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GEOTECHNICAL INVESTIGATION

2014 Field Investigation Summary Report
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Gogama, Ontario

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REPORT

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Table of Contents

1.0 INTRODUCTION 1

2.0 SITE DESCRIPTION 1

3.0 INVESTIGATION PROCEDURES 1

4.0 SITE GEOLOGY AND SUBSURFACE CONDITIONS 3

4.1 General Overview of Local Subsurface Conditions 3

4.2 Tailings Management Facility 4

4.2.1 Peat 4

4.2.2 Upper Silty Gravel 4

4.2.3 Silt to Silty Sand 4

4.2.4 Lower Silty Gravel 5

4.2.5 Cobbles and Boulders 5

4.2.6 Bedrock 5

4.2.7 Groundwater Conditions 6

4.2.7.1 Hydraulic Conductivity 6

4.3 Bagsverd Creek Realignment 7

4.3.1 Peat 7

4.3.2 Silt to Sand 8

4.3.3 Silty Gravel to Gravel 8

4.3.4 Bedrock / Refusal 9

4.3.5 Groundwater Conditions 9

4.3.5.1 Hydraulic Conductivity 10

5.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT 11

5.1 Standard of Care 11

5.2 Basis and Use of the Report 11

5.3 Soil, Rock and Groundwater Conditions 12

5.4 Sample Disposal 12

5.5 Follow-up and Construction Services 13

5.6 Changed Conditions and Drainage 13

6.0 CLOSURE 13

List of Symbols and Abbreviations

TABLES

Table 1 Summary of 2014 Geotechnical Field Investigation

FIGURES

Figure 1 Project Location Plan
Figure 2 Borehole and Test Pit Location Plan

APPENDICES

Appendix A Tailings Management Facility
Record of Boreholes and Drillholes
Lithology Reports
Table A1 Summary of Boreholes Samples
Table A2 Point Load Test Results
Figure A1 Grain Size Distribution – Silt to Silty Sand
Figure A2 TMF14-2 – Monitoring Well Conductivity Tests
Figure A3 TMF14-5 – Monitoring Well Conductivity Tests
Figure A4 TMF14-6 – Monitoring Well Conductivity Tests

Appendix B Bagsverd Creek Realignment
Record of Test Pits, Boreholes and Drillholes
Lithology Reports
Table B1 Summary of Boreholes and Test Pit Samples
Figure B1 Grain Size Distribution – Silt to Silty Sand to Sand
Figure B2 Grain Size Distribution – Silty Gravel
Figure B3 BC14-8 – Monitoring Well Conductivity Tests
Figure B4 BC14-13 – Monitoring Well Conductivity Tests
Figure B5 BC14-20 – Monitoring Well Conductivity Tests

1.0 INTRODUCTION

Golder Associates Ltd. (Golder) has been retained by Trelawney Mining and Exploration Inc. (Trelawney) to summarize the results of the geotechnical investigation carried out on the GoldON Resources Ltd. (GoldON) property adjacent to the Côté Gold Project within the Township of Chester and the Township of Neville, in the District of Sudbury, Ontario. The geotechnical field investigations for these sites were completed as part of IAMGOLD Corporation's (IAMGOLD) overall Côté Gold Feasibility Study. The purpose of the investigation components included in this report was to assess the subsurface soil and groundwater conditions at the proposed Tailings Management Facility (TMF) and Bagsverd Creek Realignment (BCR) sites.

This report was prepared based on our Scope of Work outlined in our proposal No. P1416019 dated October 21, 2014. Authorization to proceed with the summary report was provided by Mr. Alan Smith on December 2, 2014, under Purchase Order No. 8051.

2.0 SITE DESCRIPTION

The Côté Gold Project is located approximately 20 km southwest of the town of Gogama, as shown on Figure 1. In general, the topography within the overall project limits consists of rolling terrain, including sparsely or densely populated treed areas; numerous bedrock outcrops; areas of standing water; and various types of vegetation and organic soils. The ground surface at the locations of the boreholes and test pits advanced varies between Elevations 393.7 m and 375.1 m, referenced to geodetic datum. Section 4.0 of this report presents a detailed description of the stratigraphy in the vicinity of TMF and BCR areas.

The proposed TMF is about 4 km by 3 km in area and is located immediately north of Bagsverd Lake. One component of the site water management program includes the realignment of Bagsverd Creek to the west of the proposed TMF footprint. The proposed BCR will be approximately 4.5 km long and will carry flow from the existing Bagsverd Lake to Unnamed Lake No. 2, northwest of the proposed TMF footprint. The proposed locations of the TMF and the BCR are shown in plan on Figure 2.

3.0 INVESTIGATION PROCEDURES

The fieldwork for the investigation associated with the proposed TMF area was carried out between July 27 and August 28, 2014, during which period a total of eight boreholes were advanced. The fieldwork for the investigation associated with the proposed BCR area was carried out between July 23 and September 30, 2014, during which period a total of ten test pits and 13 boreholes were advanced. The boreholes and test pits advanced for the sites are summarized in Table 1 and are shown on Figure 2.

The field investigation was carried out using a track mounted CME-850 drill rig supplied and operated by Marathon Drilling Co. Ltd. of Greely, Ontario, and a Link-Belt 350 excavator supplied and operated by the IAMGOLD Corporation (IAMGOLD).

The boreholes were advanced through the overburden using 108 mm inside diameter hollow-stem augers, or NW casing with wash boring techniques. In general, soil samples were obtained at intervals of depth of about 0.75 m and 1.5 m using a 50 mm outer diameter split-spoon sampler operated by automatic hammers on the drill rigs, performed in accordance with Standard Penetration Test (SPT) procedures (ASTM D1586). Samples taken

from the boreholes and test pits during the geotechnical field investigation are described in Tables A1 and B1, in Appendices A and B, respectively. Rock coring was carried out beyond auger/casing refusal using 'NQ' core barrels, where appropriate. All open boreholes were backfilled with bentonite upon completion in accordance with Ontario Regulation 903 (Wells, as amended).

The test pits and boreholes were advanced to depths ranging from 0.8 m to 17.3 m below existing ground surface, generally terminating on refusal to excavator advancement or upon drilling into bedrock.

The groundwater conditions and water levels in the open boreholes were observed during the drilling operations and are described on the Record of Test Pit and Borehole sheets in Appendices A and B. Single packer testing was undertaken in the bedrock within the TMF area boreholes. Monitoring wells were installed in Boreholes TMF14-1 to TMF14-8, as well as BC14-8, BC14-13, BC14-17 and BC14-20 to permit monitoring of the groundwater levels at their respective locations. The monitoring wells consist of 38 mm diameter polyvinyl chloride pipe with a 1.5 m long slotted screen, sealed within the overburden or bedrock. At each monitoring well installation, the borehole annulus surrounding the monitoring well screen was backfilled with sand and the remainder of the borehole was backfilled with a bentonite plug and cuttings. All the monitoring wells have been left in place for continued monitoring.

Following the borehole drilling and monitoring well installations, dedicated inertial sampling equipment (polyethylene tubing and foot valves) was installed in some of the monitoring wells. The screened intervals in each monitoring well were developed by purging to improve the hydraulic connection between the well intake screen and the aquifer by removing sediment and residual materials from drilling and well installation activities.

Following well development by purging, in situ rising head tests were completed by Golder to estimate the hydraulic conductivity of overburden and shallow bedrock at the site. The hydraulic testing involved measuring the static water level depth and then removing a known volume of water using dedicated tubing and foot valves. Recovering water levels were measured using automatic groundwater data loggers set to record time, pressure and temperature at a time interval selected based on the rate of recovery during well development. Water levels were measured manually to determine the end of the test and the data logger removed and downloaded.

The fieldwork was observed by members of our engineering and technical staff, who located the test pits and boreholes, observed the drilling, sampling and in situ testing operations, logged the boreholes and test pits, and examined and cared for the soil samples and rock core. The soil samples and rock core were identified in the field, placed in appropriate containers and labelled. The soil samples were transported to our Sudbury Geotechnical Laboratory where the samples underwent further visual examination and laboratory testing. The rock core samples were left onsite for further examination by IAMGOLD, who provided Lithology Reports. All of the laboratory tests were carried out to ASTM Standards, as appropriate. Classification testing (water content, organic content, Atterberg limits and grain size distribution) was carried out on selected soil samples. The results of the laboratory testing on the samples are provided in Appendices A and B.

Classification of the rock mass quality of the bedrock with respect to the Rock Quality Designation (RQD) is described based on Table 3.10 of the Canadian Foundation Engineering Manual (CFEM, 2006)[1]. The degree of weathering of the bedrock samples (e.g. fresh to slightly weathered – W1 to W2) and the strength classification

[1]Canadian Geotechnical Society, 2006. Canadian Foundation Engineering Manual, 4th Edition.

of the intact rock mass based on field identification (e.g. strong – R4) are described in accordance with the International Society for Rock Mechanics (ISRM, 1985)[2] standard classification system. Point load strength index testing was carried out on select samples of the bedrock and the strength classification of the bedrock is described as per Table 3.5 of the CFEM (2006).

The test pit and borehole locations were measured upon completion using a handheld global positing system (GPS) and the coordinates were subsequently imported into ESRI ArcGIS software. The test pit and borehole elevations were estimated from the available LIDAR data for the IAMGOLD project. The locations provided on the Record of Test Pit sheets, the Record of Borehole sheets and shown on Figure 2 are positioned relative to UTM NAD 83 Zone 17 northing and easting coordinates and the ground surface elevations are referenced to geodetic datum.

4.0 SITE GEOLOGY AND SUBSURFACE CONDITIONS

4.1 General Overview of Local Subsurface Conditions

The detailed subsurface soil and groundwater conditions as encountered in the boreholes and test pits advanced during this investigation, together with the results of the laboratory tests carried out on selected soil samples and rock core, are presented on the Record of Test Pit, Borehole and Drillhole sheets, the Lithology Reports, and the laboratory test sheets in Appendices A and B. The stratigraphic boundaries shown on the Record of Test Pit, Borehole and Drillhole sheets are inferred from non-continuous sampling, observations of drilling progress and in situ testing, and are approximate. These boundaries represent transitions between soil types rather than exact planes of geological change. Further, subsurface conditions will vary between and beyond the borehole locations.

In general, the stratigraphy encountered at two areas investigated is similar. However, the overburden (soil materials) thickness is variable, ranging from 0.8 m to about 13.8 m. The stratigraphy generally consists of:

- surficial layers of peat, containing cobbles and boulders in some areas;
- non-cohesive deposits of silt to sand, containing cobbles and boulders in some areas;
- non-cohesive deposits of gravel, containing cobbles and boulders in some areas, over the inferred bedrock surface; and
- biotite tonalite, mafic volcanics, diabase or lamprophyre bedrock.

Detailed descriptions of the subsurface conditions within the TMF footprint and along the BCR are provided in the following sections of this report. Where relatively significant thicknesses of overburden were encountered, the various soil types are described in detail for each main deposit or stratum.

[2] International Society for Rock Mechanics Commission on Test Methods, 1985. Int. J. Rock Mech.Min. Sci. & Geomech. Abstr. Vol 22, No. 2, pp. 51-60.

4.2 Tailings Management Facility

4.2.1 Peat

A deposit of brown to black fibrous silty peat to peat, containing trace wood fragments was encountered at ground surface in Boreholes TMF14-3 to TMF14-5, TMF14-7 and TMF14-8 between Elevations 394.4 m and 383.8 m. The thicknesses of the deposit ranged between 0.2 m and 1.1 m.

Two SPT 'N' values measured within the peat deposit were 0 blows (i.e., weight of hammer) and 8 blows per 0.3 m of penetration, suggesting a very soft to firm consistency.

The natural water contents of two samples of the peat deposit measured were about 249% and 374%.

4.2.2 Upper Silty Gravel

An upper deposit of grey sandy silty gravel was encountered below the peat in Borehole TMF14-3. The top of the 1.0 m thick upper silty gravel deposit was encountered at Elevation 385.3 m.

One SPT 'N' value of 16 blows per 0.3 m of penetration was measured within the upper silty gravel deposit, indicating a compact relative density.

The natural water content of one sample of the upper silty gravel deposit was measured to be about 10%.

4.2.3 Silt to Silty Sand

A deposit of grey to brown to black silt to sand with varying quantities of gravel was encountered from ground surface in Boreholes TMF14-1, TMF14-2 and TMF14-6, below the peat deposit in Boreholes TMF14-4, TMF14-5, TMF14-7 and TMF14-8; and, below the upper silty gravely deposit in Borehole TMF14-3. The top of the deposit was encountered between Elevations 394.2 m and 377.1 m, and the deposit was 0.6 m to 10.8 m thick. In Boreholes TMF14-4 and TMF14-8 auger grinding was encountered within the deposit, indicating the potential presence of cobbles and boulders. Boreholes TMF14-1, TMF-14-3 and TMF14-5 were advanced through cobbles and boulders within this deposit at various elevations.

The SPT 'N' values measured within the silt to silty sand deposit ranged between 4 blows and 44 blows per 0.3 m of penetration, indicating a very loose to dense relative density.

The natural water content of 21 samples of the silt to silty sand deposit ranged from about 7% to 27%.

The results of the grain size distribution tests completed on eight samples of the silt to silty sand deposit are shown on Figure A1 in Appendix A.

An Atterberg limits test carried out on one sample of the silt to silty sand deposit indicated that the sample was non-plastic.

4.2.4 Lower Silty Gravel

A lower deposit of brown sandy silty gravel was encountered below the silt to silty sand deposit in Borehole TMF14-7. The top of the 1.3 m thick deposit was encountered at Elevation 383.0 m.

One SPT 'N' value of 44 blows per 0.3 m of penetration was measured within the lower silty gravel deposit, indicating a dense relative density.

The natural water content of one sample of the lower silty gravel deposit was about 10%.

4.2.5 Cobbles and Boulders

A 2.1 m thick deposit of sandy cobbles and boulders was encountered at Elevation 366.3 m underlying the silt to silty sand deposit in Borehole TMF14-1.

One SPT 'N' value of 35 blows per 0.15 m of penetration was measured within the sandy matrix of the cobbles and boulders deposit. The Total Core Recovery (TCR) for the core sample taken within the deposit was 76%

The natural water content of one sample taken from within the sandy matrix of the cobbles and boulders deposit was about 7%.

4.2.6 Bedrock

Bedrock was encountered in all the boreholes (Boreholes TMF14-1 to TMF14-8) between Elevations 391.1 m and 364.2 m. Core samples between 3.0 m and 4.6 m long were obtained. In Boreholes TMF14-1 to TMF14-4 and TMF14-8, the bedrock consisted of medium to very coarse grained, fresh to moderately weathered, grey to greyish pink biotite tonalite. In Boreholes TMF14-5 to TMF14-7, the bedrock consisted of very fine to fine grained, fresh to slightly weathered, dark grey to greyish black mafic volcanics. The mafic volcanics in Borehole TMF14-7 transitioned to fresh, medium grained, dark grey to black, lamprophyre at Elevation 380.4 m.

The TCR for the core samples ranged from 58% to 100% and the Solid Core Recovery (SCR) ranged from 22% to 100%. The RQD measured on the recovered bedrock core samples ranged between 38% and 100%, indicating the rock is of poor to excellent quality, and was generally greater than 56%, indicating fair to excellent quality according to Table 3.10 in CFEM (2006).

Point load strength index tests (ASTM D5731 – Standard Test Method for Determination of the Point Load Strength Index of Rock and Application to Rock Strength Classification) were carried out on selected samples of the bedrock core. The axial and diametral point load strength index values are shown on the Record of Drillhole sheets and are presented in Table A2 in Appendix A. The axial tests carried out on five samples of the bedrock core measured Is_{50} values ranging from 2.6 MPa to 12.2 MPa, with a mean Is_{50} value of 7.3 MPa. The diametral tests carried out on 17 samples of the bedrock core measured Is_{50} values ranging from about 2.2 MPa to 39.6 MPa, with a mean Is_{50} value of 13.1 MPa.

4.2.7 Groundwater Conditions

Groundwater levels were measured in the open boreholes during and upon completion of drilling/monitoring well installation at depths ranging between 0.2 m above ground surface and 2.9 m below ground surface (Elevations 393.7 m and 375.1 m). Monitoring wells were installed in Boreholes TMF14-1 to TMF14-8 sealed within the overburden or bedrock and the measured groundwater levels in the monitoring wells are presented below.

Borehole	Date	Groundwater Depth Below Ground Surface (m)	Groundwater Elevation (m)
TMF14-1	August 26, 2014	2.0	375.1
TMF14-2	July 27, 2014	0.1	391.7
	November 13, 2014	1.7	390.1
	November 14, 2014	1.8	390.0
TMF14-3	August 21, 2014	0.1	386.3
TMF14-4	August 20, 2014	-0.2 (i.e., above ground surface)	391.3
	November 14, 2014	0.1	391.0
	November 15, 2014	0.1	391.0
TMF14-5	September 3, 2014	0.5	392.7
	November 13, 2014	0.0	393.2
TMF14-6	August 23, 2014	1.9	383.7
	November 13, 2014	1.3	384.3
TMF14-7	August 23, 2014	1.7	382.1
	November 14, 2014	0.9	382.9
TMF14-8	August 27, 2014	0.7	393.7

Groundwater elevations will vary depending on seasonal fluctuations, precipitation and local soil permeability.

4.2.7.1 Hydraulic Conductivity

Golder conducted bail testing on three monitoring wells installed between July and August 2014. The hydraulic conductivity of the material over the screened interval of the monitoring well was interpreted from the results using the Hvorslev formula as follows:

$$K = \frac{r^2 ln(L/R)}{2\,L\,To}$$

Where:

K = *hydraulic conductivity*

r = *radius of the well (standpipe)*

L = *length of test interval*

R = *borehole radius*

T_o = *time for recovery to within 37% of static water level*

The table below summarizes the hydraulic conductivities estimated from the results of the rising head tests.

Borehole ID	Screened Material	Estimated Hydraulic Conductivity (m/s)
TMF14-2	Bedrock	3.07×10^{-7}
TMF14-5	Silt to Silty Sand	2.36×10^{-7}
TMF14-6	Bedrock	5.59×10^{-6}

Note: m/s = metres per second

The complete rising head test results for Boreholes TMF14-2, TMF14-5 and TMF14-6 can be found on Figures A2 to A4 of Appendix A, respectively.

Single packer testing was undertaken in the bedrock in the drillholes. The results of the hydraulic conductivity testing of the bedrock are presented in the table below.

Borehole ID	Estimated Hydraulic Conductivity (m/s)
TMF14-1	1.62×10^{-5}
TMF14-2	9.17×10^{-9}
TMF14-3	2.83×10^{-7}
TMF14-4	1.12×10^{-6}
TMF14-5	$<1.04 \times 10^{-8}$
TMF14-6	5.52×10^{-5}
TMF14-7	2.04×10^{-7}
TMF14-8	1.35×10^{-6}

4.3 Bagsverd Creek Realignment

4.3.1 Peat

A deposit of black to brown fibrous to amorphous peat to silty peat to sandy peat, some gravel, was encountered at ground surface in all of the test pits and boreholes advanced except Borehole BC14-20. The peat was encountered between Elevations 383.3 m and 389.7 m, with a thickness ranging from 0.1 m to 2.6 m. Cobbles

and boulders were encountered within the peat deposit in Test Pits BCTP-1 and BCTP-9, as well as in Boreholes BC14-9, BC14-15 and BC14-16.

A 0.5 m thick layer of organic silty sand was encountered in Borehole BC14-15 at Elevation 385.6 m, which is the transition between the peat deposit and underlying silt to sand deposit.

The SPT 'N' values measured within the peat deposit (not including boulders) were 0 blows (i.e., weight of hammer) and 5 blows per 0.3 m of penetration suggesting a very soft to soft consistency. One SPT test did not penetrate a full 0.3m length as a result of contact with cobbles and boulders.

The natural water content of two samples of the peat deposit were about 445% and 505%.

4.3.2 Silt to Sand

A brown to grey deposit of varying amounts of silt, sand and gravel, containing cobbles and boulders in some areas, was encountered from ground surface in Borehole BC14-20 and below the peat deposit in the test pits and other boreholes. The top of the deposit was encountered between Elevations 389.4 m and 379.4 m, with a thickness between 0.3 m and 11.9 m where the deposit was fully penetrated. Test Pits BCTP-1 to BCTP-3, BCTP-5, BCTP-8, BCTP-9 and BCTP-12 were terminated before fully penetrating the silt to sand deposit after exploring the deposit for between 0.2 m and 4.7 m. In Boreholes BC14-11, BC14-18, BC14-19 and BC14-20 auger grinding was encountered within the deposit, indicating the potential presence of cobbles and boulders. Boreholes BC14-10 and BC14-14 were advanced through cobbles within this deposit at various elevations. Cobbles and boulders were also observed within this deposit in Test Pits BCTP-1, BCTP-3, BCTP-4 and BCTP-8 to BCTP-11.

The SPT 'N' values measured within the silt to sand deposit ranged between 2 blows and 69 blows per 0.3 m of penetration, indicating a very loose to very dense relative density. Several SPT tests did not penetrate a full 0.3 m length as a result of contact with cobbles and boulders within the deposit or bedrock at the base of the deposit.

The natural water content of 34 samples of the silt to sand deposit ranged from about 7% to 36%.

The results of the grain size distribution tests completed on seven samples of the silt to sand deposit are shown on Figure B1 in Appendix B.

4.3.3 Silty Gravel to Gravel

A deposit of brown to grey silty gravel to gravel was encountered below the silt to sand deposit in Boreholes BC14-8, BC14-10 and BC14-11, between Elevations 386.3 m and 374.5 m. In Boreholes BC14-8 and BC14-11 the deposit was 1.5 m and 4.0 m thick, respectively; whereas, Borehole BC14-10 was terminated after exploring the deposit for 1.5 m. Borehole BC14-11 was advanced through a cobble and encountered auger grinding within this deposit at various elevations indicating the presence of cobbles and potential presence of boulders.

The SPT 'N' values measured within the silty gravel to gravel deposit ranged between 21 blows and 100 blows per 0.3 m of penetration indicating a compact to very dense relative density. One SPT test did not penetrate a full 0.3 m length, likely as a result of contact with cobbles and boulders or bedrock.

The natural water contents of two samples of the silty gravel to gravel deposit were about 9% and 13%.

The results of the grain size distribution tests completed on two samples of the silty gravel to gravel deposit are shown on Figure B2 in Appendix B.

4.3.4 Bedrock / Refusal

Bedrock was encountered in Boreholes BC14-8, BC14-9 and BC14-11 to BC14-20 between Elevations 386.9 m, and 375.6 m and core samples between 4.9 m and 15.9 m long were obtained. In Boreholes BC14-8 BC14-9, BC14-11 and BC14-12, the bedrock consisted of fine grained, fresh to moderately weathered, greenish grey to grey, mafic volcanics. The mafic volcanics in Borehole BC14-12 transitioned to fresh, fine to coarse grained, dark grey, feldspar porphyry at Elevation 375.2 m. In Boreholes BC14-13 to BC14-18 and BC14-20 the bedrock consisted of medium to very coarse grained, fresh to highly weathered, greyish pink, biotite tonalite. Within the biotite tonalite in Borehole BC14-16 and below the biotite tonalite in Borehole BC14-18, bedrock consisting of very fine to fine grained, slightly to highly weathered, black diabase was encountered at Elevations 379.7 m and 374.0 m, respectively. In Borehole BC14-19 the bedrock consisted of very fine grained, fresh to slightly weathered, black, diabase.

The TCR for the core samples ranged from 59% to 100% and the SCR ranged from 0% to 100%. The RQD measured on the recovered bedrock core samples ranged between 14% and 100%, and was on average approximately 77% (standard deviation 27; coefficient of variation 34%), indicating good but variable quality according to Table 3.10 in CFEM[3]. Joint conditions encountered were typically planar and rough with apparent dips predominately greater than 60˚. Some slickensided surfaces were logged indicating potential fault intercepts.

Excavator refusal was encountered in test pits BCTP-4, BCTP-10 and BCTP-11 at depths between 3.0 m and 4.6 m below ground surface, between Elevations 385.0 m and 382.9 m.

4.3.5 Groundwater Conditions

Groundwater levels were measured in the open boreholes and test pits during and upon completion of drilling/excavating at depths ranging between 0.5 m above ground surface and 3.5 m below ground surface, between Elevations 389.2 m and 379.4 m. Monitoring wells were installed in Boreholes BC14-8, BC14-13, BC14-17 and BC14-20, sealed within the overburden or bedrock, and the measured groundwater levels in the monitoring wells are presented below.

[3] Canadian Geotechnical Society, 2006. Canadian Foundation Engineering Manual, 4th Edition.

Borehole	Date	Groundwater Depth Below Ground Surface (m)	Groundwater Elevation (m)
BC14-8	November 13, 2014	0.2	388.2
BC14-13	August 8, 2014	2.0	383.2
	November 15, 2014	1.7	381.4
BC14-17	July 26, 2014	-0.1	388.4
	November 14, 2014	0.0 (well frozen)	388.3
BC14-20	July 23, 2014	0.0	379.4
	November 14, 2014	Flowing artesian	Not measured

Groundwater elevations will vary depending on seasonal fluctuations, precipitation and local soil permeability.

4.3.5.1 Hydraulic Conductivity

Golder conducted bail testing on three monitoring wells installed between July and September 2014. The hydraulic conductivity of the screened material over the screened interval of the monitoring well was interpreted from the results using the Hvorslev formula as follows:

$$K = \frac{r^2 ln(L/R)}{2\,L\,To}$$

Where:

K = *hydraulic conductivity*

r = *radius of the well (standpipe)*

L = *length of test interval*

R = *borehole radius*

T_o = *time for recovery to within 37% of static water level*

The table below summarizes the hydraulic conductivities estimated from the results of the rising head tests.

Borehole ID	Screened Material	Estimated Hydraulic Conductivity (m/s)
BC14-8	Sandy Silt to Sandy Silty Gravel	2.75×10^{-5}
BC14-13	Sand	1.00×10^{-4}
BC14-20	Bedrock	1.76×10^{-5}

Note: m/s = metres per second

The complete rising head test results for Boreholes BC14-8, BC14-13 and BC14-20 can be found on Figures B3 to B5 of Appendix B, respectively.

5.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

5.1 Standard of Care

Golder has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

5.2 Basis and Use of the Report

This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder cannot be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this Report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder cannot be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect

construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

5.3 Soil, Rock and Groundwater Conditions

Classification and identification of soils, rocks and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated, the soil must be protected from these changes during construction.

5.4 Sample Disposal

Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

5.5 Follow-up and Construction Services

All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the report.

5.6 Changed Conditions and Drainage

Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

6.0 CLOSURE

We trust that the above information is sufficient for use at this time. Should you require clarification, please feel free to contact the undersigned.

Report Signature Page

GOLDER ASSOCIATES LTD.

Matt Thibeault

Matthew Thibeault, EIT
Geotechnical Engineering Intern

K. Salvatori Lee

Kerry Salvatori Lee, P.Eng.
Associate/Senior Geotechnical Engineer

MT/KSL/kp

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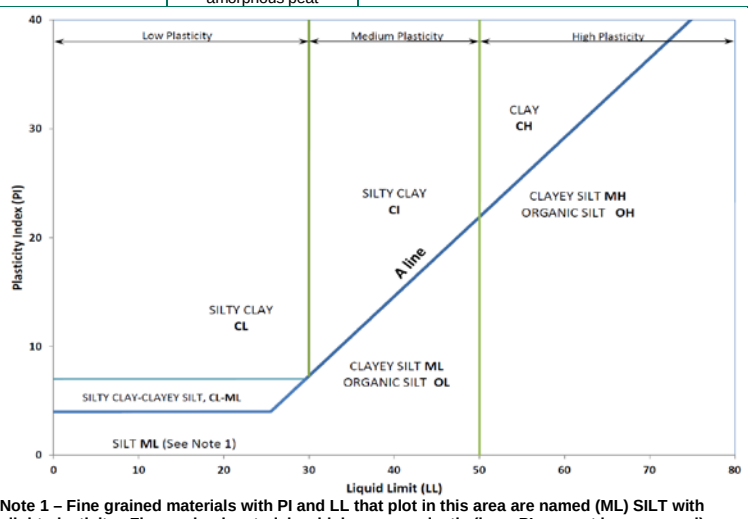
METHOD OF SOIL CLASSIFICATION

The Golder Associates Ltd. Soil Classification System is based on the Unified Soil Classification System (USCS)

Organic or Inorganic	Soil Group	Type of Soil		Gradation or Plasticity	$Cu = \frac{D_{60}}{D_{10}}$	$Cc = \frac{(D_{30})^2}{D_{10} x D_{60}}$	Organic Content	USCS Group Symbol	Group Name
INORGANIC (Organic Content ≤30% by mass)	COARSE-GRAINED SOILS (>50% by mass is larger than 0.075 mm)	GRAVELS (>50% by mass of coarse fraction is larger than 4.75 mm)	Gravels with ≤12% fines (by mass)	Poorly Graded	<4	≤1 or ≥3	≤30%	GP	GRAVEL
				Well Graded	≥4	1 to 3		GW	GRAVEL
			Gravels with >12% fines (by mass)	Below A Line	n/a			GM	SILTY GRAVEL
				Above A Line	n/a			GC	CLAYEY GRAVEL
		SANDS (≥50% by mass of coarse fraction is smaller than 4.75 mm)	Sands with ≤12% fines (by mass)	Poorly Graded	<6	≤1 or ≥3		SP	SAND
				Well Graded	≥6	1 to 3		SW	SAND
			Sands with >12% fines (by mass)	Below A Line	n/a			SM	SILTY SAND
				Above A Line	n/a			SC	CLAYEY SAND

Organic or Inorganic	Soil Group	Type of Soil		Laboratory Tests	Field Indicators: Dilatancy	Dry Strength	Shine Test	Thread Diameter	Toughness (of 3 mm thread)	Organic Content	USCS Group Symbol	Primary Name
INORGANIC (Organic Content ≤30% by mass)	FINE-GRAINED SOILS (≥50% by mass is smaller than 0.075 mm)	SILTS (Non-Plastic or PI and LL plot below A-Line on Plasticity Chart below)		Liquid Limit <50	Rapid	None	None	>6 mm	N/A (can't roll 3 mm thread)	<5%	ML	SILT
					Slow	None to Low	Dull	3mm to 6 mm	None to low	<5%	ML	CLAYEY SILT
					Slow to very slow	Low to medium	Dull to slight	3mm to 6 mm	Low	5% to 30%	OL	ORGANIC SILT
				Liquid Limit ≥50	Slow to very slow	Low to medium	Slight	3mm to 6 mm	Low to medium	<5%	MH	CLAYEY SILT
					None	Medium to high	Dull to slight	1 mm to 3 mm	Medium to high	5% to 30%	OH	ORGANIC SILT
		CLAYS (PI and LL plot above A-Line on Plasticity Chart below)		Liquid Limit <30	None	Low to medium	Slight to shiny	~ 3 mm	Low to medium	0% to 30% (see Note 2)	CL	SILTY CLAY
				Liquid Limit 30 to 50	None	Medium to high	Slight to shiny	1 mm to 3 mm	Medium		CI	SILTY CLAY
				Liquid Limit ≥50	None	High	Shiny	<1 mm	High		CH	CLAY
HIGHLY ORGANIC SOILS (Organic Content >30% by mass)		Peat and mineral soil mixtures								30% to 75%	PT	SILTY PEAT, SANDY PEAT
		Predominantly peat, may contain some mineral soil, fibrous or amorphous peat								75% to 100%		PEAT



Note 1 – Fine grained materials with PI and LL that plot in this area are named (ML) SILT with slight plasticity. Fine-grained materials which are non-plastic (i.e. a PL cannot be measured) are named SILT.

Note 2 – For soils with <5% organic content, include the descriptor "trace organics" for soils with between 5% and 30% organic content include the prefix "organic" before the Primary name.

Dual Symbol — A dual symbol is two symbols separated by a hyphen, for example, GP-GM, SW-SC and CL-ML.

For non-cohesive soils, the dual symbols must be used when the soil has between 5% and 12% fines (i.e. to identify transitional material between "clean" and "dirty" sand or gravel.

For cohesive soils, the dual symbol must be used when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart (see Plasticity Chart at left).

Borderline Symbol — A borderline symbol is two symbols separated by a slash, for example, CL/CI, GM/SM, CL/ML.

A borderline symbol should be used to indicate that the soil has been identified as having properties that are on the transition between similar materials. In addition, a borderline symbol may be used to ~~or~~ indicate~~s~~ a range of similar soil types within a stratum.

ABBREVIATIONS AND TERMS USED ON RECORDS OF BOREHOLES AND TEST PITS

PARTICLE SIZES OF CONSTITUENTS

Soil Constituent	Particle Size Description	Millimetres	Inches (US Std. Sieve Size)
BOULDERS	Not Applicable	>300	>12
COBBLES	Not Applicable	75 to 300	3 to 12
GRAVEL	Coarse Fine	19 to 75 4.75 to 19	0.75 to 3 (4) to 0.75
SAND	Coarse Medium Fine	2.00 to 4.75 0.425 to 2.00 0.075 to 0.425	(10) to (4) (40) to (10) (200) to (40)
SILT/CLAY	Classified by plasticity	<0.075	< (200)

MODIFIERS FOR SECONDARY AND MINOR CONSTITUENTS

Percentage by Mass	Modifier
>35	Use 'and' to combine major constituents (*i.e.,* SAND and GRAVEL, SAND and CLAY)
> 12 to 35	Primary soil name prefixed with "gravelly, sandy, SILTY, CLAYEY" as applicable
> 5 to 12	some
≤ 5	trace

PENETRATION RESISTANCE

Standard Penetration Resistance (SPT), N:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) required to drive a 50 mm (2 in.) split-spoon sampler for a distance of 300 mm (12 in.).

Cone Penetration Test (CPT)

An electronic cone penetrometer with a 60° conical tip and a project end area of 10 cm^2 pushed through ground at a penetration rate of 2 cm/s. Measurements of tip resistance (q_t), porewater pressure (u) and sleeve frictions are recorded electronically at 25 mm penetration intervals.

Dynamic Cone Penetration Resistance (DCPT); N_d:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) to drive uncased a 50 mm (2 in.) diameter, 60° cone attached to "A" size drill rods for a distance of 300 mm (12 in.).

PH: Sampler advanced by hydraulic pressure
PM: Sampler advanced by manual pressure
WH: Sampler advanced by static weight of hammer
WR: Sampler advanced by weight of sampler and rod

SAMPLES

AS	Auger sample
BS	Block sample
CS	Chunk sample
DO or DP	Seamless open ended, driven or pushed tube sampler – note size
DS	Denison type sample
FS	Foil sample
RC	Rock core
SC	Soil core
SS	Split spoon sampler – note size
ST	Slotted tube
TO	Thin-walled, open – note size
TP	Thin-walled, piston – note size
WS	Wash sample

SOIL TESTS

w	water content
PL , w_p	plastic limit
LL , w_L	liquid limit
C	consolidation (oedometer) test
CHEM	chemical analysis (refer to text)
CID	consolidated isotropically drained triaxial test[1]
CIU	consolidated isotropically undrained triaxial test with porewater pressure measurement[1]
D_R	relative density (specific gravity, Gs)
DS	direct shear test
GS	specific gravity
M	sieve analysis for particle size
MH	combined sieve and hydrometer (H) analysis
MPC	Modified Proctor compaction test
SPC	Standard Proctor compaction test
OC	organic content test
SO_4	concentration of water-soluble sulphates
UC	unconfined compression test
UU	unconsolidated undrained triaxial test
V (FV)	field vane (LV-laboratory vane test)
γ	unit weight

1. Tests which are anisotropically consolidated prior to shear are shown as CAD, CAU.

NON-COHESIVE (COHESIONLESS) SOILS

Compactness[2]

Term	SPT 'N' (blows/0.3m)[1]
Very Loose	0 - 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very Dense	>50

1. SPT 'N' in accordance with ASTM D1586, uncorrected for overburden pressure effects.
2. Definition of compactness descriptions based on SPT 'N' ranges from Terzaghi and Peck (1967) and correspond to typical average N_{60} values.

Field Moisture Condition

Term	Description
Dry	Soil flows freely through fingers.
Moist	Soils are darker than in the dry condition and may feel cool.
Wet	As moist, but with free water forming on hands when handled.

COHESIVE SOILS

Consistency

Term	Undrained Shear Strength (kPa)	SPT 'N'[1] (blows/0.3m)
Very Soft	<12	0 to 2
Soft	12 to 25	2 to 4
Firm	25 to 50	4 to 8
Stiff	50 to 100	8 to 15
Very Stiff	100 to 200	15 to 30
Hard	>200	>30

1. SPT 'N' in accordance with ASTM D1586, uncorrected for overburden pressure effects; approximate only.

Water Content

Term	Description
w < PL	Material is estimated to be drier than the Plastic Limit.
w ~ PL	Material is estimated to be close to the Plastic Limit.
w > PL	Material is estimated to be wetter than the Plastic Limit.

LIST OF SYMBOLS

Unless otherwise stated, the symbols employed in the report are as follows:

I. GENERAL

π	3.1416
ln x	natural logarithm of x
$\log_{10}$	x or log x, logarithm of x to base 10
g	acceleration due to gravity
t	time

II. STRESS AND STRAIN

γ	shear strain
Δ	change in, e.g. in stress: $\Delta\sigma$
ε	linear strain
ε_v	volumetric strain
η	coefficient of viscosity
υ	Poisson's ratio
σ	total stress
σ'	effective stress ($\sigma' = \sigma - u$)
σ'_{vo}	initial effective overburden stress
σ_1, σ_2, σ_3	principal stress (major, intermediate, minor)
σ_{oct}	mean stress or octahedral stress $= (\sigma_1 + \sigma_2 + \sigma_3)/3$
τ	shear stress
u	porewater pressure
E	modulus of deformation
G	shear modulus of deformation
K	bulk modulus of compressibility

III. SOIL PROPERTIES

(a) Index Properties

$\rho(\gamma)$	bulk density (bulk unit weight)*
$\rho_d(\gamma_d)$	dry density (dry unit weight)
$\rho_w(\gamma_w)$	density (unit weight) of water
$\rho_s(\gamma_s)$	density (unit weight) of solid particles
γ'	unit weight of submerged soil ($\gamma' = \gamma - \gamma_w$)
D_R	relative density (specific gravity) of solid particles ($D_R = \rho_s / \rho_w$) (formerly G_s)
e	void ratio
n	porosity
S	degree of saturation

* Density symbol is ρ. Unit weight symbol is γ where $\gamma = \rho g$ (i.e. mass density multiplied by acceleration due to gravity)

(a) Index Properties (continued)

w	water content
w_l or LL	liquid limit
w_p or PL	plastic limit
I_p or PI	plasticity index = $(w_l - w_p)$
w_s	shrinkage limit
I_L	liquidity index = $(w - w_p) / I_p$
I_C	consistency index = $(w_l - w) / I_p$
e_{max}	void ratio in loosest state
e_{min}	void ratio in densest state
I_D	density index = $(e_{max} - e) / (e_{max} - e_{min})$ (formerly relative density)

(b) Hydraulic Properties

h	hydraulic head or potential
q	rate of flow
v	velocity of flow
i	hydraulic gradient
k	hydraulic conductivity (coefficient of permeability)
j	seepage force per unit volume

(c) Consolidation (one-dimensional)

C_c	compression index (normally consolidated range)
C_r	recompression index (over-consolidated range)
C_s	swelling index
C_α	secondary compression index
m_v	coefficient of volume change
c_v	coefficient of consolidation (vertical direction)
c_h	coefficient of consolidation (horizontal direction)
T_v	time factor (vertical direction)
U	degree of consolidation
σ'_p	pre-consolidation stress
OCR	over-consolidation ratio = σ'_p / σ'_{vo}

(d) Shear Strength

τ_p, τ_r	peak and residual shear strength
ϕ'	effective angle of internal friction
δ	angle of interface friction
μ	coefficient of friction = tan δ
c'	effective cohesion
c_u, s_u	undrained shear strength ($\phi = 0$ analysis)
p	mean total stress $(\sigma_1 + \sigma_3)/2$
p′	mean effective stress $(\sigma'_1 + \sigma'_3)/2$
q	$(\sigma_1 - \sigma_3)/2$ or $(\sigma'_1 - \sigma'_3)/2$
q_u	compressive strength $(\sigma_1 - \sigma_3)$
S_t	sensitivity

Notes: 1 $\tau = c' + \sigma' \tan \phi'$

2 shear strength = (compressive strength)/2

LITHOLOGICAL AND GEOTECHNICAL ROCK DESCRIPTION TERMINOLOGY

WEATHERINGS STATE

Fresh: no visible sign of weathering

Faintly weathered: weathering limited to the surface of major discontinuities.

Slightly weathered: penetrative weathering developed on open discontinuity surfaces but only slight weathering of rock material.

Moderately weathered: weathering extends throughout the rock mass but the rock material is not friable.

Highly weathered: weathering extends throughout rock mass and the rock material is partly friable.

Completely weathered: rock is wholly decomposed and in a friable condition but the rock and structure are preserved.

BEDDING THICKNESS

Description	Bedding Plane Spacing
Very thickly bedded	Greater than 2 m
Thickly bedded	0.6 m to 2 m
Medium bedded	0.2 m to 0.6 m
Thinly bedded	60 mm to 0.2 m
Very thinly bedded	20 mm to 60 mm
Laminated	6 mm to 20 mm
Thinly laminated	Less than 6 mm

JOINT OR FOLIATION SPACING

Description	Spacing
Very wide	Greater than 3 m
Wide	1 m to 3 m
Moderately close	0.3 m to 1 m
Close	50 mm to 300 mm
Very close	Less than 50 mm

GRAIN SIZE

Term	Size*
Very Coarse Grained	Greater than 60 mm
Coarse Grained	2 mm to 60 mm
Medium Grained	60 microns to 2 mm
Fine Grained	2 microns to 60 microns
Very Fine Grained	Less than 2 microns

Note: * Grains greater than 60 microns diameter are visible to the naked eye.

CORE CONDITION

Total Core Recovery (TCR)
The percentage of solid drill core recovered regardless of quality or length, measured relative to the length of the total core run.

Solid Core Recovery (SCR)
The percentage of solid drill core, regardless of length, recovered at full diameter, measured relative to the length of the total core run.

Rock Quality Designation (RQD)
The percentage of solid drill core, greater than 100 mm length, recovered at full diameter, measured relative to the length of the total core run. RQD varied from 0% for completely broken core to 100% for core in solid sticks.

DISCONTINUITY DATA

Fracture Index
A count of the number of discontinuities (physical separations) in the rock core, including both naturally occurring fractures and mechanically induced breaks caused by drilling.

Dip with Respect to Core Axis
The angle of the discontinuity relative to the axis (length) of the core. In a vertical borehole a discontinuity with a 90° angle is horizontal.

Description and Notes
An abbreviation description of the discontinuities, whether naturally occurring separations such as fractures, bedding planes and foliation planes or mechanically induced features caused by drilling such as ground or shattered core and mechanically separated bedding or foliation surfaces. Additional information concerning the nature of fracture surfaces and infillings are also noted.

Abbreviations

JN	Joint	PL	Planar
FLT	Fault	CU	Curved
SH	Shear	UN	Undulating
VN	Vein	IR	Irregular
FR	Fracture	K	Slickensided
SY	Stylolite	PO	Polished
BD	Bedding	SM	Smooth
FO	Foliation	SR	Slightly Rough
CO	Contact	RO	Rough
AXJ	Axial Joint	VR	Very Rough
KV	Karstic Void		
MB	Mechanical Break		

Table 1: Summary of 2014 Geotechnical Field Investigation

Investigated Area	Test Pit/Borehole No.	Location (UTM NAD 83)		Ground Surface Elevation (m)	Test Pit/Borehole Depth (m)
		Northing	Easting		
Tailings Management Facility	TMF14-1	5274058	430504	377.1	15.9
	TMF14-2	5272826	428554	391.8	3.9
	TMF14-3	5272118	428119	386.4	8.0
	TMF14-4	5271578	428112	391.1	6.1
	TMF14-5	5271226	428501	393.2	8.1
	TMF14-6	5271130	429993	385.6	4.7
	TMF14-7	5270831	431136	383.8	5.3
	TMF14-8	5270950	431891	394.4	11.7
Bagsverd Creek Realignment	BCTP-1	5272960	427549	383.3	5.0
	BCTP-2	5272850	427660	386.8	4.0
	BCTP-3	5272799	427696	387.5	5.0
	BCTP-4	5272646	427765	388.0	3.0
	BCTP-5	5272595	427777	388.1	2.0

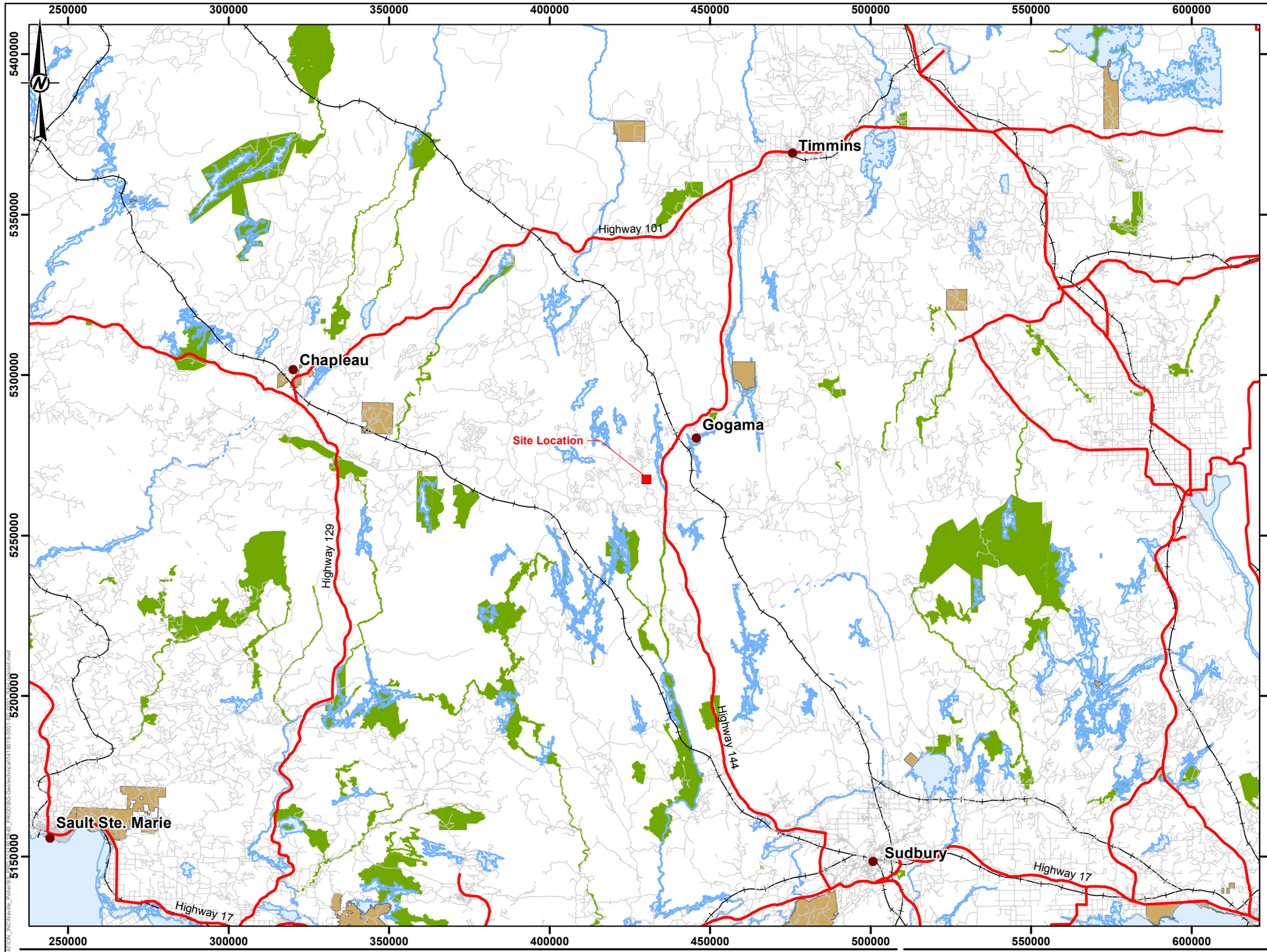
Table 1: Summary of 2014 Geotechnical Field Investigation

Investigated Area	Test Pit/Borehole No.	Location (UTM NAD 83)		Ground Surface Elevation (m)	Test Pit/Borehole Depth (m)
		Northing	Easting		
Bagsverd Creek Realignment	BCTP-8	5271537	427841	384.9	3.3
	BCTP-9	5271338	427891	389.3	4.1
	BCTP-10	5271271	427882	389.0	4.5
	BCTP-11	5271038	427864	387.5	4.6
	BCTP-12	5270862	427916	389.0	0.8
	BC14-8	5270817	428231	389.3	14.8
	BC14-9	5270814	427999	388.7	15.0
	BC14-10	5270926	427864	386.8	13.8
	BC14-11	5271166	427874	388.6	14.7
	BC14-12	5271437	427913	389.7	17.3
	BC14-13	5271670	427754	385.2	12.4
	BC14-14	5271838	427731	383.4	11.0
	BC14-15	5272082	427770	386.1	13.7
	BC14-16	5272290	427826	387.1	15.5

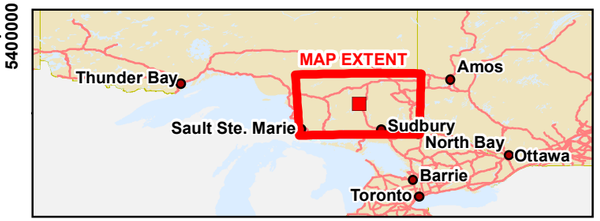
Table 1: Summary of 2014 Geotechnical Field Investigation

Investigated Area	Test Pit/Borehole No.	Location (UTM NAD 83)		Ground Surface Elevation (m)	Test Pit/Borehole Depth (m)
		Northing	Easting		
Bagsverd Creek Realignment	BC14-17	5272496	427785	388.3	17.3
	BC14-18	5272719	427727	387.9	16.8
	BC14-19	5272914	427589	384.8	14.1
	BC14-20	5272996	427498	379.4	9.2

Prepared By: MT
Checked By: KSL



KEY MAP



LEGEND

- Côté Lake Project
- Populated Places
- Major Roads
- ON_Roads
- Railway
- First Nations Communities
- Waterbodies
- Provincial Park

NOTES

THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1416019

REFERENCE

CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE – ONTARIO.
HTTPS://WWW.ONTARIO.CA/GOVERNMENT/OPEN-GOVERNMENT-LICENCE-ONTARIO
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 17 VERTICAL DATUM: CGVD28

0 12,500 25,000 50,000
SCALE 1:1,250,000 METRES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1 in

CLIENT
TRELAWNEY MINING AND EXPLORATION INC.

PROJECT
2014 FIELD INVESTIGATION
GOLDON RESOURCES LTD.

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-03-05
PREPARED	RRD
DESIGN	RRD
REVIEW	MT
APPROVED	KSL

TITLE
PROJECT LOCATION PLAN

PROJECT No.	PHASE	Rev.	FIGURE
1416019		A	1

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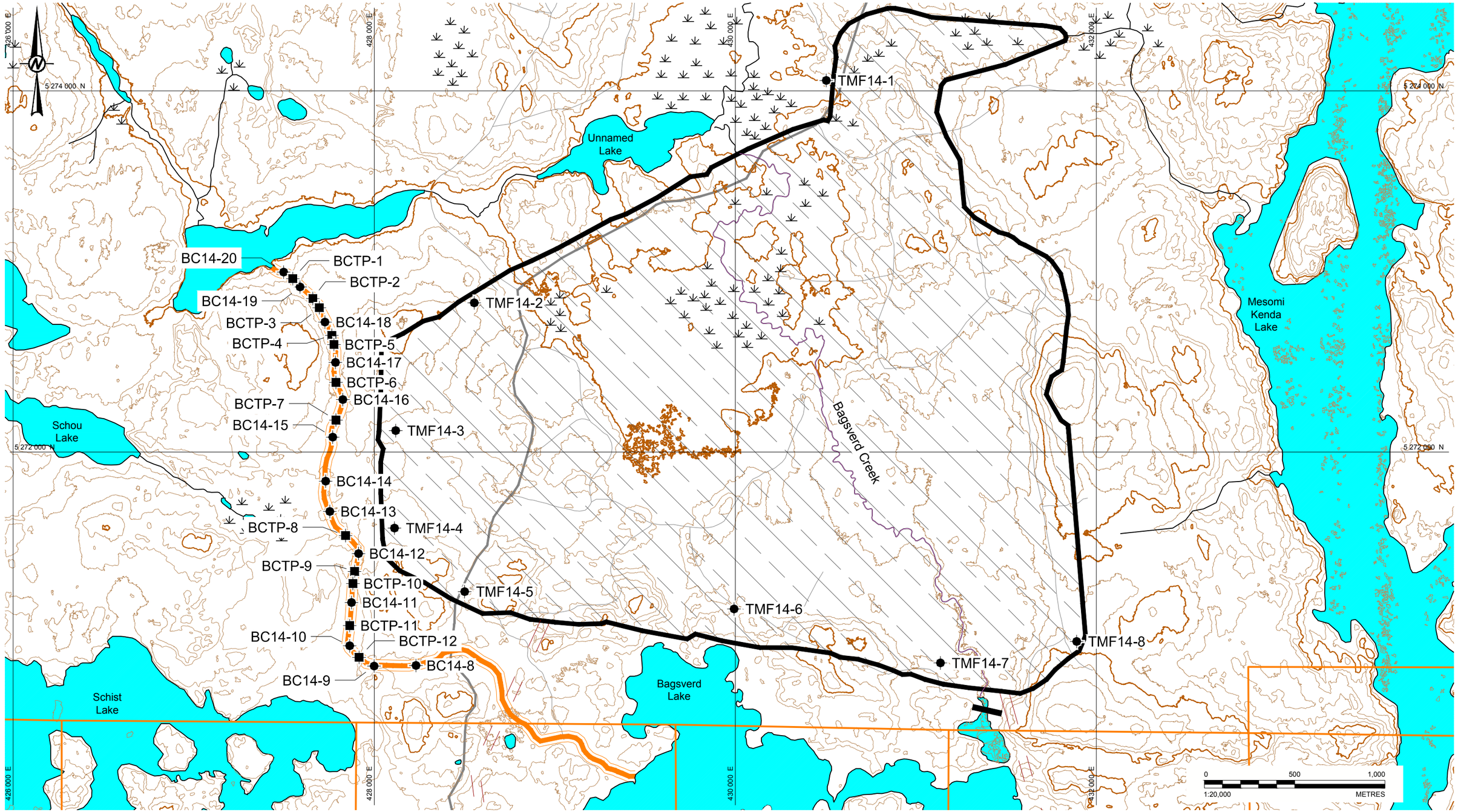

LEGEND

- 2014 BOREHOLE LOCATIONS (GOLDER)
- 2014 TEST PIT LOCATIONS (GOLDER)

CLIENT
TRELAWNEY MINING AND EXPLORATION INC.

PROJECT
2014 FIELD INVESTIGATION
GOLDON RESOURCES LTD.

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-03-05
PREPARED	JJL
DESIGN	JJL
REVIEW	MT
APPROVED	KSL

TITLE
BOREHOLE AND TEST PIT LOCATION PLAN

PROJECT No.	PHASE	Rev.	FIGURE
1416019	----	A	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
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APPENDIX A

Tailings Management Facility

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-1

LOCATION: N 5274058.0 ;E 430504.0

BORING DATE: August 25 and 26, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊢—○W—⊣ Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		377.1							
0	August 25 and 26, 2014; 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(SM) gravelly SILTY SAND; brown to grey; non-cohesive, moist to wet, loose to dense.		0.0	1	SS	6		○		Granular Bentonite
		Boulder encountered at 0.5 m depth.									
1											Cuttings
2					2	SS	44		○	MH	August 26, 2014
											Granular Bentonite
3					3	SS	16		○		
				373.3							
4		(ML) sandy gravelly SILT to sandy SILT; grey; non-cohesive, moist to wet, compact to dense.		3.8							
					4	SS	10/ 0.08		○		
5											
6					5	SS	25/ 0.08				Cave-In
		Cobble encountered at 6.3 m depth.									
7											
					6	SS	6/ 0.08		○		
8		Cobble encountered at 7.8 m depth.									
9											
					7	SS	36		○	MH NP	Granular Bentonite
10											
				366.3							
11		SOIL and COBBLES / BOULDERS, (SP) SAND some gravel; grey; wet, dense.		10.8	8	SS	35/ 0.15		○		Sand
					-	RC	REC 76%				38 mm Diameter PVC Screen
12											

CONTINUED NEXT PAGE

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 13/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-1

LOCATION: N 5274058.0 ;E 430504.0

BORING DATE: August 25 and 26, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									
12		SOIL and COBBLES / BOULDERS, (SP) SAND some gravel; grey; wet, dense.		364.2	-	RC	REC 76%				
								CONTINUED NEXT PAGE (ON ROCK LOG)			
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 13/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-1

LOCATION: N 5274058.0 ;E 430504.0

DRILLING DATE: August 26, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-1		364.2																
13	NW	BIOTITE TONALITE; medium strong to very strong; fresh to moderately weathered; medium to coarse grained, grey pink.		12.9	1	GREY 100%							JNCURO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNIRRO							
14	August 26, 2014 NQ Coring				2	GREY 100%							JNIRRO, JNIRRO, JNPLRO, JNCURO							
15				361.2	3	GREY 100%							JNPLRO, JNPLRO, JNPLRO, JNCURO, JNCURO, JNPLRO, JNPLRO, JNPLRO, JNPLRO							
16		END OF DRILLHOLE		15.9																
17		Notes: 1. Topsoil was stripped off and overburden was levelled at borehole location for drill rig access. 2. NP - Atterberg limit testing returned a non-plastic result.																		
18																				
19																				
20																				
21																				
22																				
23																				
24																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-2

LOCATION: N 5272826.0 ;E 428554.0

BORING DATE: July 27, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		391.8							
0	July 27, 2014 NW Casing	(SM) SILTY SAND, some gravel, black and brown; non-cohesive, moist, compact.		0.0	1	SS	17		○		July 27, 2014 Granular Bentonite
				391.1				CONTINUED NEXT PAGE (ON ROCK LOG)			
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-2

LOCATION: N 5272826.0 ;E 428554.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: July 27, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-2		391.1																	
1	July 27, 2014 NW NQ Coring	BIOTITE TONALITE; very coarse grained, grey pink.		0.7	1		GREY 100%							JNFORO							Granular Bentonite
2					2		GREY 100%							JNCURO JNCURO JNIRRO JNIRRO JNIRRO JNIRRO JNIRRO							November 14, 2014 Sand
3					3		GREY 100%							JNCURO JNIRRO JNIRRO JNIRRO JNIRRO							38 mm Diameter PVC Screen
4		END OF DRILLHOLE		387.9 3.9																	
5		Note: 1. Cobbles and boulders observed around borehole location at ground surface.																			
6																					
7																					
8																					
9																					
10																					
11																					
12																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-3

SHEET 1 OF 2

LOCATION: N 5272118.0 ;E 428119.0

BORING DATE: August 20 and 21, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		386.4							
0	August 20 and 21, 2014; 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) Fibrous PEAT, trace wood fragments; black; wet, very soft.		0.0	1	SS	WH		373.9		August 21, 2014
1		(GM) sandy SILTY GRAVEL; grey; non-cohesive, wet, compact.		385.3 / 1.1							Granular Bentonite
2					2	SS	16				
		(ML) gravelly, sandy SILT; grey; non-cohesive, wet, dense. Cobble encountered at 2.1 m depth.		384.3 / 2.1							
3					3	SS	37			MH	Sand; 38 mm Diameter PVC Screen
4				381.5	4	SS	10/ 0.03	CONTINUED NEXT PAGE (ON ROCK LOG)			
5											
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9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 13/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-3

LOCATION: N 5272118.0 ;E 428119.0

DRILLING DATE: August 21, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-3		381.5																	
5	NW August 21, 2014 NQ Coring	BIOTITE TONALITE; very stong, fresh; coarse to medium grained, pink.		4.9	1		GREY 100%							JNCURO JNPLRO							
					2		GREY 100%														
6					3		GREY 100%							JNPLRO							Granular Bentonite
														JNPLRO JNPLRO							
7					4		GREY 100%							JNPLRO							
8		END OF DRILLHOLE		378.4 8.0																	
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-4

SHEET 1 OF 2

LOCATION: N 5271578.0 ;E 428112.0

BORING DATE: August 19 and 20, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		391.1							August 20, 2014
0	August 19 and 20, 2014; 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) Fibrous PEAT; black; moist, firm.		0.0	1	SS	8		248.5		November 15, 2014; Granular Bentonite
				390.4							
1		(SM) SILTY SAND, some gravel; grey; non-cohesive, wet, compact.		0.7							
2					2	SS	13			MH	Sand; 38 mm Diameter PVC Screen
3		Augers grinding between 2.7 m and 3.0 m depth.		388.0	3	SS	15/ 0.08				
4											
5											
6											
7											
8											
9											
10											
11											
12											

CONTINUED NEXT PAGE (ON ROCK LOG)

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-4

LOCATION: N 5271578.0 ;E 428112.0

DRILLING DATE: August 20, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-4		388.0																
4	August 20, 2014 NQ Coring	BIOTITE TONALITE; strong, slightly weathered; very coarse grained, pink. Broken core encountered between 3.1 and 3.4 m depth.		3.1	1	GREY 100%							JNCURO; JNCURO; JNCURO; JNCURO; JNPLRO							
5					2	GREY 100%							JNCURO; JNIRRO; JNIRRO; JNIRRO; JNIRRO							Granular Bentonite
6				385.0	3	GREY 100%							JNIRRO; JNCURO; JNIRRO							
		END OF DRILLHOLE		6.1																
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-5

LOCATION: N 5271226.0 ;E 428501.0

BORING DATE: August 28, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		393.2							November 13, 2014
0	August 28, 2014 / 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) SILTY PEAT; black; moist.		0.0							September 3, 2014
		(SM/ML) SILTY SAND to sandy SILT; brown to grey; non-cohesive, moist to wet, loose to compact.		0.2	1	SS	5		○		
1											Granular Bentonite
2					2	SS	9		○	MH	
		Boulder encountered at 2.2 m depth with a thickness of 0.4 m.									
3		Some gravel below 3.0 m depth.			3	SS	18		○		Sand
											38 mm Diameter PVC Screen
4		Cobble encountered at 3.8 m depth.		388.6							

CONTINUED NEXT PAGE (ON ROCK LOG)

5 6 7 8 9 10 11 12

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-5

LOCATION: N 5271226.0 ;E 428501.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 28, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	B Angle	DIP w.r.t. CORE AXIS	TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-5		388.6																	
5	NW	MAFIC VOLCANICS; very strong to extremely strong; fine grained; grey green. Completely weathered zone encountered from 4.6 m to 5.0 m depth.		4.6	1		GREY 100%														
6	August 28, 2014 NQ Coring				2		GREY 100%							JNSTSM							
7					3		GREY 100%							JNPLRO							
8				385.1																	
		END OF DRILLHOLE		8.1																	
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-6

SHEET 1 OF 2

LOCATION: N 5271130.0 ;E 429993.0

BORING DATE: August 22 and 23, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊢—○W—⊣ Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		385.6							
0	August 22 and 23, 2014 NW Casing	(SM) gravelly SILTY SAND; brown; non-cohesive, moist, very loose to loose.		0.0	1	SS	4		○	MH	Granular Bentonite
1				384.0	2	SS	10/ 0.03	CONTINUED NEXT PAGE (ON ROCK LOG)	○		November 13, 2014
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 13/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-6

LOCATION: N 5271130.0 ;E 429993.0

DRILLING DATE: August 23, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-6		384.0																	
2	August 23, 2014 NQ Coring	MAFIC VOLCANICS; strong to extremely strong, fresh; fine grained; grey black.		1.6	1		GREY 100%							JNBDRO JNBDRO JNBDRO JNPLRO							August 23, 2014
3					2		GREY 100%							JNPLRO JNPLRO							Sand
4					3		GREY 100%							JNPLSM JNIRRO							38 mm Diameter PVC Screen
		END OF DRILLHOLE		380.9 4.7																	
5		Note: 1. Topsoil was stripped off and overburden was leveled at borehole location for drilling access.																			
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					

DEPTH SCALE
1 : 60

Golder Associates

LOGGED: EHS
CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-7

LOCATION: N 5270831.0 ;E 431136.0

BORING DATE: August 23, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		383.8							
0	August 23, 2014 NW Casing	(PT) SILTY PEAT; black; moist.		0.0							
		(ML) gravelly, sandy SILT; brown; non-cohesive, moist, very loose to loose.		0.2	1	SS	4		○	MH	
				383.0							
1		(GM) sandy SILTY GRAVEL; brown; non-cohesive, wet, dense. Cobble encountered at 0.8 m depth.		0.8							November 14, 2014
											Granular Bentonite
					2	SS	44		○		August 23, 2014
2				381.7				CONTINUED NEXT PAGE (ON ROCK LOG)			
3											
4											
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10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 13/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-7

LOCATION: N 5270831.0 ;E 431136.0

DRILLING DATE: August 23, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-7		381.7																
3	August 28, 2014 NQ Coring	MAFIC VOLCANICS; strong to extremely strong, fresh; very fine grained; black.		2.1	1	GREY 100%							JNPLRO, JNPLRO, JNIRRO, JNPLRO, JNSTRO, JNIRRO							Granular Bentonite
				380.4	2	GREY 100%							JNSTRO, JNPLRO, JNSTRO, JNPLRO, JNPLRO, JNPLRO, JNSTRO							Sand
4		LAMPROPHYRE; very strong, fresh; medium grained; black.		3.4	3	GREY 100%							JNPLK, JNPLK, JNPLK, JNPLRO, JNPLK, JNPLK							38 mm Diameter PVC Screen
5				378.5																
		END OF DRILLHOLE		5.3																
6		Note: 1. Boulders observed at ground surface around borehole location.																		
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: TMF14-8

SHEET 1 OF 2

LOCATION: N 5270950.0 ;E 431891.0

BORING DATE: August 27, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		394.4							
0	August 27, 2014 108 mm I.D. Continuous Flight Hollow Stem Augers	(PT) Fibrous SILTY PEAT; brown.		0.0							
		(ML) sandy SILT, some gravel; brown; non-cohesive, moist, compact.		0.2	1	SS	12		○		Granular Bentonite
											August 27, 2014
1				393.3							
		(SM) gravelly SILTY SAND to SILTY SAND; grey; non-cohesive, wet, compact.		1.1							Cuttings
		Augers grinding at 1.1 m depth.			2	SS	10		○		
2											
		Augers grinding at 2.4 m depth.									Granular Bentonite
3					3	SS	23		○		
4											
					4	SS	22		○	MH	
5											Sand
6											38 mm Diameter PVC Screen
					5	SS	16		○		
											Sand
7				387.3				CONTINUED NEXT PAGE (ON ROCK LOG)			Granular Bentonite
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF DRILLHOLE: TMF14-8

LOCATION: N 5270950.0 ;E 431891.0

DRILLING DATE: August 27, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE TMF14-8		387.3																
	August 27, 2014 NQ Coring	BIOTITE TONALITE; strong to extremely strong; fresh to slightly weathered; coarse grained; pink.		7.1	1	GREY 100%							JNPLRO JNPLRO						23.2 19.6	
8					2	GREY 100%							JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO						24.9	
9		Silt seam encountered between 8.7 m and 8.9 m depth.			3	GREY 100%							JNIRRO JNSTRO JNPLRO JNPLRO JNCURO JNPLK JNIRRO JNIRRO JNPLRO JNPLRO JNIRRO JNIRRO JNPLRO							Granular Bentonite
10																				
11					4	GREY 100%							JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNSTRO JNPLRO JNPLRO							
				382.7									JNIRRO JNPLRO JNPLRO							
		END OF DRILLHOLE		11.7																
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-01** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology		Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	12.86	**OB**	***Overburden***												
		Boulders and cobbles between 11.24m and 12.86m.													
12.86	15.90	**BTON**	***Biotite Tonalite***												
		Weakly foliated at 55 degrees to core axis. Foliation is evidenced by slightly elongated biotite grains. Hematite alteration occurs throughout.													

Alteration Maj:	***Type/Style/Intensity***	***Comment***
12.86 - 15.90	SI SPT 2	Silicification, Spotty/Patchy, Weak
12.86 - 15.90	HM SPT 3	Hematization, Spotty/Patchy, Moderate

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
12.86 - 15.90	WM FOL 55	Foliated, 55° CA

Texture Maj:	***Type***	***Comment***
12.86 - 15.90	PH	Phaneritic
12.86 - 15.90	CG	Coarse Grained (>5mm)
12.86 - 15.90	MG	Medium Grained(1-5mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
12.86 - 15.90	VN 3 85 100 QCV	Quartz-Calcite Vein, 100%, 85° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-02** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	0.70	**OB**	***Overburden***												
0.70	3.90	**BTON**	***Biotite Tonalite***												

Massive with porphyritic texture. Inequigranular. Pegmatitic plagioclase grains throughout. Mega-porphyritic texture. Mafic enclaves and dykelets occur sporadically. Weak occurrence of chlorite intergranular alteration along biotite graines.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
0.70 - 3.90	CL IG 1	Chloritization, Intergranular, Very weak
0.70 - 3.90	HM AFG 3	Hematization, Alteration of feldspar grains, Moderate

Texture Maj:	***Type***	***Comment***
0.70 - 3.90	CX	Crystalline
0.70 - 3.90	PH	Phaneritic
0.70 - 3.90	PG	Pegmatitic
0.70 - 3.90	PO	Porphyritic

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
0.70 - 3.90	VN 3 45 100 MV	Mafic Veining, 100%, 45° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-3** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	4.90	**OB**	***Overburden***												
4.90	7.99	**BTON**	***Biotite Tonalite***			PI									

Alteration includes weak and pervassive silicification and hematite altered feldspars. Very weak chlorite alteration along biotite graines. Texture is medium to coarse grained and subhedral. Small fault at 6.2m with gouge at 15 degrees to core axis.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
4.90 - 7.99	CL IG 1	Chloritization, Intergranular, Very weak
4.90 - 7.99	HM AFG 2	Hematization, Alteration of feldspar grains, Weak

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
6.20 - 6.21	S GOUGE 15	Fault Gouge, 15° CA

Texture Maj:	***Type***	***Comment***
4.90 - 7.99	EU	Euhedral
4.90 - 7.99	CG	Coarse Grained (>5mm)
4.90 - 7.99	MG	Medium Grained(1-5mm)

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-04** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	3.15	**OB**	***Overburden***												
3.15	6.10	**BTON**	***Biotite Tonalite***			PI									

Pervassive and strong hematite alteration with weak chlorite (light green color) along biotite graines. Weak silicification throuhgout. Weak porphyritic texture. Coarse and subhedral graines. Weak foliation at 25 degrees to core axis.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
3.15 - 6.10	SI PV 1	Silicification, Pervasive, Very weak
3.15 - 6.10	CL IG 1	Chloritization, Intergranular, Very weak
3.15 - 6.10	HM PV 4	Hematization, Pervasive, Strong

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
3.15 - 6.10	W FOL 25	Foliated, 25° CA

Texture Maj:	***Type***	***Comment***
3.15 - 6.10	SB	Subhedral
3.15 - 6.10	CG	Coarse Grained (>5mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
3.15 - 6.10	FACV 1 35 100 CHLV	Chlorite Veining, 100%, 35° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-05** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	5.03	**OB**	***Overburden***												
5.03	8.12	**MVOLC**	***Mafic Volcanics***												

Mafic volcanics with flow banding(possibly foliation) and carbonates along flow(foliated) planes.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
5.03 - 8.12	CL PV 1	Chloritization, Pervasive, Very weak
5.03 - 8.12	CB BNDS 3	Carbonatization, Bands/Banded, Moderate

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
5.03 - 8.12	Py BLB	Pyrite, Blebs, trace, along flow planes

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
5.03 - 8.12	FOL 15	Foliated, 15° CA

Texture Maj:	***Type***	***Comment***
5.03 - 8.12	AN	Anhedral
5.03 - 8.12	FG	Fine Grained (<1mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
5.03 - 8.12	FPV 5 15 100 QCV	Quartz-Calcite Vein, 100%, 15° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-6** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	1.58	**OB**	***Overburden***												
1.58	4.66	**MVOLC**	***Mafic Volcanics***												

Strongly foliated at 15 degrees to core axis with high biotite content. Biotite and quartz are common along foliated planes. Hematite filled fractures preceed foliation. Pyrite specks along foliated planes at 1%.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
1.58 - 4.66	HM FRC 2	Hematization, Along Fractures, Weak
1.58 - 4.66	SI FP 3	Silicification, Along Foliation Planes, Moderate
1.58 - 4.66	BIO FP 3	Biotitization, Along Foliation Planes, Moderate

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
1.58 - 4.66	Py FOL 1	Pyrite, Along foliation, 1%

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
1.58 - 4.66	S FOL 20	Foliated, 20° CA

Texture Maj:	***Type***	***Comment***
1.58 - 4.66	AP	Aphanitic
1.58 - 4.66	FG	Fine Grained (<1mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
1.58 - 4.66	VN 2 10 60 HMV	Hematite Vein, 60%
1.58 - 4.66	VN 2 10 40 CBV	Carbonate Vein, 40%, 10° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-07** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	2.10	**OB**	***Overburden***												
2.10	3.37	**MVOLC**	***Mafic Volcanics***			BLK									

Silicified mafic volcanics with weak foliation. Hematite alteration along foliation planes are common. Epidote alteration clots occur in association with hematite filled fractures. Hematite vein at lower contact with width of 10cm and core axis angle of 55 degrees. Aphanitic texture with glassy core surface. Pyrite along foliation planes.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
2.10 - 3.37	EP CLTS 3	Epidotization, Clots, Moderate
2.10 - 3.37	HM FRC 3	Hematization, Along Fractures, Moderate

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
2.10 - 3.37	Py FOL 1	Pyrite, Along foliation, 1%

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
2.10 - 3.37	WM FOL 10	Foliated, 10° CA

Texture Maj:	***Type***	***Comment***
2.10 - 3.37	AP	Aphanitic

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
2.10 - 3.37	FACV 2 40 100 HMV	Hematite Vein, 100%, 40° CA

3.37	5.26	**IMLAMP**	***Lamprophyre***			BLK									

Biotite throughout. Hematite alteration is common along fractures and near upper contact.

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-07** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)

Alteration Maj:	Type/Style/Intensity	Comment
3.37 - 5.26	HM FRC 2	Hematization, Along Fractures, Weak

Mineralization Maj. :	Type/Style/%Mineral	Comment
3.37 - 5.26	Py	Pyrite, trace, very low

Texture Maj:	Type	Comment
3.37 - 5.26	IEQ	Inequigranular
3.37 - 5.26	FG	Fine Grained (<1mm)
3.37 - 5.26	MG	Medium Grained(1-5mm)

Vein Maj. :	Style/%vein/CoreA/%min/min	Comment
3.37 - 5.26	VN 1 15 100 QCV	Quartz-Calcite Vein, 100%, 15° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-08** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	7.10	**OB**	***Overburden***												
7.10	11.73	**BTON**	***Biotite Tonalite***			PI									

Intermittent occurrence of weak porphyritic texture. Chlorite alteration occurs along biotite.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
7.10 - 9.10	CL IG 1	Chloritization, Intergranular, Very weak
7.10 - 9.10	SI PV 2	Silicification, Pervasive, Weak
7.10 - 9.10	HM IS 2	Hematization, Interstitial, Weak
7.10 - 9.10	HM FRC 2	Hematization, Along Fractures, Weak
9.10 - 11.73	CL IG 1	Chloritization, Intergranular, Very weak
9.10 - 11.73	SI PV 2	Silicification, Pervasive, Weak
9.10 - 11.73	HM PV 4	Hematization, Pervasive, Strong

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
7.10 - 11.73	Py	Pyrite, Blebs, trace

Texture Maj:	***Type***	***Comment***
7.10 - 11.73	PO	Porphyritic, intermittent, weak
7.10 - 11.73	IEQ	Inequigranular
7.10 - 11.73	CG	Coarse Grained (>5mm)
7.10 - 11.73	PH	Phaneritic

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
7.10 - 11.73	VN 2 15 100 CHLV	Chlorite Veining, 100%, 15° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **TMF14-08** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)

Table A1: Summary of Boreholes Samples

Investigated Area	Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Tailings Management Facility	TMF14-1	1	Split-spoon	0.0 m/0.6 m	377.1 m/376.5 m	Gravelly SILTY SAND
		2	Split-spoon	1.5 m/2.1 m	375.6 m/375.0 m	Gravelly SILTY SAND
		3	Split-spoon	3.0 m/3.6 m	374.1 m/373.5 m	Gravelly SILTY SAND
		4	Split-spoon	4.6 m/4.7 m	372.5 m/372.4 m	Sandy gravelly SILT to sandy SILT
		5	Split-spoon	6.1 m/6.3 m	371.0 m/370.8 m	Sandy gravelly SILT to sandy SILT
		6	Split-spoon	7.6 m/7.9 m	369.5 m/369.2 m	Sandy gravelly SILT to sandy SILT
		7	Split-spoon	9.3 m/9.9 m	367.8 m/367.2 m	Sandy gravelly SILT to sandy SILT
		8	Split-spoon	10.8 m/11.0 m	366.3 m/366.1 m	SAND and COBBLES/BOULDERS
	TMF14-2	1	Split-spoon	0.0 m/0.6 m	391.8 m/391.2 m	SILTY SAND
	TMF14-3	1	Split-spoon	0.0 m/0.6 m	386.4 m/385.8 m	Fibrous PEAT
		2	Split-spoon	1.5 m/2.1 m	384.9 m/384.3 m	Sandy SILTY GRAVEL
		3	Split-spoon	3.0 m/3.6 m	383.4 m/382.8 m	Gravelly sandy SILT
		4	Split-spoon	4.7 m/4.9 m	381.7 m/381.5 m	Gravelly sandy SILT
	TMF14-4	1	Split-spoon	0.0 m/0.6 m	391.1 m/390.5 m	Fibrous PEAT
		2	Split-spoon	1.5 m/2.1 m	389.6 m/389.0 m	SILTY SAND
		3	Split-spoon	3.0 m/3.1 m	388.1 m/388.0 m	SILTY SAND

Table A1: Summary of Boreholes Samples

Investigated Area	Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Tailings Management Facility	TMF14-5	1	Split-spoon	0.0 m/0.6 m	393.2 m/392.6 m	SILTY PEAT/SILTY SAND to sandy SILT
		2	Split-spoon	1.5 m/2.1 m	391.7 m/391.1 m	SILTY SAND to sandy SILT
		3	Split-spoon	3.0 m/3.6 m	390.2 m/389.6 m	SILTY SAND to sandy SILT
	TMF14-6	1	Split-spoon	0.0 m/0.6 m	385.6 m/385.0 m	Gravelly SILTY SAND
		2	Split-spoon	1.6 m/1.6 m	384.0 m/384.0 m	Gravelly SILTY SAND
	TMF14-7	1	Split-spoon	0.0 m/0.6 m	383.8 m/383.2 m	SILTY PEAT/gravelly sandy SILT
		2	Split-spoon	1.5 m/2.1 m	382.3 m/381.7 m	Sandy SILTY GRAVEL
	TMF14-8	1	Split-spoon	0.0 m/0.6 m	394.4 m/393.8 m	Fibrous SILTY PEAT/sandy SILT
		2	Split-spoon	1.5 m/2.1 m	392.9 m/392.3 m	Gravelly SILTY SAND to SILTY SAND
		3	Split-spoon	3.0 m/3.6 m	391.4 m/390.8 m	Gravelly SILTY SAND to SILTY SAND
		4	Split-spoon	4.6 m/5.2 m	389.8 m/389.2 m	Gravelly SILTY SAND to SILTY SAND
		5	Split-spoon	6.1 m/6.7 m	388.3 m/387.7 m	Gravelly SILTY SAND to SILTY SAND

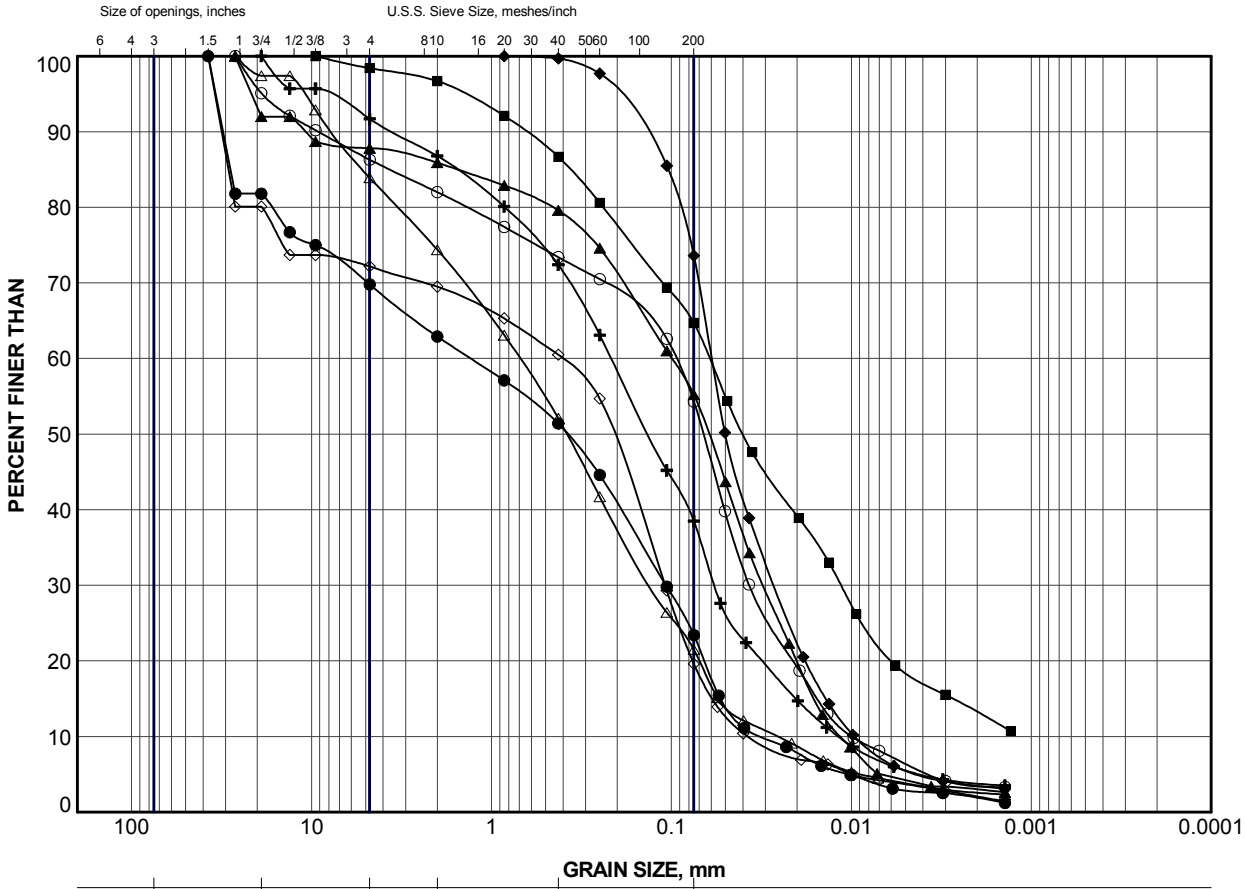
Prepared By: MT
Checked By: KSL

Table A2: Point Load Test Results

Borehole Number	Run Number	Sample Depth (m)	Sample Elevation (m)	Bedrock Description	Test Type	Core Length (mm)	Core Diameter (mm)	Is (50 mm)
TMF14-5	1	5.1	192.7	Mafic Volcanics	Diametral	70	47	9.2
TMF14-5	1	5.5	192.3	Mafic Volcanics	Axial	45	47	6.1
TMF14-5	1	5.5	192.3	Mafic Volcanics	Axial	45	47	8.9
TMF14-5	1	5.5	192.3	Mafic Volcanics	Diametral	95	47	15.7
TMF14-5	2	7.0	190.8	Mafic Volcanics	Diametral	85	47	7.0
TMF14-6	1	2.6	179.7	Mafic Volcanics	Diametral	70	47	14.2
TMF14-6	2	3.4	178.9	Mafic Volcanics	Axial	50	47	2.6
TMF14-6	2	3.9	178.4	Mafic Volcanics	Axial	40	47	6.9
TMF14-6	3	4.5	177.8	Mafic Volcanics	Diametral	80	47	19.6
TMF14-6	3	4.6	177.7	Mafic Volcanics	Diametral	100	47	13.2
TMF14-7	2	2.7	177.1	Mafic Volcanics	Diametral	80	47	12.5
TMF14-7	2	2.9	176.9	Mafic Volcanics	Diametral	70	47	13.7
TMF14-7	2	3.0	176.8	Mafic Volcanics	Axial	60	47	12.2
TMF14-7	2	3.6	176.2	Lamprophyre	Diametral	90	47	5.8
TMF14-7	2	3.9	175.9	Lamprophyre	Diametral	90	47	10.9
TMF14-7	3	4.0	175.8	Lamprophyre	Diametral	80	47	2.2
TMF14-7	3	4.8	175.0	Lamprophyre	Diametral	90	47	13.6
TMF14-8	2	7.5	386.9	Biotite Tonalite	Diametral	80	47	23.2
TMF14-8	2	7.6	386.8	Biotite Tonalite	Diametral	80	47	39.6
TMF14-8	2	8.6	385.8	Biotite Tonalite	Diametral	80	47	24.9
TMF14-8	4	10.3	384.1	Biotite Tonalite	Diametral	80	47	12.0

Borehole Number	Run Number	Sample Depth (m)	Sample Elevation (m)	Bedrock Description	Test Type	Core Length (mm)	Core Diameter (mm)	Is (50 mm)
TMF14-8	4	10.5	383.9	Biotite Tonalite	Diametral	70	47	5.7

Prepared By: MT
Checked By: KSL



LEGEND

SYMBOL	BOREHOLE	SAMPLE	ELEV (m)
●	TMF14-1	2	375.3
■	TMF14-1	7	367.5
▲	TMF14-3	3	383.0
✚	TMF14-4	2	389.3
◆	TMF14-5	2	391.4
◇	TMF14-6	1	385.3
○	TMF14-7	1	383.5
△	TMF14-8	4	389.5

PROJECT

GOLDON RESOURCES LTD.
TAILINGS MANAGEMENT FACILITY

TITLE

GRAIN SIZE DISTRIBUTION

SILT to SILTY SAND

Golder Associates
SUDBURY, ONTARIO

PROJECT No.		1416019	FILE No.	1402173.GPJ
DRAWN	JJL	Mar 2015	SCALE N/A	REV.
CHECK	MT	Mar 2015		
APPR	KSL	Mar 2015		

FIGURE A1

SUD-GSD (NEW) GLDR_LDN.GDT

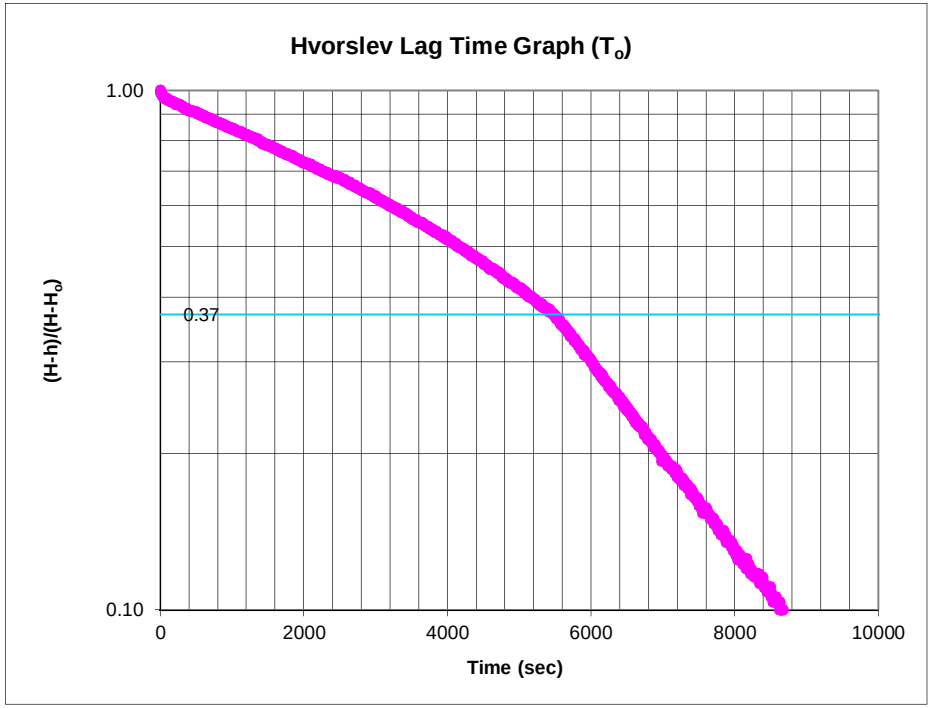
TMF14-2 - Monitoring Well Conductivity Tests

Hvorslev Calculation
(for Hydraulic Conductivity from Response Tests)

Well Name =	**TMF14-2**	
Well Depth =	4.58 m	
Initial WL (H_o) =	2.71 m	
Radius of pipe (r) =	0.038 m	(1.5" diameter)
Radius of hole (R) =	0.044 m	(Radius of NW outside casing diameter)
Length of screen (L) =	1.524 m	(5 foot screen)
Water Level at Max Drawdown (H) =	3.927 m	
$H-H_o$ =	1.217 m	
Lag time (T_o) =	5490	(time at $(H-h)/(H-H_o)$ = 0.37 on graph)

Hydraulic Cond.(K) = **3.07E-07 m/s** **Screened material = bedrock (biotite tonalite)**
3.07E-05 cm/s

Time (sec)	WL (m)	$H-H_o$ (m)	$(H-h)/(H-H_o)$
0	3.9269	1.22	1.00
5	3.9159	1.21	0.99
10	3.9159	1.21	0.99
15	3.9119	1.20	0.99
20	3.9069	1.20	0.98
25	3.9069	1.20	0.98
30	3.8999	1.19	0.98
35	3.8979	1.19	0.98
40	3.8949	1.18	0.97
45	3.8949	1.18	0.97
50	3.8889	1.18	0.97
55	3.8889	1.18	0.97
60	3.8859	1.18	0.97
65	3.8829	1.17	0.96
70	3.8829	1.17	0.96
75	3.8799	1.17	0.96
80	3.8799	1.17	0.96
85	3.8829	1.17	0.96
90	3.8829	1.17	0.96



TMF14-5 - Monitoring Well Conductivity Tests

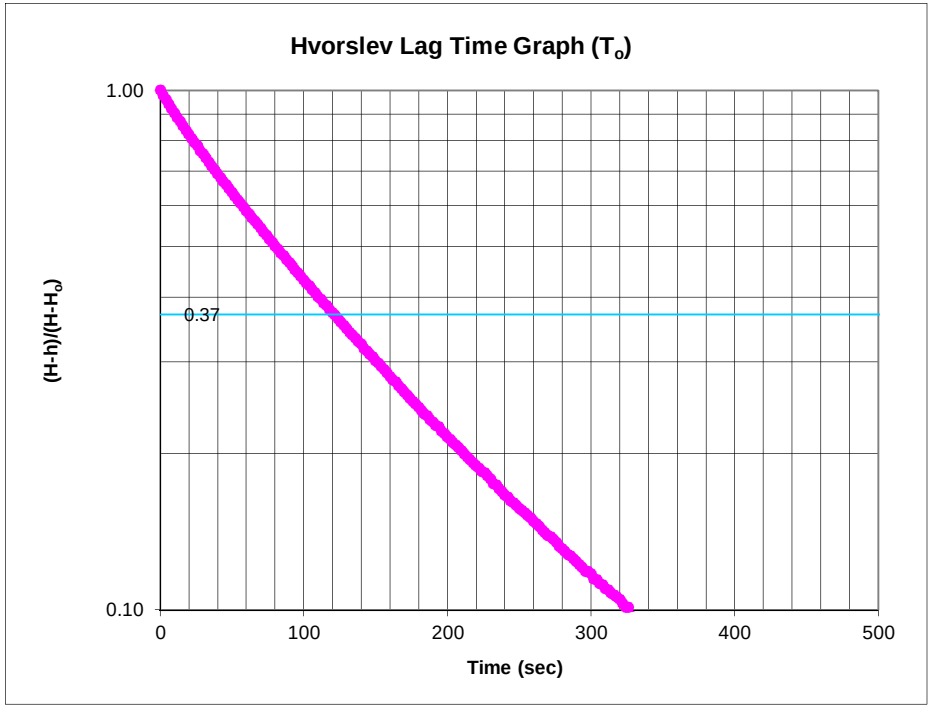
Hvorslev Calculation
(for Hydraulic Conductivity from Response Tests)

Well Name =	**TMF14-5**	
Well Depth =	5.34 m	
Initial WL (H_o) =	0.96 m	
Radius of pipe (r) =	0.038 m	(1.5" diameter)
Radius of hole (R) =	0.100 m	(Radius of Borehole)
Length of screen (L) =	1.524 m	(5 foot screen)
Water Level at Max Drawdown (H) =	4.488 m	
$H-H_o$ =	3.528 m	
Lag time (T_o) =	5490	(time at $(H-h)/(H-H_o)$ = 0.37 on graph)

Hydraulic Cond.(K) = **2.36E-07 m/s**
2.36E-05 cm/s

Screened material = SILTY SAND to sandy SILT

Time (sec)	WL (m)	$H-H_o$ (m)	$(H-h)/(H-H_o)$
0	4.488	3.53	1.00
2	4.413	3.45	0.98
4	4.346	3.39	0.96
6	4.278	3.32	0.94
8	4.212	3.25	0.92
10	4.152	3.19	0.90
12	4.09	3.13	0.89
14	4.03	3.07	0.87
16	3.971	3.01	0.85
18	3.917	2.96	0.84
20	3.863	2.90	0.82
22	3.809	2.85	0.81
24	3.758	2.80	0.79
26	3.716	2.76	0.78
28	3.656	2.70	0.76
30	3.62	2.66	0.75
32	3.574	2.61	0.74
34	3.526	2.57	0.73
36	3.483	2.52	0.72



TMF14-6 - Monitoring Well Conductivity Tests

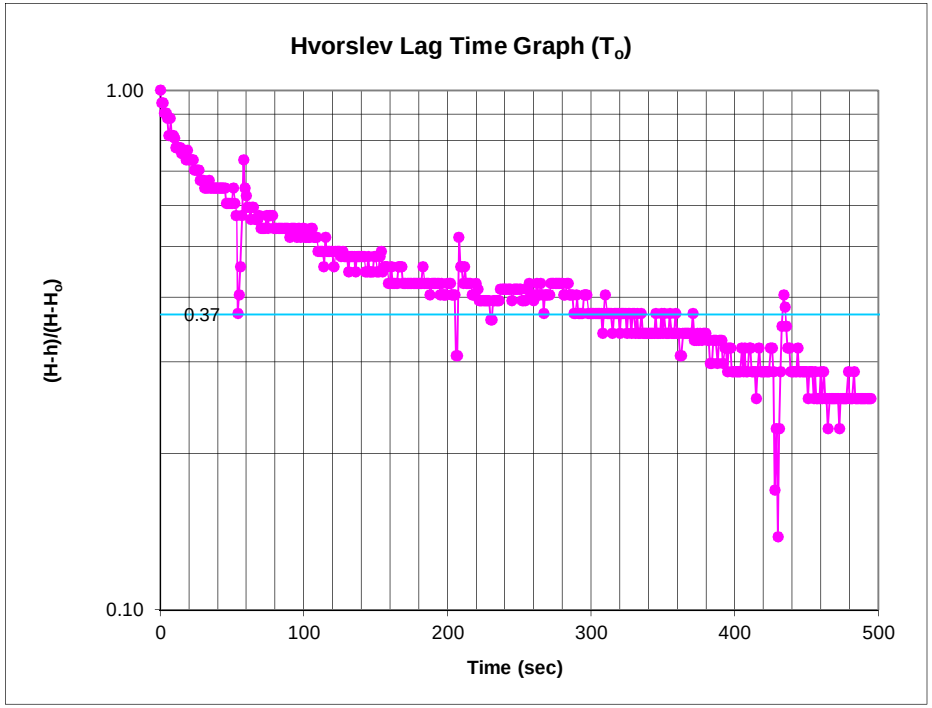
Hvorslev Calculation
(for Hydraulic Conductivity from Response Tests)

Well Name =	**TMF14-6**	
Well Depth =	5.58 m	
Initial WL (H_o) =	2.27 m	
Radius of pipe (r) =	0.038 m	(1.5" diameter)
Radius of hole (R) =	0.044 m	(Radius of NW outside casing diameter)
Length of screen (L) =	1.524 m	(5 foot screen)
Water Level at Max Drawdown (H) =	2.360 m	
$H-H_o$ =	0.094 m	
Lag time (T_o) =	314	(time at $(H-h)/(H-H_o)$ = 0.37 on graph)

Hydraulic Cond.(K) = **5.59E-06 m/s** **5.59E-04 cm/s**

Screened material = bedrock (mafic volcanics)

Time (sec)	WL (m)	$H-H_o$ (m)	$(H-h)/(H-H_o)$
0	2.36	0.09	1.00
1	2.355	0.09	0.95
2	2.355	0.09	0.95
3	2.351	0.09	0.90
4	2.351	0.09	0.90
5	2.349	0.08	0.88
6	2.343	0.08	0.82
7	2.349	0.08	0.88
8	2.343	0.08	0.82
9	2.343	0.08	0.82
10	2.342	0.08	0.81
11	2.339	0.07	0.78
12	2.339	0.07	0.78
13	2.339	0.07	0.78
14	2.339	0.07	0.78
15	2.337	0.07	0.76
16	2.337	0.07	0.76
17	2.338	0.07	0.77
18	2.335	0.07	0.73



APPENDIX B

Bagsverd Creek Realignment

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-1

SHEET 1 OF 1

LOCATION: N 5272960.0 ;E 427549.0

EXCAVATION DATE: September 29, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		383.3							
0	September 29, 2014 LINKBELT 350	(PT) SILTY PEAT, cobbles and boulders; black to brown; wet.		0.0							
				382.3							
1		(SM/ML) SILTY SAND to sandy SILT, some gravel, cobbles and boulders; brown; non-cohesive, moist.		1.0	1	GS	-		○		September 29, 2014
2											
				380.3							
3		(ML) SILT, some sand, some gravel, cobbles and boulders; grey; non-cohesive, moist.		3.0							
4											
				378.3							
5		END OF TEST PIT		5.0							
		Notes:									
		1. Water seeping into test pit at 1.0 m depth.									
6		2. GS - Grab Sample									
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-2

SHEET 1 OF 1

LOCATION: N 5272850.0 ;E 427660.0

EXCAVATION DATE: September 29, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		386.8							
0	September 29, 2014 LINKBELT 350	(PT) SILTY PEAT; black to brown; moist to wet.		0.0							
				386.4							
		(SM) gravelly SILTY SAND; grey; non-cohesive, wet.		0.4							
1											
2					1	GS	-		○	MH	
3											▽ September 29, 2014
4				382.8							
		END OF TEST PIT		4.0							
		Note:									
		1. Water flowing into test pit at 3.5 m depth.									
5		2. GS - Grab Sample									
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 02/03/15 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-3

SHEET 1 OF 1

LOCATION: N 5272799.0 ;E 427696.0

EXCAVATION DATE: September 29, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		387.5							
0	September 29, 2014 LINKBELT 350	(PT) SILTY PEAT; brown; moist.		0.0							
				387.2							
		(SM/ML) SILTY SAND to sandy SILT, some gravel, cobbles and boulders; grey; non-cohesive, wet.		0.3							September 29, 2014
1											
2											
3											September 29, 2014
4											
				382.5							
5		END OF TEST PIT		5.0							
		Note:									
		1. Water flowing into test pit at 0.3 m and 3.5 m depth.									
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-4

SHEET 1 OF 1

LOCATION: N 5272646.0 ;E 427765.0

EXCAVATION DATE: September 29, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		388.0							
0	September 29, 2014 LINKBELT 350	(PT) Fibrous PEAT; brown; moist to wet.		0.0							September 29, 2014
1					1	GS	-		444.8 ○		
2		(ML) SILT, some sand, trace gravel, cobbles and boulders; grey; non-cohesive, wet.		386.0 2.0							
3		END OF TEST PIT REFUSAL ON BEDROCK		385.0 3.0							
4		Notes: 1. Water seeping into test pit at 0.4 m depth. 2. GS - Grab Sample									
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-5

SHEET 1 OF 1

LOCATION: N 5272595.0 ;E 427777.0

EXCAVATION DATE: September 29, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		388.1							
0	September 29, 2014 LINKBELT 350	(PT) Fibrous SILTY PEAT, black; wet.		0.0							September 29, 2014
1				386.3							
		(ML) sandy SILT, boulders; grey; non-cohesive, moist to wet.		1.8	1	GS	-		○	MH	
2		END OF TEST PIT		2.0							
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Notes:

1. Water flowing into test pit at 0.4 m depth.

2. GS - Grab Sample

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-8

SHEET 1 OF 1

LOCATION: N 5271537.0 ;E 427841.0

EXCAVATION DATE: September 30, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		384.9							
0	September 30, 2014 LINKBELT 350	(PT) SILTY PEAT; brown; wet.		0.0 / 384.6							September 30, 2014
		(SM) SILTY SAND, some gravel, cobbles and boulders; grey; non-cohesive, moist to wet.		0.3 / 381.6							
1					1	GS	-		○		
2											
3											
		END OF TEST PIT		3.3							
4											
5											
6											
7											
8											
9											
10											
11											
12											

Notes:

1. Water flowing into test pit at 0.3 m depth.

2. GS - Grab Sample

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-9

SHEET 1 OF 1

LOCATION: N 5271338.0 ;E 427891.0

EXCAVATION DATE: September 30, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		389.3							
0	September 30, 2014 LINKBELT 350	(PT) SILTY PEAT, cobbles and boulders; black; wet.		0.0							September 30, 2014
1		(ML) SILT, some sand, some gravel, cobbles and boulders; brown to grey; non-cohesive, moist.		388.3 / 1.0							
2		(SM) SILTY SAND, some gravel, cobbles and boulders; grey; non-cohesive, moist to wet.		387.8 / 1.5	1	GS	-		○		
3											
4		END OF TEST PIT		385.2 / 4.1							
5		Notes: 1. Water flowing into test pit at 0.4 m depth. 2. GS - Grab Sample									
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 02/03/15 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-10

SHEET 1 OF 1

LOCATION: N 5271271.0 ;E 427882.0

EXCAVATION DATE: September 30, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		389.0							
0	September 30, 2014 LINKBELT 350	(PT) SILTY PEAT; black; moist.		0.0 / 388.7							
		(SW) SAND, some silt, some gravel, cobbles and boulders; brown; non-cohesive, moist.		0.3							
1					1	GS	-		○		▽ September 30, 2014
2				386.7							
		(ML) SILT, some sand, some gravel, cobbles and boulders; grey; non-cohesive, moist to wet.		2.3							
3											
4				384.5							
		END OF TEST PIT REFUSAL ON BEDROCK		4.5							
5		Notes: 1. Water seeping into test pit at 1.0 m depth. 2. GS - Grab Sample									
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-11

SHEET 1 OF 1

LOCATION: N 5271038.0 ;E 427864.0

EXCAVATION DATE: September 30, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		387.5							
0	September 30, 2014 LINKBELT 350	(PT) SILTY PEAT; black; wet.		0.0							September 30, 2014
1		(ML) sandy SILT to SILT, some gravel, cobbles and boulders; grey; non-cohesive, moist to wet.		386.5 / 1.0	1	GS	-				
2											
3											
4				382.9							
		END OF TEST PIT REFUSAL ON BEDROCK		4.6							
5		Notes: 1. Water flowing into test pit at 0.3 m depth. 2. GS - Grab Sample									
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF TEST PIT: BCTP-12

SHEET 1 OF 1

LOCATION: N 5270862.0 ;E 427916.0

EXCAVATION DATE: September 30, 2014

DATUM: GEODETIC

INCLINATION: -90 degrees

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		389.0							
0	September 30, 2014 LINKBELT 350	(PT) SILTY PEAT, rootlets; black to brown; moist.		0.0 / 388.7							
		(SM/ML) SILTY SAND to sandy SILT, trace gravel; brown; non-cohesive, moist.		0.3 / 388.2	1	GS	-		○	MH	
1		END OF TEST PIT		0.8							
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Notes:

1. Test pit was dry upon completion of excavation.

2. GS - Grab Sample

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: SM

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 02/03/15 DATA INPUT:

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-8

SHEET 1 OF 2

LOCATION: N 5270817.0 ;E 428231.0

BORING DATE: September 3, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		389.3							
0	September 3, 2014 / 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) Fibrous PEAT; black; wet, very soft.		0.0	1	SS	WH				November 13, 2014
1					2	SS	1				Cuttings
2					3	SS	WH				Granular Bentonite
				386.7	4a / 4b	SS	WH				
		(ML) sandy SILT; grey; non-cohesive, wet, very loose.		2.6							Sand
				386.3							
3		(GM) sandy SILTY GRAVEL; grey; non-cohesive, wet, compact.		3.0	5	SS	21			MH	38 mm Diameter PVC Screen
4				384.8							
5											
6											
7											
8											
9											
10											
11											
12											

CONTINUED NEXT PAGE (ON ROCK LOG)

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-8

LOCATION: N 5270817.0 ;E 428231.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: September 3, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-8		384.8																
5	NW, September 3, 2014, NQ Coring	MAFIC VOLCANICS; medium strong to strong; fresh to moderately weathered, fine grained; grey / black.		4.5	1	GREY 100%							BR, JNBDRO, JNIRRO, JNIRRO							
		Broken core encountered between 4.5 m and 4.9 m depth.																		
6					2	GREY 100%							JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNSTRO, JNCUK, JNIRRO, JNIRRO, JNIRRO							
7		Broken core with vertical joints encountered between 7.3 m and 8.5 m depth.			3	GREY 100%							BR							
8																				
9					4	GREY 100%							JNPLSM, JNPLSM, JNIRRO, JNPLSM, JNIRRO, JNPLSM, JNIRRO, JNSTRO							
		Broken core with vertical joints encountered between 9.4 m and 10.0 m depth.																		
10					5	GREY 100%							JNPLRO, JNSTRO, JNSTRO, JNSTRO							
11		Broken core with vertical joints encountered between 11.4 m and 13.3 m depth.																		
12					6	GREY 100%							BR							
13																				
14		Broken core encountered between 13.7 m and 13.9 m depth.		374.5	7	GREY 100%							JNCURO, JNIRRO, JNIRRO, BR, JNCURO, JNPLSM, JNPLSM, JNPLSM, JNPLSM, JNSTSM, JNSTSM, JNIRRO							
15		END OF DRILLHOLE		14.8																
16																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-9

SHEET 1 OF 3

LOCATION: N 5270814.0 ;E 427999.0

BORING DATE: August 18, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		388.7							
0	August 18, 2014 Hollow Stem Augers, NW Casing	COBBLES and BOULDERS. A matrix of silty organics was encountered between the cobbles and boulders.		0.0 / 387.9							
1		(ML/SM) sandy SILT to SILTY SAND, trace gravel, trace organics; grey; non-cohesive, wet, loose to compact.		0.8	1	SS	17				
2					2	SS	11		○		▽ August 18, 2014
				386.2	3	SS	6/ 0.10	CONTINUED NEXT PAGE (ON ROCK LOG)			
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-9

LOCATION: N 5270814.0 ;E 427999.0

DRILLING DATE: August 18 and 19, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-9		386.2																
	NM	MAFIC VOLCANICS; weak to medium strong; fresh, fine grained; grey.		2.5	1	GREY 100%														
3	August 18 and 19, 2014 NQ Coring				2	GREY 100%							JNPLRO							
4																				
5					3	GREY 100%							JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO							
6					4	GREY 100%														
7																				
8					5	GREY 100%							JNCURO JNPLRO							
9					6	GREY 100%														
10													JNSTRO							
11					7	GREY 100%							JNPLRO JNIRRO							
12					8	GREY 100%														
13																				
14					9	GREY 100%							JNPLK							

CONTINUED NEXT PAGE

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-9

LOCATION: N 5270814.0 ;E 427999.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 18 and 19, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.		COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE % (20 40 60 80)	RECOVERY: SOLID CORE % (20 40 60 80)	R.Q.D. % (20 40 60 80)	FRACT. INDEX METRES (5 10 15 20)	DISCONTINUITY DATA: B Angle (0 30 60 90)	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS (0 30 60 90)	TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	Point Load Index (MPa) (2 4 6)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		--- CONTINUED FROM PREVIOUS PAGE ---																			
	NQ Coring	MAFIC VOLCANICS; weak to medium strong; fresh, fine grained; grey.		373.7	9		GREY 100%														
15		END OF DRILLHOLE		15.0																	
		Note:																			
		1. Water level at 0.6 m above ground surface upon completion of rock coring.																			
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-10

SHEET 1 OF 2

LOCATION: N 5270926.0 ;E 427864.0

BORING DATE: August 11 to 14, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		386.8							
0	August 11, 12, 13 and 14, 2014 — 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) Fibrous to amorphous PEAT; black; moist, very soft.		0.0 / 386.4	1	SS	2				
		(SP/SM) SAND to SILTY SAND, some gravel; grey to brown; non-cohesive, wet, loose to compact.		0.4							August 13, 2014
1					2	SS	12		○		
2					3	SS	8				
					4	SS	10		○		
3					5	SS	6				
		Cobble encountered at 3.8 m depth.									
4		(ML/SM) sandy SILT to SILTY SAND, trace gravel; grey; non-cohesive, wet, dense to very dense.		382.7 / 4.1							
		Cobble encountered at 4.3 m depth.			6	SS	33				
5											
		Cobble encountered at 5.6 m depth.									
6					7	SS	39		○	MH	
7		Cobble encountered at 7.0 m depth.									
		Cobble encountered at 7.3 m depth.									
8					8	SS	69				
9		Cobble encountered at 9.0 m depth.									
					9	SS	48				
10											
					10	SS	50/0.08		○		
11											
12											

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DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-10

LOCATION: N 5270926.0 ;E 427864.0

BORING DATE: August 11 to 14, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊖W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		--- CONTINUED FROM PREVIOUS PAGE ---									
12	August 11, 12, 13 and 14, 2014			374.5	11	SS	10/ 0.08				
		(GP) GRAVEL, some sand, some non-plastic fines; non-cohesive, moist, very dense.		12.3							
13				373.0	12	SS	70/ 0.13				
		END OF BOREHOLE		13.8							
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-11

SHEET 1 OF 2

LOCATION: N 5271166.0 ;E 427874.0

BORING DATE: August 10 and 11, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ⊢—○W—⊣ Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		388.6							August 11, 2014
0	August 10 and 11, 2014; 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) Fibrous SILTY PEAT, some gravel; black; moist, very soft.		0.0	1	SS	WH		505.1		
1				387.5	2	SS	6				
		(ML) SILT to sandy SILT, some gravel; brown to grey; non-cohesive, moist, loose to compact.		1.1							
		Augers grinding at 1.8 m depth.			3	SS	23				
2				386.4							
		(SM) SILTY SAND, some gravel; grey; non-cohesive, wet, very loose to compact.		2.2	4	SS	6				
3					5	SS	2				
4		Augers grinding at 4.3 m depth.									
5					6	SS	11				
				383.3							
		(GM) SILTY GRAVEL, some sand; brown to grey; non-cohesive, wet, dense to very dense.		5.3							
6		Augers grinding at 5.3 m, 5.6 m, 6.7 m, 7.2 m and 7.3 m depths.			7	SS	42			MH	
7											
8					8	SS	100				
9		Cobble encountered at 9.1 m depth.		379.3							
10											
11											
12											

CONTINUED NEXT PAGE (ON ROCK LOG)

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-11

LOCATION: N 5271166.0 ;E 427874.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 11, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR / % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-11		379.3																
10	August 11, 2014 NQ Coring	MAFIC VOLCANICS; medium strong to strong; fresh to slightly weathered, fine grained, grey / black. Broken core encountered between 9.4 m and 9.8 m depths.		9.3	1	GREY 100%							JNPLRO, BR, JNIRRO, JNPLRO							
11					2	GREY 100%							JNSTRO, JNPLSM, JNPLRO, JNPLRO, JNPLSM							
12		Broken core encountered between 12.4 m and 12.6 m depths.			3	GREY 100%							JNPLRO, JNPLRO, JNPLRO, BR, JNPLRO							
13					4	GREY 100%							JNPLSM, JNPLSM, JNPLCU, JNPLRO, JNPLSM, JNPLSM, JNPLRO, JNPLRO, JNPLSM, JNPLSM, JNPLRO, JNCURO, JNPLSM, JNPLSM, JNCUSM, JNCUSM, JNCUSM, JNPLRO, JNPLRO, JNPLSM							
14				373.9																
		END OF DRILLHOLE		14.7																
15																				
16																				
17																				
18																				
19																				
20																				
21																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-12

SHEET 1 OF 3

LOCATION: N 5271437.0 ;E 427913.0

BORING DATE: August 8 to 10, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●, rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		389.7							
0	August 8 to 10, 2014 / 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) Fibrous PEAT; black; moist.		0.0 / 389.4							
		(SW/GW) SAND and GRAVEL; grey; non-cohesive, moist, compact.		0.3 / 389.0	1	SS	17				August 10, 2014
1		(ML) sandy SILT, some gravel; grey to brown; non-cohesive, wet, compact.		0.7 / 388.3	2	SS	17		○		
2		(SM) SILTY SAND to gravelly SILTY SAND; grey; non-cohesive, wet, loose to compact.		1.4	3	SS	5				
					4	SS	8		○		
3					5	SS	12				
				385.8				*CONTINUED NEXT PAGE (ON ROCK LOG)*			
4											
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-12

LOCATION: N 5271437.0 ;E 427913.0

DRILLING DATE: August 9 and 10, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-12		385.8																
4	NW	MAFIC VOLCANICS; strong; fresh, fine grained; green grey.		3.9									JNBPRO							
													JNBPRO							
													JNBPRO							
					1	GREY 100%							JNBPRO							
													JNBPRO							
													JNIRRO							
5																				
													JNBPRO							
6					2	GREY 100%							JNCURO							
7																				
													JNCURO							
					3	GREY 100%														
8																				
													JNIRRO							
													JNIRRO							
9					4	GREY 100%														
													JNIRRO							
													JNIRRO							
10	August 8, 9 and 10, 2014	NQ Coring			5	GREY 100%														
11																				
					6	GREY 100%														
12					7	GREY 100%														
13																				
													JNIRRO							
													JNIRRO							
													JNSTRO							
					8	GREY 100%							JNSTRO							
14				375.2																
		FELDSPAR PORPHYRY; strong; very fresh, fine to coarse grained; dark grey.		14.5																
15					9	GREY 100%							JNPLRO							
													JNPLRO							
													JNCURO							

CONTINUED NEXT PAGE

DEPTH SCALE
1 : 60

Golder Associates

LOGGED: EHS
CHECKED: KSL

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-12

LOCATION: N 5271437.0 ;E 427913.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 9 and 10, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	B Angle	DIP w.r.t. CORE AXIS	TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		--- CONTINUED FROM PREVIOUS PAGE ---																			
16	August 8, 9 and 10, 2014 NQ Coring	FELDSPAR PORPHYRY; strong; very fresh, fine to coarse grained; dark grey.			9									JNCURO							
					10		GREY 100%							JNCURO							
17				372.4										JNPLRO							
		END OF DRILLHOLE		17.3																	
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-13

SHEET 1 OF 2

LOCATION: N 5271670.0 ;E 427754.0

BORING DATE: August 8, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		385.2							
0	August 8, 2014 / 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing	(PT) PEAT; black; moist.		0.0							
		(ML) SILT, some sand; brown to grey; non-cohesive, moist, loose to compact.		0.1	1	SS	9		○		Granular Bentonite
				384.3							
1		(SP) SAND, some gravel, trace non-plastic fines; brown; non-cohesive, moist to wet, very loose to compact.		0.9	2	SS	10				Cuttings / Granular Bentonite
					3	SS	9		○		Nov. 15, 2014
2											August 8, 2014
											Granular Bentonite
					4	SS	10		○		
3					5	SS	3				Sand
											38 mm Diameter PVC Screen
4				380.5	6	SS	WR/ 0.15	CONTINUED NEXT PAGE (ON ROCK LOG)			
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 24/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-13

LOCATION: N 5271670.0 ;E 427754.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 8, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-13		380.5																	
5	August 8, 2014 NQ Coring	BIOTITE TONALITE; medium strong to very strong; fresh to moderately weathered; coarse grained; pink.		4.7	1		GREY 100%							JNPLRO, JNFORO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNIRRO, JNPLRO, JNIRRO							
6					2		GREY 100%							JNIRRO, JNIRRO, JNSTRO, JNPLRO, JNIRRO							
7					3		GREY 100%							JNSTRO, JNIRRO, JNCURO, JNCURO, JNPLRO, JNBDRO, BR, JNIRRO, JNPLRO, JNPLRO, JNPLRO, JNIRRO, JNIRRO, JNPLRO, JNPLRO, JNPLRO, JNCURO, JNIRRO, JNBDRO, BR							
8		Broken core encountered between 7.4 m and 7.6 m depth.																			
9		Broken core encountered between 8.0 m and 8.2 m depth.			4		GREY 100%							JNPLRO, JNPLRO, JNCURO, JNIRRO							
10		Broken core encountered between 8.8 m and 9.5 m depth.			5		GREY 100%							JNIRRO, JNIRRO, JNPLRO							
11					6		GREY 100%							JNPLRO, JNPLRO, JNIRRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNIRRO, JNIRRO, JNPLRO							
12		Broken core encountered between 11.9 m and 12.1 m depth.		372.8																	
		END OF DRILLHOLE		12.4																	
13																					
14																					
15																					
16																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-14

SHEET 1 OF 2

LOCATION: N 5271838.0 ;E 427731.0

BORING DATE: August 7 and 8, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W Wl; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		383.4							
0	August 7 and 8, 2014 NW Casing	(PT) SILTY PEAT; black; moist, firm.		0.0	1	SS	5				August 8, 2014
				382.9							
		(ML) SILT, trace sand; grey to brown; non-cohesive, moist to wet, compact.		0.5							
1					2	SS	17				
				381.5	3	SS	18				
2		(SM) SILTY SAND, some gravel; grey; non-cohesive, wet, compact.		1.9							
					4	SS	13				
3		Cobble encountered at 2.9 m depth.		380.3							

CONTINUED NEXT PAGE (ON ROCK LOG)

4 5 6 7 8 9 10 11 12

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-14

LOCATION: N 5271838.0 ;E 427731.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 7 and 8, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-14		380.3																
	August 8, 2014 NQ Coring	BIOTITE TONALITE; very strong; fresh to slightly weathered, coarse grained; pink.		3.1	1	GREY 100%														
4													JNPLRO JNPLSM							
5					2	GREY 100%							JNPLRO JNPLRO JNPLRO							
													JNSTRO							
6					3	GREY 100%							JNPLRO JNSTRO JNIRRO							
7													JNPLSM JNPLSM JNPLSM							
					4	GREY 100%							JNIRRO JNPLRO JNIRRO							
8													JNIRRO JNPLRO JNPLRO JNPLRO							
9					5	GREY 100%														
10					6	GREY 100%							JNPLRO JNPLRO JNSTRO							
11		END OF DRILLHOLE		372.4 11.0																
12																				
13																				
14																				
15																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-15

SHEET 1 OF 3

LOCATION: N 5272082.0 ;E 427770.0

BORING DATE: August 5 to 7, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		386.1							
0	August 5, 2014 NW Casing	(PT) SILTY PEAT		0.0							August 7, 2014
		BOULDERS		0.2 / 385.6	1	SS	18				
		(OL) ORGANIC SILTY SAND, some gravel; black; non-cohesive, wet, compact.		0.5 / 385.1							
1		Cobble encountered at 0.5 m depth.		1.0 / 384.8	2	SS	16	CONTINUED NEXT PAGE (ON ROCK LOG)	○	C.C.=6.4%	
		(ML) sandy SILT; grey; non-cohesive, wet, compact.									

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-15

LOCATION: N 5272082.0 ;E 427770.0

DRILLING DATE: August 6 and 7, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-15		384.8																
	NW	BIOTITE TONALITE; weak to very strong; fresh to moderately weathered, coarse grained; grey pink.		1.3									JNIRRO JNIRRO							
2					1	GREY 100%							JNPLRO JNPLRO							
		Broken core encountered between 2.5 m and 2.6 m depth.											BR JNPLRO							
3					2	GREY 100%							JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO							
4													JNPLRO							
					3	GREY 75%							JNSTRO JNIRRO JNIRRO							
5													JNIRRO JNIRRO JNCURO JNIRRO							
													JNIRRO JNPLRO							
6					4	GREY 75%							JNIRRO JNPLRO JNPLRO							
7	August 6 and 7, 2014												JNIRRO JNPLRO							
	NQ Coring				5	NONE 0%							JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO JNPLRO							
8													JNPLRO JNPLRO JNSTRO BR							
		Broken core encountered between 8.2 m and 8.5 m depth.											JNIRRO JNPLRO JNSTRO							
9		Broken core encountered between 8.8 m and 9.8 m depth.			6	NONE 0%							BR JNIRRO							
10													JNPLRO JNPLRO JNIRRO JNIRRO JNPLRO							
11					7	NONE 0%							JNIRRO JNPLRO JNPLRO JNPLRO JNIRRO JNSTRO							
12					8	NONE 0%							JNIRRO JNPLRO JNPLRO JNIRRO JNIRRO JNIRRO JNIRRO JNIRRO JNIRRO							
13					9								JNPLRO							

CONTINUED NEXT PAGE

DEPTH SCALE
1 : 60

Golder Associates

LOGGED: EHS
CHECKED: KSL

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-15

LOCATION: N 5272082.0 ;E 427770.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 6 and 7, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.		COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		--- CONTINUED FROM PREVIOUS PAGE ---																			
				372.4	9		NONE 0%							JNPLRO JNPLRO JNCURO JNIRRO JNIRRO JNPLRO							
		END OF DRILLHOLE		13.7																	
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-16

LOCATION: N 5272290.0 ;E 427826.0

BORING DATE: July 27 and August 5, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		387.1							
0	July 27 and August 5, 2014 / NW Casing	(PT) SILTY PEAT; black; moist.		0.0	1	SS	1/ 0.15				
		BOULDERS		0.2 / 386.2							
1		(SM/ML) SILTY SAND to sandy SILT, some gravel, some plastic fines; brown to grey; non-cohesive, wet, compact.		0.9	2	SS	22		○	MH	▽ August 5, 2014
2					3	SS	10				
		(SM) SILTY SAND and GRAVEL; brown; non-cohesive, wet, compact.		384.8 / 2.3	4	SS	11		○		
3					5	SS	10/ 0.10				
				383.4							
4											
5											
6											
7											
8											
9											
10											
11											
12											

CONTINUED NEXT PAGE (ON ROCK LOG)

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 02/03/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-16

LOCATION: N 5272290.0 ;E 427826.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 5, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	B Angle	DIP w.r.t. CORE AXIS	TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-16		383.4																
4	NW	BOTITE TONALITE, medium strong; slightly to highly weathered, coarse grained; grey pink.		3.7	1								BR							
		Broken core encountered between 3.7 and 4.0 m depth.			2	GREY 100%							JNPLRO, JNIRRO, JNIRRO, JNPLRO, JNCURO, JNCURO, JNCURO, BR, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO							
5		Broken core encountered between 5.0 and 5.1 m depth.																		
		Broken core encountered between 5.6 m and 6.7 m depth.			3	GREY 100%							BR, JNIRRO, JNIRRO							
6																				
7				379.7																
		DIABASE; medium strong; moderately to hightly weathered, fine grained; black.		7.4	4	BROWN 100%							JNPLRO, BR							
8		Broken core encountered between 7.4 m and 8.2 m depth.			5	BROWN 100%							JNPLRO, JNPLRO, JNPLRO							
		Broken core encountered between 8.6 m and 9.7 m depth.			6	BROWN TO GREY 100%							BR, JNIRRO, JNIRRO, JNPLK							
9	August 5, 2014			377.5																
	NQ Coring	BIOTITE TONALITE; strong to very strong; fresh to slightly weathered, coarse grained; grey pink.		9.6																
10					7	GREY 100%							JNPLRO, JNPLRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNPLK							
11					8	GREY 100%							JNPLRO, JNSTRO							
12																				
13					9	GREY 100%							JNPLRO, JNPLSM							
14					10	GREY 100%							JNPLRO, JNPLK							
15				371.6																
		END OF DRILLHOLE		15.5																

CONTINUED NEXT PAGE

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-16

LOCATION: N 5272290.0 ;E 427826.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: August 5, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.		COLOUR / % RETURN / FLUSH	RECOVERY: TOTAL CORE % (20 40 60 80)	RECOVERY: SOLID CORE % (20 40 60 80)	R.Q.D. % (20 40 60 80)	FRACT. INDEX METRES (5 10 15 20)	DISCONTINUITY DATA: B Angle (0 90 180 270)	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS (0 30 60 90)	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	Point Load Index (MPa) (5 10 15)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		--- CONTINUED FROM PREVIOUS PAGE ---																			
16		Note: 1. Boulders observed around borehole location at ground surface.																			
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27																					

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-17

LOCATION: N 5272496.0 ;E 427785.0

BORING DATE: July 26, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○; 20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI; 10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		388.3							July 26, 2014 Nov. 14, 2014
0	July 26, 2014 Hollow Stem Augers	(PT) Fibrous PEAT; black; wet, very soft.		0.0	1	SS	1				Cuttings
1				387.2	2	SS	2		○		
		(ML) SILT, trace sand; grey; non-cohesive, wet, very loose.		1.1 386.9				CONTINUED NEXT PAGE (ON ROCK LOG)			
2											Granular Bentonite
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 24/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-17

LOCATION: N 5272496.0 ;E 427785.0

DRILLING DATE: July 26, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	FLUSH	COLOUR % RETURN	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	B Angle	DIP w.r.t. CORE AXIS	TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-17		386.9																	
	July 26, 2014 NQ Coring	BIOTITE TONALITE; medium to very strong; fresh to slightly weathered, medium to coarse grained; pink.		1.4	1		GREY 100%							JNIRRO							
2														JNPLRO							
3					2		GREY 100%							JNBDPO							Granular Bentonite
														JNSTRO							
														JNIRRO							
														JNIRRO							
														JNBDRO							
4														JNIRRO							
					3		GREY 100%							JNIRRO							
5														JNPLRO							
6					4		GREY 100%							JNIRRO							
														JNIRRO							
														JNPLRO							
														JNIRRO							
7														JNPLRO							
														JNCURO							
8					5		GREY 100%							JNIRRO							
														JNIRRO							
														JNIRRO							
														JNPLSM							
														JNIRRO							Sand
9					6		GREY 100%							JNPLRO							
														JNPLRO							
10																					
					7		GREY 100%							JNIRRO							
														JNCURO							
														JNCURO							
11														JNCURO							
12					8		GREY 100%														
13																					

CONTINUED NEXT PAGE

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-17

LOCATION: N 5272496.0 ;E 427785.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: July 26, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		--- CONTINUED FROM PREVIOUS PAGE ---																		
14	July 26, 2014 NQ Coring	BIOTITE TONALITE; medium to very strong; fresh to slightly weathered, medium to coarse grained; pink.			9	GREY 100%														
15					10	GREY 100%							JNPLRO JNPLRO JNPLRO JNPLRO							Sand 38 mm Diameter PVC Screen
16													JNPLRO JNPLRO							
17				371.0	11	GREY 100%														
		END OF DRILLHOLE		17.3																
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-18

SHEET 1 OF 2

LOCATION: N 5272719.0 ;E 427727.0

BORING DATE: July 24 and 25, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W Wl) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION (July 25, 2014)
		GROUND SURFACE		387.9							
0	July 24 and 25, 2014; 108 mm I.D. Continuous Flight Hollow Stem Augers	(PT) Amorphous PEAT; black; moist, very soft.		0.0 / 387.4	1	SS	WH				
		(SP/SM) SAND to SILTY SAND, some gravel; brown; non-cohesive, wet, compact.		0.5 / 386.8	2	SS	12				
1		(ML) sandy SILT, some plastic fines; grey; non-cohesive, wet, compact.		1.1 / 385.6	3	SS	11		○	MH	
2		(SP/SM) SAND to gravelly SILTY SAND; grey; non-cohesive, wet, very loose to loose.		2.3	4	SS	3				
3					5	SS	8		○		
4											
5					6	SS	9		○		
		Augers grinding at 5.5 m depth.									
6		Augers grinding at 5.9 m depth.									
		Augers grinding at 6.1 m depth.		381.7	7	SS	2/ 0.15				

CONTINUED NEXT PAGE (ON ROCK LOG)

7 8 9 10 11 12

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-18

LOCATION: N 5272719.0 ;E 427727.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: July 24 and 25, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY TOTAL CORE %	RECOVERY SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA B Angle	DISCONTINUITY DATA DIP w.r.t. CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-18		381.7																
	July 24 and 25, 2014 NQ Coring	BIOTITE TONALITE; medium strong; slightly to moderately weathered, medium to coarse grained; grey pink.		6.2	1	GREY 100%							JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO							
7																				
8					2	GREY PINK 100%							JNIRRO, JNPLRO, JNIRRO, JNPLRO, JNIRRO, JNIRRO							
9		Broken core encountered between 8.9 m and 9.1 m depth.			3	GREY PINK 100%							JNUNRO, JNPLRO, JNIRRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO							
		Broken core encountered between 9.6 m and 9.8 m depth.																		
10																				
11					4	GREY PINK 100%							JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNPLRO, JNIRRO, JNPLRO, JNPLRO, JNIRRO, JNIRRO							
12					5	GREY PINK 100%							JNPLRO, JNPLRO, JNIRRO, JNIRRO, JNCURO, JNCURO, JNIRRO							
13																				
				374.0	6	DARK GREY 100%							JNCURO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNSTRO, JNSTRO, JNSTRO, JNSTRO, JNCURO, JNPLSM, JNSTSM, JNPLRO, JNPLSM, JNPLSM, JNPLRO, JNPLRO, BR, JNSTRO, JNPLSM, JNPLSM, JNIRRO, BR							
14		DIABASE; weak; slightly to moderately weathered, very fine grained, black.		13.9																
		Broken core encountered between 14.0 m and 14.3 m depth.																		
15		Broken core encountered between 14.9 m and 15.2 m depth.			7	DARK GREY 100%														
		Broken core encountered between 15.6 m and 16.3 m depth.																		
16					8	DARK GREY 100%							JNST, JNPL							
				371.1																
17		END OF DRILLHOLE		16.8																
18																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-19

SHEET 1 OF 2

LOCATION: N 5272914.0 ;E 427589.0

BORING DATE: July 23 and 24, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		384.8							▽ July 24, 2014
0	July 23 and 24, 2014; 108 mm I.D. Continuous Flight Hollow Stem Augers	(PT) sandy PEAT; black; wet, soft.		0.0 / 384.3	1	SS	3				
		(SP) SAND, some non-plastic fines; brown to grey; non-cohesive, wet, very loose to loose.		0.5 / 382.6	2	SS	5				
1											
2					3	SS	3		○	MH	
		(SM) SILTY SAND and GRAVEL; grey; non-cohesive, wet, loose to compact. Augers grinding at 2.1 m, 2.3 m and 2.4 m depths.		2.2 / 380.8	4	SS	14		○		
3					5	SS	9				
4		(SM) SILTY SAND, some gravel; grey; non-cohesive, wet, very loose.		4.0 / 376.9							
5					6	SS	2		○		
6					7	SS	2				
7											
8		(ML) sandy SILT, some gravel; grey; non-cohesive, wet, loose. Augers grinding at 8.8 m depth.		7.9 / 375.6	8	SS	8				
9								CONTINUED NEXT PAGE (ON ROCK LOG)			
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 15/12/14 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-19

LOCATION: N 5272914.0 ;E 427589.0

DRILLING DATE: July 24, 2014

DATUM: GEODETIC

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate, BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage, PL - Planar, CU- Curved, UN- Undulating, ST - Stepped, IR - Irregular, PO- Polished, K - Slickensided, SM- Smooth, Ro - Rough, MB- Mechanical Break, BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-19		375.6																
10	July 24, 2014 NQ Coring	DIABASE; very strong; fresh to slightly weathered, very fine grained; black.		9.2	1	DARK GREY 100%							JNUNSM, JNPLSM, JNIRRO, JNCUSM, JNSTSM, JNCUSM, JNCUSM, JNIRRO, JNPLSM, JNSTRO, JNCUSM							
11					2	DARK GREY 100%							JNCUSM, JNCUSM, JNPLRO, JNPLRO, JNSTRO, JNSTRO, JNSTSM, JNCUSM, JNCUSM, JNPLSM, JNSTSM, JNPLSM, JNPLSM, JNPLSM							
12					3	DARK GREY 100%							JNPLSM, JNSTSM, JNSTSM, JNPLK, JNPLK, JNPLK, JNSTRO, JNCUSM, JNPLSM, JNSTSM, JNPLSM, JNUNSM, JNPLK, JNPLSM							
13					4	GREY 100%							JNPLRO, JNUNSM, JNCUSM, JNPLSM, JNPLSM, JNUNRO, JNCUSM							
14		END OF DRILLHOLE		370.7 / 14.1									JNPLSM, JNPLSM, JNPLSM, JNPLSM, JNCUSM, JNPLSM, JNPLSM, JNPLSM, JNPLSM, JNPLSM							
15																				
16																				
17																				
18																				
19																				
20																				
21																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: KSL

PROJECT: 1416019

RECORD OF BOREHOLE: BC14-20

SHEET 1 OF 2

LOCATION: N 5272996.0 ;E 427498.0

BORING DATE: July 23, 2014

DATUM: GEODETIC

SAMPLER HAMMER, 63.5 kg; DROP, 760 mm

INCLINATION: -90 degrees

PENETRATION TEST HAMMER, 63.5 kg; DROP, 760 mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ●; rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp ○W WI) (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		379.4							July 23, 2014
0	July 23, 2014 Hollow Stem Augers	(ML) sandy SILT, trace gravel; brown; non-cohesive, moist, compact.		0.0	1	SS	16				Cuttings
				378.7							
1		(SM) SILTY SAND, some gravel; brown; non-cohesive, wet, compact. Augers grinding at 1.2 m depth.		0.7	2	SS	23		○		
					3	SS	16		○		
2				377.3				CONTINUED NEXT PAGE (ON ROCK LOG)			
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

SUD-BOREHOLE 1194 1402173.GPJ GLDR_CAN.GDT 24/02/15 DATA INPUT:

PROJECT: 1416019

RECORD OF DRILLHOLE: BC14-20

LOCATION: N 5272996.0 ;E 427498.0

INCLINATION: -90° AZIMUTH: ---

DRILLING DATE: July 23, 2014

DRILL RIG: CME-850 Track

DRILLING CONTRACTOR: Marathon Drilling Co. Ltd.

DATUM: GEODETIC

JN - Joint, FLT - Fault, SHR- Shear, VN - Vein, CJ - Conjugate
BD- Bedding, FO- Foliation, CO- Contact, OR- Orthogonal, CL - Cleavage
PL - Planar, CU - Curved, UN - Undulating, ST - Stepped, IR - Irregular
PO- Polished, K - Slickensided, SM- Smooth, RO- Rough, MB- Mechanical Break
BR - Broken Rock

NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR / % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX METRES	DISCONTINUITY DATA: B Angle	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	Jr	Ja	Jn	HYDRAULIC CONDUCTIVITY k, cm/s	Point Load Index (MPa)	RMC -Q' AVG.	NOTES WATER LEVELS INSTRUMENTATION
		REFER TO BOREHOLE BC14-20		377.3																
	NW	BIOTITE TONALITE, fresh to slightly weathered, very strong; very coarse grained; pink.		2.1	1	GREY 100%							JNIRRO, JNSTSM, JNPLRO							
3					2	GREY 100%							JNPLSM, JNPLRO, JNIRRO, JNSTRO							Granular Bentonite
4													JNIRRO							
					3	GREY / PINK 100%							JNIRSM							
5	July 23, 2014 NQ Coring												JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNIRRO, JNPLRO, JNIRRO							
6													JNPLRO							
					4	GREY / PINK 100%							JNIRRO, JNPLRO, JNCUSM, JNPLRO, JNIRRO, JNIRRO							
7													JNIRRO							Sand
8					5	GREY / PINK 100%							JNPLRO, JNIRRO, JNIRRO, JNIRRO, JNPLRO, JNPLRO							38 mm Diameter PVC Screen
		75 mm void.																		
9				370.2	6	GREY / PINK 100%							JNIRRO, JNPLSM, JNPLSM							
		END OF DRILLHOLE		9.2																
10																				
11																				
12																				
13																				
14																				

DEPTH SCALE

1 : 60

Golder Associates

LOGGED: EHS

CHECKED: SEMP

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-08** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	4.51	**OB**	***Overburden***												
4.51	14.82	**MVOL C**	***Mafic Volcanics***			GRBLK									

Fine grained and glomeroporphyritic texture up to 13.9m. Phenocrysts consist of clustered feldspars with an average width of 4mm. Aphanitic with black coloration beyond 13.9m to EOH representing margin between flows. Boundary between flows at 14.6m. Porphyritic section of unit has a dark green coloration with pervassive chlorite alteration. The section below flow boundary is black in coloration. Silicified margin on either side of the boundary. Fracturing is common throughout with fault gouge at 13.8m with width of 10cm. Intermittent low angle quartz-calcite veining with localized hematite occuring along 90% of the veinlets.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
4.51 - 13.90	HM FRC 1	Hematization, Along Fractures, Very weak
4.51 - 13.90	CL PV 2	Chloritization, Pervasive, Weak
13.90 - 14.82	CB FRC 1	Carbonatization, Along Fractures, Very weak, micro fractures
13.90 - 14.82	SI PV 2	Silicification, Pervasive, Weak

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
4.51 - 14.82	Py FAC 1	Pyrite, Fracture-controlled, 1%, trace

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
4.51 - 13.80	MS FAC	Fractured
4.51 - 13.80	MS FLTZN	Fault Zone
13.80 - 13.90	S GOUGE	Fault Gouge
13.90 - 14.82	BXFLO	Flow Top Brecca (possible)

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-08** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)

Texture Maj:	Type	Comment
4.51 - 13.90	GP	Glomeroporphyritic
4.51 - 13.90	FG	Fine Grained (<1mm)
13.90 - 14.82	AP	Aphanitic

Vein Maj. :	Style/%vein/CoreA/%min/min	Comment
4.51 - 13.80	VN 5 15 5 CHLV	Chlorite Veining, 5%
4.51 - 13.80	VN 5 15 95 QCV	Quartz-Calcite Vein, 95%, 15° CA
13.80 - 14.82	FPV 5 15 35 CHLV	Chlorite Veining, 35%
13.80 - 14.82	FPV 5 15 65 QCV	Quartz-Calcite Vein, 65%, 15° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-09** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	2.50	**OB**	***Overburden***												
2.50	15.01	**MVOLC**	***Mafic Volcanics***												

Strongly foliated throughout with a mix of chlorite and carbonate alteration along foliated planes. Foliation at 10 degrees to core axis. Trace pyrite specks dispersed throughout. Fine grained texture.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
2.50 - 15.01	CB FP 3	Carbonatization, Along Foliation Planes, Moderate
2.50 - 15.01	CL FP 3	Chloritization, Along Foliation Planes, Moderate

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
2.50 - 15.01	Py	Pyrite, trace

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
2.50 - 15.01	S FOL 10	Foliated, 10° CA

Texture Maj:	***Type***	***Comment***
2.50 - 15.01	FG	Fine Grained (<1mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***					***Comment***
2.50 - 15.01	FPV	40	10	30	CHLV	Chlorite Veining, 30%
2.50 - 15.01	FPV	40	10	20	QCV	Quartz-Calcite Vein, 20%
2.50 - 15.01	FPV	40	10	50	CBV	Carbonate Vein, 50%, 10° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-11** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	9.27	**OB**	***Overburden***												
		Series of tonalite boulders.													
9.27	14.72	**MVOLC**	***Mafic Volcanics***			GREBL									

Moderate to strong foliation throughout. Foliation at 10 degrees to core axis. Intermediate quartz-chlorite veinlets - mostly along foliated planes. Fine to medium grained. Chlorite alteration occurs between 9.27m and 9.77m and 12.4 to 12.6m at moderate to strong intensity and very weak throughout. Sericite alteration along strong foliation.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
9.27 - 9.77	CL PV 4	Chloritization, Pervasive, Strong
9.77 - 12.40	SR PV 2	Sericitization, Pervasive, Weak
9.77 - 12.40	CL PV 2	Chloritization, Pervasive, Weak
12.40 - 12.60	CL PV 4	Chloritization, Pervasive, Strong
12.60 - 14.72	CL PV 1	Chloritization, Pervasive, Very weak

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
9.27 - 11.70	MS FOL 10	Foliated, 10° CA
11.70 - 14.72	WM FOL 10	Foliated, 10° CA

Texture Maj:	***Type***	***Comment***
9.27 - 14.72	FG	Fine Grained (<1mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
9.27 - 14.72	FPV 5 10 40 CHLV	Chlorite Veining, 40%

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-11** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology					Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
9.27 - 14.72		FPV	5	10	60	QV	Quartz Vein, 60%, 10° CA											

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-12** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	3.89	**OB**	***Overburden***												
3.89	14.54	**MVOLC**	***Mafic Volcanics***												

Foliated at 20 to 30 degrees to core axis in varying degrees throughout section - mostly weak to moderate with stronger foliation near top of hole. Fine grain aphanitic texture. Chlorite along foliated planes. Intermittent quartz and hematite veining along foliated planes spread out through unit. Lower contact has a core axis angle of 15 degrees. Small pyrite blebs occur along foliated planes.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
3.89 - 14.54	HM FP 1	Hematization, Along Foliation Planes, Very weak, near lower contact
3.89 - 14.54	CL FP 1	Chloritization, Along Foliation Planes, Very weak

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
3.89 - 14.54	Py BLB	Pyrite, Blebs, trace, along foliated zones.

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
3.89 - 14.54	CTL 15	Lithological Contact, 15° CA, Lower contact
3.89 - 14.54	FOL 20	Foliated, 20° CA

Texture Maj:	***Type***	***Comment***
3.89 - 14.54	FG	Fine Grained (<1mm)
3.89 - 14.54	AP	Aphanitic

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
3.89 - 14.54	FPV 4 25 10 HMV	Hematite Vein, 10%
3.89 - 14.54	FPV 4 25 90 QCV	Quartz-Calcite Vein, 90%, 25° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-12** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
14.54	17.31	**IFP**	***Feldspar Porphyry***											

Feldspar crystal within an aphanitic mafic groundmass. Weakly foliated at 20 degrees to core axis. Hematite and quartz veining are common along foliated planes. Although not common, small pyrite blebs occur sporadically.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
14.54 - 17.31	HM FP 2	Hematization, Along Foliation Planes, Weak

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
14.54 - 17.31	Py BLB	Pyrite, Blebs, Trace

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
14.54 - 17.31	W FOL 20	Foliated, 20° CA

Texture Maj:	***Type***	***Comment***
14.54 - 17.31	PO	Porphyritic
14.54 - 17.31	IEQ	Inequigranular
14.54 - 17.31	AP	Aphanitic

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
14.54 - 17.31	FPV 5 20 20 HMV	Hematite Vein, 20%
14.54 - 17.31	FPV 5 20 80 QV	Quartz Vein, 80%, 20° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-13** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	4.69	**OB**	***Overburden***												
4.69	12.37	**BTON**	***Biotite Tonalite***			PI									

Strong hematite and moderate silicification throughout. Intense silicification between 4.85m and 7.45m with quartz veining throughout and no remnance of biotite and an aphanitic texture. (suspect possible felsic dyke - sharp contacts) Intense hematite along these veinlets and stringers is common. Weak foliation occurs between 8.8m and 9.3m. Weak chlorite alteration along biotite graines.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
4.69 - 4.85	HM PV 4	Hematization, Pervasive, Strong
4.85 - 7.45	CL IG 1	Chloritization, Intergranular, Very weak
4.85 - 7.45	HM PV 3	Hematization, Pervasive, Moderate
4.85 - 7.45	SI PV 5	Silicification, Pervasive, Intense
7.45 - 12.37	HM PV 4	Hematization, Pervasive, Strong

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
8.80 - 9.30	W FOL 45	Foliated, 45° CA

Texture Maj:	***Type***	***Comment***
4.69 - 12.37	CG	Coarse Grained (>5mm)
4.69 - 12.37	IEQ	Inequigranular
4.69 - 12.37	CX	Crystalline

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
4.85 - 7.45	VN 7 25 25 HMV	Hematite Vein, 25%

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-13** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology					Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
4.85 - 7.45		VN	7	25	75	QV	Quartz Vein, 75%, 25° CA											

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-14** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	3.08	**OB**	***Overburden***												
3.08	10.97	**BTON**	***Biotite Tonalite***			PI									

Coarse grained and euhedral texture. Moderate hematitie altered feldspars and fracture fill. Quartz veinlet at 4.39m with width of 10cm. Very weak chlorite alteration along biotite.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
3.08 - 10.97	CL IG 1	Chloritization, Intergranular, Very weak
3.08 - 10.97	HM FRC 3	Hematization, Along Fractures, Moderate
3.08 - 10.97	HM AFG 2	Hematization, Alteration of feldspar grains, Weak

Texture Maj:	***Type***	***Comment***
3.08 - 10.97	IEQ	Inequigranular
3.08 - 10.97	EU	Euhedral
3.08 - 10.97	CG	Coarse Grained (>5mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
4.39 - 4.49	VN 100 55 100 QV	Quartz Vein, 100%, 55° CA
4.49 - 10.97	VN 2 25 60 HMV	Hematite Vein, 60%
4.49 - 10.97	VN 2 25 40 QV	Quartz Vein, 40%, 25° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-15** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	1.28	**OB**	***Overburden***												
1.28	13.72	**BTON**	***Biotite Tonalite***												

Hematized in various degree - ranging from weak to strong. Fault zone between 9m and 9.9m consisting of fractures and fault gouge with sericite alteration along fractures. Intermittent quartz and quartz-chlorite stringers occurs throughout. Texture is coarse graine and subhedral. Weak foliation beyond fault zone.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
1.28 - 8.23	HM PV 3	Hematization, Pervasive, Moderate
8.23 - 9.90	SR FRC 3	Sericitization, Along Fractures, Moderate
8.23 - 9.90	HM PV 3	Hematization, Pervasive, Moderate
9.90 - 13.72	HM PV 4	Hematization, Pervasive, Strong

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
1.28 - 8.23	Py VN 1	Pyrite, Vein-controlled, 1%, trace

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
8.23 - 9.90	MS GOUGE	Fault Gouge
8.23 - 9.90	MS FLTZN	Fault Zone
9.90 - 13.72	W FOL 25	Foliated, 25° CA

Texture Maj:	***Type***	***Comment***
1.28 - 13.72	PO	Porphyritic
1.28 - 13.72	SB	Subhedral
1.28 - 13.72	CG	Coarse Grained (>5mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
1.28 - 8.23	VN 2 25 100 QCHLV	Quartz-Chlorite Vein, 100%, 25° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-15** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology					Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
	8.23 - 8.45	BXV	80		100	QV	Quartz Vein, 100%											
	8.45 - 9.90	FACV	2		100	HMV	Hematite Vein, 100%											
	9.90 - 13.72	VN	1	20	100	QV	Quartz Vein, 100%, 20° CA											

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-16** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	3.73	**OB**	***Overburden***												
3.73	7.30	**BTON**	***Biotite Tonalite***			RE									

Pervassive hematitie. Quartz veining near upper contact. No measurement of veinlet possible due to strong fracturing. Coarse grained and subhedral with some porphyritic sections. Massive rock.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
3.73 - 7.30	HM AFG 4	Hematization, Alteration of feldspar grains, Strong

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
3.73 - 7.29	S MAS	Massive
7.29 - 7.30	CTL 30	Lithological Contact, 30° CA

Texture Maj:	***Type***	***Comment***
3.73 - 7.30	PO	Porphyritic, sporadic or local
3.73 - 7.30	CX	Crystalline
3.73 - 7.30	CG	Coarse Grained (>5mm)

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
3.91 - 7.30	VN 1 25 100 QV	Quartz Vein, 100%, 25° CA

7.30	9.62	**IMDIA**	***Diabase***			RE									

Hematized fine grained diabase. Non magnetic. Trace amounts of pyrite throughout. Rubble/fracturing near lower contact. Core axis angle of lower contact cannot be measured.

Alteration Maj:	***Type/Style/Intensity***	***Comment***

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-16** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)

	7.30 - 9.62	HM	PV	3	Hematization, Pervasive, Moderate

Mineralization Maj. :	Type/Style/%Mineral	Comment
7.30 - 9.62	Py 1	Pyrite, 1%, trace

Structure Maj.:	Inte/Type/Core Angle	Comment
7.30 - 9.62	S DYK	Dyke

Texture Maj:	Type	Comment
7.30 - 9.62	CX	Crystalline
7.30 - 9.62	FG	Fine Grained (<1mm)

9.62 15.54 **BTON** ***Biotite Tonalite*** RE

Pervassive hematitie. Quartz veining near upper contact. No measurement of veinlet possible due to strong fracturing. Coarse grained and subhedral with some porphyritic sections. Pegmatitic feldspar graines occur but are rare. Massive rock.

Alteration Maj:	Type/Style/Intensity	Comment
9.62 - 15.54	CL IG 1	Chloritization, Intergranular, Very weak
9.62 - 15.54	HM FRC 3	Hematization, Along Fractures, Moderate
9.62 - 15.54	HM AFG 3	Hematization, Alteration of feldspar grains, Moderate

Texture Maj:	Type	Comment
9.62 - 15.54	SB	Subhedral
9.62 - 15.54	CG	Coarse Grained (>5mm)

Vein Maj. :	Style/%vein/CoreA/%min/min	Comment
9.62 - 15.54	VN 1 10 50 HMV	Hematite Vein, 50%
9.62 - 15.54	VN 1 10 50 QCHLV	Quartz-Chlorite Vein, 50%, 10° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-17** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	1.43	**OB**	***Overburden***												
1.43	17.25	**BTON**	***Biotite Tonalite***			PI									

Massive tonalite with hematite altered feldspar grains throughout. Strongly silicified with hematized altered margins intermittent throughout. Quartz chlorite veinlets and stringers occur sporadically.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
1.43 - 17.25	CL IG 1	Chloritization, Intergranular, Very weak
1.43 - 17.25	HM MTV 3	Hematization, Marginal to veins, Moderate
1.43 - 17.25	HM AFG 3	Hematization, Alteration of feldspar grains, Moderate

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
1.43 - 17.25	W FOL 25	Foliated, 25° CA
1.43 - 17.25	W MAS	Massive

Texture Maj:	***Type***	***Comment***
1.43 - 17.25	MG	Medium Grained(1-5mm)
1.43 - 17.25	CG	Coarse Grained (>5mm)
1.43 - 17.25	IEQ	Inequigranular
1.43 - 17.25	PH	Phaneritic

Vein Maj. :	***Style/%vein/CoreA/%min/min***	***Comment***
1.43 - 17.25	VN 1 55 100 QBV	Quartz-Biotite Vein, 100%, 55° CA

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-18** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	6.17	**OB**	***Overburden***												
6.17	13.88	**BTON**	***Biotite Tonalite***												

Selectively pervassive hematite patches throughout. Very weak chlorite alteration along biotite grains.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
6.17 - 13.88	CL IG 1	Chloritization, Intergranular, Very weak
6.17 - 13.88	HM SPT 4	Hematization, Spotty/Patchy, Strong

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
6.17 - 13.88	MS MAS	Massive

Texture Maj:	***Type***	***Comment***
6.17 - 13.88	PH	Phaneritic
6.17 - 13.88	CG	Coarse Grained (>5mm)
6.17 - 13.88	MG	Medium Grained(1-5mm)
6.17 - 13.88	IEQ	Inequigranular

13.88	16.84	**IMDIA**	***Diabase***												

Fault gouge at upper contact. Non-magnetic.

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
13.88 - 16.84	Py	Pyrite, Trace

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-18** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)	Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)

Structure Maj.:	Inte/Type/Core Angle	Comment
13.88 - 14.08	MS GOUGE	Fault Gouge
13.88 - 14.08	MS FLTZN	Fault Zone
14.08 - 16.30	M FLTZN	Fault Zone
14.08 - 16.30	M FAC	Fractured

Texture Maj:	Type	Comment
13.88 - 16.84	AP	Aphanitic

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-19** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	9.26	**OB**	***Overburden***												
9.26	14.10	**IMDIA**	***Diabase***			BLK									

Aphanitic diabase with trace pyrite.

Mineralization Maj. :	***Type/Style/%Mineral***	***Comment***
9.26 - 14.10	Py	Pyrite, trace

Texture Maj:	***Type***	***Comment***
9.26 - 14.10	AP	Aphanitic

LITHOLOGY REPORT
- Detailed -

Hole Number **BC14-20** Project: **COTE GOLD** Project Number: **001**

From (m)	To (m)		Lithology	Weathering	Oxidation	Colour	Sample #	From	To	Length	Au (ppm)	AV Au (ppm)	FA Au (ppm)	FA2 Au (ppm)	FA3 Au (ppm)
0.00	2.13	**OB**	***Overburden***												
2.13	9.22	**BTON**	***Biotite Tonalite***			PI									

Alteration includes weak pervassive silicification, moderate to strong hematite, and chlorite along biotite graines. Coarse grained and subhedral texture. Massive.

Alteration Maj:	***Type/Style/Intensity***	***Comment***
2.13 - 9.22	CL IG 1	Chloritization, Intergranular, Very weak
2.13 - 9.22	HM PV 4	Hematization, Pervasive, Strong
2.13 - 9.22	SI PV 2	Silicification, Pervasive, Weak

Structure Maj.:	***Inte/Type/Core Angle***	***Comment***
2.13 - 9.22	S MAS	Massive

Texture Maj:	***Type***	***Comment***
2.13 - 9.22	MAS	Massive
2.13 - 9.22	SB	Subhedral

Table B1: Summary of Test Pit and Boreholes Samples

Investigated Area	Test Pit/Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Bagsverd Creek Realignment	BCTP-1	1	Grab	1.0 m/2.0 m	382.3 m/381.3 m	SILTY SAND to sandy SILT
	BCTP-2	1	Grab	2.0 m/3.0 m	384.8 m/383.8 m	Gravelly SILTY SAND
	BCTP-4	1	Grab	0.1 m/2.0 m	387.9 m/386.0 m	Fibrous PEAT
	BCTP-5	1	Grab	1.8 m/2.0 m	386.4 m/386.1 m	Sandy SILT
	BCTP-8	1	Grab	1.0 m/2.0 m	383.9 m/382.9 m	SILTY SAND
	BCTP-9	1	Grab	1.5 m/2.5 m	387.8 m/386.8 m	SILTY SAND
	BCTP-10	1	Grab	1.0 m/1.5 m	388.0 m/387.5 m	SAND
	BCTP-11	1	Grab	1.0 m/2.0 m	386.5 m/385.5 m	Sandy SILT to SILT
	BCTP-12	1	Grab	0.3 m/0.6 m	388.7 m/388.4 m	SILTY SAND to sandy SILT
	BC14-8	1	Split-spoon	0.0 m/0.6 m	389.3 m/388.7 m	Fibrous PEAT
		2	Split-spoon	0.8 m/1.4 m	388.5 m/387.9 m	Fibrous PEAT
		3	Split-spoon	1.5 m/2.1 m	387.8 m/387.2 m	Fibrous PEAT
		4a	Split-spoon	2.3 m/2.7 m	387.0 m/386.6 m	Fibrous PEAT
		4b	Split-spoon	2.7 m/2.9 m	386.6 m/386.4 m	Sandy SILT
		5	Split-spoon	3.0 m/3.6 m	386.3 m/385.7 m	Sandy SILTY GRAVEL

Table B1: Summary of Test Pit and Boreholes Samples

Investigated Area	Test Pit/Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Bagsverd Creek Realignment	BC14-9	1	Split-spoon	0.8 m/1.4 m	387.9 m/387.3 m	COBBLES and BOULDERS
		2	Split-spoon	1.5 m/2.1 m	387.2 m/386.6 m	Sandy SILT to SILTY SAND
		3	Split-spoon	2.3 m/2.5 m	386.4 m/386.2 m	Sandy SILT to SILTY SAND
	BC14-10	1	Split-spoon	0.0 m/0.6 m	386.8 m/386.2 m	Fibrous to amorphous PEAT/SAND to SILTY SAND
		2	Split-spoon	0.8 m/1.4 m	386.0 m/385.4 m	SAND to SILTY SAND
		3	Split-spoon	1.5 m/2.1 m	385.3 m/384.7 m	SAND to SILTY SAND
		4	Split-spoon	2.3 m/2.9 m	384.5 m/383.9 m	SAND to SILTY SAND
		5	Split-spoon	3.0 m/3.6 m	383.8 m/383.2 m	SAND to SILTY SAND
		6	Split-spoon	4.6 m/5.2 m	382.2 m/381.6 m	Sandy SILT to SILTY SAND
		7	Split-spoon	6.1 m/6.7 m	380.7 m/380.1 m	Sandy SILT to SILTY SAND
		8	Split-spoon	7.6 m/8.2 m	379.2 m/378.6 m	Sandy SILT to SILTY SAND
		9	Split-spoon	9.1 m/9.7 m	377.7 m/377.1 m	Sandy SILT to SILTY SAND
		10	Split-spoon	10.7 m/10.9 m	376.1 m/375.9 m	Sandy SILT to SILTY SAND
		11	Split-spoon	12.2 m/12.3 m	374.6 m/374.5 m	Sandy SILT to SILTY SAND
		12	Split-spoon	13.7 m/13.8 m	373.1 m/373.0 m	GRAVEL

Table B1: Summary of Test Pit and Boreholes Samples

Investigated Area	Test Pit/Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Bagsverd Creek Realignment	BC14-11	1	Split-spoon	0.0 m/0.6 m	388.6 m/388.0 m	Fibrous SILTY PEAT
		2	Split-spoon	0.8 m/1.4 m	387.8 m/387.2 m	Fibrous SILTY PEAT/SILT to sandy SILT
		3	Split-spoon	1.5 m/2.1 m	387.1 m/386.5 m	SILT to sandy SILT
		4	Split-spoon	2.3 m/2.9 m	386.3 m/385.7 m	SILTY SAND
		5	Split-spoon	3.0 m/3.6 m	385.6 m/385.0 m	SILTY SAND
		6	Split-spoon	4.6 m/5.2 m	384.0 m/383.4 m	SILTY SAND
		7	Split-spoon	6.1 m/6.7 m	382.5 m/381.9 m	SILTY GRAVEL
		8	Split-spoon	7.6 m/8.1 m	381.0 m/380.5 m	SILTY GRAVEL
	BC14-12	1	Split-spoon	0.0 m/0.6 m	389.7 m/389.1 m	Fibrous PEAT/SAND and GRAVEL
		2	Split-spoon	0.8 m/1.4 m	388.9 m/388.3 m	Sandy SILT
		3	Split-spoon	1.5 m/2.1 m	388.2 m/387.6 m	SILTY SAND to gravelly SILTY SAND
		4	Split-spoon	2.3 m/2.9 m	387.4 m/386.8 m	SILTY SAND to gravelly SILTY SAND
		5	Split-spoon	3.0 m/3.6 m	386.7 m/386.1 m	SILTY SAND to gravelly SILTY SAND
	BC14-13	1	Split-spoon	0.0 m/0.6 m	385.2 m/384.6 m	PEAT/SILT
		2	Split-spoon	0.8 m/1.4 m	384.4 m/383.8 m	SILT/SAND

Table B1: Summary of Test Pit and Boreholes Samples

Investigated Area	Test Pit/Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Bagsverd Creek Realignment		3	Split-spoon	1.5 m/2.1 m	383.7 m/383.1 m	SAND
		4	Split-spoon	2.3 m/2.9 m	382.9 m/382.3 m	SAND
		5	Split-spoon	3.0 m/3.6 m	382.2 m/381.6 m	SAND
		6	Split-spoon	4.6 m/4.7 m	380.6 m/380.5 m	SAND
	BC14-14	1	Split-spoon	0.0 m/0.6 m	383.4 m/382.8 m	SILTY PEAT
		2	Split-spoon	0.8 m/1.4 m	382.6 m/382.0 m	SILT
		3	Split-spoon	1.5 m/2.1 m	381.9 m/381.3 m	SILT/SILTY SAND
		4	Split-spoon	2.3 m/2.9 m	381.1 m/380.5 m	SILTY SAND
	BC14-15	1	Split-spoon	0.0 m/0.6 m	386.1 m/385.5 m	SILTY PEAT/BOULDERS
		2	Split-spoon	0.8 m/1.3 m	385.3 m/384.8 m	ORGANIC SILTY SAND/sandy SILT
	BC14-16	1	Split-spoon	0.0 m/0.2 m	387.1 m/386.9 m	SILTY PEAT
		2	Split-spoon	1.1 m/1.7 m	386.0 m/385.4 m	SILTY SAND to sandy SILT
		3	Split-spoon	1.7 m/2.3 m	385.4 m/384.8 m	SILTY SAND to sandy SILT
		4	Split-spoon	2.3 m/2.9 m	384.8 m/384.2 m	SILTY SAND and GRAVEL
		5	Split-spoon	3.0 m/3.3 m	384.1 m/383.8 m	SILTY SAND and GRAVEL

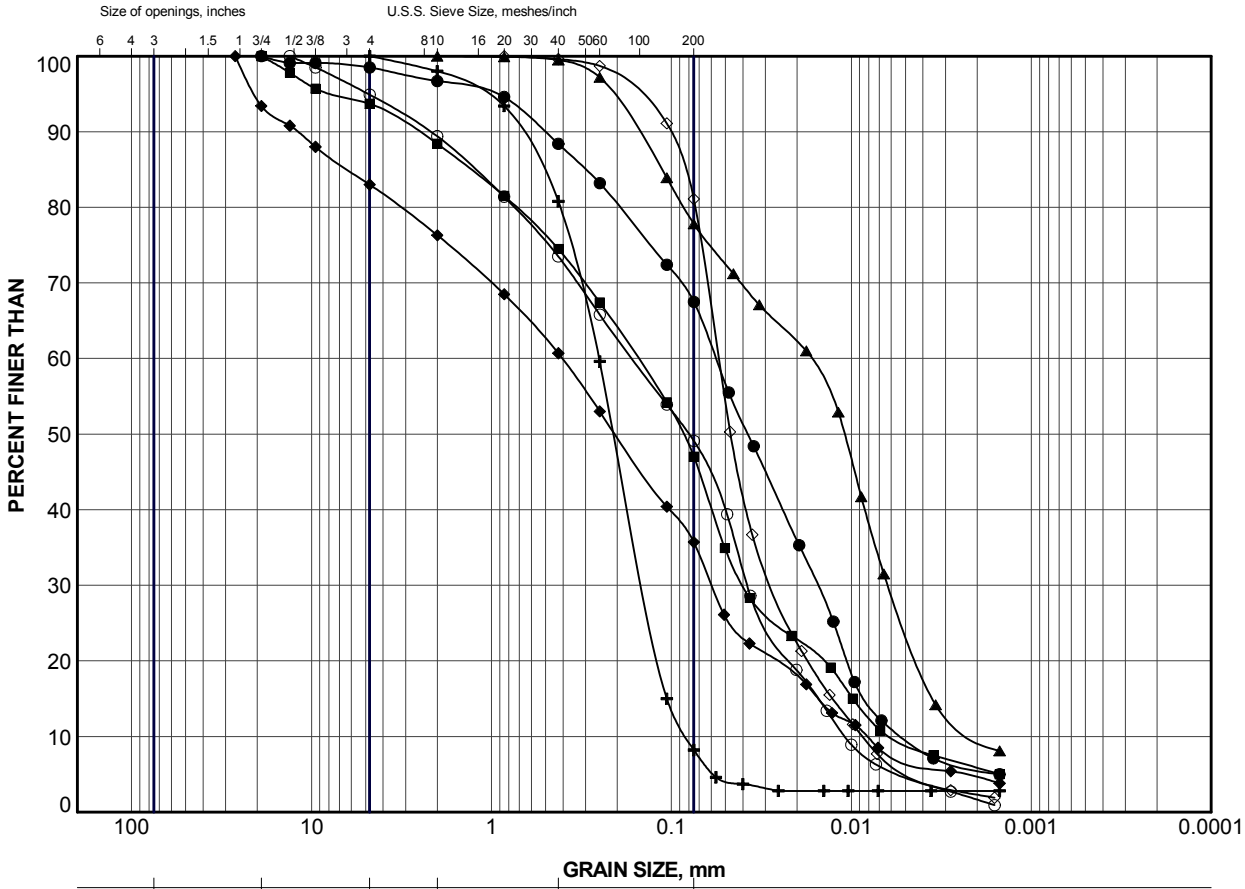
Table B1: Summary of Test Pit and Boreholes Samples

Investigated Area	Test Pit/Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Bagsverd Creek Realignment	BC14-17	1	Split-spoon	0.0 m/0.6 m	388.3 m/387.7 m	Fibrous PEAT
		2	Split-spoon	0.8 m/1.4 m	387.5 m/386.9 m	Fibrous PEAT/SILT
	BC14-18	1	Split-spoon	0.0 m/0.6 m	387.9 m/387.3 m	Amorphous PEAT/ SAND to SILTY SAND
		2	Split-spoon	0.8 m/1.4 m	387.1 m/386.5 m	SAND to SILTY SAND/sandy SILT
		3	Split-spoon	1.5 m/2.1 m	386.4 m/385.8 m	Sandy SILT
		4	Split-spoon	2.3 m/2.9 m	385.6 m/385.0 m	SAND to gravelly SILTY SAND
		5	Split-spoon	3.0 m/3.6 m	384.9 m/384.3 m	SAND to gravelly SILTY SAND
		6	Split-spoon	4.6 m/5.2 m	383.3 m/382.7 m	SAND to gravelly SILTY SAND
		7	Split-spoon	6.1 m/6.2 m	381.8 m/381.7 m	SAND to gravelly SILTY SAND
	BC14-19	1	Split-spoon	0.0 m/0.6 m	384.8 m/384.2 m	Sandy PEAT/SAND
		2	Split-spoon	0.8 m/1.4 m	384.0 m/383.4 m	SAND
		3	Split-spoon	1.5 m/2.1 m	383.3 m/382.7 m	SAND
		4	Split-spoon	2.3 m/2.9 m	382.5 m/381.9 m	SILTY SAND and GRAVEL
		5	Split-spoon	3.0 m/3.6 m	381.8 m/381.2 m	SILTY SAND and GRAVEL
		6	Split-spoon	4.6 m/5.2 m	380.2 m/379.6 m	SILTY SAND

Table B1: Summary of Test Pit and Boreholes Samples

Investigated Area	Test Pit/Borehole No.	Sample Number	Sample Type	Sample Depth (Top/Bottom)	Sample Elevation (Top/Bottom)	Soil Layer Description
Bagsverd Creek Realignment		7	Split-spoon	6.1 m/6.7 m	378.7 m/378.1 m	SILTY SAND
		8	Split-spoon	7.6 m/8.2 m	377.2 m/376.6 m	SILTY SAND/sandy SILT
	BC14-20	1	Split-spoon	0.0 m/0.6 m	379.4 m/378.8 m	Sandy SILT
		2	Split-spoon	0.8 m/1.4 m	378.6 m/378.0 m	SILTY SAND
		3	Split-spoon	1.5 m/2.1 m	377.9 m/377.3 m	SILTY SAND

Prepared By: MT/TB
Checked By: KSL



LEGEND

SYMBOL	BOREHOLE	SAMPLE	ELEV (m)
●	BC14-10	7	380.4
■	BC14-16	2	385.7
▲	BC14-18	3	386.1
✚	BC14-19	3	383.0
◆	BCTP-2	1	384.3
◇	BCTP-5	1	386.2
○	BCTP-12	1	388.5

PROJECT

GOLDON RESOURCES LTD.
BAGSVERD CREEK REALIGNMENT

TITLE

GRAIN SIZE DISTRIBUTION

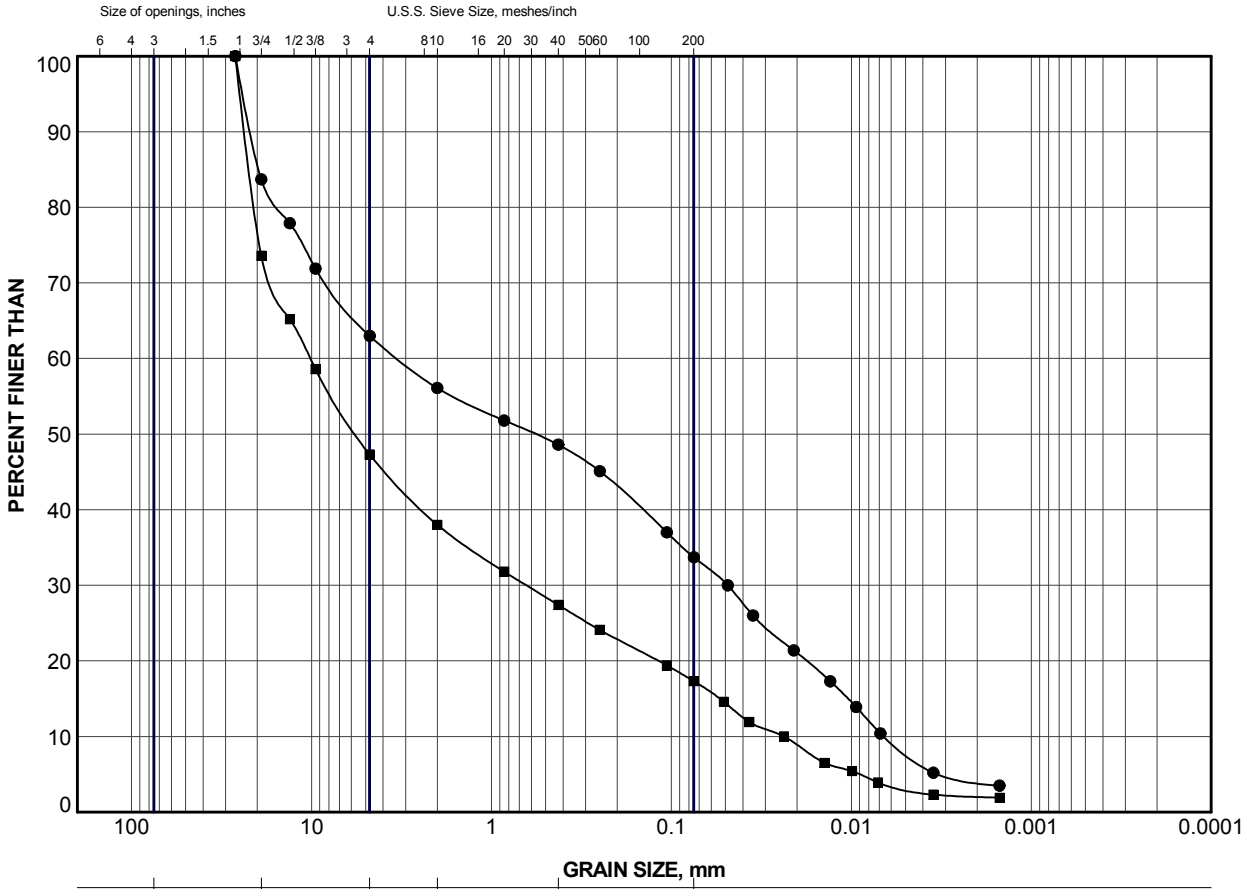
SILT to SILTY SAND to SAND

Golder Associates
SUDBURY, ONTARIO

PROJECT No.		1416019	FILE No.	1402173.GPJ
DRAWN	JJL	Mar 2015	SCALE N/A	REV.
CHECK	MT	Mar 2015		
APPR	KSL	Mar 2015		

FIGURE B1

SUD-GSD (NEW) GLDR_LDN.GDT



LEGEND

SYMBOL	BOREHOLE	SAMPLE	ELEV (m)
●	BC14-8	5	385.9
■	BC14-11	7	382.2

PROJECT

GOLDON RESOURCES LTD.
BAGSVERD CREEK REALIGNMENT

TITLE

GRAIN SIZE DISTRIBUTION

SILTY GRAVEL

Golder Associates
SUDBURY, ONTARIO

PROJECT No.		1416019	FILE No.	1402173.GPJ
DRAWN	JJL	Mar 2015	SCALE N/A	REV.
CHECK	MT	Mar 2015		
APPR	KSL	Mar 2015	FIGURE B2	

SUD-GSD (NEW) GLDR_LDN.GDT

BC14-8 - Monitoring Well Conductivity Tests

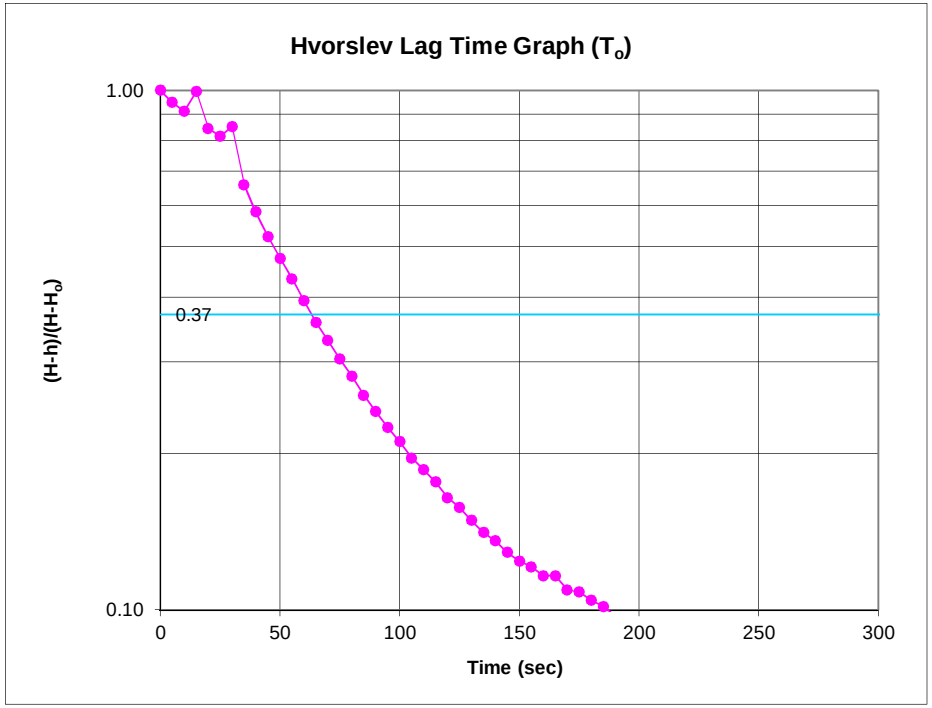
Hvorslev Calculation
(for Hydraulic Conductivity from Response Tests)

Well Name =	**BC14-8**	
Well Depth =	5.19 m	
Initial WL (H_o) =	1.12 m	
Radius of pipe (r) =	0.038 m	(1.5" diameter)
Radius of hole (R) =	0.100 m	(Radius of Borehole)
Length of screen (L) =	1.524 m	(5 foot screen)
Water Level at Max Drawdown (H) =	2.130 m	
$H-H_o$ =	1.015 m	
Lag time (T_o) =	64	(time at $(H-h)/(H-H_o)$ = 0.37 on graph)

Hydraulic Cond.(K) = **2.75E-05 m/s**
2.75E-03 cm/s

Screened material = Sandy SILT over sandy SILTY GRAVEL

Time (sec)	WL (m)	$H-H_o$ (m)	$(H-h)/(H-H_o)$
0	2.13	1.01	1.00
5	2.077	0.96	0.95
10	2.041	0.93	0.91
15	2.126	1.01	1.00
20	1.973	0.86	0.85
25	1.944	0.83	0.82
30	1.98	0.86	0.85
35	1.783	0.67	0.66
40	1.707	0.59	0.58
45	1.646	0.53	0.52
50	1.597	0.48	0.47
55	1.555	0.44	0.43
60	1.515	0.40	0.39
65	1.478	0.36	0.36
70	1.45	0.33	0.33
75	1.424	0.31	0.30
80	1.401	0.29	0.28
85	1.378	0.26	0.26
90	1.36	0.24	0.24



BC14-13 - Monitoring Well Conductivity Tests

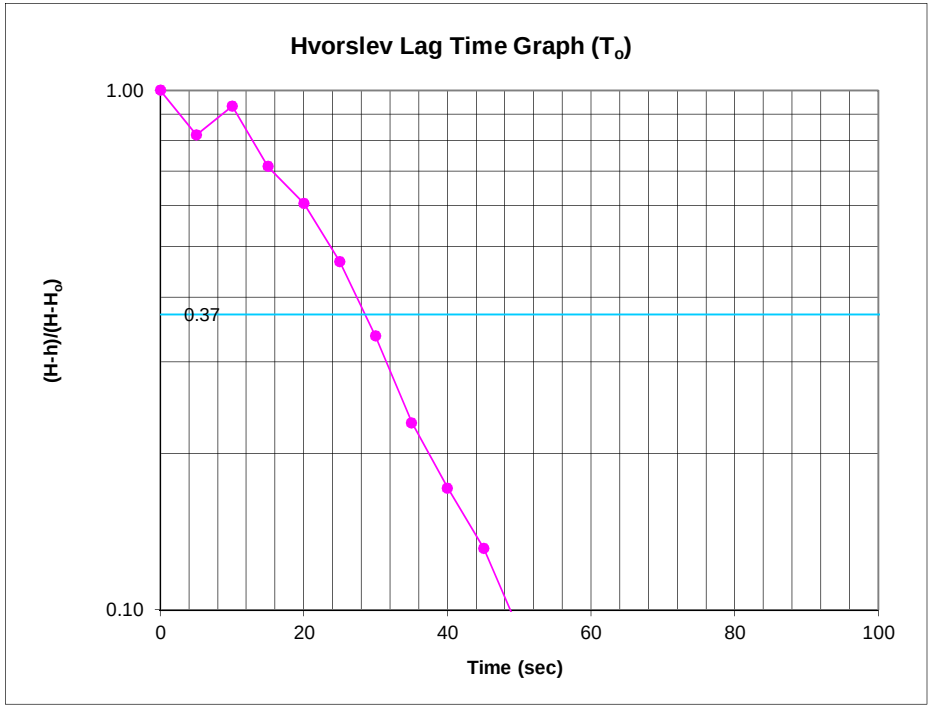
Hvorslev Calculation
(for Hydraulic Conductivity from Response Tests)

Well Name =	**BC14-13**	
Well Depth =	5.46 m	
Initial WL (H_o) =	2.57 m	
Radius of pipe (r) =	0.051 m	(2" diameter)
Radius of hole (R) =	0.100 m	(Radius of Borehole)
Length of screen (L) =	1.524 m	(5 foot screen)
Water Level at Max Drawdown (H) =	2.869 m	
$H-H_o$ =	0.297 m	
Lag time (T_o) =	29	(time at $(H-h)/(H-H_o)$ = 0.37 on graph)

Hydraulic Cond.(K) = 1.00E-04 m/s
1.00E-02 cm/s

Screened material = SAND

Time (sec)	WL (m)	$H-H_o$ (m)	$(H-h)/(H-H_o)$
0	2.869	0.30	1.00
5	2.816	0.24	0.82
10	2.849	0.28	0.93
15	2.784	0.21	0.71
20	2.752	0.18	0.61
25	2.711	0.14	0.47
30	2.672	0.10	0.34
35	2.64	0.07	0.23
40	2.623	0.05	0.17
45	2.611	0.04	0.13
50	2.599	0.03	0.09
55	2.593	0.02	0.07
60	2.587	0.02	0.05
65	2.584	0.01	0.04
70	2.581	0.01	0.03
75	2.581	0.01	0.03
80	2.579	0.01	0.02
85	2.579	0.01	0.02
90	2.575	0.00	0.01



BC14-20 - Monitoring Well Conductivity Tests

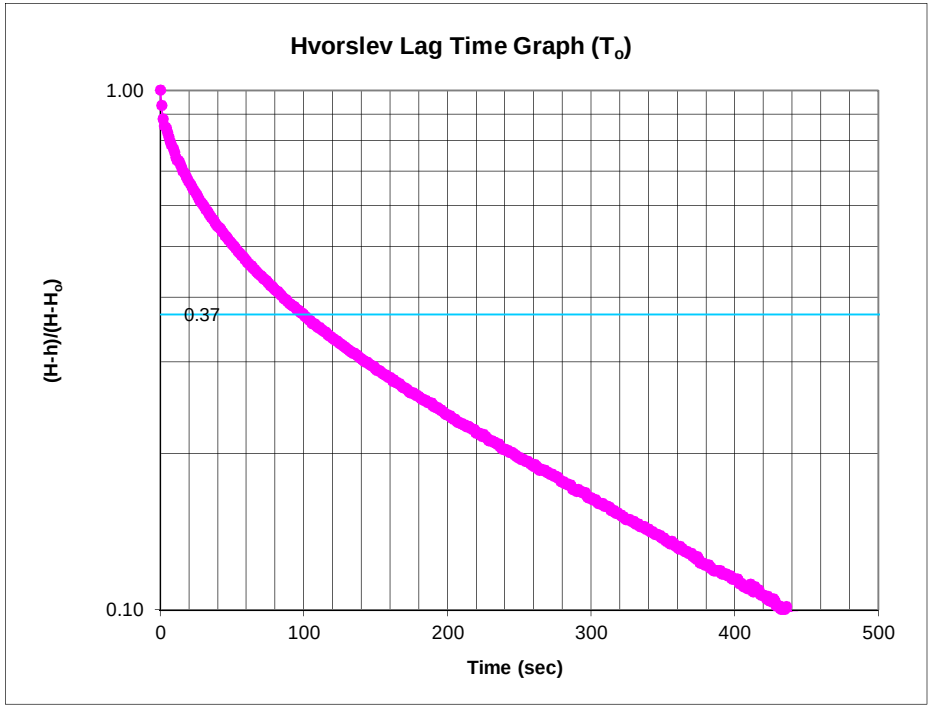
Hvorslev Calculation
(for Hydraulic Conductivity from Response Tests)

Well Name =	**BC14-20**	
Well Depth =	9.99 m	
Initial WL (H_o) =	0.13 m	
Radius of pipe (r) =	0.038 m	(1.5" diameter)
Radius of hole (R) =	0.044 m	(Radius of NW outside casing diameter)
Length of screen (L) =	1.524 m	(5 foot screen)
Water Level at Max Drawdown (H) =	2.018 m	
$H-H_o$ =	1.893 m	
Lag time (T_o) =	100	(time at $(H-h)/(H-H_o)$ = 0.37 on graph)

Hydraulic Cond.(K) = **1.76E-05 m/s**
1.76E-03 cm/s

Screened material = Bedrock with 75 mm void in middle of screened interval

Time (sec)	WL (m)	$H-H_o$ (m)	$(H-h)/(H-H_o)$
0	2.0178	1.89	1.00
1	1.8948	1.77	0.94
2	1.7908	1.67	0.88
3	1.7437	1.62	0.86
4	1.7268	1.60	0.85
5	1.6977	1.57	0.83
6	1.6637	1.54	0.81
7	1.6337	1.51	0.80
8	1.6087	1.48	0.78
9	1.5888	1.46	0.77
10	1.5628	1.44	0.76
11	1.5307	1.41	0.74
12	1.5118	1.39	0.73
13	1.5077	1.38	0.73
14	1.4897	1.36	0.72
15	1.4678	1.34	0.71
16	1.4478	1.32	0.70
17	1.4337	1.31	0.69
18	1.4188	1.29	0.68



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