.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
48			W1/W2		
					-Lithologic description same as above.
49		44	W1/W2		
					-Crushed rock fragments (less than 3 cm in diameter) coated in silty clay between 49.7 and 50.0 m. -Possible fault zone at 49.7 m..
50					
		45	W2		
51					
					END OF BOREHOLE AT 51.3 m. 50 m M-Squared thermistor cable installed in 25 mm PVC pipe in borehole. Cable zero marker at 0.4 m above ground. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to the data logger.
52					
53					
54					
55					
56					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-16

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,250E, 7,475,144N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 17 May 06
Finish Date: 17 May 06
Final Depth of Hole (m) : 11.7
Logged by : EN
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / △ Pocket Pen /2 / ◓ Excess Ice (%) / ○ Moisture Content (%) 10 20 30 40
0				Vc 15%		ORGANIC SOIL Dark brown, roots, frozen.		1	>>○
	1 (50%)	-1.4 to -1.7		Vc 10% (till on joint surfaces)		METAVOLCANIC ROCK (Frost Affected Bedrock) Dark greyish green, medium strong, chloritic alteration, angular fragments up to 4 cm in diameter, frozen silty sand till on joint surfaces, medium brown.			
1								2	○
	2 (99%)								
2									
3						Intact Bedrock encountered at 2.7 m. -Refer to BGC06-16 ROCK LOG for details below 2.7 m.			
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-16

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,250E, 7,475,144N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 17 May 06
Finish Date: 17 May 06
Final Depth of Hole (m) : 11.7
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to BGC06-16 PERMAFROST LOG for details above 2.7 m.	
2						
3		3	W1/W2		METAVOLCANIC ROCK Dark green, very strong to extremely strong, fresh to slightly weathered, 3 joint sets plus random (10, 70 and 80 degrees wrt core axis), joint sets are typically planar and rough, calcite and quartz infill on joint surfaces, chloritic alteration, minor hematite staining.	
4		4	W1/W2		-Fractured zone (angular and 1 to 6 cm in diameter) from 3.7 to 4.1 m.	
		5	W1/W2		-Fractured rock (angular, up to 13 cm in diameter) from 4.2 to 4.7 m.	
5		6	W1/W2		-Fractured rock from 5.4 to 5.7 m.	
6		7	W1/W2		-Fractured rock 6.1 to 6.2 m. Calcite on some joint surfaces between 6.2 and 7.4 m.	
7		8	W1/W2			
		9	W1/W2			
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-16

Project : 2006 Site Investigation Program, High Lake, NU

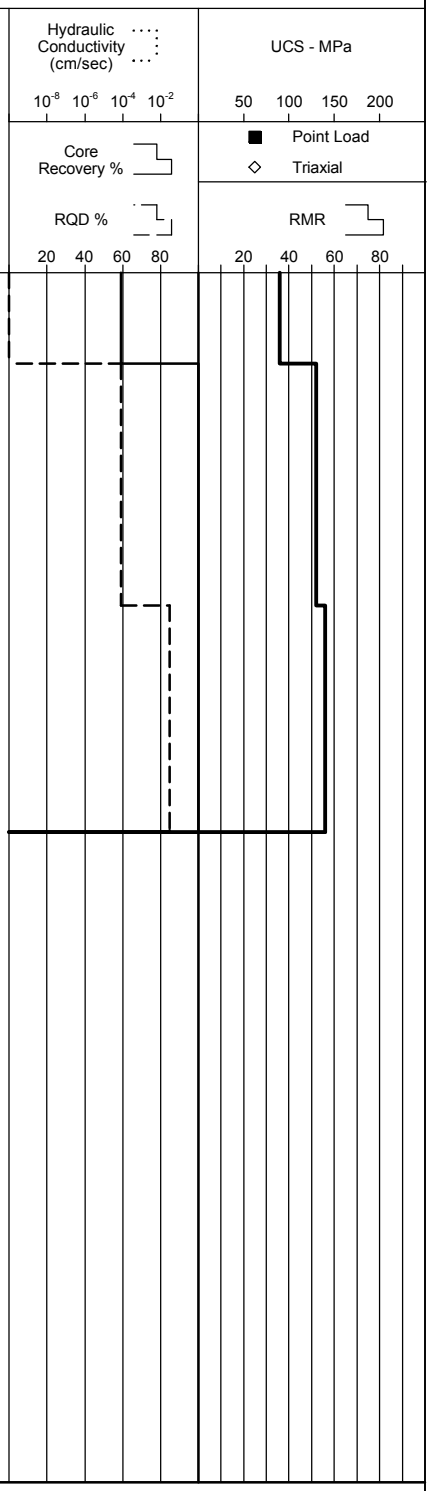
Project No. : 0385-003-15

Location : Northwest Channel Dam
Co-ordinates (m) : 506,250E, 7,475,144N
Ground Elevation (m) : 285
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 17 May 06
Finish Date: 17 May 06
Final Depth of Hole (m) : 11.7
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		10	W1		-Hole sloughed between 8.0 and 8.2 m.	
9		11	W1		-Trace pyrite and chalcopyrite on joint surfaces between 8.6 and 10.2 m. -Quartz and feldspar phenocrysts up to 0.50 cm between 8.6 and 10.2 m. .	
10					-Minor chlorite alteration on joint surfaces between 10.2 and 11.7 m.	
11		12	W1/W2			
12					END OF BOREHOLE AT 11.7 m. -Hole backfilled to surface with Portland Cement.	
13						
14						
15						
16						



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-17

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / △ Pocket Pen /2 / ◓ Excess Ice (%) / ○ Moisture Content (%) 10 20 30 40
0	1 (83%)	-2.8 to -2.9				GRANODIORITE (Frost Affected Bedrock) Dark grey, mottled, frozen silty sand, some gravel till on joint surfaces.			
1				Vx 10%				1	○
	2 (100%)			Vx 25% (till, including joint surfaces)		-Frozen gravelly, sandy silt till observed between 1.5 and 2.2 m.		2	○
2									
3						Intact Bedrock encountered at 2.7 m. -Refer to BGC06-17 ROCK LOG for details below 2.7 m.			
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-17

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to BGC06-17 PERMAFROST LOG for details above 2.7 m.	
2						
3		3	W1		GRANODIORITE Dark grey, mottled, coarse grained, very strong to extremely strong, fresh to slightly weathered, 4 joint sets plus random (40, 45, 50 and 60 degrees wrt core axis), joints are typically planar and rough, calcite and quartz infill on joint surfaces, quartz veinlets, hematite alteration.	
4		4	W1			
5		5	W1		-Trace pyrite from 4.9 to 5.9 m.	
6		6	W1		-Minor calcite and hematite on joints from 5.9 to 7.4 m.	
7			W1		-Calcite on joint surfaces from 7.4 to 8.9 m.	
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-17

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8		7	W1		-Lithologic description same as above.
9		8	W1/W2		-Minor calcite and quartz on some joints between 8.9 and 10.4 m.
10					
11		9	W1		-Trace pyrite and hematite alteration on joints between 10.4 and 11.9 m.
12		10	W1/W2		-Trace pyrite between 11.9 and 13.4 m.
13					
14		11	W1		-5 cm quartz vein at 14.2 m.
15		12	W1		-Trace pyrite on joint surfaces between 14.9 and 16.5 .
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16			W1		
					-Lithologic description same as above.
17		13	W1		
18					-Chlorite on joint surfaces between 17.9 and 19.4 m.
		14	W1/W2		
19					
20		15	W1/W2		
21					
		16	W1		
22					
					-Trace pyrite and minor epidote alteration on some joint surfaces and calcite veinlets between 22.4 and 23.9 m.
23		17	W1/W2		
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24		18	W2		-Lithologic description same as above.
25					
26		19 (1)	W2		-Hematite alteration from 25.4 to 26.9 m
27		20	W1/W2		
28					
29		21	W1/W2		-Trace pyrite in quartz vein at 29.2 m.
30		22	W1/W2		
31			W1/W2		-Trace pyrite on joint surfaces and minor chlorite alteration between 31.4 and 32.9 m.
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

(Continued on next page)

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
32		23	W1/W2		-Lithologic description same as above.
33		24	W1		-Epidote alteration and trace sulphides on joint surfaces between 32.9 and 34.4 m.
34					
35		25	W1		-Epidote alteration and trace pyrite on fracture surfaces between 34.4 and 35.9 m.
36		26	W1/W2		
37					
38		27	W1/W2		
39		28	W1		
40					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-17

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
40			W1		-Lithologic description same as above.
41		29	W1		
42		30	W1		
43		31	W1		
44		32	W1/W2		
45					
46		33	W1		
47		34	W1		
48					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-17

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,344E, 7,475,428N
Ground Elevation (m) : 298
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 010

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 3.20

Start Date : 17 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 2.7
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
48			W1			
					-Trace chalcopyrite between 48.5 and 50.0 m.	
49		35	W1			
		(2)				
50					END OF BOREHOLE AT 50.0 m. 50 m M-Squared thermistor cable installed in 25 mm PVC pipe in the borehole. Cable zero marker at 0.1 m above the ground surface. Outside of pipe backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to data logger.	
51						
52						
53						
54						
55						
56						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BOREHOLE # BGC06-18

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,346E, 7,475,473N
Ground Elevation (m) : 299
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 18 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 8.8
Logged by : EN
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / △ Pocket Pen /2 / ◓ Excess Ice (%) / ○ Moisture Content (%) 10 20 30 40
0	1 (100%)	-1.8 to -2.4		Vs 30% Vx 10-15%		GRANODIORITE ROCK (Frost Affected Bedrock) Dark green, fine to coarse grained, weathered, moderately jointed, silty sand till on joint surfaces. -Frozen till encountered on the joint surfaces between 0.7 and 1.3 m		1	○
1									
2	2 (100%)					Intact Bedrock encountered at 2.4 m. -Refer to BGC06-18 ROCK LOG for details below 2.4 m.			
3									
4									
5									
6									
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-18

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,346E, 7,475,473N
Ground Elevation (m) : 299
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 18 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 8.8
Depth to Top of Rock (m) : 2.4
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to BGC06-18 PERMAFROST LOG for details above 2.4 m.	
2						
3		2 (1)	W2		GRANODIORITE Dark greyish-green, coarse grained, very strong, fresh, 3 joint sets plus random (65, 75, 85 degrees wrt core axis), joint surfaces are typically planar and rough, quartz veins up to 2 cm wide, trace pyrite mineralization.	
		3	W1			
4		4	W1			
5		5	W1			
6		6	W1			
7			W1		-Minor hematite alteration on joint surfaces between 7.4 and 8.8 m.	
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-18

Project : 2006 Site Investigation Program, High Lake, NU

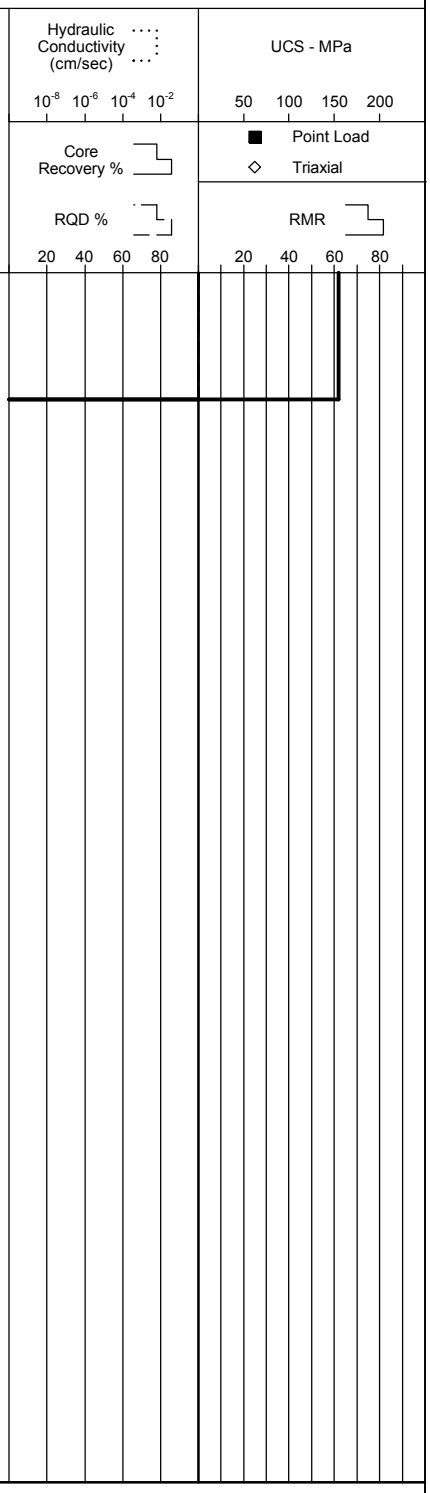
Project No. : 0385-003-15

Location : Water Dam
Co-ordinates (m) : 505,346E, 7,475,473N
Ground Elevation (m) : 299
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 18 May 06
Finish Date: 18 May 06
Final Depth of Hole (m) : 8.8
Depth to Top of Rock (m) : 2.4
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		7	W1			
9					END OF BOREHOLE AT 8.8 m. -Hole backfilled to surface with Portland cement.	



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-19

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Contact Lake Dam
Co-ordinates (m) : 506,798E, 7,473,221N
Ground Elevation (m) : 294
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 19 May 06
Finish Date: 19 May 06
Final Depth of Hole (m) : 7.2
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0						ORGANIC SOIL		
	1 (96%)	-1.1 to -1.9				METAVOLCANIC ROCK (Frost Affected Bedrock) Greenish grey, strong to very strong, moderately jointed, thin lenses of sand on joint surfaces, quartz veining with epidote alteration. -Saturated medium brown fine to coarse grained sand till between 0.1 and 0.2 m.		1
1						Intact Bedrock encountered at 1.2 m. -Refer to BGC06-19 ROCK LOG for details below 1.2 m.		
2								
3								
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-19

Project : 2006 Site Investigation Program, High Lake, NU

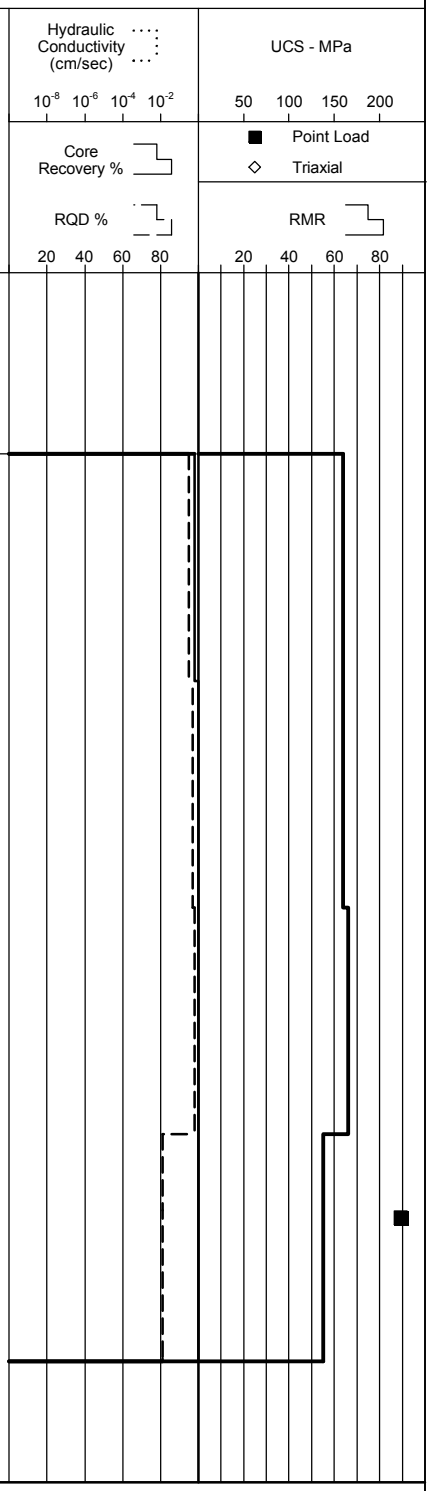
Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,798E, 7,473,221N
Ground Elevation (m) : 294
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 19 May 06
Finish Date: 19 May 06
Final Depth of Hole (m) : 7.2
Depth to Top of Rock (m) : 1.2
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-19 PERMAFROST LOG for details above 1.2 m.	
1						
2		2	W1		METAVOLCANIC ROCK Greenish grey, very strong to extremely strong, fresh, 3 joint sets (60, 70 and 80 degrees wrt core axis), moderately jointed, quartz and calcite veins and veinlets. -Epidote alteration at 2.4 m.	
3		3	W1		-Sphalerite and pyrite mineralization and epidote altered veinlets between 2.7 and 4.2 m.	
4						
5		4	W1		-Epidote alteration and trace chalcopyrite between 4.2 and 5.7 m.	
6		(1) 5	W1		-Epidote alteration (siliceous) on joint surfaces between 5.7 and 7.2 m.	
7					END OF BOREHOLE AT 7.2 m. -Hole backfilled to surface with Portland Cement.	
8						



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Contact Lake Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW ***Cased To (m)*** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.	Su - kPa 40 80 120 160 / △ Pocket Pen /2 / ◓ Excess Ice (%) / ○ Moisture Content (%) 10 20 30 40
0	1 (99%)	-2.3 to -2.6	Frozen	Vr 20-40% Vx 10%		SILT (TILL) sandy, gravelly (angular, up to 6 cm in diameter and metavolcanic in origin), brown.		1	○
1	2 (100%)			Vx 10-15%				2	○
2	3 (100%)			Vx = 10-20% Vr = 5-10%		GRAVEL and COBBLES sandy, trace to some silt, dark brown, cobbles and gravel are metavolcanic (80%) and granitic (20%) in origin.		3	○
3									
4	4 (84%)			Vr 5-20%		GRAVEL Dark greenish grey, angular, predominantly metavolcanic rock with some granitic rock up to 5 cm in diameter.			
5	5 (100%)			Vr=5-10% Vc=5-10%		METAVOLCANIC ROCK (Frost Affected Bedrock) Greenish grey, weak to medium strong, broken to crushed rock (up to 17 cm in diameter), angular to subangular fragments, hematite and sericite alteration.		4	○
6						Intact Bedrock encountered at 5.1 m. -Refer to BGC06-20 ROCK LOG for details below 5.1 m.			
7									
8									

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-20 PERMAFROST LOG for details above 5.1 m.	
5		6	W1/W2		METAVOLCANIC ROCK Grey, weak to medium strong rock, very broken, calcite and quartz veinlets, hematite alteration.	
6		7	W1/W2			
7		(1) 8	W1/W2			
		9	W1/W2			
8		10	W1/W2			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8		11	W1/W2		-2-3 mm of reddish brown clay on joint between 8.1 and 8.8 m.
9		12	W1/W2		
		13	W1/W2		
10		14	W1/W2		
11		15	W1/W2		
		16	W1/W2		-Interbedded sand, some silt and gravel between 11.3 and 11.9 m.
12		17	W1/W2		-Recovered lost core from previous run.
		18	W1/W2		-Very thin interbed of clayey silt, saturated, light brown (decomposed rock) at 12.1 m. -No recovery data between 12.3 and 14.1 m.
13		21	W1/W2		
14					
		22	W1/W2		-Decomposed rock (R0-R1) and clay, weak, hematite and sericite alteration between 14.2 and 14.6 m. Slickensides on joint surfaces. -Soil-like (R0) rock, decomposed, hematite weathering and sericite alteration between 14.7 and 15.1 m.
15					METAVOLCANIC ROCK Grey, very strong to extremely strong, fresh to slightly weathered, four joint sets plus random (20, 35, 45 and 80 degrees wrt core axis), joint surfaces are typically rough and planar, calcite and quartz infill on joint surfaces, calcite and quartz veinlets, hematite alteration.
			W1/W2		
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		23 (2)	W1/W2		-Hematite staining from 15.6 to 17.0 m.
17		24	W1		
18					
19		25	W1/W2		
20					
21		26	W1		
22					
23		27	W1/W2		-Sub-parallel jointing within core from 23 to 23.5 m.
24		28	W1		

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24		29	W1		
					-Lithologic description same as above.
25		30	W1/W2		
26					-Quartz phenocrysts in core commencing at 26.0 m.
		31	W1/W2		-2 cm quartz vein at 26.8 m.
27					
28		32	W1		
29		33	W1		-Core lost downhole. Recovered during next run.
30		34	W1		
31		35	W1		
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-20

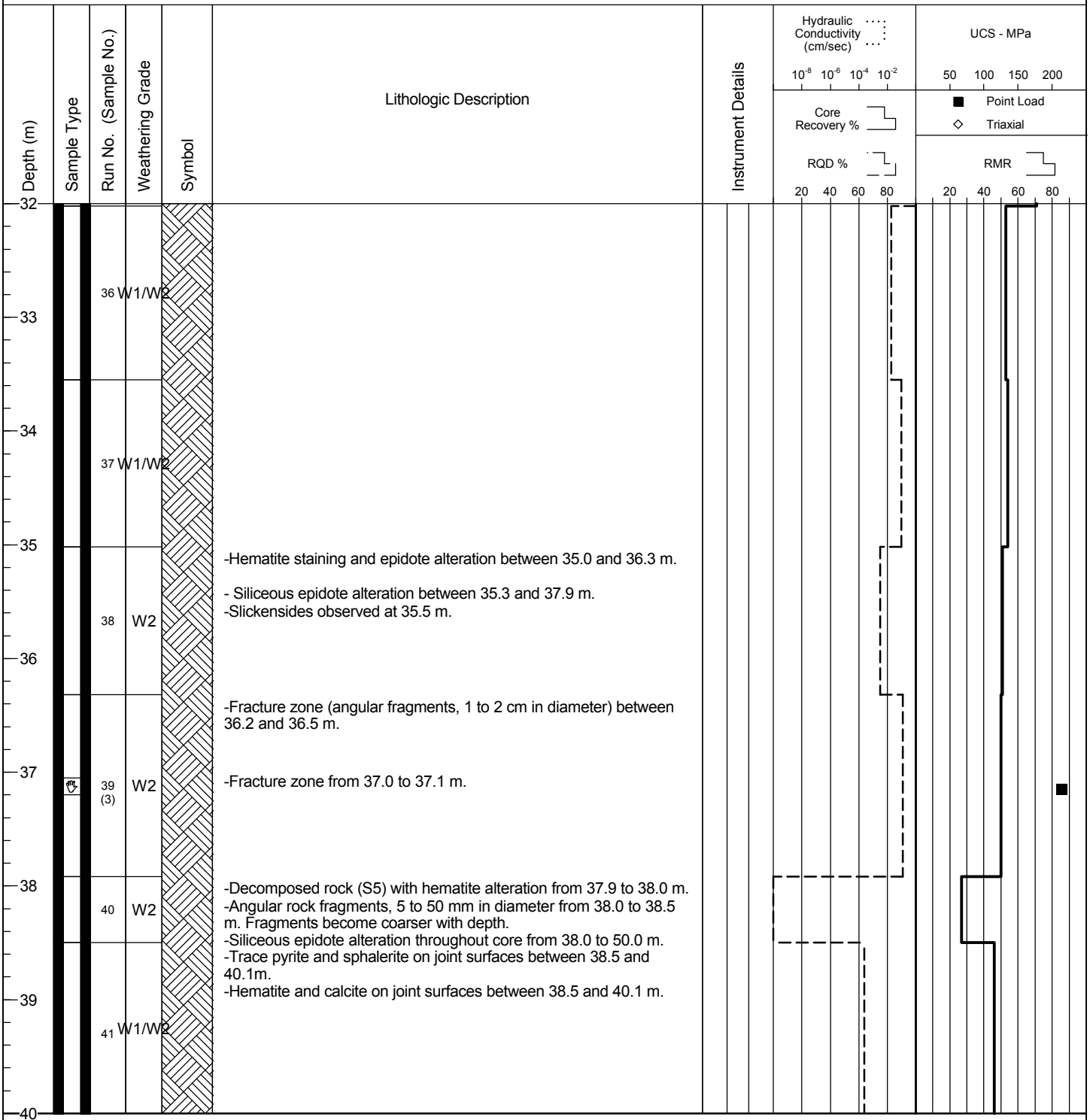
Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH



(Continued on next page)

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
40					-Quartz veins (approximately 10 cm wide) and trace pyrite on joint surfaces between 40.1 and 41.7 m.	
41		42	W1			
42		43	W1			
43						
44		44	W1			
45		45	W1			
46						
47		46	W1			
48						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-20

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : South Dam
Co-ordinates (m) : 506,765E, 7,473,273N
Ground Elevation (m) : 296
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 110

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 14.60

Start Date : 19 May 06
Finish Date: 20 May 06
Final Depth of Hole (m) : 50.2
Depth to Top of Rock (m) : 5.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
48					
		47	W1		-Fractures occur on calcite and quartz veing in core from 48 to 49.5 m.
49					
		48	W1/W2		-Minor hematite on joint surfaces from 49.6 to 50.2 m.
50					END OF BOREHOLE AT 50.2 m. 50 m M-Squared thermistor cable installed in a 25 mm PVC pipe in the borehole. Cable zero marker at 0.1 m above the ground surface. Outside of pipe backfilled with 1.0 m of sand. Surface casing was backfilled with bentonite pellets. Cable connected to data logger.
51					
52					
53					
54					
55					
56					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-21

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (100%)	-1.9 to -2.3				ORGANIC SOIL GRANODIORITE (Frost Affected Bedrock) Dark pinkish grey, mottled, medium to coarse grained, medium strong, moderately jointed, calcite and quartz infill on joint surfaces.		1
1	2 (81%)							2
2	3 (100%)							
3	4 (100%)							
4				Ice		-Visible ice, approximately 1 cm thick on joint surface at 3.7 m. Intact Bedrock encountered at 4.1 m. -Refer to BGC06-21 ROCK LOG for details below 4.1 m.		
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-21

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-21 PERMAFROST LOG for details above 4.1 m.	
4		5	W1/W2		GRANODIORITE Dark pinkish grey, mottled, medium to coarse grained, very strong to extremely strong, fresh to slightly weathered, moderately jointed, four joint sets plus random (20, 30, 45, 60 and 70 degrees wrt core axis), joints are typically rough and planar, calcite and quartz infill on joint surfaces, hematite alteration on outside of core and joint surfaces.	
5						
6		6	W2			
7		7	W1/W2			
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load ■
Triaxial ◇
RMR 20 40 60 80

(Continued on next page)

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		(1)				
		8	W1/W2		-Rock very fractured from 8.6 to 10.3 m. Possible fault zone.	
9		9				
			W2			
		10				
10						
		11	W1/W2			
11						
		12	W1			
12						
		13	W1/W2			
13		(2)				
		14	W2			
14						
					-Zone of highly fractured and crushed rock with calcite on joint surfaces from 14.4 to 15.8 m.	
15		15	W2			
			W1/W2		-Hematite alteration throughout core from 15.8 to 16.5 m.	
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		16	W1/W2		-Lithologic description same as above.
17		17	W1/W2		
18		18	W1/W2		-Hematite alteration on joint surfaces from 18.5 to 20.1 m.
19		19	W1/W2		
20		20	W1		
21		21	W1		
22		22	W1/W2		
23			W1/W2		-Hematite alteration throughout core from 23.6 to 26.6 m.
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-21

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
24		23	W1/W2		-Lithologic description same as above.	
25		24	W1/W2			
26		25	W1			
27		26	W1			
28		27	W1		-Trace pyrite mineralization from 29.6 to 31.1 m.	
29		28	W1		-Hematite alteration from 31.1 to 32.6 m.	
30						
31						
32						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
32			W1		-Lithologic description same as above.	
33		29	W2			
34					-Fractures occur along calcite jointing.	
35		30	W1			
36		31	W1			
37						
38		32	W1			
39		33	W1/W2			
40						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A ***Cased To (m)*** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
40						
		34	W1/W2		-Lithologic description same as above.	
41						
					-Soft calcite infill on joint surfaces from 41.6 to 43.0 m.	
42		35	W1/W2			
43						
		36	W1/W2			
44						
					-Siliceous epidote and hematite alteration from 44.6 to 45.9 m. -Phenocrysts and pyrite mineralization encountered from 44.6 to 45.9 m.	
45		37	W2			
46						
		38	W2			
47						
			W2			
48						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-21

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 505,974E, 7,473,902N
Ground Elevation (m) : 328
Datum : UTM NAD 83
Dip (degrees from horizontal) : 70
Direction : 015

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 21 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 50.0
Depth to Top of Rock (m) : 4.1
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
48		39	W2		-Lithologic description same as above.	
		(3)				
49		40	W2			
50					END OF BOREHOLE AT 50.0 m. -Hole backfilled to surface with Portland Cement.	
51						
52						
53						
54						
55						
56						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BOREHOLE # BGC06-22

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 506,000E, 7,473,962N
Ground Elevation (m) : 330
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 22 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 14.9
Logged by : EN
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0				Vx 30-40%		ORGANIC SOIL Black, frozen.		
	1 (50%)	-1.5 to -3.5		Vx 15-20%		COBBLES Poorly graded, varying lithology (up to 6 cm in diameter). -Silty sand till matrix encountered between 0.3 and 2.0 m.		1
1								
	2 (70%)			Vx = 10% Vs = 10-15%				2
2						BOULDER Metavolcanic in origin, medium strong, green, hematite alteration.		
	3 (98%)			Ice with soil inclusions		ICE Some silt, some sand, some gravel, some cobbles as layered inclusuions.		3
				Vs = 15-20% Vc = 10%, Vr = 5-10%		SAND (TILL) Silty, gravelly, some cobbles, gravel and cobbles are angular to subangular and metavolcanic or granodiorite in origin, brown.		
3								
	4 (100%)							4
4								
				Vs = 10-15% Vc = 10-15%				5
5	5 (95%)					GRANODIORITE (Frost Affected Bedrock) Dark green/black, mottled, medium strong, slightly weathered, silt on some joint surfaces, hematite alteration.		
						Intact Bedrock encountered at 5.9 m. -Refer to BGC06-21 ROCK LOG for details below 5.9 m.		
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone: (403) 250-5185

Client: Wolfden Resources

BOREHOLE # BGC06-22

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : L8 Dam
Co-ordinates (m) : 506,000E, 7,473,962N
Ground Elevation (m) : 330
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 22 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 14.9
Depth to Top of Rock (m) : 5.9
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-22 PERMAFROST LOG for details above 5.9 m.	
6		6 (1)	W2/W3		GRANODIORITE Red, black and grey, mottled, very strong to extremely strong, fresh to slightly weathered, closely jointed, calcite on joint surfaces, joints are typically rough and planar, some quartz veining, hematite alteration. -Hematite alteration between 5.9 and 7.4 m.	
7		7	W2		-Heavily fractured core between 7.4 and 7.9 m.	
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-22

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

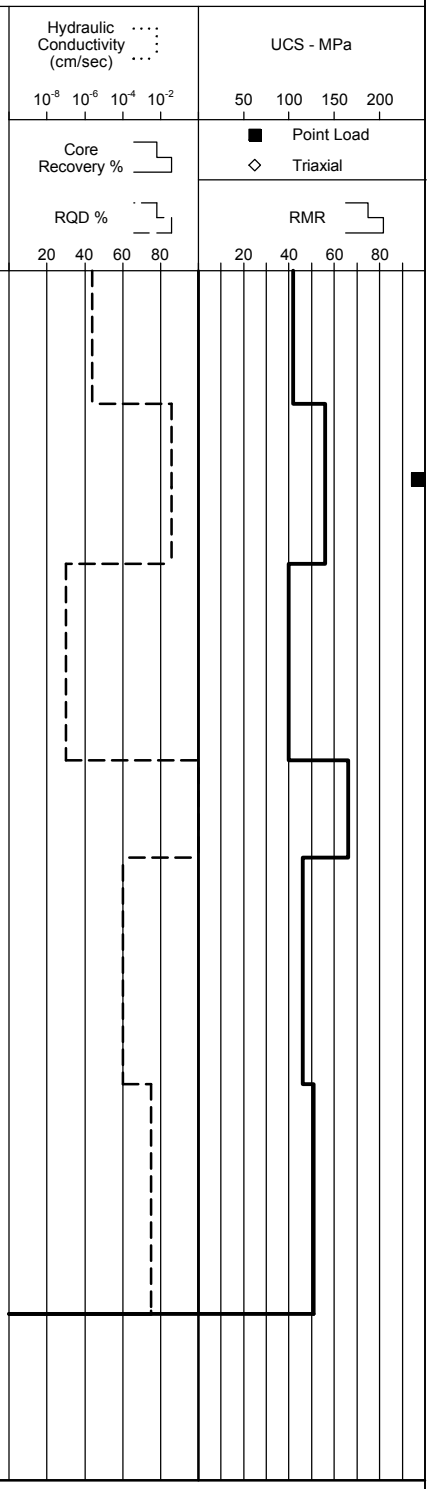
Location : L8 Dam
Co-ordinates (m) : 506,000E, 7,473,962N
Ground Elevation (m) : 330
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 22 May 06
Finish Date: 22 May 06
Final Depth of Hole (m) : 14.9
Depth to Top of Rock (m) : 5.9
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8		8	W2		
9		(2) 9	W1/W2		-Hematite alteration between 8.9 and 9.9 m.
10		10	W2		-8 cm crushed rock zone at 11.2 m.
11		11	W1/W2		-Hematite alteration between 11.2 and 11.9 m.
12		12	W2		
13					
14		13	W1/W2		
15					END OF HOLE AT 14.9 m. -Hole backfilled to surface with Portland Cement.
16					

Instrument Details



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # BGC06-23

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Toe Dike (D1)	**Drill Designation** : BBS1	**Start Date** : 23 May 06
Co-ordinates (m) : 506,460E, 7,474,547N	**Drilling Contractor** : Majors Drilling	**Finish Date**: 24 May 06
Ground Elevation (m) : Lake Ice	**Drill Method** : Diamond Drilling	**Final Depth of Hole (m)** : 19.6
Datum : UTM NAD 83	**Core** : NQ	**Depth to Top of Rock (m)** : 19.6
Dip (degrees from horizontal) : 90	**Fluid** : Water	**Logged by** : AJ/EN
Direction :	**Casing** : HW/NW **Cased To (m)** : 19.47	**Reviewed by** : HHH

Su - kPa: 40, 80, 120, 160

VANE FIELD LAB; PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm)

Atterberg Limits, Moisture Content & SPT N: W_P% × — W% ○ — W_L% ×; 20, 40, 60, 80

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0 – ~1.8					ICE		
~1.8 – 8					WATER		

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8

(Continued on next page)

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # BGC06-23

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Toe Dike (D1)
Co-ordinates (m) : 506,460E, 7,474,547N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Majors Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 19.47

Start Date : 23 May 06
Finish Date: 24 May 06
Final Depth of Hole (m) : 19.6
Depth to Top of Rock (m) : 19.6
Logged by : AJ/EN
Reviewed by : HHH

Column headings: Depth (m) | Sample Type | Run No. (Sample No.) | Weathering Grade | Symbol | Lithologic Description | Instrument Details | SPT Blows per 150mm | Su - kPa (40, 80, 120, 160)

Legend: VANE — FIELD / LAB: PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm)

Atterberg Limits, Moisture Content & SPT N: W_P% × — — — — — ○ W% — — — — — × W_L% (20, 40, 60, 80)

Depth (m)	Sample Type	Run No. (Sample No.)	Lithologic Description
8 – 13.2			(water)
12	hand sample	2	
13.2	hand sample	1	**SILT (ML)** Some clay, trace sand, low plasticity, very soft, medium brown, saturated.
14.5 – 16			**TILL** -No sample recovered -inferred from drilling response

(Continued on next page)

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # BGC06-23

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Toe Dike (D1)
Co-ordinates (m) : 506,460E, 7,474,547N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Majors Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 19.47

Start Date : 23 May 06
Finish Date: 24 May 06
Final Depth of Hole (m) : 19.6
Depth to Top of Rock (m) : 19.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa / Atterberg Limits, Moisture Content & SPT N
16–19.6								
19.6					-Soft sediment samples were collected approximately 2.5 m to the west of the drilled hole with an Eckman Dredge. -Atterberg Limit testing on the soft sediment samples collected indicated they were non-plastic. -NW casing set to 19.5 m. -HW casing set to 15.3 m. Bedrock encountered at 19.60 m depth. -Refer to BGC06-23 (ROCK LOG) for details below 19.6 m.			

Depth scale: 16, 17, 18, 19, 20, 21, 22, 23, 24

Legend: Su - kPa: 40, 80, 120, 160. VANE: FIELD, LAB; PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm). Atterberg Limits, Moisture Content & SPT N: W_P% × — — — — o — — — — × W_L%, W%; 20, 40, 60, 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-23

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Toe Dike (D1)
Co-ordinates (m) : 506,460E, 7,474,547N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 19.60

Start Date : 23 May 06
Finish Date: 23 May 06
Final Depth of Hole (m) : 25.8
Depth to Top of Rock (m) : 19.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16					-Refer to BGC06-23 OVERBUDEN LOG for details above 19.6 m.	
17						
18						
19						
20					METAVOLCANIC ROCK Dark green and red, very strong to extremely strong, fresh to slightly weathered, moderately jointed, hematite alteration, trace calcite infill, slightly weathered joint surfaces, siliceous alteration. -Fracture zone between 19.9 m and 20.2 m. -Silt observed on 1 joint surface between 20.2 m and 21.3 m. -Joints oriented approximately 70 to 80 degrees from the core axis between 20.2 m and 22.7 m.	
21		1a 1	W2			
22		2	W1			
23		3	W1		-Trace pyrite between 22.7 m and 23.6 m -Joint oriented 65 to 80 degrees from the core axis between 22.7 m and 23.6 m.	
24					DIABASE DIKE Grey to dark grey, fine grained, very strong to extremely strong, fresh	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-23

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

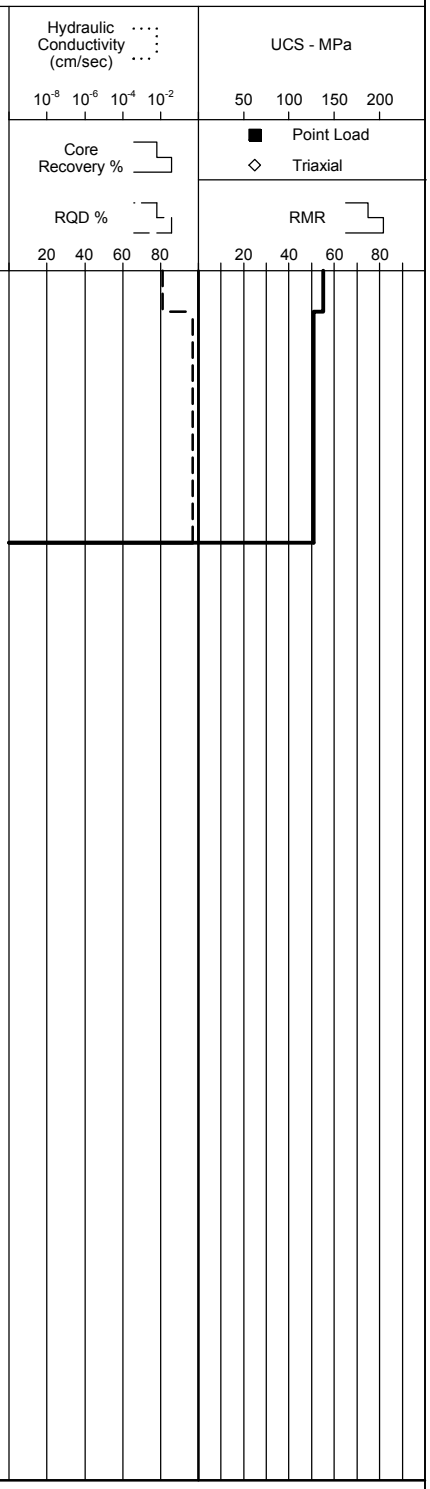
Location : Toe Dike (D1)
Co-ordinates (m) : 506,460E, 7,474,547N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 19.60

Start Date : 23 May 06
Finish Date: 23 May 06
Final Depth of Hole (m) : 25.8
Depth to Top of Rock (m) : 19.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24			W1		to slightly weathered, moderately jointed, trace quartz veins, very minor chloritic alteration on occasional joint surfaces. -Joints oriented between 50, 70 and 90 degrees from the core axis between 24.2 m and 25.8 m.
25		4	W1/W2		
		4a			
26					END OF BOREHOLE AT 25.8 m.
27					
28					
29					
30					
31					
32					

Instrument Details



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # BGC06-23a

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Toe Dike	**Drill Designation** : BBS1	**Start Date** : 24 May 06
Co-ordinates (m) : 506,460E, 7,474,548N	**Drilling Contractor** : Majors Drilling	**Finish Date**: 24 May 06
Ground Elevation (m) : Lake Ice	**Drill Method** : Diamond Drilling	**Final Depth of Hole (m)** : 14.3
Datum : UTM NAD 83	**Core** : NQ	**Depth to Top of Rock (m)** :
Dip (degrees from horizontal) : 90	**Fluid** : Water	**Logged by** : AJ/EN
Direction :	**Casing** : HW/NW **Cased To (m)** : 13.50	**Reviewed by** : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa (40, 80, 120, 160); VANE FIELD/LAB: PEAK ◆ ■, REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); Atterberg Limits, Moisture Content & SPT N: W_P% × — W% ○ — W_L% × (20, 40, 60, 80)
0					ICE			
1								
2					WATER			
3								
4								
5								
6								
7								
8								

(Continued on next page)

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # BGC06-23a

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Toe Dike
Co-ordinates (m) : 506,460E, 7,474,548N
Ground Elevation (m) : Lake Ice
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Majors Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Water
Casing : HW/NW **Cased To (m)** : 13.50

Start Date : 24 May 06
Finish Date: 24 May 06
Final Depth of Hole (m) : 14.3
Depth to Top of Rock (m) :
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
8							
9							
10							
11							
12							
13							
14		1			SILT Some clay, trace sand, low plasticity, very soft, dark brown to black, saturated. -Sample of the lake bottom sediment retrieved with sampling contraption designed by Major Drilling and Manitoba Hydro. -Atterberg Limits testing conducted on the soft sediments indicated they were non-plastic. END OF BOREHOLE AT 14.3 m. - HW casing set to 13.4 m. - NW casing set to 13.5 m.		
15							
16							

Su - kPa
40 80 120 160
VANE FIELD LAB ▲ UC/2
PEAK ◆ ■
REMOLD ◇ □ △ Pocket Pen /2
★ % Fines ● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
× – – – – – – – o – – – – – – – ×
20 40 60 80

BOREHOLE # BGC06-24

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,171E, 7,473,884N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : N/A **Cased To (m)** : N/A

Start Date : 24 May 06
Finish Date: 24 May 06
Final Depth of Hole (m) : 9.8
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Recovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0	1 (43%)	-1.4 to -1.7		Vc 5-10%		TOPSOIL Organics.		1
						TUFF (Frost Affected Bedrock) Grey, medium strong, angular to subrounded rock fragments, frozen fine silty sand with trace gravel on joints, medium brown. -Frozen silty sand till observed on joint surfaces between 0.05 and 0.6 m -Light grey, trace calcite veinlets, some till on fracture surfaces at 0.3 m.		
1	2 (97%)					-Quartz veins at 20 degrees wrt core axis and subhorizontal hematite alteration on fracture surfaces between 0.6 and 2.1 m. Thin coating of sand observed on fracture surfaces and jointing is subparallel wrt core axis.		
2						-1 mm of silty sand on fracture surface at 2.5 m. Oxidation of quartz on fracture surfaces from 2.5 to 2.8 m.		
3	3 (97%)					Bedrock encountered at 2.8 m. -Refer to BGC06-24 ROCK LOG for details below 2.8 m.		
4								
5								
6								
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BOREHOLE # BGC06-24

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,171E, 7,473,884N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 24 May 06
Finish Date: 24 May 06
Final Depth of Hole (m) : 9.8
Depth to Top of Rock (m) : 2.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-24 PERMAFROST LOG for details above 2.8 m.	
3					TUFF Light grey, fine grained, very strong to extremely strong, fresh to slightly weathered, 3 joint sets (10, 60 and 75 degrees wrt core axis), joints are typically planar and rough, foliation parallel to subparallel to the core axis, quartz infill on joint surfaces, quartz veining, oxidized quartz infill, hematite alteration. - Pyrite mineralization on joint surfaces at 2.8 m.	
4		4	W2			
5		5	W1			
7		(1)			-Foliation at 15 degrees wrt core axis between 6.8 and 9.8 m.	
8		6	W1			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-24

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,171E, 7,473,884N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : N/A **Cased To (m)** : N/A

Start Date : 24 May 06
Finish Date: 24 May 06
Final Depth of Hole (m) : 9.8
Depth to Top of Rock (m) : 2.8
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8			W1		-Lithologic description same as above.	
9		7	W1			
					END OF HOLE AT 9.8 m. -Hole backfilled to surface with Portland Cement.	
10						
11						
12						
13						
14						
15						
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # BGC06-25

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,149E, 7,473,995N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Chilled CaCl2 Brine
Casing : NW **Cased To (m)** : 3.00

Start Date : 25 May 06
Finish Date: 25 May 06
Final Depth of Hole (m) : 19.9
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Runs, Core Rocovery (%)	Brine Temperature (oC)	Frozen / Unfrozen	Ground Ice	Symbol	Lithologic Description	Instrument Details	Sample No.
0						TOPSOIL Organic soil.		
	1 (55%)	-2.2 to -2.4				COBBLES Subrounded to angular, varying lithology.		1
1						TUFF (Frost Affected Bedrock) Dark grey, medium strong, foliated parallel to sub parallel to core axis, intensely fractured and frozen. Rock held together by frozen silty sand matrix, fragments range from gravel sized to 18 cm in length.		
	2 (83%)							
	3 (63%)			Vx 20-30%				2
2								
	4 (0%)							
	5 (185%)							
3	6 (65%)					- silty sand on joints, fragments range from gravel sized to 18 cm in length.		3
	7 (111%)							
4	8 (100%)					- evidence of washed out silt on fracture surfaces, fragments range from gravel sized to 8 cm in length.		
5	9 (100%)							
6						Intact Bedrock encountered at 5.9 m. -Refer to BGC06-25 ROCK LOG for details below 5.9 m.		
7								
8								

Su - kPa
40 80 120 160
△ Pocket Pen /2
◓ Excess Ice (%)
○ Moisture Content (%)
10 20 30 40

BOREHOLE # BGC06-25

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,149E, 7,473,995N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 3.00

Start Date : 25 May 06
Finish Date: 25 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 5.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to BGC06-25 PERMAFROST LOG for details above 5.9 m.	
6		10	W2		TUFF Dark grey, fine grained, very strong, fresh to slightly weathered, four joints sets plus random (10, 50, 60 and 70 degrees wrt core axis), joints are typically rough and planar, moderately jointed, calcite infill on joint surfaces, foliation paralell to subparallel to core axis, quartz veining throughout core, hematite alteration. -Minor hematite alteration and silt on some joints between 5.9 and 7.3 m.	
7			W2			
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-25

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,149E, 7,473,995N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW ***Cased To (m)*** : 3.00

Start Date : 25 May 06
Finish Date: 25 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 5.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8		(1) 11	W2		-Lithologic description same as above.
9		12	W2		
10		13	W2		-Thin coating of green weathered calcite on joint surfaces and trace sphalerite between 10.4 and 13.5 m.
11					
12		14	W2		
13					
14		15	W2		
15					-Thin coating of green weathered calcite on some joints between 15.1 and 16.7 m.
		16	W1		
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # BGC06-25

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : East Dam
Co-ordinates (m) : 507,149E, 7,473,995N
Ground Elevation (m) : 284
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction : N/A

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drill
Core : NQ
Fluid : Water
Casing : NW **Cased To (m)** : 3.00

Start Date : 25 May 06
Finish Date: 25 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 5.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16			W1		-Lithologic description same as above. -Calcite infill in joints between 16.5 and 19.9 m. .	
17		17	W1			
18						
19		18	W1			
20					END OF HOLE AT 19.9 m. 20 m M-Squared thermistor installed in 25 mm PVC pipe in the borehole. Cable zero marker is 0.5 m above the ground surface. Outside of pipe is backfilled with 1.0 m of sand. Surface casing backfilled with bentonite pellets. Cable connected to data logger.	
21						
22						
23						
24						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

APPENDIX II
2006 DOCK SITE GEOTECHNICAL INVESTIGATION BOREHOLE LOGS

DRILL HOLE # DS-BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW ***Cased To (m)*** : 2.78

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 2.1
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa (40, 80, 120, 160); VANE FIELD/LAB: PEAK ◆ ■, REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); Atterberg Limits, Moisture Content & SPT N: W_P% × — W% ○ — W_L% × (20, 40, 60, 80)
0					SEA ICE -Sea Ice surface elevation 0.16 m above sea level.			
1.5					SEA WATER			
					SEA BED SEDIMENTS (MARINE SEDIMENTS) No recovery of sediments. Driller estimated about 60 cm of sediments are present.			
2.1					Bedrock encountered at 2.10 m depth. -Refer to DS-BGC06-01 (ROCK LOG) for details below 2.1 m.			

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 2.80

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 2.1
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to DS-BGC06-01 OVERBUDEN LOG for details above 2.1 m.	
2		1	W1/W2		GRANODIORITE Mottled dark green, black and white, medium to coarse grained, very strong, fresh to slightly weathered, four joint sets plus random (20, 45, 60 and 80 degrees wrt core axis), silt and calcite infill on joint surfaces, chloritic alteration on some joint surfaces, joints are typically rough and planar. -0.5 cm of seaweed on top of core. -NW casing set to 2.8 m.	
3		2	W1			
5		3	W1			
7		4	W1			
8			W1			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW ***Cased To (m)*** : 2.80

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 2.1
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		5	W1			
9		6	W1			
10					-Fracture zone between 10.7 m and 10.8 m.	
11		7	W1			
12						
13		8	W1/W2			
14		9	W1			
15		1a	W1			
16		10				

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-01

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 2.80

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 2.1
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16			W1		
17		11	W1		-Calcite veinlets (with chloritic alteration) at 30 degrees to the core axis between 16.7 m and 19.9m.
18					-Trace pyrite on joint surfaces between 18.3 m and 19.9 m.
19		12	W1/W2		-Fracture zone between 18.54 m and 18.58 m.
20					END OF BOREHOLE AT 19.9 m.
21					
22					
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

DRILL HOLE # DS-BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,400E, 7,521,186N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW/NW **Cased To (m)** : 18.50

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 23.6
Depth to Top of Rock (m) : 17.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0					SEA ICE -Sea ice surface elevation 0.2 m above sea level.		
2					SEA WATER		
7					-Note: Hole location surveyed by Wolfden using differential GPS.		

Su - kPa
40 80 120 160
VANE FIELD LAB
PEAK ◆ ■
REMOLD ◇ □
▲ UC/2
△ Pocket Pen /2
★ % Fines
● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

(Continued on next page)

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,400E, 7,521,186N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW/NW ***Cased To (m)*** : 18.50

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 23.6
Depth to Top of Rock (m) : 17.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa: 40 80 120 160 / VANE FIELD LAB / PEAK ◆ ■ / REMOLD ◇ □ / ▲ UC/2 / △ Pocket Pen /2 / ★ % Fines / ● SPT N (blows/300mm) / Atterberg Limits, Moisture Content & SPT N: W_P% W% W_L% 20 40 60 80
8					-Sea water continued.			
9								
10								
11								
12								
13								
14								
15								
16								

(Continued on next page)

DRILL HOLE # DS-BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Dock Site	**Drill Designation** : BBS1	**Start Date** : 04 May 06
Co-ordinates (m) : 505,400E, 7,521,186N	**Drilling Contractor** : Major Drilling	**Finish Date**: 04 May 06
Ground Elevation (m) : 0.20 (Top of Sea Ice)	**Drill Method** : Diamond Drilling	**Final Depth of Hole (m)** : 23.6
Datum : UTM NAD 83	**Core** : NQ	**Depth to Top of Rock (m)** : 17.6
Dip (degrees from horizontal) : 90	**Fluid** : Sea Water	**Logged by** : AJ/EN
Direction :	**Casing** : NW/NW **Cased To (m)** : 18.50	**Reviewed by** : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa / Atterberg Limits, Moisture Content & SPT N
16					-Sea water continued.			
					SEA FLOOR- MARINE SEDIMENTS Sea bed sediments not sampled.			
17								
					Bedrock encountered at 17.60 m depth. -Refer to DS-BGC06-02 (ROCK LOG) for details below 17.6 m.			
18								
19								
20								
21								
22								
23								
24								

Legend: Su - kPa: 40, 80, 120, 160. VANE FIELD LAB; PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm). Atterberg Limits, Moisture Content & SPT N: W_P% × — W% ○ — W_L% ×; 20, 40, 60, 80.

BOREHOLE # DS-BGC06-02

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,400E, 7,521,186N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW/NW **Cased To (m)** : 18.50

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 23.6
Depth to Top of Rock (m) : 17.6
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16					-Refer to DS-BGC06-02 OVERBUDEN LOG for details above 17.6 m.	
17						
18		1	W1/W2		GRANODIORITE Light grey mottled with green, strong to extremely strong rock, fresh to slightly weathered, two joint sets (40 and 50 degrees to core axis), calcite infill on joint surfaces, chlorite alteration on joint surfaces, trace calcite veinlets, healed fractures with calcite. -HW casing set to 17.8 m. -NW casing set to 18.5 m. -Rock fractured between 19.0 m and 19.4 m (angular to subangular pieces up to 7 cm in diameter).	
19					-Core fractured subvertically along fracture surfaces between 19.0 m and 20.5 m.	
20		2	W2			
21		3	W2			
22						
23		4	W1/W2			
					END OF BOREHOLE AT 23.6 m.	
24						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # DS-BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,210N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 16.40

Start Date : 03 May 06
Finish Date: 03 May 06
Final Depth of Hole (m) : 21.2
Depth to Top of Rock (m) : 15.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0				✳	SEA ICE -Sea ice surface elevation 0.2 m above sea level.		
1				✳			
2					SEA WATER		
3							
4							
5							
6							
7					-Note: Hole location surveyed by Wolfden using differential GPS.		
8							

Su - kPa: 40, 80, 120, 160

	FIELD	LAB	
VANE			▲ UC/2
PEAK	◆	■	
REMOLD	◇	□	△ Pocket Pen /2
★ % Fines			● SPT N (blows/300mm)

Atterberg Limits, Moisture Content & SPT N
W_P% × — — — — — O — — — — — × W_L%
20, 40, 60, 80

(Continued on next page)

DRILL HOLE # DS-BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,210N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 16.40

Start Date : 03 May 06
Finish Date: 03 May 06
Final Depth of Hole (m) : 21.2
Depth to Top of Rock (m) : 15.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
8					-Sea water continued.		
16					SEA FLOOR - MARINE SEDIMENTS Sea bed sediments not sampled.		

Su - kPa
40 80 120 160
VANE FIELD LAB ▲ UC/2
PEAK ◆ ■
REMOLD ◇ □ △ Pocket Pen /2
★ % Fines ● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
× – – – – – – – o – – – – – – – ×
20 40 60 80

BOREHOLE # DS-BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,210N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 16.40

Start Date : 03 May 06
Finish Date: 03 May 06
Final Depth of Hole (m) : 21.2
Depth to Top of Rock (m) : 15.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8					-Refer to DS-BGC06-03 OVERBUDEN LOG for details above 15.9 m.	
9						
10						
11						
12						
13						
14						
15						
16						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-03

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,210N
Ground Elevation (m) : 0.20 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 16.40

Start Date : 03 May 06
Finish Date: 03 May 06
Final Depth of Hole (m) : 21.2
Depth to Top of Rock (m) : 15.9
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16					GRANODIORITE Mottled dark green, black and white, medium to coarse grained, very strong rock, fresh to slightly weathered, calcite and silt infill on joint surfaces, trace pyrite. -NW casing set to 16.4 m.	
17		1	W1/W2			
		2	W1			
18						
		3	W1			
19						
20		4	W1			
21					END OF BOREHOLE AT 21.2 m.	
22						
23						
24						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

DRILL HOLE # DS-BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,194N
Ground Elevation (m) : 0.15 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.91

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 8.4
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa (40, 80, 120, 160); VANE FIELD/LAB PEAK ◆ ■, REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); Atterberg Limits, Moisture Content & SPT N: W_P% × — W% o — W_L% × (20, 40, 60, 80)
0					SEA ICE -Sea ice surface elevation 0.15 m above sea level.			
1								
					SEA WATER			
2								
3								
4								
5								
6								
7					-Note: Hole location surveyed by Wolfden using differential GPS.			
8								

(Continued on next page)

DRILL HOLE # DS-BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,194N
Ground Elevation (m) : 0.15 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.91

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 8.4
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
8					SEA FLOOR - MARINE SEDIMENTS Approximately 5 cm thick. Sea bed sediments not sampled. -HW casing set to 8.4 m. Bedrock encountered at 8.40 m depth. -Refer to DS-BGC06-04 (ROCK LOG) for details below 8.4 m.		
9							
10							
11							
12							
13							
14							
15							
16							

Su - kPa
40 80 120 160
VANE FIELD LAB
PEAK ◆ ■
REMOLD ◇ □
▲ UC/2
△ Pocket Pen /2
★ % Fines
● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
× – – – – – – – o – – – – – – – ×
20 40 60 80

BOREHOLE # DS-BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,194N
Ground Elevation (m) : 0.15 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.90

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 8.4
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8					-Refer to DS-BGC06-04 OVERBUDEN LOG for details above 8.4 m.	
9		1	W1/W2		GRANODIORITE Mottled dark green, black and white, medium to coarse grained, very strong to extremely strong rock, fresh, four joint sets plus random (20, 50, 60 and 70 degrees to the core axis), joints rough and planar, calcite infill on joint surfaces, chlorite alteration on joint surfaces, trace healed fractures with calcite, trace calcite veinlets, trace chalcopyrite mineralization, minor iron oxidation. -NW casing set to 8.9 m. -Calcite veinlets approximately 40 degrees from the core axis between 9.2 m and 10.8 m.	
10		2	W1			
11		3	W1			
12						
13		4	W1		-Calcite veinlets approximately 60 degrees from the core axis between 12.3 m and 13.8 m. -Subvertical joints between 12.3 m and 13.8 m.	
14		5	W1			
15						
16			W1		BASALT DIKE Medium grey, very strong to extremely strong rock, fresh, three joint sets (35, 60 and 70 degrees to core axis), silt infill on joint surfaces, chlorite alteration on joint surfaces, subhorizontal calcite veinlets,	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-04

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,450E, 7,521,194N
Ground Elevation (m) : 0.15 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.90

Start Date : 04 May 06
Finish Date: 04 May 06
Final Depth of Hole (m) : 19.9
Depth to Top of Rock (m) : 8.4
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		6	W1		trace iron oxidation.
17		7	W1		- 1 to 2 cm quartz veins 60 degrees from the core axis between 17.0 m and 17.1 m. GRANODIORITE Mottled dark green, black and white, medium to coarse grained, very strong to extremely strong rock, fresh, four joint sets plus random (20, 50, 60 and 70 degrees to core axis), joints rough and planar, calcite infill on joint surfaces, chlorite alteration on joint surfaces, trace healed fractures with calcite, trace calcite veinlets, trace chalcopyrite mineralization, minor iron oxidation. -Calcite veinlets approximately 40 degrees from the core axis between 18.4 m and 19.9 m.
18					
19		8	W1		-Horizontal quartz veining with chalcopyrite mineralization between 19.26 m and 19.30 m.
20					END OF BOREHOLE AT 19.9 m.
21					
22					
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load
◇ Triaxial

RMR 20 40 60 80

DRILL HOLE # DS-BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,228N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 10.60

Start Date : 02 May 06
Finish Date: 03 May 06
Final Depth of Hole (m) : 20.3
Depth to Top of Rock (m) : 10.6
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0					SEA ICE -Sea ice surface elevation 0.18 m above sea level.		
1							
2					SEA WATER		
3							
4							
5							
6							
7					-Note: Hole location surveyed by Wolfden using differential GPS.		
8					SEA FLOOR - MARINE SEDIMENTS		

Su - kPa: 40, 80, 120, 160

VANE PEAK ◆ ■ ▲ UC/2
VANE REMOLD ◇ □ △ Pocket Pen /2
★ % Fines ● SPT N (blows/300mm)

Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20, 40, 60, 80

(Continued on next page)

DRILL HOLE # DS-BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,228N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW ***Cased To (m)*** : 10.60

Start Date : 02 May 06
Finish Date: 03 May 06
Final Depth of Hole (m) : 20.3
Depth to Top of Rock (m) : 10.6
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa (40, 80, 120, 160) / Atterberg Limits, Moisture Content & SPT N (20, 40, 60, 80)
8					Sea bed sediments not sampled.			
9								
					-HW casing set to 9.6 m.			
10								
					-NW casing set to 10.6 m.			
					Bedrock encountered at 10.60 m depth.			
11					-Refer to DS-BGC06-05 (ROCK LOG) for details below 10.6 m.			
12								
13								
14								
15								
16								

Legend: VANE — FIELD / LAB; PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); W_P% × — W% ○ — W_L% ×

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,228N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 10.60

Start Date : 02 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 20.3
Depth to Top of Rock (m) : 10.0
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8						
9					-Refer to DS-BGC06-05 OVERBUDEN LOG for details above 10 m.	
10		1	W1/W2		GRANODIORITE Mottled dark green, black, pink and white, medium to coarse grained, uniform, equigranular, very strong to extremely strong rock, fresh to slightly weathered, two joint sets (50 and 70 degrees to core axis), joint surfaces are typically rough and planar, calcite and silt infill on joint surfaces, chloritic alteration of joint surfaces, trace chalcopyrite and pyrite mineralization.	
11		2	W1/W2			
12						
13		3	W1/W2			
14		4	W1			
15						
16		5	W1/W2			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-05

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,228N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 10.60

Start Date : 02 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 20.3
Depth to Top of Rock (m) : 10.0
Logged by : EN/AJ
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16			W1/W2		
17		6	W1		
18					-Alkali feldspar dike between 18.0 m and 18.2 m. -Calcite veinlets with chloritic alteration between 18.2 m and 18.5 m at 20 degrees from the core axis.
19		7	W1		
20		8	W1		-Calcite veinlets ranging between 20 and 40 degrees from the core axis between 19.8 m and 20.3 m. -Granitic dike encountered at approximately 20.3 m. END OF BOREHOLE AT 20.3 m.
21					
22					
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # DS-BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU
Project No. : 0385-003-15

Location : Dock Site	***Drill Designation*** : BBS1	***Start Date*** : 02 May 06
Co-ordinates (m) : 505,500E, 7,521,200N	***Drilling Contractor*** : Major Drilling	***Finish Date***: 02 May 06
Ground Elevation (m) : 0.18 (Top of Sea Ice)	***Drill Method*** : Diamond Drilling	***Final Depth of Hole (m)*** : 21.3
Datum : UTM NAD 83	***Core*** : NQ	***Depth to Top of Rock (m)*** : 3.9
Dip (degrees from horizontal) : 90	***Fluid*** : Sea Water	***Logged by*** : EN
Direction :	***Casing*** : HW/NW ***Cased To (m)*** : Approx. 4	***Reviewed by*** : HHH

Legend (Su - kPa: 40, 80, 120, 160): VANE – FIELD / LAB; PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); Atterberg Limits, Moisture Content & SPT N: W_P% ×, W% o, W_L% × (20, 40, 60, 80)

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0 – 1.6				✳	SEA ICE -Sea ice surface elevation 0.18 m above sea level.		
1.6 – 3.9				~	SEA WATER		
3.9					Bedrock encountered at 3.90 m depth. -Refer to DS-BGC06-06 (ROCK LOG) for details below 3.9 m.		

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,200N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : Approx. 4

Start Date : 02 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 21.3
Depth to Top of Rock (m) : 3.9
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to DS-BGC06-06 OVERBUDEN LOG for details above 3.9 m.	
4		1	W1/W2		GRANODIORITE Mottled dark green and pink, medium to coarse grained, uniform, equigranular texture, very strong rock, fresh to slightly weathered, calcite and silt infill on joint surfaces, trace pyrite mineralization.	
6		1a 2	W1/W2			
8			W2			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,200N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW ***Cased To (m)*** : Approx. 4

Start Date : 02 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 21.3
Depth to Top of Rock (m) : 3.9
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8		3	W2			
9		4	W1/W2			
10						
11		5	W1			
12						
13		6	W1/W2			
14		7	W1/W2		-Quartz veining between 13.7 m and 14.1 m.	
15						
16		8	W1/W2		GRANITE Mottled dark green, black and pink, fine to medium coarse grained, very strong rock, fresh to slightly weathered, moderately jointed, trace pyrite mineralization. -Healed joints with epidote between 15.2 m and 16.7 m.	

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-06

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,500E, 7,521,200N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : Approx. 4

Start Date : 02 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 21.3
Depth to Top of Rock (m) : 3.9
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
16		2a	W1/W2		
17		9	W1		GRANODIORITE Mottled dark green and pink, medium to coarse grained, very strong rock, fresh, calcite and silt infill on joint surfaces, trace pyrite mineralization.
18					
19		10	W1		
20		11	W1		
21					END OF BOREHOLE AT 21.3 m.
22					
23					
24					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

DRILL HOLE # DS-BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,240N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 19.1/19.3

Start Date : 29 Apr 06
Finish Date: 29 Apr 06
Final Depth of Hole (m) : 24.9
Depth to Top of Rock (m) : 18.8
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0					SEA ICE -Sea ice surface elevation 0.18 m above sea level.		
1							
2					SEA WATER		
3							
4							
5							
6							
7					-Note: Hole location surveyed by Wolfden using differential GPS.		
8							

Su - kPa
40 80 120 160
VANE FIELD LAB
PEAK ◆ ■
REMOLD ◇ □
▲ UC/2
△ Pocket Pen /2
★ % Fines
● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
× — — — — — o — — — — — ×
20 40 60 80

(Continued on next page)

DRILL HOLE # DS-BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU — **Project No.** : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,240N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 19.1/19.3

Start Date : 29 Apr 06
Finish Date: 29 Apr 06
Final Depth of Hole (m) : 24.9
Depth to Top of Rock (m) : 18.8
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa: 40, 80, 120, 160. VANE FIELD LAB: PEAK ◆ ■; REMOLD ◇ □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm). Atterberg Limits, Moisture Content & SPT N: W_P% × — W% ○ — W_L% ×: 20, 40, 60, 80
8								
9								
10								
11								
12								
13								
14								
15								
16								

(Continued on next page)

DRILL HOLE # DS-BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,240N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 19.1/19.3

Start Date : 29 Apr 06
Finish Date: 29 Apr 06
Final Depth of Hole (m) : 24.9
Depth to Top of Rock (m) : 18.8
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
16					SEA FLOOR - MARINE SEDIMENTS Soft silty sediment becoming clayey and gravelly at depth, based on drillers description. No samples recovered.		
17							
18							
19					Bedrock encountered at 18.80 m depth. -Refer to DS-BGC06-07 (ROCK LOG) for details below 18.8 m.		
20							
21							
22							
23							
24							

Su - kPa
40 80 120 160
VANE FIELD LAB — UC/2
PEAK ◆ ■
REMOLD ◇ □ — Pocket Pen /2
★ % Fines — ● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

BOREHOLE # DS-BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,240N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 19.1/19.3

Start Date : 29 Apr 06
Finish Date: 29 Apr 06
Final Depth of Hole (m) : 24.9
Depth to Top of Rock (m) : 18.8
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16					-Refer to DS-BGC06-07 OVERBUDEN LOG for details above 18.8 m.	
17						
18						
19					GRANODIORITE Dark greyish green, medium to coarse grained, very strong rock, fresh, four joint sets plus random (45, 57, 67 and 90 degrees wrt core axis), occasional joint at 15 degrees to core axis, thin silt coating on joint surfaces, joints are typically planar, rough and chloritized, trace sulphide mineralization. -HW casing set to 19.1 m. -Tri-coned borehole to approximately 19.3 m.	
20		1	W1			
21		2	W1			
22		3	W1			
23		4	W1			
24						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-07

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,240N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 19.1/19.3

Start Date : 29 Apr 06
Finish Date: 29 Apr 06
Final Depth of Hole (m) : 24.9
Depth to Top of Rock (m) : 18.8
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
24			W1		
		5	W1		-Joint at 15 degrees wrt core axis with grey silt coating between 24.3 m and 24.9 m.
25					END OF BOREHOLE AT 24.9 m.
26					
27					
28					
29					
30					
31					
32					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # DS-BGC06-08

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,220N
Ground Elevation (m) : 0.21 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.4/9.22

Start Date : 30 Apr 06
Finish Date: 01 May 06
Final Depth of Hole (m) : 20.9
Depth to Top of Rock (m) : 9.0
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0					SEA ICE -Sea ice surface elevation 0.21 m above sea level.		
2					SEA WATER		
7					-Note: Hole location surveyed by Wolfden using differential GPS.		
8							

Su - kPa
40 80 120 160
VANE FIELD LAB — UC/2
PEAK ◆ ■
REMOLD ◇ □ — Pocket Pen /2
★ % Fines — ● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

(Continued on next page)

DRILL HOLE # DS-BGC06-08

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,220N
Ground Elevation (m) : 0.21 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.4/9.22

Start Date : 30 Apr 06
Finish Date: 01 May 06
Final Depth of Hole (m) : 20.9
Depth to Top of Rock (m) : 9.0
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
8							
					SEA FLOOR - MARINE SEDIMENTS -0.1m soft sediment layer encountered at top of sea floor -Beneath the soft sediment layer 0.4 m thick interbed of boulders encountered -Beneath the boulders, 0.1 m soft sediment layer encountered Sea bed sediments - not sampled. -HW casing set to 8.4 m. Bedrock encountered at 9.00 m depth. -Refer to DS-BGC06-08 (ROCK LOG) for details below 9 m.		
9							
10							
11							
12							
13							
14							
15							
16							

Su - kPa
40 80 120 160
VANE FIELD LAB
PEAK ◆ ■
REMOLD ◇ □
▲ UC/2
△ Pocket Pen /2
★ % Fines
● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-08

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,220N
Ground Elevation (m) : 0.21 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.4/9.22

Start Date : 30 Apr 06
Finish Date: 01 May 06
Final Depth of Hole (m) : 20.9
Depth to Top of Rock (m) : 9.0
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
8					-Refer to DS-BGC06-08 OVERBUDEN LOG for details above 9 m.	
9		1	W2		GRANODIORITE Dark to light grey, medium to coarse grained, uniform and equigranular texture, very strong rock, fresh to slightly weathered, four joint sets plus random (subvertical, 40, 50 and 70 degrees to the core axis) , thin calcite and silt infill on joint surfaces, joint sets are typically planar and rough, moderately jointed, trace pyrite and molybdenite mineralization. -NW casing set to 9.2 m. -1.5 cm wide quartz vein at 40 degrees to the core axis at 9.3 m.	
10						
11		2	W1/W2			
12					-Quartz vein at 60 degrees to the core axis between 11.9 m and 12.0 m. -8 cm thick quartz infill at 12.0 m.	
13		3	W1/W2			
14		4	W1/W2			
15						
16		5	W1/W2			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-08

Project : 2006 Site Investigation Program, High Lake, NU

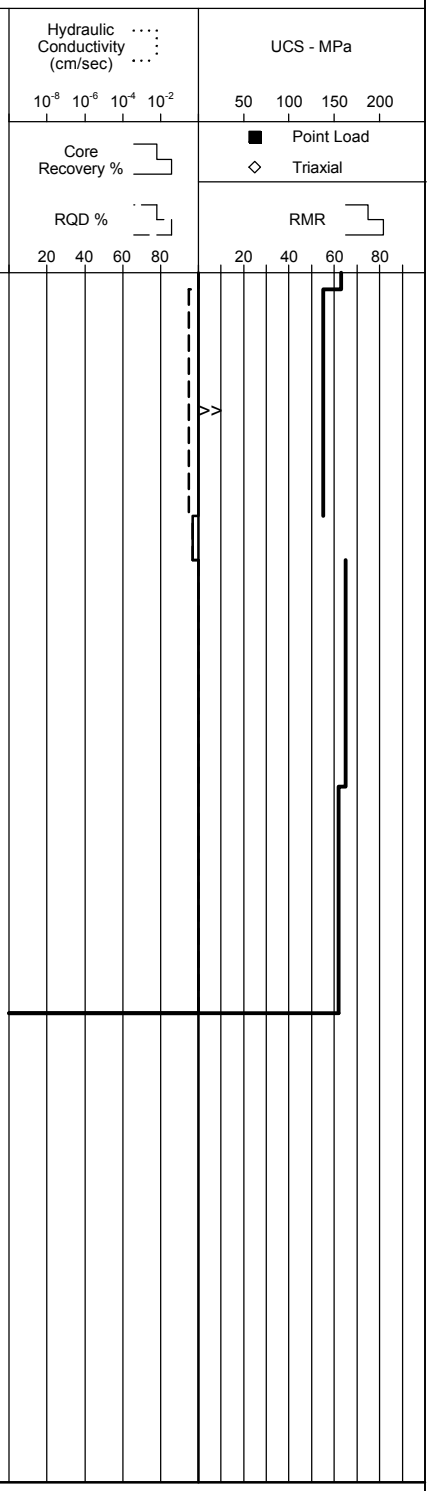
Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,220N
Ground Elevation (m) : 0.21 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 8.4/9.22

Start Date : 30 Apr 06
Finish Date: 01 May 06
Final Depth of Hole (m) : 20.9
Depth to Top of Rock (m) : 9.0
Logged by : HHH
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16					-Granitic veins at 38 and 55 degrees to the core axis between 16.1 m and 17.6 m.	
17		6	W1			
		7	W1			
18		8	W1			
19						
20		9	W1			
21					END OF BOREHOLE AT 20.9 m.	
22						
23						
24						



BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # DS-BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,200N
Ground Elevation (m) : 0.23 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 2.84/3.13

Start Date : 01 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 20.0
Depth to Top of Rock (m) : 3.2
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0				✳	SEA ICE -Sea ice surface elevation 0.23 m above sea level.		
1				✳			
2				✳			
				~	SEA WATER		
3				✳	SEA ICE -HW casing set to 2.8 m. -NW casing set to 3.1 m.		
					Bedrock encountered at 3.20 m depth. -Refer to DS-BGC06-09 (ROCK LOG) for details below 3.2 m.		
4							
5							
6							
7							
8							

Su - kPa
40 80 120 160
VANE FIELD LAB — UC/2
PEAK ◆ ■
REMOLD ◇ □ — Pocket Pen /2
★ % Fines — ● SPT N (blows/300mm)
Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,200N
Ground Elevation (m) : 0.23 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 2.8/3.13

Start Date : 01 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 20.0
Depth to Top of Rock (m) : 3.2
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0					-Refer to DS-BGC06-09 OVERBUDEN LOG for details above 3.2 m.	
3		1	W2		GRANODIORITE Mottled dark green and pink, medium grained, very strong rock, fresh to slightly weathered, moderately jointed, calcite and silt infill on joint surfaces, joint surfaces are rough and planar.	
4		2	W2			
5		3	W2			
6						
7		4	W2			
8			W2			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-09

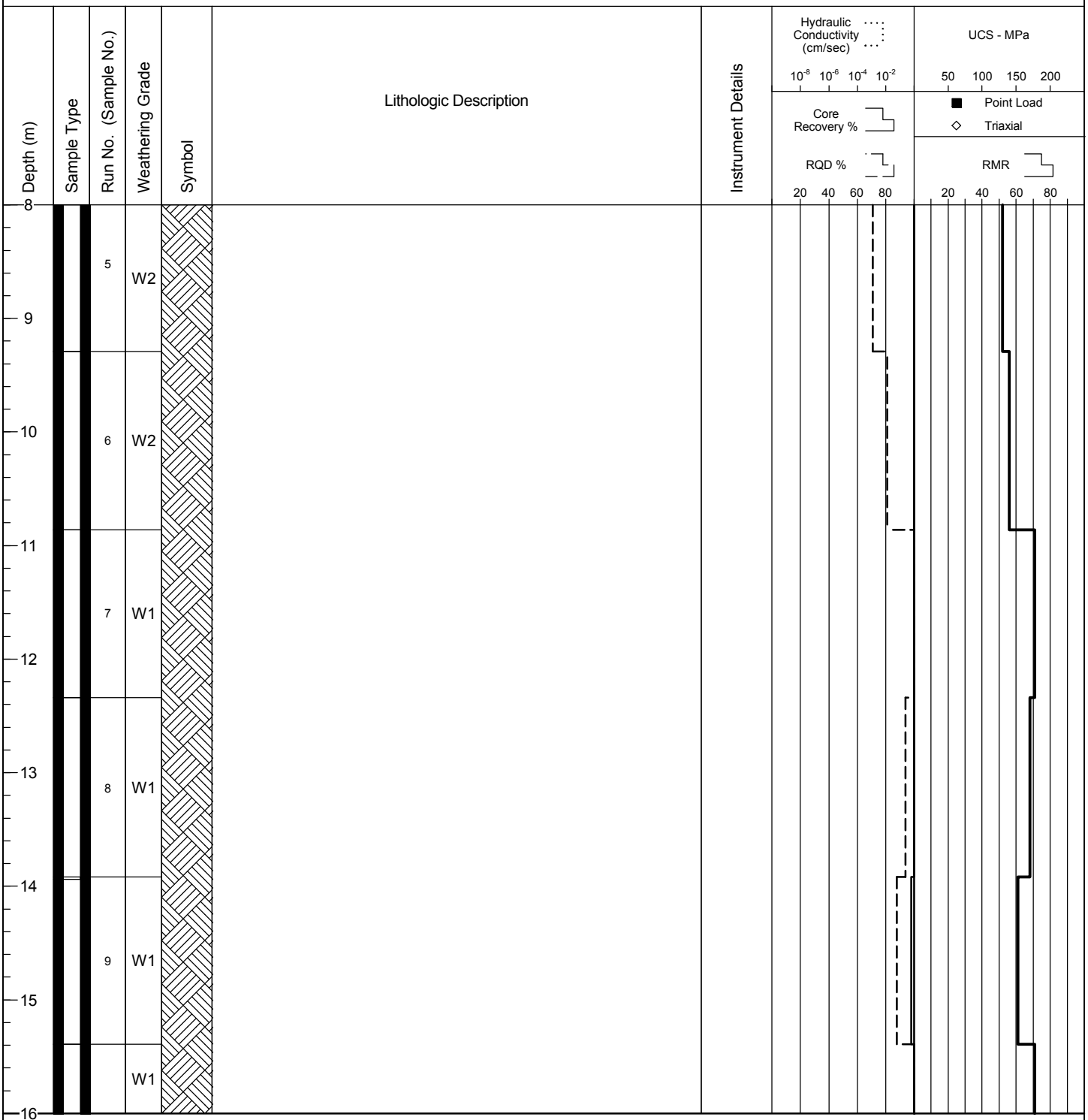
Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,200N
Ground Elevation (m) : 0.23 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW ***Cased To (m)*** : 2.8/3.13

Start Date : 01 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 20.0
Depth to Top of Rock (m) : 3.2
Logged by : EN
Reviewed by : HHH



(Continued on next page)

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-09

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,550E, 7,521,200N
Ground Elevation (m) : 0.23 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 90
Direction :

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : HW/NW **Cased To (m)** : 2.8/3.13

Start Date : 01 May 06
Finish Date: 02 May 06
Final Depth of Hole (m) : 20.0
Depth to Top of Rock (m) : 3.2
Logged by : EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
16		10	W1			
17					-Thin silt infill on 1 joint surface between 16.9 m and 18.4 m.	
		11	W1			
18						
19		12	W1			
20					END OF BOREHOLE AT 20.0 m.	
21						
22						
23						
24						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80

UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # DS-BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,421E, 7,521,157N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 215

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW **Cased To (m)** : 2.32

Start Date : 05 May 06
Finish Date: 05 May 06
Final Depth of Hole (m) : 15.0
Depth to Top of Rock (m) : 2.3
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm
0				✳	SEA ICE -Sea ice sea ice elevation 0.18 m above sea level.		
1				✳			
2				≈	SEA WATER		
3					Bedrock encountered at 2.30 m depth. -Refer to DS-BGC06-11 (ROCK LOG) for details below 2.3 m.		
4							
5							
6							
7							
8							

Su - kPa
40 80 120 160

VANE	FIELD	LAB	
PEAK	◆	■	▲ UC/2
REMOLD	◇	□	△ Pocket Pen /2
★ % Fines			● SPT N (blows/300mm)

Atterberg Limits, Moisture Content & SPT N
W_P% W% W_L%
20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,421E, 7,521,157N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 215

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW **Cased To (m)** : 2.30

Start Date : 05 May 06
Finish Date: 05 May 06
Final Depth of Hole (m) : 15.0
Depth to Top of Rock (m) : 2.3
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to DS-BGC06-11 OVERBUDEN LOG for details above 2.3 m.	
2						
3		1	W1/W2		GRANODIORITE Grey, medium to coarse grained, very strong to extremely strong, fresh to slightly weathered, three joint sets plus random (40, 50 and 60 degrees to the core axis), joint surfaces are rough and planar to undulating, calcite infill on joint surfaces, chloritic alteration on some joint surfaces, moderate to wide joint spacing, trace calcite veinlets, oxidized joint surfaces, trace sulphide mineralization. -1 to 2 mm of clay infill on joint surface at 3.3 m.	
4					-Calcite veinlets with chlorite alteration between 3.9 m and 5.5 m. -Chlorite alteration with trace sulphides between 4.2 and 4.3 m.	
5		2	W1/W2			
6		1a			-Slickensides observed at 5.8 m.	
7		3	W1/W2		-Calcite veinlets with minor chlorite alteration between 7.1 m and 8.6 m.	
8		4	W1/W2			

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
Point Load
Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-11

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,421E, 7,521,157N
Ground Elevation (m) : 0.18 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 215

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW **Cased To (m)** : 2.30

Start Date : 05 May 06
Finish Date: 05 May 06
Final Depth of Hole (m) : 15.0
Depth to Top of Rock (m) : 2.3
Logged by : AJ/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W1/W2		
					-3cm quartz vein at 8.6 m. -Calcite veinlets at approximately 25 degrees to the core axis between 8.6 m and 10.1 m.
9		5	W1/W2		
10					
		6	W1		-1 cm to 1.5 cm wide quartz veins at 45 degrees to the core axis at 10.5 m. -1 cm to 1.5 cm wide quartz veins at 45 degrees to the core axis at 10.7 m.
11					
12		7	W1/W2		
13					
14		8	W1/W2		-Fractured zone (angular to subangular gravel 10 cm in diameter) between 14.0 m and 14.2 m. -1-2mm clay infill interbedded wtih granodiorite gravel up to 5 mm in diameter at 14.2 m.
		2a 9	W1/W2		
15					-2 cm quartz vein at 15.0 m. END OF BOREHOLE AT 15.0 m. Note: Borehole location determined with hand held GPS and are approximate.
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

Point Load

Triaxial

RMR 20 40 60 80

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

DRILL HOLE # DS-BGC06-12

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-003-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 130

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW **Cased To (m)** : 2.76

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 15.5
Depth to Top of Rock (m) : 2.8
Logged by : AN/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details	SPT Blows per 150mm	Su - kPa (40, 80, 120, 160); Atterberg Limits, Moisture Content & SPT N (20, 40, 60, 80)
0					SEA ICE -Sea ice surface elevation 0.16 m above sea level.			
2.1					SEA FLOOR - TILL -Sea bed sediments were not sampled during drilling investigation.			
2.4					-May have drilled through a boulder from 2.4 to 2.8 m based on drillers observations.			
2.8					Bedrock encountered at 2.80 m depth. -Refer to DS-BGC06-12 (ROCK LOG) for details below 2.8 m.			

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8

Legend: VANE — FIELD / LAB; PEAK ◆ / ■; REMOLD ◇ / □; ▲ UC/2; △ Pocket Pen /2; ★ % Fines; ● SPT N (blows/300mm); W_P% × — W% o — W_L% ×

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY
Calgary, AB Phone (403) 250 5185

Client: Wolfden Resources

BOREHOLE # DS-BGC06-12

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 130

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW **Cased To (m)** : 2.80

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 15.5
Depth to Top of Rock (m) : 2.8
Logged by : AN/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description	Instrument Details
0						
1					-Refer to DS-BGC06-12 OVERBUDEN LOG for details above 2.8 m.	
2						
3		1	W1/W2		GRANODIORITE Grey, medium to coarse grained, very strong to extremely strong, fresh to slightly weathered, four joint sets plus random (30, 40, 50 and 60 degrees to core axis), joints are typically rough and planar, calcite and silt infill on joint surfaces, minor chlorite alteration on some joint surfaces, trace iron oxidiation, trace calcite and quartz veinlets. -NW casing set to 2.8 m -Fracture zone between 2.8 and 2.9 m. -Fracture zone between 3.2 and 3.4 m.	
4		2	W1			
5					-Calcite veinlets 30 degrees to the core axis between 5.1 m and 6.7 m.	
6		3	W1/W2			
7		4	W1/W2		-1-2 cm thick calcite vein at 7.1 m (approximately 20 degrees to the core axis).	
8						

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}
Core Recovery %
RQD % 20 40 60 80
UCS - MPa 50 100 150 200
■ Point Load
◇ Triaxial
RMR 20 40 60 80

(Continued on next page)

BOREHOLE # DS-BGC06-12

Project : 2006 Site Investigation Program, High Lake, NU

Project No. : 0385-04-15

Location : Dock Site
Co-ordinates (m) : 505,350E, 7,521,131N
Ground Elevation (m) : 0.16 (Top of Sea Ice)
Datum : UTM NAD 83
Dip (degrees from horizontal) : 65
Direction : 130

Drill Designation : BBS1
Drilling Contractor : Major Drilling
Drill Method : Diamond Drilling
Core : NQ
Fluid : Sea Water
Casing : NW **Cased To (m)** : 2.80

Start Date : 06 May 06
Finish Date: 06 May 06
Final Depth of Hole (m) : 15.5
Depth to Top of Rock (m) : 2.8
Logged by : AN/EN
Reviewed by : HHH

Depth (m)	Sample Type	Run No. (Sample No.)	Weathering Grade	Symbol	Lithologic Description
8			W1/W2		GRANODIORITE. Continued as above.
9		5	W1		
		1a			
					-Calcite veinlet approximately 20 degrees to the core axis at 9.7 m.
10		6	W1/W2		
11		7	W1		-2 mm wide quartz vein at 40 degrees to the core axis at 11.1 m.
12					
13		8	W1		
14					
		9	W1		
15					
					END OF BOREHOLE AT 15.5 m.
16					

Instrument Details

Hydraulic Conductivity (cm/sec) 10^{-8} 10^{-6} 10^{-4} 10^{-2}

Core Recovery %

RQD % 20 40 60 80

UCS - MPa 50 100 150 200

■ Point Load

◇ Triaxial

RMR 20 40 60 80

APPENDIX III
2006 HIGH LAKE AND DOCK SITE INVESTIGATION PHOTOGRAPHS (CD)

APPENDIX IV
2006 REPRESENTATIVE SITE PHOTOGRAPHS

Example of till cored between 1.0 and 1.2 m at BGC06-02.

Example of frost affected bedrock and till encountered between 3.2 and 3.9 m at BGC06-05. Ice content was estimated to be 10%.

Recovered till core between 0 and 1 m at BGC06-07. Ice content ranged between 1% and 5% between 0 and 0.60 m. Stratified ice content was 30% to 40% between 0.6 and 1.0 m.

Example of till with excess ice melted between 0 and 3.1 m at BGC06-08. Ice content was determined to range between 3% and 35%.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
EXAMPLES OF FROZEN OVERBURDEN CORE AND FROST AFFECTED BEDROCK

PROJECT No.	FIGURE No.	REV.
0385-003-15	IV-1	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

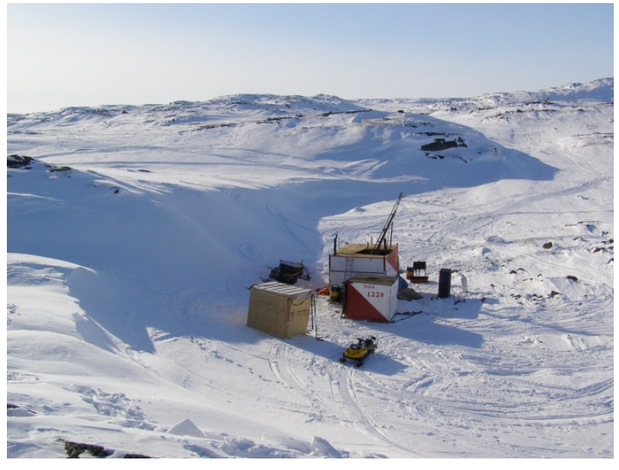
Looking north along the Kennarctic River Valley. Drill rig centered over BGC06-04.

Drill rig set-up over BGC06-06 at the East Dam.

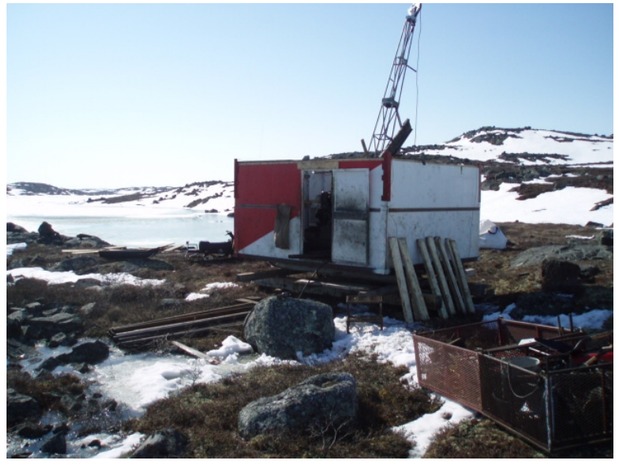
CLIENT:

WOLFDEN Resources Inc.

-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED



Borehole set-up over BGC06-09, at the Northeast Dam.



Drilling at BGC06-15, Northwest Channel Dam. Note the standing water on permafrost.

Drill rig located on the ice at DS-BGC06-01. Note the depth of the snow drifts along the shoreline.

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
EXAMPLES OF DRILL RIG SETUPS AT HIGH LAKE AND GRAYS BAY

PROJECT No.	FIGURE No.	REV.
0385-003-15	IV-2	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

BGC06-06 East Dam, Box 1, Depth 0-4.0 m.

BGC06-07 Polishing Pond, Box 1, depth 0-4.0 m.

BGC06-11 Northeast Dam Box 1, Depth 0-4.12 m. Frost affected bedrock and intact rock contact is 0.6 m.

BGC06-17 Water Dam, Box 1, Depth 0-4.3 m.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

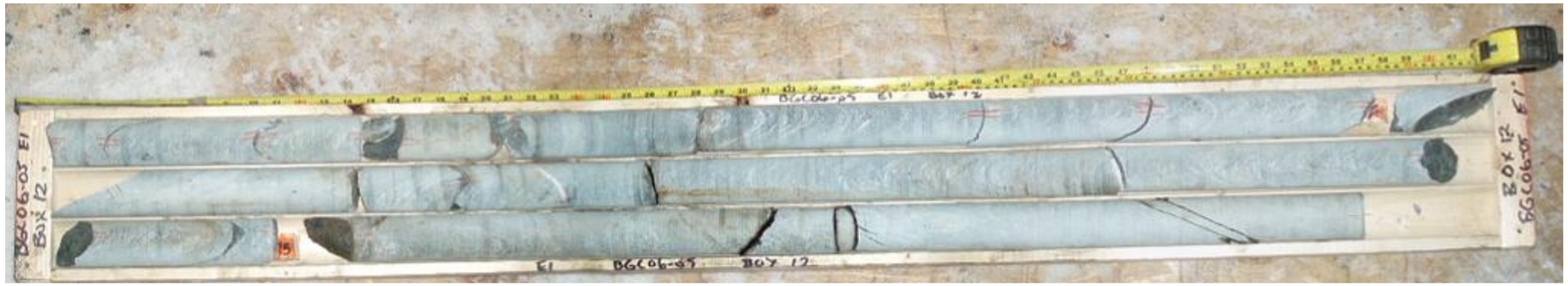
SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
EXAMPLES OF TOP OF INTACT BEDROCK FROM AROUND HIGH LAKE

PROJECT No.	FIGURE No.	REV.
0385-003-15	IV-3	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185



Massive tuff bedrock between 45.0 and 48.5 m at BGC06-05 (East Dam). RQD was found to range between 83% and 100%.

Moderately jointed metavolcanic bedrock encountered between 8.8 and 12.8 m at BGC06-10 (Northeast Dam). The RQD was found to range between 0% and 75%.

Very fractured and broken metavolcanic bedrock encountered between 10.8 and 15.6 m at BGC 06-14 (A/B Toe Dike). The RQD was found to range between 0% and 31%.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

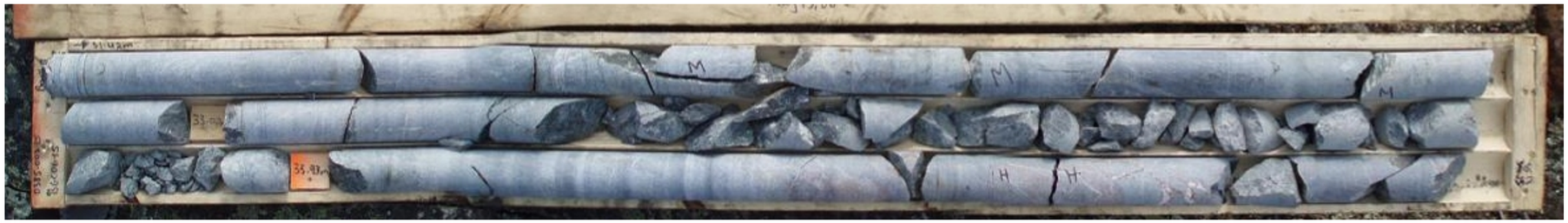
SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

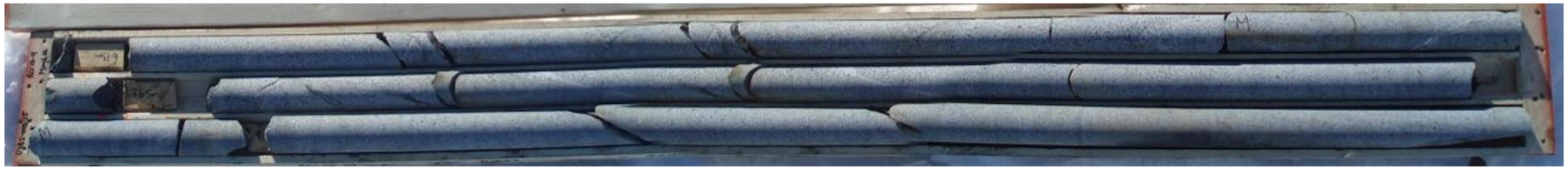
TITLE
EXAMPLES OF VARYING RQD VALUES

PROJECT No.	FIGURE No.	REV.
0385-003-15	IV-4	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185



Varied metavolcanic bedrock quality between 31.4 and 35.1 m at BGC06-15. The RQD was found to range between 13% and 91%.



Massive intact gradodiorte bedrock encountered between 6.1 and 10.3 m at DS-BGC06-01. The RQD was found to range between 71% and 94%.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
EXAMPLES OF VARYING RQD VALUES

PROJECT No.	FIGURE No.	REV.
0385-003-15	IV-5	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

APPENDIX V
2006 LABORATORY TESTING RESULTS

2006 High Lake Site Investigation Program- Summary of Samples Collected					Moisture Content	Atterberg Limits	Sieve	Hydrometer	Soluble Sulphates	Point Load Test
Borehole	**Location**	**Sample #**	**Depth (m)**	**Notes**						
BGC06-01	PS1	1	0.5	silty sand, trace gravel till	X				X	
BGC06-01	PS1	2	1.7	frost affected bedrock with till on joint						
BGC06-02	PS3	1	0.55	silty sandy gravelly till and cobbles	X		X			
BGC06-02	PS3	2	1.1	silty sandy gravelly till and cobbles	X	X			X	
BGC06-03	PS2	1	0.05	organic soil	X					
BGC06-03	PS2	2	0.9	silty sand till	X				X	
BGC06-03	PS2	3	1.15	sandy gravel till	X					
BGC06-03	PS2	4	1.75	sandy gravel till	X					
BGC06-04	E5	1	15.9	tuff - Intact Rock						X
BGC06-04	E5	2	9.9	tuff - Intact Rock						X
BGC06-05	E1	1	0.45	clayey sand, gravel and cobbles	X					
BGC06-05	E1	2	1.55	sand, some gravel, trace silt till	X		X			
BGC06-05	E1	3	2.4	silt till	X					
BGC06-05	E1	4	3.35	sand till	X	X				
BGC06-06	E3	1	0.3	silty sand till	X	X				
BGC06-07	PP2	1	0.25	sandy silt till	X					
BGC06-07	PP2	2	0.75	sandy silt till	X	X				
BGC06-07	PP2	3	1.2	sandy silt till	X					
BGC06-08	PP3	1	0.2	silty sand	X	X				
BGC06-08	PP3	2	0.5	gravelly sand	X		X			
BGC06-08	PP3	3	1.8	sand and gravel	X					
BGC06-08	PP3	4	2.3	sand and gravel	X					
BGC06-08	PP3	5	2.8	sandy gravel	X					
BGC06-08	PP3	6	3.45	gravelly sand	X					
BGC06-09	NE5	1	1.4	silt, some sand till	X		X			
BGC06-09	NE5	2	2.45	sand, some silt till	X	X				
BGC06-09	NE5	3	3.6	ice	X					
BGC06-09	NE5	4	4.35	silty sand till	X					
BGC06-09	NE5	5	5.2	silty sand till	X	X				
BGC06-10	NE4	1	0.5	silty topsoil	X					
BGC06-10	NE4	2	1.94	silty sand till	X		X			
BGC06-10	NE4	3	2.84	metavolcanic rock fragment with sand on joint surface						

2006 High Lake Site Investigation Program- Summary of Samples Collected					Moisture Content	Atterberg Limits	Sieve	Hydrometer	Soluble Sulphates	Point Load Test
Borehole	**Location**	**Sample #**	**Depth (m)**	**Notes**						
BGC06-10	NE4	4	8.78	metavolcanic rock fragments						
BGC06-10	NE4	5	13.46	metavolcanic intact rock						X
BGC06-10	NE4	6	21.89	metavolcanic intact rock (short sample)						
BGC06-10	NE4	7	24	metavolcanic rock fragments with till on joint surface						
BGC06-10	NE4	8	Approx 25	Intact rock						
BGC06-11	NE1	1	0.15	silty, gravelly sand till	X		X			
BGC06-11	NE1	2	2	metavolcanic intact rock - not suitable for UCS testing						X
BGC06-11	NE1	3	6.59	metavolcanic intact rock						X
BGC06-11	NE1	4	18.5	metavolcanic rock joint with till on the joint surface						X
BGC06-11	NE1	5		metavolcanic intact rock						
BGC06-11	NE1	6	48.61	metavolcanic intact rock						X
BGC06-12	NE3	1	0.3	gravelly cobbles, some silt till	X					
BGC06-12	NE3	2	1.2	gravelly cobbles, some silt till	X	X				
BGC06-12	NE3	3	2	gravel and sand till	X		X			
BGC06-13	NW2	1	1.11	metavolcanic frost affected bedrock and silty sand till on the joint surface						
BGC06-13	NW2	2	1.45	silty sand till	X		X			
BGC06-13	NW2	3	17.5	metavolcanic - two cobbles and till						
BGC06-13	NW2	4	35.8	metavolcanic intact rock						X
BGC06-14	D2	1	14.97	metavolcanic rock - three fragments of core						
BGC06-15	NWC2	1	0.63	sand, some silt till	X	X				
BGC06-15	NWC2	2	35.73	metavolcanic rock with hematite alteration (small piece)						X (axially)
BGC06-15	NWC2	3	50	metavolcanic intact rock						X
BGC06-16	NWC1	1	0.15	organic soil	X	X				
BGC06-16	NWC1	2	1.45	silty sand till	X	X	X			
BGC06-16	NWC1	3	4.5	metavolcanic jointed rock fragments						
BGC06-16	NWC1	4	10.5	metavolcanic intact rock						
BGC06-17	WD1	1	1.2	silty gravelly sand till	X	X	X			
BGC06-17	WD1	2	1.9	gravelly, sandy silt till	X	X	X			
BGC06-17	WD1	3	26.1	metavolcanic - Intact Rock (short sample)						X (axially)
BGC06-17	WD1	4	49.6	metavolcanic - Intact Rock (short sample)						X (axially)
BGC06-18	WD2	1	1	metavolcanic frost affected bedrock with till	X	X				

2006 High Lake Site Investigation Program- Summary of Samples Collected					Moisture Content	Atterberg Limits	Sieve	Hydrometer	Soluble Sulphates	Point Load Test
Borehole	**Location**	**Sample #**	**Depth (m)**	**Notes**						
BGC06-18	WD2	2	2.62	granodiorite Intact Rock (small piece)						X
BGC06-18	WD2	3	2.18	metavolcanic frost affected bedrock with till on joint surfaces						
BGC06-19	S2	1	0.82	metavolcanic intact rock (small piece)						X
BGC06-19	S2	2	4.92	metavolcanic core with silty material on joint surface						
BGC06-19	S2	3	6.25	metavolcanic intact rock (small piece)						X
BGC06-20	S1	1	1.1	sandy, gravelly silt till	X	X				
BGC06-20	S1	2	1.9	sandy, gravelly silt till	X					
BGC06-20	S1	3	3.1	gravel and cobbles	X		X			
BGC06-20	S1	4	4.5	metavolcanic FAB	X					
BGC06-20	S1	5	6.65	metavolcanic cobbles						
BGC06-20	S1	6	8.66	metavolcanic - core with red silty alteration						
BGC06-20	S1	7	9.18	metavolcanic frost affected bedrock with red silty alteration on joints						
BGC06-20	S1	8	11.8	silty sand, some clay	X	X	X			
BGC06-20	S1	9	16.37	metavolcanic intact rock						X
BGC06-20	S1	10	37.1	metavolcanic intact rock						X
BGC06-21	L8-1	1	0.45	metavolcanic intact rock - 8.5 cm long						X (axially)
BGC06-21	L8-1	2	1.26	metavolcanic - two pieces of jointed core						
BGC06-21	L8-1	3	8	metavolcanic intact rock						X
BGC06-21	L8-1	4	9	metavolcanic fractured zone with gravel and cobble sized fragments						
BGC06-21	L8-1	5	12.9	metavolcanic rock - 2 small pieces of intact core						
BGC06-21	L8-1	7	48.7	metavolcanic intact rock						X
BGC06-22	L8-2	1	1	cobbles	X					
BGC06-22	L8-2	2	1.6	silty sand till	X	X				
BGC06-22	L8-2	3	2.7	ice, some silt, some sand	X					
BGC06-22	L8-2	4	3.76	silty sand till	X					
BGC06-22	L8-2	5	4.75	silty, gravelly sand till	X	X	X			
BGC06-22	L8-2	6	6.68	granodiorite - intact rock with hematite alteration						X
BGC06-22	L8-2	7	9.38	granodiorite - intact rock with some hematite alteration						X
BGC06-23	D1	1	19.3	metavolcanic - Two cobbles						
BGC06-23	D1	2	20.52	metavolcanic - Intact Rock with hematite alteration						X
BGC06-23	D1	3	23.97	diabase intact rock						X

2006 High Lake Site Investigation Program- Summary of Samples Collected					Moisture Content	Atterberg Limits	Sieve	Hydrometer	Soluble Sulphates	Point Load Test
Borehole	**Location**	**Sample #**	**Depth (m)**	**Notes**						
BGC06-23	D1	1LS	12	lake Sediments	X	X		X		
BGC06-23	D1	2LS	13.2	lake Sediments	X	X		X		
BGC06-23	D1	3LS	14	lake Sediments - sampled with bruno's contraption	X	X		X		
BGC06-24	E4	1	0.2	silty sand till, trace gravel	X					
BGC06-24	E4	2	3.46	metavolcanic - Intact Rock						X
BGC06-24	E4	3	6.95	metavolcanic - Intact Rock						X
BGC06-25	E3	1	0.3	cobbles						
BGC06-25	E3	2	2.2	silty clay till						
BGC06-25	E3	3	3.38	tuff intact rock with silty material on joints						
BGC06-25	E3	4	8.04	tuff - Intact Rock						X
BGC06-25	E3	5	18.3	tuff - Intact Rock						X
BGC06-DS-01		1	15	granodiorite, intact rock						X
BGC06-DS-06	Dock Site	1	6.46	granodiorite, Intact Rock - Joint surface with silty coating						
BGC06-DS-06	Dock Site	2	16.02	granodiorite, Intact Rock + 2 pieces of core + Joints infilled with epidote						
BGC06-DS-11	Dock Site	1	5.8	granodiorite - Intact Rock						X
BGC06-DS-11	Dock Site	2	14.7	granodiorite - Intact Rock						X
BGC06-DS-12	Dock Site	1	9.45	granodiorite - Intact Rock						X
				Totals	**53**	**21**	**14**	**3**	**3**	**28**

Summary of Atterberg Limit Testing Results

Borehole Number	Sample Depth (m)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index
BGC06-16	1.45	23	Non-Plastic	N/A
BGC06-17	1.9	Non-Plastic	Non-Plastic	N/A
BGC06-18	1	Non-Plastic	Non-Plastic	N/A
BGC06-20	1.1	Non-Plastic	Non-Plastic	N/A
BGC06-22	1.6	Non-Plastic	Non-Plastic	N/A
BGC06-22	4.75	Non-Plastic	Non-Plastic	N/A
BGC06-23#1LS	12	Non-Plastic	Non-Plastic	N/A
BGC06-23#2LS	13.2	Non-Plastic	Non-Plastic	N/A
BGC06-23#3LS	14	Non-Plastic	Non-Plastic	N/A

Summary of Moisture Content Testing Results

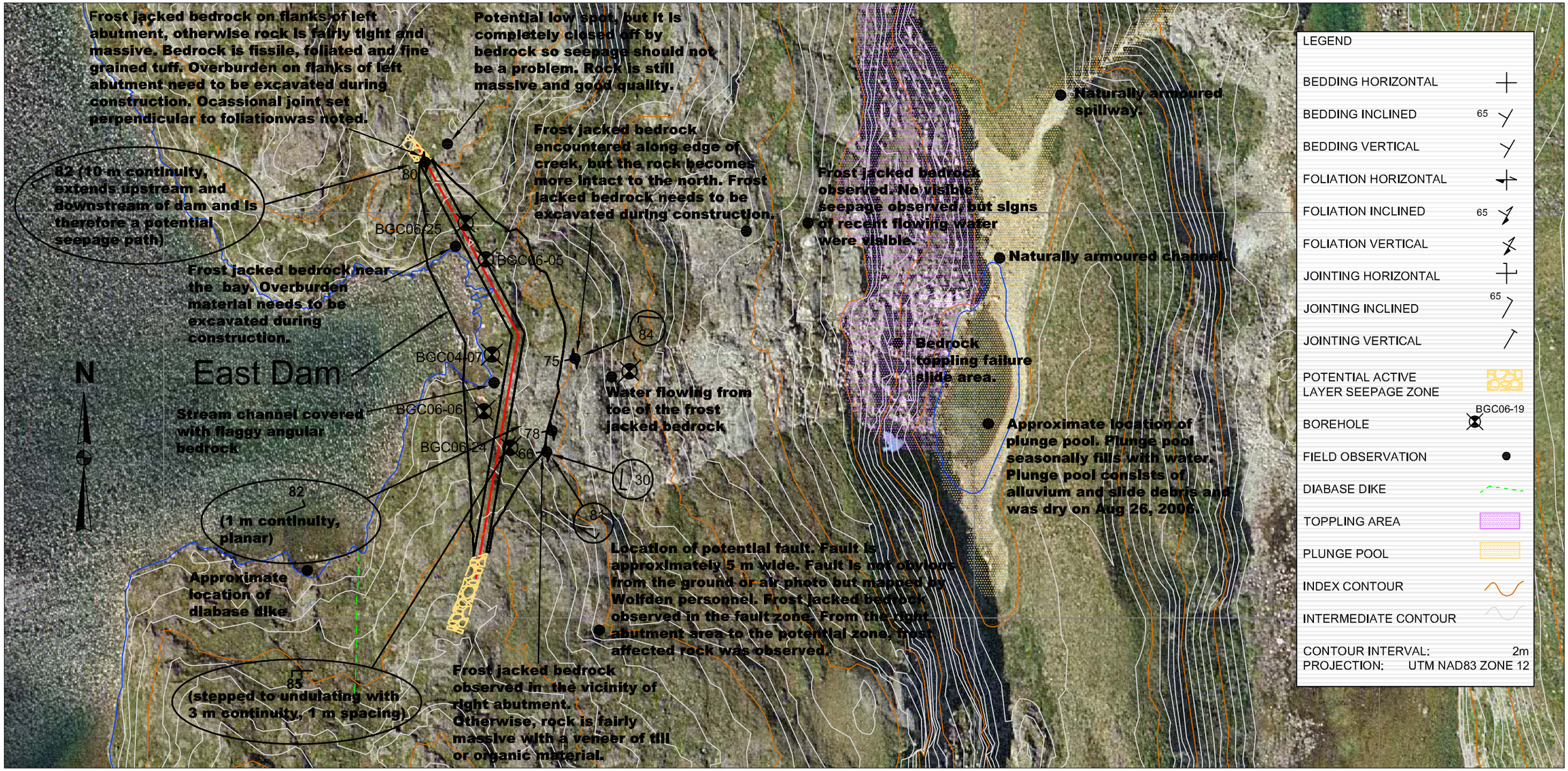
Borehole Number	Sample Depth (m)	Moisture Content (%)
BGC06-01	0.5	7.2
BGC06-02	0.5-0.65	6.9
BGC06-02	1.07-1.18	8.2
BGC06-03	0.1	199.1
	0.85-1	7.6
	1.1-1.2	6.5
	1.7-1.8	12.1
BGC06-05	0.4-0.5	6.7
	1.5-1.6	8.2
	2.4-2.43	14
	3.3-3.34	18.7
BGC06-06	0.25-0.33	14.3
BGC06-07	0.2-0.3	17.5
	0.7-0.82	16.7
	1.15-1.3	23.1
BGC06-08	0.15-0.25	11.4
	0.5	11.7
	1.7-1.85	7.3
	2.2-2.35	14.6
	2.75-2.9	7.3
	3.4-3.55	6.6
BGC06-09	1.3-1.5	32.4
	2.4-2.5	42.3
	3.5-3.7	637
	4.3-4.5	79.8
	5.1-5.3	12.9
BGC06-10	0.5	4.7
	1.94	8.7
BGC06-11	0.15	12.9
BGC06-12	0.3	2.8
	1.2	10.7
	2	7.2
BGC06-13	1.45	14.2
BGC06-15	0.63	14.8
BGC06-16	0.15	71.9
	1.45	13.8
BGC06-17	1.2	8.3
	1.9	7.1
BGC06-18	1	17.3
BGC06-20	1.1	7.98
	1.9	3.6
	3.1	4.5
	4.1	2.9
	11.8	8.3
BGC06-22	1	1.9
	1.6	12.9
	2.7	5.5
	3.76	6.5
	4.75	10.2
BGC06-24	0.2	19.8

Summary of Grain Size Analyses Results

Borehole Number	Sample Depth (m)	% Sand	% Gravel	% Fines
BGC06-02	1.1	41.2	38.3	20.5
BGC06-05	1.55	33.4	58.3	8.3
BGC06-08	0.5	47.7	16.6	35.7
BGC06-09	1.4	30.8	15.1	54.1
BGC06-10	1.94	66	13.2	20.8
BGC06-11	0.15	60	7.9	32.1
BGC06-12	2	44.6	50	5.4
BGC06-13	1.45	40.4	5.9	53.7
BGC06-17	1.2	52.1	19	28.9
BGC06-20	3.1	23.6	66	10.4
BGC06-20	11.8	65.3	13	21.7
BGC06-23#1LS	12	25	0	75
BGC06-23#2LS	13.2	16	0	84
BGC06-23#3LS	14	28	0	72

Summary of Point Load Testing Conducted on Intact Bedrock Samples				
Borehole Number	Depth of Sampling Location	Test Type Axially (A) or Diametral (D)	Estimated UCS (MPa)	Average UCS per Sample
BGC06-04	15.9	D	316.4	302.8
BGC06-04	15.9	D	289.1	
BGC06-04	9.9	D	371	357.4
BGC06-04	9.9	D	343.7	
BGC06-10	13.46	D	104.8	116.9
BGC06-10	13.46	D	84.3	
BGC06-10	13.46	D	161.7	
BGC06-11	2	D	302.7	328.9
BGC06-11	2	D	355.1	
BGC06-11	6.59	D	266.3	257.2
BGC06-11	6.59	D	248.1	
BGC06-11	48.61	D	173	191.2
BGC06-11	48.61	D	209.4	
BGC06-11	18.5	D	289.1	293.7
BGC06-11	18.5	D	298.2	
BGC06-13	35.8	D	107.0	115.0
BGC06-13	35.8	D	123.0	
BGC06-15	35.73	A	584.6	584.6
BGC06-15	50	D	138.9	109.3
BGC06-15	50	D	79.7	
BGC06-17	26.1	A	181.6	181.6
BGC06-17	49.6	A	302.7	302.7
BGC06-18	2.62	D	189.0	204.9
BGC06-18	2.62	D	220.8	
BGC06-19	0.82	D	236.7	236.7
BGC06-19	6.25	D	266.3	223.1
BGC06-19	6.25	D	179.9	
BGC06-20	16.37	D	266.3	259.5
BGC06-20	16.37	D	252.7	
BGC06-20	37.1	D	252.7	214.0
BGC06-20	37.1	D	175.3	
BGC06-21	0.45	A	199.8	199.8
BGC06-21	8	D	309.6	308.5
BGC06-21	8	D	307.3	
BGC06-21	48.7	D	280.0	273.2
BGC06-21	48.7	D	266.3	
BGC06-21	12.9	D	214.0	210.6
BGC06-21	12.9	D	207.2	
BGC06-22	6.68	D	189.0	156.0
BGC06-22	6.68	D	123.0	
BGC06-22	9.38	D	289.1	242.5
BGC06-22	9.38	D	195.8	
BGC06-23	20.52	D	170.8	170.8
BGC06-23	23.97	D	198.1	274.3
BGC06-23	23.97	D	350.5	
BGC06-24	3.46	D	138.9	164.0
BGC06-24	3.46	D	189.0	
BGC06-24	6.95	D	255.0	203.8
BGC06-24	6.95	D	152.5	
BGC06-25	8.04	D	179.9	157.1
BGC06-25	8.04	D	134.3	
BGC06-25	18.3	D	179.9	157.1
BGC06-25	18.3	D	134.3	
DS-BGC06-01	15	D	234.5	207.3
DS-BGC06-01	15	D	180	
DS-BGC06-11	5.8	D	343.7	319.8
DS-BGC06-11	5.8	D	295.9	
DS-BGC06-11	14.7	D	289.1	293.7
DS-BGC06-11	14.7	D	298.2	
DS-BGC06-12	9.45	D	264.1	299.4
DS-BGC06-12	9.45	D	334.6	

APPENDIX VI
2006 GEOLOGICAL FIELD MAPPING PROGRAM



Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

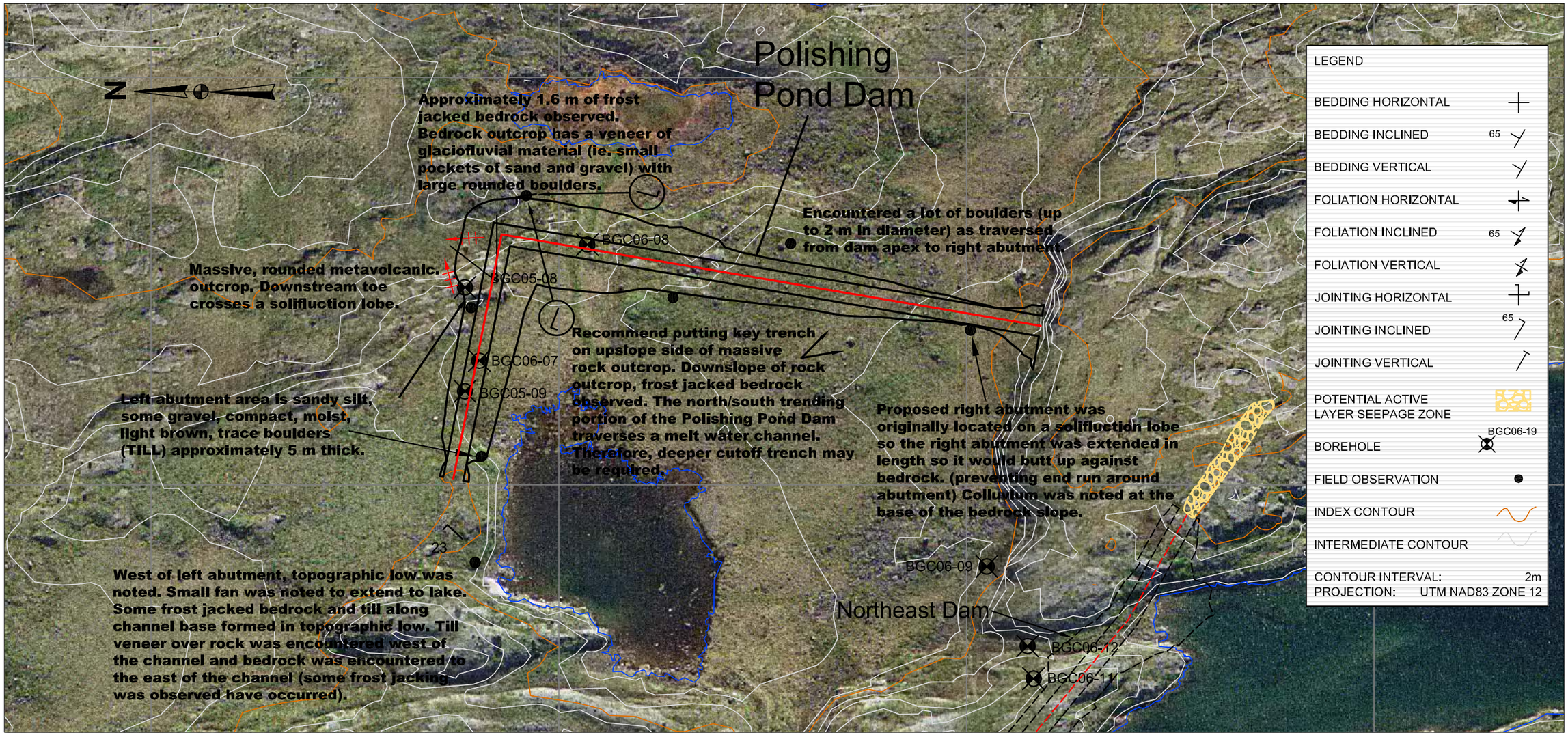
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: EAST DAM FIELD MAPPING

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 1	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1.dwg Layout: East Dam API_TFN Plot Date: Mar 26 07 Time: 9:28 AM



Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

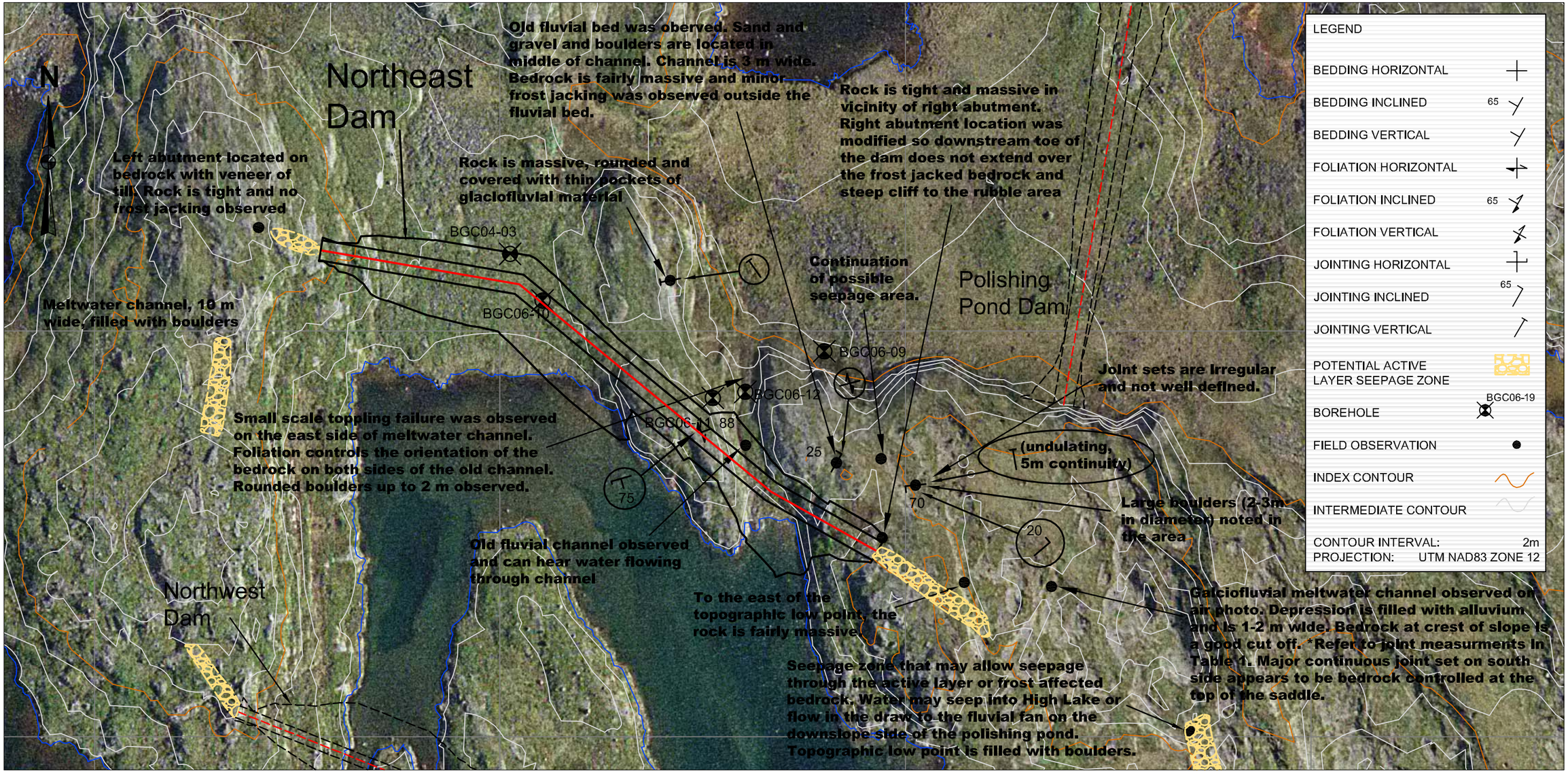
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: POLISHING POND DAM FIELD MAPPING

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 2	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Draw\hpsl0385-003-15 Interpretation 1_recover001.dwg Layout: PP API_TFN Plot Date: Mar 28 07 Time: 1:33 PM



Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

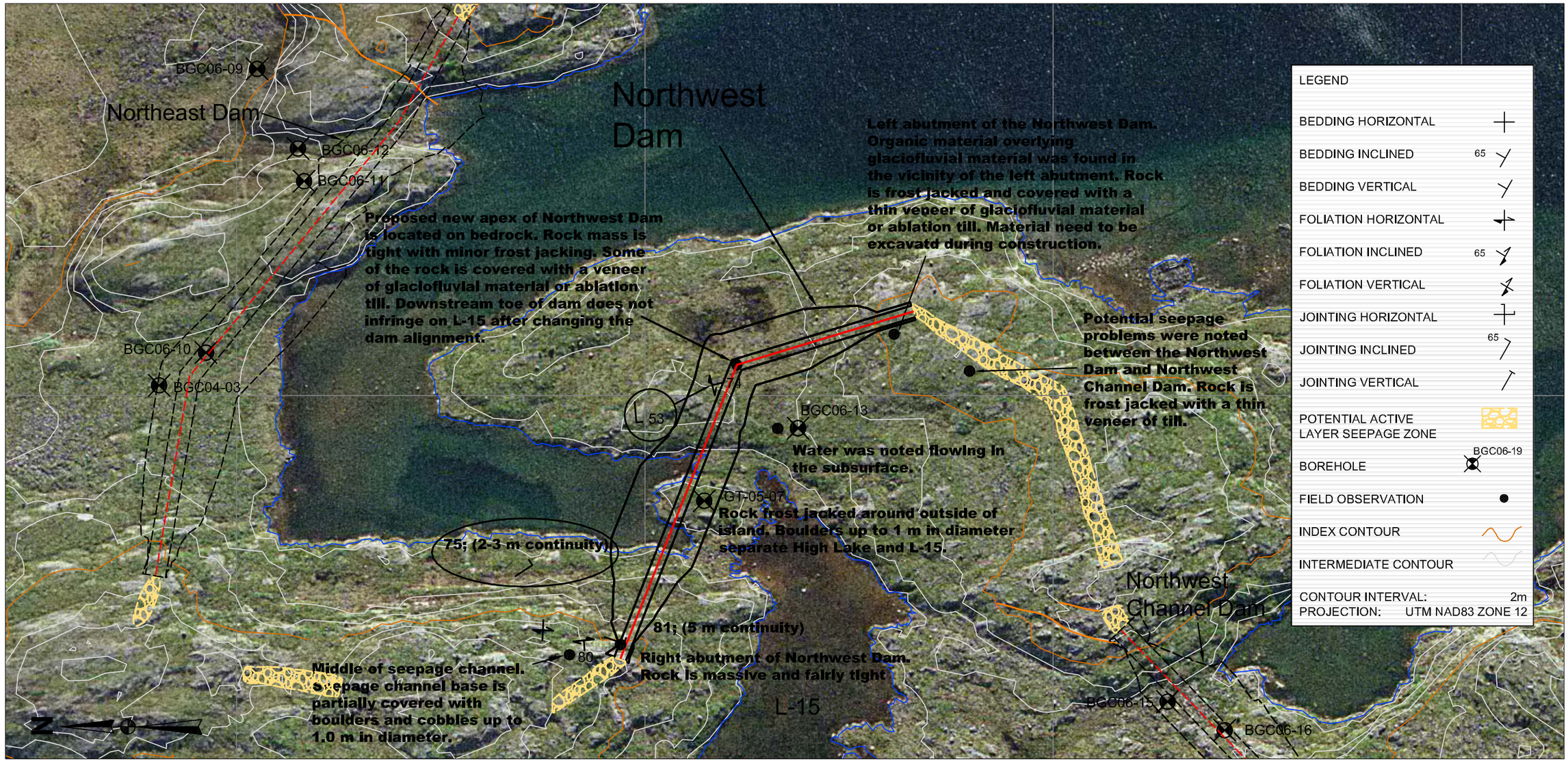
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHEAST DAM FIELD MAPING

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 3	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Draw\Post\0385-003-15 Interpretation 1_recover001.dwg Layout: NE Dam API_TFN Plot Date: Mar 28 07 Time: 1:10 PM



Scale 1:2000

40 0 40 80 120

meters

TT

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: AS SHOWN
DATE: MARCH 2007
DRAWN: REM
DESIGNED: EBN
CHECKED: AJ
APPROVED: JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

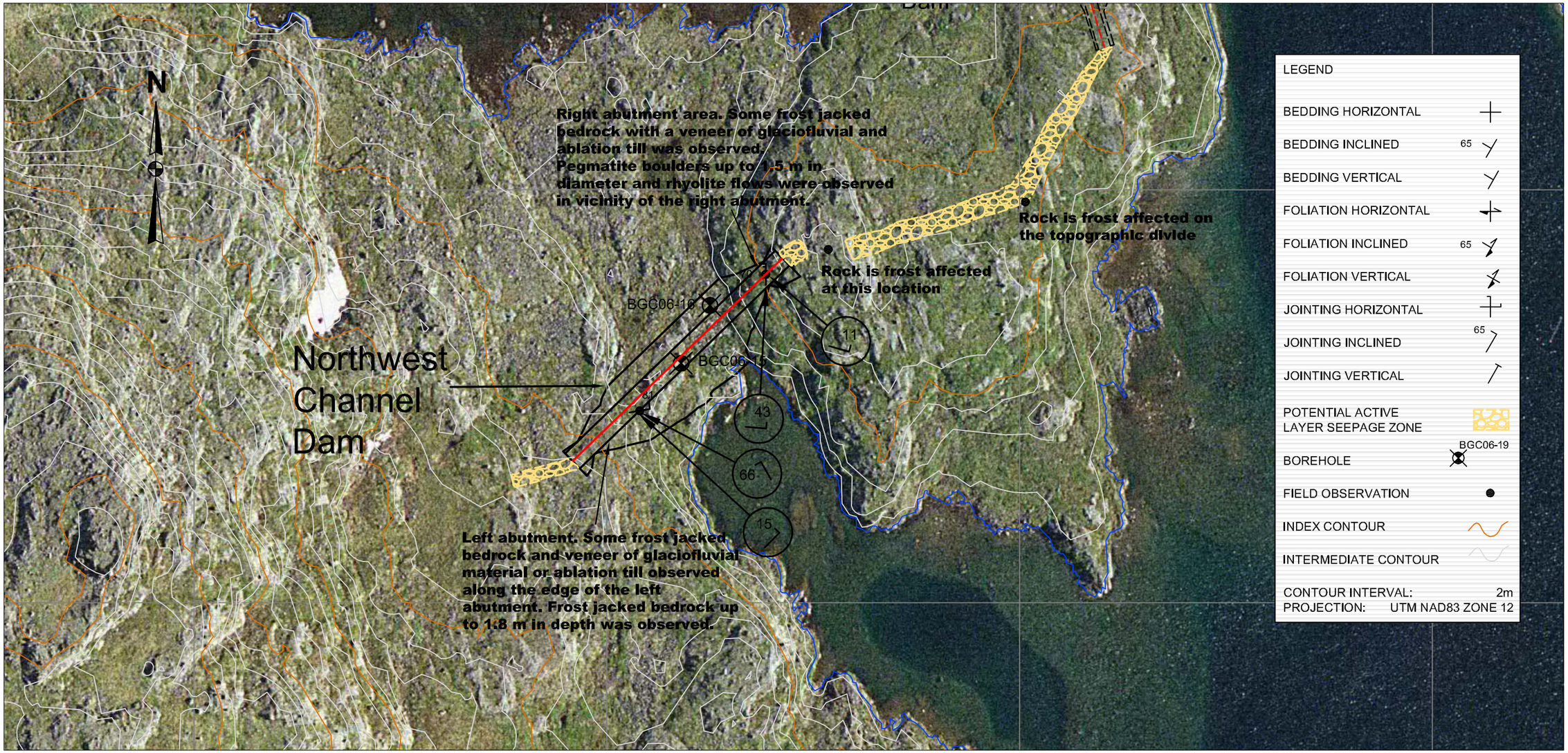
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST DAM FIELD MAPPING

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 4	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1_recover001.dwg Layout: NW Dam API_TFN Plot Date: Mar 28 07 Time: 1:32 PM



Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

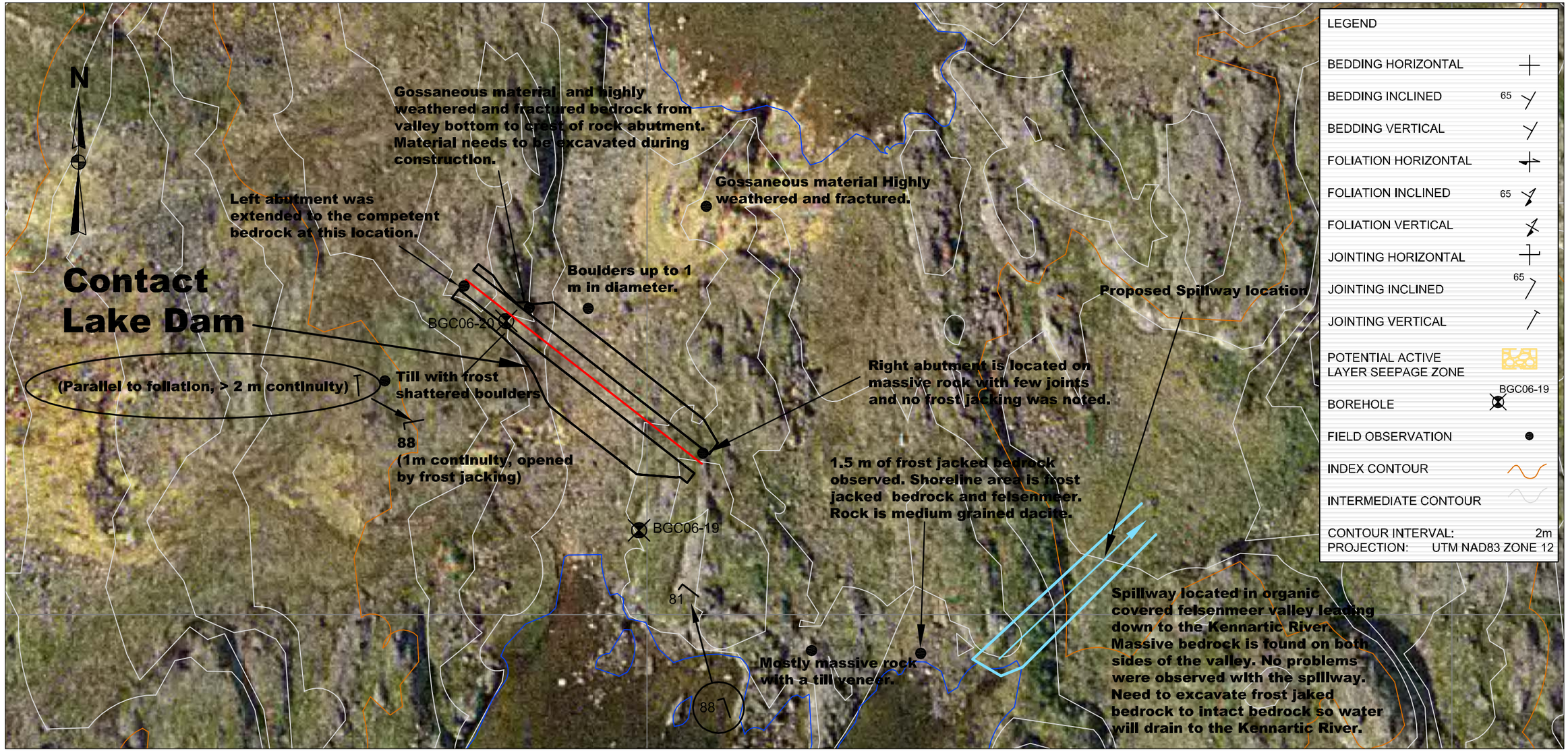
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST CHANNEL DAM FIELD MAPPING

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 5	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1_recover001.dwg Layout: NW Channel Dam API_TFN Plot Date: Mar 28 07 Time: 1:13 PM



Scale 1:1000

20 0 20 40 60

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

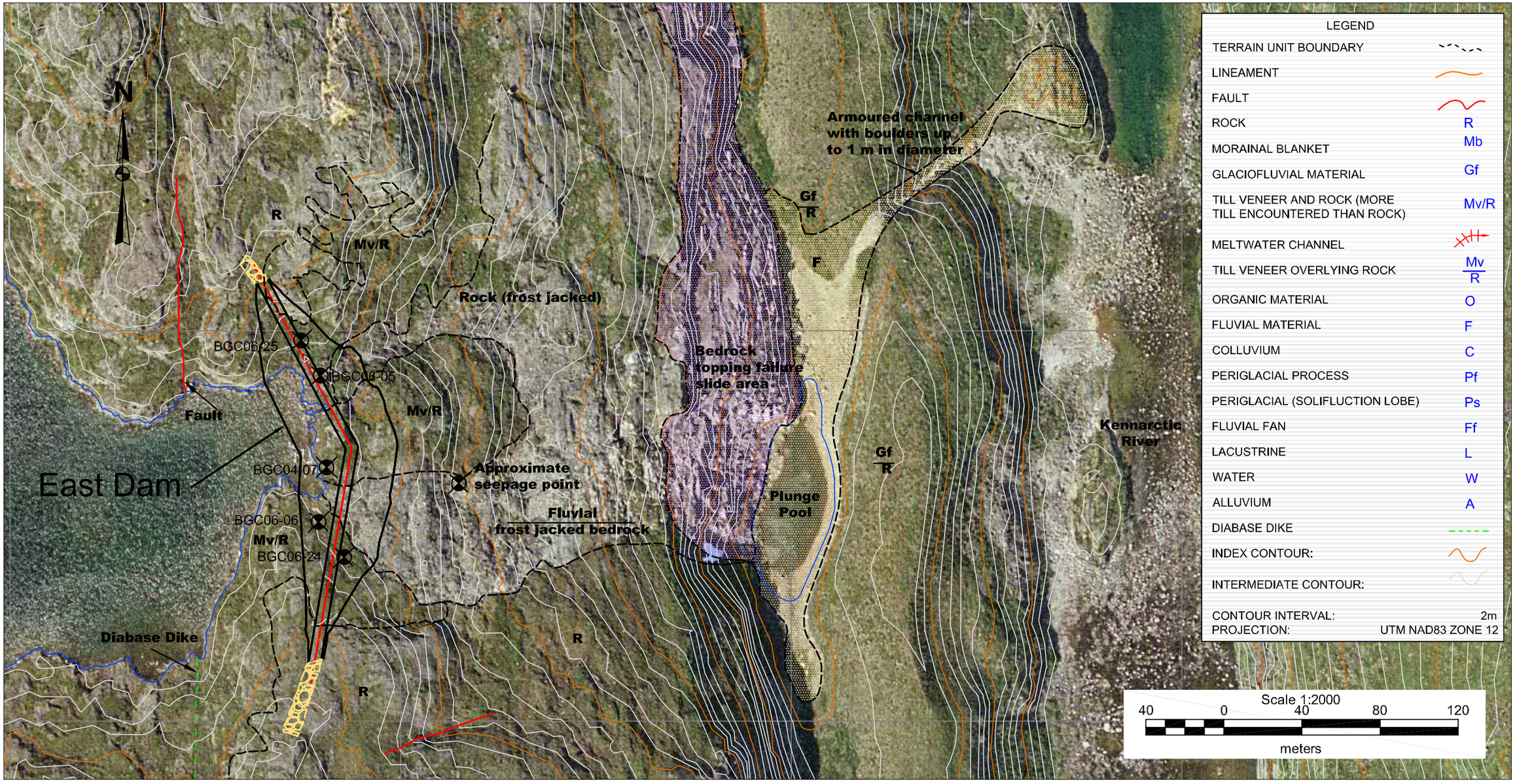
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: CONTACT LAKE DAM FIELD MAPPING

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 6	0

K:\Projects\0385 Wolfden Resources\000 HL Prefeasibility Study\15 Drilling Program\3 Report Graphics\Drawings\0385-003-15 Interpretation 1.dwg Layout: Contact Lake Dam API_TFN Plot Date: Mar 26 07 Time: 9:32 AM



LEGEND

TERRAIN UNIT BOUNDARY	
LINEAMENT	
FAULT	
ROCK	R
MORAINAL BLANKET	Mb
GLACIOFLUVIAL MATERIAL	Gf
TILL VENEER AND ROCK (MORE TILL ENCOUNTERED THAN ROCK)	Mv/R
MELTWATER CHANNEL	
TILL VENEER OVERLYING ROCK	Mv / R
ORGANIC MATERIAL	O
FLUVIAL MATERIAL	F
COLLUVIUM	C
PERIGLACIAL PROCESS	Pf
PERIGLACIAL (SOLIFLUCTION LOBE)	Ps
FLUVIAL FAN	Ff
LACUSTRINE	L
WATER	W
ALLUVIUM	A
DIABASE DIKE	
INDEX CONTOUR:	
INTERMEDIATE CONTOUR:	

CONTOUR INTERVAL: 2m
PROJECTION: UTM NAD83 ZONE 12

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

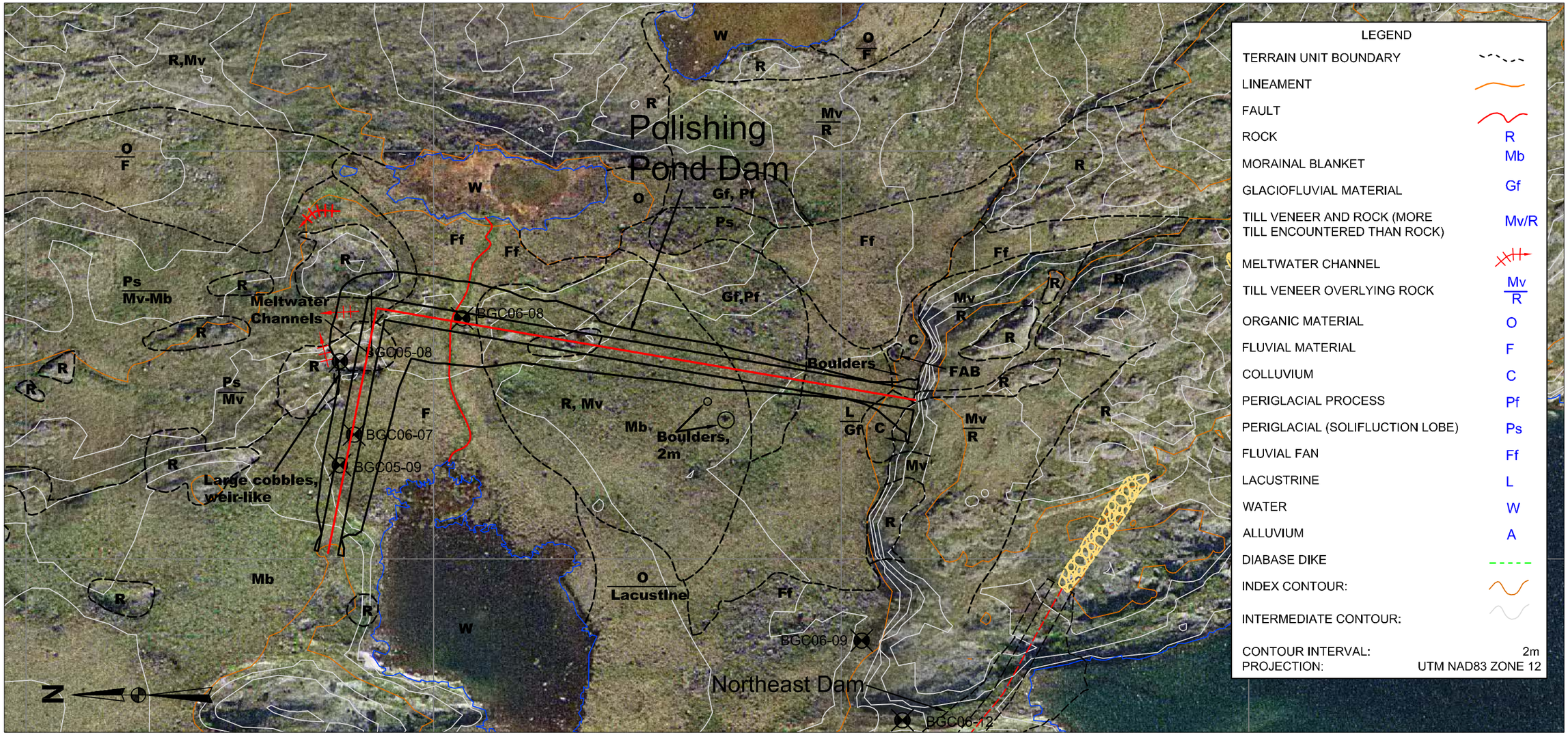
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: EAST DAM TERRAIN MAP

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 7	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drafting Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1.dwg Layout: East Dam API Plot Date: Mar 26 07 Time: 8:32 AM



LEGEND

TERRAIN UNIT BOUNDARY	
LINEAMENT	
FAULT	
ROCK	R
MORAINAL BLANKET	Mb
GLACIOFLUVIAL MATERIAL	Gf
TILL VENEER AND ROCK (MORE TILL ENCOUNTERED THAN ROCK)	Mv/R
MELTWATER CHANNEL	
TILL VENEER OVERLYING ROCK	Mv/R
ORGANIC MATERIAL	O
FLUVIAL MATERIAL	F
COLLUVIUM	C
PERIGLACIAL PROCESS	Pf
PERIGLACIAL (SOLIFLUCTION LOBE)	Ps
FLUVIAL FAN	Ff
LACUSTRINE	L
WATER	W
ALLUVIUM	A
DIABASE DIKE	
INDEX CONTOUR:	
INTERMEDIATE CONTOUR:	
CONTOUR INTERVAL:	2m
PROJECTION:	UTM NAD83 ZONE 12

Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

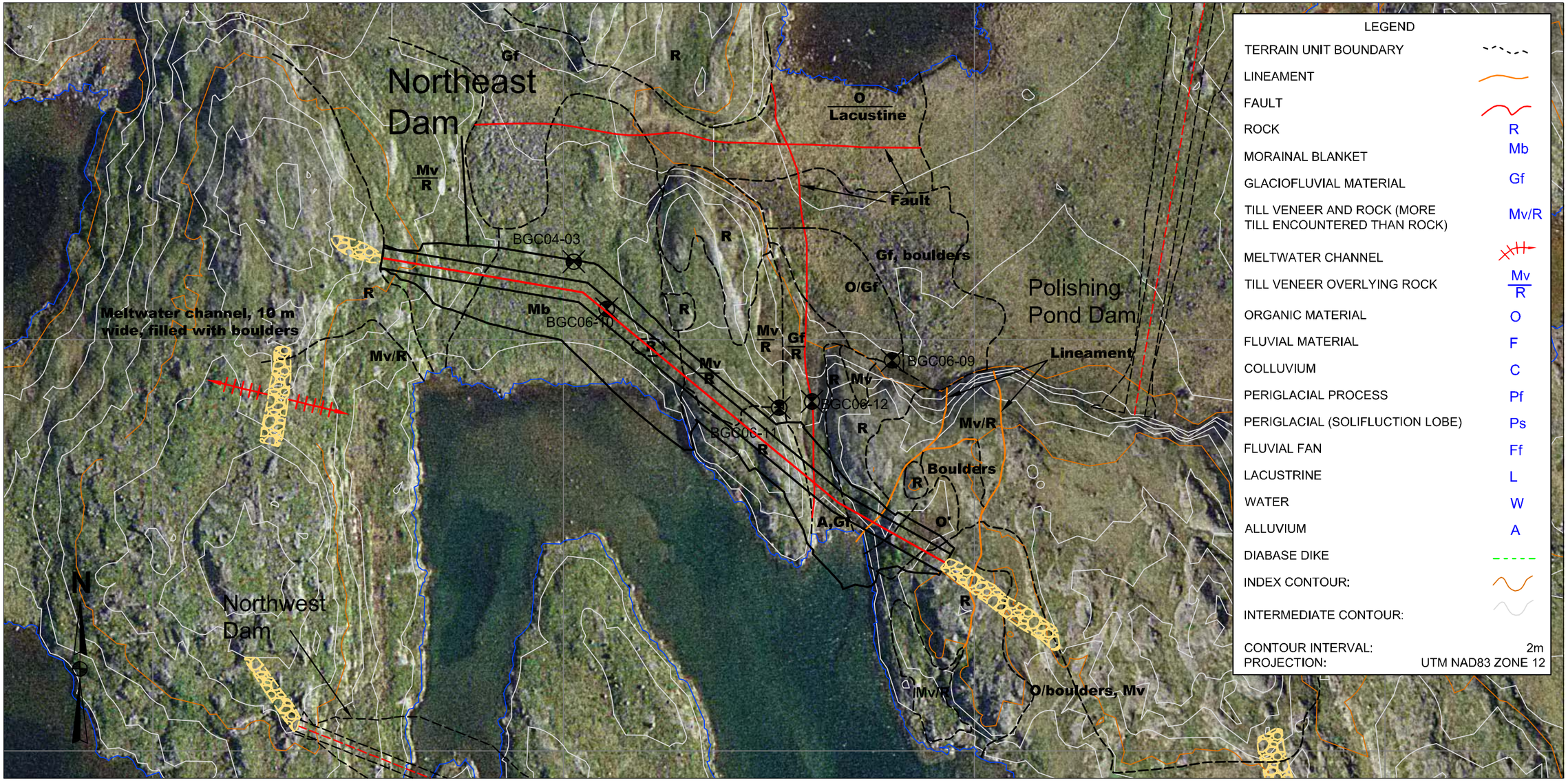
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: POLISHING POND TERRAIN MAP

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 8	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1_recover001.dwg Layout: PP-API Plot Date: Mar 28 07 Time: 1:33 PM



LEGEND

TERRAIN UNIT BOUNDARY	
LINEAMENT	
FAULT	
ROCK	R
MORAINAL BLANKET	Mb
GLACIOFLUVIAL MATERIAL	Gf
TILL VENEER AND ROCK (MORE TILL ENCOUNTERED THAN ROCK)	Mv/R
MELTWATER CHANNEL	
TILL VENEER OVERLYING ROCK	Mv / R
ORGANIC MATERIAL	O
FLUVIAL MATERIAL	F
COLLUVIUM	C
PERIGLACIAL PROCESS	Pf
PERIGLACIAL (SOLIFLUCTION LOBE)	Ps
FLUVIAL FAN	Ff
LACUSTRINE	L
WATER	W
ALLUVIUM	A
DIABASE DIKE	
INDEX CONTOUR:	
INTERMEDIATE CONTOUR:	
CONTOUR INTERVAL:	2m
PROJECTION:	UTM NAD83 ZONE 12

Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

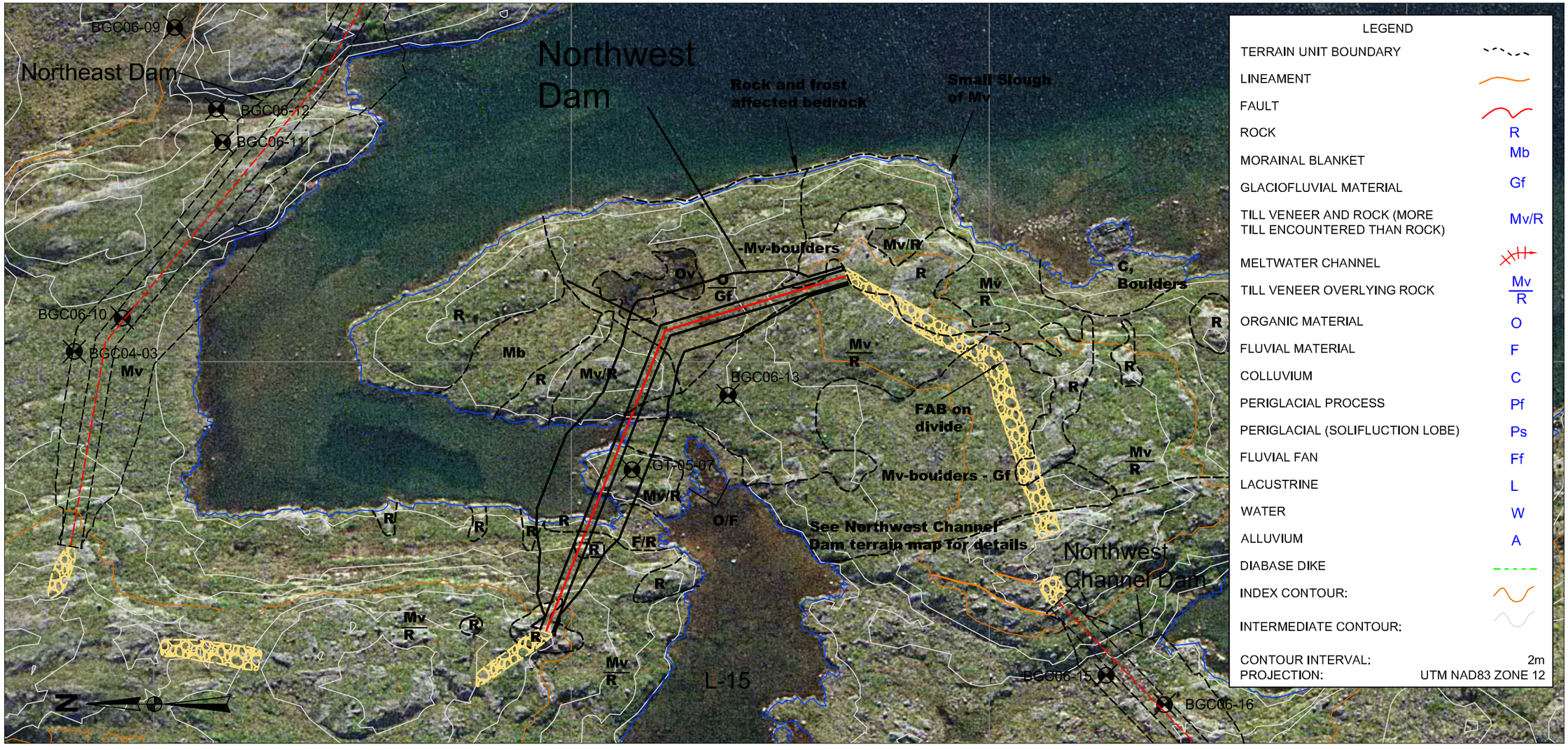
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHEAST DAM TERRAIN MAP

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 9	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Draw\Rpts\0385-003-15 Interpretation 1_recover001.dwg Layout: NE Dam API Plot Date: Mar 28, 07 Time: 1:14 PM



LEGEND

TERRAIN UNIT BOUNDARY	
LINEAMENT	
FAULT	
ROCK	R
MORAINAL BLANKET	Mb
GLACIOFLUVIAL MATERIAL	Gf
TILL VENEER AND ROCK (MORE TILL ENCOUNTERED THAN ROCK)	Mv/R
MELTWATER CHANNEL	
TILL VENEER OVERLYING ROCK	Mv / R
ORGANIC MATERIAL	O
FLUVIAL MATERIAL	F
COLLUVIUM	C
PERIGLACIAL PROCESS	Pf
PERIGLACIAL (SOLIFLUCTION LOBE)	Ps
FLUVIAL FAN	Ff
LACUSTRINE	L
WATER	W
ALLUVIUM	A
DIABASE DIKE	
INDEX CONTOUR:	
INTERMEDIATE CONTOUR:	
CONTOUR INTERVAL:	2m
PROJECTION:	UTM NAD83 ZONE 12

Scale 1:2000

40 0 40 80 120

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	AS SHOWN
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

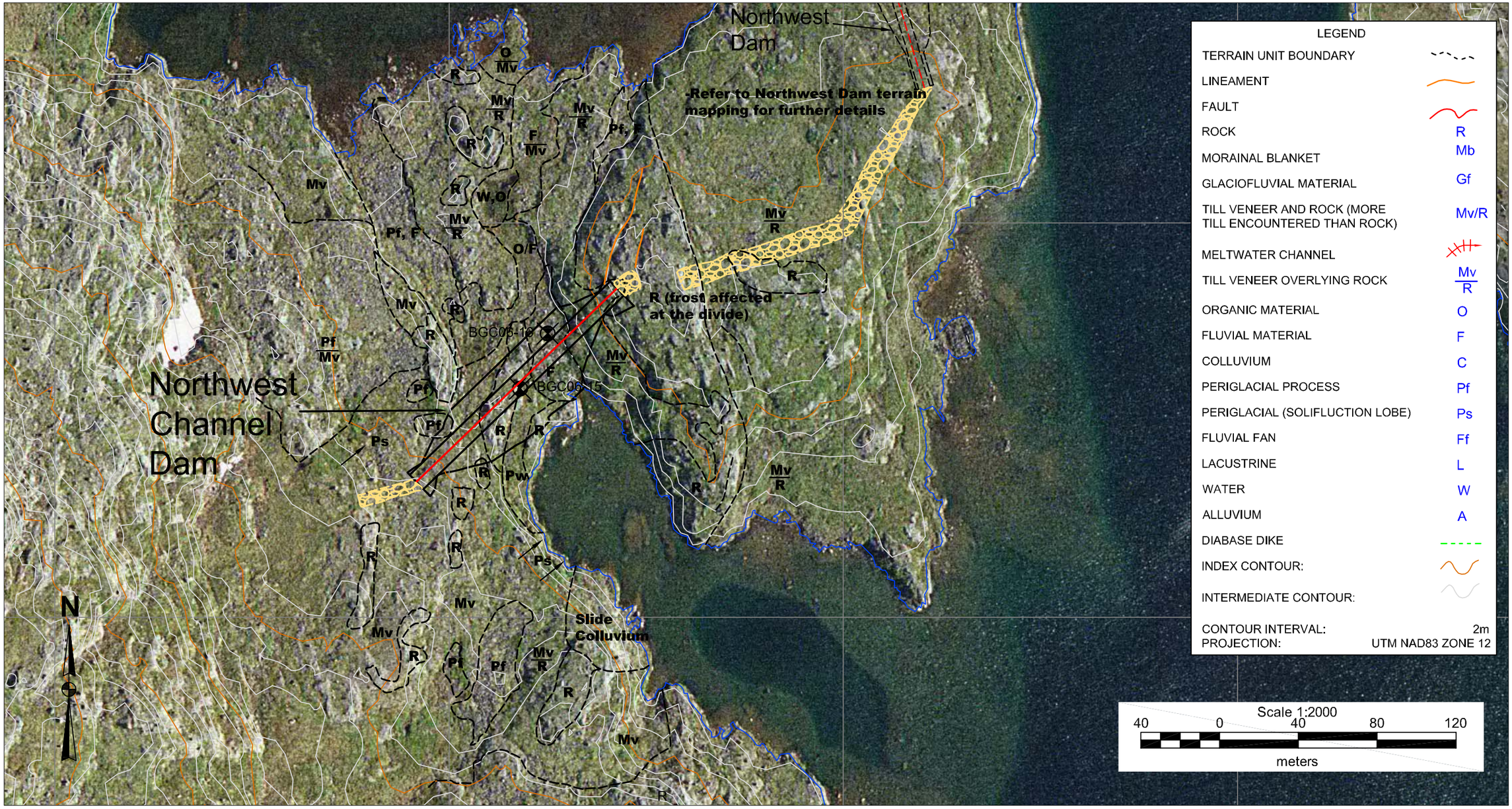
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST DAM TERRAIN MAP

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 10	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1_recover001.dwg Layout: NW Dam API Plot Date: Mar 28 07 Time: 1:31 PM



LEGEND

TERRAIN UNIT BOUNDARY	
LINEAMENT	
FAULT	
ROCK	R
MORAINAL BLANKET	Mb
GLACIOFLUVIAL MATERIAL	Gf
TILL VENEER AND ROCK (MORE TILL ENCOUNTERED THAN ROCK)	Mv/R
MELTWATER CHANNEL	
TILL VENEER OVERLYING ROCK	Mv / R
ORGANIC MATERIAL	O
FLUVIAL MATERIAL	F
COLLUVIUM	C
PERIGLACIAL PROCESS	Pf
PERIGLACIAL (SOLIFLUCTION LOBE)	Ps
FLUVIAL FAN	Ff
LACUSTRINE	L
WATER	W
ALLUVIUM	A
DIABASE DIKE	
INDEX CONTOUR:	
INTERMEDIATE CONTOUR:	
CONTOUR INTERVAL:	2m
PROJECTION:	UTM NAD83 ZONE 12

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

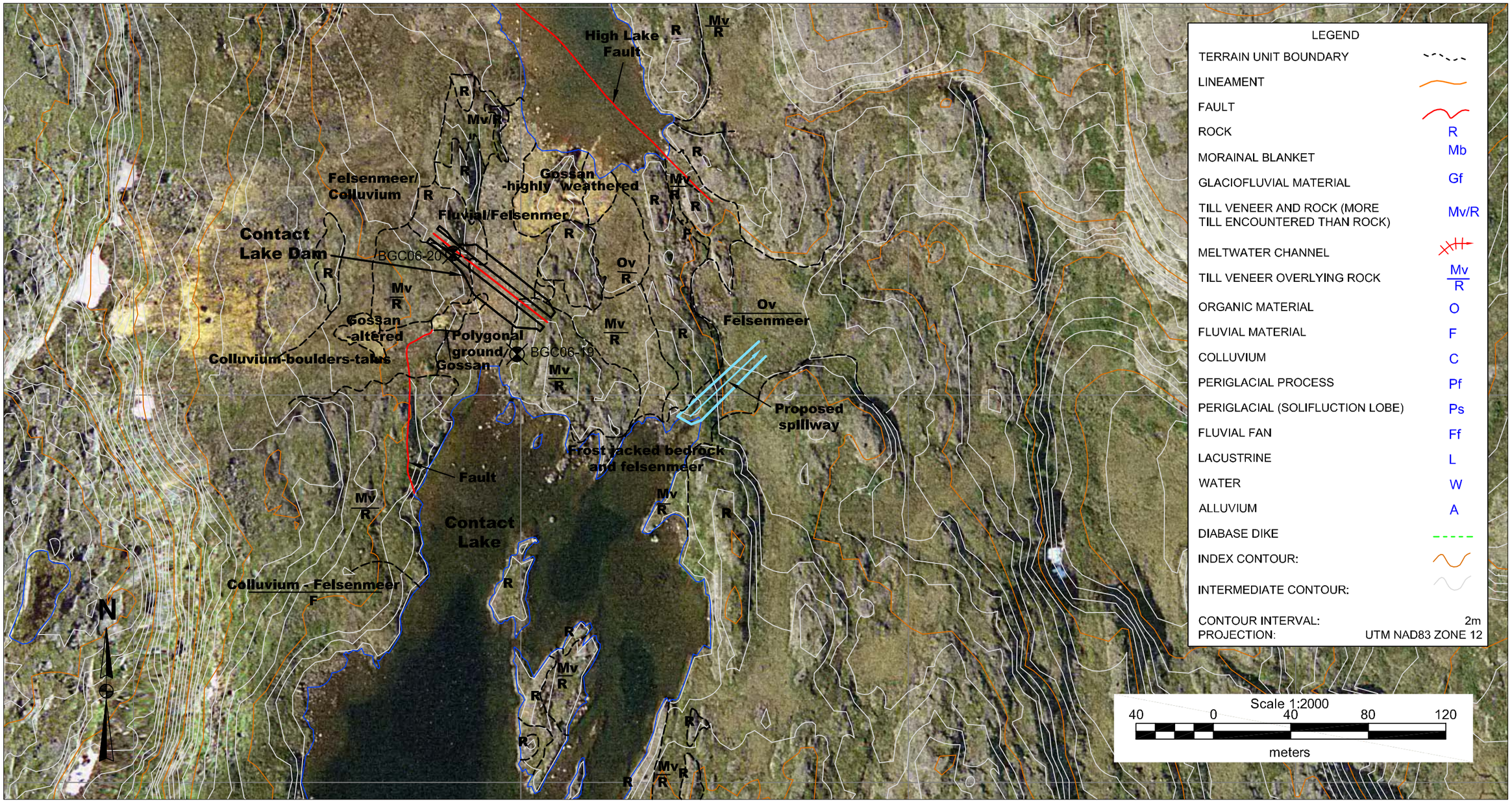
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST CHANNEL DAM TERRAIN MAP

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX VI - 11	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1_recover001.dwg Layout: NW Channel Dam API Plot Date Mar 28 07 Time: 1:15 PM



REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: AS SHOWN
DATE: MARCH 2007
DRAWN: REM
DESIGNED: EBN
CHECKED: AJ
APPROVED: JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

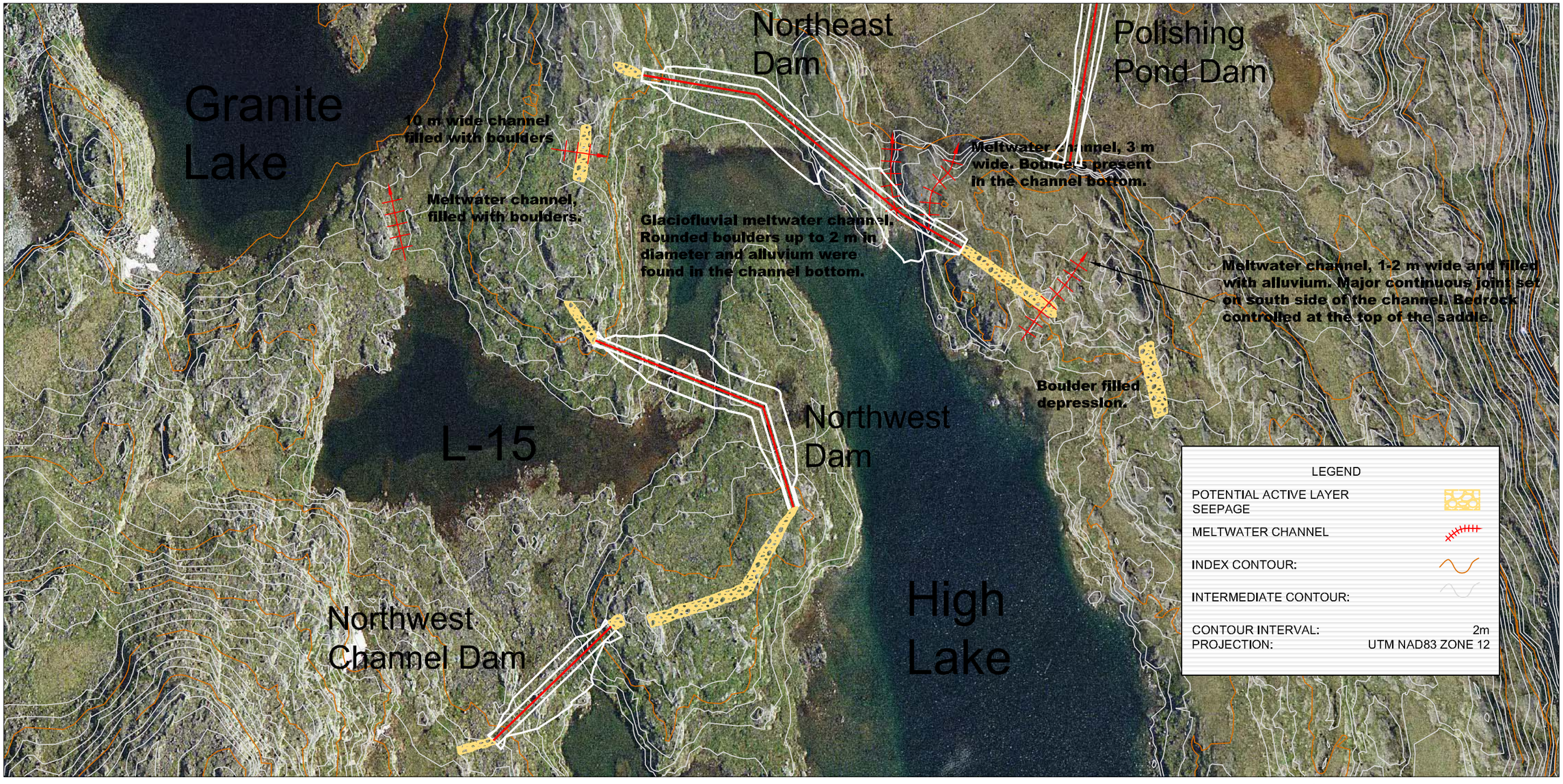
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: CONTACT LAKE DAM TERRAIN MAP

PROJECT No.: 0385-003-15
FIGURE No.: APPENDIX VI - 12
REV.: 0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Interpretation 1.dwg Layout: Contact Lake Dam APl Plot Date Mar 26 07 Time: 9:35 AM



Scale 1:3500

70 0 70 140 210

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: AS SHOWN
DATE: MARCH 2007
DRAWN: REM
DESIGNED: EBN
CHECKED: AJ
APPROVED: JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: ACTIVE LAYER SEEPAGE AREAS AT NORTH END OF HIGH LAKE

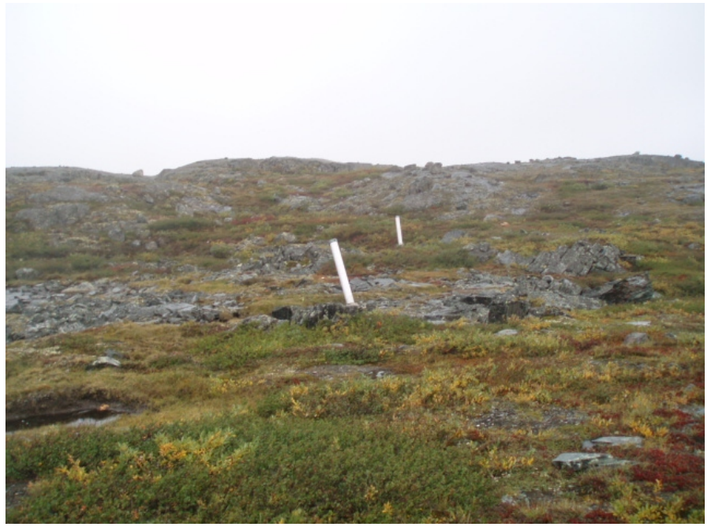
PROJECT No.: 0385-003-15

FIGURE No.: APPENDIX VI - 13

REV.:

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 North High Lake.dwg Layout: North High Lake Plot Date: Mar 28 07 Time: 1:20 PM

APPENDIX VII
2006 GEOLOGICAL FIELD MAPPING PHOTOS



Looking north along the proposed East Dam centerline to the left abutment area.

Looking south from left abutment along the proposed dam centreline.

Frost affected bedrock and fluvial channel in the vicinity of the downstream toe of the East Dam.

Looking west at a toppling failure along the lower bench near BGC06-04.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
EAST DAM FIELD RECONNAISSANCE PHOTOS

PROJECT No.	FIGURE No.	REV.
0385-003-15	VII-1	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

View of the proposed Northwest Dam centreline.

View of frost affected rock in the channel near BH-GT-05-07.

View of the left abutment area of the Northwest Dam. Note the frost affected bedrock.

View of frost affected bedrock and boulders in seepage area between Northwest Dam and Northwest Channel Dam.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

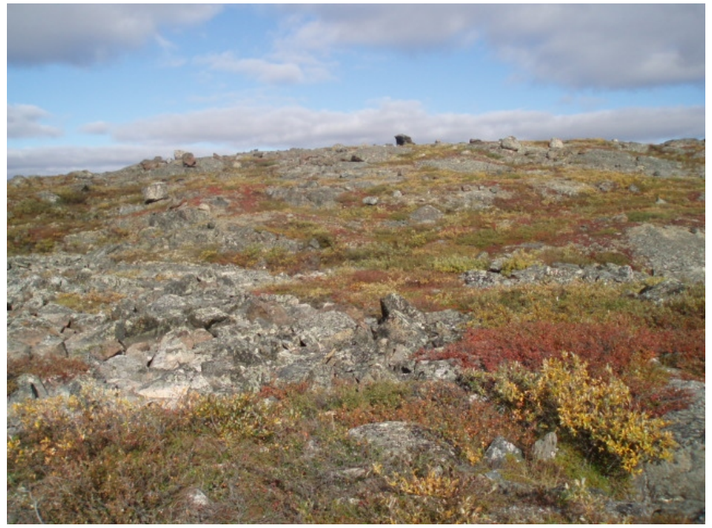
PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
NORTHWEST DAM FIELD
RECONNAISSANCE PHOTOS

PROJECT No.	FIGURE No.	REV.
0385-003-15	VII-2	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

View looking south along proposed dam centreline from the right abutment area.



View of right abutment area. Note the frost affected bedrock.

View of the left abutment area and meltwater channel near BGC06-16.

View of the Northwest Channel area looking northwest.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

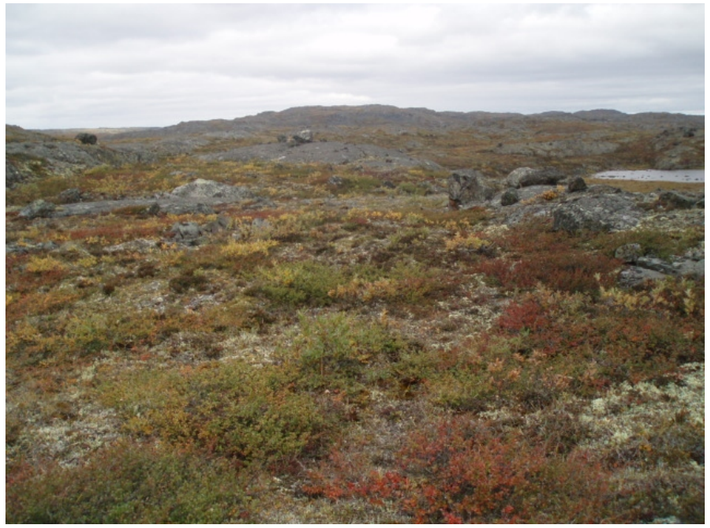
SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

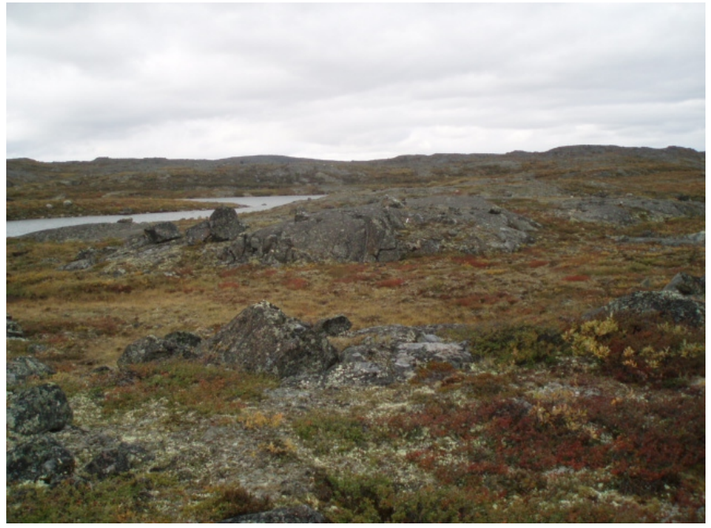
TITLE
NORTHWEST CHANNEL DAM FIELD RECONNAISSANCE PHOTOS

PROJECT No.	FIGURE No.	REV.
0385-003-15	VII-3	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185



Bedrock outcrops in the vicinity of the Northeast Dam alignment.



Dam alignment in the right dike area of the Northeast Dam.

Looking southwest along the left dike alignment of the Northeast Dam.

Looking southeast to BGC06-11 and a meltwater channel from the apex area of the Northeast Dam.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

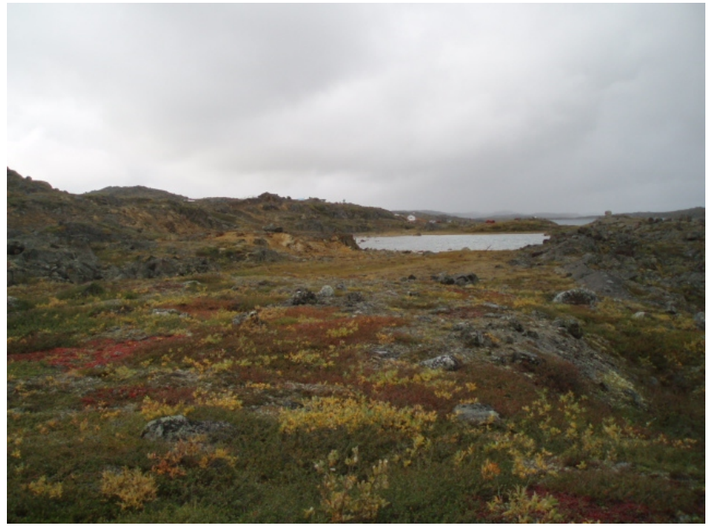
PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
NORTHEAST DAM FIELD
RECONNAISSANCE PHOTOS

PROJECT No.	FIGURE No.	REV.
0385-003-15	VII-4	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

Looking west to the D Zone from the vicinity of BGC06-19.



Looking north to High Lake camp along the felsenmeer and fluvial channel.

Looking east along the potential spillway channel from Contact Lake. Note the organic covered felsenmeer.

Frost affected bedrock and felsenmeer at the north end of Contact Lake.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

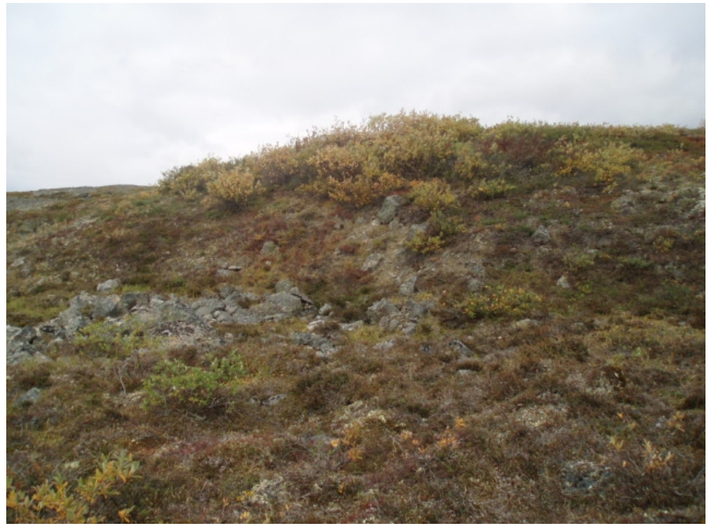
PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
CONTACT LAKE DAM FIELD
RECONNAISSANCE PHOTOS

PROJECT No.	FIGURE No.	REV.
0385-003-15	VII-5	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

Looking south to the solifluction lobe in the vicinity of the right abutment.



Glacial till found in the vicinity of the left abutment of the Polishing Pond Dam.

Looking south to BGC06-08, from the right abutment area along the proposed centreline of the Polishing Pond Dam.

Looking northwest to BGC06-07 from BGC06-08 along the Polishing Pond Dam centreline.

CLIENT:

WOLFDEN Resources Inc.

REV.	DATE	REVISION NOTES	DRAWN	CHECKED	APPROVED
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

SCALE:	N/A
DATE:	JANUARY 2007
DRAWN:	SLF
DESIGNED:	ACJ
CHECKED:	ACJ
APPROVED:	JWC

PROJECT
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE
POLISHING POND DAM FIELD RECONNAISSANCE PHOTOS

PROJECT No.	FIGURE No.	REV.
0385-003-15	VII-6	0

BGC Engineering Inc.
AN APPLIED EARTH SCIENCES COMPANY
Calgary Alberta
Phone: (403) 250-5185

APPENDIX VIII
2006 INSTRUMENT CALIBRATION SHEETS

EBA Engineering Consultants Ltd.

THERMISTOR STRING CALIBRATION

Project: _____
Client: _____
Date: 05-08-19
Job No.: 4101202

EBA Thermistor String #: 1822
Client String number: _____
Location of Installation: _____
Calibration Temperature: 0.02

	Depth of Thermistor ■ feet □ meters	Color of Wire	Plug Letter	Calibration Resistance (Kilo-Ohms)			Temperature (deg C)	Calibration Factor (add deg C)
				Trial 1	Trial 2	Trial 3		
1	0.25	Black	A	16.33	16.33	16.33	-0.01	0.03
2	0.5	Purple	B	16.34	16.34	16.34	-0.02	0.04
3	1.0	Tan	C	16.33	16.33	16.33	-0.01	0.03
4	2.0	Grey	D	16.33	16.33	16.33	-0.01	0.03
5	5.0	Red	E	16.32	16.32	16.32	0.00	0.02
6	10.0	Brown	F	16.34	16.34	16.34	-0.02	0.04
7	20.0	Pink	G	16.36	16.36	16.36	-0.04	0.06
8		Blue	H					
9		Green	J					
10		Yellow	K					
11		Silver	L					
12		Orange	N					
13		Orange/White	P					
14		Black/White	R					
15		Brown/White	S					
16		Red/White	T					
	Common	White	M					

Lead Length: **1.5m**

Date Shipped: _____
Carrier: _____

eba

M-Squared Instruments

144 West Terrace Cres.
Cochrane, AB. T4C-1R3

Ph. 403-932-3448
email: m-squared@canada.com

Thermistor Cable Data Sheet

Customer: BGC Engineering Inc., 1605 - 840 7 Ave. SW.,
Calgary, AB., T2P 3G2 (250-5185)
Contact: Mike McCrank
Project: 0385-003-15.2 (High Lake)
Date Ordered: Mar. 8, 2006
Purchase Order No.: 0385-003-15.2 (High Lake)

Serial No.: BGC 0385-003-01,02

Total Length (m.): 28
Lead Length(m.): 3
Termination: 3106E 20-29P
Thermistor Type: 44007
No. of Thermistors: 10

Shielded Yes
Molded: No

No Cables this type: 2

				385-003-1	385-003-2
T. No.	Colour Code	Depth	Pin No.	kOhms@ 0 deg. C.	
1	YW	0.50	A	16.3	16.32
	WH		M		
2	BK	1.00	B	16.28	16.3
	WH		M		
3	BU	1.50	C	16.3	16.3
	WH		M		
4	GN	2.00	D	16.29	16.3
	WH		M		
5	RD	2.50	E	16.29	16.31
	WH		M		
6	GY	5.00	F	16.32	16.32
	WH		M		
7	BN	7.50	G	16.3	16.33
	WH		M		
8	PK	10.00	H	16.31	16.29
	WH		M		
9	OR	15.00	J	16.29	16.3
	WH		M		
10	PU	25.00	K	16.29	16.29
	WH		M		

M-Squared Instruments

144 West Terrace Cres.
Cochrane, AB. T4C-1R3

Ph. 403-932-3448
email: m-squared@canada.com

Thermistor Cable Data Sheet

Customer: BGC Engineering Inc., 1605 - 840 7 Ave. SW.,
Calgary, AB., T2P 3G2 (250-5185)
Contact: Mike McCrank
Project: 0385-003-15.2 (High Lake)
Date Ordered: Mar. 8, 2006
Purchase Order No.: 0385-003-15.2 (High Lake)

Serial No.: BGC 385-003-03, 4, 5, 6, 7, 8, 9

Total Length (m.): 50
Lead Length(m.): 3 Shielded Yes
Termination: 3106E 20-29P Molded: No
Thermistor Type: 44007
No. of Thermistors: 16

No. Cables this type: 7

				385-003-03	385-003-04	385-003-05	385-003-06	385-003-07	385-003-08	385-003-09
T. No.	Colour Code	Depth	Pin No.	kOhms@ 0 deg. C.						
1	YW	0.50	A	16.32	16.32	16.32	16.31	16.30	16.30	16.31
			M							
2	WH/YW	1.00	B	16.32	16.32	16.30	16.30	16.30	16.32	16.30
			M							
3	BK	1.50	C	16.30	16.31	16.30	16.31	16.33	16.31	16.30
			M							
4	WH/BK	2.00	D	16.30	16.31	16.27	16.31	16.27	16.32	16.30
			M							
5	BU	2.50	E	16.29	16.30	16.30	16.30	16.31	16.30	16.31
			M							
6	WH/BU	5.00	F	16.30	16.29	16.31	16.30	16.30	16.30	16.32
			M							
7	GN	7.50	G	16.32	16.30	16.32	16.30	16.33	16.30	16.30
			M							
8	WH/GN	10.00	H	16.30	16.29	16.31	16.32	16.29	16.31	16.29
			M							
9	RD	12.50	J	16.30	16.28	16.31	16.30	16.29	16.31	16.30
			M							
10	WH/RD	15.00	K	16.30	16.31	16.30	16.31	16.29	16.31	16.32
			M							
11	GY	20.00	L	16.30	16.29	16.30	16.30	16.29	16.31	16.30
			M							
12	WH/GY	25.00	N	16.30	16.31	16.29	16.29	16.31	16.30	16.29
			M							
13	BN	30.00	P	16.29	16.30	16.29	16.30	16.32	16.32	16.31
			M							
14	WH/BN	35.00	R	16.30	16.30	16.30	16.30	16.30	16.30	16.29
			M							
15	PK	40.00	S	16.29	16.30	16.28	16.31	16.30	16.32	16.30
			M							
16	WH/PK	50.00	T	16.29	16.30	16.31	16.32	16.30	16.30	16.30
OR, OR/WH, PU, PU/WH BOTTOM COMMON PIN M										

M-Squared Instruments

144 West Terrace Cres.
Cochrane, AB. T4C-1R3

Ph. 403-932-3448
email: m-squared@canada.com

Thermistor Cable Data Sheet

Customer: BGC Engineering Inc., 1605 - 840 7 Ave. SW.,
Calgary, AB., T2P 3G2 (250-5185)
Contact: Mike McCrank
Project: 0385-003-15.2 (High Lake)
Date Ordered: Mar. 8, 2006
Purchase Order No.: 0385-003-15.2 (High Lake)

Serial No.: BGC 385-003-10

Total Length (m.): 128
Lead Length(m.): 3
Termination: 3106E 20-29P
Thermistor Type: 44007
No. of Thermistors: 16

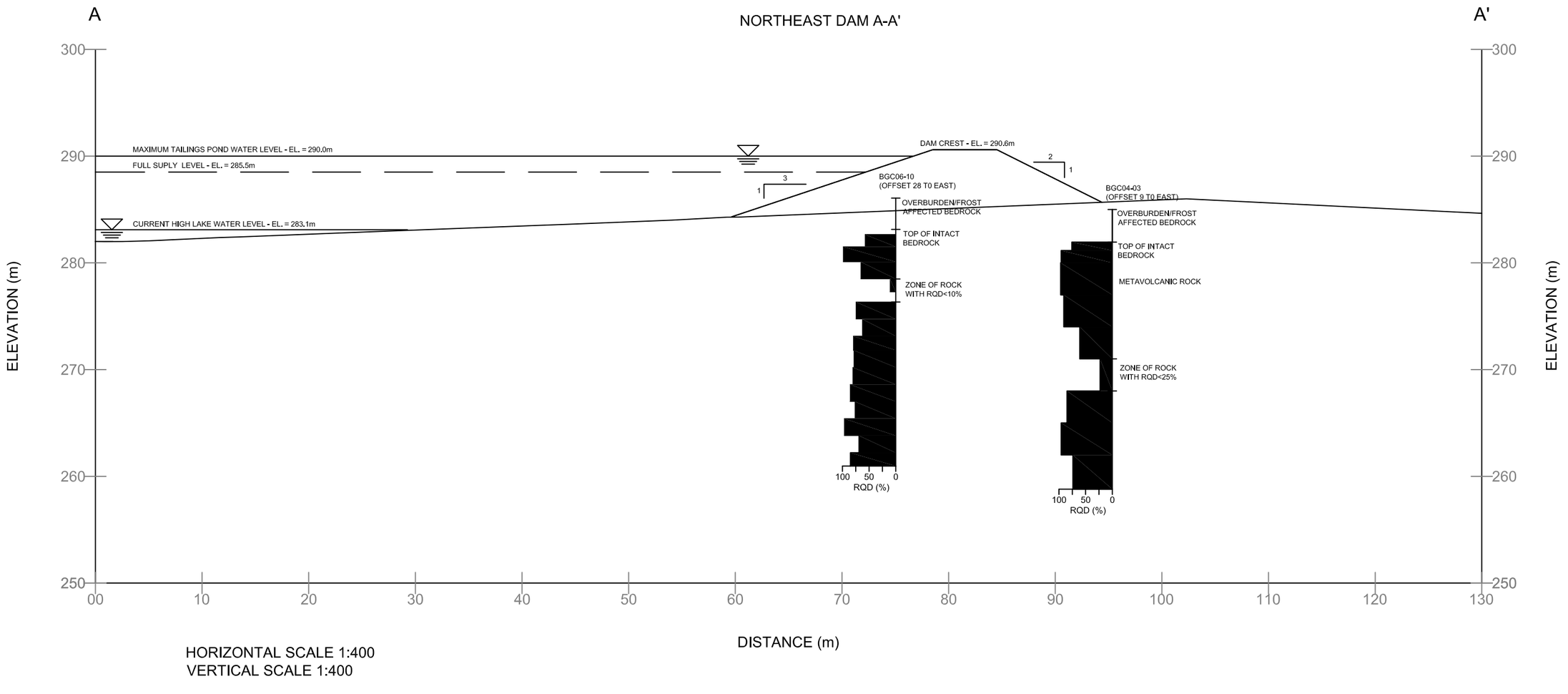
Shielded Yes
Molded: No

No. Cables this type: 1

T. No.	Colour Code	Depth	Pin No.	kOhms@ 0 deg. C.
1	YW	0.50	A	16.32
			M	
2	WH/YW	1.00	B	16.32
			M	
3	BK	2.50	C	16.31
			M	
4	WH/BK	5.00	D	16.30
			M	
5	BU	7.50	E	16.30
			M	
6	WH/BU	10.00	F	16.28
			M	
7	GN	15.00	G	16.29
			M	
8	WH/GN	25.00	H	16.31
			M	
9	RD	50.00	J	16.29
			M	
10	WH/RD	75.00	K	16.30
			M	
11	GY	100.00	L	16.31
			M	
12	WH/GY	105.00	N	16.32
			M	
13	BN	110.00	P	16.30
			M	
14	WH/BN	115.00	R	16.30
			M	
15	PK	120.00	S	16.28
			M	
16	WH/PK	125.00	T	16.32
			M	

APPENDIX IX
2006 DAM SECTION PROFILES

NORTHEAST DAM A-A'



HORIZONTAL SCALE 1:400
VERTICAL SCALE 1:400

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

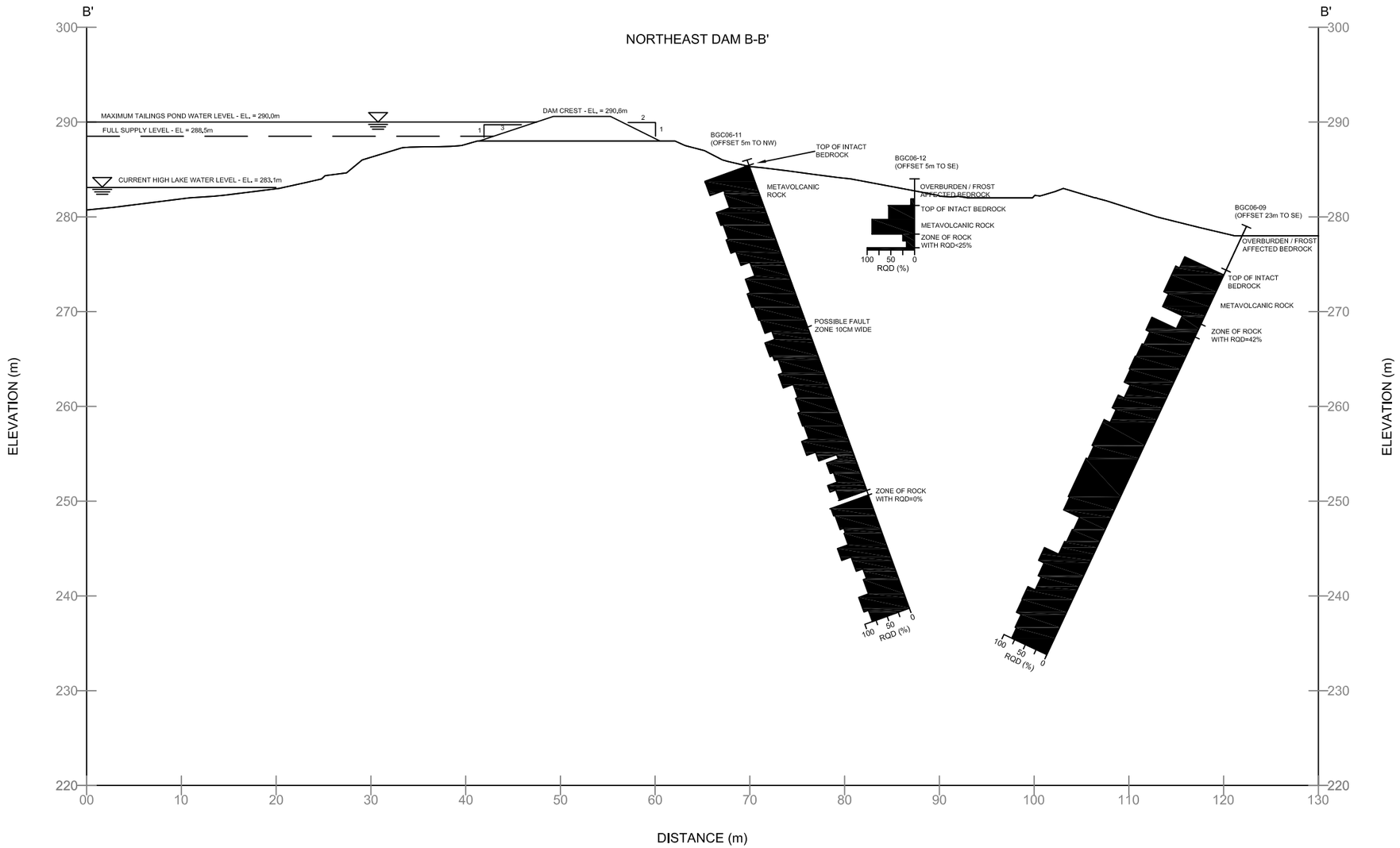
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHEAST DAM CROSS SECTION A-A'

PROJECT No.:	DWG No.	REV.:
0385-003-15	APPENDIX IX - 1	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 DamReportSections.dwg Layout: NE Dam Cross Sec. AA' Plot Date: Mar 27 07 Time: 1:25 PM



HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:500

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

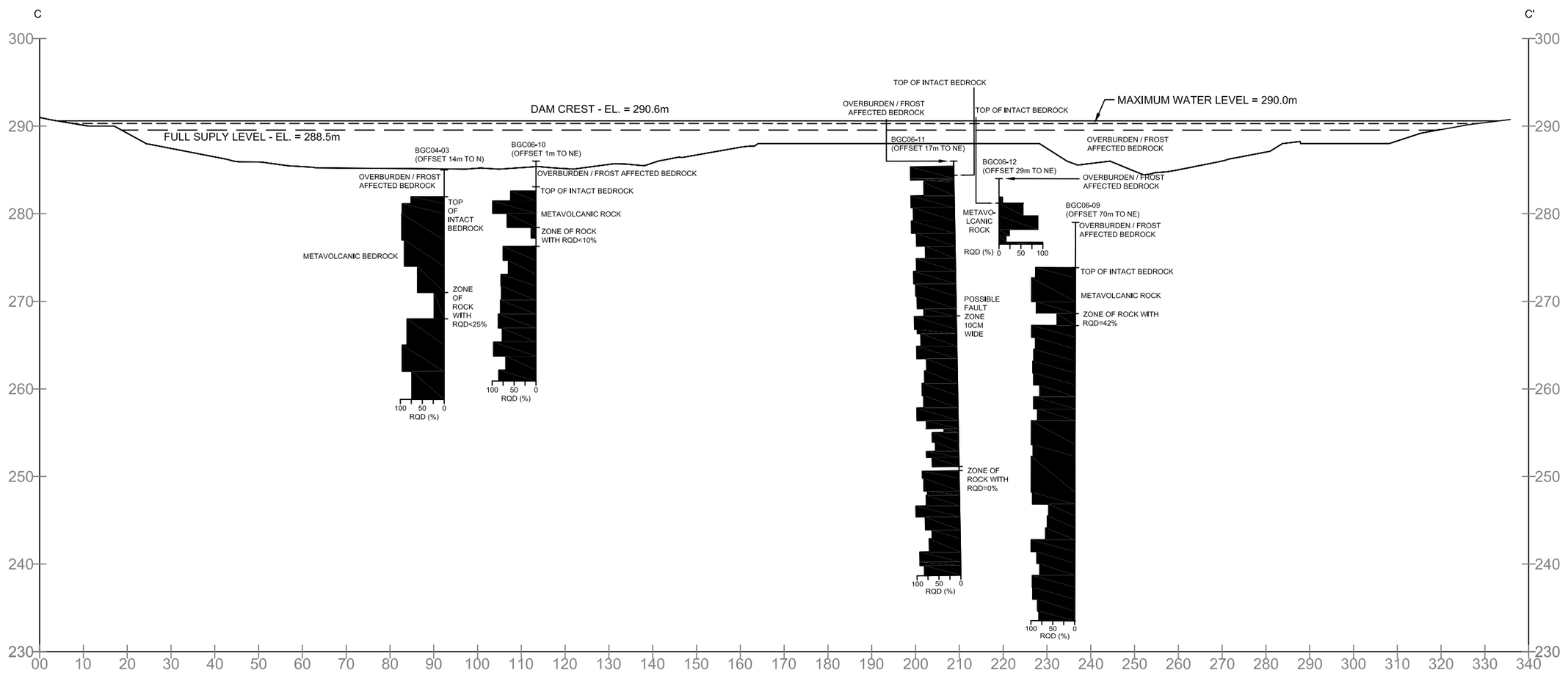
PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHEAST DAM CROSS SECTION B-B'

PROJECT No.:	DWG No.	REV.:
0385-003-15	APPENDIX IX-2	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 DamReportSections.dwg Layout: NE Dam Cross Sec. BB' Plot Date Mar 28 07 Time: 9:27 AM

NORTHEAST DAM - LONGITUDINAL SECTION C-C'



HORIZONTAL SCALE 1:1000
VERTICAL SCALE 1:500

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

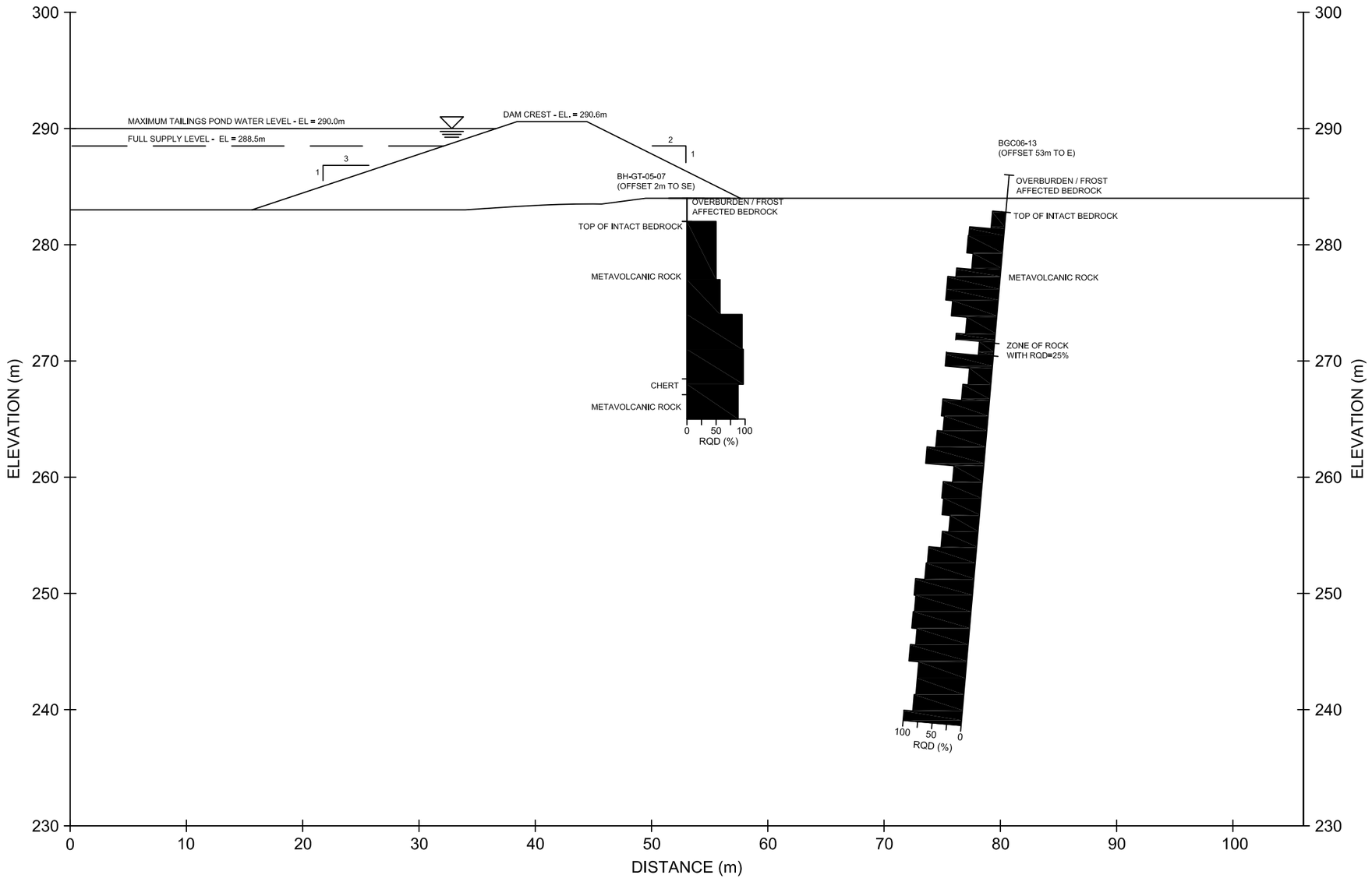
PROJECT:
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE:
NORTHEAST DAM - LONGITUDINAL SECTION C-C'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 3	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drafting Program\3 Report\Graphics\Drawings\0385-003-15 DamReportSections.dwg Layout: NE Dam Long Sec CC' Plot Date: Mar 28 07 Time: 10:31 AM

NORTHWEST DAM D-D'



HORIZONTAL SCALE 1:400
VERTICAL SCALE 1:400

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

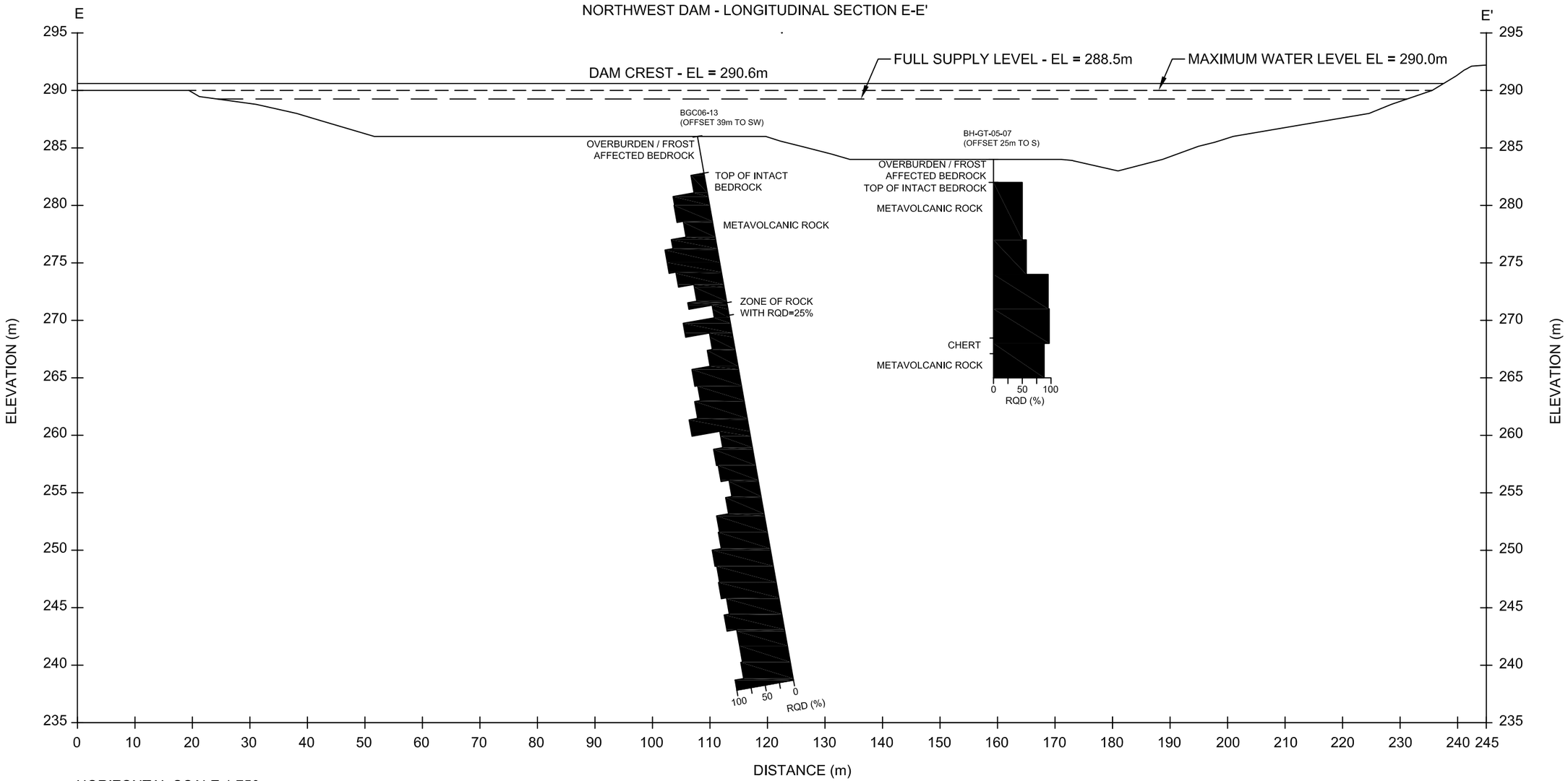
PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST DAM CROSS SECTION D'D'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 4	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: NW Dam Plot Date: Mar 27 07 Time: 12:38 PM

NORTHWEST DAM - LONGITUDINAL SECTION E-E'



HORIZONTAL SCALE 1:750
VERTICAL SCALE 1:375

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

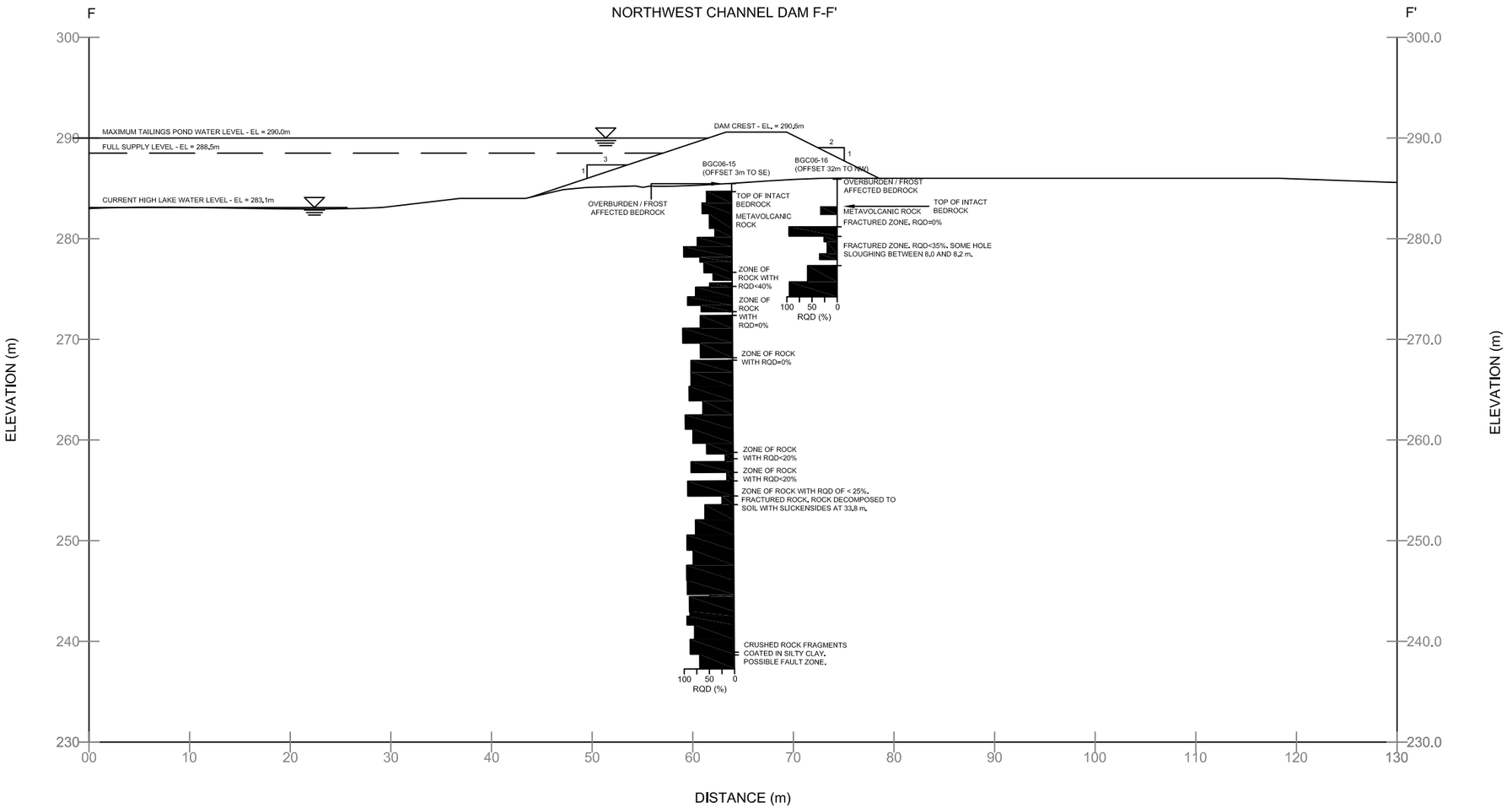
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST DAM - LONGITUDINAL SECTION E-E'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 5	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: NW Dam Long Sec Plot Date: Mar 27 07 Time: 12:39 PM



HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:500

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

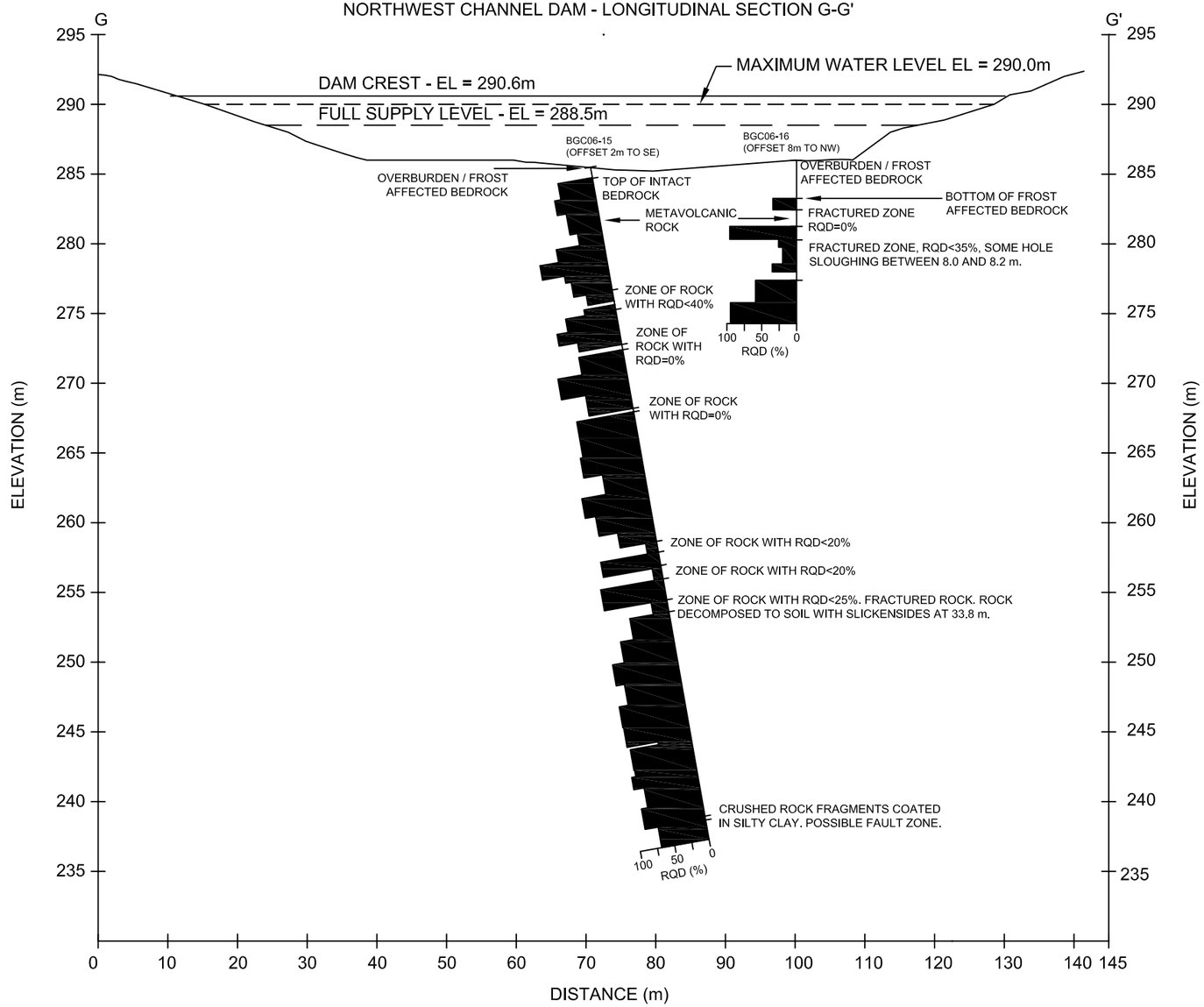
CLIENT: WOLFDEN Resources Inc.

PROJECT:
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE:
NORTHWEST CHANNEL DAM CROSS SECTION F-F'

PROJECT No.:	DWG No.	REV.:
0385-003-15	APPENDIX IX - 6	0

NORTHWEST CHANNEL DAM - LONGITUDINAL SECTION G-G'



HORIZONTAL SCALE 1:400
VERTICAL SCALE 1:200

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

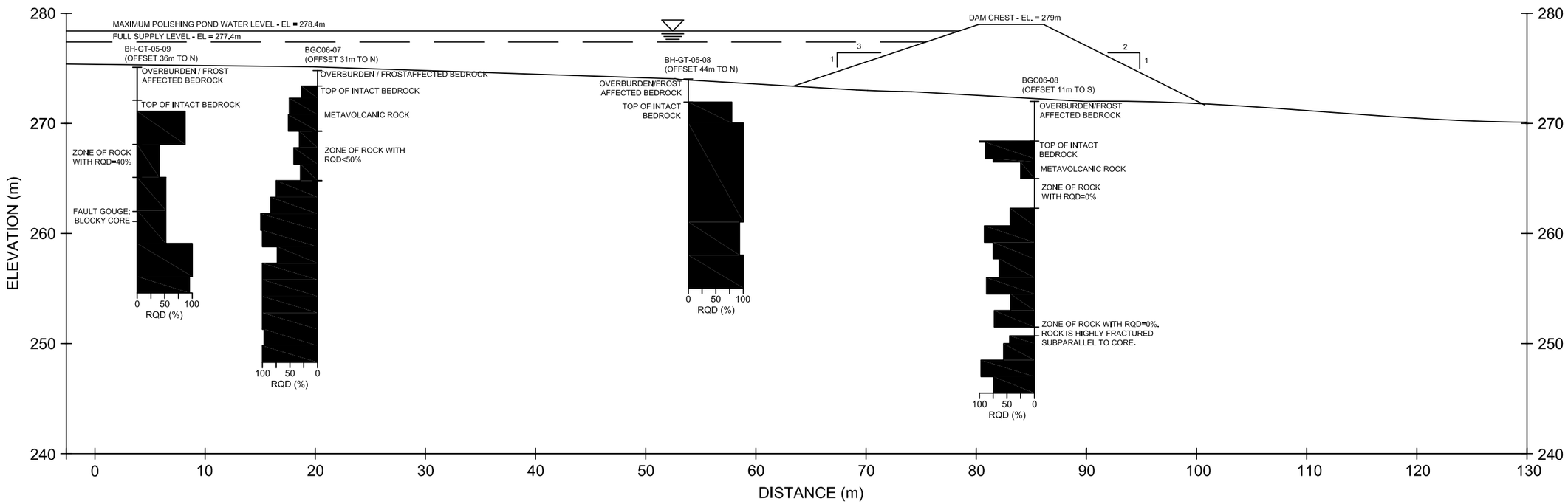
PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: NORTHWEST CHANNEL DAM-LONGITUDINAL SECTION G-G'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 7	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: NW Channel Dam Long Sec Plot Date: Mar 27 07 Time: 12:40 PM

POLISHING POND DAM H-H'



HORIZONTAL SCALE 1:400
VERTICAL SCALE 1:400

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: 1:400
DATE: MARCH 2007
DRAWN: REM
DESIGNED: EBN
CHECKED: EBN
APPROVED: JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

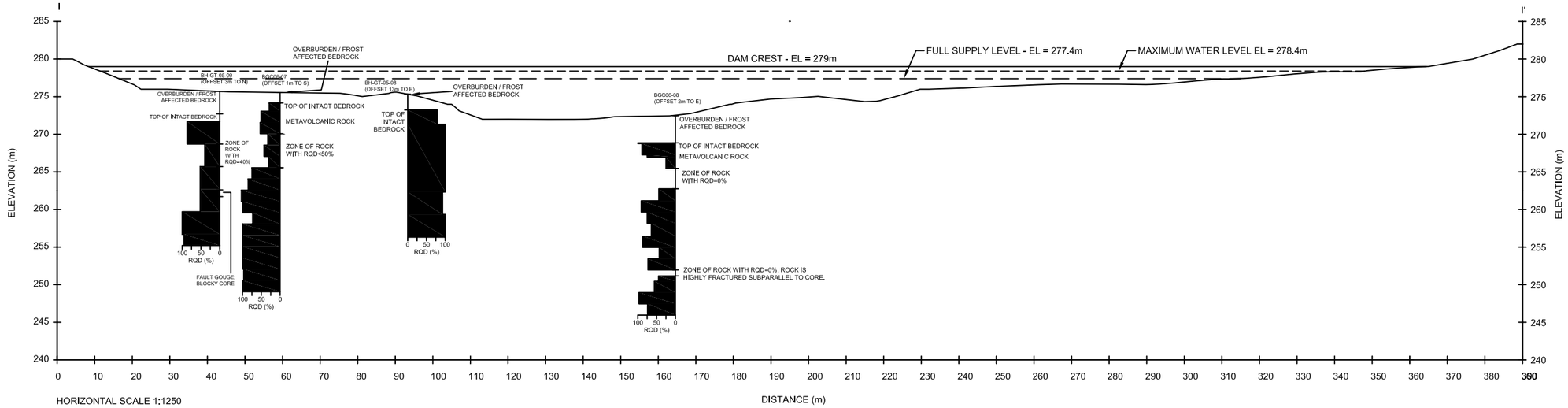
PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: POLISHING POND CROSS SECTION H-H'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 8	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: Polishing Pond Plot Date: Mar 27 07 Time: 12:41 PM

POLISHING POND DAM - LONGITUDINAL SECTION I-I'



HORIZONTAL SCALE 1:1250
VERTICAL SCALE 1:625

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: AS SHOWN
DATE: MARCH 2007
DRAWN: REM
DESIGNED: EBN
CHECKED: AJ
APPROVED: JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

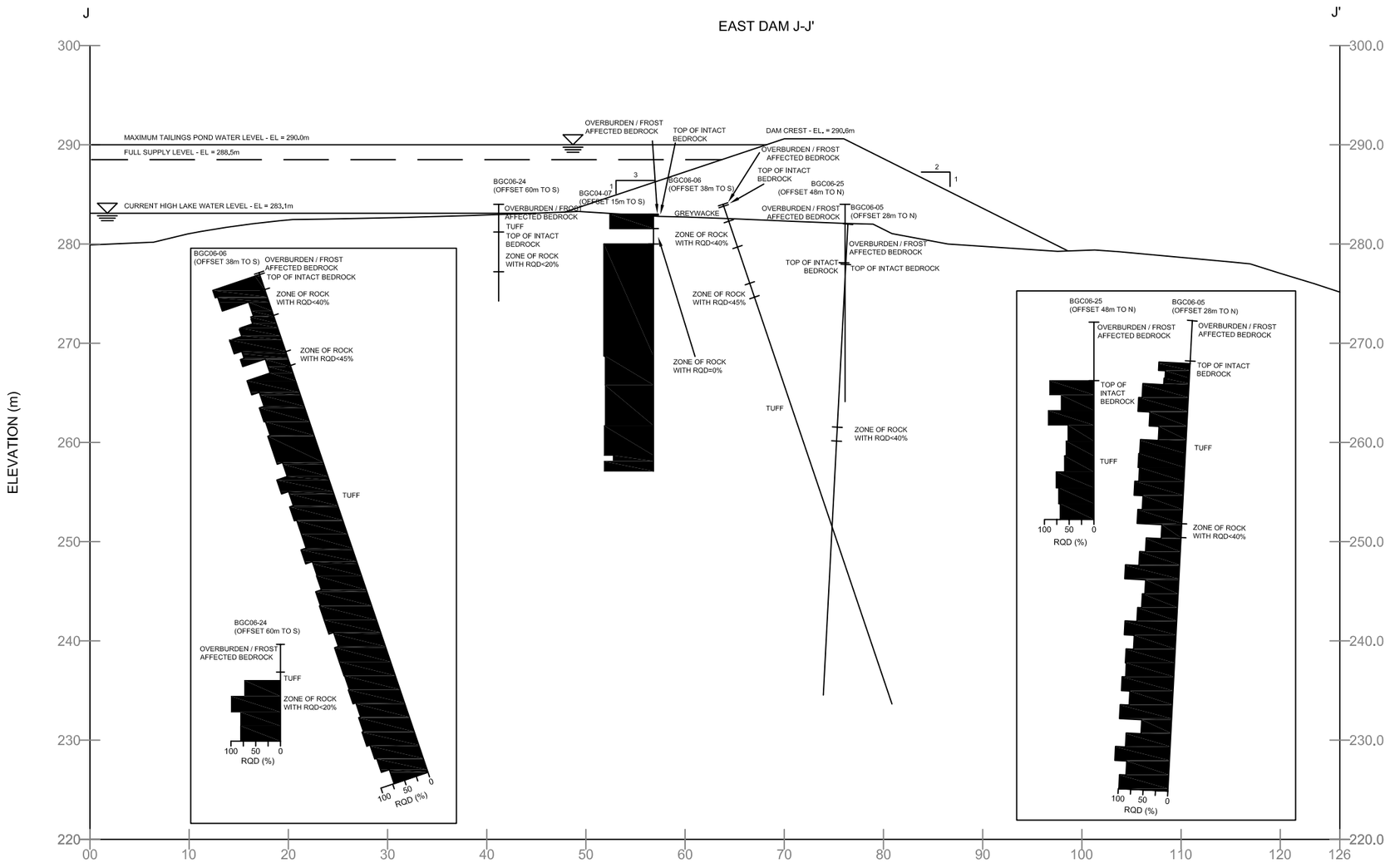
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: POLISHING POND - LONGITUDINAL SECTION I-I'

PROJECT No.: 0385-003-15
FIGURE No.: APPENDIX IX - 9
REV.: 0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: Polishing Pond Long Sec Plot Date: Mar 27 07 Time: 12:42 PM



HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:500

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

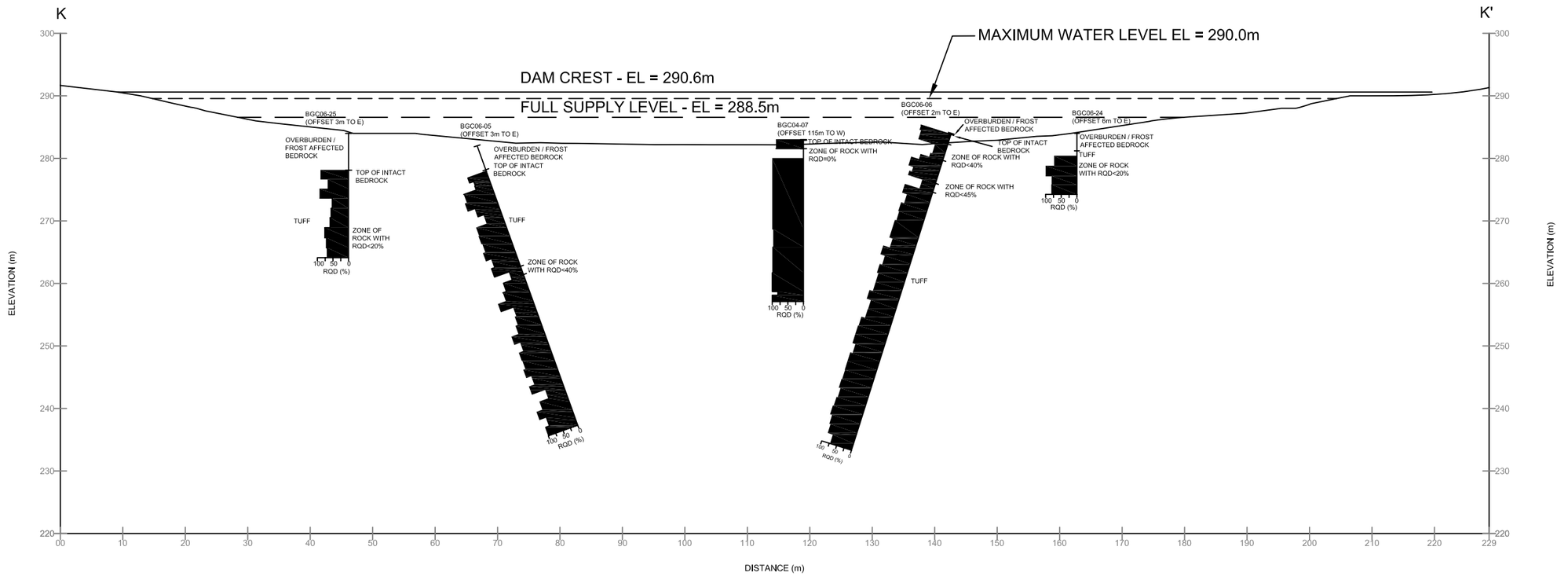
PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: EAST DAM CROSS SECTION J-J'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 10	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\GraphicsDrawings\0385-003-15 DamReportSections.dwg Layout: E Dam Old Sec. JJ' Plot Date: Mar 28 07 Time: 9:28 AM

EAST DAM - LONGITUDINAL SECTION K-K'



HORIZONTAL SCALE 1:750
VERTICAL SCALE 1:750

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

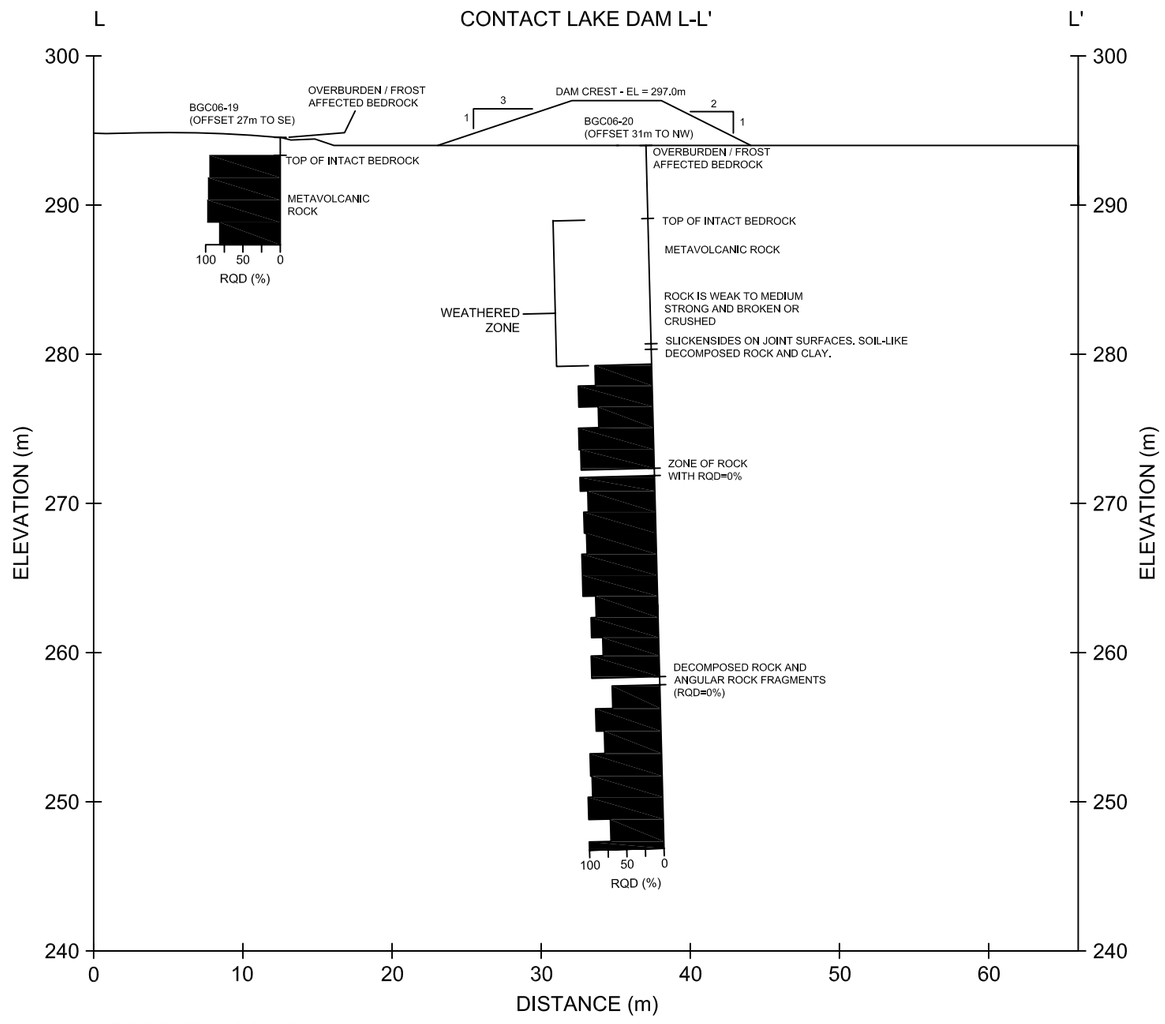
CLIENT: WOLFDEN Resources Inc.

PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: EAST DAM - LONGITUDINAL SECTION K-K'

PROJECT No.:	DWG No.	REV.:
0385-003-15	APPENDIX IX - 11	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 DamReportSections.dwg Layout: E Dam Old Long Sec KK' Plot Date Mar 28 07 Time: 9:29 AM



HORIZONTAL SCALE 1:400
VERTICAL SCALE 1:400

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

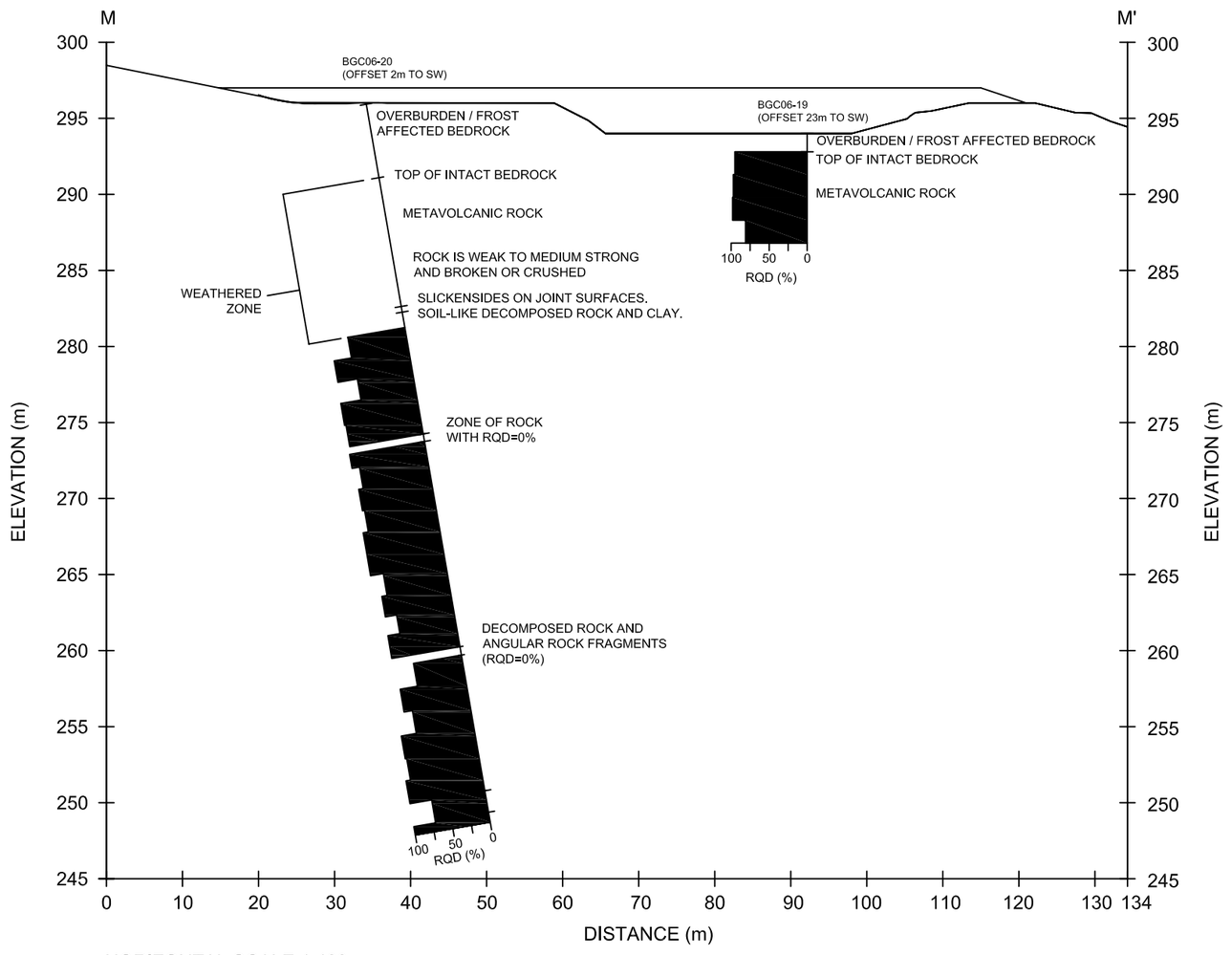
PROJECT:
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE:
CONTACT LAKE DAM CROSS SECTION L-L'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 12	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: Contact Lake Dam Plot Date Mar 27 07 Time: 12:45 PM

CONTACT LAKE DAM - LONGITUDINAL SECTION M-M'



HORIZONTAL SCALE 1:400
VERTICAL SCALE 1:200

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

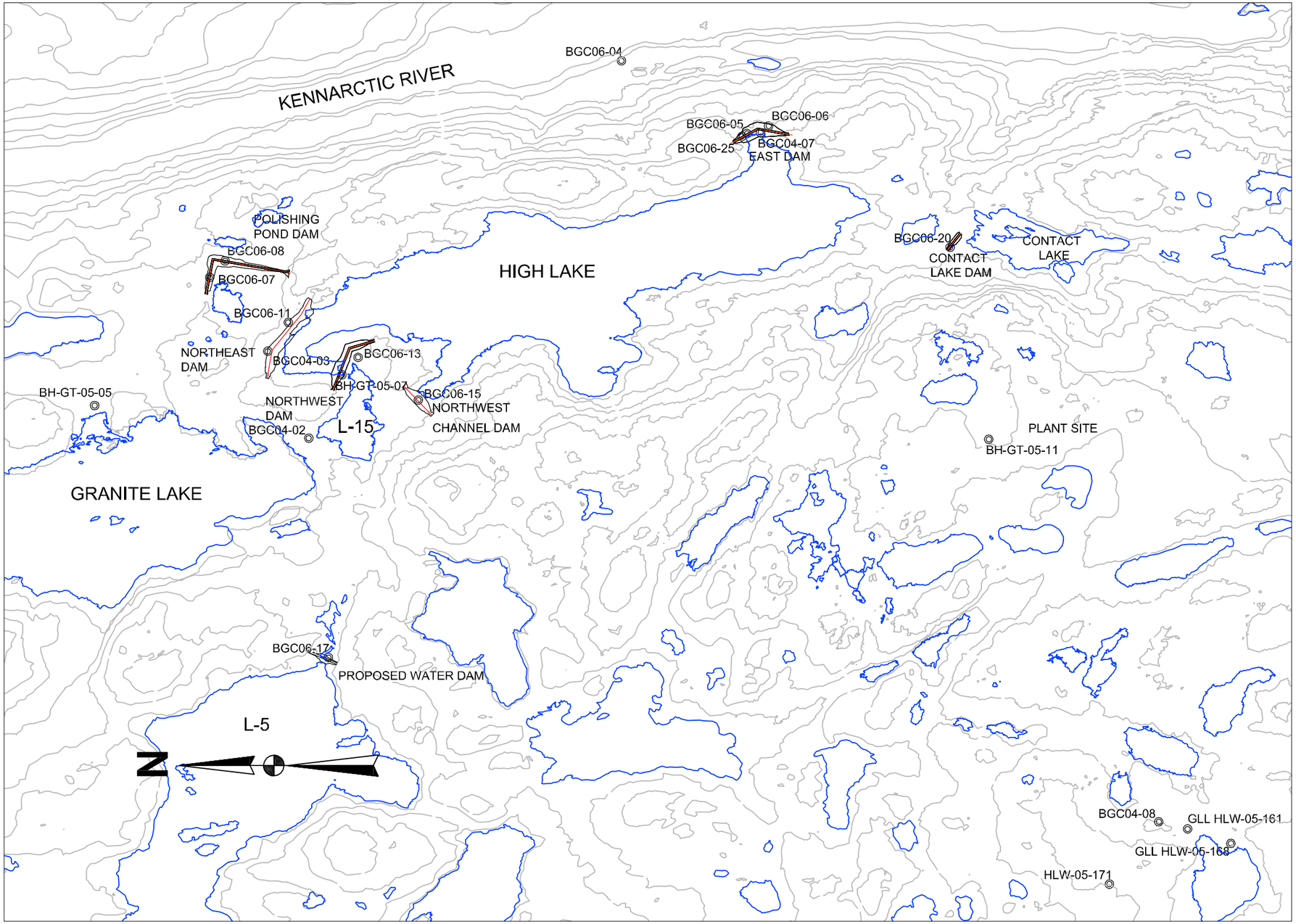
PROJECT:
HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE:
CONTACT LAKE DAM-LONGITUDINAL SECTION M-M'

PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX IX - 13	0

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 Dam Sections.dwg Layout: Contact Lake Dam Long Sec Plot Date: Mar 28 07 Time: 10:34 AM

APPENDIX X
2006 THERMISTOR MONITORING DATA



LEGEND

BOREHOLES WITH THERMISTOR

Scale 1:15000

300 0 300 600 900

meters

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	AS SHOWN
DATE:	MARCH 2007
DRAWN:	REM
DESIGNED:	EBN
CHECKED:	AJ
APPROVED:	JWC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

CLIENT: WOLFDEN Resources Inc.

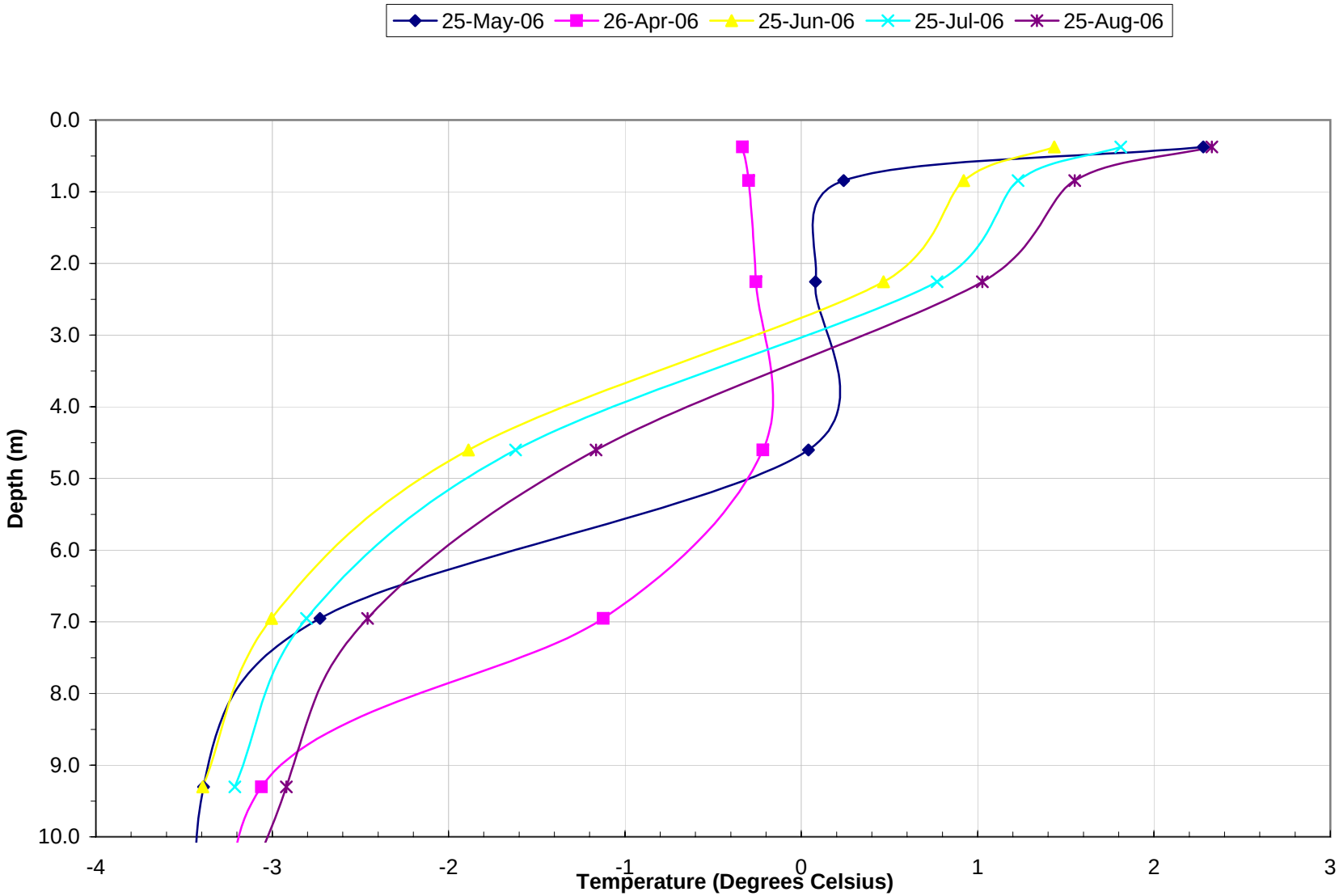
PROJECT: HIGH LAKE PROJECT
2006 GEOTECHNICAL INVESTIGATION PROGRAM

TITLE: 2004, 2005 AND 2006
HIGH LAKE THERMISTOR LOCATIONS

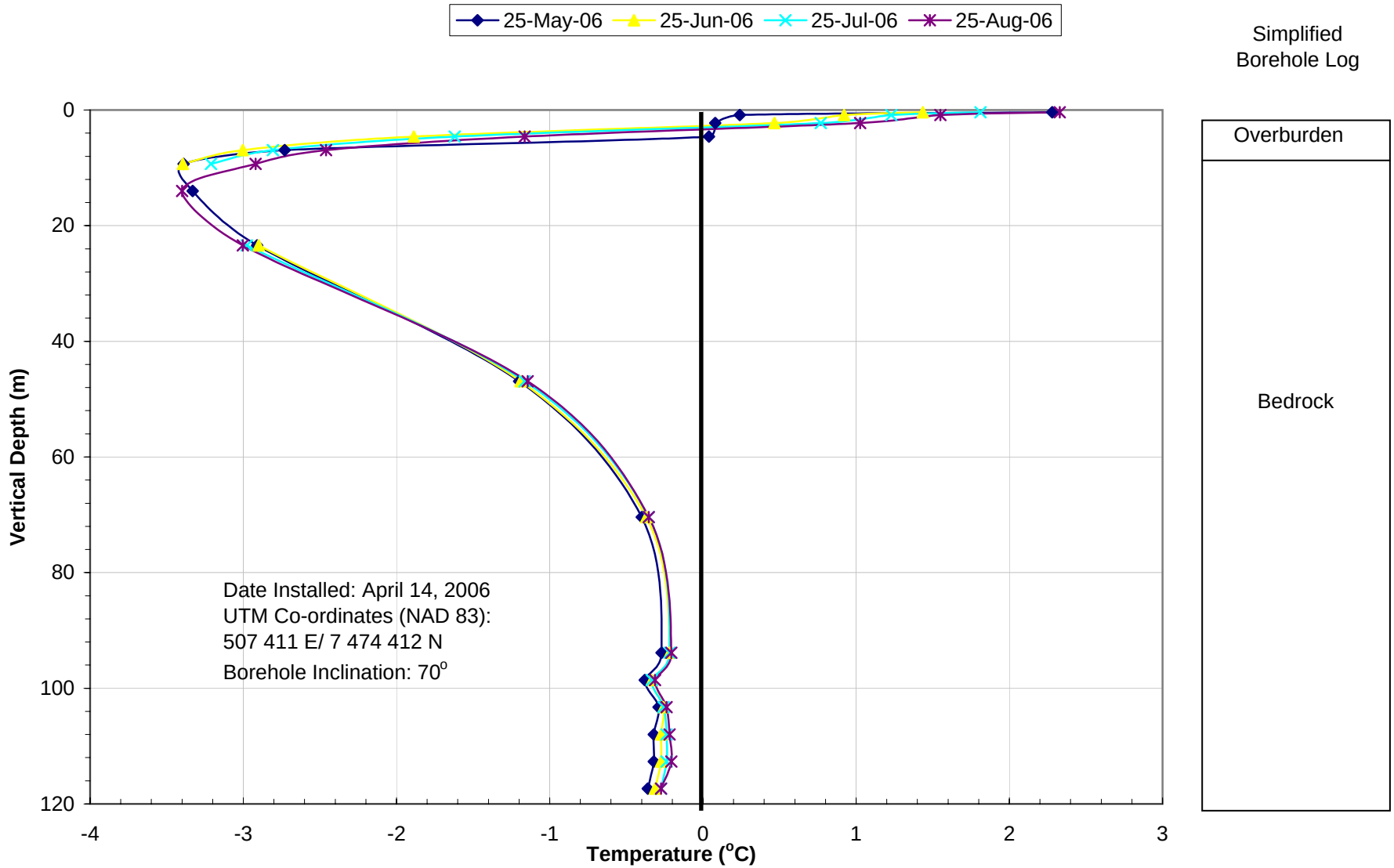
PROJECT No.:	FIGURE No.	REV.:
0385-003-15	APPENDIX X - 1	

K:\Projects\0385 Wolfden Resources\003 HL Prefeasibility Study\15 Drilling Program\3 Report\Graphics\Drawings\0385-003-15 ThermistorLocation.dwg Layout: ThermistorLocation High Lake Plot Date Mar 26 07 Time: 8:36 AM

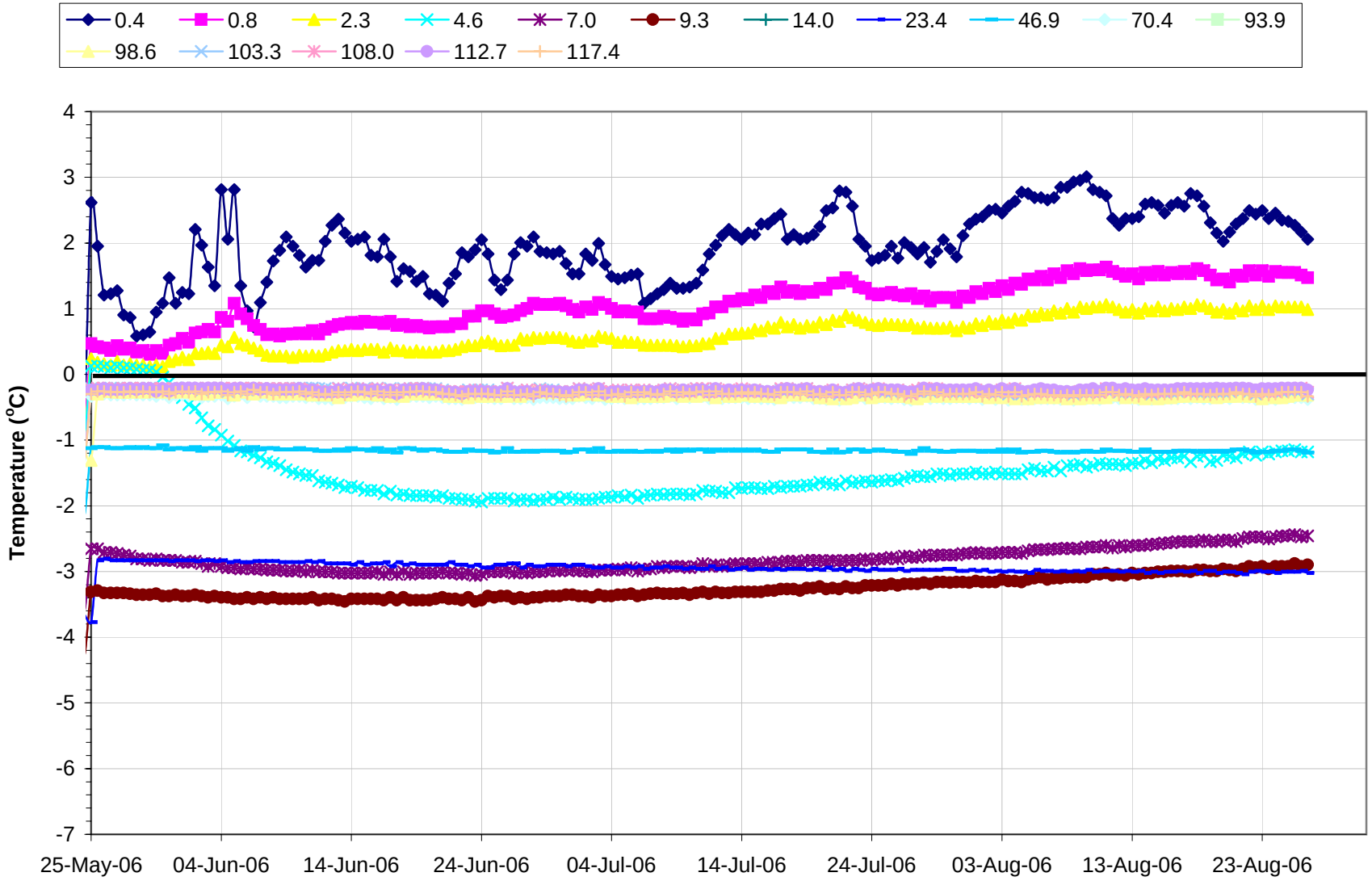
Thermistor Results - Kennarctic Rvier (BGC06-04) -Trumpet Curve



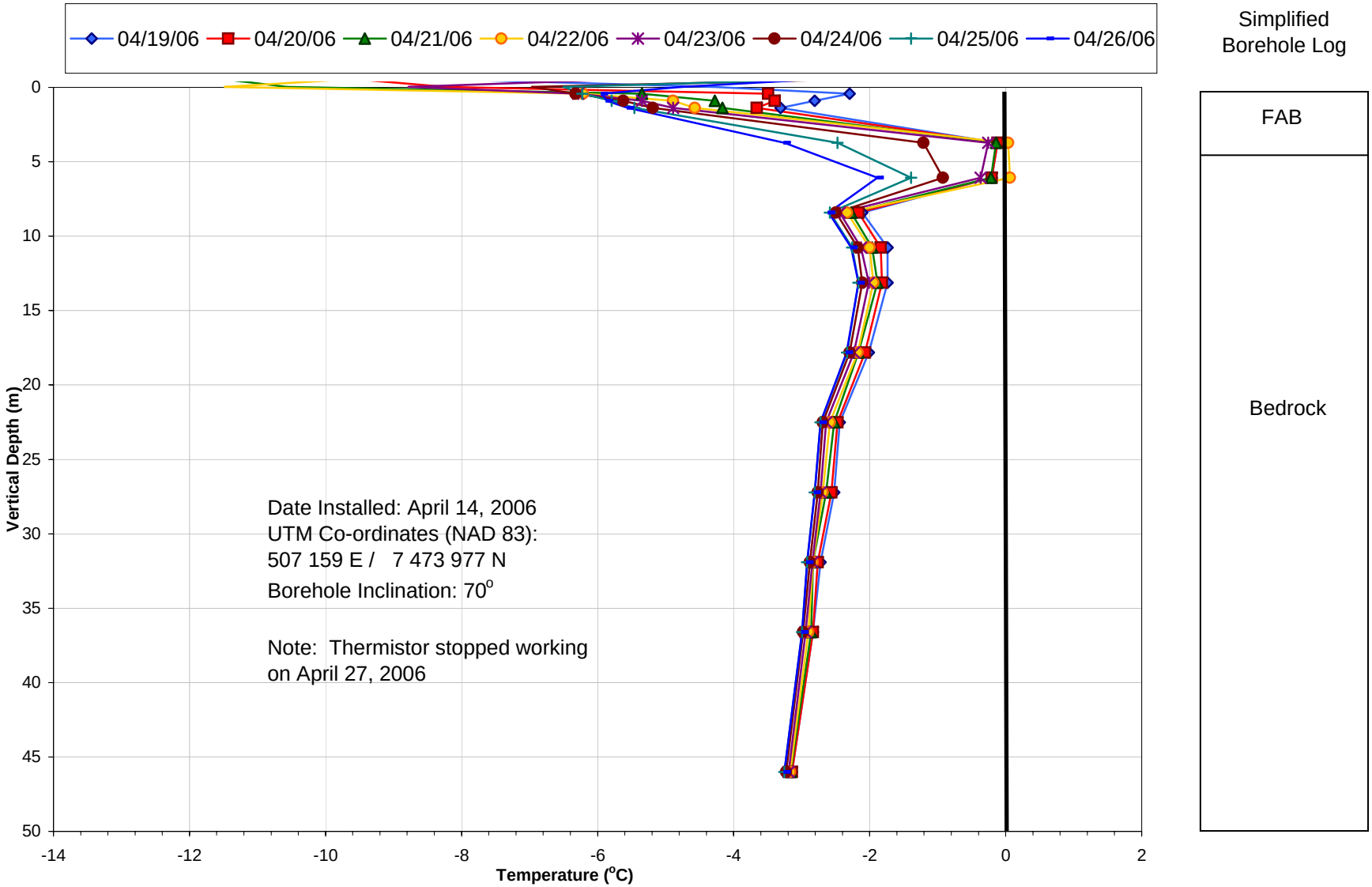
Thermistor Results - Kennarctic River (BGC06-04) -Trumpet Curve



Kennarctic River BGC06-04 - Temperature vs. Time

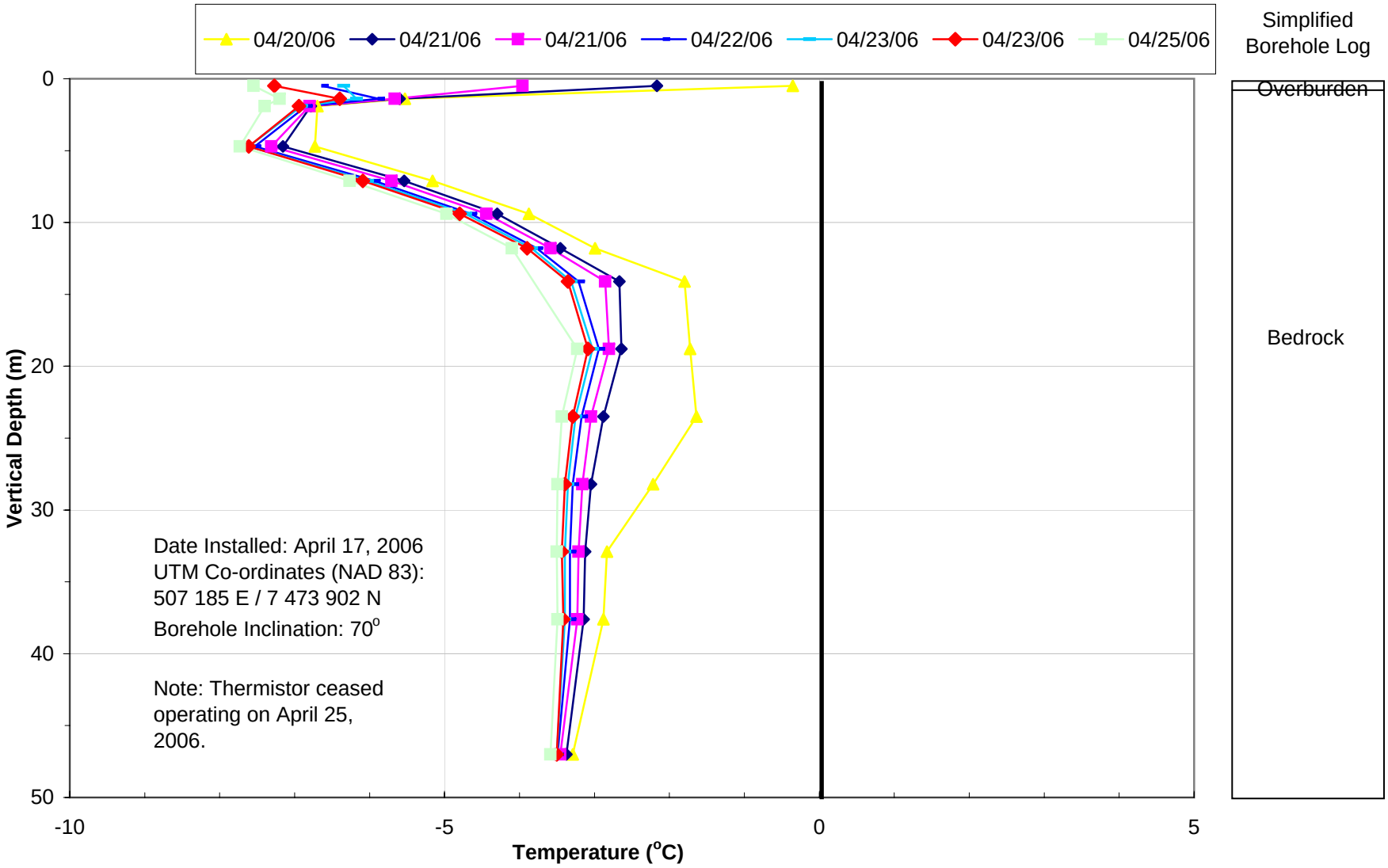


Thermistor Results - East Dam (BGC 06-05) - Trumpet Curve

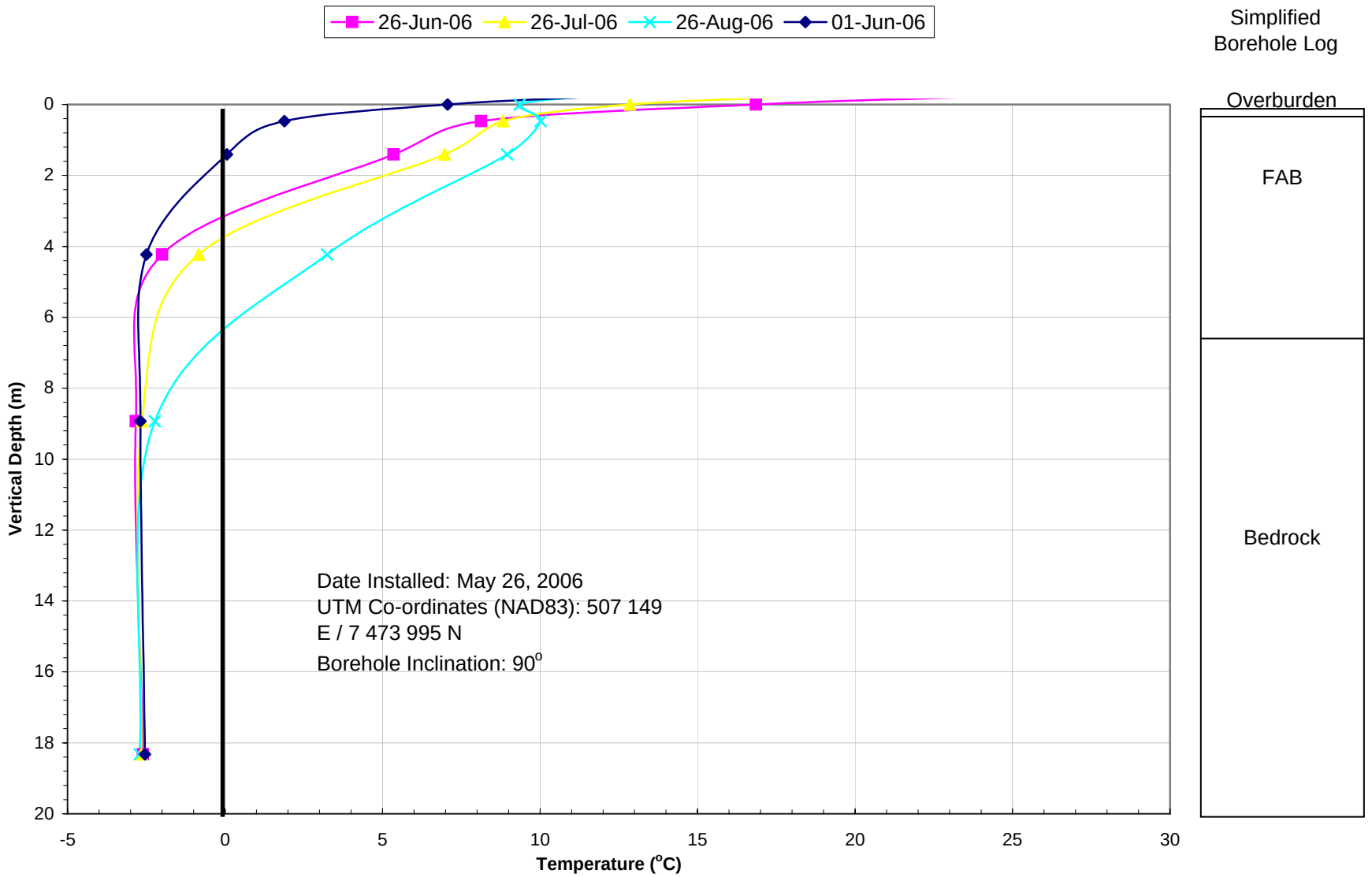


Simplified Borehole Log

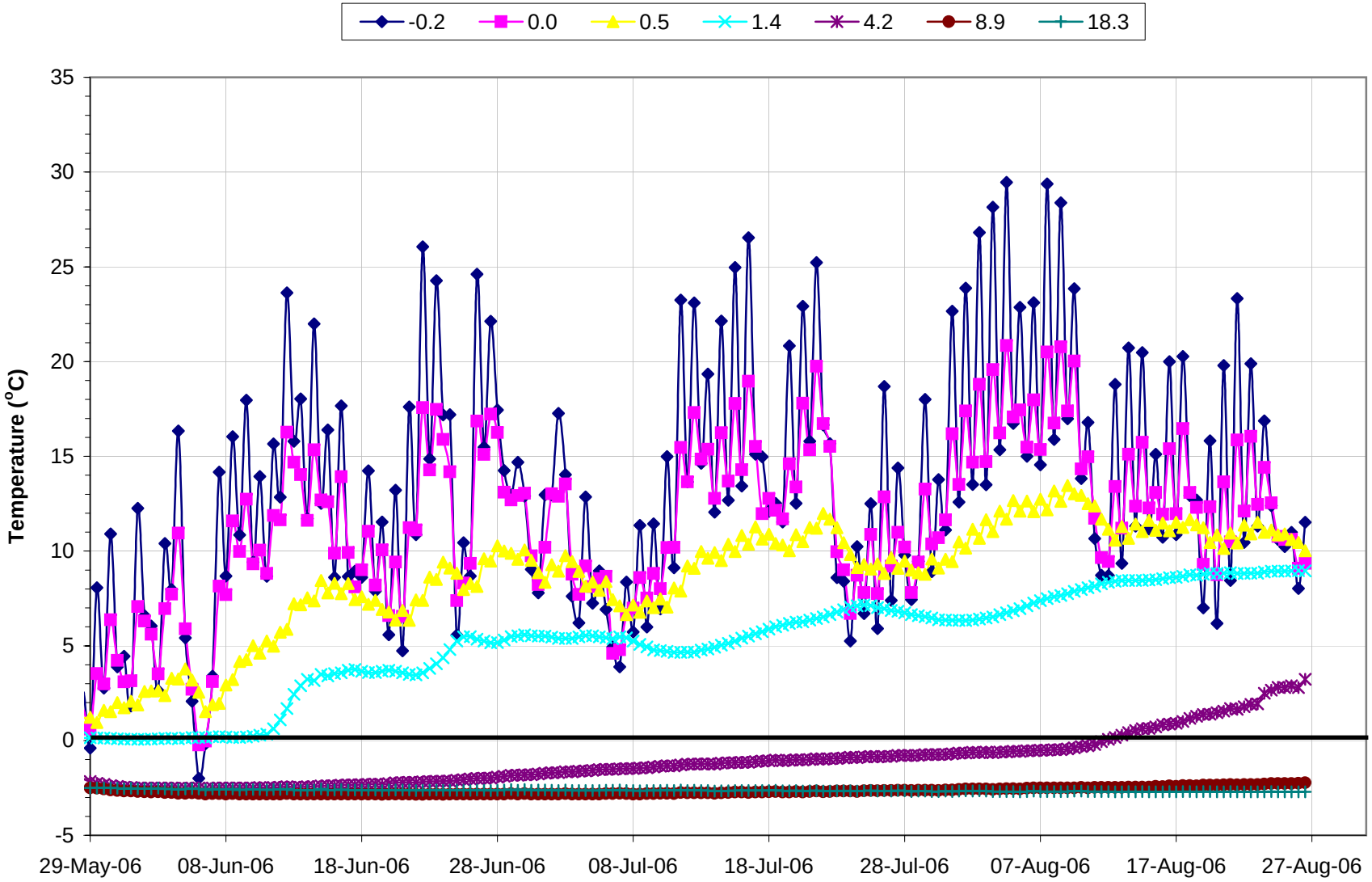
Thermistor Results - East Dam (BGC06-06) - Trumpet Curve



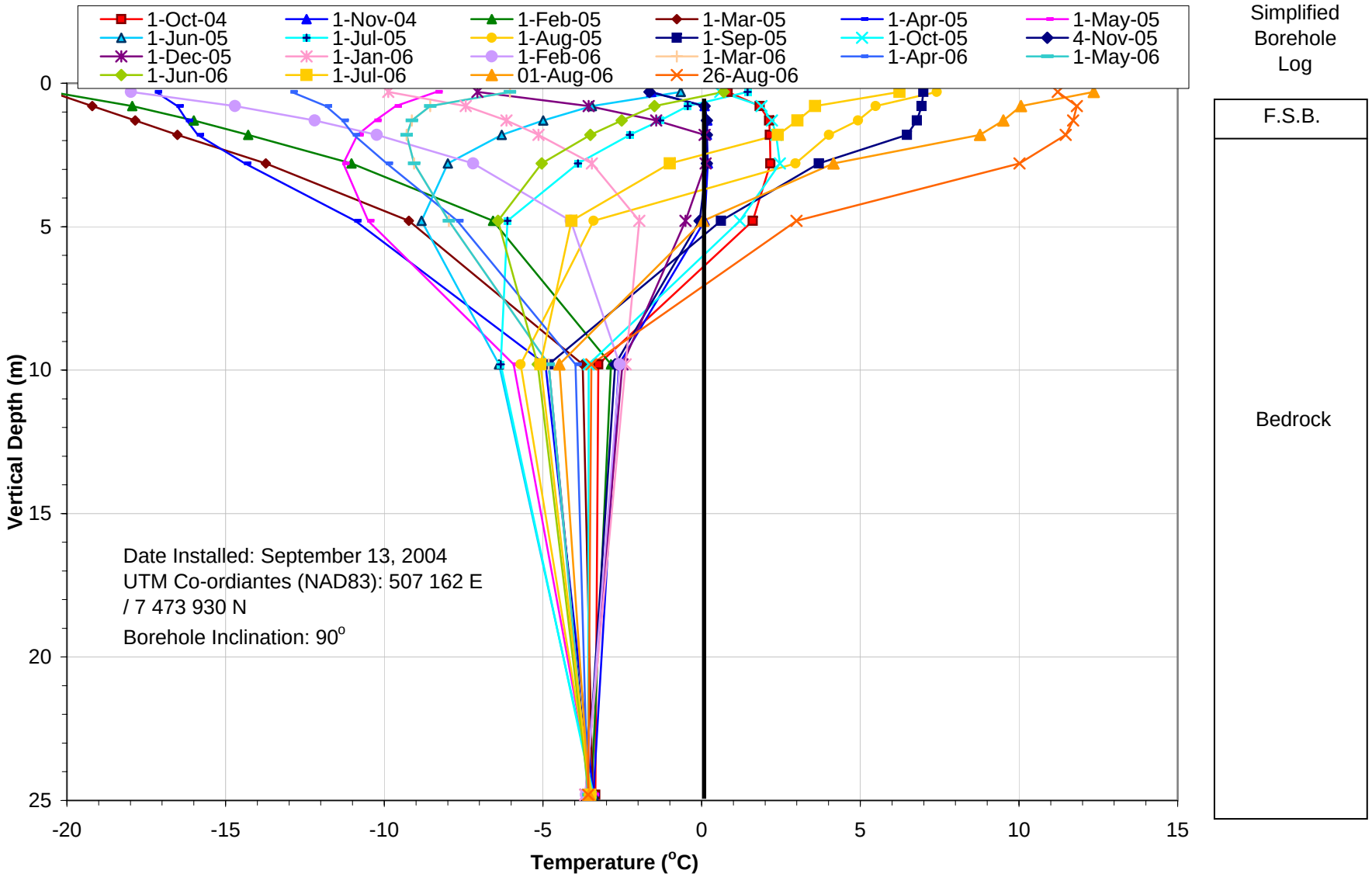
Thermistor Results - East Dam (BGC06-25) -Trumpet Curve



East Dam (BGC06-25) - Temperature vs. Time

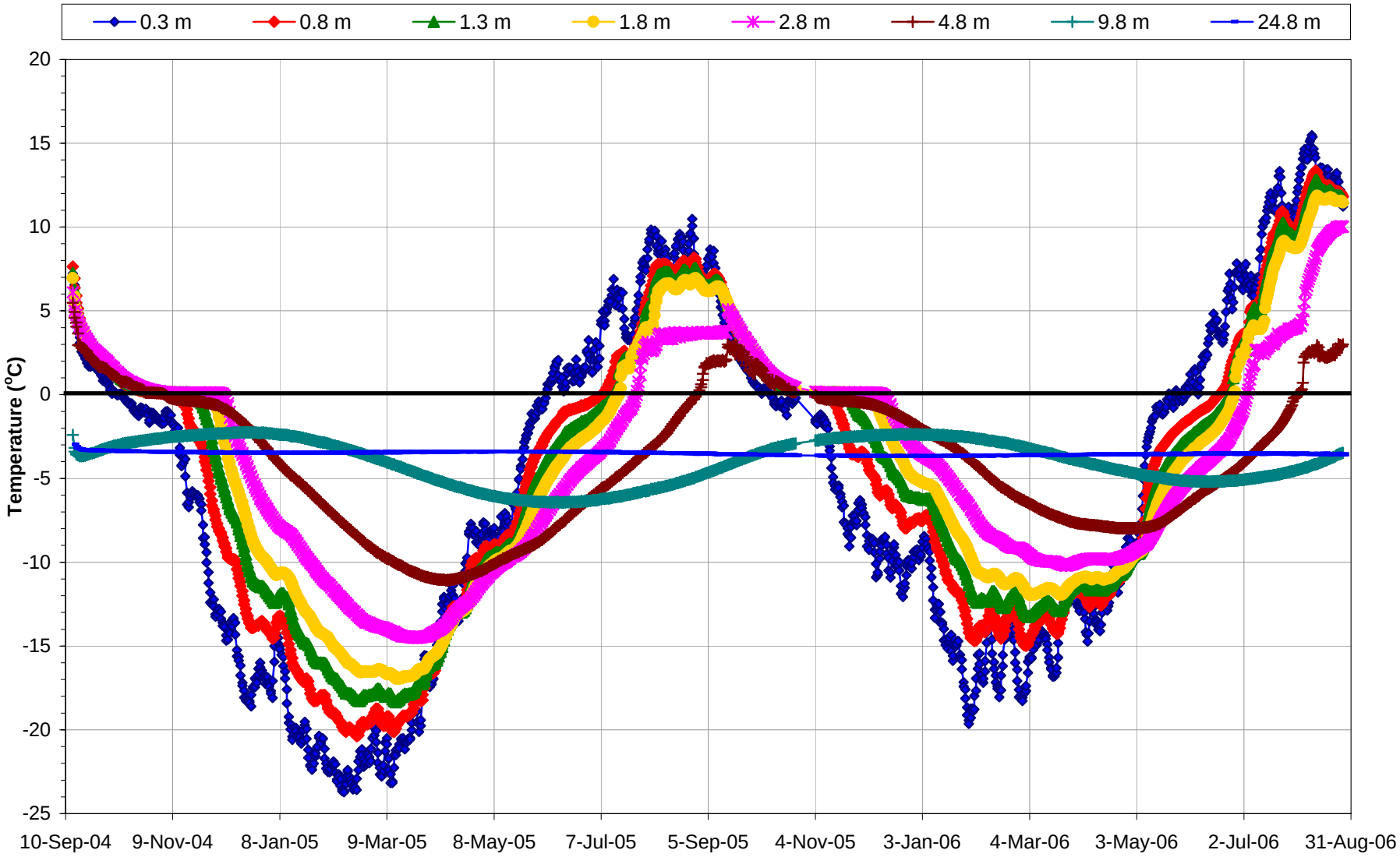


Thermistor Results - East Dam (BGC 04-07) - Trumpet Curve

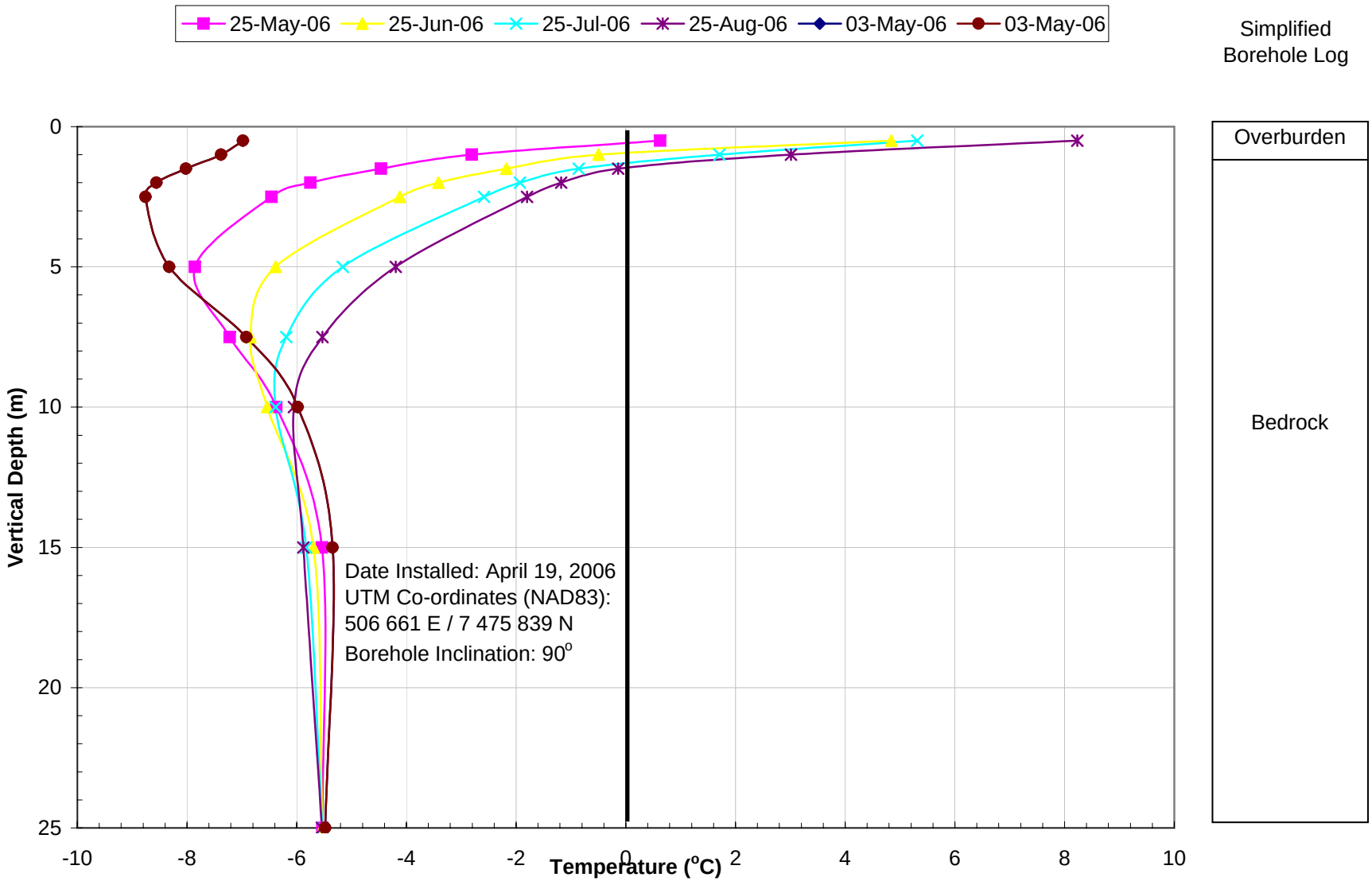


Simplified Borehole Log

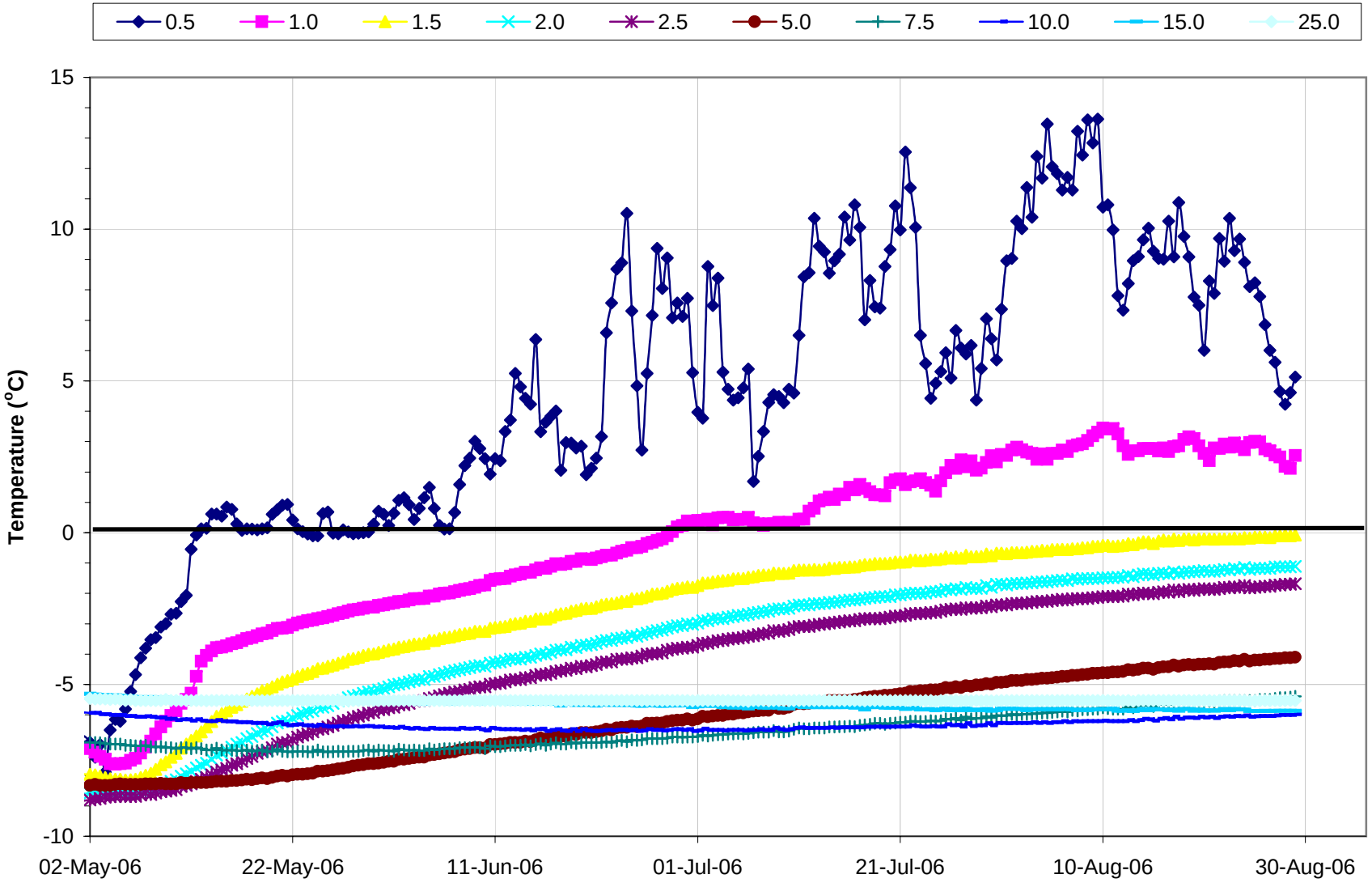
East Dam (BGC 04-07) - Temperature vs. Time



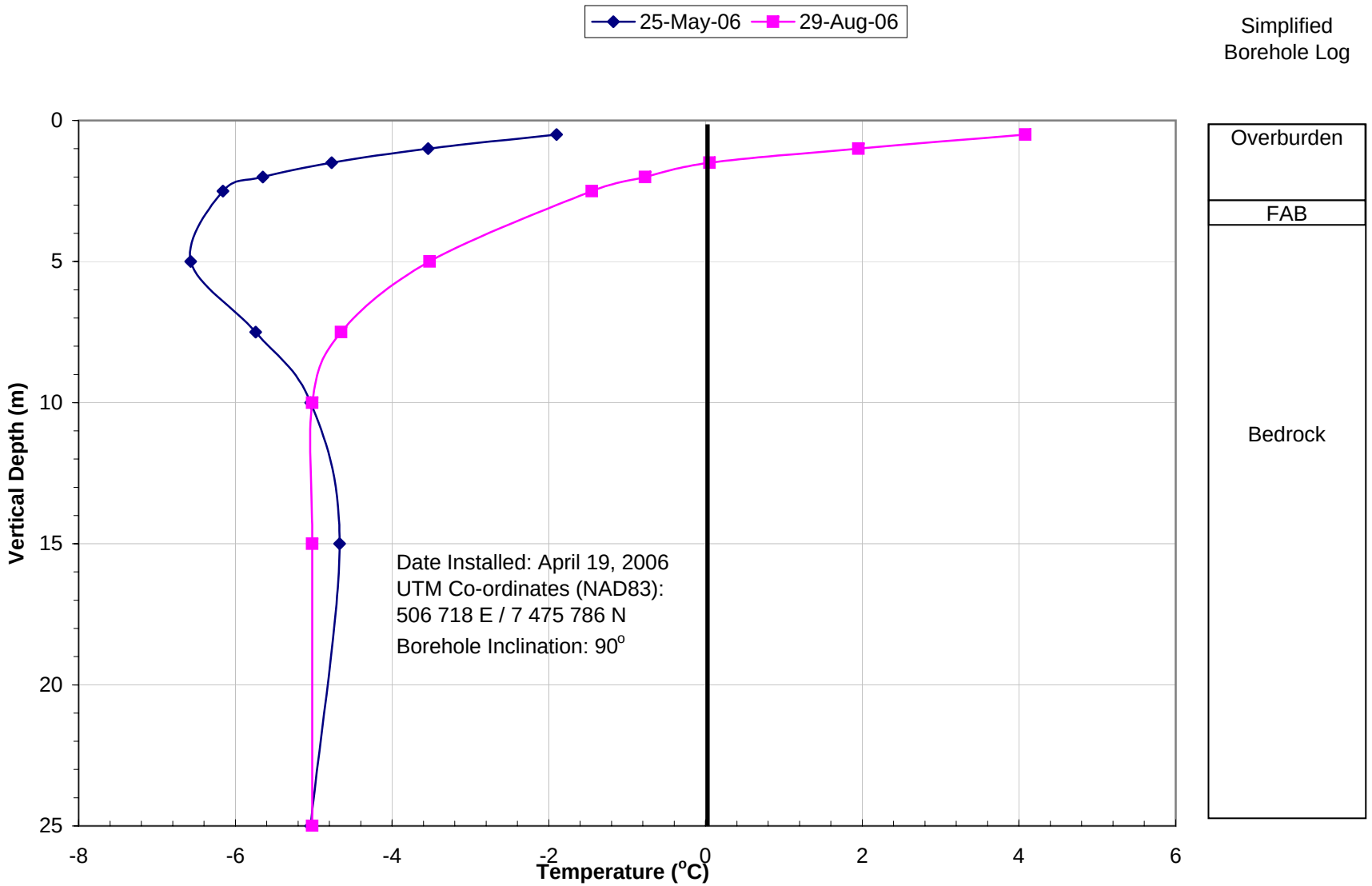
Thermistor Results - Polishing Pond (BGC06-07) -Trumpet Curve



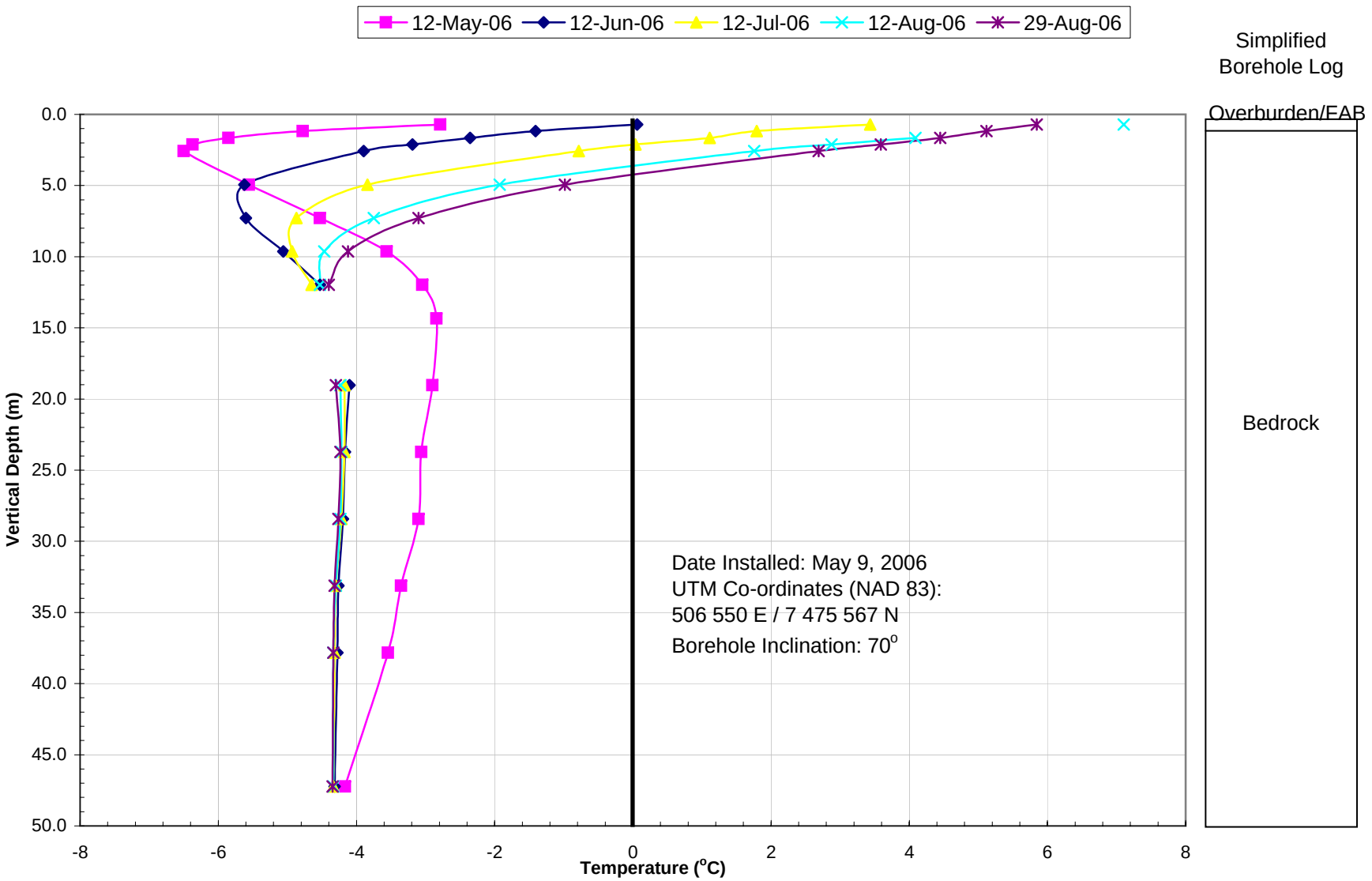
Polishing Pond (BGC06-07) - Temperature vs Time



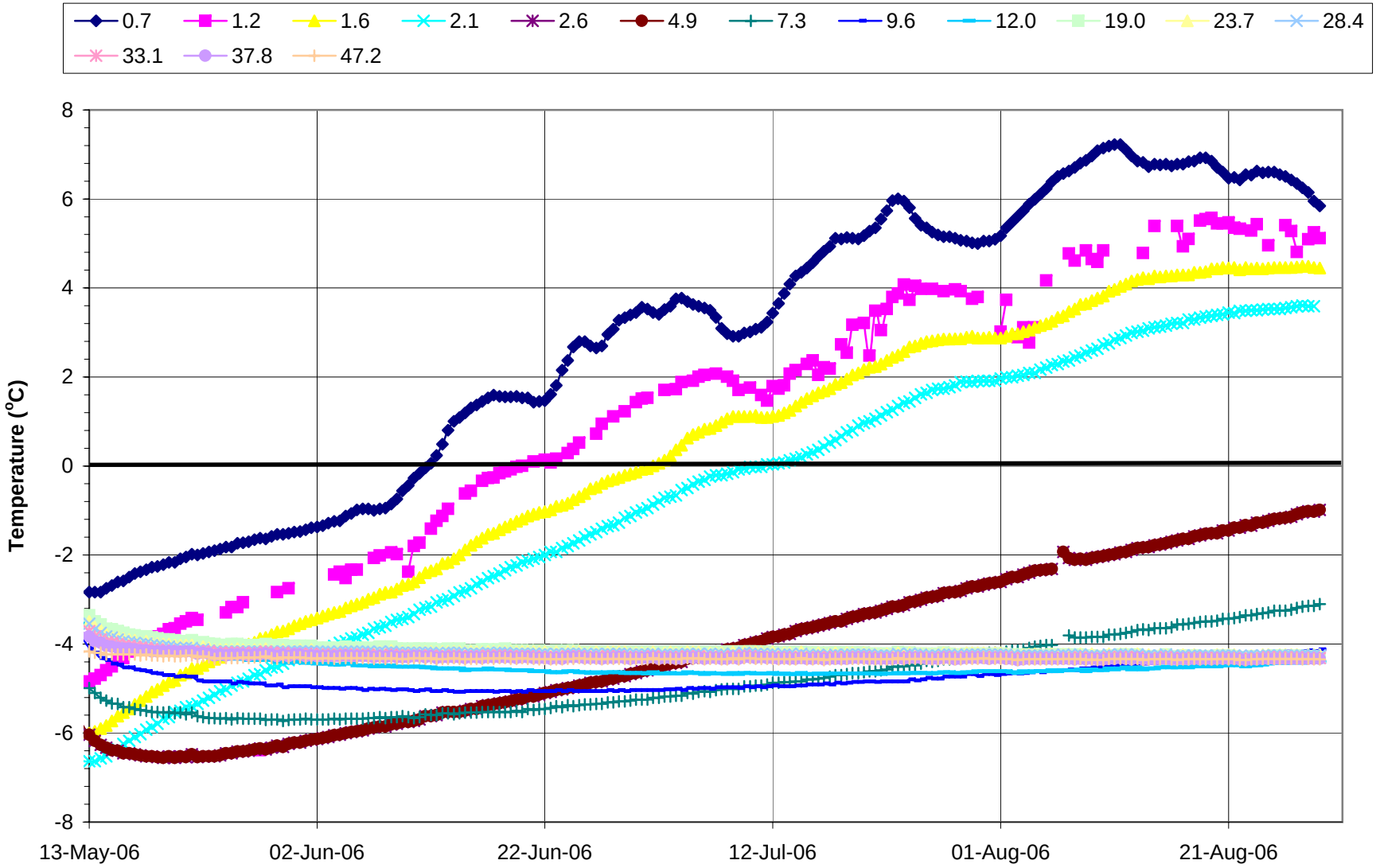
Thermistor Results - Polishing Pond (BGC06-08) -Trumpet Curve



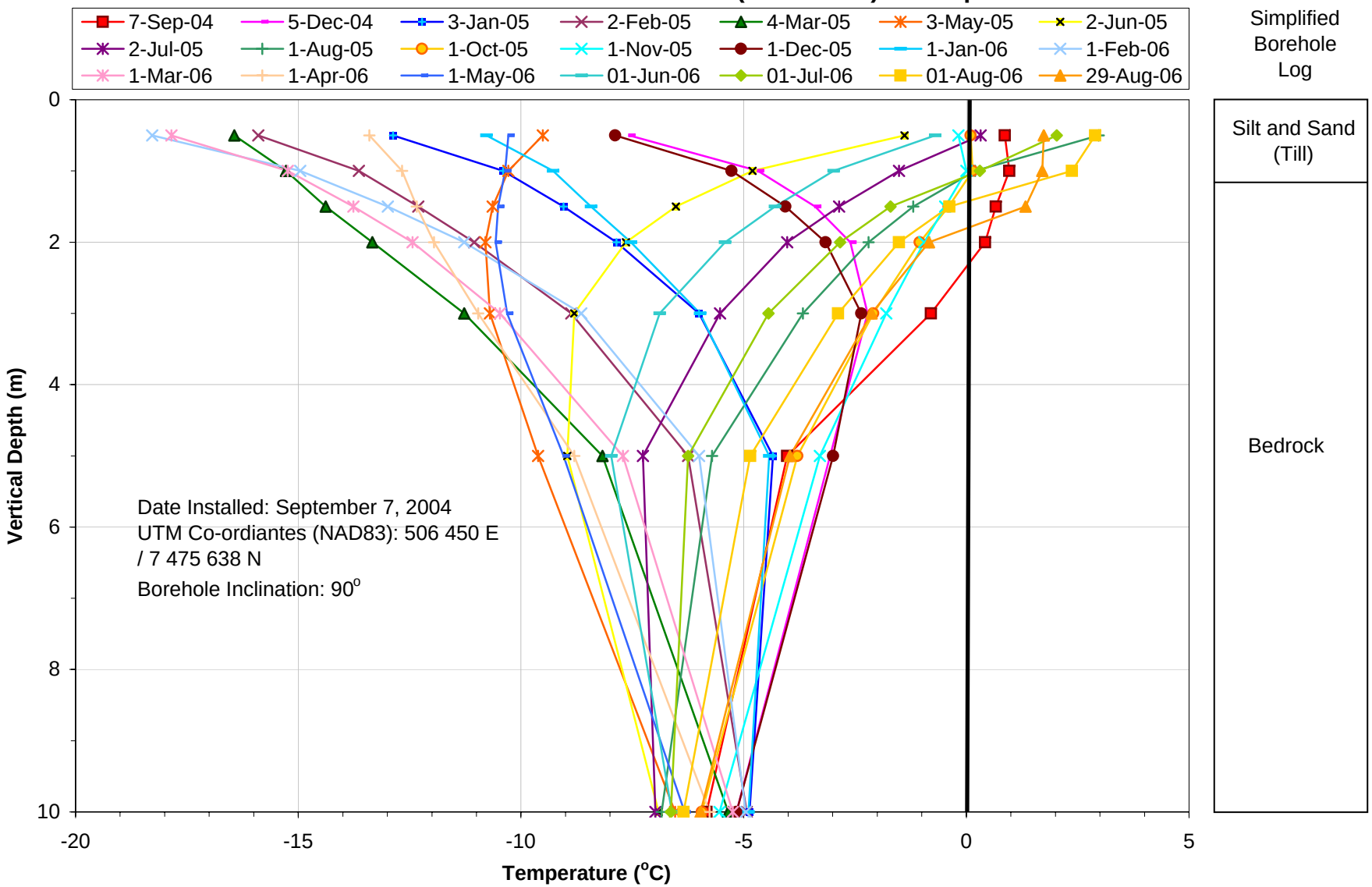
Thermistor Results - Northeast Dam (BGC06-11) -Trumpet Curve



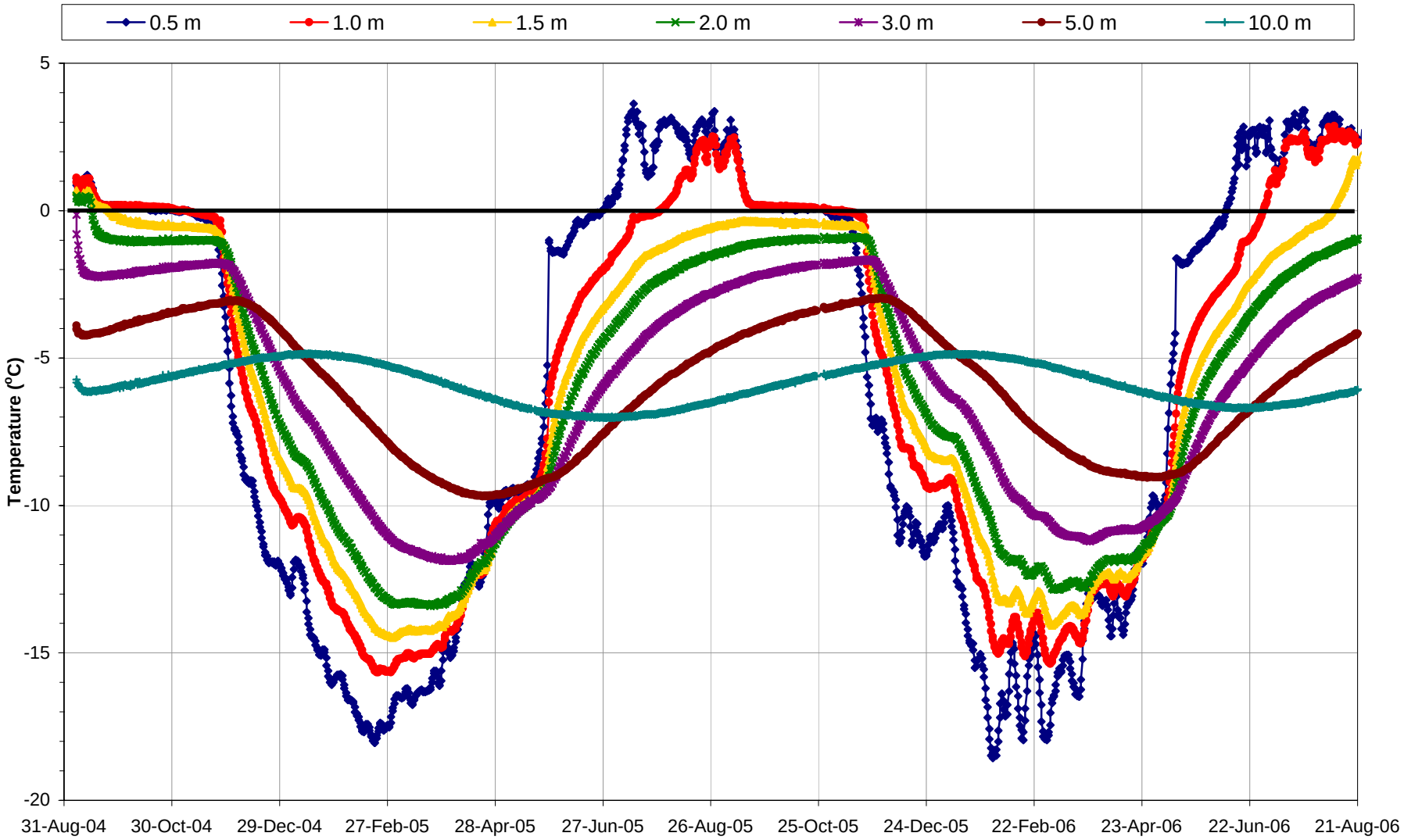
Northeast Dam (BGC06-11) - Temperature vs. Time



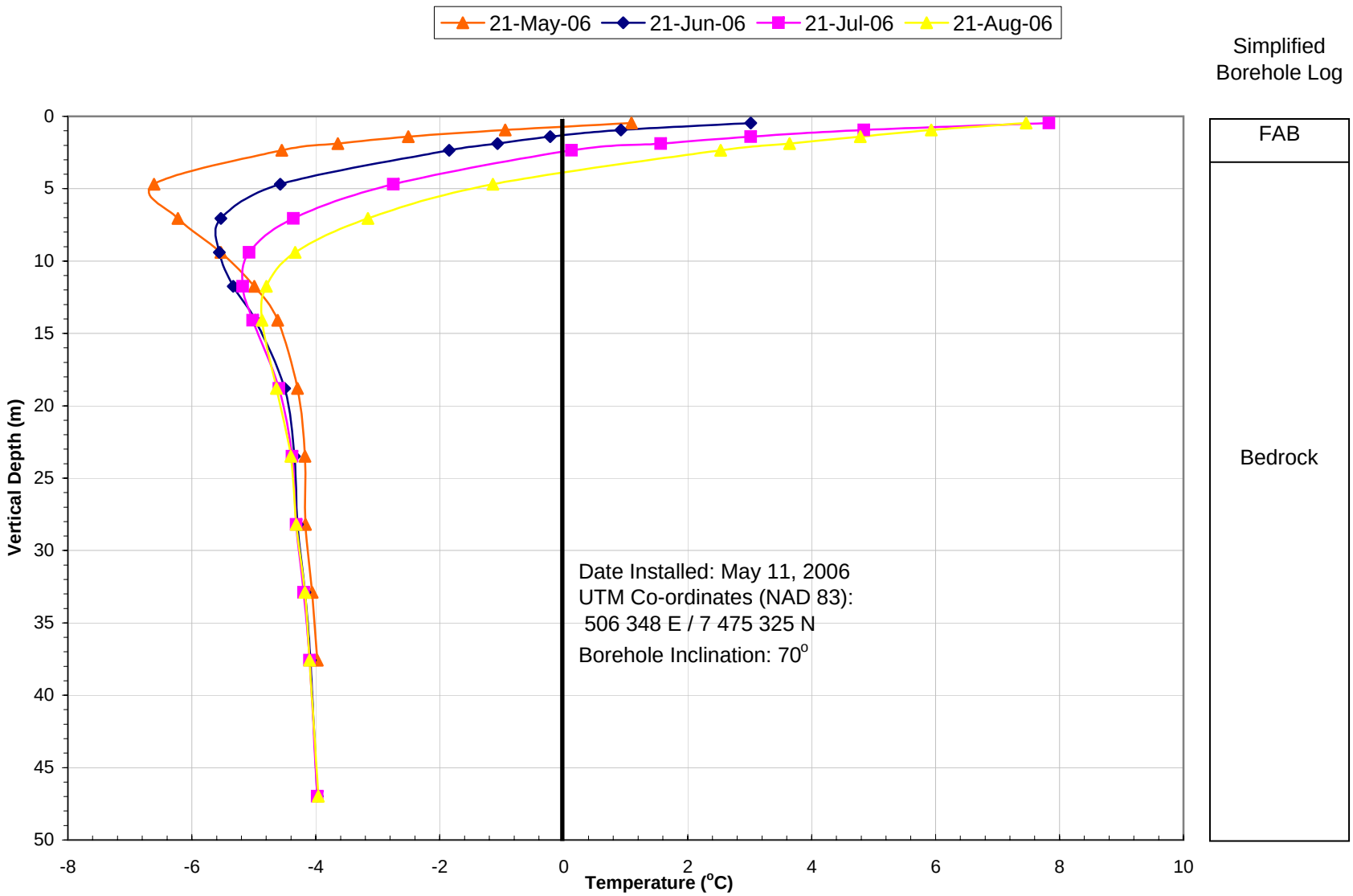
Thermistor Results - Northeast Dam (BGC 04-03) - Trumpet Curve



Northeast Dam (BGC 04-03) - Temperature vs. Time



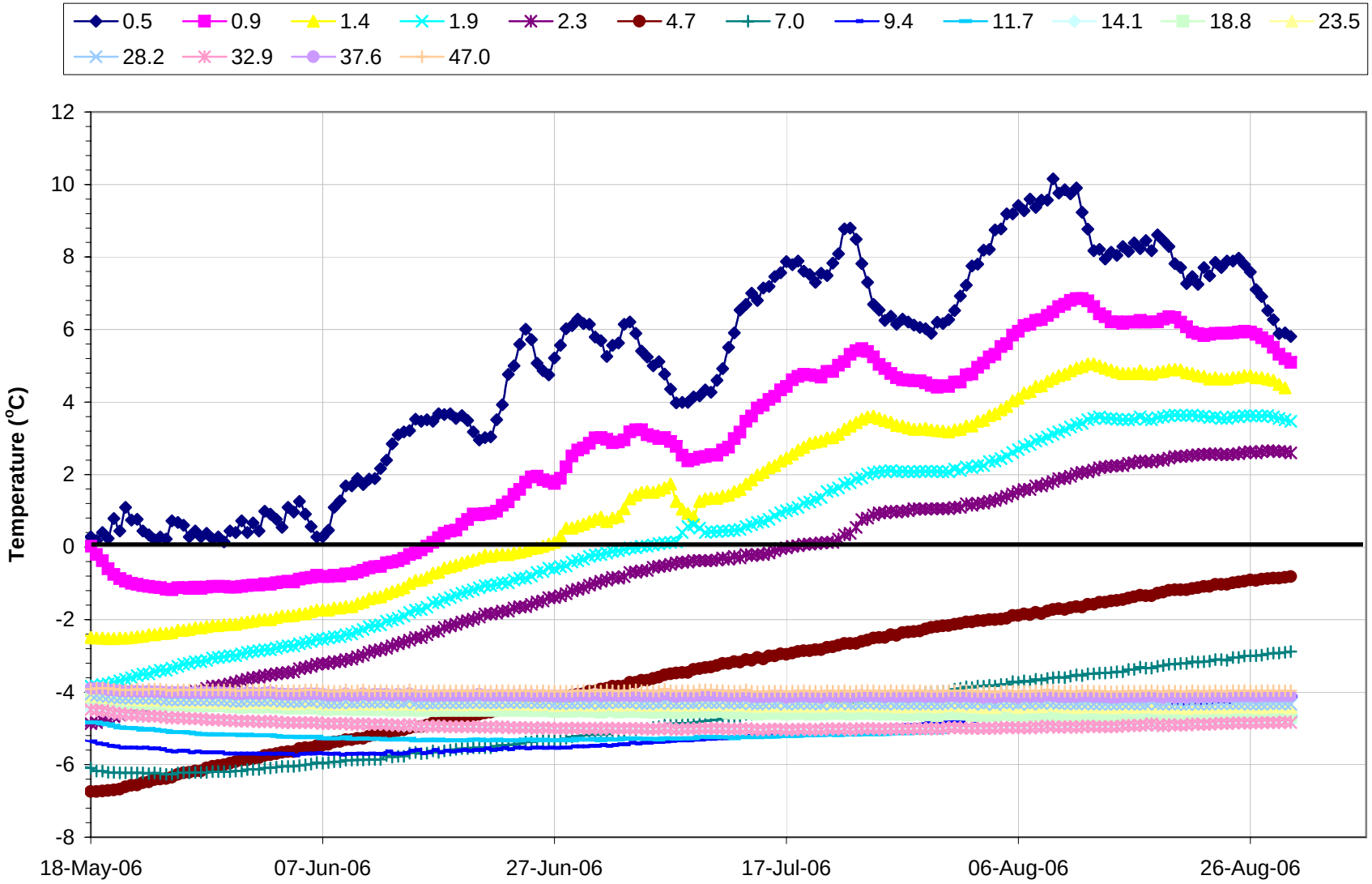
Thermistor Results - Northwest Dam (BGC06-13) -Trumpet Curve



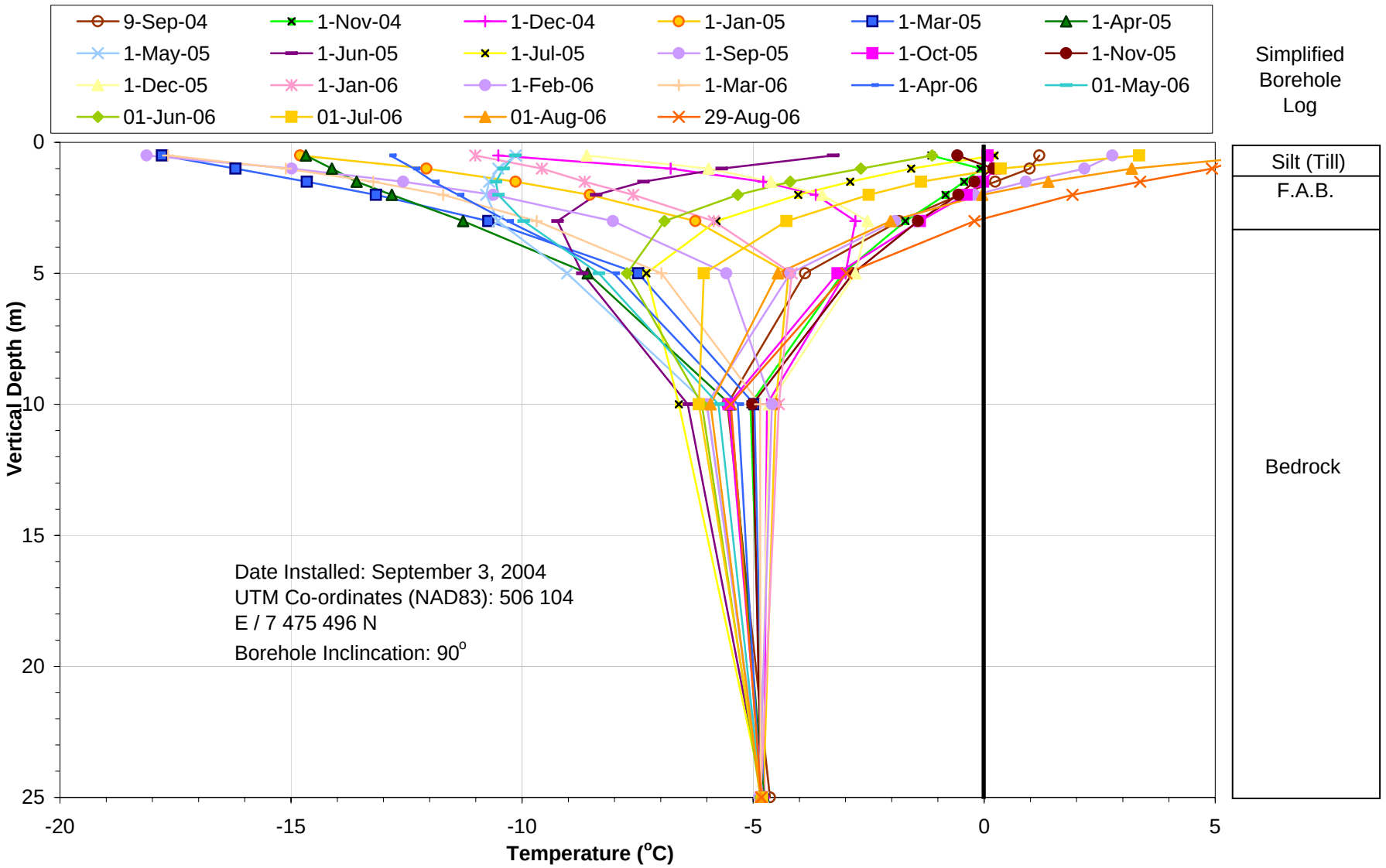
NW1_BGC06-13.xls
Trumpet Curve 0-50m

BGC Engineering Inc.

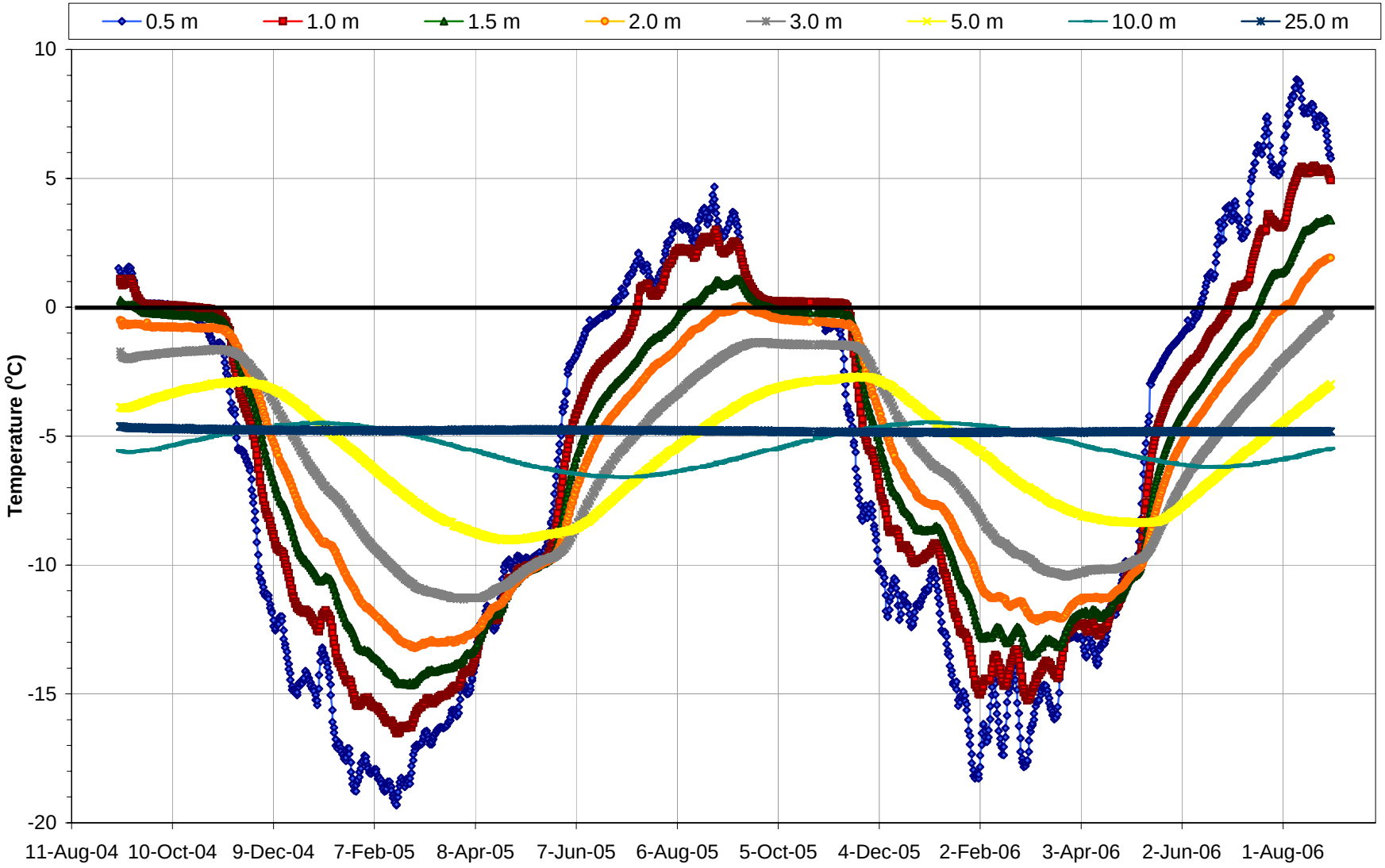
Northwest Dam (BGC06-13) - Temperature vs. Time



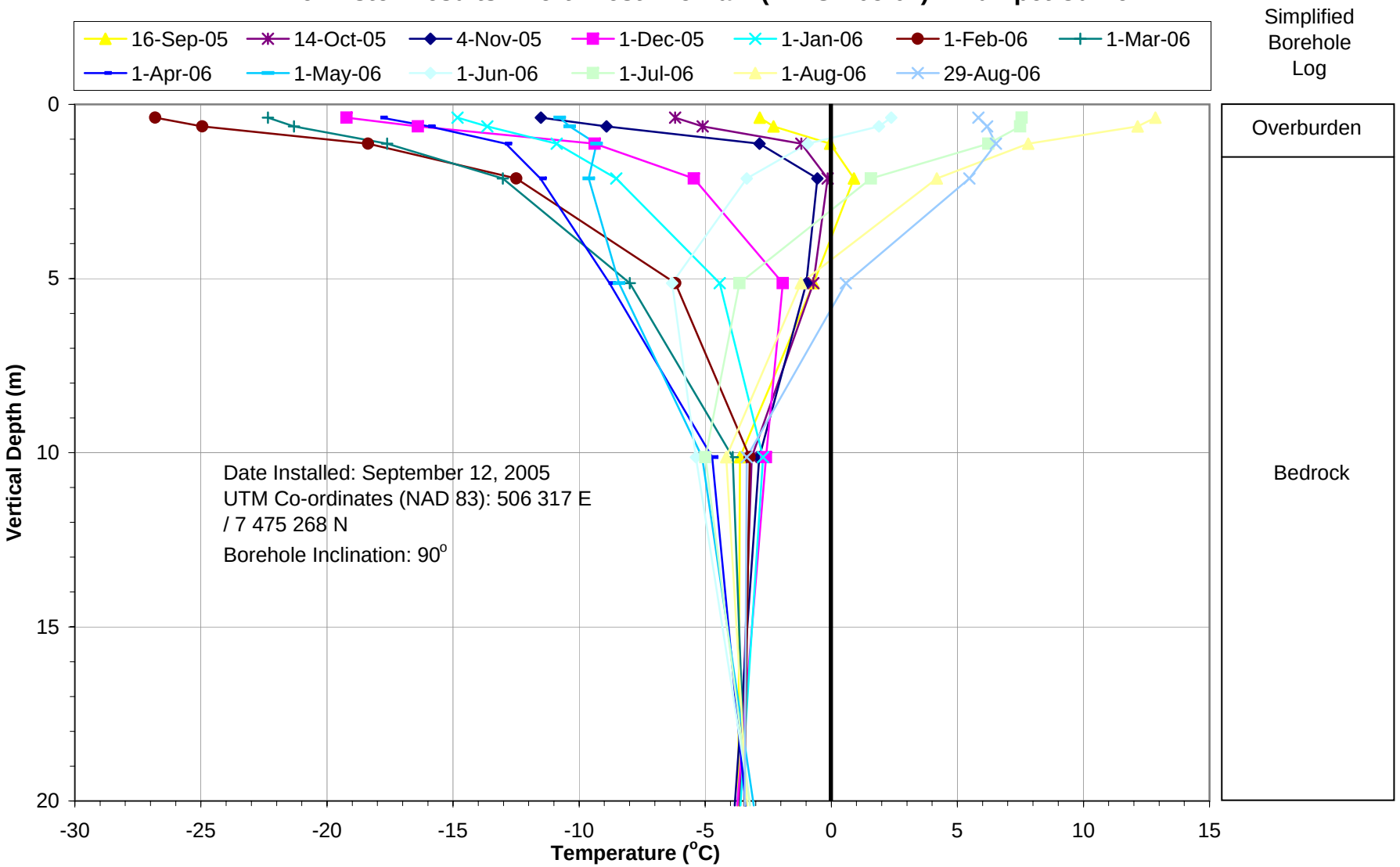
Thermistor Results - Northwest Dam (BGC 04-02) - Trumpet Curve



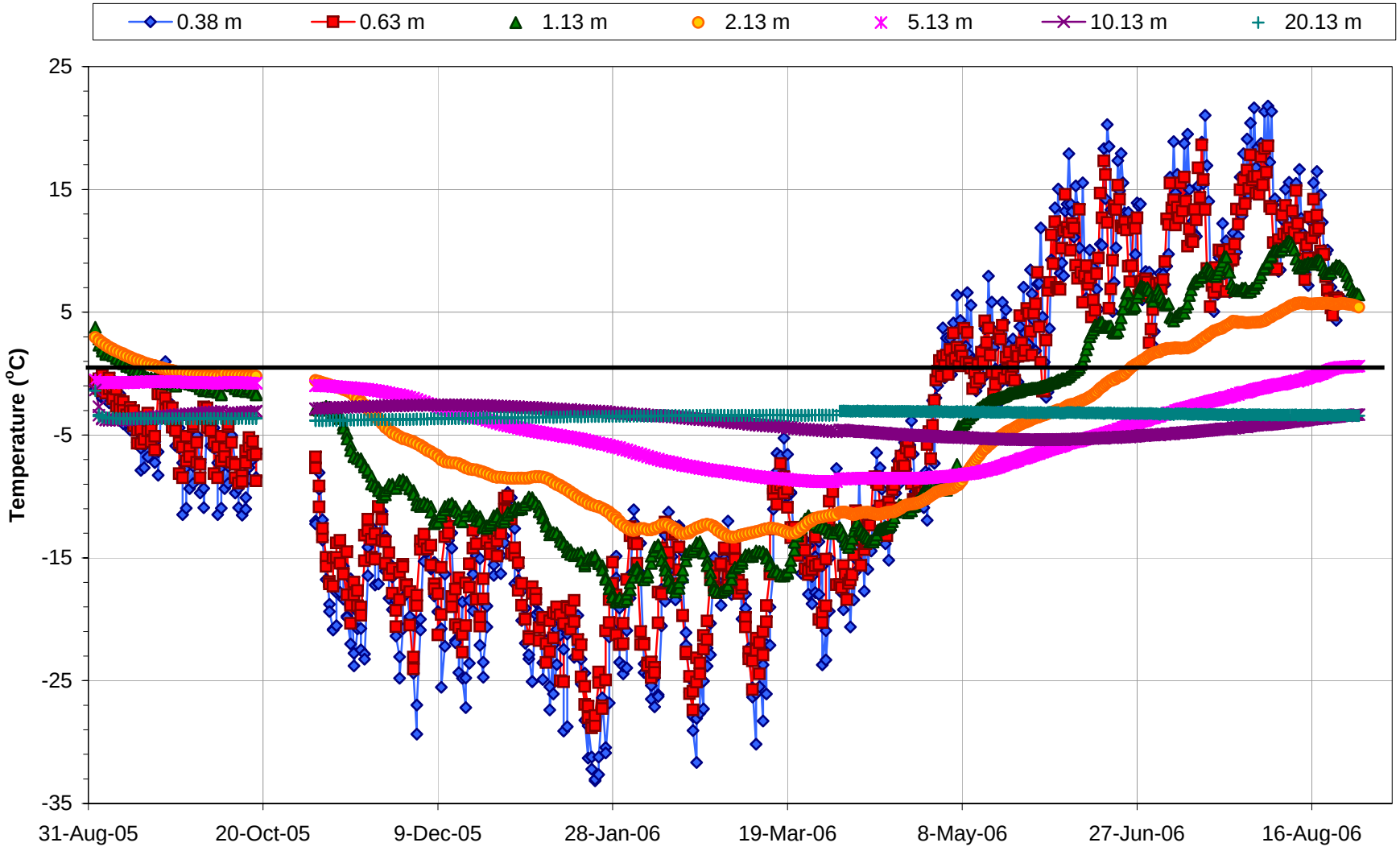
Northwest Dam (BGC 04-02) - Temperature vs. Time



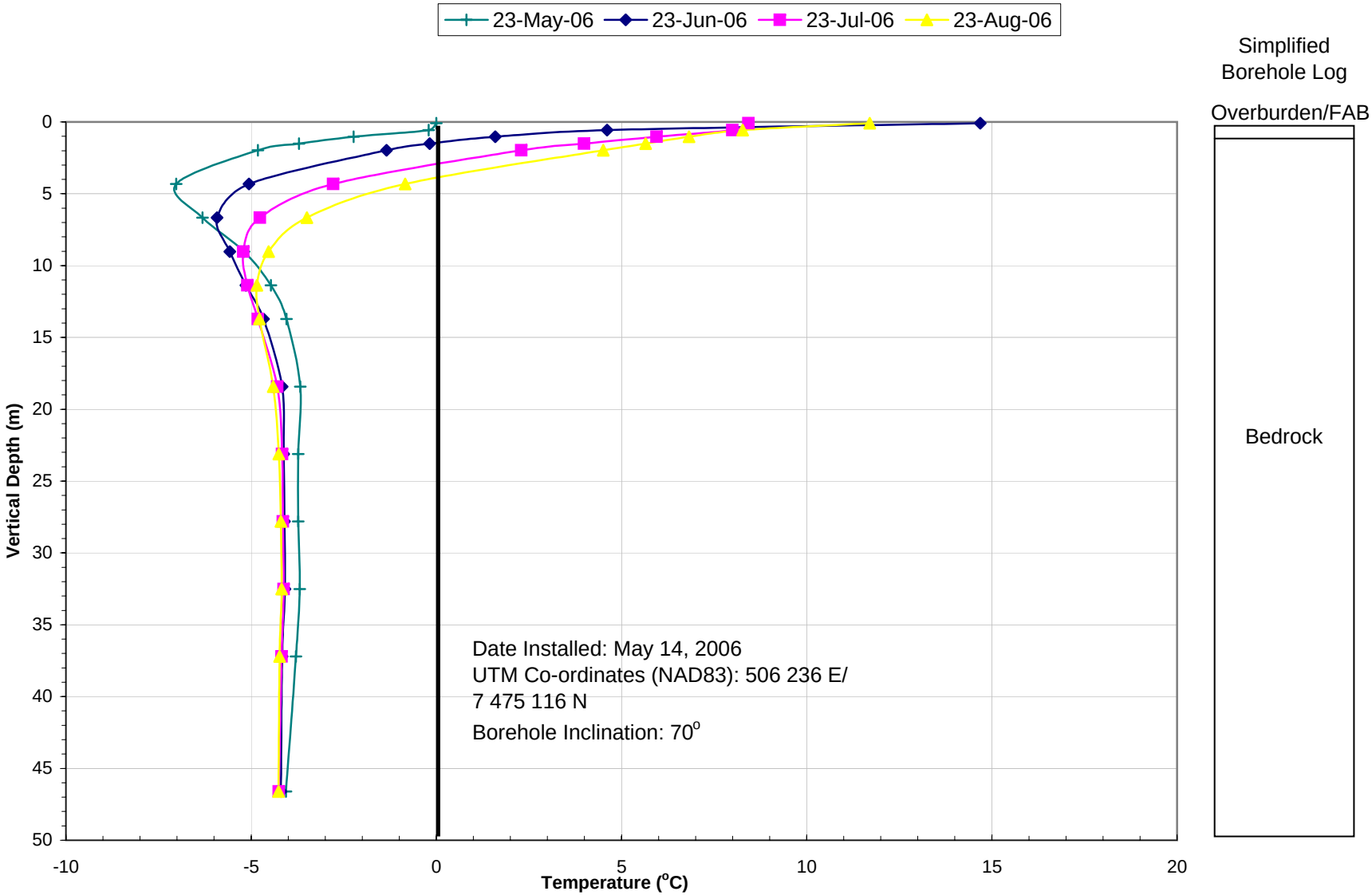
Thermistor Results - Northwest L15 Dam (BH-GT-05-07) - Trumpet Curve



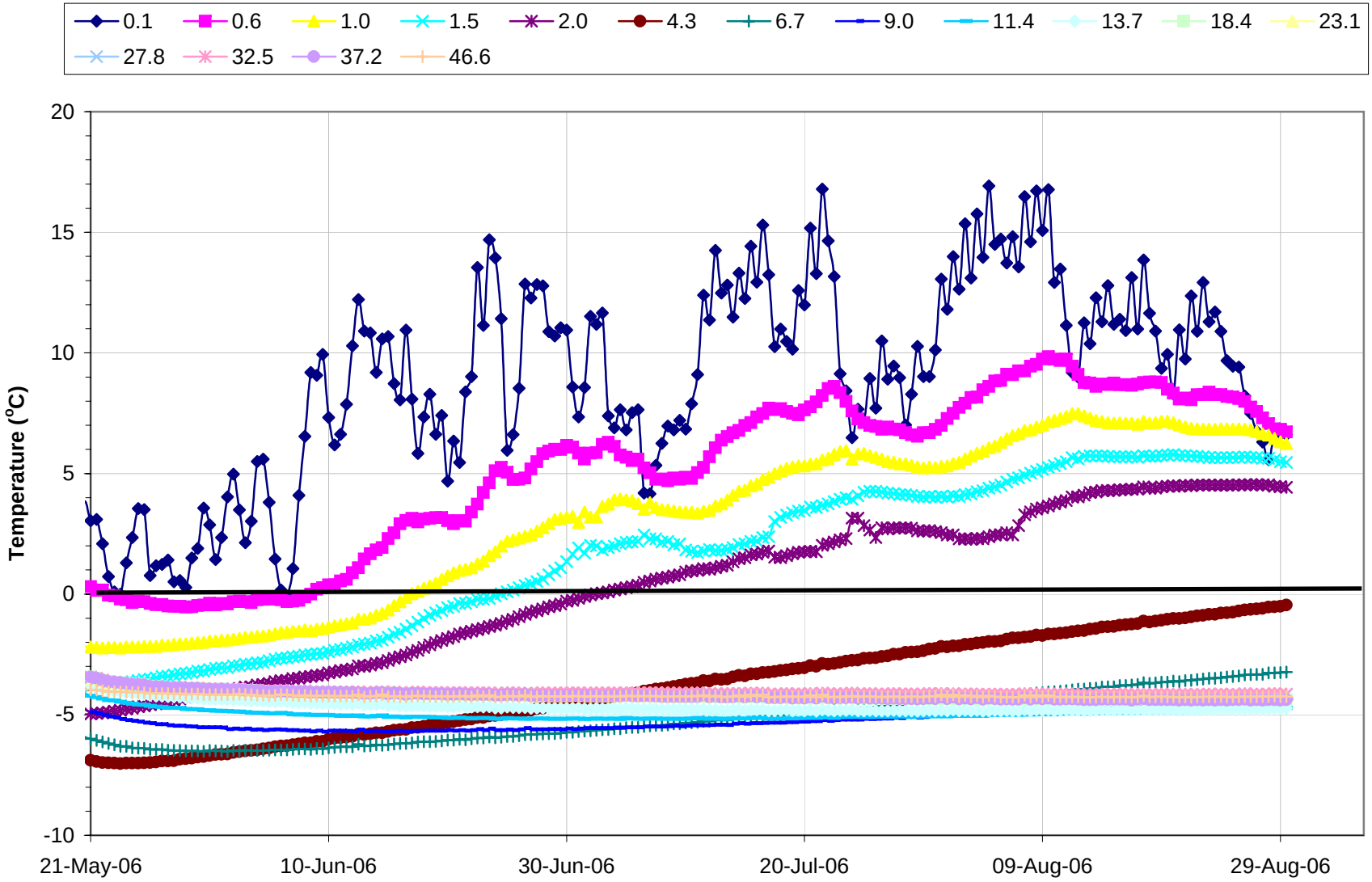
Northwest L15 Dam (BH-GT-05-07) - Temperature vs. Time



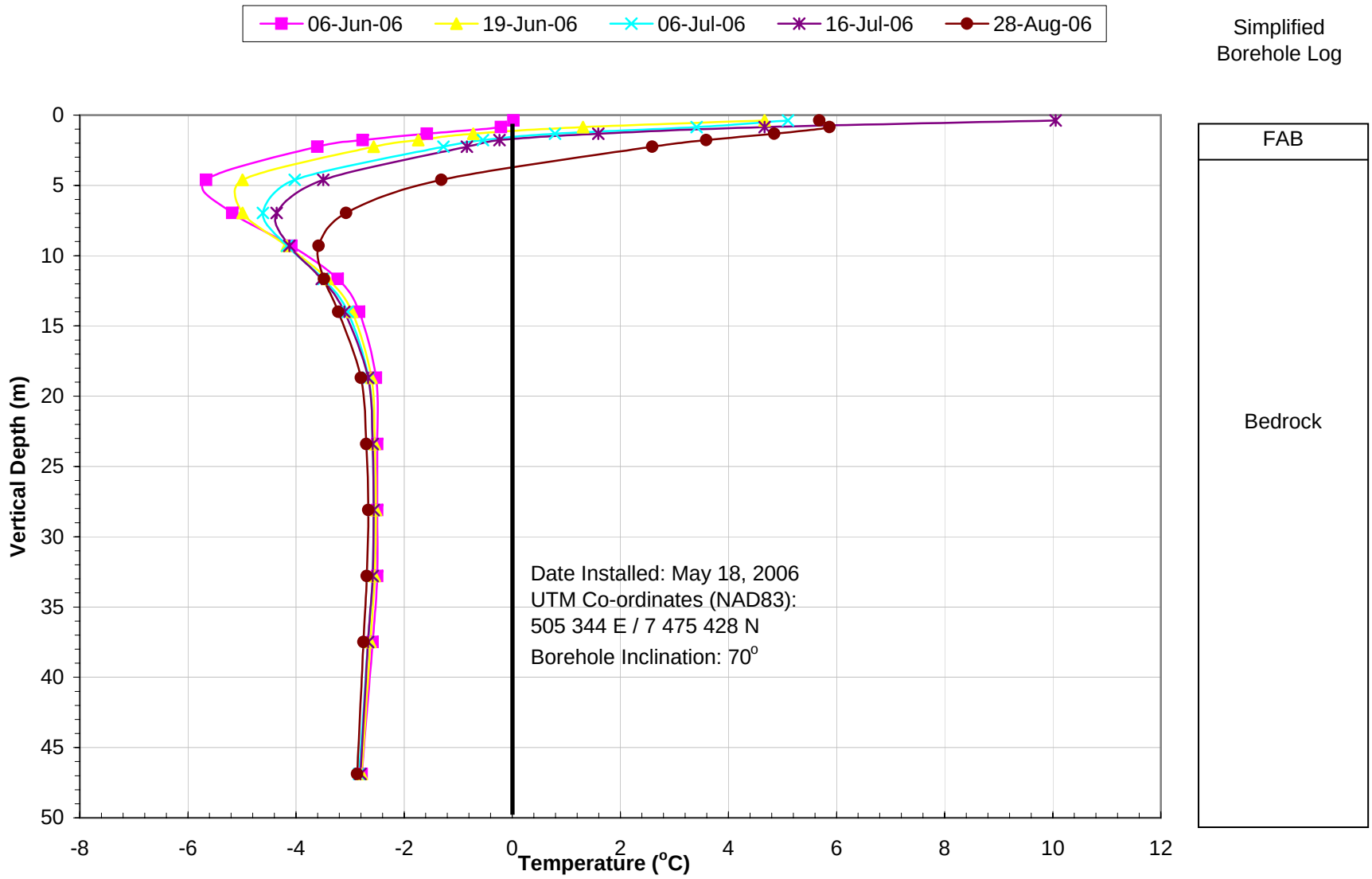
Thermistor Results - Northwest Channel Dam (BGC06-15) -Trumpet Curve



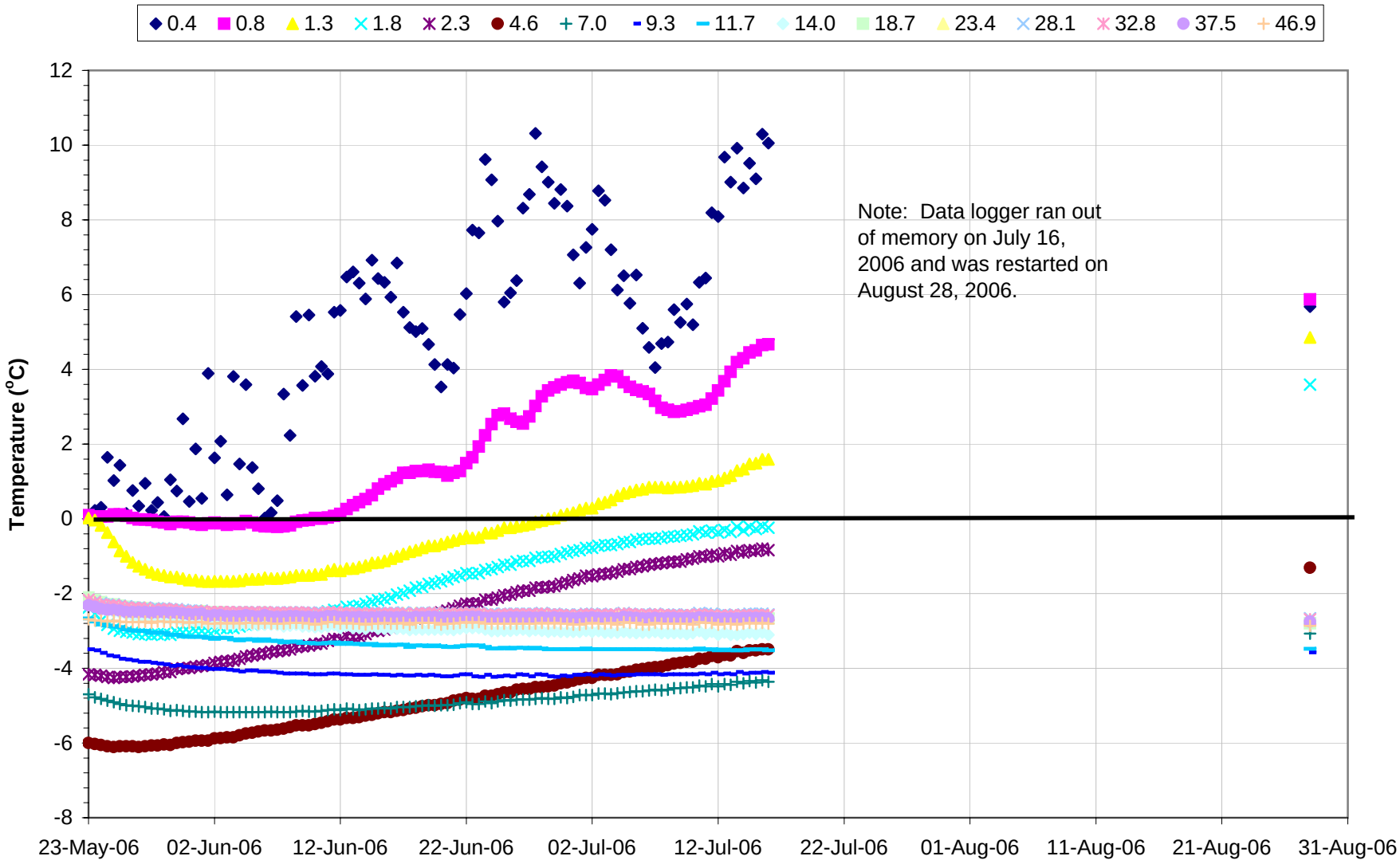
Northwest Channel Dam NWC2 (BGC06-15) - Temperature vs. Time



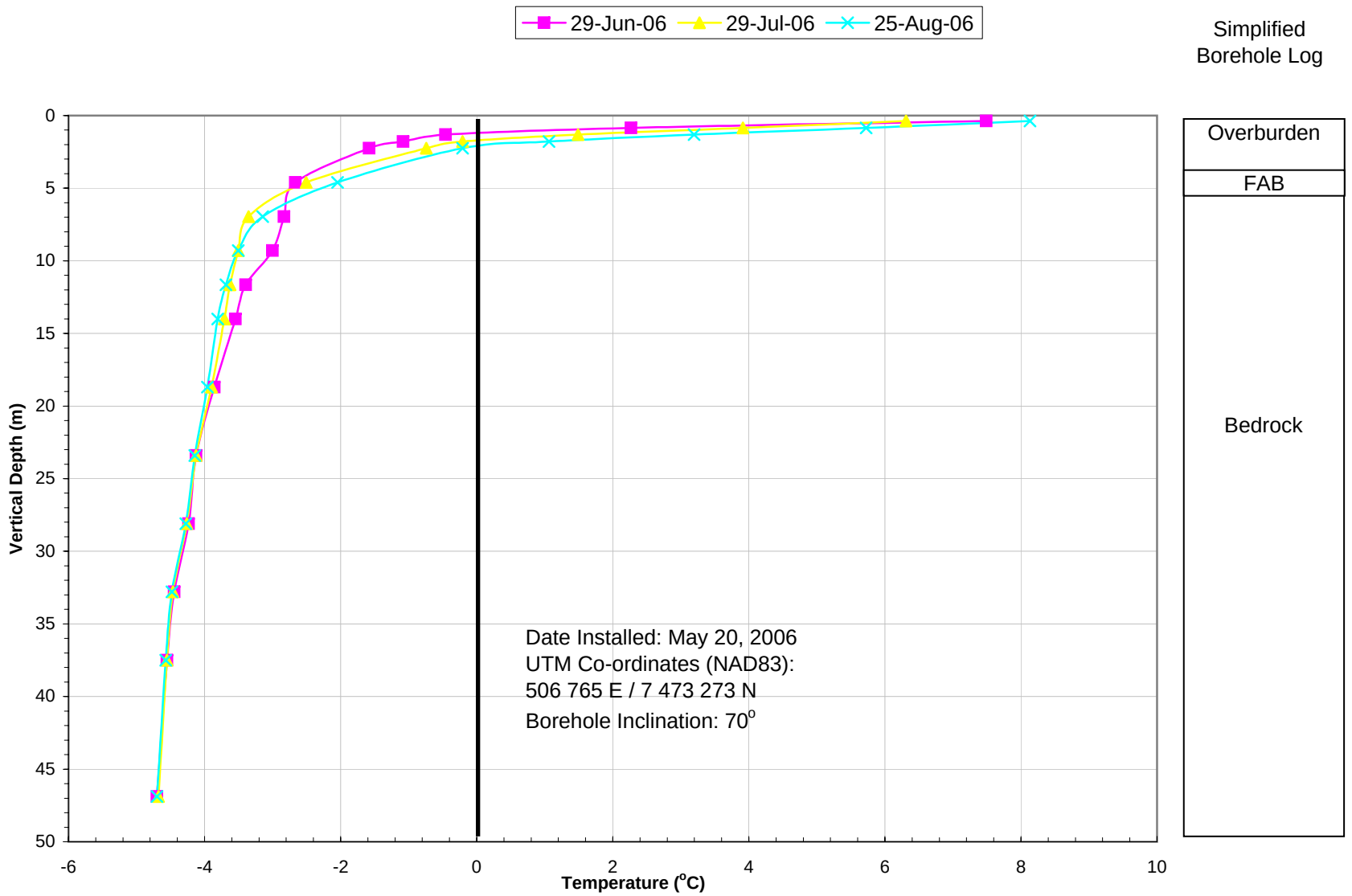
Thermistor Results - Water Dam (BGC06-17) -Trumpet Curve



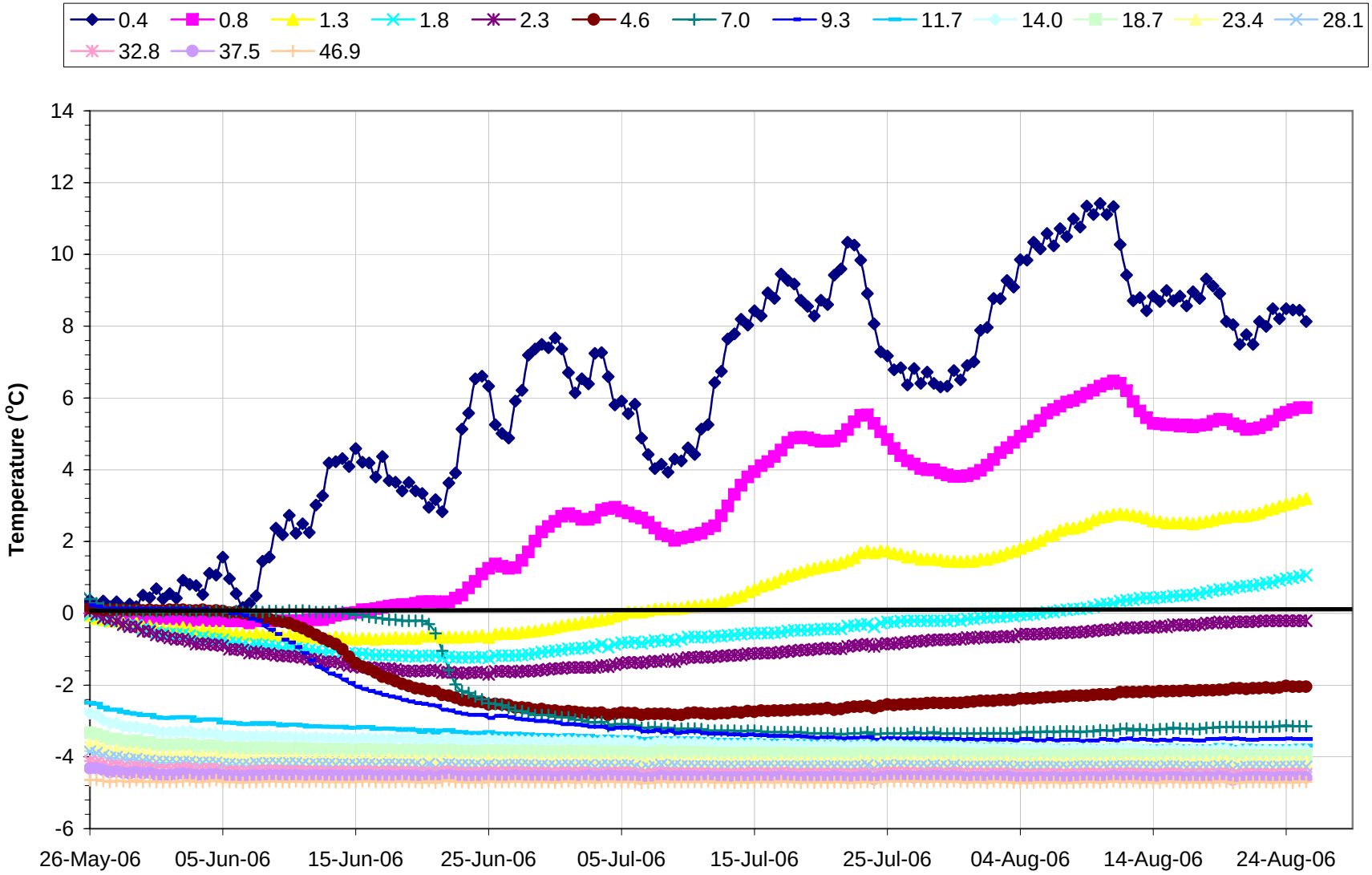
Water Dam (BGC06-17) - Temperature vs. Time



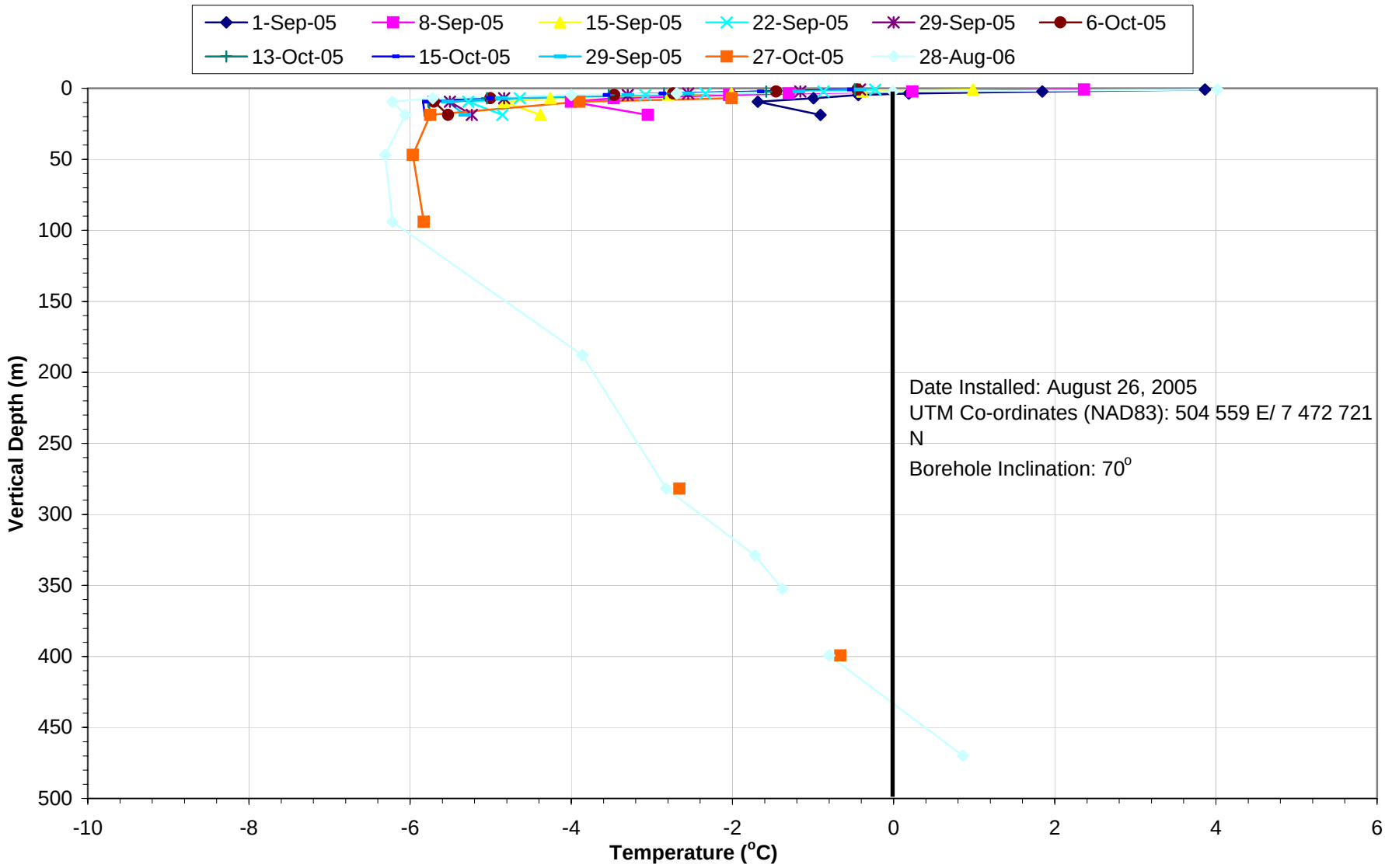
Thermistor Results - Contact Lake Dam (BGC06-20) -Trumpet Curve



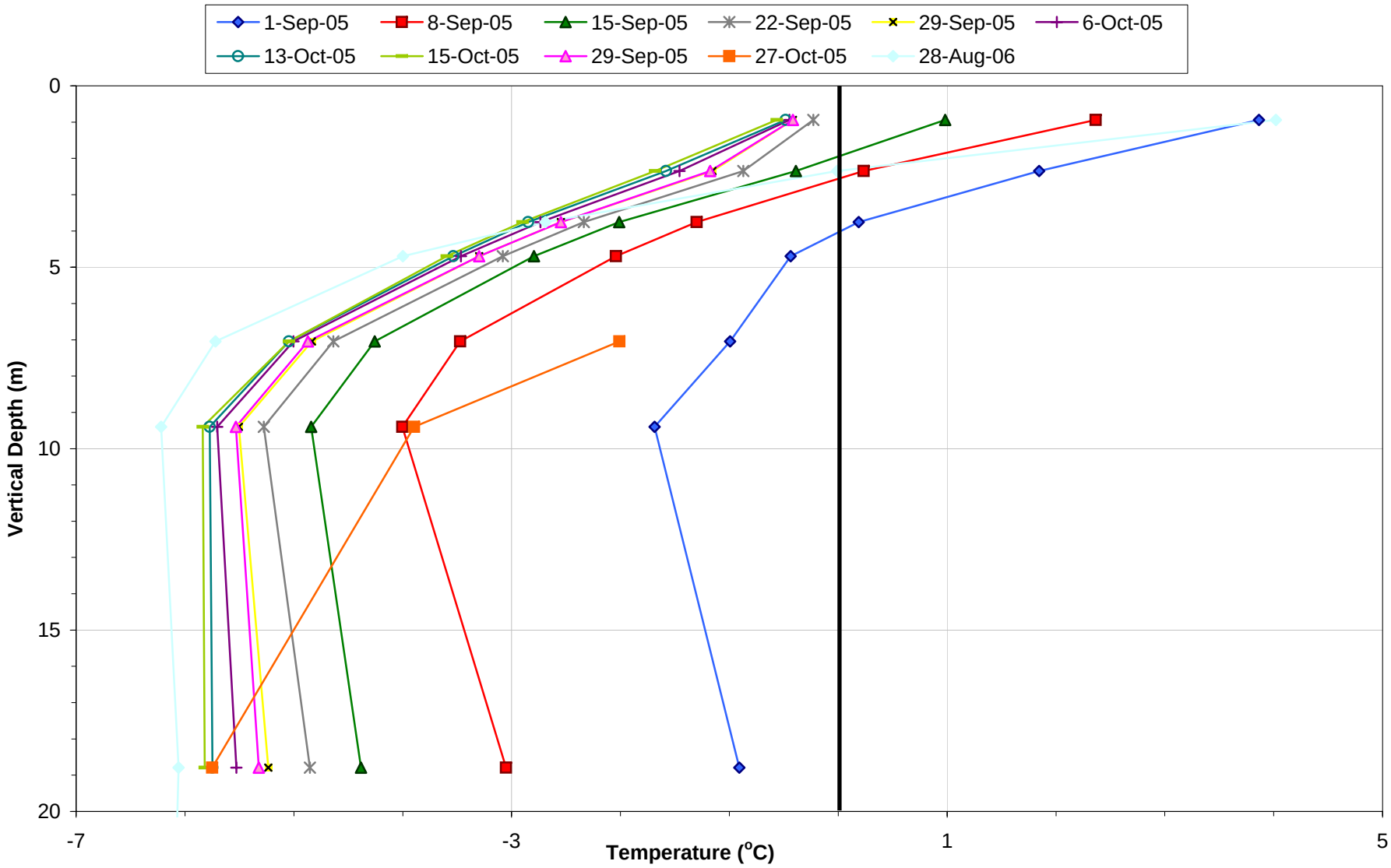
Contact Lake Dam (BGC06-20) - Temperature vs. Time



Thermistor Results - West Zone (HLW-05-171) - Trumpet Curve



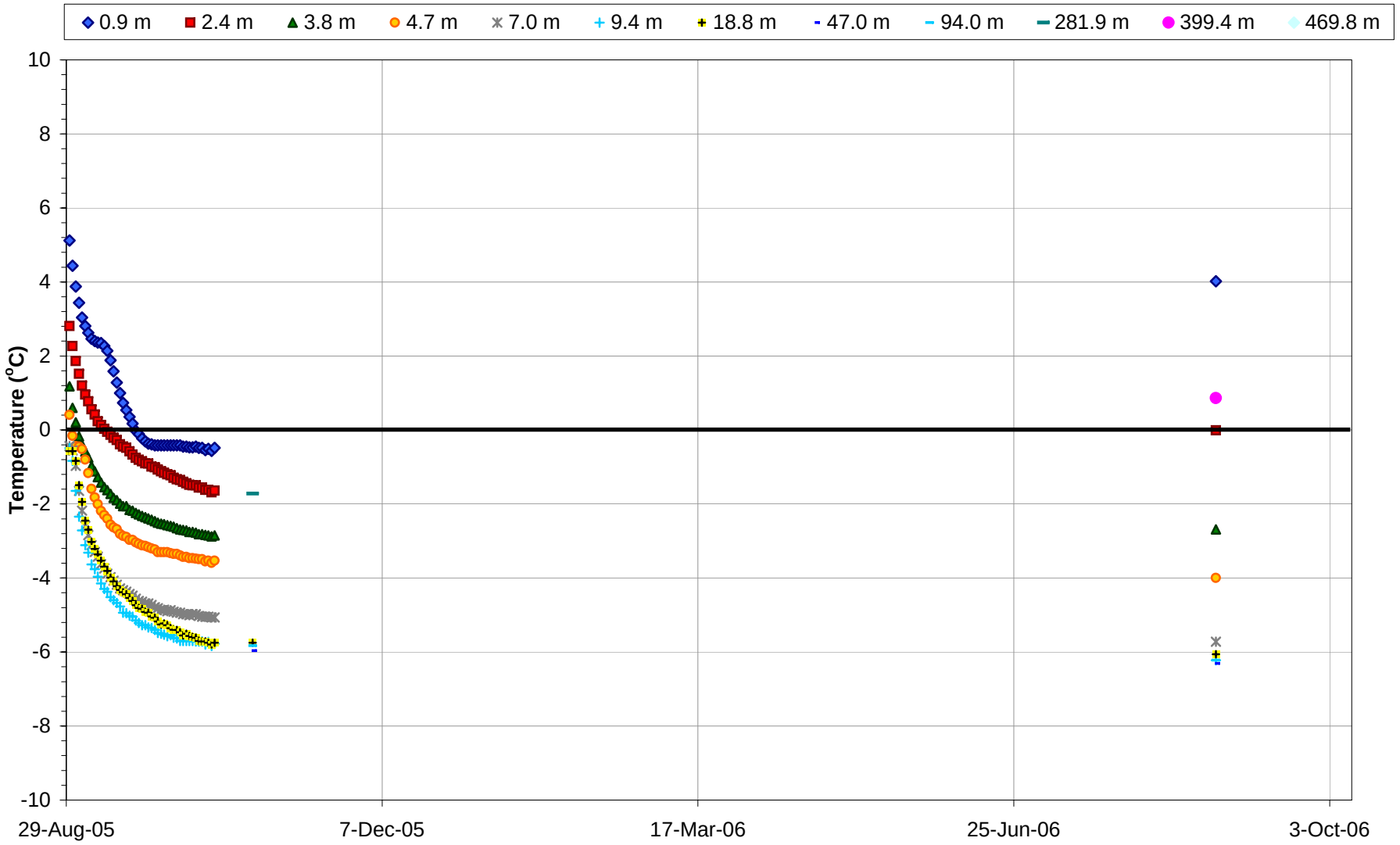
West Zone (HLW-05-171) - Trumpet Curve (Upper 20 m)



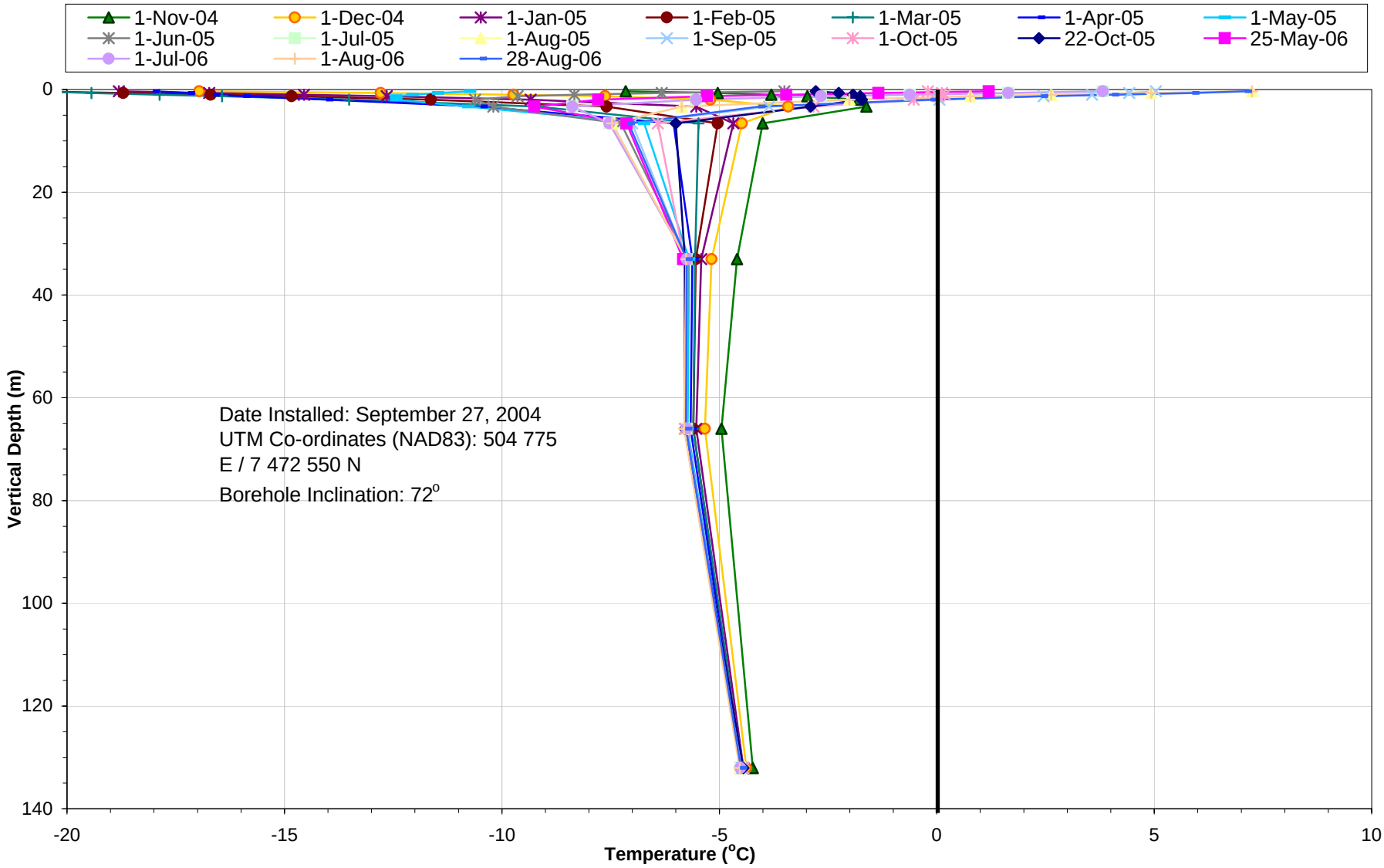
West Zone-500m Therm Data_HLW-05-171.xls
West Zone-500m Trumpet 0-20 m

BGC Engineering Inc.

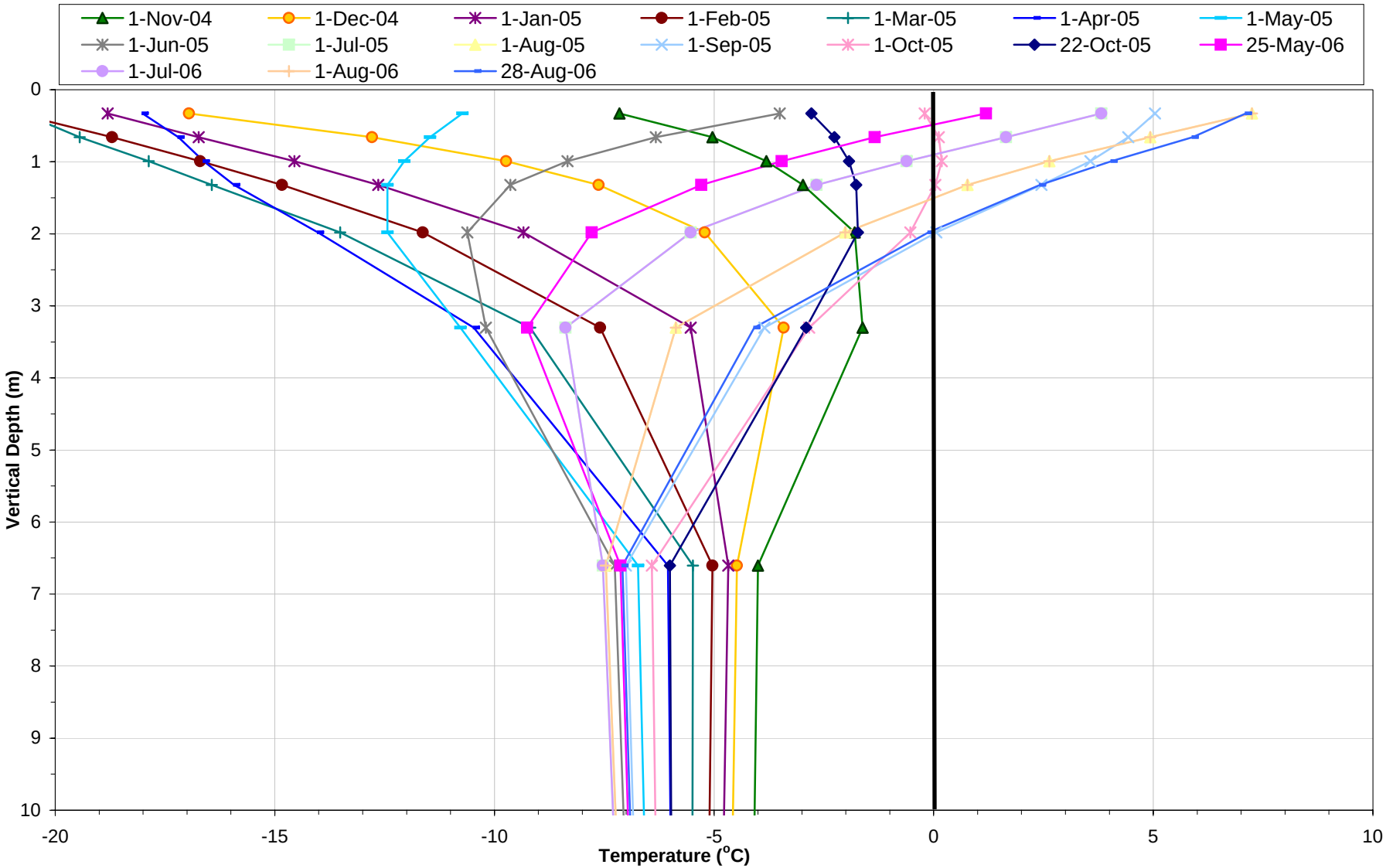
West Zone (HLW-05-171) - Temperature vs. Time



Thermistor Results - West Zone (BGC 04-08) - Trumpet Curve



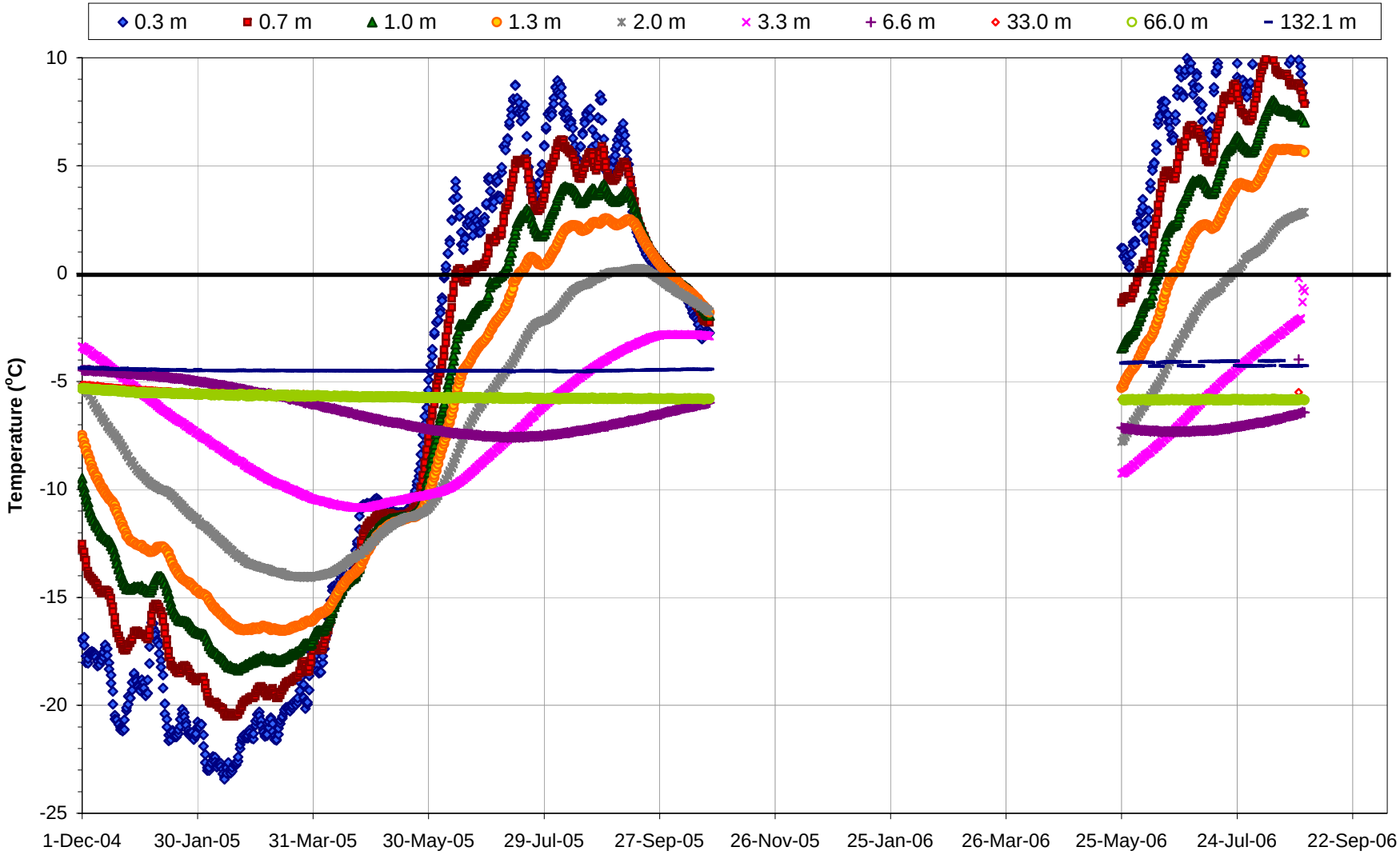
Thermistor Results - West Zone (BGC 04-08) - Trumpet Curve



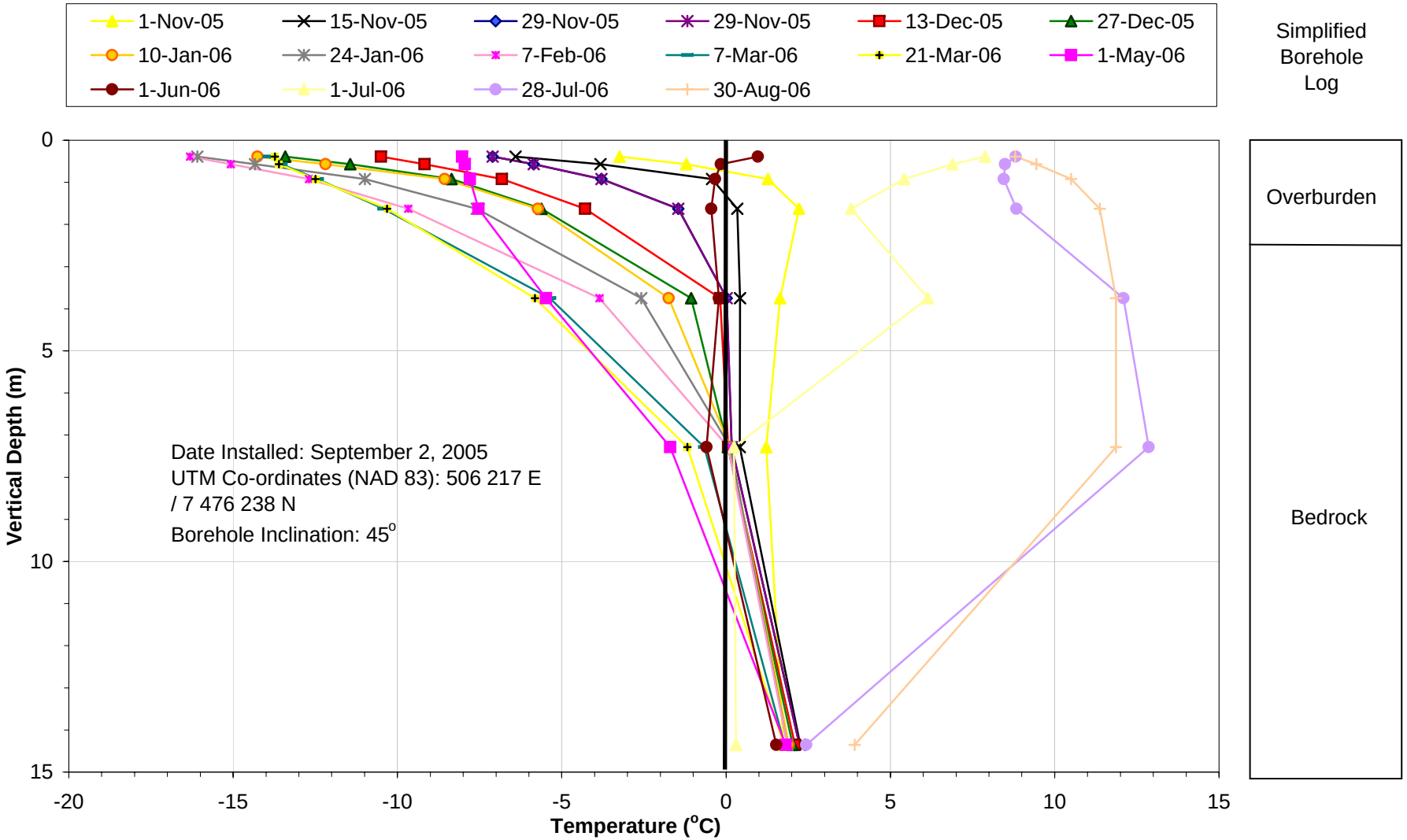
West Zone-200m Therm Data_04-08.xls
West Zone-10m Trumpet Plot

BGC Engineering Inc.

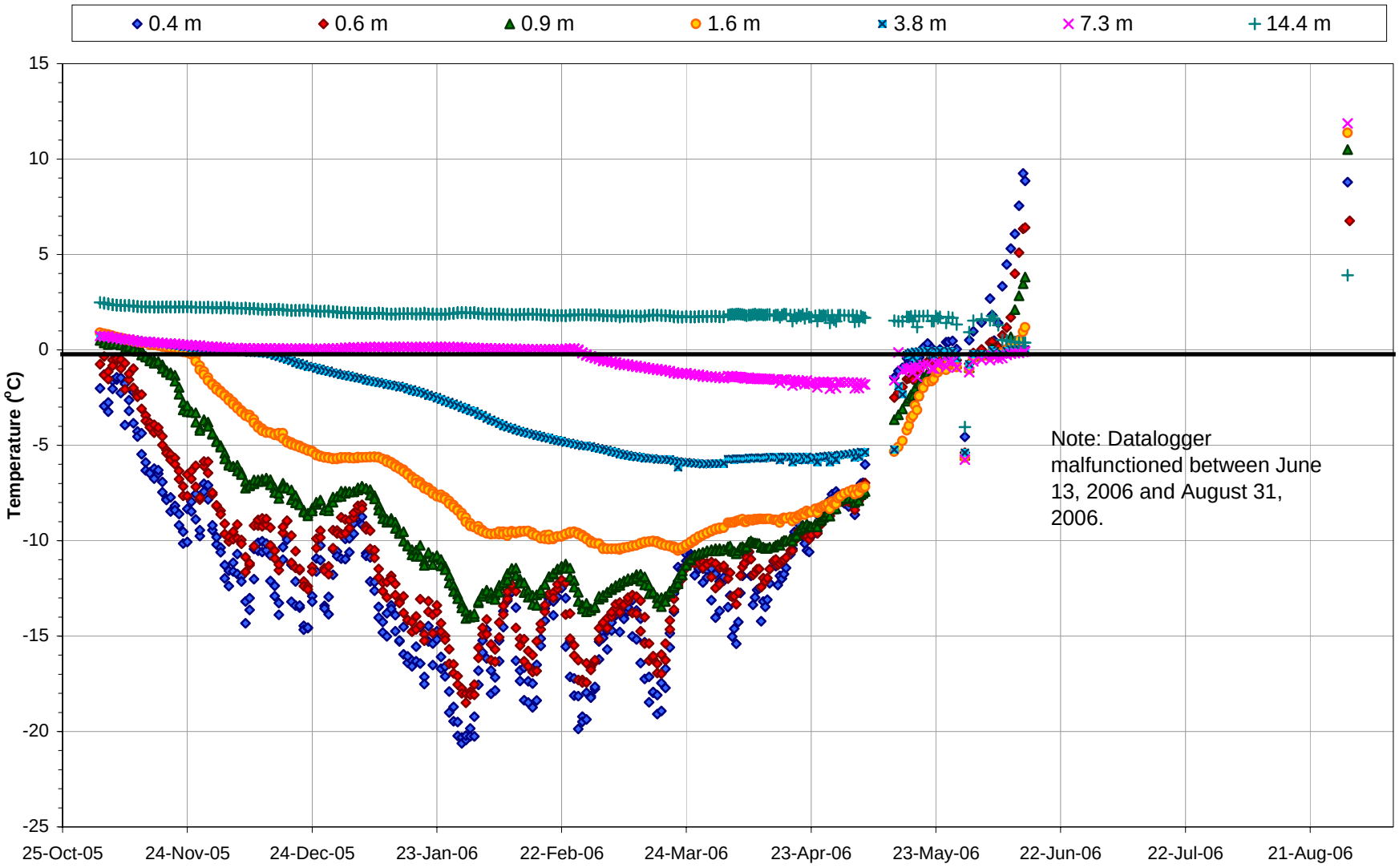
West Zone (BGC 04-08) - Temperature vs. Time



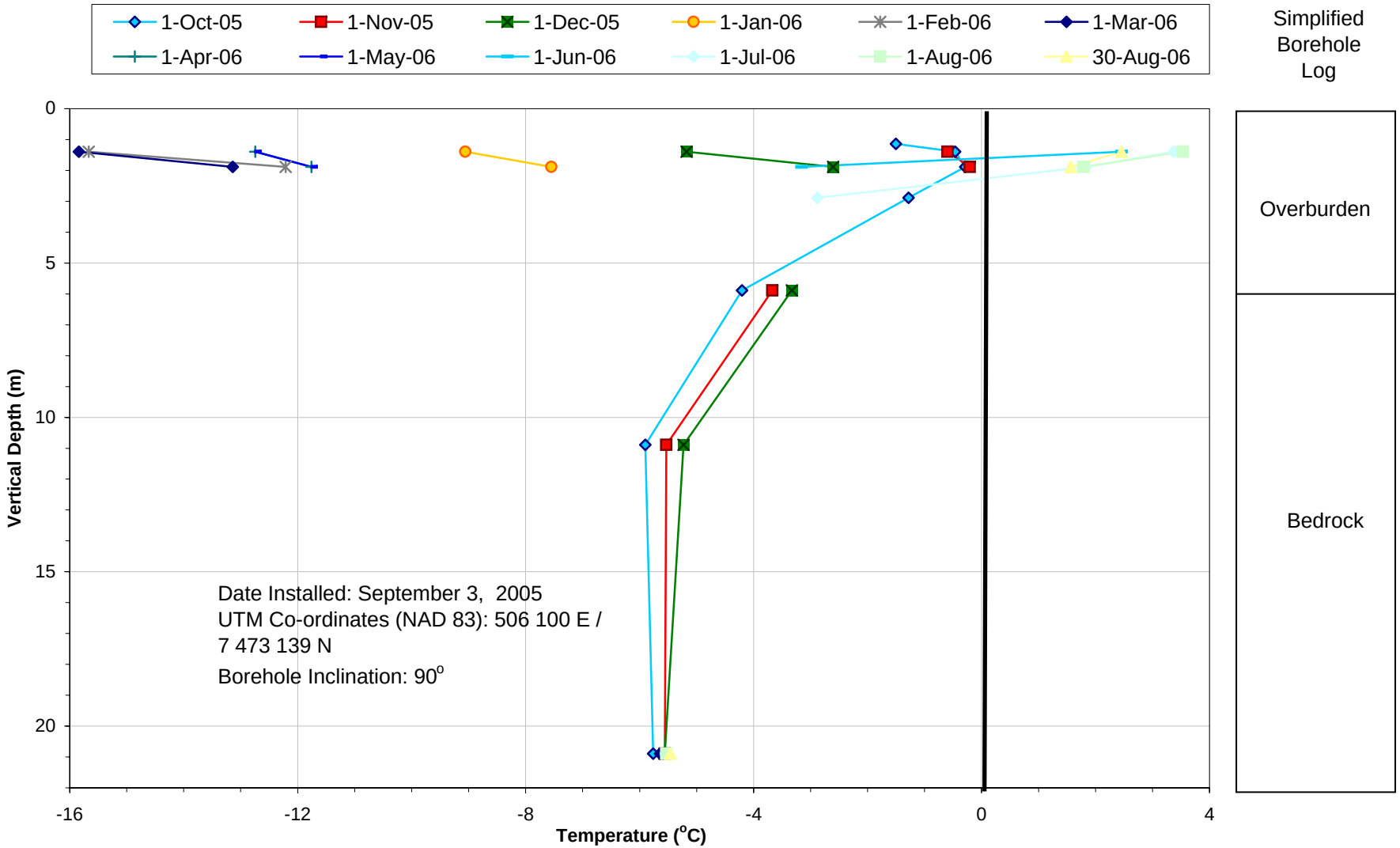
Thermistor Results - Granite Lake Dam (BH-GT-05-05) - Trumpet Curve



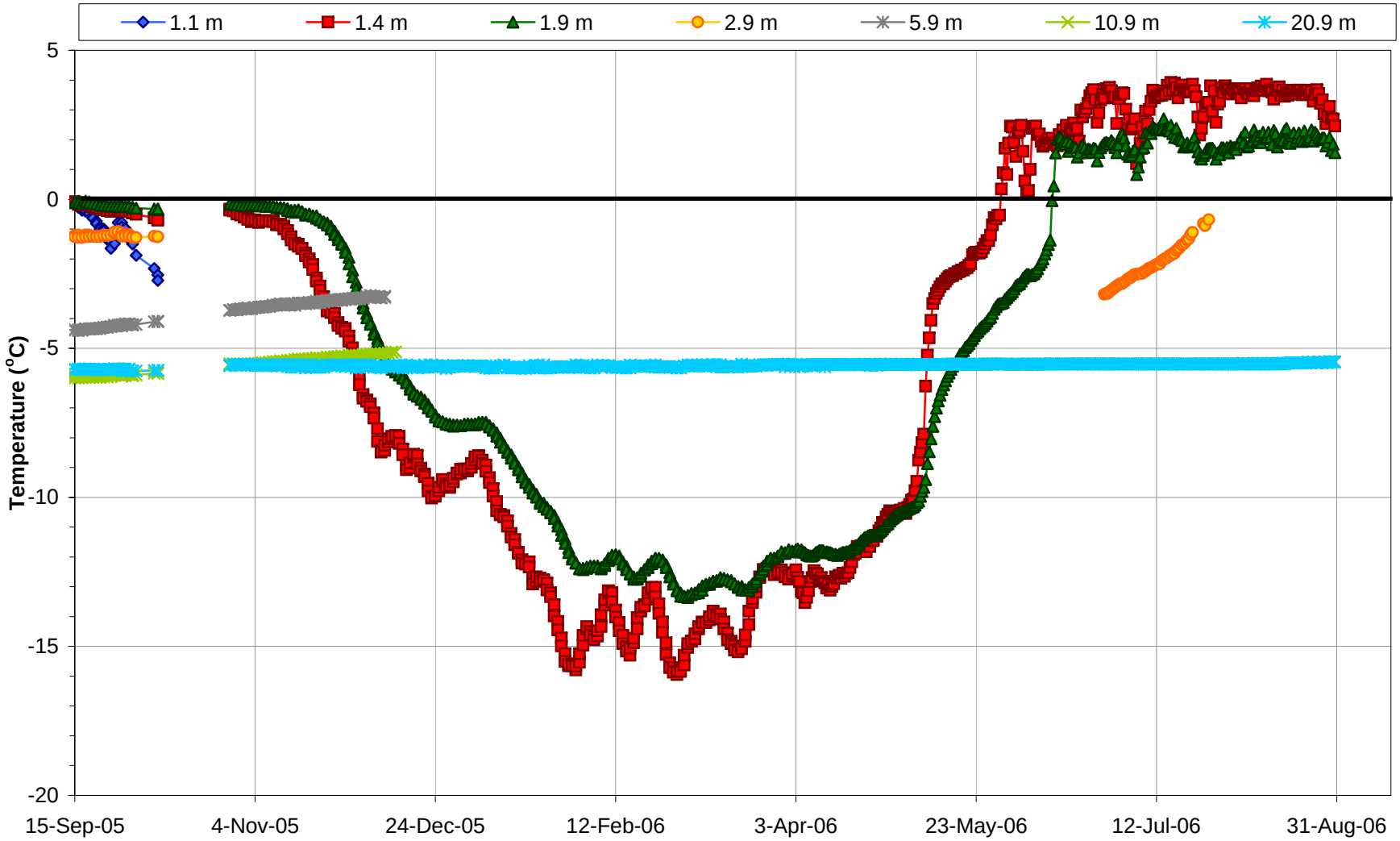
Granite Lake Dam (BH-GT-05-05) - Temperature vs. Time



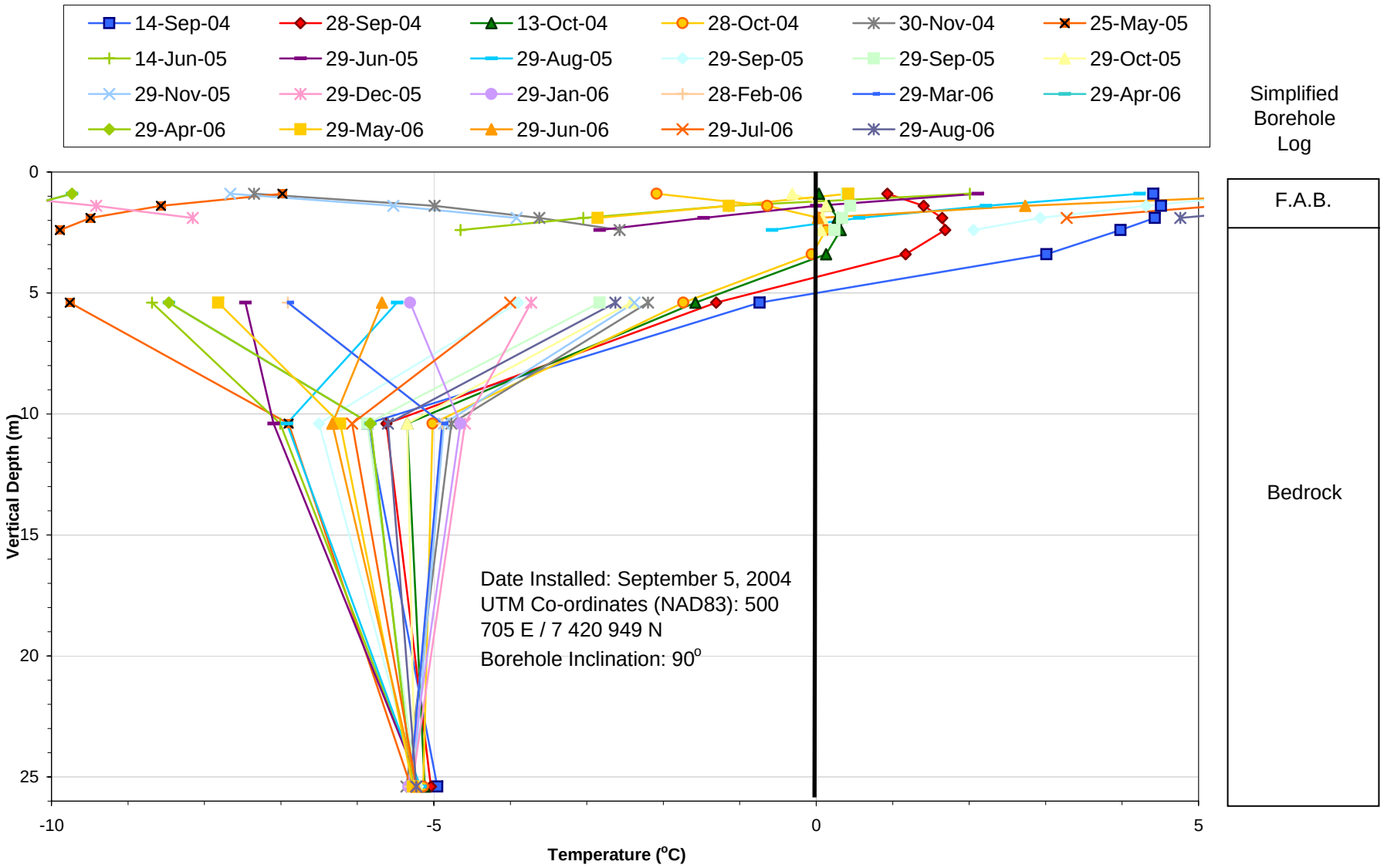
Thermistor Results - Plant Site (BH-GT-05-11) - Trumpet Curve



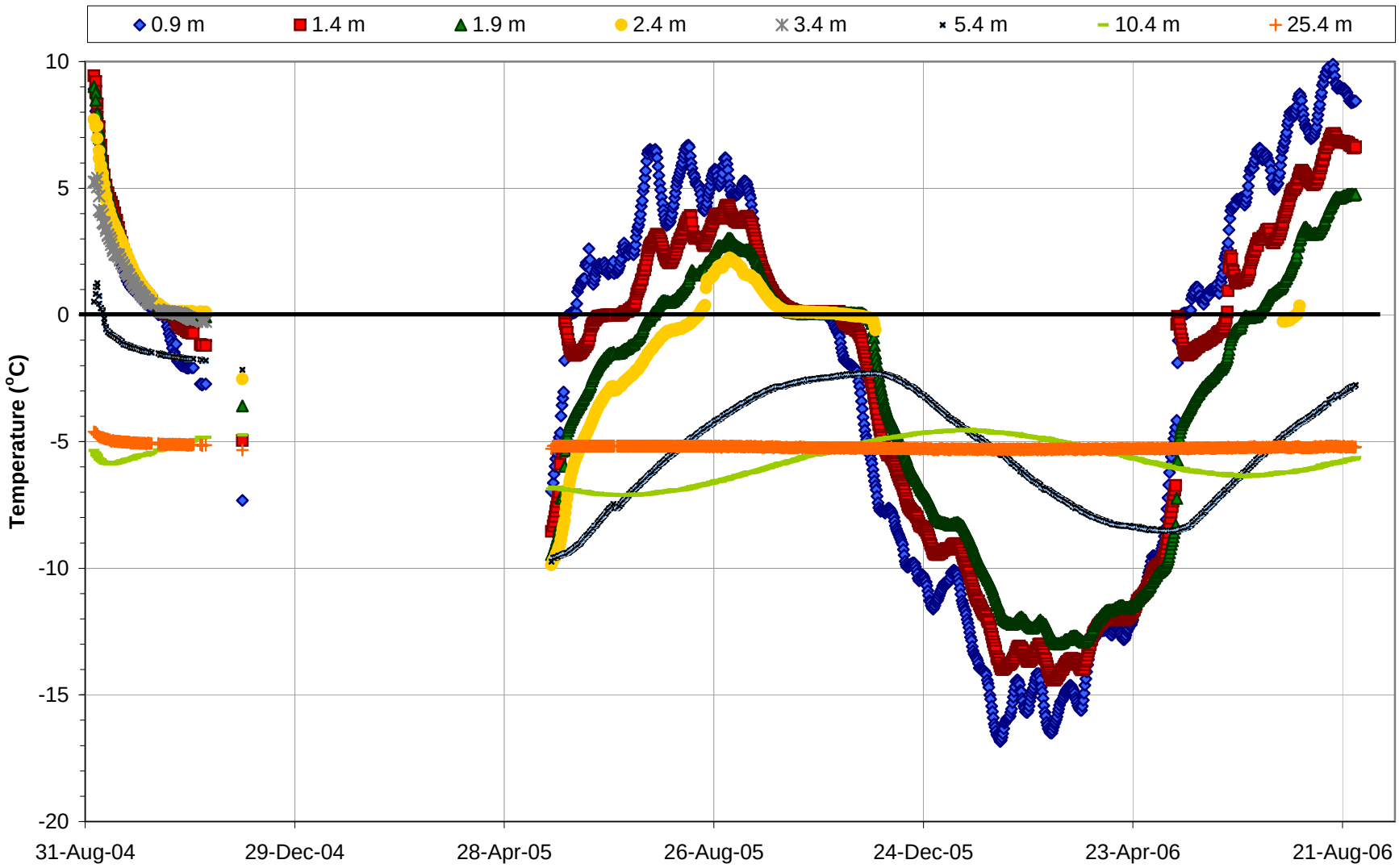
Plant Site (BH-GT-05-11) - Temperature vs. Time



Thermistor Results - Ulu Site (BGC 04-01) - Trumpet Curve



Ulu Site (BGC 04-01) - Temperature vs. Time



APPENDIX XI
2006 GEOMECHANICAL LOGS

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden		Northing:	7,473,285	Logged By:	MJM / GKC
Project:	High Lake	UTM Coordinates:	Easting:	506,030	Date Hole Started:	
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	
Borehole Number:	BGC06-01 (PS1)	Hole Orientation:	Trend:		Total Hole Depth:	9.6 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
2.60	0.60	MV	0.58	97%	0.51	85%	2	25	13	E	R4	3	2	1		75	0.29	7	16	13	25	61	Good	56.667	Very Good
3.25	0.65	MV	0.65	100%	0.51	78%	6	25	10	E	R4	6	2	1		75	0.11	7	15	8	25	55	Fair	26.154	Good
4.70	1.45	MV	1.50	103%	1.40	97%	6	25	9	W2	R5-R6	6	2	4	Calcite on most joint surfaces. Joints healed tighly with calcite below 6.2m. 2 joint sets dipping opposite directions at ~40 degrees to core axis	212.5	0.25	14	19	12	25	70	Good	8.046	Fair
6.20	1.50	MV	1.50	100%	1.26	84%	10	25	11	W2	R5	6	2	4		175	0.15	13	16	9	25	63	Good	7.000	Fair
8.00	1.80	MV	1.80	100%	1.60	89%	0	25	15	W2	R5	4	2	2		175	1.80	13	17	24	25	79	Good	22.222	Good
9.60	1.60	MV	1.60	100%	1.60	100%	0	25	15	W2	R5	4	2	2		175	1.60	13	20	24	25	82	V. Good	25.000	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden		Northing:	7,473,225	Logged By:	MJM
Project:	High Lake	UTM Coordinates:	Easting:	506,125	Date Hole Started:	April 6, 10pm
Project Number:	0385-003-02		Elevation:		Date Hole Finished:	April 7, 5am
Borehole Number:	BGC06-02 (PS3)	Hole Orientation:	Trend:		Total Hole Depth:	19.2m
			Plunge:	Vertical		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
1.00															Geomechanics start @ 1.18m; calcite too										
2.50	1.50	GD	1.26	84%	1.14	76%	9	25	9	W2	R4	9	1.5	1	Brine - 7 degrees C	75	0.14	7	14	9	25	55	Fair	12.667	Good
4.00	1.50	GD	1.46	97%	1.11	74%	11	25	11	W1	R4	6	1.5	1	Calcite	75	0.13	7	14	9	25	55	Fair	18.500	Good
5.50	1.50	GD	1.50	100%	1.33	89%	6	25	13	W1	R4	6	1.5	1	Massive	75	0.25	7	17	12	25	61	Good	22.167	Good
7.00	1.50	GD	1.50	100%	1.46	97%	2	25	14	W1	R4	2	1.5	1	Massive	75	0.75	7	19	20	25	71	Good	73.000	Very Good
8.50	1.50	GD	1.48	99%	1.48	99%	2	25	15	W1	R4	2	1.5	1		75	0.74	7	19	20	25	71	Good	74.000	Very Good
9.70	1.20	GD	1.18	98%	1.01	84%	7	25	10	W1	R4	6	1.5	1		75	0.17	7	16	9	25	57	Fair	21.042	Good
11.30	1.60	GD	1.54	96%	1.47	92%	4	25	12	W1	R4	4	1.5	1		75	0.39	7	18	15	25	65	Good	34.453	Good
12.30	1.00	GD	1.00	100%	0.85	85%	4	25	10	W1	R4	6	1.5	1		75	0.25	7	16	12	25	60	Fair	21.250	Good
13.80	1.20	GD	1.20	100%	0.85	71%	6	25	11	W1	R4	6	1.5	1		75	0.20	7	13	10	25	55	Fair	17.708	Good
15.00	1.50	GD	1.50	100%	1.40	93%	6	25	12	W1	R4	6	1.5	1		75	0.25	7	18	12	25	62	Good	23.333	Good
16.50	1.50	GD	1.46	97%	1.35	90%	3	25	15	W1	R4	4	1.5	1		75	0.49	7	17	17	25	66	Good	33.750	Good
17.70	1.20	GD	1.01	84%	0.48	40%	10	25	9	W1	R4	9	1.5	1	More fractures (healed)	75	0.10	7	8	8	25	48	Fair	6.667	Fair
19.20	1.50	GD	1.54	103%	1.04	69%	10	25	9	W1	R4	6	1.5	1		75	0.15	7	13	9	25	54	Fair	17.333	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden		Northing:	7,472,875	Logged By:	GKC/MJM
Project:	High Lake	UTM Coordinates:	Easting:	506,080	Date Hole Started:	April 7/2006, 6pm
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	April 8/2006, 3:45am
Borehole Number:	BGC-06-03 (PS2)	Hole Orientation:	Trend:		Total Hole Depth:	13m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
2.5																									
4.00	1.50	GD	1.48	99%	1.48	99%	5	25	12	W1	R4	6	1.5	1		75	0.30	7	19	13	25	64	Good	24.667	Good
5.50	1.50	GD	1.45	97%	1.11	74%	8	25	9	W1	R4	6	1.5	1		75	0.18	7	14	10	25	56	Fair	18.500	Good
6.30	0.80	GD	0.79	99%	0.44	55%	4	25	9	W1	R4	6	1.5	1	Heated water from here on	75	0.20	7	11	10	25	53	Fair	13.750	Good
7.00	0.70	GD	0.70	100%	0.60	86%	2	25	11	W1	R4	3	1.5	1		75	0.35	7	16	15	25	63	Good	42.857	Very Good
8.50	1.50	GD	1.48	99%	1.40	93%	6	25	10	W1	R4	6	1.5	1	Blocked run. Core stuck in barrel	75	0.25	7	18	12	25	62	Good	23.333	Good
8.80	0.30	GD	0.35	117%	0.10	33%	4	25	8	W1	R4	6	1.5	1		75	0.09	7	7	7	25	46	Fair	8.333	Fair
10.20	1.40	GD	1.35	96%	0.25	18%	5	25	12	W1	R4	6	1.5	1	Lots of hammer breaks (due to core being stuck in barrel)	75	0.27	7	4	13	25	49	Fair	4.464	Fair
11.50	1.30	GD	1.21	93%	0.42	32%	19	25	7	W1	R4	12	1.5	1		75	0.06	7	6	7	25	45	Fair	4.038	Fair
13.00	1.50	GD	1.50	100%	1.17	78%	9	25	10	W1	R4	6	1.5	1		75	0.17	7	15	9	25	56	Fair	19.500	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden
Project: High Lake
Project Number: 0385-003-15
Borehole Number: BGC06-04 (E5)

UTM Coordinates:
Northing: 7,474,412
Easting: 507,441
Elevation:
Hole Orientation:
Trend:
Plunge: 70 degrees

Logged By: MJM/IMS
Date Hole Started:
Date Hole Finished:
Total Hole Depth: 126m

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							-System (Barton, 197	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Conditio	RMR	Descriptor	Q'	Descriptor
10.00																									
13.00	3.00	GW	3.05	102%	1.96	65%	23	25	9	1	R4-R5	6	1.5	1		125	0.13	11	12	9	25	57	Fair	16.333	Good
16.00	3.00	GW	2.95	98%	1.37	46%	36	25	8	1	R4-R5	6	1.5	1		125	0.08	11	9	7	25	52	Fair	11.417	Good
19.00	3.00	GW	2.78	93%	0.96	32%	42	25	7	1	R4-R5	6	1.5	1		125	0.07	11	6	7	25	49	Fair	8.000	Fair
22.00	3.00	GW	2.92	97%	1.96	65%	30	25	9	1	R4-R5	6	1.5	1		125	0.10	11	12	8	25	56	Fair	16.333	Good
25.00	3.00	GW	2.86	95%	1.84	61%	33	25	8	1	R4-R5	3	1.5	1		125	0.09	11	12	7	25	55	Fair	30.667	Good
28.00	3.00	GW	2.91	97%	1.95	65%	17	25	11	1	R4-R5	3	1.5	1		125	0.17	11	12	10	25	58	Fair	32.500	Good
31.00	3.00	GW	2.96	99%	2.15	72%	22	25	10	1	R4-R5	4	1.5	1		125	0.13	11	14	9	25	59	Fair	26.875	Good
34.00	3.00	GW	2.95	98%	2.09	70%	30	25	7	1	R4-R5	6	1.5	1		125	0.10	11	13	8	25	57	Fair	17.417	Good
37.00	3.00	GW	2.92	97%	1.94	65%	34	25	7	1	R4-R5	6	1.5	1		125	0.09	11	12	7	25	55	Fair	16.167	Good
40.00	3.00	GW	3.00	100%	1.52	51%	32	25	7	1	R4-R5	4	1.5	1		125	0.09	11	10	8	25	54	Fair	19.000	Good
43.00	3.00	GW	2.42	81%	1.64	55%	29	25	7	1	R4-R5	4	1.5	1		125	0.08	11	10	7	25	53	Fair	20.500	Good
46.00	3.00	GW	2.90	97%	2.05	68%	20	25	9	1	R4-R5	3	1.5	1		125	0.15	11	13	9	25	58	Fair	34.167	Good
49.00	3.00	GW	2.83	94%	1.58	53%	26	25	8	1	R4-R5	4	1.5	1		125	0.11	11	10	8	25	54	Fair	19.750	Good
52.00	3.00	GW	2.93	98%	2.05	68%	28	25	9	1	R4-R5	6	1.5	1		125	0.10	11	13	8	25	57	Fair	17.083	Good
55.00	3.00	GW	2.88	96%	1.88	63%	33	25	7	1	R4-R5	4	1.5	1		125	0.09	11	12	7	25	55	Fair	23.500	Good
58.00	3.00	GW	2.87	96%	2.12	71%	23	25	9	1	R4-R5	4	1.5	1		125	0.12	11	13	8	25	57	Fair	26.500	Good
61.00	3.00	GW	2.95	98%	2.45	82%	21	25	10	1	R4-R5	6	1.5	1		125	0.14	11	16	9	25	61	Good	20.417	Good
64.00	3.00	GW	3.02	101%	2.35	78%	19	25	10	1	R4-R5	6	1.5	1		125	0.16	11	15	9	25	60	Fair	19.583	Good
67.00	3.00	GW	2.90	97%	2.49	83%	22	25	10	1	R4-R5	4	1.5	1		125	0.13	11	16	9	25	61	Good	31.125	Good
70.00	3.00	GW	2.97	99%	2.55	85%	14	25	11	1	R4-R5	3	1.5	1		125	0.21	11	16	11	25	63	Good	42.500	Very Good
73.00	3.00	GW	2.96	99%	2.79	93%	11	25	13	1	R4	2	1.5	1	definite Jn set on foliation @ 30 degrees	75	0.27	7	18	12	25	62	Good	69.750	Very Good
76.00	3.00	GW	3.04	101%	2.37	79%	20	25	7	1	R4	2	1.5	1		75	0.15	7	15	9	25	56	Fair	59.250	Very Good
79.00	3.00	GW	3.03	101%	2.47	82%	16	25	11	1	R4	3	1.5	1		75	0.19	7	16	10	25	58	Fair	41.167	Very Good
82.00	3.00	GW	3.09	103%	2.94	98%	18	25	10	1	R4	3	1.5	1		75	0.17	7	19	10	25	61	Good	49.000	Very Good
85.00	3.00	GW	2.89	96%	2.12	71%	23	25	6	1	R4	3	1.0	1		75	0.13	7	13	8	25	53	Fair	23.556	Good
88.00	3.00	GW	3.07	102%	1.82	61%	29	25	6	1	R4	6	1.0	1		75	0.11	7	11	8	25	51	Fair	10.111	Good
91.00	3.00	GW	3.19	106%	2.45	82%	20	25	7	1	R4	3	0.5	1		75	0.16	7	16	9	25	57	Fair	13.611	Good
94.00	3.00	GW	3.09	103%	2.70	90%	20	25	7	1	R4	3	0.5	1		75	0.15	7	17	9	25	58	Fair	15.000	Good
97.00	3.00	GW	2.97	99%	2.82	94%	10	25	9	1	R4	3	1.0	1		75	0.30	7	18	13	25	63	Good	31.333	Good
100.00	3.00	GW	3.15	105%	2.60	87%	21	25	7	1	R4	6	1.0	1		75	0.15	7	17	9	25	58	Fair	14.444	Good
103.00	3.00	GW	3.24	108%	1.84	61%	29	25	7	1	R4	6	1.0	1		75	0.11	7	12	8	25	52	Fair	10.222	Good
106.00	3.00	GW	2.90	97%	2.16	72%	25	25	7	1	R4	3	0.5	0.5		75	0.12	7	14	8	25	54	Fair	24.000	Good
109.00	3.00	GW	3.17	106%	1.26	42%	49	25	6	1	R4	2	0.5	0.5		75	0.06	7	8	7	25	47	Fair	21.000	Good
112.00	3.00	GW	3.13	104%	1.87	62%	44	25	6	1	R4	3	0.5	0.5		75	0.07	7	12	7	25	51	Fair	20.778	Good
115.00	3.00	GW	3.00	100%	1.79	60%	30	25	7	1	R4	3	0.5	0.5		75	0.10	7	11	8	25	51	Fair	19.889	Good
118.00	3.00	GW	3.20	107%	1.31	44%	35	25	6	1	R4	6	1.0	1		75	0.09	7	8	8	25	48	Fair	7.278	Fair
121.00	3.00	GW	3.01	100%	1.86	62%	28	25	7	1	R4	4	1.0	1		75	0.11	7	12	8	25	52	Fair	15.500	Good
124.00	3.00	GW	2.98	99%	1.74	58%	33	25	7	1	R4	6	1.0	1		75	0.09	7	11	8	25	51	Fair	9.667	Fair
126.00	2.00	GW	2.32	116%	1.41	71%	22	25	11	1	R4	6	1.0	1		75	0.11	7	13	8	25	53	Fair	11.750	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden	Northing:	7,473,977	Logged By:	MJM/JMS
Project:	High Lake	UTM Coordinates: Easting:	507,159	Date Hole Started:	April 12/2006
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	April 14/2006
Borehole Number:	BGC06-05 (E1)	Hole Orientation: Trend:		Total Hole Depth:	50.5 m
		Plunge:	70 degrees		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 197	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
0																									
4.20															FSB & SOIL										
4.60	0.40	GW	0.40	100%	0.00	0%	3	25	7	W1-W2	R4	2	2	1	frost shattered bed along foliation	75	0.13	7	3	9	25	44	Fair	0.000	Excep. Poor
5.50	0.90	GW	0.90	100%	0.57	63%	4	25	9	W1-W2	R4	2	2	1	frost shattered bed along foliation - some healed	75	0.23	7	12	11	25	55	Fair	63.333	Very Good
6.30	0.80	GW	0.80	100%	0.39	49%	6	25	6	W1-W2	R4	2	2	1	joints (calcite)	75	0.13	7	9	9	25	50	Fair	48.750	Very Good
7.00	0.70	GW	0.80	114%	0.36	51%	2	25	10	W1	R4	4	4	1	extra recovery due to rock frag bulkines; at 6.3 to 6.6m BROKEN ROCK zone rock frag (not counted for in above)	75	0.40	7	10	16	25	58	Fair	51.429	Very Good
8.50	1.50	GW	1.50	100%	1.40	93%	4	25	10	W1	R4	4	2	1		75	0.38	7	18	15	25	65	Good	46.667	Very Good
10.00	1.50	GW	1.46	97%	1.46	97%	4	25	13	W1	R4	4	2	1		75	0.37	7	19	15	25	66	Good	48.667	Very Good
11.50	1.50	GW	1.53	102%	1.17	78%	8	25	12	W1	R4	4	2	1		75	0.19	7	15	10	25	57	Fair	39.000	Good
13.00	1.50	GW	1.53	102%	0.85	57%	14	25	10	W1	R4	4	2	1	many calcite vein sets	75	0.11	7	11	8	25	51	Fair	28.333	Good
14.50	1.50	GW	1.57	105%	1.44	96%	4	25	12	W1	R4	6	2	1	Fe & calcite	75	0.39	7	19	15	25	66	Good	32.000	Good
16.00	1.50	GW	1.55	103%	1.46	97%	5	25	13	W1	R4	4	2	2	Fe & calcite	75	0.31	7	19	14	25	65	Good	24.333	Good
17.50	1.50	GW	1.52	101%	1.38	92%	4	25	14	W1	R4-R5	4	2	1		125	0.38	11	18	15	25	69	Good	46.000	Very Good
19.00	1.50	GW	1.42	95%	1.40	93%	5	25	14	W1	R4-R5	4	2	1		125	0.28	11	18	13	25	67	Good	46.667	Very Good
20.50	1.50	GW	1.22	81%	1.22	81%	1	25	15	W1	R4-R5	2	2	1		125	1.22	11	16	23	25	75	Good	81.333	Very Good
22.00	1.50	GW	1.57	105%	1.35	90%	4	25	13	W1	R4-R5	4	2.0	1		125	0.39	11	17	15	25	68	Good	45.000	Very Good
23.50	1.50	GW	1.27	85%	0.60	40%	13	25	9	W1	R4-R5	9	2.0	1	increased drill fractures	125	0.10	11	8	8	25	52	Fair	8.889	Fair
25.00	1.50	GW	1.47	98%	1.05	70%	10	25	10	W1	R4-R5	6	2.0	1		125	0.15	11	13	9	25	58	Fair	23.333	Good
26.50	1.50	GW	1.50	100%	1.23	82%	9	25	12	W1	R4-R5	6	2.0	1	pyrite in veins	125	0.17	11	16	9	25	61	Good	27.333	Good
28.00	1.50	GW	1.90	127%	1.63	109%	9	25	10	W1	R4-R5	6	2.0	1		125	0.21	11	20	11	25	67	Good	36.222	Good
29.50	1.50	GW	1.42	95%	1.00	67%	6	25	11	W1	R4-R5	4	2.0	1		125	0.24	11	13	12	25	61	Good	33.333	Good
31.00	1.50	GW	1.60	107%	1.08	72%	10	25	11	W1	R4-R5	6	2.0	1	pyrite on joints	125	0.16	11	14	9	25	59	Fair	24.000	Good
32.50	1.50	GW	1.32	88%	1.32	88%	6	25	10	W1	R4-R5	6	2.0	1	pyrite and calcite noted.	125	0.22	11	17	11	25	64	Good	29.333	Good
34.00	1.50	GW	1.50	100%	1.50	100%	0		15	W1	R4-R5				one solid piece of core	125	1.50	11	20	23	0	54	Fair		
35.50	1.50	GW	1.42	95%	1.26	84%	6	25	11	W1	R4-R5	6	2.0	1	mostly drill breaks	125	0.24	11	16	12	25	64	Good	28.000	Good
37.00	1.50	GW	1.55	103%	1.48	99%	7	25	11	W1	R4-R5	4	2.0	1	calcite & pyrite	125	0.22	11	19	11	25	66	Good	49.333	Very Good
38.50	1.50	GW	1.54	103%	1.50	100%	6	25	11	W1	R4-R5	4	2.0	1		125	0.26	11	20	12	25	68	Good	50.000	Very Good
40.00	1.50	GW	1.56	104%	1.56	104%	3	25	14	W1	R4-R5	4	2.0	1	fractures drill induced	125	0.52	11	20	18	25	74	Good	52.000	Very Good
41.50	1.50	GW	1.42	95%	1.42	95%	3	25	13	W1	R4-R5	4	2.0	1		125	0.47	11	18	17	25	71	Good	47.333	Very Good
43.00	1.50	GW	1.50	100%	1.50	100%	5	25	12	W1	R4-R5	4	2.0	1	calcite on joints ~1mm	125	0.30	11	20	13	25	69	Good	50.000	Very Good
44.50	1.50	GW	0.95	63%	0.95	63%	2	25	13	W1	R4-R5	4	2.0	1	lost bottom downhole	125	0.48	11	12	17	25	65	Good	31.667	Good
46.00	1.50	GW	1.50	100%	1.50	100%	2	25	13	W1	R4-R5	4	2.0	2	60cm of redrilled core - calcite joints	125	0.75	11	20	20	25	76	Good	25.000	Good
47.50	1.50	GW	1.50	100%	1.50	100%	4	25	13	W1	R4-R5	4	2.0	2		125	0.38	11	20	15	25	71	Good	25.000	Good
49.00	1.50	GW	1.46	97%	1.25	83%	7	25	12	W1	R4-R5	6	2.0	1		125	0.21	11	16	11	25	63	Good	27.778	Good
50.50	1.50	GW	1.48	99%	1.48	99%	2	25	14	W1	R4-R5	2	2.0	1		125	0.74	11	19	20	25	75	Good	98.667	Very Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden		Northing:	7,473,902	Logged By:	JMS/MJM
Project:	High Lake	UTM Coordinates:	Easting:	507,158	Date Hole Started:	April 16/2006
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	
Borehole Number:	BGC06-06	Hole Orientation:	Trend:		Total Hole Depth:	
			Plunge:			

			Recovery		RQD											Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
0.22															OVERBURDEN										
1.00	0.78	GW	0.78	100%	0.78	100%	2	25	13	W1	R4-R5	2	3	1	joints have small steps - calcite	125	0.39	11	20	15	25	71	Good	150.000	Ext. Good
2.50	1.50	GW	1.48	99%	1.42	95%	4	25	12	W1	R4-R5	6	2	1		125	0.37	11	18	15	25	69	Good	31.556	Good
4.00	1.50	GW	1.50	100%	0.59	39%	14	25	9	W1	R4-R5	6	2	1		125	0.11	11	8	8	25	52	Fair	13.111	Good
4.65	0.65	GW	0.65	100%	0.29	45%	4	25	9	W1	R4-R5	4	2	1		125	0.16	11	8	9	25	53	Fair	22.308	Good
5.50	0.85	GW	0.80	94%	0.63	74%	4	25	9	W1	R4-R5	3	2	1		125	0.20	11	14	11	25	61	Good	49.412	Very Good
7.00	1.50	GW	1.49	99%	1.50	100%	7	25	10	W1	R4-R5	4	2	1		125	0.21	11	20	11	25	67	Good	50.000	Very Good
7.75	0.75	GW	0.75	100%	0.63	84%	4	25	10	W1	R4-R5	3	2	1	1.5m calcite band @ 7.25	125	0.19	11	16	10	25	62	Good	56.000	Very Good
8.50	0.75	GW	0.79	105%	0.69	92%	3	25	11	W1	R4-R5	4	2	1		125	0.26	11	18	12	25	66	Good	46.000	Very Good
10.00	1.50	GW	1.36	91%	0.66	44%	16	25	7	W1	R4-R5	6	2	1	had to replace bit after this run	125	0.09	11	8	7	25	51	Fair	14.667	Good
10.30	0.30	GW													drill shattered, had to change bit										
11.50	1.20	GW	1.19	99%	1.11	93%	5	25	11	W1	R4-R5	6	2	1		125	0.24	11	18	12	25	66	Good	30.833	Good
13.00	1.50	GW	1.48	99%	1.16	77%	11	25	9	W1	R4-R5	6	2	1		125	0.13	11	15	9	25	60	Fair	25.778	Good
14.50	1.50	GW	1.46	97%	1.38	92%	4	25	13	W1	R4-R5	4	2	1		125	0.37	11	18	15	25	69	Good	46.000	Very Good
16.00	1.50	GW	1.48	99%	1.26	84%	7	25	12	W1	R4-R5	9	2	1		125	0.21	11	16	11	25	63	Good	18.667	Good
17.50	1.50	GW	1.51	101%	1.34	89%	5	25	12	W1	R4-R5	6	2.0	1		125	0.30	11	17	13	25	66	Good	29.778	Good
19.00	1.50	GW	1.42	95%	1.34	89%	3	25	13	W1	R4-R5	3	2.0	1		125	0.47	11	17	17	25	70	Good	59.556	Very Good
20.50	1.50	GW	1.54	103%	1.17	78%	12	25	10	W1	R4-R5	4	2.0	1		125	0.13	11	15	8	25	59	Fair	39.000	Good
22.00	1.50	GW	1.76	117%	1.50	100%	11	25	9	W1	R4-R5	6	2.0	1	1" quartz band	125	0.16	11	20	9	25	65	Good	33.333	Good
23.50	1.50	GW	1.38	92%	1.27	85%	4	25	11	W1	R4-R5	6	2.0	1	sulphides (1-2%). Chlorite and sulphides along joints	125	0.35	11	16	14	25	66	Good	28.222	Good
25.00	1.50	GW	1.53	102%	1.40	93%	5	25	11	W1	R4-R5	6	2.0	1	idem above	125	0.31	11	18	13	25	67	Good	31.111	Good
26.50	1.50	GW	1.41	94%	1.32	88%	5	25	12	W1	R4-R5	6	2.0	1		125	0.28	11	17	13	25	66	Good	29.333	Good
28.00	1.50	GW	1.46	97%	1.32	88%	6	25	11	W1	R4-R5	6	2.0	1	Joints along foliation 30 degrees	125	0.24	11	17	12	25	65	Good	29.333	Good
29.50	1.50	GW	1.55	103%	1.49	99%	6	25	12	W1	R4-R5	2	1.0	1	joints have small steps - calcite	125	0.26	11	19	12	25	67	Good	49.667	Very Good
31.00	1.50	GW	1.54	103%	1.28	85%	8	25	7	W1	R4	2	1.0	1		75	0.19	7	16	10	25	58	Fair	42.667	Very Good
32.50	1.50	GW	1.60	107%	1.29	86%	9	25	7	W1	R4	3	1.0	1	3 o4 4 drill breaks on foliation	75	0.18	7	17	10	25	59	Fair	28.667	Good
34.00	1.50	GW	1.59	106%	1.47	98%	2	25	14	W1	R4	2	2.0	1		75	0.80	7	19	21	25	72	Good	98.000	Very Good
35.50	1.50	GW	1.50	100%	1.50	100%	2	25	14	W1	R4	2	1.0	1		75	0.75	7	20	20	25	72	Good	50.000	Very Good
37.00	1.50	GW	1.50	100%	1.50	100%	2	25	13	W1	R5	2	1.0	1		175	0.75	13	20	20	25	78	Good	50.000	Very Good
38.50	1.50	GW	1.50	100%	1.35	90%	4	25	12	W1	R5	2	1.0	1		175	0.38	13	17	15	25	70	Good	45.000	Very Good
40.00	1.50	GW	1.50	100%	1.49	99%	3	25	7	W1	R5	6	2.0	1	joints at 80 degrees, calcite vein (3mm) at 39.44m	175	0.50	13	19	18	25	75	Good	33.111	Good
41.50	1.50	GW	1.50	100%	1.50	100%	3	25	15	W1	R5	6	1.0	1		175	0.50	13	20	18	25	76	Good	16.667	Good
43.00	1.50	GW	1.45	97%	1.45	97%	0		15	W1	R5	0.5													
44.50	1.50	GW	1.49	99%	1.49	99%	2	25	15	W1	R5	3	2.0	1		175	0.75	13	19	20	25	77	Good	66.222	Very Good
46.00	1.50	GW	1.49	99%	1.49	99%	4	25	14	W1	R5	3	2.0	1		175	0.37	13	19	15	25	72	Good	66.222	Very Good
47.50	1.50	GW	1.50	100%	1.45	97%	3	25	14	W1	R4-R5	4	2.0	1		125	0.50	11	19	18	25	73	Good	48.333	Very Good
49.00	1.50	GW	1.50	100%	1.50	100%	2	25	6	W1	R4-R5	6	2.0	2		125	0.75	11	20	20	25	76	Good	16.667	Good
50.50	1.50	GW	1.42	95%	1.42	95%	2	25	12	W1	R4-R5	4	2.0	1		125	0.71	11	18	20	25	74	Good	47.333	Very Good
52.00	1.50	GW	1.50	100%	1.34	89%	5	25	12	W1	R4-R5	6	2.0	1		125	0.30	11	17	13	25	66	Good	29.778	Good
53.50	1.50	GW	1.50	100%	1.08	72%	9	25	9	W1	R4-R5	6	2.0	1		125	0.17	11	14	9	25	59	Fair	24.000	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

-0.12
0.00
0.00
0.00

Client:	Wolfden		Northing:	7,475,839	Logged By:	JMS/MJM
Project:	High Lake	UTM Coordinates:	Easting:	506,661	Date Hole Started:	18-Apr-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	
Borehole Number:	BGC06-07 (PP2)	Hole Orientation:	Trend:		Total Hole Depth:	
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
1.00																									
2.50	1.50	TILL/MV	1.09	73%	0.43	29%	9	25	9	W1	R4	9	1.5	2	Geomech from 1.4-2.5m	75	0.12	7	6	8	25	46	Fair	2.389	Poor
4.00	1.50	MV	1.46	97%	0.77	51%	12	25	10	W1	R5	6	1.5	1	top 30cm double drilled and broken	175	0.12	13	10	8	25	56	Fair	12.833	Good
5.50	1.50	MV	1.38	92%	0.80	53%	8	25	9	W1	R4-R5	4	1.5	1	vertical joints	125	0.17	11	10	10	25	56	Fair	20.000	Good
7.00	1.50	MV	1.50	100%	0.40	27%	13	25	6	W1	R4-R5	9	1.5	1	vertical joints - poor core quality	125	0.12	11	6	8	25	50	Fair	4.444	Fair
8.50	1.50	MV	1.50	100%	0.64	43%	13	25	6	W1	R4	9	1.5	1	iron staining	75	0.12	7	8	8	25	48	Fair	7.111	Fair
10.00	1.50	MV	1.38	92%	0.47	31%	15	25	6	W1	R4	9	1.5	1		75	0.09	7	6	8	25	46	Fair	5.222	Fair
11.50	1.50	MV	1.50	100%	1.12	75%	8	25	10	W1	R4	9	1.5	1	iron staining	75	0.19	7	14	10	25	56	Fair	12.444	Good
13.00	1.50	MV	1.50	100%	1.27	85%	7	25	10	W1	R4	12	1	1	see log	75	0.21	7	16	11	25	59	Fair	7.056	Fair
14.50	1.50	MV	1.50	100%	1.54	103%	6	25	10	W1	R4	12	1.5	1		75	0.25	7	20	12	25	64	Good	12.833	Good
16.00	1.50	MV	1.50	100%	1.50	100%	2	25	7	W1	R4	12	1.5	1		75	0.75	7	20	20	25	72	Good	12.500	Good
17.50	1.50	MV	1.50	100%	1.10	73%	7	25	9	W1	R4	12	1.5	1		75	0.21	7	14	11	25	57	Fair	9.167	Fair
19.00	1.50	MV	1.50	100%	1.50	100%	3	25	13	W1	R4	6	1.5	1		75	0.50	7	20	18	25	70	Good	25.000	Good
20.50	1.50	MV	1.50	100%	1.50	100%	3	25	15	W1	R4	3	1.5	1	calcite on joints	75	0.50	7	20	18	25	70	Good	50.000	Very Good
22.00	1.50	MV	1.50	100%	1.50	100%	3	25	13	W1	R4	3	1.5	1		75	0.50	7	20	18	25	70	Good	50.000	Very Good
23.50	1.50	MV	1.50	100%	1.50	100%	2	25	15	W1	R4	3	1.5	1		75	0.75	7	20	20	25	72	Good	50.000	Very Good
25.00	1.50	MV	1.50	100%	1.45	97%	4	25	15	W1	R5	12	1.5	1		175	0.38	13	19	15	25	72	Good	12.083	Good
26.50	1.50	MV	1.50	100%	1.50	100%	0		15	W1	R5				no fractures/discontinuities	175		13	20	5	0	38	Poor		

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	7,478,786	Logged By:	JMS / MJM
Project:	2006 High Lake Drill	UTM Coordinates:	Easting:	506,718	Date Hole Started:	19-Apr-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	
Borehole Number:	BGC06-08 (PP3)	Hole Orientation:	Trend:		Total Hole Depth:	22.0 m
			Plunge:	Vertical		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Strength	Spacing	Strength	RQD	Jt. Spacing	Jt. Condition	RMR	Descriptor	Q'	Descriptor
3.70	1.50	DB	0.15	10%	0.15	10%	0	-	-	-	-	-	-	-											
5.20	1.50	DB	1.50	100%	1.34	89%	8	25	12	W2	R5	6	1.5	1	Joint @ 3.75 m has degraded calcite	175	0.19	13	17	10	25	65	Good	22.333	Good
5.50	0.30	DB	0.24	80%	0.24	80%	0	-	-	-	-	-	-	-											
7.00	1.50	DB	1.44	96%	0.38	25%	21	20	6	W2	R5	12	1	2	Relic fault zone from 6.1 - 7.0 m	175	0.07	13	5	7	20	45	Fair	1.056	Poor
8.30	1.30	DB/MV	1.30	100%	0.00	0%	99	20	5	W2	R4 - R5	12	1	1	Iron staining starts @ 8.1 m	125	0.01	11	3	5	20	39	Poor	0.000	Excep. Poor
9.70	1.40	MV	1.40	100%	0.00	0%	99	25	6	W1	R4	12	1.5	1	Pyrite, calcite	75	0.01	7	3	5	25	40	Poor	0.000	Excep. Poor
11.30	1.60	MV	1.18	74%	0.71	44%	12	25	8	W1	R4	9	1.5	1		75	0.10	7	8	8	25	48	Fair	7.396	Fair
12.80	1.50	MV	1.50	100%	1.37	91%	7	25	12	W1	R4	4	1.5	1		75	0.21	7	18	11	25	61	Good	34.250	Good
14.30	1.50	MV	1.52	101%	1.13	75%	11	25	9	W1	R4	6	1.5	1		75	0.14	7	14	9	25	55	Fair	18.833	Good
16.00	1.70	MV	1.67	98%	1.08	64%	10	25	10	W1	R4 - R5	4	1.5	1	Drilling mud is dry	125	0.17	11	12	9	25	57	Fair	23.824	Good
17.50	1.50	MV	1.50	100%	1.31	87%	8	25	10	W1	R4 - R5	4	1.5	1		125	0.19	11	17	10	25	63	Good	32.750	Good
19.00	1.50	MV	1.50	100%	0.65	43%	14	25	9	W1	R4 - R5	9	1.5	1	1 vertical joint	125	0.11	11	8	8	25	52	Fair	7.222	Fair
20.50	1.50	MV	1.50	100%	1.10	73%	12	25	9	W1	R4 - R5	4	1.5	1		125	0.13	11	14	8	25	58	Fair	27.500	Good
21.25	0.75	MV	0.65	87%	0.00	0%	20	20	6	W1	R4 - R5	12	1.5	2	Vertical joints, Qtz	125	0.03	11	3	6	20	40	Poor	0.000	Excep. Poor
22.00	0.75	MV	0.78	104%	0.34	45%	8	25	8	W1	R5	6	1.5	1	Qtz	175	0.10	13	9	8	25	55	Fair	11.333	Good
23.50	1.50	MV	1.35	90%	0.84	56%	12	25	8	W1	R4 - R5	6	1.5	1		125	0.11	11	11	8	25	55	Fair	14.000	Good
25.00	1.50	MV	1.55	103%	1.45	97%	9	25	10	W1	R4 - R5	4	1.5	1		125	0.17	11	19	10	25	65	Good	36.250	Good
26.50	1.50	MV	1.68	112%	1.11	74%	10	25	9	W1	R4 - R5	4	1.5	1	Not put together properly	125	0.17	11	14	9	25	59	Fair	27.750	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	7,475,590	Logged By:	JMS / MJM
Project:	High Lake Drill	UTM Coordinates:	Easting:	506,560	Date Hole Started:	21-Apr-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	23-Apr-06
Borehole Number:	DH-BGC06-09	Hole Orientation:	Trend:		Total Hole Depth:	50.2 m
			Plunge:	65		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Jt. Spacing (mm)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
7.00	1.50	MV	1.36	91%	1.36	91%	2	30	15	W1	R5	2	1.5	1	Soil for first 14 cm	175	0.68	13	17	20	30	80	good	68.000	Very Good
8.50	1.50	MV	1.50	100%	1.50	100%	4	25	15	W1	R5	3	1.5	1		175	0.38	13	20	15	25	73	good	50.000	Very Good
10.00	1.50	MV	1.50	100%	1.50	100%	3	25	15	W1	R5	3	1.5	1		175	0.50	13	20	18	25	76	good	50.000	Very Good
11.50	1.50	MV	1.50	100%	1.34	89%	4	25	12	W1	R4	4	1.5	1		75	0.38	7	17	15	25	64	good	33.500	Good
13.00	1.50	MV	1.50	100%	0.64	43%	11	25	9	W1	R4 - R5	6	1.5	1		125	0.14	11	8	9	25	53	fair	10.667	Good
14.50	1.50	MV	1.50	100%	1.50	100%	2	25	14	W1	R4	3	1.5	1		75	0.75	7	20	20	25	72	good	50.000	Very Good
16.00	1.50	MV	1.37	91%	1.37	91%	2	25	15	W1	R4 - R5	4	1.5	1		125	0.69	11	18	20	25	74	good	34.250	Good
17.50	1.50	MV	1.47	98%	1.42	95%	6	25	11	W1	R4	4	1.5	1		75	0.25	7	18	12	25	62	good	35.500	Good
19.00	1.50	MV	1.47	98%	1.46	97%	2	25	15	W1	R4	3	1.5	1		75	0.74	7	19	20	25	71	good	48.667	Very Good
20.50	1.50	MV	1.50	100%	1.42	95%	3	25	14	W1	R4	4	1.5	1		75	0.50	7	18	18	25	68	good	35.500	Good
22.00	1.50	MV	1.38	92%	1.22	81%	5	25	11	W1	R4	4	1.5	1		75	0.28	7	16	13	25	61	good	30.500	Good
23.50	1.50	MV	1.49	99%	1.43	95%	5	25	12	W1	R4 - R5	4	1.5	1		125	0.30	11	19	13	25	68	good	35.750	Good
25.00	1.50	MV	1.29	86%	1.29	86%	2	25	14	W1	R4 - R5	4	1.5	1		125	0.65	11	17	19	25	72	good	32.250	Good
26.50	1.50	MV	1.50	100%	1.50	100%	4	25	13	W1	R4 - R5	6	1.5	1		125	0.38	11	20	15	25	71	good	25.000	Good
28.00	1.50	MV	1.50	100%	1.50	100%	5	25	14	W1	R4 - R5	6	1.5	1		125	0.30	11	20	13	25	69	good	25.000	Good
29.50	1.50	MV	1.50	100%	1.44	96%	4	25	13	W1	R4 - R5	4	1.5	1		125	0.38	11	19	15	25	70	good	36.000	Good
31.00	1.50	MV	1.50	100%	1.50	100%	5	25	13	W1	R4 - R5	3	1.5	1		125	0.30	11	20	13	25	69	good	50.000	Very Good
32.50	1.50	MV	1.50	100%	1.50	100%	3	25	14	W1	R4 - R5	3	1.5	1		125	0.50	11	20	18	25	74	good	50.000	Very Good
34.00	1.50	MV	1.50	100%	1.50	100%	7	25	12	W1	R4 - R5	6	1.5	1		125	0.21	11	20	11	25	67	good	25.000	Good
35.50	1.50	MV	1.46	97%	1.46	97%	3	25	14	W1	R4 - R5	3	1.5	1		125	0.49	11	19	17	25	72	good	48.667	Very Good
37.00	1.50	MV	1.50	100%	0.90	60%	13	25	10	W1	R4	6	1.5	1		75	0.12	7	11	8	25	51	fair	15.000	Good
38.50	1.50	MV	1.57	105%	0.95	63%	12	25	10	W1	R4	6	1.5	1		75	0.13	7	12	9	25	53	fair	15.833	Good
40.00	1.50	MV	1.50	100%	1.00	67%	11	25	11	W1	R4	6	1.5	1	Broken zone from 39.46 - 39.54 m	75	0.14	7	13	9	25	54	fair	16.667	Good
41.50	1.50	MV	1.65	110%	1.50	100%	6	25	15	W1	R5	6	1.5	1		175	0.28	13	20	13	25	71	good	25.000	Good
43.00	1.50	MV	1.48	99%	1.31	87%	5	25	10	W1	R4 - R5	6	1.5	1		125	0.30	11	17	13	25	66	good	21.833	Good
44.50	1.50	MV	1.50	100%	1.20	80%	6	25	10	W1	R4 - R5	6	1.5	1		125	0.25	11	15	12	25	63	good	20.000	Good
46.00	1.50	MV	1.50	100%	1.45	97%	4	25	13	W1	R4 - R5	3	1.5	1		125	0.38	11	19	15	25	70	good	48.333	Very Good
47.50	1.50	MV	1.50	100%	1.44	96%	6	25	11	W1	R4 - R5	4	1.5	1		125	0.25	11	19	12	25	67	good	36.000	Good
49.00	1.50	MV	1.50	100%	1.27	85%	6	25	11	W1	R4 - R5	4	1.5	1		125	0.25	11	16	12	25	64	good	31.750	Good
50.20	1.20	MV	1.20	100%	0.98	82%	4	25	13	W1	R4 - R5	4	1.5	1		125	0.30	11	16	13	25	65	good	30.625	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	7,475,615	Logged By:	EN / AJ
Project:	High Lake Drill	UTM Coordinates:	Easting:	506,421	Date Hole Started:	08-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	08-May-06
Borehole Number:	DH-BGC06-10	Hole Orientation:	Trend:		Total Hole Depth:	
			Plunge:	90		

Depth To	Length of Run	Lithology	Recovery		RQD		Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes			Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
			Length	Percent	Length	Percent										Est UCS (Mpa)	Spacing (m)	Strength	RQD	Jt. Spacing (mm)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
4.54	1.60	MV	1.6	100%	0.93	58%	8	23	10	W1	R4 - R5	9	1.5	2	Qtz veins/veinlets up to 1 cm wide. Minor oxidation on outside of core. Joints: 55°, 10°, 65°. Qtz on joint surfaces. @ 3.32 m, 5 cm interbed of angular gravel and equigranular sand. @ 4.24 m, thin film of sand on joint surface.	125	0.20	11	11	11	23	56	Fair	4.844	Fair
5.96	1.42	MV	1.42	100%	1.40	99%	4	23	12	W1	R4	2	1.5	1	Veins at approx. 10 - 15° from vertical core axis (qtz / calcite) with folds at 10 - 20° from vertical core axis. Micro-folds also visible. Joints: 80 - 84°. @ 5.84 m, thin film of silt on joint surface. @ 5.08 m, 1 cm wide qtz fold at 20° from vertical core axis.	75	0.36	7	19	15	23	64	Good	73.944	Very Good
7.56	1.60	MV	1.60	100%	1.05	66%	9	22	14 to 6.76 m; 8 from 6.76 to end of run	W1 - W2	R3 - R4	N/A	N/A	N/A	7.46 - 7.56 m: fractured angular metavolcanic fragments approx. 1 - 3 cm in diameter. 5.96 - 6.76 m: compotent metavolcanic, qtz veinlets @ 10° and 30° from vertical core axis. 6.76 m - end of run: rock fractures at angles between 10° and 30° along fold axis, qtz veining up to 0.5 cm wide oriented 20° from vertical core axis.										
8.78	1.22	MV	1.22	100%	0.13	11%	40	N/A	6	W2	R3	N/A	N/A	N/A	Metavolcanic. Fracturing between 10 - 20° along calcite infilling. Very fractured.										
9.72	0.94	MV	0.94	100%	0.00	0%	30	22	6	W2	R3	6	1.5	2	Joints: 25°, 50°, 80°. Qtz veining approx. 20° from vertical core axis up to 0.5 cm wide. Rock fractures @ 10° from vertical core axis along calcite planes of weakness. Yellowish weathering / oxidation of mineral from 8.78 - 9.33 m (possibly limonite). Thin silt coating on joint @ 9.58 m.	38	0.03	4	3	6	22	35	Poor	0.000	Excep. Poor
11.32	1.60	MV	1.60	100%	1.20	75%	10	23	11	W1 - W2	R4	12	3	1	Joints: 45°, 52°, 68°, 10°. Qtz veinlets 15 degrees from vertical core axis. Qtz infill on some joints. @ 10.02 m, qtz vein (3 cm wide) with pyrite.	75	0.16	7	14	9	23	53	Fair	18.750	Good
12.92	1.60	MV	1.60	100%	1.01	63%	14	23	10	W1 - W2	R3 - R4	12	1.5	1	Joints: 30°, 50°, 70°, 20°. Qtz veinlets @ 10° from vertical core axis. Fractured zone between 12.29 and 12.49 m, angular fragments 1 - 5 cm in diameter.	56.5	0.11	6	12	8	23	49	Fair	7.922	Fair
14.25	1.33	MV	1.58	119%	1.06	80%	10	23	10 - 12	W1	R4	12	1.5	2	Joints: 24°, 38°, 5°, 62°. Possible calcite infill on several joints. Qtz stringers and veinlets from vertical to 20° from core axis. @ 13.02 m, 1 cm wide qtz vein 20° from core axis.	75	0.16	7	15	9	23	54	Fair	4.981	Fair
15.85	1.60	MV	1.60	100%	1.26	79%	5	23	14	W1	R4	6	2	2	Joints: 40°, 10°. Qtz stringers and veins. @ 15.35 m, 1 cm wide qtz vein 10° from vertical core axis.	75	0.32	7	15	14	23	59	Fair	13.125	Good
17.45	1.60	MV	1.60	100%	1.29	81%	5	23	10	W1	R4	3	1.5	1	Joints: 52°, 60°. Qtz veinlets 10 - 30° from vertical core axis.	75	0.32	7	15	14	23	59	Fair	40.313	Very Good
19.05	1.60	MV	1.57	98%	1.38	86%	5	23	11 - 14	W1	R4	12	1.5	1	Joints: 20°, 32°, 62°, 28o. Qtz infill on joints. Qtz veinlets approx. vertical to 12° from vertical core axis.	75	0.31	7	17	14	23	61	Good	10.781	Good
20.65	1.60	MV	1.55	97%	1.23	77%	6	23	10	W1	R4	4	1.5	1	Joints: 65°, 70°. Qtz veining 16 - 20° from vertical core axis up to 2 cm wide. Qtz veinlets vertical to 10° from vertical core axis.	75	0.26	7	15	12	23	57	Fair	28.828	Good
22.25	1.60	MV	1.57	98%	1.56	97%	7	23	10	W1	R4	6	1.5	1	Joints: 62°, 50°, 68°. Qtz veinlets @ 10° from vertical core axis. Qtz folding with limbs approx. 20° from vertical core axis. Rose qtz on fracture surfaces. Qtz infill on joints. Qtz veins up to 2 cm wide.	75	0.22	7	19	11	23	60	Fair	24.375	Good
23.85	1.60	MV	1.60	100%	1.10	69%	23	22	10	W1	R3 - R4	12	1.5	1	Joints: 38°, 65°, 20°. Qtz veinlets 45 - 60° from vertical core axis. Vertical fractures between 23.03 - 23.53 m. Possible bedding 10° from vertical core axis.	56.5	0.07	6	13	7	22	48	Fair	8.594	Fair
25.05	1.20	MV	1.20	100%	1.02	85%	23	3	12	W1	R4 - R5	4	1.5	1	Joints: 88°, 50°. @ 24.15 m, chalcopyrite and very thin film of silt on joint surface. Qtz veinlets randomly oriented. Qtz folding with limbs 20° from vertical core axis. @23.95 m, rose qtz with brecciated rock, 10.5 - 15 cm diameter clasts. Qtz infill on joints.	125	0.05	11	16	6	3	36	Poor	31.875	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-11 (NE1)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 70

Logged By: AJ / EN
Date Hole Started: 09-May-06
Date Hole Finished: 10-May-06
Total Hole Depth:

Depth To	Length of Run	Lithology	Recovery		RQD		Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
			Length	Percent	Length	Percent												Strength	RQD	Spacing (m	Jt. Condition	RMR	Descriptor	Q'	Descriptor
2.21	1.60	MV	1.59	99%	1.58	99%	7	21	12	W1 - W2	R4 - R5	9	1.5	2	Joints 81°, 52°, 38°-40° - Joints in zone with qtz phenocrysts - weathered joints	125	0.23	11	19	11	21	62	Good	8.229	Fair
2.52	0.31	MV	0.31	100%	0.21	68%	9	22	9	W1 - W2	R4 - R5	4	1.5	2	Joint oxidized at beginning of run (calcite infill) - Joints 30° , 65° - @2.43 m: 2mm wide qtz- trace qtz veins 25°-30° from core axis - no phenocrysts	125	0.03	11	13	6	22	52	Fair	12.702	Good
4.12	1.60	MV	1.56	98%	1.11	69%	13	23	10	W1 - W2	R4 - R5	6	1.5	1 - 2	Phenocrysts 2mm-5mm (plageoclase) - Joints 54°, 64°, 58°, 50°, 60°. - 8 cm qtz vein @3.45m formed 40° to core axis - quartz veinlets @ 30°-45° to core axis - calcite and qtz joint infill	125	0.12	11	13	8	23	55	Fair	0.000	Excep. Poor
5.56	1.44	MV	1.44	100%	1.42	99%	4	23	13	W1 - W2	R4 - R5	4	1.5	2	joints 82°, 50° - 2 cm wide qtz vein @ 20°from core axis @5.1m, chlorite infill on outside of qtz vein - calcite veinlets, qtz veining - slippery red coating on a few jt surfaces (oxidizing calcite or limenite, or Fe oxide)	125	0.36	11	19	15	23	68	Good	18.490	Good
															- Calcite infilling on jt surface - qtz veins 5 mm wide - trace oxidization on jt surfaces.										
7.18	1.60	MV	1.52	95%	1.50	94%	4	23	13	W1 - W2	R4 - R5	4	1.5	2	Joint 30°, 78° - healed calcite joint @ 5.66m - qtz vein scm wide 30° to v.c.a @ 6.26 m - calcite and qtz on joint surfaces - qtz veinlets @ 30-50° from v.c.a. - trace sulfides - slippery red coating on joint (oxidizing calcite) @ 6.56 m	125	0.38	11	18	15	23	67	Good	17.578	Good
															- sample # 3 @6.59 m										
8.68	1.50	MV	1.50	100%	1.49	99%	4	23	13	W1 - W2	R4 - R5	4	1.5	1	Joints 30°,60° - @ 7.48m 4cm wide qtz vein @30° to v.c.a - qtz veinlets, minor chlorite alteration. - 2cm wide qtz vein @ 30° to v.c.a	125	0.38	11	19	15	23	68	Good	37.250	Good
10.25	1.57	MV	1.55	99%	1.38	88%	9	23	12	W1 - W2	R3 - R4	6	1.5	1	calcite and/or quartz on joint surfaces, joints @ 20° , 57° , 65° - rose coloured calcite @ 9.38 m - qtz veins throughout core up to 1 cm thick	56.5	0.17	6	17	10	23	56	Fair	21.975	Good
11.77	1.52	MV	1.50	99%	1.04	68%	13	20	10	W1 - W2	R3 - R4	4	1.5	1	major joints @ 85° ,20° , 45° - calcite and or qtz on joints	56.5	0.12	6	13	8	20	47	Fair	25.658	Good
13.29	1.52	MV	1.49	98%	1.35	89%	5	24	14	W1 - W2	R3 - R4	4	1.5	1	calcite on joints - joints @ 45° , 20° , 85°	56.5	0.30	6	17	13	24	60	Fair	33.306	Good
14.81	1.52	MV	1.51	99%	1.46	96%	4	24	-	W1 - W2	R3 - R4	2	1.5	1	Joints @ 23° , 85° - joints filled with calcite and qtz	56.5	0.38	6	19	15	24	64	Good	72.039	Very Good
16.33	1.52	MV	1.45	95%	1.40	92%	5	22	14	W1 - W2	R3	3	1.5	1	qtz and calcite on joints. Not as much as before - joints @ 35° , 50° to v.c.a	38	0.29	4	18	13	22	57	Fair	46.053	Very Good
17.85	1.52	MV	1.52	100%	1.36	89%	10	24	11	W1 - W2	R4	4	1.5	1	qtz and calcite on joints - joints @ 42° , 75° , 25° - less qtz veins on this run.	75	0.15	7	17	9	24	57	Fair	33.553	Good
18.80	0.95	MV	0.95	100%	0.70	74%	20	16	8	W2 - W3	R3	4	1.5	3	silt / clay on joints @ 18.1 m and 18.65 m. - silt / clay grainy and not terribly slippery. - silt / clay is 1-3mm thick and occurs around fractured zones that are 5-10 cm thick. -Possible fault zone - Sample BGC06-11 #4	38	0.05	4	14	6	16	40	Poor	9.211	Fair
20.36	1.56	MV	1.56	100%	1.50	96%	5	19	14	W2 - W3	R3	4	1.5	3	@19.36 some silt / clay on joint - other joints have calcite / qtz.	38	0.31	4	19	14	19	56	Fair	12.019	Good
20.88	0.52	MV	0.52	100%	0.47	90%	3	23	10	W1 - W2	R3	2	1.5	0.75	no infill	38	0.17	4	17	10	23	54	Fair	90.385	Very Good
22.41	1.53	MV	1.53	100%	1.25	82%	7	22	13	W2	R3	6	1.5	1	calcite and qtz infill - rose qtz on joint @22.3m - joints @ 90° , 45° , 35° , 65° .	38	0.22	4	16	11	22	53	Fair	20.425	Good
23.93	1.52	MV	1.51	99%	1.40	92%	6	24	11	W1 - W2	R3	4	1.5	1	calcite and qtz on joints	38	0.25	4	18	12	24	58	Fair	34.539	Good
25.40	1.47	MV	1.45	99%	1.03	70%	9	24	12	W1 - W2	R3	6	1.5	1	minor calcite and qtz on some joints - some reddish brown substance on joints (oxidization)	38	0.16	4	13	9	24	50	Fair	17.517	Good
26.93	1.53	MV	1.53	100%	1.15	75%	9	24	12	W1 - W2	R3	4	1.5	1	Sample @ 26.1 m - some calcite or chlorite on joints, some reddish stuff on some joints. - oxidization of hematite alteration? - Sample # 5 @ 26.1 m - joints @ 75° , 45° from v.c.a.	38	0.17	4	14	10	24	52	Fair	28.186	Good
28.41	1.48	MV	1.48	100%	1.20	81%	8	24	12	W1 - W2	R3	6	1.5	1	calcite and qtz and either oxidation or hematite alteration on most joints - joints @ 20° , 80° , 55° wrtca	38	0.19	4	16	10	24	54	Fair	20.270	Good
29.89	1.48	MV	1.48	100%	1.16	78%	15	22	9	W2	R3	6	1.5	3	some silty gouge on joint @ 29.70m , Sample # 6 - calcite , qtz and hematite alteration/ oxidization on joints	38	0.10	4	15	8	22	49	Fair	6.532	Fair
31.46	1.57	MV	1.57	100%	1.47	94%	5	24	14	W1 - W2	R3	4	1.5	1	minor calcite and quartz on joints - major joints @ 40° , 85 °	38	0.31	4	18	14	24	60	Fair	35.111	Good
32.45	0.99	MV	0.99	100%	0.73	74%	8	24	9	W1 - W2	R3	4	1.5	1	blockage in drill tube	38	0.12	4	14	8	24	50	Fair	27.652	Good
32.93	0.58	MV	0.58	100%	0.20	34%	8	24	8	W1 - W2	R3	6	1.5	1	calcite, rose calcite / qtz on joints -major joints @ 40° , 85 °	38	0.07	4	7	7	24	42	Fair	8.621	Fair
34.10	1.17	MV	1.17	100%	0.70	60%	15	22	6	W1 - W2	R3	4	1.5	3	some silt in numerous joints from 33.45 - 34.03 m - 1-2mm	38	0.08	4	11	7	22	44	Fair	7.479	Fair
35.21	1.11	MV	1.17	105%	0.59	53%	25	22	6	W1 - W2	R3	6	1.5	1	calcite and qtz on joints - major joints @ 40° , 85 °	38	0.05	4	10	6	22	42	Fair	13.288	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-11 (NE1)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 70

Logged By: AJ / EN
Date Hole Started: 09-May-06
Date Hole Finished: 10-May-06
Total Hole Depth:

Depth To	Length of Run	Lithology	Recovery		RQD		Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes			Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
			Length	Percent	Length	Percent										Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Cond. Condition	RMR	Descriptor	Q'	Descriptor
35.93	0.72	MV	0.77	107%	0.53	74%	9	22	9	W1 - W2	R3	6	1.5	1	calcite and qtz on joints - major joints @ 40° , 85 °	38	0.09	4	14	7	22	47	Fair	18.403	Good
37.09	1.16	MV	1.09	94%	0.71	61%	14	22	9	W1 - W2	R3	6	1.5	1	minor calcite and quartz on veins - joints @ 20°, 30°, 40°, and 85°	38	0.08	4	12	7	22	45	Fair	15.302	Good
37.61	0.52	MV	0.50	96%	0.00	0%	9	24	7	W1 - W2	R3	6	1.5	1	calcite and quartz on joints	38	0.06	4	3	6	24	37	Poor	0.000	Excep. Poor
38.44	0.83	MV	0.83	100%	0.70	84%	3	25	13	W1 - W2	R3	4	1.5	0.75	no significant joint coating	38	0.28	4	16	13	25	58	Fair	42.169	Very Good
40.02	1.58	MV	1.54	97%	1.28	81%	9	25	12	W1 - W2	R3	4	1.5	1	minor calcite/qtz infill - joints @ 60°, 20°	38	0.17	4	16	10	25	55	Fair	30.380	Good
40.53	0.51	MV	0.60	118%	0.37	73%	4	25	11	W1 - W2	R3	3	1.5	2	minor silt on joint @ 40.3m	38	0.15	4	14	9	25	52	Fair	18.137	Good
41.81	1.28	MV	1.27	99%	0.97	76%	7	25	12	W1 - W2	R3	4	1.5	1	minor calcite / qtz	38	0.18	4	14	10	25	53	Fair	28.418	Good
43.13	1.32	MV	1.44	109%	1.32	100%	8	23	10	W1 - W2	R3	12	1.5	1.5	calcite veinlets - hematite on joint surfaces - calcite on joint surfaces. joints 75°, 84°, 30°, 20°	38	0.18	4	19	10	23	56	Fair	8.333	Fair
44.74	1.61	MV	1.60	99%	1.27	79%	10	23	10	W1 - W2	R3	9	1.5	1.5	joints 82°, 76°, 62° - calcite veinlets - @44.11m qtz fold limb angle 20° to v.c.a aprox 0.5cm wide. - calcite infill	38	0.16	4	15	9	23	51	Fair	8.765	Fair
45.81	1.07	MV	1.07	100%	0.68	64%	5	20	10	W2	R3 - R4	2	1.5	4	@45.02m joint 32° to v.c.a. and 1-2mm silt/clay infill - 45.32 m 1-2mmsilt infill, rock fracturing @ 20° to v.c.a. for 6 cm - calcite veinlets @ aprox 20° to v.c.a. - calcite infill	56.5	0.21	6	12	11	20	49	Fair	11.916	Good
47.41	1.60	MV	1.52	95%	1.14	71%	6	23	10	W1	R3 - R4	9	1.5	1.5	joints 86°, 60°, 22° - calcite and qtz infill - calcite veinlets rose qtz folds @ 1.5 cm wide @ 47.11m @ 22° to v.c.a. (folds look bedded.	56.5	0.25	6	14	12	23	55	Fair	7.917	Fair
49.06	1.65	MV	1.53	93%	1.53	93%	2	23	-	W1	R3	4	1.5	1	joints 32°, 50°, qtz infill, calcite veinlets - qtz and calcite veinlets @ 20° from v.c.a	38	0.77	4	18	20	23	65	Good	34.773	Good
50.33	1.27	MV	1.32	104%	1.06	83%	4	23	13	W1	R4 - R5	4	1.5	1.5	joints 50°, 68° - calcite and qtz infill - calcite veinlets @ 30° to v.c.a	125	0.33	11	16	14	23	64	Good	20.866	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	7,475,570	Logged By:	EN
Project:	2006 High Lake Drill	UTM Coordinates:	Easting:	506,521	Date Hole Started:	10-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	10-May-06
Borehole Number:	DH-BGC06-12 (NE3)	Hole Orientation:	Trend:	N/A	Total Hole Depth:	7.5 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
2.80	1.50	MV+FAB	1.50	100%	0.12	8%	9	21	N/A	W2	R3	6	1.5	3	silt till on joints in upper 0.8m of run (FAB) - joints covered in thin silt coating in lower 0.7 m of run	38	0.17	4	3	9	21	37	Poor	0.667	Very Poor
4.24	1.44	MV	1.44	100%	0.81	56%	25	23	7	W1-W2	R3	6	1.5	3	Some silt, calcite and qtz on joints	38	0.06	4	11	6	23	44	Fair	4.688	Fair
5.82	1.58	MV	1.58	100%	1.42	90%	7	27	13	W1-W2	R3	4	1.5	0.75	clean joints joints @ 60°, 70°, 80°	38	0.23	4	17	11	27	59	Fair	44.937	Very Good
6.54	0.72	MV	0.72	100%	0.18	25%	10	25	8	W1-W2	R3	6	1.5	1	calcite and qtz on joints	38	0.07	4	5	7	25	41	Fair	6.250	Fair
7.26	0.72	MV	0.72	100%	0.12	17%	18	23	6	W1-W2	R3	6	1	1	calcite and quartz on joints -*core may have been damaged during removal from the barrel , driller had difficulty	38	0.04	4	4	6	23	37	Poor	2.778	Poor
7.52	0.26	MV	0.26	100%	0.26	100%	0	25		W1	R3				1 piece no joints	38	1.50	4	20	23	25	72	Good		
															E.O.H @ 7.52 m @ 11:00 pm										

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	AJ / EN
Project:	High Lake Drill	UTM Coordinates: Easting:		Date Hole Started:	11-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	11-May-06
Borehole Number:	DH-BGC06-13 (NW2)	Trend:		Total Hole Depth:	
		Hole Orientation: Plunge:	70		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
5.01	5.01	MV	1.57	31%	1.14	23%	12	25	7	W1-W2	R3	6	1.5	1	some qtz and hemetite alteration	38	0.13	4	5	9	25	43	Fair	5.689	Fair
5.83	0.82	MV	0.82	100%	0.49	60%	10	22	6	W1-W2	R3	6	1.5	1	some qtz, calcite on joints, joints @ 40 °, 50°	38	0.08	4	11	7	22	44	Fair	14.939	Good
7.38	1.55	MV	1.55	100%	0.94	61%	16	24	9	W1-W2	R3	6	1.5	1	hemetite, calcite alteration on joints - joints @ 37°,52°, 45°, 65°	38	0.10	4	11	8	24	47	Fair	15.161	Good
8.83	1.45	MV	1.48	102%	0.72	50%	14	24	7	W1-W2	R3	6	1.5	1	minor calcite, qtz and hematite on joints	38	0.11	4	9	8	24	45	Fair	12.414	Good
9.67	0.84	MV	0.84	100%	0.64	76%	4	22	13	W1-W2	R3	4	1.5	1	calcite/qtz on joints	38	0.21	4	15	11	22	52	Fair	28.571	Good
10.82	1.15	MV	1.16	101%	1.03	90%	6	22	12	W1-W2	R3	4	1.5	1	major joint set @ 20°	38	0.19	4	17	10	22	53	Fair	33.587	Good
11.83	1.01	MV	1.00	99%	0.91	90%	6	25	12	W1-W2	R3	4	1.5	1	calcite and qtz on joints	38	0.17	4	17	9	25	55	Fair	33.787	Good
13.22	1.39	MV	1.37	99%	1.09	78%	9	22	11	W1-W2	R3	4	1.5	0.75	major joints @55°, 45°, 85°, joints are clean	38	0.15	4	15	9	22	50	Fair	39.209	Good
14.77	1.55	MV	1.55	100%	0.79	51%	16	23	9	W1-W2	R3	4	1.5	1	little to no calcite or qtz on joints but some hematite alteration joints @ 45°, 65°, 20°	38	0.10	4	10	8	23	45	Fair	19.113	Good
15.37	0.60	MV	0.54	90%	0.40	67%	4	23	10	W1-W2	R3	3	1.5	0.75	trace pyrite on one joint joints @45°, 30°	38	0.14	4	13	9	23	49	Fair	44.444	Very Good
16.54	1.17	MV	1.17	100%	0.30	26%	20	25	7	W1-W2	R3	6	1.5	0.75	clean joints, many fractures cut parrallel to core axis - joints 40°, 5°, 70°	38	0.06	4	5	6	25	40	Poor	8.547	Fair
17.83	1.29	MV	1.29	100%	1.05	81%	6	24	12	W1-W2	R3	6	1.5	2	calcite and qtz on joints with minor silty material on a few joints - major joints @ 5°, 50°, 70°	38	0.22	4	16	11	24	55	Fair	10.174	Good
19.36	1.53	MV	1.53	100%	0.59	39%	16	22	9	W1-W2	R3	6	1.5	1	joints are mostly clean, tiny bit of silt on joints, major joints 5° to core axis	38	0.10	4	7	8	22	41	Fair	9.641	Fair
20.83	1.47	MV	1.47	100%	0.70	48%	15	24	9	W1-W2	R3	6	1.5	0.75	no infill, many sub parallel fractures	38	0.10	4	9	8	24	45	Fair	15.873	Good
22.39	1.56	MV	1.56	100%	1.25	80%	3	24	14	W1-W2	R3	2	1.5	0.75	pyrite on joints	38	0.52	4	15	18	24	61	Good	80.128	Very Good
23.76	1.37	MV	1.37	100%	1.03	75%	6	24	13	W1-W2	R3	4	1.5	0.75	joints @ 10°, 48°	38	0.23	4	14	11	24	53	Fair	37.591	Good
25.32	1.56	MV	1.53	98%	1.33	85%	6	22	13	W1-W2	R3	4	1.5	1	joints @ 40°, 30° -quartz healed joint @ 24.86 m	38	0.26	4	16	12	22	54	Fair	31.971	Good
26.83	1.51	MV	1.51	100%	1.51	100%	3	26	15	W1	R3	1	1.5	0.75	rose quartz veining throughout run	38	0.50	4	20	18	26	68	Good	200.000	Ext. Good
28.35	1.52	MV	1.47	97%	0.78	51%	6	22	13	W1-W2	R4	12	1.5	1-3	joints 78°, 38°, 10° - 28.25m: 1-2mm silty coating - qtz veining@ 20° from v.c.a	75	0.25	7	10	12	22	51	Fair	0.000	Excep. Poor
29.85	1.50	MV	1.48	99%	1.01	67%	5	24	12	W1	R3	4	1.5	0.75	joints 5°, 40° - quartz veining @20° from v.c.a	38	0.30	4	13	13	24	54	Fair	33.667	Good
31.37	1.52	MV	1.60	105%	0.98	64%	9	23	10	W1	R3	2	1.5	1	joints 10° - qtz vein throughout core 20° from v.c.a - trace calcite on joint - calcite infill	38	0.18	4	12	10	23	49	Fair	48.355	Very Good
32.87	1.50	MV	1.50	100%	0.75	50%	3	23	11	W1	R3	4	1.5	1	joints 62°, 20° - qtz 10mm throughout core (20° from v.c.a) - calcite infill	38	0.50	4	10	18	23	55	Fair	18.750	Good
34.37	1.50	MV	1.42	95%	0.91	61%	6	21	10	W1-W2	R3-R4	2	1.5	2	joint 13° - calcite veinlets and calcite infill between 33.07m and 34.37 m. calcite decomposed / weathered and saturated	56.5	0.24	6	11	12	21	50	Fair	22.750	Good
35.87	1.50	MV	1.46	97%	1.23	82%	3	24	14	W1	R4	2	3.0	1-2	34.37 m -34.6 m rock is slightly decomposed (Ja = 0.8, W4) 5mm clay infill Jc = 20, qtz veining - Joints 84° trace sulphides @ end of run , calcie quartz infill, rock increasing in strength with depth	75	0.49	7	16	17	24	64	Good	0.003	Excep. Poor
37.37	1.50	MV	1.50	100%	1.26	84%	6	13	13	W1	R3-R4	4	1.5	1	joint 42°, 32°, qtz infill on joints, calcite infill on hammered fractures - qrtz veins throughout core 15-20° from v.c.a - Sample # 4 taken @ 35.8m	56.5	0.25	6	16	12	13	47	Fair	31.500	Good
38.87	1.50	MV	1.50	100%	1.50	100%	0	15	15	W1	R3-R4	-	-	-	no joints , quartz veining throughout core	56.5		6	20	5	15	46	Fair		
40.37	1.50	MV	1.50	100%	1.45	97%	2	14	14	W1	R3-R4	2	1.5	0.75	joints 82° - quartz veining throughout the core	56.5	0.75	6	19	20	14	59	Fair	96.667	Very Good
41.87	1.50	MV	1.50	100%	1.48	99%	4	12	12	W1	R3	9	3.0	0.75	joints 80°, 48°, 62°	38	0.38	4	19	15	12	50	Fair	43.852	Very Good
43.37	1.50	MV	1.50	100%	1.35	90%	4	12	12	W1	R3	4	3.0	0.75	joints 20°, 46° - quartz veining throughout core - calcite infill on fracture surfaces	38	0.38	4	17	15	12	48	Fair	90.000	Very Good
44.87	1.50	MV	1.48	99%	1.48	99%	2	12	12	W1	R3	6	3.0	0.75	joints 64°, 40°, 52° - quartz on fracture surfaces - quartz veining throughout core (approx 22° from v.c.a.)	38	0.74	4	19	20	12	55	Fair	65.778	Very Good
46.37	1.50	MV	1.50	100%	1.23	82%	7	13	13	W1	R3-R4	12	2.3	0.75	joints 10°, 82°, 58°, 34°, 52° - quartz veining throughout core - minor chlorite alteration @ beginning of run on qtz vein	56.5	0.21	6	16	11	13	46	Fair	20.956	Good
47.87	1.50	MV	1.50	100%	1.23	82%	2	13	13	W1	R3-R4	4	1.5	2	joints 78°, 12°, qtz veining throughout core - quartz infill, calcite infilling on joint surfaces @ 47.37 m	56.5	0.75	6	16	20	13	55	Fair	15.375	Good
49.37	1.50	MV	1.50	100%	1.27	85%	2	13	13	W1	R4	4	1.5	2	joints @ 74°, 8° - quartz veining throughout core - calcite infill at 47.77m, quartz infill on fracture surfaces	75	0.75	7	16	20	13	56	Fair	15.875	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	AJ / EN
Project:	High Lake Drill	UTM Coordinates:	Easting:		Date Hole Started:	11-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	11-May-06
Borehole Number:	DH-BGC06-13 (NW2)		Trend:		Total Hole Depth:	
		Hole Orientation:	Plunge:	70		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
50.33	0.96	MV	0.96	100%	0.96	100%	2	12	12	W1	R4	4	1.5	0.75	joints @ 45°, 12°, quartz veining throuhgout core	75	0.48	7	19	17	12	55	Fair	50.000	Very Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-14 (D2)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 90

Logged By: AJ/EN
Date Hole Started: 12-May-06
Date Hole Finished: 13-May-06
Total Hole Depth:

			Recovery		RQD													Rock Mass Rating (Bieniawski, 1989)								Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
13.59	0.23	MV	0.40	174%											Bit Blocked										
14.05	0.46	MV	0.46	100%	0.00	0%	2	23	7	W1	R4 - R5	N/A	N/A	N/A	Tube blocked Joints 20°, 70° - calcite infilling	125	0.23	11	3	12	23	49	Fair		
14.51	0.46	MV	0.46	100%	0.00	0%	3	23	7	W1	R3	2	1.5	0.75	Calcite infill - joints 8°, 12° - qtz phenocrysts, light bluish grey	38	0.15	4	3	9	23	39	Poor	0.000	Excep. Poor
14.97	0.46	MV	0.46	100%	0.00	0%	8	23	6	W1	R4	12	1.5	0.75	Joints 72°, 64°, 58°, 18° - qtz phenocrysts, subangular to subrounded, typically 1-2 cm, but up to 5cm - calcite infill in joints	75	0.06	7	3	6	23	39	Poor	0.000	Excep. Poor
15.68	0.71	MV	0.71	100%	0.22	31%	14	23	6	W1	R3-R4	12	1.5	0.75	Joints 56°, 60°, 80°, 42°, 68°, 12° - calcite infill on a few joints, - fracture zone 15.07-15.20 m - 15.07 m rock grades from m.v. with quartz phenocrysts to felsic m.v. with qtz veinlets	56.5	0.05	6	6	6	23	41	Fair	5.164	Fair
16.32	0.64	MV	0.64	100%	0.12	19%	12	23	6	W1	R3 - R4	12	1.5	2	Joints 46°, 70°, 30°, 8° - calcite infill (minor chlorite alteration) - 16.4m - 16.19 m m.v. with feldspar phenocrysts (approx 0.5cm) - healed calcite fractures	56.5	0.05	6	4	6	23	39	Poor	1.172	Poor
17.18	0.86	MV	0.86	100%	0.36	42%	13	22	10	W1	R3	6	1.5	2	Joints 45°, 56°, 62°, 48° - calcite infill on joints, weathered - healed calcite joints	38	0.07	4	8	7	22	41	Fair	5.233	Fair
17.97	0.79	MV	0.86	109%	0.37	47%	16	23	10	W1	R3-R4	12	1.5	2	Joints 74°, 46°, 60°, 25°	56.5	0.05	6	9	6	23	44	Fair	2.927	Poor
															17.55: rock grades from m.v. to m.v. with quartz phenocrysts 1.5- 2cm - calcite infill on joints - quartz infill on joints										
															17.43-17.48m microfracture zone - qtz veinlets										

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-15 (NW2)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 70

Logged By: AJ/EN
Date Hole Started: 14-May-06
Date Hole Finished: 14-May-06
Total Hole Depth: 51.26 m

Depth To	Length of Run	Lithology	Recovery Length	Recovery Percent	RQD Length	RQD Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Rock Mass Rating (Bieniawski, 1989) Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q-System (Barton, 1974) Q'	Descriptor
3.15	1.12	MV	1.12	100%	0.66	59%	7	23	12	W1	R3	9	1.5	1	Joints 42°, 22°, 30° - qtz vein 1 cm wide @2.56m - calcite veinlets chlorite alteration on some veinlets - qtz veinlets - calcite infill on joints	38	0.16	4	11	9	23	47	Fair	9.821	Fair
4.75	1.60	MV	1.60	100%	0.74	46%	10	20	10	W1	R3	9	1.5	1-3	joints 58°, 42°, 48°, 54° - @3,25 m: 2mm thick silty sand, some clay coating on joints surface - quartz and calcite on joint surfaces -minor oxidation on joint surfaces - @4.07m chlorite altered vein (1 cm) - calcite veinlets - 2cm wide quartz vein @4.65m	38	0.16	4	9	9	20	42	Fair	0.000	Excep. Poor
5.66	0.91	MV	0.91	100%	0.32	35%	8	22	9	W1	R3	9	1.5	2	joints 32°, 10°, 48° - Rock becomes more decomposed with depth @4.90m - calcite infill on joints, - 5mm decomposed rock to soil like @ 4.90m	38	0.11	4	7	8	22	41	Fair	2.930	Poor
6.64	0.98	MV	0.98	100%	0.68	69%	6	21	10	W1	R3	6	1.5	0.75	joints 48°, 60° - silt infill with clay (aprox 5mm) @5.69m - qrtz veining aprox 25-30° from v.c.a - 2 cm wide qrtz vein @6.28m - minor hematite alteration on joints	38	0.16	4	13	9	21	47	Fair	23.129	Good
7.74	1.60	MV	1.55	97%	1.53	96%	5	23	10	W1	R3	12	1.5	1	Joints 45°, 64°,74° - minor hematite alteration on a few surface - calcite veinlets - qtz veins @ 7.09 m and 7.74m	38	0.31	4	19	14	23	60	Fair	11.953	Good
8.27	0.53	MV	0.53	100%	0.34	64%	4	23	11	W1	R3	2	1.5	0.75	joints vertical - calcite infill, quartz infill	38	0.13	4	12	9	23	48	Fair	64.151	Very Good
9.41	1.14	MV	1.14	100%	0.64	56%	4	23	10	W1	R3	12	1.5	2	joints 48°, 38°, vertical, 58° - calcite infill on joints - 1mm feldspar phenocrysts, calcite veinlets	38	0.29	4	11	13	23	51	Fair	3.509	Poor
10.20	0.79	MV	0.79	100%	0.30	38%	5	23	11	W1	R3	12	1.5	2	Joints 54°, 16°, vertical, 32° - calcite infill - fracture zone from 9.81m to 9,93m - feldspar phenocrysts 1mm in addition to quartz phenocrysts	38	0.16	4	7	9	23	43	Fair	2.373	Poor
10.49	0.29	MV	0.29	100%	0.00	0%	50	4-5	5	N/A	N/A	N/A	N/A	N/A	fractured mafic volcanic rock - quartz and feldspar phenocrysts - quartz veins - healed calcite fractures (pieces 2-5 cm in diameter)										
10.93	0.44	MV	0.41	93%	0.20	45%	2	23	9	W1	R4	4	1.5	2	joints 50°-22° - calcite infill - feldspar and quartz phenocrysts - calcite veinlets (healed), quartz veining @10.72 m (1 cm wide)	75	0.21	7	9	11	23	50	Fair	8.523	Fair
11.95	1.02	MV	1.02	100%	0.74	73%	12	24	9	W1	R4	4	1.5	1	minor calcite on joints	75	0.09	7	14	7	24	52	Fair	27.206	Good
12.84	0.89	MV	0.89	100%	0.79	89%	8	24	10	W1	R4	4	1.5	1	minor calcite on joints - joints @ 35°, 22°	75	0.11	7	17	8	24	56	Fair	33.287	Good
13.53	0.69	MV	0.67	97%	0.43	62%	7	22	9	W1	R4	4	1.5	0.75	no infill - joints @ 55°, 20°	75	0.10	7	12	8	22	49	Fair	31.159	Good
13.93	0.40	MV	0.40	100%	0.00	0%	8	22	6	W1	R4	4	1.5	0.75	joints @ 55°, 20°	75	0.05	7	3	6	22	38	Poor	0.000	Excep. Poor
15.26	1.33	MV	1.34	101%	0.85	64%	14	23	9	W1-W2	R4	6	1.5	1	minor calcite, joints @ 35°, 45°, 10°	75	0.10	7	12	8	23	50	Fair	15.977	Good
16.84	1.58	MV	1.57	99%	1.57	99%	3	25	14	W1	R4	2	1.5	1	calcite on joint	75	0.52	7	19	18	25	69	Good	74.525	Very Good
18.40	1.56	MV	1.56	100%	1.00	64%	12	22	10	W1	R4	6	1.5	1	calcite on joints	75	0.13	7	12	9	22	50	Fair	16.026	Good
18.67	0.27	MV	0.27	100%	0.00	0%	10	22	5	W1	R3	6	1.5	1	calcite on joints	38	0.03	4	3	5	22	34	Poor	0.000	Excep. Poor
19.93	1.26	MV	1.26	100%	1.04	83%	9	25	7	W1	R4	6	1.5	1	minor calcite - joints @ 47°, 20°	75	0.14	7	16	9	25	57	Fair	20.635	Good
21.42	1.49	MV	1.49	100%	1.27	85%	6	23	12	W1	R4	4	1.5	1	minor calcite on joints joints @ 40°, 50°, 60°	75	0.25	7	16	12	23	58	Fair	31.963	Good
22.93	1.51	MV	1.51	100%	1.32	87%	4	24	12	W1	R4	3	1.5	1	minor calcite on joints	75	0.38	7	17	15	24	63	Good	43.709	Very Good
24.43	1.50	MV	1.50	100%	0.90	60%	11	24	12	W1	R4	6	1.5	1	calcite on joints - joints @ 20°, 50°, 40°	75	0.14	7	11	9	24	51	Fair	15.000	Good
25.93	1.50	MV	1.50	100%	1.43	95%	3	24	12	W1	R4-R5	4	1.5	1.5	joints 32°, 60°, - calcite on joint surfaces, trace sulphides on joint surfaces	125	0.50	11	19	18	24	72	Good	23.833	Good
27.43	1.50	MV	1.50	100%	1.20	80%	3	24	14	W1	R3	9	1.5	1.5	joints 52°, 65°, 8°, 12° - calcite infill on joints	38	0.50	4	15	18	24	61	Good	8.889	Fair
28.57	1.14	MV	1.14	100%	0.60	53%	6	23	12	W1-W2	R3	9	1.5	1.5	joints @ 60°, 64°, 32°, 40°, 10° - calcite infill on joints	38	0.19	4	10	10	23	47	Fair	5.848	Fair
29.38	0.81	MV	0.81	100%	0.13	16%	10	23	9	W1	R3	12	1.5	1.5	joints @ 38°, 28°, 42°, 24°, 48° - calcite infill - qtz vein @ 29.26 m	38	0.08	4	4	7	23	38	Poor	1.337	Poor
30.53	1.15	MV	1.15	100%	0.97	84%	1	23	13	W1	R3	2	1.5	1.5	healed calcite fractures - joints @ 34° - calcite infill - quartz vein from 30.35m - 30.53 m	38	1.15	4	16	22	23	65	Good	42.174	Very Good
31.42	0.89	MV	0.79	89%	0.12	13%	5	23	12	W1	R3	6	1.5	1.5	joints @ 10°, 45°, 58° - calcite infill	38	0.16	4	4	9	23	40	Poor	2.247	Poor
33.02	1.60	MV	1.60	100%	1.45	91%	6	23	13	W1-W2	R4-R5	4	1.5	1.5	joints @ 54°, 64° - calcite and quartz infill, healed calcite fractures - feldspar weathering on joint surface - high quartz content (aprox 50%) - quartz veining	125	0.27	11	17	12	23	63	Good	22.656	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	AJ/EN
Project:	High Lake Drill	UTM Coordinates: Easting:		Date Hole Started:	14-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	14-May-06
Borehole Number:	DH-BGC06-15 (NW2)	Hole Orientation: Trend:		Total Hole Depth:	51.26 m
		Plunge:	70		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
33.93	0.91	MV	0.91	100%	0.21	23%	99	23	23	W2	R3	2	1.5	1.5	joints @ 66° - @33.31 to 33.93 m: fractured rock, calcite infilling, hematite alteration, angular pieces (1-6 cm diameter) (fault?) - healed calcite fractures - @33.83m: decomposed rock to soil like (silt) - oxidized feldspar (k-spar) - slicks @33.68m - trace quartz veining and sulphides in more competent zone	38	0.01	4	5	5	23	37	Poor	11.538	Good
35.53	1.60	MV	1.60	100%	0.91	57%	13	23	10	W2	R3	4	2.5	1.5	joints @ 45°, 62° - calcite infill - calcite veinlets, alteration/hematite - healed calcite veinlets, - hematite alteration	38	0.12	4	11	8	23	46	Fair	23.698	Good
37.13	1.60	MV	1.58	99%	1.22	76%	8	23	12	W1-W2	R3	2	1.5	1.5	joints @ 62° - (k-spar alteration) - calcite veinlets and healed fractures, calcite and quartz infill - quartz veining (0.5 cm wide)	38	0.20	4	15	10	23	52	Fair	38.125	Good
38.73	1.60	MV	1.50	94%	1.48	93%	2	23	15	W1-W2	R3	2	1.5	1.5	joints @ 74° - calcite veinlets, hematite alteration along veinlets	38	0.75	4	18	20	23	65	Good	46.250	Very Good
40.33	1.60	MV	1.60	100%	1.30	81%	5	23	14	W1-W2	R3	9	1.5	2	calcite infill with hematite alteration on joints - joints 62°, 72°, 50° - alteration @ end of run	38	0.32	4	16	14	23	57	Fair	6.771	Fair
41.93	1.60	MV	1.59	99%	1.51	94%	2	24	15	W1	R3	2	1.5	1	joints 36° - calcite veinlets with hematite alteration - quartz veining with trace sulphide (pyrite) - @41.78m: chlorite alteration with hornblende	38	0.80	4	18	21	24	67	Good	70.781	Very Good
43.43	1.50	MV	1.47	98%	1.39	93%	3	24	15	W1-W2	R3 - R4	2	1.5	0.75	quartz vein between 42.84 m and 43.43 m (pinkish in colour) - @41.7 m: quartz phenocryst 7 cm long - calcite veinlets - joints @ 52° , @41.81m hornblende on joint surface	56.5	0.49	6	18	17	24	65	Good	92.667	Very Good
43.64	0.21	MV	0.21	100%	0.10	48%	1	24	10	W1-W2	R5	2	1.5	0.75	joint @ 42° - quartz vein	175	0.21	13	9	11	24	57	Fair	47.619	Very Good
45.22	1.58	MV	1.58	100%	1.40	89%	9	25	12	W1-W2	R4	4	1.5	0.75	quartz running through entire run mixed with meta volcanics	75	0.18	7	17	10	25	59	Fair	44.304	Very Good
45.72	0.50	MV	0.50	100%	0.44	88%	3	22	12	W1-W2	R4	2	1.5	0.75	no infill	75	0.17	7	17	9	22	55	Fair	88.000	Very Good
46.66	0.94	MV	0.94	100%	0.88	94%	3	22	13	W1-W2	R4	2	1.5	0.75	joints @ 60°	75	0.31	7	18	14	22	61	Good	93.617	Very Good
48.18	1.52	MV	1.52	100%	1.20	79%	9	22	12	W1-W2	R4	4	1.5	1	rose quartz infill on joints - joints @ 15°, 30°	75	0.17	7	15	9	22	53	Fair	29.605	Good
49.74	1.56	MV	1.56	100%	1.38	88%	12	27	10	W1-W2	R4	6	1.5	0.75	no infill	75	0.13	7	17	9	27	60	Fair	29.487	Good
51.26	1.52	MV	1.52	100%	1.05	69%	50	10	5	W2	R4	15	1.5	3-4	crushed rock zone from 49.74 m to 50.0m - crushed rock fragments are 3 cm in diameter and smaller, coated in silty clay - Joint @ 50.0 coated in 1 to 3 mm of silty clay - Potential fault zone - Driller noticed in while drilling - sample obtained from 50.0m	75	0.03	7	13	6	10	36	Poor	0.000	Excep. Poor
															E.O.H. @ 51.26 m										

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-16 (D2)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 70

Logged By: AJ/EN
Date Hole Started: 16-May-06
Date Hole Finished:
Total Hole Depth:

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
2.19	0.99	MV	0.99	100%	0.00	0%	5	20	4	W2	R3-R4	2	1.5	3	only lower 0.5m is actually intact rock	56.5	0.20	6	3	10	20	39	Poor	0.000	Excep. Poor
2.72	0.53	MV	0.53	100%	0.10	19%	30	22	5	W1-W2	R3-R4	12	2	1	minor calcite on joints - no evidence of ice on joints, but rock is very fractured	56.5	0.02	6	4	5	22	37	Poor	3.145	Poor
3.54	0.82	MV	0.80	98%	0.28	34%	20	22	6	W1-W2	R3-R4	6	1.5	1	minor silt oxidization at some joints	56.5	0.04	6	7	6	22	41	Fair	8.537	Fair
4.24	0.70	MV	0.70	100%	0.00	0%	40	20	5	W1-W2	R3-R4	N/A	N/A	N/A	first 20 cm is 3 pieces of intact rock - next 40 cm is brocken fractured rock from 1 cm diameter to aprox 6 cm in diameter - fragments are angular	56.5	0.02	6	3	5	20	34	Poor		
4.73	0.49	MV	0.49	100%	0.00	0%	80	20	4	W1-W2	R3-R4	N/A	N/A	N/A	entire run is heavily fractured MV rock. Pieces are angular and range from 13 cm to sand / gravel sized particles. No evidence of ice, but there may be some evidence of clay - some rock fragments coated in silty and sand sized particles. May be due to core damage? sample #3 taken from 4.5 m deep shows rock type and material on joint which is softer than core. easy to scrape with happer pick	56.5	0.01	6	3	5	20	34	Poor		
5.65	0.92	MV	0.92	100%	0.42	46%	30	24	6	W1-W2	R3-R4	15	1.5	0.75	no joint infill - heavily fragmented / brocken rock in lower 25 cm of run. - fractured zone at end of run	56.5	0.03	6	9	6	24	45	Fair	6.087	Fair
6.22	0.57	MV	0.65	114%	0.15	26%	20	23	6	W1-W2	R3-R4	15	1.5	0.75	heavily fractured from 6.05m to 6.20 m	56.5	0.03	6	6	6	23	41	Fair	3.509	Poor
7.42	1.20	MV	1.27	106%	0.24	20%	30	23	6	W1-W2	R3-R4	15	1.5	1	minor silt/calcite on a few joint fragments	56.5	0.04	6	5	6	23	40	Poor	2.000	Poor
7.99	0.57	MV	0.57	100%	0.20	35%	7	23	6	W1-W2	R3	4	1.5	1.5	joints 12°, 4°, 34° - calcite infill - healed calcite fractures - weathered k-spar - trace sulphides	38	0.08	4	7	7	23	41	Fair	8.772	Fair
8.60	0.61	MV	0.36	59%	0.00	0%	9	23	6	W1	R3	4	1.5	1.5	joints 10°, 42° - calcite infill - 7.99m to 8.17 m slough	38	0.04	4	3	6	23	36	Poor	0.000	Excep. Poor
10.20	1.60	MV	1.60	100%	0.94	59%	5	23	10	W1	R3	4	1.5	1.5	joints 68°, 80° - quartz and calcite infill - trace calcopyrite on joint surfaces and pyrite - quarts and feldspar phenocrystsup to 0.50 cm - calcite veinlets	38	0.32	4	11	14	23	52	Fair	14.688	Good
11.70	1.50	MV	1.50	100%	1.27	85%	8	24	10	W1-W2	R3-R4	4	1.5	1.5	quartz veining throughout core - joints 72°, 78° - quartz and calcite infill, minot hematite staning, minor chlorite alteration on fracture surfaces - calcite veinlets	56.5	0.19	6	16	10	24	56	Fair	21.167	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-17 (WD1)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 70

Logged By: AJ/EN
Date Hole Started: 18-May-06
Date Hole Finished: 18-May-06
Total Hole Depth: 49.96m

Depth To	Length of Run	Lithology	Recovery Length	Recovery Percent	RQD Length	RQD Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Rock Mass Rating (Bieniawski, 1989) Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q-System (Barton, 1974) Q'	Descriptor
4.25	1.56	MV	1.56	100%	1.30	83%	14	25	10	W1	R3	6	1.5	1	rose quartz on joint @ 2.69m - calcite on several other joints - hematite alteration on some joints - minor silt on joints in upper 60cm - Top 20cm of run is MV - lower 1.36m is granodiorite	38	0.11	4	16	8	25	53	Fair	20.833	Good
4.89	0.64	MV	0.66	103%	0.64	100%	3	27	13	W1	R3	2	1.5	0.75	upper 40cm is granodiorite lower 24 cm is MV	38	0.22	4	20	11	27	62	Good	100.000	Ext. Good
5.87	0.98	MV	0.98	100%	0.86	88%	4	24	13	W1-W2	R3	4	1.5	1	minor calcite and hematite on joint surfaces - Trace pyrite in core - Joints@ 55°, 35° t.c.a	38	0.25	4	17	12	24	57	Fair	32.908	Good
7.43	1.56	MV	1.54	99%	1.34	86%	9	25	12	W1-W2	R3	6	1.5	1	minor calcite and hematite on joints	38	0.17	4	16	10	25	55	Fair	21.474	Good
8.90	1.47	MV	1.47	100%	1.33	90%	9	24	12	W1-W2	R3	4	1.5	1	calcite on joints	38	0.16	4	17	9	24	54	Fair	33.929	Good
10.40	1.50	MV	1.52	101%	1.47	98%	6	24	13	W1-W2	R3	6	1.5	1	minor calcite and quartz on selected joints. Joint along 1.5cm quartz vein @ 9.78m and 10.04m - Joints @ 40°, 60°	38	0.25	4	19	12	24	59	Fair	24.500	Good
11.90	1.50	MV	1.50	100%	1.50	100%	5	25	13	W1	R3	4	1.5	0.75	trace pyrite on joints and in core - Joints otherwise clean	38	0.30	4	20	13	25	62	Good	50.000	Very Good
13.40	1.50	MV	1.52	101%	1.45	97%	4	25	14	W1-W2	R3	4	1.5	1	minor quartz and hematite alteration on joints - trace pyrite in core	38	0.38	4	19	15	25	63	Good	36.250	Good
14.90	1.50	MV	1.48	99%	1.44	96%	4	24	14	W1	R3	2	1.5	0.75	quartz vein (5cm thick) @ 14.17m - joints are clean	38	0.37	4	19	15	24	62	Good	96.000	Very Good
16.46	1.56		1.56	100%	1.39	89%	5	25	14	W1	R3	4	1.5	0.75	Trace pyrite on joints - joints@ 40°, 60° t.c.a	38	0.31	4	17	14	25	60	Fair	44.551	Very Good
17.90	1.44		1.44	100%	1.44	100%	2	25	15	W1'	R3	1	1.5	0.75	clean joints	38	0.72	4	20	20	25	69	Good	200.000	Ext. Good
19.41	1.51		1.57	104%	1.13	75%	12	23	9	W1-W2	R3	6	1.5	1	minor chlorite on joints and minor hematite alteration on 1/3 of joints	38	0.13	4	14	9	23	50	Fair	18.709	Good
20.90	1.49		1.49	100%	1.49	100%	5	24	13	W1-W2	R3	4	1.5	1	calcite on joints - joints @50°, 45°	38	0.30	4	20	13	24	61	Good	37.500	Good
22.40	1.50	gran	1.50	100%	1.24	83%	5	25	13	W1	R3	6	1.5	1	calcite on some joints	38	0.30	4	16	13	25	58	Fair	20.667	Good
23.90	1.50		1.50	100%	0.67	45%	5	23	11	W1-W2	R3-R4	3	1.5	2	calcite and hematite on some joints - joints@ 50°, 58° - sulphides (pyrite) on joint surface - calcite veinlets - minor epidote alteration on some joint surface and along calcite veinlets	56.5	0.30	6	8	13	23	50	Fair	11.167	Good
25.40	1.50		1.50	100%	1.35	90%	7	23	12	W2	R3	12	1.5	2	hematite alteration - joints@ 40°, 48°, 30° - calcite infill - pyrite on joint surface - calcite veinlets	38	0.21	4	17	11	23	55	Fair	5.625	Fair
26.90	1.50		1.50	100%	0.71	47%	13	23	11	W2	R3	9	1.5	2	joints@ 5°, 42°, 56° - trace hematite alteration - calcite infill with minor epidote alteration - calcite veinlets - hornblende phenocrysts (2-3mm)	38	0.12	4	9	8	23	44	Fair	3.944	Poor
28.40	1.50		1.50	100%	1.22	81%	6	23	9	W1-W2	R3	12	1.5	2	joints@ 18°, 32°, 68°, 42° - calcite infill and veinlets - minor hematite alteration - minor epidote alteration - trace chalcopyrite - trace quartz infill	38	0.25	4	16	12	23	55	Fair	5.083	Fair
29.90	1.50		1.50	100%	1.20	80%	6	23	10	W1-W2	R3	6	1.5	2	joints @ 48°, 60°, 38° - calcite infill with minor hematite alterations - @29.2m: pyrite along quartz vein and 28.7m - cuprite on some surfaces - calcite veinlets	38	0.25	4	15	12	23	54	Fair	10.000	Good
31.40	1.50		1.50	100%	1.35	90%	9	23	12	W1-W2	R3-R4	12	1.5	2	joints @ 62°, 20°, 38°, 32° - minor hematite alteration - pyrite on joint surfaces	56.5	0.17	6	17	9	23	55	Fair	5.625	Fair
32.90	1.50		1.50	100%	1.23	82%	6	23	12	W1-W2	R3-R4	9	1.5	2	joints @ 30°, 62°, 40°, - calcite and quartz infill - pyrite on joint surfaces - minor chlorite alteration - 1 cm quartz vein @14° to v.c.a @ beginning of run	56.5	0.25	6	16	12	23	57	Fair	6.833	Fair
34.40	1.50		1.50	100%	1.35	90%	3	23	13-15	W1	R3	3	1.5	2	joints@ 52°, 58° - phenocrysts 0.5cm - hematite alteration - epidote alteration - trace sulphides on joints - quarts veinlets aprox 2mm wide	38	0.50	4	17	18	23	62	Good	22.500	Good
35.90	1.50		1.49	99%	1.49	99%	2	24	15	W1	R3	2	1.5	2	epidote alteration - trace pyrite on fracture surfaces - joints @ 44° - trace calcite infill - quartz vein @ 35.50m (5mm)	38	0.75	4	19	20	24	67	Good	37.250	Good
37.40	1.50		1.50	100%	1.14	76%	6	23	11	W1-W2	R3	4	1.5	2	-epidote alteration on joint surfaces - trace pyrite on joint surfaces - joints 50°, 30°, - calcite infill	38	0.25	4	14	12	23	53	Fair	14.250	Good
38.90	1.50		1.49	99%	0.86	57%	11	23	6-11	W1-W2	R3	12	1.5	2	joints @ 50°, 34°, 38°, 56°, 10° - epidote alteration - trace pyrite on joint surfaces - slicks@37.7m - calcite infill - minor hematite alteration - 5mm wide quartz vein @38.0m @10° t.v.c.a	38	0.14	4	11	9	23	47	Fair	3.583	Poor

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Drill
Project Number: 0385-003-15
Borehole Number: DH-BGC06-17 (WD1)

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend:
Plunge: 70

Logged By: AJ/EN
Date Hole Started: 18-May-06
Date Hole Finished: 18-May-06
Total Hole Depth: 49.96m

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
40.40	1.50		1.49	99%	1.49	99%	3	23	13-15	W1	R3	2	1.5	2	joints @ 60° - trace calcite veinlets with epidote alteration - trace pyrite on joint surface and outside of core - calcite infill and veinlets - quartz infill @40.30m	38	0.50	4	19	17	23	63	Good	37.250	Good
41.90	1.50		1.49	99%	1.35	90%	5	23	13	W1	R3	12	1.5	2	joints 52°, 38°, 20°, 45° - calcite infill and healed calcite veinlets - trace pyrite on joint surfaces - trace epidote alteration - mineralization @ 41.14m - 41.17 m along quartz vein	38	0.30	4	17	13	23	57	Fair	5.625	Fair
42.46	0.56		0.56	100%	0.20	36%	3	23	7	W1	R3	4	1.5	2	joints @ 22°, 56° - calcite infill	38	0.19	4	7	10	23	44	Fair	6.696	Fair
43.96	1.50		0.50	33%	0.99	66%	2	23	9-15	W1	R3	4	1.5	2	joints@ 25°, 45° - calcite infill with epidote alteration - trace pyrite on joint surfaces, trace quartz infill - @43.5m: quartz vein with pyrite mineralization (aprox 1 cm) - calcite veinlets	38	0.25	4	13	12	23	52	Fair	12.375	Good
45.46	1.50		1.50	100%	1.18	79%	5	23	15	W1-W2	R3	4	1.5	2	joints@ 24°, 40° - calcite infill - trace pyrite on joint surfaces - 45.02m quartz vein with pyrite mineralization - chlorite alteration (2cm) - minor hematite alteration	38	0.30	4	15	13	23	55	Fair	14.750	Good
46.96	1.50		1.43	95%	0.92	61%	2	23	10	W1	R3	9	2.0	2	joints @ 52°, 32°, 10° - calcite infill - calcite veinlets - epidote alteration on joint surface - trace pyrite on joint surface	38	0.72	4	12	20	23	59	Fair	6.815	Fair
48.46	1.50		1.50	100%	1.41	94%	2	24	15	W1	R3	4	1.5	1	joints @ 58° , 64° - epidote alteration on joint surface - trace chalcopyrite on joint surface - calcite infill on fracture surface - trace calcite veinlets, sometimes with epidote alteration	38	0.75	4	18	20	24	66	Good	35.250	Good
49.96	1.50		1.50	100%	1.41	94%	5	23	12	W1	R3	6	1.5	2	joints @ 45°, 52°, 60° - epidote alteration on joint surfaces - calcite infill - trace chalcopyrite- trace quartz veinlets	38	0.30	4	18	13	23	58	Fair	11.750	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	EN
Project:	High Lake Drill	UTM Coordinates: Easting:		Date Hole Started:	18-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	18-May-06
Borehole Number:	DH-BGC06-18 (WD2)	Hole Orientation: Trend:		Total Hole Depth:	8.84m
		Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
2.82	1.50	granodiorite	1.50	100%	0.86	57%	9	10	12	W2-W3	R3	4	1	4	silt/clay infilling joints (aprox 2-3mm thick)	38	0.17	4	11	9	10	34	Poor	3.583	Poor
3.71	0.89	granodiorite	0.89	100%	0.60	67%	7	25	10	W1	R3	4	1.5	0.75	pyrite in core and on joints	38	0.13	4	13	8	25	50	Fair	33.708	Good
4.34	0.63	granodiorite	0.63	100%	0.52	83%	1	27	15	W1	R3	1	1.5	0.75	clean joint - trace pyrite	38	0.63	4	16	19	27	66	Good	165.079	Ext. Good
5.84	1.50	granodiorite	1.50	100%	1.50	100%	5	25	14	W1	R3	3	1.5	0.75	back to MV - trace pyrite in core - joints @ 85 °, 65°, 75°	38	0.30	4	20	13	25	62	Good	66.667	Very Good
7.37	1.53	granodiorite	1.53	100%	1.52	99%	4	26	15	W1	R3	3	1.5	0.75	joints @ 75°, 45°, 20° - quartz veining throughout core from 1.5 cm thick to 1mm thick - minor clacite on 1 joint surface	38	0.38	4	19	15	26	64	Good	66.231	Very Good
8.84	1.47	granodiorite	1.47	100%	1.47	100%	5	25	14	W1	R3	3	1.5	0.75	minor hematite alteration on joints	38	0.29	4	20	13	25	62	Good	66.667	Very Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	AJ/EN
Project:	High Lake Drill	UTM Coordinates:	Easting:		Date Hole Started:	19-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	19-May-06
Borehole Number:	DH-BGC06-19 (S2)	Hole Orientation:	Trend:		Total Hole Depth:	
			Plunge:	90		

			Recovery		RQD													Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
4.22	1.50	MV	1.50	100%	1.45	97%	3	23	14	W1	R3	4	1.5	0.75	joints @ 70°, 80° - quartz infill - quartz veining - trace brassy mineralization (sphalerite) and pyrite - epidote altered veinlets (no perfered orientaion)	38	0.50	4	19	18	23	64	Good	48.333	Very Good
5.72	1.50	MV	1.50	100%	1.47	98%	2	23	14	W1	R3	N/A	N/A	N/A	calcite veinlets - epidote alteration - trace chalcopyrite - sample # 2 obtained at 4.9m	38	0.75	4	19	20	23	66	Good	#VALUE!	#VALUE!
7.22	1.50	MV	1.50	100%	1.21	81%	5	23	12	W1	R3	6	2	2-4	joints - @5.96m: mechanical fracture with slippery green coating, chlorite - calcite and quarz infill - joints@ 62°, 70°, 56° - calcite veinlets - epidote alteration (siliceous)	38	0.30	4	15	13	23	55	Fair	0.001	Excep. Poor

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:	747 3 273	Logged By:	EN / AJ
Project:	High Lake Dam	UTM Coordinates: Easting:	050 6 765	Date Hole Started:	19-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	20-May-06
Borehole Number:	DH-BGC06-20 (S1)	Hole Orientation: Trend:	N/A	Total Hole Depth:	50.21 m
		Plunge:	70		

			Recovery		RQD											Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
15.58	1.50	MV	1.05	70%	0.00	0%	7	6-23	2-5	W1-W3	R1	2	0.5	2	Joints: 68°. 14.08 - 14.23 m: slickenslides on joint surfaces, calcite infill, amphiboles present (R3). 14.23 - 14.64 m: decomposed rock (R1) with qtz intrusions and green clay infill 1 cm thick. Joint surfaces appear to be slickenslided. 14.64 - 14.74 m: fractured rock zone. 14.74 - 15.08 m: soil-like, decomposed rock, clay, hematite weathering, sericite alteration (R0).	3	0.15	0.5	3	9	15	28	Poor	0.000	Excep. Poor
17.02	1.44	MV	1.48	103%	1.09	76%	15	23	8	W1-W2	R3	6	1.5	1	Joints: 90°, 70°, 30°. Material appears to be bedrock. Some hematite staining throughout core.	38	0.10	4	14	8	23	49	Fair	18.924	Good
18.52	1.50	MV	1.50	100%	1.48	99%	5	24	13	W1	R3	3	1.5	1	Joints: 50°. Qtz infill on joint. Core was lost downhole but recovered intact.	38	0.30	4	19	13	24	60	Fair	49.333	Very Good
20.02	1.50	MV	1.47	98%	1.09	73%	7	24	13	W1-W2	R3-R4	6	1.5	2	Joints: 45°. Some silt residue on one joint. Several thin qtz veins running across the core (< 2 mm thick). Calcite infill on two joints.	56.5	0.21	6	14	11	24	55	Fair	9.083	Fair
21.55	1.53	MV	1.56	102%	1.54	101%	3	25	14	W1-W2	R3	2	1.5	0.75	Joints: 65°, 35°. Joints are clean.	38	0.52	4	20	18	25	67	Good	100.654	Ext. Good
23.02	1.47	MV	1.47	100%	1.44	98%	3	25	14	W1-W2	R3	2	1.5	1	Joints: 90°, 50°. Qtz on one joint.	38	0.49	4	19	17	25	65	Good	73.469	Very Good
23.54	0.52	MV	0.56	108%	0.00	0%	12	25	15	W2	R3	6	1.5	3	Joints: 20°. Some silt and calcite on joint @ 23.1 m. Calcite infill (< 1 mm) on remaining joints.	38	0.05	4	3	6	25	38	Poor	0.000	Excep. Poor
24.52	0.98	MV	0.98	100%	0.98	100%	1	30	13	W1	R3	1	1.5	0.75	The fracture is possibly a drill break. Probably no joints.	38	0.98	4	19	22	30	75	Good	200.000	Ext. Good
26.02	1.50	MV	1.43	95%	1.35	90%	5	25	14	W1	R3-R4	4	1.5	1	Joints: 80°, 40°, 45°, 10°. Some calcite infill on joints.	56.5	0.29	6	17	13	25	61	Good	33.750	Good
27.52	1.50	MV	1.49	99%	1.44	96%	4	25	15	W1-W2	R3	4	1.5	1	Joints: 30°, 35°, 45°. 2 cm qtz vein @ 26.75 m. Qtz phenocrysts.	38	0.37	4	19	15	25	63	Good	36.000	Good
29.02	1.50	MV	1.48	99%	1.40	93%	2	25	15	W1	R3	1	1.5	0.75	Joints: 20°. Qtz phenocrysts.	38	0.74	4	18	20	25	67	Good	186.667	Ext. Good
30.52	1.50	MV	1.50	100%	0.30	20%	0	-	15	W1	R3	-	-	-											
30.90	0.38	MV	0.33	87%	1.55	408%	1	30	15	W1	R3	0.5	4	0.75	One or no joints.	38	0.33	4	20	14	30	68	Good	4350.877	Excep. Good
32.02	1.12	MV	1.12	100%	1.12	100%	1	26	15	W1	R3	2	1.5	0.75	One joint @ 35°. No infill.	38	1.12	4	19	22	26	71	Good	100.000	Very Good
33.55	1.53	MV	1.53	100%	1.27	83%	11	24	9	W1-W2	R3	6	1.5	1	Joints: 20°, 80°, 85°. Qtz infill (< 5 mm) on some joints.	38	0.14	4	16	9	24	53	Fair	20.752	Good
35.02	1.47	MV	1.47	100%	1.33	90%	8	23	12	W1-W2	R3	6	1.5	1	Joints: 35°, 40°, 70°. Calcite infill on some joints.	38	0.18	4	17	10	23	54	Fair	22.619	Good
36.32	1.30	MV	1.30	100%	0.98	75%	6	22	12	W2	R3	6	0.5-2	2	Joints: 20°, 80°, 58°. Calcite and qtz infill on joints. Hematite staining. Epidote alteration. Slickenslides on joint @ 35.48 m. Trace sulphides. Calcite veinlets.	38	0.22	4	14	11	22	51	Fair	#VALUE!	#VALUE!
37.92	1.60	MV	1.60	100%	1.45	91%	20	22	12	W2	R3	2	1.5	2	Joints: 68°. Calcite and qtz infill. Hematite infill. Siliceous epidote alteration. Calcite veinlets. 36.32 - 36.50 m: fracture zone, angular fragments max 1 - 2 cm in diameter. 36.98 - 37.08 m: fracture zone.	38	0.08	4	17	7	22	50	Fair	33.984	Good
38.50	0.58	MV	0.58	100%	0.00	0%	99	15	2	W2	R3	N/A	N/A	N/A	37.92 - 37.98 m: decomposed rock, soil-like (R0), hematite soil-like alteration (S5). 37.98 - 38.5 m: angular rock fragments, 5 - 50 mm in diameter. Fragments become coarser with depth.	38	0.01	4	3	5	15	27	Poor	#VALUE!	#VALUE!
40.10	1.60	MV	1.60	100%	1.02	64%	16	22	4-10	W1-W2	R3	9	1.5	2	Joints: 70°, 78°, 30°. Hematite and calcite on joint surfaces. Trace pyrite and sphalerite on joint surfaces. Calcite veins and veinlets throughout core.	38	0.10	4	12	8	22	46	Fair	5.313	Fair
41.70	1.60	MV	1.60	100%	1.40	87%	6	23	13	W1	R3	6	1.5	2	Joints: 62°, 78°, 20°. Calcite and qtz infill. Minor chlorite alteration. Trace pyrite. Qtz veins (10.5 cm wide). Calcite veinlets with epidote alteration on some.	38	0.27	4	17	12	23	56	Fair	10.938	Good
43.30	1.60	MV	1.60	100%	1.21	76%	6	23	10-13	W1	R3	6	1.5	2	Joints: 30°, 68°, 72°. Calcite infill on joint surfaces with chlorite alteration. Calcite veinlets.	38	0.27	4	14	12	23	53	Fair	9.453	Fair
44.90	1.60	MV	1.54	96%	1.54	96%	3	23	10-13	W1	R3-R4	9	0.5	2	Joints: 52°, 84°, 30°. Calcite infill on joints. Siliceous epidote veinlets. Qtz veins, 1 - 2 cm wide, @ 44.0, 44.14, and 44.71 m. Slickenslides @ 43.68 m.	56.5	0.51	6	19	18	23	66	Good	2.674	Poor
46.40	1.50	MV	1.50	100%	1.41	94%	4	23	12	W1	R3	4	1.5	1.5	Joints: 72°, 32°. Calcite infill on joints. Siliceous epidote veinlets and alteration throughout core. 2 cm qtz vein @ 46.18 m.	38	0.38	4	18	15	23	60	Fair	23.500	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	747 3 273	Logged By:	EN / AJ
Project:	High Lake Dam	UTM Coordinates:	Easting:	050 6 765	Date Hole Started:	19-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	20-May-06
Borehole Number:	DH-BGC06-20 (S1)	Hole Orientation:	Trend:	N/A	Total Hole Depth:	50.21 m
			Plunge:	70		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
48.00	1.60	MV	1.60	100%	1.60	100%	2	23	13-15	W1	R3	2	1.5	2	Joints: 78°. Calcite infill on joints. Calcite veinlets. Siliceous epidote alteration throughout core. 46.2 - 46.34 m: qtz vein. 4 cm wide qtz vein @ 47.85 m. 2 cm wide qtz vein @ 47.45 m.	38	0.80	4	19	21	23	67	Good	37.500	Good
49.60	1.60	MV	1.57	98%	1.06	66%	6	23	11	W1	R3	12	1.5	2	Joints: 18°, 32°, 80°, 70°. Calcite infill on joints. Siliceous epidote alteration throughout core. Calcite veinlets. 48.26 - 48.35 m: qtz vein.	38	0.26	4	13	12	23	52	Fair	4.141	Fair
50.21	0.61	MV	0.61	100%	0.61	100%	2	23	11	W1-W2	R3	2	1.5	1.5	Joints: 78°. Calcite and qtz infill on joints. Siliceous epidote alteration throughout core. Minor hematite on joints. 2 mm qtz vein @ 49.96 m.	38	0.31	4	20	13	23	60	Fair	50.000	Very Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Dam
Project Number: 0385-003-15
Borehole Number: DH-BGC06-21 (L8-1)

UTM Coordinates: Northing: 747 3 902; Easting: 050 5 974; Elevation:
Hole Orientation: Trend: N/A; Plunge: 70

Logged By: AJ / EN
Date Hole Started: 21-May-06
Date Hole Finished: 22-May-06
Total Hole Depth: 49.98 m

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
0.98	0.98	Granodiorite	0.98	100%	0.67	68%	20	22	6	W1 - W2	R3	6	1.5	1	Minor calcite infill on joints.	38	0.05	4	13	6	22	45	Fair	17.092	Good
1.56	0.58	Granodiorite	0.55	95%	0.12	21%	25	22	5	W1 - W2	R3	12	1.5	0.75	Joints: 30°, 25°. 15 cm wide rose qtz or pink granite intrusion @ 1.26 m. Sample #2 @ 1.26 m.	38	0.02	4	5	5	22	36	Poor	3.448	Poor
2.57	1.01	Granodiorite	1.01	100%	0.70	69%	9	24	10	W1 - W2	R3	9	1.5	1	Joints: 25°, 35°, 55°. Calcite on several joints. Thin (1 mm) qtz veinlets.	38	0.11	4	13	8	24	49	Fair	11.551	Good
4.13	1.56	Granodiorite	1.56	100%	1.22	78%	8	25	12	W1 - W2	R3	6	1.5	1	Joints: 20°, 40°. Ice on joint @ 3.71 m (visible, approx. 1 cm thick). Calcite and qtz infill on joints. 25 cm thick qtz / rose qtz vein @ 3.01 m.	38	0.20	4	15	10	25	54	Fair	19.551	Good
5.57	1.44	Granodiorite	1.44	100%	0.97	67%	9	24	12	W1 - W2	R3	6	1.5	1	Joints: 70°, 10°, 50°, 40°. Calcite and qtz infill on joints.	38	0.16	4	13	9	24	50	Fair	16.840	Good
6.86	1.29	Granodiorite	1.29	100%	1.09	84%	15	22	9	W2	R3	6	1.5	1	Joints: 25°, 45°, 50°. Calcite and qtz infill on joints.	38	0.09	4	16	7	22	49	Fair	21.124	Good
7.88	1.02	Granodiorite	1.02	100%	0.26	25%	14	23	7	W1 - W2	R3	6	1.5	1	Joints: 30°, 40°. Some calcite infill on most joints.	38	0.07	4	5	7	23	39	Poor	6.373	Fair
8.57	0.69	Granodiorite	0.69	100%	0.45	65%	10	23	7	W1 - W2	R3	4	1.5	1	Joints: 30°, 80°. Run consists of metavolcanic rock intermixed with pink and black granite.	38	0.07	4	12	7	23	46	Fair	24.457	Good
8.67	0.10	Granodiorite	0.10	100%	0.00	0%	99	N/A	4	W1	R3				0.1 m run. Core barrel blocked. Rock is blocky and highly fragmented. Silty clay coating on joint surfaces. Possibly a fault zone.	38	0.00	4	3	5	N/A	#VALUE!	#VALUE!		
9.23	0.56	Granodiorite	0.56	100%	0.00	0%	99	15	2 - 3	W2	R3	20	1	3 - 4	Continued fault zone. Most rock is crushed into angular or sub-angular fragments. Max fragment size = 15 cm in length. Majority of the rock is crushed. Silty clay coating on most fragments. Calcite also present on fragments and joint surfaces. Sample #4 @ 8.9 - 9.1 m.	38	0.01	4	3	5	15	27	Poor	0.000	Excep. Poor
9.83	0.60	Granodiorite	0.60	100%	0.00	0%	99	15	2 - 3	W2	R3	20	1	3	Continued crushed rock zone. Max fragment size = 15 mm in length. Calcite and silty clay coating on joint surfaces and rock fragments.	38	0.01	4	3	5	15	27	Poor	0.000	Excep. Poor
10.82	0.99	Granodiorite	0.99	100%	0.17	17%	40	22	6	W1 - W2	R3	9	1.5	1	Rock remains highly fractured but not as much crushed rock. Calcite infill on most joints.	38	0.02	4	4	5	22	35	Poor	2.862	Poor
11.57	0.75	Granodiorite	0.75	100%	0.75	100%	3	25	13	W1	R3	4	1.5	1	Some calcite infill on joint surfaces.	38	0.25	4	20	12	25	61	Good	37.500	Good
13.07	1.50	Granodiorite	1.50	100%	0.90	60%	4	22	7	W1 - W2	R3	9	1.5	1	Joints: 40°, 60°, 20°. Calcite infill on some joints. Bottom 0.2 m of run is either hematite altered metavolcanic or pinkish red granite. Sample #5 taken from 12.90 m.	38	0.38	4	11	15	22	52	Fair	10.000	Good
14.35	1.28	Granodiorite	1.28	100%	0.21	16%	80	15	2 - 3	W2	R3	20	1	3 - 4	Top 1 m of run is highly fractured metavolcanic rock. Lots of sub-parallel jointing. Calcite infill on joints. Bottom 0.28 m is crushed rock - gravel sized angular fragments with silty clay coating.	38	0.02	4	4	5	15	28	Poor	0.000	Excep. Poor
15.79	1.44	Granodiorite	1.44	100%	0.15	10%	80	17	3 - 4	W2	R3	17	1.0	3 - 4	Highly fractured and / or crushed rock with calcite and / or silty clay on joint surfaces.	38	0.02	4	4	5	17	30	Poor	0.000	Excep. Poor
16.47	0.68	Granodiorite	0.68	100%	0.00	0%	18	21	6	W1 - W2	R3	6	1.5	1	Joints: 70°, 30°, 40°. Calcite infill on most joints. Some hematite alteration throughout core.	38	0.04	4	3	6	21	34	Poor	0.000	Excep. Poor
17.57	1.10	Granodiorite	1.10	100%	0.68	62%	15	24	7	W1 - W2	R3	6	1.5	1	Calcite infill on joints.	38	0.07	4	12	7	24	47	Fair	15.455	Good
18.51	0.94	Granodiorite	0.94	100%	0.40	43%	14	24	7	W1 - W2	R3	6	1.5	1	Joints: 30°, 45°. Calcite and qtz infill on joints.	38	0.07	4	8	7	24	43	Fair	10.638	Good
20.07	1.56	Granodiorite	1.56	100%	1.53	98%	10	24	12	W1 - W2	R3	4	1.5	1	Main joint @ 75°. Secondary joint @ 50°. Calcite infill on joints. Some hematite alteration on joints.	38	0.16	4	19	9	24	56	Fair	36.779	Good
20.57	0.50	Granodiorite	0.50	100%	0.40	80%	3	25	12	W1	R3	2	1.5	1	Calcite infill on joints.	38	0.17	4	15	9	25	53	Fair	60.000	Very Good
22.11	1.54	Granodiorite	1.54	100%	1.54	100%	3	25	14	W1	R3	1	1.5	1	Joints: 30°, 60°. Calcite infill on one joint.	38	0.51	4	20	18	25	67	Good	150.000	Ext. Good
23.57	1.46	Granodiorite	1.46	100%	0.89	61%	25	23	7	W1 - W2	R3	6	1.5	3	Silty clay coating on several joints. Calcite infill on most joints.	38	0.06	4	11	6	23	44	Fair	5.080	Fair
25.07	1.50	Granodiorite	1.50	100%	1.29	86%	7	24	13	W1	R3	6	1.5	1	Joints: 60°, 30°, 80°. Calcite infill on some joints. Hematite alteration throughout core.	38	0.21	4	17	11	24	56	Fair	21.500	Good
26.57	1.50	Granodiorite	1.49	99%	1.46	97%	6	25	13	W1	R3	4	1.5	1	Calcite infill on joints. Hematite alteration throughout core.	38	0.25	4	19	12	25	60	Fair	36.500	Good
28.09	1.52	Granodiorite	1.52	100%	1.52	100%	4	25	14	W1	R3	4	1.5	1	Calcite infill on joints (1 mm thick).	38	0.38	4	20	15	25	64	Good	37.500	Good
29.57	1.48	Granodiorite	1.48	100%	1.40	95%	7	25	13	W1	R3	6	1.5	1	Joints: 40°, 45°, 60°. Calcite infill on joints (1 mm thick).	38	0.21	4	18	11	25	58	Fair	23.649	Good
31.11	1.54	Granodiorite	1.54	100%	1.33	86%	7	25	13	W1	R3	6	1.5	0.75	Joints: 60°, 70°, 15°. Trace pyrite in core.	38	0.22	4	17	11	25	57	Fair	28.788	Good
32.57	1.46	Granodiorite	1.43	98%	1.35	92%	4	25	14	W1	R3	3	1.5	1	Some calcite infill on joint surfaces. Some hematite alteration throughout core.	38	0.36	4	18	15	25	62	Good	46.233	Very Good
34.13	1.56	Granodiorite	1.56	100%	1.41	90%	9	22	12	W2	R3	6	1.5	2	Calcite and minor silt infill on some joint surfaces.	38	0.17	4	17	10	22	53	Fair	11.298	Good
35.57	1.44	Granodiorite	1.44	100%	1.13	78%	11	25	10	W1	R3	6	1.5	1	Calcite infill on some joints.	38	0.13	4	15	9	25	53	Fair	19.618	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	747 3 902	Logged By:	AJ / EN
Project:	High Lake Dam	UTM Coordinates:	Easting:	050 5 974	Date Hole Started:	21-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	22-May-06
Borehole Number:	DH-BGC06-21 (L8-1)	Hole Orientation:	Trend:	N/A	Total Hole Depth:	49.98 m
			Plunge:	70		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
37.12	1.55	Granodiorite	1.55	100%	0.97	63%	11	25	10	W1	R3	6	1.5	1	Calcite infill on some joints.	38	0.14	4	12	9	25	50	Fair	15.645	Good
38.57	1.45	Granodiorite	1.45	100%	1.45	100%	6	25	14	W1	R3	4	1.5	1	Joints: 35°, 20°, 45°. Calcite infill on joints.	38	0.24	4	19	12	25	60	Fair	37.500	Good
40.07	1.50	Granodiorite	1.42	95%	1.20	80%	6	25	14	W1 - W2	R3	4	1.5	1	Calcite infill on joints. Greenish grey silt / clay coating on one joint.	38	0.24	4	15	12	25	56	Fair	30.000	Good
41.57	1.50	Granodiorite	1.43	95%	1.21	81%	8	25	12	W1 - W2	R3	6	1.5	1	Calcite infill on joints.	38	0.18	4	15	10	25	54	Fair	20.167	Good
42.97	1.54	Granodiorite	1.54	100%	1.24	81%	13	24	10	W1 - W2	R3	6	1.5	1	Soft calcite infill on joints.	38	0.12	4	15	8	24	51	Fair	20.130	Good
44.57	1.60	Granodiorite	1.53	96%	1.49	93%	7	24	13	W1 - W2	R3	6	1.5	1	Calcite infill on joints.	38	0.22	4	18	11	24	57	Fair	23.281	Good
45.87	1.30	Granodiorite	1.30	100%	0.92	71%	10	23	10	W2	R3	4	1.5	2	Joints: 62°, 48°, 20°. Siliceous epidote alteration throughout core. Calcite infill on joints. Hematite alteration throughout core. Trace pyrite. Qtz phenocrysts.	38	0.13	4	13	9	23	49	Fair	13.269	Good
47.47	1.60	Granodiorite	1.60	100%	1.36	85%	5	22	12	W2	R3-R4	9	1.5	2	Joints: 38°, 18°, 58°. Calcite infill on joints. Hematite alteration throughout core. Siliceous epidote alteration throughout core. Trace pyrite. Qtz phenocrysts approx 2 mm in diameter. Qtz veinlets with no preferred orientation.	56.5	0.32	6	16	14	22	58	Fair	7.083	Fair
49.07	1.60	Granodiorite	1.60	100%	1.38	86%	6	23	12	W2	R3	9	1.5	2	Joints: 62°, 72°, 20°. Hematite alteration throughout core. Siliceous epidote throughout core. Qtz phenocrysts. Trace pyrite. Calcite infill on joints. Healed calcite veinlets. Vuggy qtz from 47.47 - 47.71 m.	38	0.27	4	17	12	23	56	Fair	7.187	Fair
49.98	0.91	Granodiorite	0.91	100%	0.91	100%	6	23	11	W2	R3	4	1.5	2	Joints: 45o, 26o. Calcite infill on joints. Qtz veining throughout core. Hematite alteration throughout core. Siliceous epidote alteration throughout core. Qtz phenocrysts.	38	0.15	4	20	9	23	56	Fair	18.750	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	747 3 962	Logged By:	EN
Project:	High Lake Dam	UTM Coordinates:	Easting:	050 6 000	Date Hole Started:	22-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	22-May-06
Borehole Number:	DH-BGC06-22 (L8-2)	Hole Orientation:	Trend:	N/A	Total Hole Depth:	14.88 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
7.38	1.50	GR	1.50	100%	0.49	33%	30	23	6	W2 - W3	R3	6	1.5	1	Silt / clay residue on joint surfaces. High degree of hematite alteration (see sample #6 @ 6.68 m).	38	0.05	4	6	6	23	39	Poor	8.167	Fair
7.88	0.50	GR	0.50	100%	0.00	0%	30	23	5	W2	R3	6	1.5	1	Some silt on joints. High degree of hematite alteration (not as high as previous run).	38	0.02	4	3	5	23	35	Poor	0.000	Excep. Poor
8.88	1.00	GR	1.00	100%	0.44	44%	22	24	6	W2	R3	9	1.5	1	Calcite on some joints. Hematite alteration.	38	0.05	4	8	6	24	42	Fair	7.333	Fair
9.94	1.06	GR	1.06	100%	0.91	86%	5	25	13	W1 - W2	R3	2	1.5	1	Calcite on joints. High degree of hematite alteration. Sample #7 taken @ 9.38 m.	38	0.21	4	16	11	25	56	Fair	64.387	Very Good
11.24	1.30	GR	1.30	100%	0.39	30%	30	24	6	W2	R3	9	1.5	1	Calcite and silt on some joints. ~8 cm crushed / broken zone @ 11.16 m.	38	0.04	4	6	6	24	40	Poor	5.000	Fair
11.88	0.64	GR	0.64	100%	0.64	100%	1	24	15	W1 - W2	R3	0.75	1.5	1	High degree of hematite alteration.	38	0.64	4	19	19	24	66	Good	200.000	Ext. Good
13.38	1.50	GR	1.50	100%	0.90	60%	20	24	8	W2	R3	6	1.5	2	Joints: 30°, 50°, 70°. Silt and calcite on many joints.	38	0.08	4	11	7	24	46	Fair	7.500	Fair
14.88	1.50	GR	1.50	100%	1.13	75%	16	25	9	W1 - W2	R3	6	1.5	1	Calcite and minor silt on joints. High degree of hematite alteration.	38	0.09	4	14	8	25	51	Fair	18.833	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	AJ/EN
Project:	High Lake Drill	UTM Coordinates:	Easting:		Date Hole Started:	23-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	24-May-06
Borehole Number:	DH-BGC06-23 (D1)	Hole Orientation:	Trend:		Total Hole Depth:	25.77m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
21.27	1.05	MV	1.00	95%	0.89	85%	6	23	12	W2	R3	3	1	0.75	Trace silt on one joint surface - joints range from 70° - 80° - heavy hematite alteration in core - sample #1 @20.52m	38	0.17	4	16	9	23	52	Fair	37.672	Good
22.73	1.46	MV	1.44	99%	1.25	86%	8	24	12	W1	R3	4	1.5	1	Some calcite and oxidization on a couple of joints	38	0.18	4	16	10	24	54	Fair	32.106	Good
24.27	1.54	MV2	1.54	100%	1.24	81%	7	25	13	W1	R3	4	1.5	1	Trace pyrite in core - joints range from 65°-80° - @23.61m: rock type changes to dark grey Metavolcanic rock (dike) with trace quartz, no hematite alteration, see sample #2 @23.97m	38	0.22	4	15	11	25	55	Fair	30.195	Good
25.77	1.50	MV2	1.52	101%	1.48	99%	5	25	13	W1-W2	R3	4	1.5	1	Joints @ 50°, 90°, 70° - several quartz veins running through core - some green mineral coating on one joint	38	0.30	4	19	13	25	61	Good	37.000	Good
															E.O.H @ 25.77m										

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	AJ/EN
Project:	High Lake Drill	UTM Coordinates: Easting:		Date Hole Started:	24-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	
Borehole Number:	DH-BGC06-24 (E4)	Hole Orientation: Trend:		Total Hole Depth:	
		Plunge:	90		

			Recovery		RQD													Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
5.23	5.23	Greywacke	1.58	30%	1.10	21%	8	22	6	W2	R3-R4	4	1.5	1	quartz veining through core - quartz infill - oxidized quartz on fracture surface - joints @60°, 10° - thin film of silt (illminite) - fracture surface @ 5.23m - vertical foliation	56.5	0.20	6	5	10	22	43	Fair	7.887	Fair
6.83	1.60	Greywacke	1.60	100%	1.60	100%	16	23	6	W1	R3-R4	4	1.5	1	vertically foliated - quartz infill - joints @ 62°, 10° - quartz veining throughout core @20° to v.c.a	56.5	0.10	6	20	8	23	57	Fair	37.500	Good
8.23	1.40	Greywacke	1.60	114%	1.22	87%	10	23	12	W1-W2	R3	4	1.5	1	foliation@15° t.c.a - quartz veins throughout core - oxidization/hematite alteration on joint surfaces - joints @ 15° , 70°-80°	38	0.16	4	17	9	23	53	Fair	32.679	Good
9.76	1.53	Greywacke	1.53	100%	1.20	78%	6	25	13	W1	R4	6	1.5	1	foliation @ 10° t.c.a. - quartz veins throughout core - oxidation / hematite alteration on joint surfaces - joints @ 65°, 10°	75	0.26	7	15	12	25	59	Fair	19.608	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	EJ/EN
Project:	High Lake Drill	UTM Coordinates: Easting:		Date Hole Started:	25-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	25-May-06
Borehole Number:	DH-BGC06-25 (E2)	Hole Orientation: Trend:		Total Hole Depth:	
		Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
5.90	1.56	Greywacke	1.56	100%	0.40	26%	50	22	5	W2	R3	15	1.5	3	evidence of partially washed out silt / clay infill - this is still FAB	38	0.03	4	5	6	22	37	Poor	0.855	Very Poor
7.34	1.44	Greywacke	1.44	100%	1.29	90%	9	23	12	W1-W2	R3	6	1.5	1	minor hematite alteration and minor silt on some joints - joints @70°-45° primarily - this run seems like moderately intact bedrock - quartz veins in core	38	0.16	4	17	9	23	53	Fair	22.396	Good
8.90	1.56	Greywacke	1.56	100%	1.05	67%	9	24	12	W1-W2	R3	6	1.5	0.75	quartz veining in core - joints @ 75°, 50°, 10°	38	0.17	4	13	10	24	51	Fair	22.436	Good
10.40	1.50	Greywacke	1.47	98%	1.40	93%	2	24	12	W1-W2	R3	6	1.5	1	joints @70°, 50°, 10° - quartz infill on a few joints - vertically foliated	38	0.74	4	18	20	24	66	Good	23.333	Good
12.00	1.60	Greywacke	1.60	100%	0.83	52%	16	23	10	W1-W2	R3	6	1.5	2	joints @ 70°, 80°, - thin coating of silt (green) on joint surface (weathered calcite) - trace sphalerite - vertically foliated	38	0.10	4	10	8	23	45	Fair	6.484	Fair
13.50	1.50	Greywacke	1.50	100%	0.84	56%	9	23	6	W1-W2	R3	6	1.5	2	joints @ 58°, 12°, 50° - quartz veining - silt / weathered calcite on joint surfaces (greenish in colour) - calcite infill - calcite veinlets and healed calcite fractures	38	0.17	4	11	9	23	47	Fair	7.000	Fair
15.10	1.60	Greywacke	1.60	100%	0.94	59%	6	24	12	W1-W2	R3	6	1.5	2	joints @ 68°, 88°, 62°, 52° - calcite infill - calcite veinlets - trace pyrite	38	0.27	4	11	12	24	51	Fair	7.344	Fair
16.70	1.60	GY	1.60	100%	1.21	76%	3	23	12	W1	R3	4	1.5	2	joints @ 88°, 10° - calcite infill - silt (greenish) on some fracture surfaces	38	0.53	4	14	18	23	59	Fair	14.180	Good
18.30	1.60	GY	1.60	100%	1.13	71%	11	21	10	W1-W2	R3	12	1.5	3	joints @ 10°, 60°, 70°, 75° - silty coating on joint surfaces - calcite infill - vertically foliated - quartz veins (0.5cm wide) and calcite veinlets	38	0.15	4	13	9	21	47	Fair	2.943	Poor
19.90	1.60	GY	1.60	100%	1.09	68%	7	21	8	W1-W2	R3-R4	6	1.5	2	joints @ 55°, 60°, 72° - vertically foliated - quartz veining @ 15°-20° from v.c.a (1 cm wide) - calcite infill with minor silts	56.5	0.23	6	13	11	21	51	Fair	8.516	Fair

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client: Wolfden Resources
Project: High Lake Dock
Project Number: 0385-003-15
Borehole Number: DS-BGC06-01

UTM Coordinates:
Northing:
Easting:
Elevation:
Hole Orientation:
Trend: N/A
Plunge: 90

Logged By: EN / AJ
Date Hole Started: 06-May-06
Date Hole Finished: 06-May-06
Total Hole Depth: 19.9 m

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
3.11	0.99	Granodiorite	0.99	100%	0.79	80%	1	22	10	W1 - W2	R4	6	1.5	1	Minor silt infill and minor iron staining on joint.	75	0.99	7	15	22	22	66	Good	19.949	Good
4.63	1.52	Granodiorite	1.49	98%	1.34	88%	3	14	25	W1	R4	1	1.5	1	Minor silt and calcite infill.	75	0.50	7	17	17	14	55	Fair	132.237	Ext. Good
6.13	1.50	Granodiorite	1.50	100%	1.20	80%	8	23	13	W1	R4	6	1.5	2	Joints: 20°, 40°, 60°. Calcite veinlets on joint surfaces. Minor chlorite alteration on joints.	75	0.19	7	15	10	23	55	Fair	10.000	Good
7.65	1.52	Granodiorite	1.52	100%	1.41	93%	3	24	13	W1	R4	4	1.5	2	Joints: 42°, 52°. Minor oxidation on outside of core.	75	0.51	7	18	18	24	67	Good	17.393	Good
9.17	1.52	Granodiorite	1.52	100%	1.39	91%	5	23	14	W1 - W2	R4	4	1.5	2	Joints: 40 - 45°, 65°. Calcite on joint surfaces. Oxidation of plagioclase.	75	0.30	7	18	13	23	61	Good	17.146	Good
10.69	1.52	Granodiorite	1.44	95%	1.08	71%	8	23	13	W1	R4	4	1.5	2	Joints: 40°, 20°, 8°. Calcite and silt on joint surfaces. Minor chlorite alteration on joint surfaces.	75	0.18	7	14	10	23	54	Fair	13.322	Good
12.21	1.52	Granodiorite	1.52	100%	1.45	95%	5	23	14	W1	R4	4	1.5	2	Joints: 45°, 45°. Calcite infilling on joints and minor chlorite alteration. 10.69 - 10.74 m: fracture zone (sub-angular fragments).	75	0.30	7	19	13	23	62	Good	17.887	Good
13.73	1.52	Granodiorite	1.52	100%	1.28	84%	5	23	13	W1 - W2	R4	6	1.5	3	Joints: 55°, 80°, 10°, 70°. Silty infilling on some joints.	75	0.30	7	16	13	23	59	Fair	7.018	Fair
15.07	1.34	Granodiorite	1.34	100%	1.05	78%	9	23	12	W1	R4	6	1.5	2	Joints: 45°, 20°. Calcite infill on joints and minor chlorite alteration. Sample taken @ 15 m.	75	0.15	7	15	9	23	54	Fair	9.795	Fair
16.67	1.60	Granodiorite	1.56	97%	1.42	89%	4	23	14	W1	R4	4	1.5	2	Joints: 30°, 48°. Calcite infill on joints. Trace oxidized plagioclase.	75	0.39	7	17	15	23	62	Good	16.641	Good
18.27	1.60	Granodiorite	1.54	96%	1.56	98%	3	23	14	W1	R4	4	1.5	2	Joints: 45°, 80°. Thin film of silt and chlorite on several joints. 18.54 - 18.58 m: fractured zone.	75	0.51	7	19	18	23	67	Good	18.281	Good
19.87	1.60	Granodiorite	1.60	100%	1.60	100%	2	23	14	W1 - W2	R4 - R5	4	1.5	2	Joints: 48°, 80°. Chlorite present on one joint set. Oxidation of plagioclase. Trace pyrite on fracture surfaces. Chlorite veinlet @ approx 32° to vertical core axis.	125	0.80	11	19	21	23	74	Good	18.750	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	EN / AJ
Project:	High Lake Dock	UTM Coordinates:	Easting:		Date Hole Started:	04-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	04-May-06
Borehole Number:	DS-BGC06-02	Hole Orientation:	Trend:	North	Total Hole Depth:	23.6 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Jt. Condition	RMR	Descriptor	Q'	Descriptor
19.00	0.50	Granodiorite	0.50	100%	0.14	28%	25	N/A	5 - 10	W1 - W2	R4	N/A	N/A	N/A	Fractured zone from 0 - 0.4 m. Includes angular to sub-rounded granodiorite fragments up to 7 cm in diameter. Calcite veinlet oreinted 40° from vertical core axis. Minor iron oxidation. Calcite and oxidized plagioclase on fracture planes. Minor chlorite alteration.										
20.50	1.50	Granodiorite	1.44	96%	0.23	15%	17	22	7	W2	R4	6	1.5	2	Core fractured sub-vertically along oxidized fracture planes. Joints: 90°, 50°. Calcite infill and minor chlorite alteration. Oxidized plagioclase	75	0.08	7	4	7	22	40	Poor	1.917	Poor
22.08	1.58	Granodiorite	1.58	100%	1.36	86%	6	22	13	W2	R4	4	1.5	1	Minor chlorite and calcite infill. 1 cm thick black vein @ 21.2 m (sampled).	75	0.26	7	17	12	22	58	Fair	32.278	Good
23.60	1.52	Granodiorite	1.52	100%	1.47	97%	6	25	13	W1 - W2	R4	4	1.5	1	Minor calcite infill.	75	0.25	7	19	12	25	63	Good	36.266	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	EN / AJ
Project:	High Lake Dock	UTM Coordinates:	Easting:		Date Hole Started:	03-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	03-May-06
Borehole Number:	DS-BGC06-03	Hole Orientation:	Trend:	N/A	Total Hole Depth:	21.17 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Jt. Condition	RMR	Descriptor	Q'	Descriptor
17.41	1.55	Granodiorite	1.55	100%	1.42	92%	9	20	12	W1 -W2	R4	6	1.5	1	Calcite and silt infill.	75	0.17	7	18	10	20	55	Fair	22.903	Good
18.13	0.72	Granodiorite	0.72	100%	0.65	90%	3	25	13	W1	R4	6	1.5	1		75	0.24	7	17	12	25	61	Good	22.569	Good
19.65	1.52	Granodiorite	1.50	99%	1.46	96%	7	25	14	W1	R4	4	1.5	1	Minor silt and calcite infill.	75	0.21	7	19	11	25	62	Good	36.020	Good
21.17	1.52	Granodiorite	1.52	100%	1.20	79%	8	25	12	W1	R4	6	1.5	1	Minor silt and calcite infill.	75	0.19	7	15	10	25	57	Fair	19.737	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	EN / AJ
Project:	High Lake Dock	UTM Coordinates:	Easting:		Date Hole Started:	04-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	04-May-06
Borehole Number:	DS-BGC06-04	Hole Orientation:	Trend:	North	Total Hole Depth:	19.85 m
			Plunge:	90		

			Recovery		RQD											Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Jt. Condition	RMR	Descriptor	Q'	Descriptor
9.19	0.80	Granodiorite	0.80	100%	0.70	88%	5	20	11	W1 - W2	R4	3	1.5	1	Minor calcite infill.	75	0.16	7	17	9	20	53	Fair	43.750	Very Good
10.80	1.61	Granodiorite	1.56	97%	1.44	89%	4	22	12	W1	R4	12	1.5	2	Joints: 40°, 65°. Calcite and chlorite infill on joints. Trace chalcopyrite mineralization. Trace healed calcite fractures. Chlorite / calcite veinlets @ approx 40° from vertical core axis with trace chalcopyrite mineralization.	75	0.39	7	17	15	22	61	Good	5.590	Fair
12.30	1.50	Granodiorite	1.50	100%	1.34	89%	4	23	13	W1	R3 - R4	6	1.5	1	Joints: 10°, 60°. Trace silty coating and calcite on joint surfaces. Trace chalcopyrite / pyrite mineralization. ~10% chlorite when broken rock open. Minor iron oxidation. Healed calcite fractures.	56.5	0.38	6	17	15	23	61	Good	22.333	Good
13.80	1.50	Granodiorite	1.50	100%	1.26	84%	4	23	13	W1	R4	9	1.5	1	Joints: 15°, 50°. Silty infill on joints in addition to calcite. Trace healed fractures. Minor iron oxidation. Calcite veinlets approx. 60° from vertical core axis.	75	0.38	7	16	15	23	61	Good	14.000	Good
15.30	1.50	Granodiorite	1.50	100%	1.25	83%	5	23	12	W1	R4	12	1.5	1	Joints: 20o, 70o, 60o. Trace chalcopyrite mineralization. Trace chlorite. Trace iron oxidation. Trace calcite veinlets.	75	0.30	7	16	13	23	59	Fair	10.417	Good
16.80	1.50	Granodiorite	1.49	99%	1.10	73%	5	23	13	W1	R3	12	1.5	1.5	Joints: 35°, 60°, 70°.Trace silt and chlorite infill. Sub-horizontal calcite veinlets. Trace chalcopyrite. Trace chlorite. Trace iron oxidation.	38	0.30	4	14	13	23	54	Fair	6.111	Fair
18.35	1.55	Granodiorite	1.55	100%	1.51	97%	4	23	12	W1	R3	6	1.5	1.5	Joints: 50°, 60°. Calcite veinlets @ approx 60° from vertical core axis. 17.0 - 17.1 m: qtz veins, 1 - 2 cm wide, 60° from vertical core axis, minor chlorite alteration.	38	0.39	4	19	15	23	61	Good	16.237	Good
19.85	1.50	Granodiorite	1.50	100%	1.40	93%	4	23	13	W1	R3	6	1.5	1.5	Joints: 20°, 60°. Chlorite alteration on some joint infills. Calcite veinlets 40° from vertical core axis. 14.26 - 14.3 m: horizontal qtz veining with chalcopyrite mineralization.	38	0.38	4	18	15	23	60	Fair	15.556	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	EN / AJ
Project:	High Lake Dock	UTM Coordinates:	Easting:		Date Hole Started:	02-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	03-May-06
Borehole Number:	DS-BGC06-05	Hole Orientation:	Trend:	North	Total Hole Depth:	20.3 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Jt. Condition	RMR	Descriptor	Q'	Descriptor
10.62	1.54	Granodiorite	1.54	100%	0.66	43%	25	20	8	W1 - W2	R4	6	1.5	1	Some core grinding.	75	0.06	7	8	7	20	42	Fair	10.714	Good
12.16	1.54	Granodiorite	0.88	57%	0.52	34%	20	20	10	W1 - W2	R4	6	1.5	1	Some calcite infill.	75	0.04	7	7	6	20	40	Poor	8.442	Fair
13.71	1.55	Granodiorite	1.55	100%	1.30	84%	11	25	12	W1 - W2	R4	6	1.5	1	Some silt infill.	75	0.14	7	16	9	25	57	Fair	20.968	Good
15.18	1.47	Granodiorite	1.47	100%	1.47	100%	4	25	14	W1	R4	2	1.5	1	Very minor calcite infill.	75	0.37	7	20	15	25	67	Good	75.000	Very Good
16.68	1.50	Granodiorite	1.50	100%	1.25	83%	11	25	12	W1 - W2	R4	6	1.5	1		75	0.14	7	16	9	25	57	Fair	20.833	Good
18.18	1.50	Granodiorite	1.50	100%	1.40	93%	1	25	15	W1	R4	0.5				75	1.50	7	18	23	25	73	Good		
19.80	1.62	Granodiorite	1.57	97%	1.56	96%	3	25	14	W1	R4	4	1.5	1		75	0.52	7	19	18	25	69	Good	36.111	Good
20.30	0.50	Granodiorite	0.33	66%	0.30	60%	1	25	14	W1	R3 - R4					56.5	0.33	6	11	14	25	56	Fair		

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	EN
Project:	High Lake Dock	UTM Coordinates:	Easting:		Date Hole Started:	02-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	02-May-06
Borehole Number:	DS-BGC06-06	Hole Orientation:	Trend:	N/A	Total Hole Depth:	21.29 m
			Plunge:	N/A		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m	Jt. Condition	RMR	Descriptor	Q'	Descriptor
6.03	2.14	Granodiorite	2.14	100%	1.45	68%	30	20	6	W1 - W2	R4	6	1.5	2	Crushed zone. Light bluish silty coating on joints.	75	0.07	7	13	7	20	47	Fair	8.470	Fair
7.54	1.51	Granodiorite	1.51	100%	1.03	68%	12	25	9	W1 - W2	R4	4	1.5	1		75	0.13	7	13	8	25	53	Fair	25.579	Good
9.00	1.46	Granodiorite	1.46	100%	1.33	91%	6	25	13	W2	R4	6	1.5	2	Light brown silty coating on two joints, calcite infill on one joint.	75	0.24	7	18	12	25	62	Good	11.387	Good
10.57	1.57	Granodiorite	1.55	99%	1.43	91%	6	25	13	W1 - W2	R4	6	1.5	1	Calcite infill in one joint, silt infill in two joints.	75	0.26	7	18	12	25	62	Good	22.771	Good
12.09	1.52	Granodiorite	1.46	96%	1.17	77%	5	27	14	W1	R4	6	1.5	0.75		75	0.29	7	15	13	27	62	Good	25.658	Good
13.71	1.62	Granodiorite	1.57	97%	1.07	66%	9	25	12	W1 - W2	R4	6	1.5	1	Minor calcite and silt infill.	75	0.17	7	13	10	25	55	Fair	16.512	Good
15.17	1.46	Granodiorite	1.44	99%	1.31	90%	7	25	14	W1 - W2	R4	4	1.5	1	Calcite and silt infill. Qtz veins @ 13.69 - 14.11 m.	75	0.21	7	17	11	25	60	Fair	33.647	Good
16.73	1.56	Granodiorite	1.55	99%	1.03	66%	17	25	10	W1 - W2	R4	9	1.5	0.75		75	0.09	7	13	8	25	53	Fair	14.672	Good
18.25	1.52	Granodiorite	1.50	99%	1.47	97%	5	27	14	W1	R4	3	1.5	0.75		75	0.30	7	19	13	27	66	Good	64.474	Very Good
19.85	1.60	Granodiorite	1.60	100%	1.45	91%	4	27	15	W1	R4	2	1.5	0.75		75	0.40	7	17	16	27	67	Good	90.625	Very Good
21.29	1.44	Granodiorite	1.43	99%	1.23	85%	5	27	14	W1	R4	2	1.5	0.75		75	0.29	7	16	13	27	63	Good	85.417	Very Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resourses		Northing:	752 1 240	Logged By:	H. Hartmaier
Project:	High Lake Dock	UTM Coordinates:	Easting:	050 5 550	Date Hole Started:	29-Apr-06
Project Number:	0385-003-15		Elevation:	Top of Sea Ice	Date Hole Finished:	29-Apr-06
Borehole Number:	DS-BGC06-07	Hole Orientation:	Trend:		Total Hole Depth:	24.86 m
			Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
1.68															Sea Ice										
15.85															Water										
19.25															Start of Coring										
20.77	1.52	GD	1.45	95%	1.40	92%	5	20	13	W1	R4	4	1.5	1	assumes top piece not included - triconed	75	0.29	7	18	13	20	58	Fair	34.539	Good
21.25	0.48	GD	0.48	100%	0.48	100%	0	-	15	W1	R4	4	1.5	1	recovered core missing from last run	75	0.82	7	19	21	25	72	Good	37.500	Good
22.75	1.50	GD	1.50	100%	1.50	100%	4	25	15	W1	R4	4	1.5	0.75		75	0.38	7	20	15	25	67	Good	50.000	Very Good
24.25	1.50	GD	1.50	100%	1.42	95%	4	25	15	W1	R4	9	1.5	1	Joint at 14° TCA - grey silt coating	75	0.38	7	18	15	25	65	Good	15.778	Good
24.86	0.61	GD	0.61	100%	0.61	100%	0		15	W1	R4					75	0.61	7	20	19	25	71	Good		
24.86	EOH																								

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	EN
Project:	High Lake Dock	UTM Coordinates: Easting:		Date Hole Started:	30-Apr-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	01-May-06
Borehole Number:	DS-BGC06-08	Hole Orientation: Trend:	N/A	Total Hole Depth:	20.90 m
		Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
10.40	1.50	GD	1.55	103%	1.23	82%	20	25	12	W2	R4	6	1.5	1	many fractures @ upper end of run due to redrilling some calcite on one joint face	75	0.08	7	16	7	25	55	Fair	20.500	Good
11.90	1.50	GD	1.50	100%	1.46	97%	5	25	14	W1.5	R4	6	1.5	0.75		75	0.30	7	19	13	25	64	Good	32.444	Good
13.49	1.59	GD	1.59	100%	1.59	100%	4	25	14	W1.5	R4	4	1.5	1	Hz infill aprox. 8 cm thick @11.95`m`	75	0.40	7	20	15	25	67	Good	37.500	Good
14.90	1.41	GD	1.41	100%	1.41	100%	1	25	14	W1.5	R4	2	1.5	0.75	2 silty joints near end of run	75	1.41	7	19	23	25	74	Good	100.000	Very Good
16.11	1.21	GD	1.21	100%	1.21	100%	6	25	13	W1.5	R4	6	1.5	0.75	recovered lost core - one silty joint	75	0.20	7	20	11	25	63	Good	33.333	Good
17.61	1.50	GD	1.60	107%	1.42	95%	9	20	12	W1	R4	12	1.5	1		75	0.18	7	18	10	20	55	Fair	11.833	Good
17.90	0.29	GD	0.28	97%	0.28	97%	0	-	15	W1	R4	-	-	-	Partial run - cross shift change of crew										
19.40	1.50	GD	1.50	100%	1.50	100%	5	25	14	W1	R4	9	1.5	0.75		75	0.30	7	20	13	25	65	Good	22.222	Good
20.90	1.50	GD	1.50	100%	1.50	100%	4	20		W1	R4	9	1.5	1		75	0.38	7	20	15	20	62	Good	16.667	Good
															20.90 m E.O.H										

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources	Northing:		Logged By:	EN
Project:	High Lake Dock	UTM Coordinates: Easting:		Date Hole Started:	01-May-06
Project Number:	0385-003-15	Elevation:		Date Hole Finished:	02-May-06
Borehole Number:	DH-BGC06-09	Hole Orientation: Trend:	N/A	Total Hole Depth:	20.00 m
		Plunge:	90		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)								Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
3.19	0.61	Granite	0.28	89%	0.21	75%	1	25	12	W2	R4	2	1.5	2	Recovered 26 cm of ice as well. calcite infill on joints	75	0.54	7	14	18	25	64	Good	28.125	Good
4.80	1.61	Granite	1.61	100%	1.26	78%	11	25	12	W2	R4	6	1.5	2	approx. half the joints infilled with calcite (70%) or silty coating (30%)	75	0.15	7	15	9	25	56	Fair	9.783	Fair
6.25	1.45	Granite	1.45	100%	1.33	92%	8	25	13	W2	R4	4	1.5	2	approx. half the joints infilled with calcite (70%) or silty coating (30%)	75	0.18	7	18	10	25	60	Fair	17.198	Good
7.74	1.49	Granite	1.49	100%	1.25	84%	14	25	13	W2	R4	6	1.5	2	approx. half the joints infilled with calcite (70%) or silty coating (30%)	75	0.11	7	16	8	25	56	Fair	10.487	Good
9.29	1.55	Granite	1.55	100%	1.10	71%	25	25	9	W2	R4	9	1.5	2	approx. half the joints infilled with calcite (70%) or silty coating (30%)	75	0.06	7	13	7	25	52	Fair	5.914	Fair
10.86	1.57	Granite	1.57	100%	1.27	81%	10	25	13	W2	R4	4	1.5	2	approx. half the joints infilled with calcite (70%) or silty coating (30%)	75	0.16	7	15	9	25	56	Fair	15.167	Good
12.34	1.48	Granite	1.48	100%	1.48	100%	2	25	15	W1	R4	2	1.5	0.75		75	0.74	7	19	20	25	71	Good	100.000	Very Good
13.92	1.60	Granite	1.60	100%	1.50	94%	4	27	14	W1	R4	4	1.5	1	some calcite infill	75	0.40	7	18	16	27	68	Good	35.156	Good
15.39	1.47	Granite	1.44	98%	1.30	88%	8	27	12	W1	R4	6	1.5	0.75	no infill	75	0.18	7	17	10	27	61	Good	29.478	Good
16.94	1.55	Granite	1.55	100%	1.55	100%	3	27	14	W1	R4	2	1.5	0.75		75	0.52	7	19	18	27	71	Good	100.000	Very Good
18.44	1.50	Granite	1.44	96%	1.44	96%	4	27	14	W1	R4	2	1.5	1	minor silty infill in 1 joint	75	0.36	7	19	15	27	68	Good	72.000	Very Good
20.00	1.56	Granite	1.56	100%	1.56	100%	3	30	14	W1	R4	2	1.5	0.75	End of borehole	75	0.52	7	20	18	30	75	Good	100.000	Ext. Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:	752 1 157	Logged By:	AJ / EN
Project:	High Lake Dock	UTM Coordinates:	Easting:	050 5 421	Date Hole Started:	05-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	
Borehole Number:	DS-BGC06-11	Hole Orientation:	Trend:	215	Total Hole Depth:	15.00 m
			Plunge:	65		

			Recovery		RQD											Rock Mass Rating (Bieniawski, 1989)							Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
3.92	1.60	Granite	1.43	89%	0.79	49%	18	22	10	W1 - W2	R3 - R4	9	1.5	2	Calcite infilling on joints. Minor oxidation on joint surfaces and outside of core. Joints: 60°, 40°, 50°. Joint @ 3.29 m: 1 - 2 mm clay infill (CI)	56.5	0.08	6	9	7	22	44	Fair	4.115	Fair
5.52	1.60	Granite	1.60	100%	0.66	41%	11	22	12	W1 - W2	R3 - R4	12	1.5	2	Joints: 40°, 50°, 60°. Calcite infill on joints with minor chlorite alteration. Trace calcite veinlets with minor chlorite alteration. Trace oxidation on joint surfaces and outside of core (possibly weathered K-spar). Chlorite alteration with trace sulphides between 4.24 and 4.31 m.	56.5	0.15	6	8	9	22	45	Fair	2.578	Poor
7.12	1.60	Granite	1.60	100%	1.50	94%	3	22	13 - 14	W1 - W2	R3 - R4	6	1.5	2	Joints: 60°, 38°. Calcite infill on joints. Minor chlorite alteration. Minor sulphides. Trace calcite veinlets. Minor slickenslides @ 5.82 m.	56.5	0.53	6	18	18	22	64	Good	11.719	Good
8.62	1.50	Granite	1.48	99%	1.27	85%	4	23	13	W1 - W2	R3 - R4	9	1.5	2	Joints: 30°, 40°, 50°. Calcite infill on joints with some chlorite alteration. Trace calcite veinlets with minor chlorite alteration. Pyrite visible on joint surfaces. Minor oxidation on outside core @ end of run. More plagioclase (~15 - 25%).	56.5	0.37	6	16	15	23	60	Fair	7.056	Fair
10.12	1.50	Granite	1.50	100%	1.44	96%	5	23	12	W1 - W2	R3 - R4	6	1.5	2	Joints: 45°, 40°, 25°, 50°. Calcite infill on joints with some chlorite alteration. Trace calcite veinlets @ approx. 25° with minor chlorite alteration. Pyrite on joint surfaces. Minor oxidation visible on outside of core. Qtz from 8.62 to 8.65 m.	56.5	0.30	6	19	13	23	61	Good	12.000	Good
11.62	1.50	Granite	1.50	100%	1.44	96%	3	23	13	W1	R3 - R4	4	1.5	2	Joints: 40°, 60°. Calcite veinlet at beginning of run @ approx. 20° with chlorite alteration. Qtz veins @ approx. 45° from vertical core axis, 1 - 1.5 cm wide @ 10.52 and 10.68 m. Minor sulphides (<1%).	56.5	0.50	6	19	18	23	66	Good	18.000	Good
13.12	1.50	Granite	1.50	100%	1.50	100%	2	23	14	W1 - W2	R3 - R4	3	1.5	2	Picked up 10 cm from previous run. Depths in core box adjusted. Joints: 40°, 50°. Trace calcite on joint surfaces. Minor sulphides. Increasing qtz content (30 - 40%), hornblende (40%), plagioclase (20%).	56.5	0.75	6	20	20	23	69	Good	25.000	Good
14.72	1.60	Granite	1.60	100%	1.51	94%	5	22	10	W1 - W2	R3 - R4	9	1.5	2	Joints: 45°, 50°, 60°. From 14.00 - 14.15 m, fractured zone including angular to sub-angular granodiorite fragments 10 to 50 cm in diameter. Calcite infill on joints with minor chlorite alteration. @ 14.15 m, high plastic clay infilling, 1 - 2 mm thick with angular granodiorite fragments up to 5 mm in diameter included.	56.5	0.32	6	18	14	22	60	Fair	7.865	Fair
15.00	0.28	Granite	0.27	96%	0.27	96%	2	23	10	W1 - W2	R3 - R4	2	1.5	2	Joint: 60°. Calcite infill, trace sulphides (1%), chlorite alteration. @ 14.98 m, 2 cm qtz vein.	56.5	0.14	6	19	9	23	57	Fair	36.161	Good

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

Geomechanics Log

Client:	Wolfden Resources		Northing:		Logged By:	AJ / EN
Project:	High Lake Dock	UTM Coordinates:	Easting:		Date Hole Started:	06-May-06
Project Number:	0385-003-15		Elevation:		Date Hole Finished:	06-May-06
Borehole Number:	DS-BGC06-12	Hole Orientation:	Trend:	N/A	Total Hole Depth:	15.45 m
			Plunge:	65		

			Recovery		RQD												Rock Mass Rating (Bieniawski, 1989)						Q-System (Barton, 1974)	
Depth To	Length of Run	Lithology	Length	Percent	Length	Percent	Number of Fractures	Joint Condition	Degree of Breakage	Alt'n & Weath.	Hardness	Jn	Jr	Ja	Notes	Est UCS (Mpa)	Spacing (m)	Strength	RQD	Spacing (m)	Jt. Condition	RMR	Descriptor	Q'	Descriptor
3.57	0.81	Granodiorite	0.81	100%	0.4	49%	8	23	4 and 10	W1 - W2	R4	2	1.5	2	Fracture zone from 2.76 to 2.88 m and from 3.24 to 3.39 m. Fracture zone comprised of angular granodiorite fragments. Joint: 60°. Calcite veinlet oriented 30° from vertical core axis and exhibits chlorite alteration.	75	0.10	7	9	8	23	47	Fair	18.519	Good
5.09	1.52	Granodiorite	1.52	100%	1.47	97%	4	23	14	W1	R4	4	1.5	2	Joints: 30°, 64°. Minor calcite and silt infill on joints.	75	0.38	7	19	15	23	64	Good	18.133	Good
6.55	1.46	Granodiorite	1.43	98%	1.15	79%	4	23	13	W1 - W2	R4	4	1.5	2	Joints: 20°, 52°. Minor oxidation on outside of core. Calcite on joint surfaces. Chlorite alteration visible on joint surfaces. Calcite veinlets oriented 30° from vertical core axis.	75	0.36	7	15	15	23	60	Fair	14.769	Good
8.15	1.60	Granodiorite	1.60	100%	1.11	69%	9	23	11	W1 - W2	R4	12	1.5	2	Joints: 32°, 42°, 52°. @ 7.07 m: calcite vein 1 - 2 cm wide oriented 20° from vertical core axis. Minor oxidation on outside of core. Calcite and thin film of silt on joint surfaces. Minor chlorite alteration.	75	0.18	7	13	10	23	53	Fair	4.336	Fair
9.65	1.50	Granodiorite	1.46	97%	1.42	95%	3	23	13	W1	R4	4	1.5	2	Joints: 54°, 62°, 58°, 60°. Calcite infill on some joints with minor chlorite alteration.	75	0.49	7	18	17	23	65	Good	17.750	Good
10.65	1.00	Granodiorite	1.00	100%	0.60	60%	8	22	10	W1 - W2	R4	9	1.5	2	Joints: 52°, 90°, 16°, 68°. Beginning of run, calcite veinlet oriented 20° from vertical core axis. Minor chlorite alteration.	75	0.13	7	11	8	22	48	Fair	5.000	Fair
12.25	1.60	Granodiorite	1.54	96%	1.54	96%	3	23	14	W1	R4	12	1.5	2	Joints: 52°, 72°, 32°, 45°, 60°. Minor qtz veining. Minor oxidation on outside of core. @ 11.05 m, 2 mm qtz vein dipping at 40° to vertical core axis.	75	0.51	7	19	18	23	67	Good	6.016	Fair
13.85	1.60	Granodiorite	1.60	100%	1.40	88%	8	23	12	W1	R4	6	1.5	2	Joints: 82°, 66°, 54°. Minor oxidation on outside of core. Calcite and qtz veinlets at random angles. Calcite on joint surfaces with visible chlorite alteration.	75	0.20	7	17	11	23	58	Fair	10.938	Good
15.45	1.60	Granodiorite	1.60	100%	1.42	89%	5	23	14	W1	R4	9	1.5	2	Joints: 20°, 48°, 72°. Calcite infill on joints with visible chlorite alteration. Trace qtz and calcite veinlets.	75	0.32	7	17	14	23	61	Good	7.396	Fair