FCR (Park Lawn) LP and CPPIB Park Lawn Canada Inc.

2150 Lake Shore

Preliminary Geotechnical Study

Issue 01 | May 15, 2020

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Executive Summary

This geotechnical study has been prepared in accordance with the requirements for a Geotechnical Study set out by the City of Toronto¹.

The current Master Plan features a range of land uses including a new public park, and a diverse mix of residential, retail, service, entertainment and employment uses and a range of building types. Fifteen towers are proposed on the site with heights ranging from 16 to 70 storeys. The current Master Plan includes 6 phases, each of which includes a basement ranging from 3 to 5 levels to a minimum basement slab elevation of +65.5 masl (meters above sea level, approximately 20 mbgs – meters below ground surface).

This report summarizes the findings from available geotechnical investigation and provides assessment on the soil, bedrock and groundwater characteristics of the subject property to determine its feasibility and stability to accommodate the proposed development, which includes preliminary design and construction recommendations for site preparation, foundations, floor slabs, retaining walls, temporary shoring system, underground services, pavement structure, earthquake consideration and dewatering. In addition, this report provides discussion on potential risks, mitigation measures and monitoring programs for the proposed development.

This report is based on previous ground investigation work carried out at the site and a review of historical records within and surrounding the site. Although ground investigations have been carried out within the site, ground investigation has yet to be completed specifically for the current proposed development. As a result, analysis in this report is based on available field and lab testing and does not include data obtained from slug tests, pumping tests, or long-term groundwater monitoring. Gaps in the available data for further design stages will be addressed by further site investigation and analysis. The results of these further investigations can be provided to the City of Toronto if required.

¹ Refer to the following City of Toronto website for more details <<u>https://www.toronto.ca/wp-content/uploads/2018/08/97bb-Hydrological-Review-August-2018.pdf</u>>.

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1 Introduction

1.1 Project Description

In October 2019, FCR (Park Lawn) LP and CPPIB Park Lawn Canada Inc. ("the Owners" or "FCR") made an application for an Official Plan Amendment (OPA) in support of a proposed Master Plan for the redevelopment of the 27.7 acre / 11.2 hectare site located on the northeast corner of Park Lawn Road and Lake Shore Boulevard West, municipally known as 2150-2194 Lake Shore Boulevard West and 23 Park Lawn Road site ("the site" or "2150 Lake Shore"), as shown in Figure 1.



Figure 1: Site Location and Boundary

The original Master Plan proposal envisioned a vibrant, mixed-use, transit-oriented redevelopment of the site. The Master Plan included a new Park Lawn GO Station, related TTC transit improvements, a fine-grained network of new streets and connections, a range of new open spaces including a new public park, and a diverse mix of residential, retail, service, entertainment and employment uses.

The current Master Plan features the same variety of land uses with a range of building types that blend forms and uses, and respond to the distinct geometry of the proposed street and block pattern. Fifteen towers are proposed on the site with heights ranging from 16 to 70 storeys, with the tallest towers generally clustered near the GO Station. The towers feature generous separation distances and are interspersed with a range of standalone mid-rise and low-rise building typologies to create a sense of place and urban fabric that appears to have evolved over time.

1.2 Proposed Development

The proposed site contains several mix-use buildings (residential, employment and retail), two schools, a 1 ha park, several open spaces, a new train station on the Lake Shore GO line, a TTC streetcar loop, and a series of public and private roadways, as shown in Figure 2.



Figure 2: Proposed Development

1.3 Scope and Limitation

Arup was retained by FCR (Park Lawn) LP and CPPIB Park Lawn Canada Inc. to prepare a Geotechnical Study for the Zoning Bylaw Amendment application.

This report summarizes the findings from available geotechnical investigation and provides assessment on the soil, bedrock and groundwater characteristics of the subject property to determine its feasibility and stability to accommodate the proposed development, which includes preliminary design and construction recommendations for site preparation, foundations, floor slabs, retaining walls, temporary shoring system, underground services, pavement structure, earthquake consideration and dewatering. In addition, this report provides discussion on potential risks, mitigation measures and monitoring programs for the proposed development.

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Arup's responsibility is limited to documenting the information encountered at the borehole locations, at the time of their determination during preparation of this report. Any discrepancies between this report and the borehole logs, information on the borehole logs shall prevail. Ground and groundwater information may vary between and beyond boreholes.

2 Site Condition

The site is located at 2150 Lake Shore Boulevard West, in the Etobicoke-Lakeshore area of the Toronto City District of Etobicoke-York. The site is approximately 11.2 hectares and broadly triangular in shape. Bounded to the northwest by CN railway line and the Gardener Expressway eastbound off ramp, bounded to the east by Lake Shore Boulevard West, and the southwest by Park Lawn Road.

2.1 Topography

The site is generally flat, with existing elevation across the site typically ranging from approximately +84 masl and +86 masl. Beyond the typical ranges, the site elevation increases several metres at the northern boundary due to fill slopes associated with the adjacent the Canada National Railway and the Gardener Expressway east bound off ramp. Beyond the typical ranges, the site elevation reduces in the southern corner. It should be noted that significant grading to form the final formation level for the proposed development.

2.2 Existing Geotechnical Features

Existing geotechnical features include a fill slope with a 2:1 to 2.5:1 gradient, measuring approximately 10 m in height and 250 m in length forming the southern slope of the embankment upon which the Gardener Expressway east bound exist ramp is located, forming the north-northwestern boundary of the site; a retaining wall measuring up to approximately 5 m in height and 100 m in length, alongside an onsite access road, and in part, in close proximity to Canadian National Railway line passing along the northwestern boundary of the site. A small slope measuring up to approximately 2 m in height and 65 m in length along the northern boundary of the site. These features allow differing ground elevation within the site and surrounding area and will need to be further assessed as part of the site development.

3 Land Use History

3.1 Historical Maps and Aerial Photographs

A review of available historical maps and aerial photographs for the area has been conducted to determine the site land use history, which is summarized in Table 1, below.

| Year | Sheet/Photograph No. | Details |
|------|---|--|
| 1903 | Plan of the city of Toronto. | The site is bounded by Lake Shore Road to the south, Salisbury Road (currently Park Lane Road) to the southwest, and CN Railway to the north. No development is shown within site. |
| 1908 | City of Toronto Contour Map | The site is bounded by Lake Shore Road to the south, Salisbury Road (currently Park Lane Road) to the southwest, and CN Railway to the north. No development is shown within site. |
| 1921 | Toronto Transportation Commission – Contour Map of Toronto District | The site is shown to be bounded by Lake Shore Road to the south, Canadian Pacific Railway to the north. No development is shown within site. Site elevation is shown to be approximately +84 masl. |
| 1932 | Province of Ontario Department of Mines. Map No. 41g. The Pleistocene of the Toronto Region | The site is shown to be bounded by Lake Shore Road to the south, Canadian Pacific Railway to the north, and Park Lane Road to the southwest. The site is labelled as "Brick Yards". |
| 1937 | City of Toronto Planning Board | The site is bounded by Lake Shore Road, Park Lane Road, CN Rail, and Queen Elizabeth Way (now the Gardener Expressway). No development is shown within site. |
| 1947 | Aerial Photograph 21C | The site is bounded by Lake Shore Road, Park Lane Road, CN Rail, and Queen Elizabeth Way (now the Gardener Expressway). The site appears to have been largely cleared of vegetation but remains undeveloped with the exception of several small structures towards the west of the sire. To the south of the site, Humber Bay Park East and West are not yet reclaimed and remain as open water. |
| 1950 | Aerial Photograph 21C | The northern portion of the Mr. Christie's Bakery building is present on the site. The water tower in the northern portion of the site has also been constructed. |

Table 1: Summary of historical Maps and Aerial Photographs

| Year | Sheet/Photograph No. | Details | |
|-----------------|-----------------------------------|---|--|
| 1956 | Aerial Photographs 183 and 184 | The southern portion of the building that is currently occupied by Mr. Christie's Bakery is present on the site, completing the building in its current state. The building that is currently the BMO bank is present in the southern corner of the site. | |
| 1959 | Aerial Photograph 11 | No significant change within the site. Reclamation to the south of the site, forming the land for what is now Marine Parade Drive and adjacent developments. | |
| 1960 to 1971 | Aerial Photographs | No significant change within the site. Continued reclamation to the south. | |
| 1973 | Aerial Photograph 35 | No significant change within the site. Ongoing reclamation to the south of the site, to what is now partially Humber Bay Park East and West | |
| 1975 | Aerial Photograph 29 | Construction of the Gardener Expressway eastbound off ramp bounding the north of the site has been completed. | |
| 1976 to 1992 | Aerial Photographs | No significant change within the site. | |
| 2002 to 2017 | Google Earth | No significant change within the site. | |
| 2018 | Google Earth | The former Mr. Christie's Bakery has been removed from the site. The BMO building in the southern corner of the site remains. | |

3.2 Published Historical Information

The following information is credited to the Etobicoke Historical Society, who have compiled historical information on Humber Bay and other neighbourhoods throughout Etobicoke.

Lake Shore Boulevard West (called Lake Shore Road until 1959), forms the southeast border of the site and was first surveyed in 1791 along the path of an ancient aboriginal trail, making it one of the oldest roads in Ontario. Much of the local area, including 2150 Lake Shore Boulevard has historically been used as farmland. In 1853 the railway, currently the Canadian National Railway was constructed which now forms part of the northern boundary of the site. In 1940 Queen Elizabeth Way (now the gardener Expressway) was constructed. Within the site there have been five brickyards operating, the largest until the 1930s, making bricks from local sandy clay. Other early industries included Carson Cement Block and Humber Coal and Supply. In 1948, Christie Brown & Co. built a large bakery on the site, which closed in 2014.

4 **Review of Existing Information**

4.1 **Published Geological Information**

The map of Quaternary Geology of Toronto and the Surrounding Area (1980) indicates that the site is underlain by Older Lake Deposits of silt and clay, as shown in Figure 3. Beneath the Older Lake Deposits there is potential for presence of the Older Glacial Till consisting of silty clay to silt and clayey sand. Beneath the Quaternary Deposits the bedrock is formed of shale, interbedded with siltstone and occasional limestone.

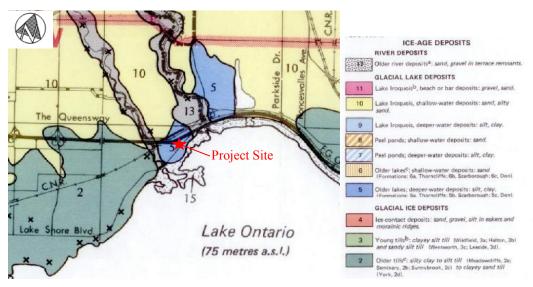


Figure 3: Regional Geology of Project Site (Quaternary Geology of Toronto and the Surrounding Area (1980)

4.2 Geotechnical Reports and Information

4.2.1 Historical Geotechnical Reports and Boreholes

A search of ground investigation information within the site and surrounding area has been carried out via the following resources:

- Ontario Ministry of Transport Foundation Library;
- Ontario Geotechnical Boreholes. Maintained by Ontario Geological Survey (OGS) and the Ministry of Natural Resources (MNR); and
- Toronto Development Projects Planning Applications.

Table 2, below, summarizes reports and eighteen (18) boreholes that have been considered in preliminary determination of the site-specific ground conditions.

| Source | Document Type | Relevant Boreholes | Borehole Locations |
|---|---|--|--|
| Ontario Ministry of Transport Foundation | Foundation Investigation Report – 30M11-094 (1970) | BH9 and BH10 | Boreholes located at northern boundary of site, adjacent to Gardiner Expressway east bound off ramp |
| Library | Foundation Investigation Report – 30M11-097 (1970) | BH107 and BH109 | Boreholes located at northeastern boundary of site. |
| Ontario Geotechnical Boreholes (Maintained by OGS and MNR) | Summary of borehole details including completion date, strata summary, and ground water depth. | 604058 604070 604069 655256 655257 604066 604068 604067 604054 604053 | Within the 2150 Lake Shore Boulevard site, in close proximity to the northwestern boundary. |
| Toronto Development Projects Planning Applications | Preliminary Geotechnical Investigation for Proposed High-rise Buildings 2161 to 2165 Lake Shore Boulevard West. | BH13-1 BH13-2 BH13-3 BH13-4 | South of Lake Shore Boulevard West. |

Table 2: Summary of Available Geotechnical Reports

4.2.2 Site Specific Geotechnical Reports

Two site specific geotechnical reports are summarized in Table 3. Thirty-eight borehole logs and one test pit log were provided in the site specific geotechnical reports. Eighteen (18) out of the thirty-eight (38) boreholes and one (1) test pit were carried out for environmental sampling or well installation with no geotechnical in situ tests or laboratory tests having been carried out for these boreholes.

| Date | Source | Document Type | Relevant Boreholes and Test Pits |
|------------------|--------------------------------------|----------------------|--|
| February 2013 | Conestoga- Rovers & Associates | Shore Boulevard West | MW1-13, MW2-13, MW3-13, MW4-13, MW5-13, MW6-13, MW7-13, MW8-13, MW9-13, *TP1-03, *BH2-04, *BH3-04, |
| | | Toronto, Ontario | *BH4-04, *BH5-04, *BH6-04, *BH7- |

Table 3: Summary of Project Specific Geotechnical Reports

| Date | Source | Document Type | Relevant Boreholes and Test Pits | | | |
|---|----------------------|---|---|--|--|--|
| | | | 04, *BH8-04, *BH9-04, *BH10-04, *BH11-04, BH1, BH2, MW1-04, MW2- 04, MW3-04, *MW5-04, *MW6-04, *BH201-05, *BH202-05, *BH203-05, *BH204-05 and *BH205-05 | | | |
| January 2015 | Golder Associates | 15-1, 15-2, 15-3, 15-4, 15-5, *MW14-4, *MW14-6 | | | | |
| * Boreholes or test pits were carried for environmental sampling or well installation with no geotechnical laboratory or in situ tests. | | | | | | |

5 Ground and Groundwater Conditions

5.1 General

Based on the project specific geotechnical reports, the subject property is underlain by the overburden materials comprising a layer of earth fill overlaying the native silty clay to silt deposits, and the native silty clay to silt deposits are underlain by shale bedrock of Georgian Bay Formation.

The above subsurface condition is consistent with the general subsurface conditions interpreted from the historical geotechnical reports from adjacent sites.

5.2 Ground Conditions

The following soil stratigraphy is interpreted based on the site specific geotechnical boreholes.

5.2.1 Topsoil, Concrete and Asphalt

Based on the site specific geotechnical reports, topsoil was encountered in seven (7) boreholes drilled in the landscaped area; concrete was encountered in five (5) boreholes drilled within the demolished building, and asphalt was encountered in twenty (20) boreholes and one (1) test pit carried out in the demolished parking lot. Details of these surface cover are summarized in Table 4.

| Description | Min. Thickness (mm) | Max. Thickness (mm) | Borehole Encountered | |
|-------------|---------------------------|---------------------------|---|--|
| Topsoil | 30 | 150 | MW1-13, MW3-13, MW5-13, MW6-13, MW7-13, BH1 and BH2 | |
| Concrete | 100 | 200 | BH11-04, BH201-05, BH202-05, BH203-05, BH204-05 and BH205-05 | |
| Asphalt | 60 | 210 | BH15-1, BH15-2, BH15-3, BH15-4, BH15-5, MW2- 13, MW4-13, MW8-13, MW9-13, BH2-04, BH3-04, BH4-04, BH5-04, BH8-04, BH9-04, BH10-04, MW1-04, MW2-04, MW3-04, MW5-04, MW6-04 and TP1-03 | |

Table 4: Topsoil, Concrete and Asphalt Thickness and Location Summary

5.2.2 Earth Fill

Granular fill, ranging from 50 mm to 1.27 m in thickness, was encountered beneath the pavement structure or concrete slab in twenty (20) boreholes summarized in Table 5. The granular fill generally comprises brown or grey sand and gravel with

trace to some silt. Based on the SPT-N values and moisture content summarized in Table 6, the granular fill is moist to wet and is in very loose to compact condition.

Earth fill, ranging from 0.3 m to 3.96 m in thickness, was recorded in twenty (20) boreholes summarized in Table 5. The earth fill comprises sand, silt and silty clay materials. Based on the SPT-N values and moisture content summarized in Table 6, the earth fill material is moist to wet and in very loose to dense or very soft to very stiff condition. The high moisture content values indicated the presence of organic matters.

| Description | Min. Thickness (mm) | Max. Thickness (mm) | Borehole Encountered |
|------------------|---------------------------|---------------------------|--|
| Granular Fill | 50 | 1270 | BH15-1, BH15-2, BH15-3, BH15-4, BH15-5, MW4-13, MW8-13, BH2-04, BH3-04, BH3-04, BH4-04, BH5-04, BH5-04, BH7-04, BH7-04, BH7-04, BH10-04, MW5-04, MW5-04, BH201-05, BH202-05 and BH203- 05. |
| Earth Fill | 300 | 3960 | BH15-1, BH15-4, MW1-13, MW3-13, MW6-13, MW7-13, MW9-13, BH1, BH2, TP1-03, BH6-04, BH7-04, BH8-04, |

Table 5: Earth Fill Thickness and Location Summary

| | BH10-04, |
|--|------------|
| | BH11-04, |
| | MW1-04, |
| | MW2-04, |
| | MW3-04, |
| | MW-5-04 |
| | and MW6-04 |

| Table 6: SPT-N and Moisture Conte | ent Summary for Earth Fill |
|-----------------------------------|----------------------------|

| Description | Min. Moisture Content | Max. Moisture Content | Min. SPT-N Value | Max. SPT-N Value | |
|---------------|--------------------------|--------------------------|---------------------|---------------------|--|
| Granular Fill | 4 | 16 | 4 | 27 | |
| Earth Fill | 7 | 42 | 0 | 34 | |

5.2.3 Silty Clay and Clayey Silt

Below the topsoil, concrete, asphalt pavement and earth fill, natural deposits of clayey silt to silty clay were encountered in majority of the boreholes and extended to the bedrock at depths ranging from 4.1 m to 7.6 m below ground surface in eleven (11) boreholes.

Based on the SPT-N value and moisture content summarized in Table 7, clayey silt deposit is generally moist to very moist and is in very loose to dense condition, while the silty clay deposit is moist to wet and is in very soft to hard. The low SPT-N values for silty clay deposit is generally associated with high moisture content, and the high SPT-N is generally encountered at the interface between the silty clay deposit and weather shale.

| Description | Min. Moisture Content (%) | Max. Moisture Content (%) | Min. SPT-N Value | Max. SPT-N Value |
|---------------------|------------------------------|------------------------------|---------------------|---------------------|
| Clayey Silt deposit | 12 | 23 | 3 | 32 |
| Silty Clay deposit | 8 | 33 | 0 | 50 |

Table 7: SPT-N and Moisture Content Summary for Silty Clay and Clayey Silt

Gradation analyses, summarized in Table 8, were carried out on three samples of clayey silt and four samples of silty clay deposit. Based on the gradation analysis results, the clayey silt deposit has silt content between 77% and 82% and clay content between 13% and 17%. The silty clay deposit has silt content between 46% and 70% and clay content between 29% and 46%.

Table 8: Gradation Analysis Result Summary for Silty Clay and Clayey Silt

| BH No. | Depth (m) | Gravel (%) | Sand (%) | Silt (%) | Clay (%) | Description |
|--------|-----------|------------|----------|----------|----------|-------------|
| BH15-4 | 2.29-2.9 | 0 | 10 | 77 | 13 | Clayey Silt |

| BH No. | Depth (m) | Gravel (%) | Sand (%) | Silt (%) | Clay (%) | Description |
|--------|-----------|------------|----------|----------|----------|-------------|
| BH15-5 | 1.52-2.13 | 0 | 6 | 77 | 17 | Clayey Silt |
| MW2-13 | 0.9-1.4 | 0 | 4 | 82 | 14 | Clayey Silt |
| MW1-13 | 5.3-5.9 | 0 | 5 | 49 | 46 | Silty Clay |
| MW4-13 | 2.3-2.6 | 0 | 2 | 69 | 29 | Silty Clay |
| MW5-13 | 5.3-5.9 | 1 | 7 | 46 | 46 | Silty Clay |
| MW9-13 | 4.6-5.2 | 0 | 0 | 70 | 30 | Silty Clay |

Atterberg limit tests were carried out on three samples of clayey silt and four samples of silty clay, and the results are summarized in Table 9. According to the result, the plasticity index of the clayey silt deposit ranges from 3% to 8% indicating the low clay content.

The silty clay samples had plastic limit of 15% to 18%, liquid limit of 28% to 34% and plasticity indices of 12% to 17% and were classified as low to medium plasticity clay. The moist content of the tested samples lied between the liquid and plastic limit and were described to be in moist to wet condition.

| BH No. | Depth (m) | Liquid Limit (%) | Plastic Limit (%) | Plasticity Index (%) | Moisture Content (%) | Description |
|------------|--------------|------------------------|-------------------------|----------------------------|----------------------------|-------------|
| BH15- 4 | 2.3- 2.9 | 15 | 18 | 3 | 23 | Clayey Silt |
| BH15- 5 | 1.6- 2.1 | 14 | 6 | 8 | 9 | Clayey Silt |
| MW2- 13 | 0.9- 1.4 | 24 | 16 | 8 | 20 | Clayey Silt |
| MW3- 13 | 3.8- 4.4 | 22 | 17 | 5 | 22 | Clayey Silt |
| MW1- 13 | 5.3- 5.9 | 33 | 17 | 16 | 27 | Silty Clay |
| MW4- 13 | 2.3- 2.6 | 30 | 18 | 12 | 23 | Silty Clay |
| MW5- 13 | 5.3- 5.9 | 34 | 17 | 17 | 28 | Silty Clay |
| MW9- 13 | 4.6- 5.2 | 28 | 15 | 13 | 23 | Silty Clay |

Table 9: Atterberg Limit Test Result Summary for Silty Clay and Clayey Silt

5.2.4 Silty Clay Till

Silty clay till deposit was encountered below pavement structure in three boreholes (BH15-1, BH15-2 and BH15-3) extending to shale bedrock at depths from 5 m to 6.5 m below ground surface.

Based on the SPT-N values and moisture content summarized in Table 10, silty clay till deposit is generally moist and has a soft to hard consistency. The soft deposit was associated with high water content, and the hard deposit was encountered at the interface between silty clay till and shale bedrock.

| Description | Min. | Max. | Min. | Max. |
|--------------------|----------|----------|-------|-------|
| | Moisture | Moisture | SPT- | SPT- |
| | Content | Content | N | N |
| | (%) | (%) | Value | Value |
| Silty Clay Till | 16 | 20 | 4 | 50 |

Table 10: SPT-N Values and Moisture Content Summary for Silty Clay Till

Gradation analysis has been conducted on one representative sample, and the result is summarized in Table 11.

| Table 11 | : Gradation A | Analysis Sum | mary for S | Silty Clay | ' Till | |
|----------|---------------|--------------|------------|------------|--------|--|
| | | | | | | |

| BH No. | Depth (m) | Gravel (%) | Sand (%) | Silt (%) | Clay (%) | Description |
|------------|-----------|---------------|-------------|-------------|-------------|-----------------|
| BH15- 1 | 6.1-6.52 | 14 | 8 | 54 | 24 | Silty Clay Till |

Based on the Atterberg limit test result summarized in Table 12, the silty clay till was classified as low plasticity clay. The moist content of the tested sample lied close to its plastic limit and was described to be in moist condition.

Table 12: Atterberg Limit Test Result Summary for Silty Clay Till

| BH No. | Depth (m) | Liquid Limit (%) | Plastic Limit (%) | Plasticity Index (%) | Moisture Content (%) | Description |
|--------|--------------|---------------------|----------------------|-------------------------|-------------------------|--------------------|
| BH15-1 | 6.1-6.52 | 27 | 16 | 11 | 17 | Silty Clay Till |

5.2.5 Shale Bedrock

Shale bedrock was encountered in fifteen (15) boreholes. The weathered shale levels were determined by auger refusal or split spoon sampling, and rock coring with HQ size double tube wireline equipment was carried out in eight (8) boreholes to evaluate the rock quality with depth and to collect rock samples for laboratory testing. The weathered shale level and rock coring details are summarized in Table

13. Based on the borehole findings, weathered shale was encountered at depths ranging from 4.1 mbgs to 7.3 mbgs (from +80.1 masl to +75.1 masl).

Visual inspection on the rock cores indicates that the bedrock belongs to the Georgian Bay Formation consisting of highly weathered to fresh, grey to dark grey, fine to very fine-grained fissile shale, with occasional fresh, grey, fine grained calcareous siltstone and limestone layers. In addition, planes of weaknesses, including planes of fissility and bedding, contact surfaces between shale and siltstone or limestone bands and some oblique and subvertical joints, along the core were observed and tended to break. The joints along the bedding surfaces were occasionally infilled with clay, and the joints along the planes of fissility were generally smooth and clean. Detailed borehole logs and rock core pictures are provided in the project specific reports (CRA, February 2013 and Golder Associates, January 2015).

| | Top of Weat | hered Shale | Start of Ro | ock Coring | End of Rock Coring | |
|--------|-------------------------------------|---------------------|-----------------|---------------------|--------------------|---------------------|
| BH No. | Depth (mbgs) | Elevation (masl) | Depth (mbgs) | Elevation (masl) | Depth (mbgs) | Elevation (masl) |
| BH15-1 | 6.5 | 77.9* | NA | NA | NA | NA |
| BH15-2 | 6.3 | 78.5* | NA | NA | NA | NA |
| BH15-3 | 4.9 | 79.3* | NA | NA | NA | NA |
| BH15-4 | 4.7 | 79.3* | NA | NA | NA | NA |
| BH15-5 | 5.5 | 78.9* | NA | NA | NA | NA |
| MW2-13 | 6.4 | 75.1 | 7.3 | 74.6 | 10.5 | 74.4 |
| MW3-13 | 6.9 | 78.0 | 7.4 | 77.4 | 10.6 | 74.2 |
| MW4-13 | 4.1 | 80.1 | 5.2 | 79.0 | 8.2 | 76.0 |
| MW5-13 | 6.4 | 78.6 | 7.2 | 77.8 | 15.4 | 69.7 |
| MW6-13 | 6.6 | 79.6 | 7.3 | 78.9 | 10.4 | 75.8 |
| MW7-13 | 6.9 | 79.6 | 7.3 | 79.4 | 10.5 | 76.2 |
| MW8-13 | 5.3 | 78.6 | 5.6 | 78.4 | 13.9 | 70.1 |
| MW8-13 | 6.9 | 77.6 | 7.4 | 77.0 | 10.6 | 73.9 |
| BH1 | 7.0 | NA | NA | NA | NA | NA |
| BH2 | 7.3 | NA | NA | NA | NA | NA |
| | e elevation was ic plan and/or a | | | chole logs and | was inferred fr | om |

Table 13: Summary of Weathered Shale Level and Rock Coring

According to the borehole logs, the recorded Rock Quality Designation (RQD) index in the upper portion of the bedrock (first rock core) varied between 0 and 75 percent, indicating the rock quality in the upper portion is in very poor to fair condition. The RQD values of the remaining rock cores varied between 30 and 100 percent, showing the lower portion of the bedrock is in poor to excellent condition. The Total Core Recovery (TCR) values varied between 70 and 100 percent.

Unconfined Compressive Strength (UCS) tests have been carried out on four (4) representative rock core samples, and the test results are summarized in Table 14.

| BH No. | Rock Core Depth (mbgs) | Unconfined Compressive Strength (MPa) |
|--------|------------------------|---------------------------------------|
| MW1-13 | 7.54 to 7.65 | 30.2 |
| MW4-13 | 7.16 to 7.28 | 28.9 |
| MW5-13 | 11.9 to 12.0 | 108.9 |
| MW9-13 | 9.27 to 9.40 | 35.2 |

Table 14: Summary of Unconfined Compressive Strength Test Result

5.3 Groundwater Conditions

Thirteen (13) groundwater observation wells were installed on site, and the well installation details, including well depth and screen levels, are summarized in Table 15.

As shown in Table 15, the measured groundwater level in the observation wells installed within the overburden soils ranged between 0.68 mbgs and 5.45mbgs (between +81.7 masl and +85.8 masl). However, the measured groundwater level in the monitoring wells installed in shale bedrock ranged between 7.94 mbgs and 11.53 mbgs (between +71.6 masl and +76.1 masl). Based on the available monitoring data, the groundwater table in shale bedrock was not hydraulically connected to the groundwater table in the overburden soils.

The project site is located near the Lake Ontario, which has an average water level at +74.4 masl. The groundwater gradient in the overburden soils is likely toward the Lake Ontario, and the groundwater table in the bedrock is likely influenced by the Lake Ontario.

The available monitoring data only covered a short period of time, which did not reflect the seasonal groundwater fluctuation.

| | | Top of | Bottom of Groundwater Reading | | D | |
|-----------|---------------------------------------|---|-------------------------------|--------------------|-------------|----------------|
| Well ID | Strata Screened | Screen Screen (mbgs) (mbgs) | Elevation (masl) | Depth (mbgs) | Date | |
| MW14-4 | Silty Sand | 1.8 | 3.7 | 81.8* | 2.63 | 16 Dec 2014 |
| MW14-6 | Fill/Silt | 0.6 | 2.9 | 82.7* | 1.28 | 16 Dec 2014 |
| MW1-13 | Silt/Silty Clay | 2.7 | 6.4 | 84.3 | 0.68 | 4 Mar 2013 |
| MW2-13 | Shale Bedrock | 12.5 | 15.4 | 71.6 | 9.93 | 4 Mar 2013 |
| MW3-13 | Silt/Silty Clay | 3.7 | 7.3 | 81.9 | 2.90 | 4 Mar 2013 |
| MW4-13 | Silty Clay/weathered Shale Bedrock | 1.8 | 5.2 | 82.8 | 1.44 | 4 Mar 2013 |
| MW5-13 | Shale Bedrock | 11.6 | 15.4 | 73.5 | 11.53 | 4 Mar 2013 |
| MW6-13 | Silt/Silty Clay | 3.0 | 6.7 | 85.8 | 0.45 | 4 Mar 2013 |
| MW7-13 | Silty Clay | 3.4 | 7.0 | 84.2 | 2.52 | 4 Mar 2013 |
| MW8-13 | Shale Bedrock | 8.5 | 10.7 | 76.1 | 7.94 | 4 Mar 2013 |
| MW9-13 | Silt/Silty Clay | 2.7 | 6.4 | 81.7 | 2.74 | 4 Mar 2013 |
| BH1 | Silt | 6.1 | 9.1 | NA | 3.25 | 22 Oct 2004 |
| BH2 | Silt/Silty Clay | 4.9 | 7.5 | NA | 5.45 | 22 Oct 2004 |
| * Borehol | e elevation was not provid | led in origina | al borehole log | gs and was inferre | d from topo | ographic plan. |

Table 15: Summary of Measured Groundwater Readings

5.4 **Potential Contamination**

Environmental Assessments for the site (Golder, 2019) highlights past land uses with potentially contaminating activities that included use or storage of the following: solvents, sulphuric acid, hydrocarbons, PCBs, and metals. The site has also been used for storage of ammunition from World War II and has included a sanitary landfill.

Following demolition of the Cookie factory structure, soil remediation was carried out in 2018 to target a number of identified contaminants, whilst further delineation of remaining contaminants was carried out. Remediation included excavation and removal of identified 'hot spots' and disused storage tanks. Groundwater quality testing was carried out as part of the Environmental Site Assessment and noted that the reported concentrations for contaminants discussed above were subsequently within applicable site condition standards (Golder, 2019).

6 Geotechnical Design Parameters

6.1 General

Geotechnical design parameters are interpreted based on the in situ and laboratory test results summarized in Table 16.

| Soil Type | SPT-N Values | Moisture Content (%) | Liquid Limit (%) | Plastic Limit (%) | Plasticity Index (%) |
|-----------------|-----------------|-------------------------|---------------------|----------------------|-------------------------|
| Granular Fill | 4/14/27 | 4/8/16 | NA | NA | NA |
| Earth Fill | 0/12/34 | 7/16/42 | NA | NA | NA |
| Clayey Silt | 3/14/32 | 12/18/23 | 14/19/24 | 6/14/18 | 3/6/8 |
| Silty Clay | 0/11/50 | 8/20/33 | 28/31/33 | 15/17/18 | 12/14/16 |
| Silty Clay Till | 4/21/50 | 16/18/20 | 27 | 16 | 11 |

Table 16: Summary of In Situ and Laboratory Tests (min/average/max)

6.2 Strength Parameters

Due to the limited laboratory test result, the geotechnical design parameters are primarily interpreted based on empirical correlation presented in this section.

6.2.1 Unit Weight (γ)

Soil unit weight are determined based on laboratory testing (i.e. specific gravity) and empirical correlation with natural moisture content (w). The following correlation is adopted:

$$\gamma_{wet} = \frac{\gamma_w G_s (1+w)}{1 + \left(\frac{w}{S}\right) G_s}$$

Where specific gravity, G_s equals 2.7 for cohesive soils and G_s equals 2.65 for cohesionless soils; Saturation (S) equals 0.9 and unit weigh of water (γ_w) equals 9.81 kN/m³.

6.2.2 Friction Angle (φ) and Effective Cohesion (c')

For earth fill, friction angle is determined based on empirical correlation with corrected SPT N' values proposed by Peck, Hanson & Thornburn (1974), where $\phi' = 0.27$ *SPT N' + 27.5.

For silty clay and clayey silt deposit, friction angle is determined based on empirical correlation with Plasticity Index proposed by Bjerrum and Simons (1960), where ϕ '=0.0015PI²- 0.29PI +36.

For silty clay till, friction angle is determined based on empirical correlation with SPT N values proposed by Cao et al., 2015, where $\phi'=32.5+0.09$ N.

6.2.3 Undrained Shear Strength (S_u)

For normally consolidated to lightly overconsolidated silty clay deposit, the correlation of S_u with Plasticity Index (PI) proposed by Skempton and Henkel (1953) is adopted:

$$\frac{s_u}{\sigma'_{vc}} = 0.37PI + 0.11$$

Where the ratio of S_u/σ'_{vc} is in kPa.

For over-consolidated silty clay till, the correlation of S_u with PI proposed by Stroud and Butler (1975) is adopted:

$$s_u = N \times [5 \times 10^{-5} (PI)^3 + 0.008 (PI)^2 - 0.41 (PI) + 10.6]$$

6.2.4 **Proposed Geotechnical Design Parameters**

The proposed geotechnical design parameters are summarized in Table 17.

| Soil Type | Bulk Unit Weight | Effective Friction Angle | Effective Cohesion | Undrained Shear Strength | Unfactored Friction Coefficient* |
|--|------------------------|-----------------------------|-----------------------|--------------------------------|--|
| | γ (kN/m ³) | φ' (°) | c' (kPa) | Su (kPa) | μ |
| Granular Fill | 20 | 32 | 0 | 0 | 0.39 |
| Earth Fill | 18 | 28 | 0 | 0 | 0.34 |
| Clayey Silt | 19 | 28 | 0 | 0 | 0.34 |
| Silty Clay | 19 | 25 | 0 | 50 | 0.30 |
| Silty Clay Till | 22 | 34 | 0 | 100 | 0.42 |
| * Unfactored friction coefficient is determined by the friction angle, $\mu = \tan(2/3\phi)$ | | | | | |

Table 17: Summary of Geotechnical Design Parameters

6.3 Hydraulic Conductivities

The anticipated permeability for the geological units are determined based on descriptions within boreholes legs, available particle size distribution data, and experience of similar ground conditions in the area. Anticipated permeabilities are summarized in Table 18.

| Strata | Anticipated Strata Thickness (m) | Typical Hydraulic Conductivity (m/s) | | | |
|--|-------------------------------------|---|--|--|--|
| Fill | 2.3 | 1x10 ⁻⁶ to 1x10 ⁻⁷ | | | |
| Old Lake Deposits (silty clay/clayey silt) | 5.5 | 1x10 ⁻⁷ to 1x10 ⁻⁸ | | | |
| Till (silty clay/clayey silt) | 3.0 | 1x10 ⁻⁹ to 1x10 ⁻⁸ | | | |
| Upper Weathered/Fractured Shale | 0.7 | 1x10 ⁻⁷ to 1x10 ⁻⁸ | | | |
| Shale | >50m* | 1x10 ⁻¹⁰ to 1x10 ⁻⁸ | | | |
| Note: *Thickness of the shale has not been proven, however it is expected that shale formations (with limestone) will have a thickness greater than 50 m. | | | | | |

 Table 18: Anticipated Permeability for Geological Units

7 **Discussion and Recommendations**

7.1 General

The purpose of this report is to summarize the ground and groundwater conditions based on the available geotechnical investigation and to provide assessment on the soil, bedrock and groundwater characteristics of the subject property to determine its feasibility and stability to accommodate the proposed development.

The following sections provide the preliminary design and construction recommendations for site preparation, foundations, floor slabs, retaining walls, temporary shoring system, underground services, pavement structure, earthquake consideration and dewatering for the proposed development. In addition, this report provides discussion on potential risks, mitigation measures and monitoring programs for the proposed development.

At the time of this report preparation, details of the proposed development are under development; as a result, the preliminary recommendations provided herein should be reviewed and revised during future design stages of the project when additional information is available.

7.2 Site Preparation

The existing topsoil, asphalt, surficial soils and earth fill with organic materials are considered not suitable as subgrade material to support the proposed pavement structure, foundations, slab-on-grade, engineered fill or any settlement sensitive structures and should be removed prior to construction of these structures.

The existing earth fill and granular fill with no organic or deleterious matters may be reused as engineered fill for regrading. Additional laboratory testing on the existing granular fill, i.e. gradation analysis, is required to verify its quality prior to be reused as subbase materials for the proposed structures.

Existing underground services and infrastructure on site may need to be decommissioned, removed and properly backfilled with suitable backfill materials.

All subgrade materials shall be proof-rolled under supervision by the geotechnical engineer. Any wet, soft or loose subgrade materials shall be replaced with suitable backfill materials and properly compacted.

In general, fill materials will be in accordance with OPSS 1010, and the fill compaction requirement will be in accordance with OPSS 501 and SSP501SS2.

7.3 Foundations

All geotechnical structures such as foundations and retaining walls shall be designed according to the limit state design approach, which is set forth in the

Ontario Building Code, Canadian Highway Bridge Design Code, and other such documents. In this approach, the factored resistance must equal or exceed the factored load demand to satisfy the Ultimate Limit State (ULS). Furthermore, the unfactored load demand must not exceed a nominal unfactored resistance commensurate with an allowable degree of movement or settlement such that the Serviceability Limit State (SLS) is satisfied. Hence for foundations such as spread footings and drilled shafts, both ULS and SLS resistances are provided.

7.3.1 Mat Foundation/Spread Footings

Based on the Master Plan, the proposed development includes low, mid and highrise buildings, fifteen towers ranging in height from 22 to 71 storeys with up to 5level basement car park. Mat foundation or spread footings may be employed to support columns on square or rectangular pad foundations or continuous walls on strip foundations. Depending on the detailed location of basements, these foundations may bear either on the underlying shale bedrock, upper overburden soils, or shallow engineered fill. The existing earth fill is not considered as suitable subgrade material for foundation construction. SLS and factored ULS bearing pressures are provided in Table 19 as a function of bearing material, footing geometry and founding depth.

It is recommended that a consistent bearing material be employed for all foundations to minimize differential settlements. Foundations with different bearing materials shall be separated by a construction joint in the slab and superstructure, to allow for each portion of the structure to move independently of the other.

| Description | SLS Bearing Capacity (kPa) | ULS Bearing Capacity (kPa) | Note |
|---------------------------|-------------------------------|-------------------------------|---|
| Clayey Silt/Silty Clay | 75 | 100 | The bearing capacities are based on strip footing dimensions of 0.45m W |
| Silty Clay Till | 250 | 350 | by 10m L or spread footings with a maximum area of 1m ² . |
| Weathered Shale | 1,200 | 1,800 | Minimum embedment of 0.6m into shale. |

 Table 19: Summary of SLS and ULS Bearing Capacities for Geological Units

7.3.2 Deep Foundation

Where large concentrated loads are to be applied, bored pile foundations drilled into the underlying shale bedrock would be appropriate for this site. The minimum rock socket length shall be the larger of 1,200 mm or two pile diameters into the shale. It is estimated that 1 m diameter bored piles would have SLS capacities of 3 MN and factored ULS axial capacities of 4.5 MN, based primarily on the allowable compressive strength of concrete and the underlying shale bedrock. Final capacities are a function of concrete compressive strength, rock socket length (depth into rock), and results of pile load testing.

Due to the shallow groundwater table in the overburden soils, construction methods for such piling shall employ either a temporary steel casing to top of rock or construction under bentonite or polymer slurry (drilling fluid) to provide temporary stabilization of pile walls through the overburden prior to tremie concreting.

An alternative to bored piling would be driven piling, either H-piles or concreteinfilled driven pipe piles, driven to refusal in the glacial till or shale bedrock, with capacity limited by the allowable driving stress during pile installation. For example, a 325 mm O.D. driven steel pipe pile, later infilled with concrete, is estimated to have an SLS capacity on the order of 1 MN and factored ULS capacity on the order of 1.5 MN. Final capacities are a function of pile wall (steel) thickness, pile hammer weight and drop height, measured driving stress, refusal criteria, and pile load test results.

7.3.3 Frost Protection and Shale Bedrock Protection

All pad or strip foundations shall either have a 1.2 m soil cover, or employ insulation, to protect against frost heave. All foundation subgrade must be protected against frost during winter construction. Frost protection, i.e. extruded polystyrene insulation, shall be provided around ventilation shafts, ramp slabs and ramp walls leading into underground structures, where ambient temperatures remain below zero for extended periods.

Shale bedrock may weather rapidly between wetting and drying cycles; therefore, where necessary, exposed shale bedrock surfaces may be protected with lean concrete mat.

7.4 Slab-on-grade

The existing topsoil, surficial soils and earth fill with organic materials are not considered as suitable subgrade materials for slab-on-grade construction and should be removed. The existing clean earth fill in its current state is also not suitable for slab-on-grade construction but can be excavated and properly recompacted as engineered fill for slab-on-grade construction.

Subgrade must be proof rolled prior to placement of engineered fill. Any wet, soft and loose materials shall be replaced with suitable backfill material and properly recompacted. Earth borrow or Granular B in accordance with OPSS 1010 can be used to raise the site grade and shall be compacted in accordance with OPSS 501.

Where groundwater level is within 2 m below the slab subgrade level, drainage system shall be provided beneath the slab and shall be connected to positive outlet. Floor slabs constructed below groundwater level shall be designed for hydraulic uplifting force with water proofing measures.

7.5 Earth Retaining Structures

7.5.1 Shoring System

High-rise buildings, fifteen towers ranging in height from 22 to 71 storeys, with up to 5-level basement car park is proposed for the development, which will require a basement excavation down to the Georgian Bay Shale level at approximately +67 masl. Shoring system consisting of secant pile wall can be considered for the proposed excavation. Secant pile wall can reduce the amount of dewatering and the associated impact on adjacent structures. Soldier pile and lagging wall can be considered as alternative shoring system; however, high water ingress to the excavation is anticipated due to the shallow groundwater and appropriate dewatering system shall be designed to control water seepage into the excavation.

Soil-structure interaction modelling is recommended to be carried out for each stage of the excavation to determine the loading on the structural elements and anticipated deformation of the shoring system as well as stability at each excavation stage. The appropriate surcharge loading from the construction activities, surrounding structures or traffic as well as the hydro-static pressure shall be incorporated into the analysis.

Secant piles or soldier piles shall be socketed into the sound bedrock in accordance with the result of the soil-structure interaction modelling to provide adequate stability for the shoring system. Temporary casing shall be provided for piling to prevent overburden soils caving into the drilled hole.

The proposed excavation will intercept both upper (between elevation +81.7masl and +85.8 masl) and lower (between elevation +71.6 masl and +76.1 masl) groundwater levels. Further hydrogeological study and groundwater monitoring covering seasonal fluctuation is recommended to determine the appropriate design groundwater level and distribution for the shoring design.

Soil and rock anchors can be considered to provide lateral support to the shoring system. Anchor design and load tests (pre-production and production tests) shall be carried out in accordance with Canadian Foundation Engineering Manual (CFEM) and PTI DC35.1-14.

7.5.2 Retaining Walls

Retaining walls up to 7.5 m in height are anticipated for the current design of the proposed relief road (Great Northern Gateway, GNG), which runs along the northern site boundary, broadly parallel to the Gardiner East Lake Shore West Ramp. Due to the proximity to the existing road ramp, the conventional cantilever rigid retaining wall (Inverse-T wall) requiring large excavation for construction is not recommended; alternatively, secant pile wall can be considered for the proposed relief road construction.

Significant wall deflection is anticipated during excavation with cantilever secant pile wall located in proximity to the existing roadway ramp, which may result in potential surface settlement on the existing roadway ramp behind the retaining wall. Soil or rock anchors can be installed to restrain the wall deflection and limit the influence on the existing roadway; however, property easement may be required to allow anchor installation. Anchor design and load tests (pre-production and production tests) shall be carried out in accordance with Canadian Foundation Engineering Manual (CFEM) and PTI DC35.1-14

Soil-structure interaction modelling is also recommended to be carried out for each stage of the excavation to determine the loading on the structural elements and anticipated deformation of the secant pile wall as well as stability at each excavation stage. The appropriate loading from the surrounding structures and/or traffic as well as the hydro-static pressure shall be incorporated into the analysis.

7.5.3 Lateral Earth Pressure

Shoring system, basement walls and similar earth retaining structures shall be designed to support lateral earth pressure and hydrostatic pressure, which can be calculated by the following:

$$P = K[\gamma(h-h_w) + \gamma'h_w + q] + \gamma_w h_w$$

Where:

| Р | = | horizontal pressure at depth, $h(m)$ |
|------------|---|---|
| K | = | lateral earth pressure coefficient (Table 20) |
| γ | = | bulk unit weight of soil, (kN/m ³) |
| γ' | = | submerged unit weight of soil, (kN/m ³) |
| γ_w | = | unit weight of water, (kN/m ³) |
| h_w | = | depth below groundwater level (m) |
| q | = | surcharge load (kPa) |

The proposed lateral earth pressure coefficients for the geological units are summarized Table 20.

| Soil Type | Bulk Unit Weight | Effective Friction Angle | Lateral Earth Pressure Coefficient | | ssure |
|-----------------|-------------------------------|-----------------------------|---------------------------------------|----------------|-------|
| | γ (kN/m ³) | φ' (°) | ka | \mathbf{k}_0 | kp |
| Granular Fill | 20 | 32 | 0.31 | 0.47 | 3.25 |
| Earth Fill | 18 | 28 | 0.36 | 0.53 | 2.77 |
| Clayey Silt | 19 | 28 | 0.36 | 0.53 | 2.77 |
| Silty Clay | 19 | 25 | 0.41 | 0.58 | 2.46 |
| Silty Clay Till | 22 | 34 | 0.28 | 0.44 | 3.54 |

Table 20: Summary of Lateral Earth Pressure Coefficient

7.6 Excavation

The design of temporary shoring of trench excavations for utilities, structural footings and slabs shall be the responsibility of the contractor and shall conform to all applicable codes and guidelines.

Specifically, OHSA regulations require that all excavations 1.2m and deeper must be sloped and/or braced in accordance with OHSA requirements. OSHA divides soils into four different types as defined in Table 21.

| Soil Type | Definition |
|-----------|---|
| 1 | a) Hard, very dense and only able to be penetrated with difficulty by a small sharp object; |
| | b) Has a low natural moisture content and a high degree of internal strength; |
| | c) Has no signs of water seepage; and, |
| | d) Can be excavated only by mechanical equipment. |
| 2 | a) Very stiff, dense and can be penetrated with moderate difficulty by a small sharp object; |
| | b) Has a low to medium natural moisture content and a medium degree of internal strength; and, |
| | c) Has a damp appearance after it is excavated. |
| 3 | a) Stiff to firm and compact to loose in consistency, or is previously excavated soil; |
| | b) Exhibits signs of surface cracking; |
| | c) Exhibits signs of water seepage; |
| | d) If it is dry, may run easily into a well defined conical pile; and, |
| | e) Has a low degree of internal strength. |
| 4 | a) Soft to very soft and very loose in consistency, very sensitive and upon disturbance is significantly reduced in natural strength; |
| | b) Runs easily or flows, unless it is completely supported before excavating; |
| | c) Has almost no internal strength; and, |
| | d) Exerts substantial fluid pressure on its supporting system, per Ontario Regulation 213/91 s226(5). |

Table 21: Soil Definition based OHSA

In relation to the OHSA soil classification, onsite soils which are dry are generally classified as Type 3, whereas damp/moist to wet soils shall be classified as Type 4.

The trenching requirements based on OHSA regulations are summarized in Table 22.

| Soil Type | Base of Slope | Maximum Slope Inclination |
|-----------|--|----------------------------|
| 1 & 2 | Vertical within 1.2m from bottom of excavation | 1 Horizontal to 1 Vertical |
| 3 | From bottom of excavation | 1 Horizontal to 1 Vertical |
| 4 | From bottom of excavation | 3 Horizontal to 1 Vertical |

| Table 22. | Excavation | Side-Slope | Gradient h | based on (| ИЗИ |
|-----------|------------|------------|------------|-------------|-----|
| | Excavation | Side-Slope | Utaulent u | based off O | nsa |

Where site geometry does not allow for the required backslopes of 1:1 or 1:3 (Type 3 and 4 soils, respectively), a braced excavation shall be designed according to lateral earth pressure, discussed in Section 7.5.1, OHSA Regulations and OPSS 539 performance level 2. Where existing adjacent structures are located within the active wedge of the excavation, OPSS 539 performance level 1A is to be adopted.

Based on the available groundwater monitoring data, shallow groundwater table is expected, and temporary dewatering is anticipated for the proposed excavation.

Local construction experience in the Georgian Bay Formation indicates that methane gas could be encountered during excavation in the bedrock; therefore, potential mitigation measures, i.e. monitoring and ventilation system, may be required during excavation. However, no methane gas was detected during project specific geotechnical investigation.

7.7 Underground Services

Temporary excavation for underground utilities installation shall be carried out in accordance with Section 7.5.

Based on the revealed subsurface condition, the subgrade for the proposed underground utilities will likely consist of clayey silt, silty clay or silty clay till, which are generally considered as suitable subgrade material for the proposed utility construction. Where organic/deleterious materials and soft or loose deposits were encountered at the subgrade level, they shall be replaced with suitable backfill materials and properly recompacted prior to placement of bedding.

For City of Toronto utilities, fills will be in accordance with TS 1010 and TS 401 where all embedment and bedding material are to be Granular A or Granular A RCM. Cover material are to be Granular A or B. Backfill material will be Granular A, Granular A RCM, unshrinkable fill or native material. Details for utility trench backfill are shown in Figure 4.

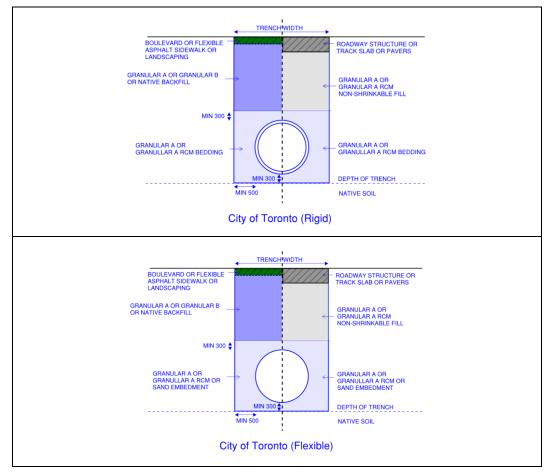


Figure 4: Backfill for Utility Trenches

7.8 **Pavement Structure**

The existing topsoil, surficial soils and earth fill with organic materials are not considered as suitable subgrade materials for pavement construction and should be removed.

The existing earth fill free of organic and deleterious materials is considered as suitable subgrade for the pavement construction. Subgrade material must be proof-rolled prior to pavement construction. Any wet, soft and loose materials shall be replaced with suitable backfill material and properly recompacted.

Earth borrow or Granular B in accordance with OPSS 1010 can be used to raise the site grade and shall be compacted in accordance with OPSS 501 and SSP501SS2.

The recommended pavement design for the proposed roadways and parking areas is summarized in Table 23.

| Pavement Layer | Compaction Requirements | Light Duty Pavement Structure | Heavy Duty Pavement Structure |
|--|---|-------------------------------------|-------------------------------------|
| Surface Course Asphaltic Concrete HL3 (OPSS 1150) | 91% to 96.5% Maximum Relative Density (OPSS 310) | 40 mm | 40 mm |
| Base Course Asphaltic Concrete HL8 (OPSS 1150) | 92% to 97.5% Maximum Relative Density (OPSS 310) | 40 mm | 60 mm |
| Base Course: Granular A or 19mm Crusher Run | 100% Standard Proctor Maximum Dry Density | 150 mm | 150 mm |
| Sub-base Course: Granular B or 50mm Crusher Run | 98% Standard Proctor Maximum Dry Density | 250 mm | 350 mm |

Table 23: Summary of Pavement Design

7.9 Dewatering

Based on the available monitoring data, the groundwater table in the overburden soils ranged between 0.68 mbgs and 5.45mbgs (between +81.7 masl and 85.8 masl), and the measured groundwater level in shale bedrock ranged between 7.94 mbgs and 11.53 mbgs (between +71.6 masl and +76.1 masl). The proposed 5-level basement will extend approximately to +67 masl, below both upper (perched) and lower groundwater tables.

A more comprehensive hydrogeological study, i.e. in-situ testing and modelling, shall be carried out to verify the hydrogeological behaviours and characteristic of the geological units, to select the appropriate shoring system, i.e. secant pile wall or soldier pile and lagging wall, dewatering system and to determine the anticipated volume of water for permits approval.

Ministry of Environment (MOE) Permit to Take Water (PTTW) will be required where dewatering volume exceeds 50,000 L/days. In addition, Private Water Discharge permit is also required by City of Toronto to discharge water to the municipal storm sewer system. The volume of dewatering is governed by the groundwater level, hydrogeological characteristics of the geological units, and the shoring system.

Where necessary, the dewatering system shall be designed to allow stable sides and bottom for the proposed excavation during the construction period taking the groundwater fluctuation into account. Adequate filters shall be provided to prevent fine grain soils migration due to pumping. Contingency pumping system shall be available in case of emergency. Gradual groundwater recovering period shall be allowed to prevent fine grain soils migration.

7.10 Seismic Site Class

The seismic site class is a function of the average shear wave velocity (V_s), SPT N-Value, or soil undrained shear strength (S_u) within the top 30m of the soil profile, as shown in Table 24. For mat/slab foundations bearing directly on the shale bedrock, Site Class C (very dense soil / soft rock) may be adopted. For foundations bearing on the overburden soils, Site class D (stiff soil) may be more appropriate. It should be noted that the above seismic site class is only preliminary, and a quantitative assessment for proper determination of seismic site class is required by the seismic provision of NBCC. Multi-channel analysis of surface waves (MASW) is recommended to obtain the shear wave velocity of the soil and rock profile for the quantitative assessment to determine the proper seismic site class.

| | | Average Properties in Top 30m | | | | |
|---------------|----------------------------------|---|---|---|--|--|
| Site Class | Type of Soil Profile | Soil Shear Wave Average Velocity Vs (m/s) | Standard Penetration Resistance N60 | Soil Undrained Shar Strength Su (kPa) | | |
| А | Hard Rock | $V_{s} > 1500$ | - | - | | |
| В | Rock | $760 < V_s < 1500$ | - | - | | |
| С | Very Dense Soil and Soft Rock | $360 < V_s < 750$ | $N_{60} > 50$ | $S_u > 100$ | | |
| D | Stiff Soil | $180 < V_s < 360$ | $15 \le N_{60} \le 50$ | $50 < S_u < 100$ | | |
| Е | Soft Soil | $V_{s} < 180$ | N ₆₀ < 15 | $S_u < 50$ | | |
| F | Others | Site Specific Evaluation Required | | | | |

Table 24: Seismic Site Class

According to the Supplementary Standard SB-1 of the 2006 OBC, for the Toronto Area the mapped Spectral Response Acceleration (Sa) value of 0.26g (PGA) for short duration (period) of 0.2 second and 0.055g for one second duration. These parameters should be reviewed by the structural engineer.

7.11 Monitoring

Excavations adjacent to existing infrastructure, primarily the railway and Gardener Expressway corridors, shall be monitored for movement. The combined use of fixed survey points and inclinometers (either embedded in the retaining structures themselves or nearby in either the retained soil or passive zone) is recommended.

The allowable movements shall be established by the owners (Metrolinx and City of Toronto, respectively). Sample values of allowable, review, and alarm movement

limits from Metrolinx are provided in Table 25. Allowable movements reported by MTO for the RER track widening project beneath MTO's 401/409 highway are on the order of 20 to 25mm. Application of these values to the project at hand shall be confirmed with the respective owners prior to commencement of excavation and monitoring.

| Class of Track | Allowable Limits (mm) | | Review Limits (mm) | | Alarm Limits (mm) | |
|-------------------|-----------------------|----------|--------------------|----------|-------------------|----------|
| | Horizontal | Vertical | Horizontal | Vertical | Horizontal | Vertical |
| 1/yard | 0-10 | 0-12 | 10-15 | 12-20 | >15 | >20 |
| 2 | 0-4 | 0-4 | 4-9 | 4-12 | >9 | >12 |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |

Table 25: Summary of Allowable, Review and Alarm Levels (Metrolinx)

Temporary excavations shall be constructed following OPSS 539 – Construction Specification for Temporary Protection Systems and shall be designed to at least performance level 2 as described in Table 26, with a maximum settlement of 25mm and angular distortion of 1:200. Again, these criteria should be verified with third party owners.

| Performance Level | Maximum Angular Distortion | Maximum Horizontal Displacement (mm) |
|-------------------|-------------------------------|---|
| 1a | 1:1000 | 5 |
| 1b | 1:1000 | 10 |
| 2 | 1:200 | 25 |
| 3 | 1:100 | 50 |

Table 26: Performance Levels for Temporary Shoring System (OPSS 539)

8 Further Work

This report is based on previous ground investigation work carried out at the site and a review of historical records within and surrounding the site. Although ground investigations have been carried out within the site, ground investigation has yet to be completed specifically for the current proposed development. As a result, analysis in this report is based on available field and lab testing and should be considered preliminary for initial recommendations. Gaps in the available data for further design stages will be addressed by further site investigation and analysis. The results of these further investigations can be provided to the City of Toronto if required.

References

Canadian Foundation Engineering Manual (2006). Canadian Geotechnical Society.

Etobicoke Historical society. Humber Bay. http://www.etobicokehistorical.com/humber-bay.html

National Building Code of Canada (2015). National Research Council Canada.

Ontario Geological Survey (1980), Quaternary Geology of Toronto and the Surrounding Area. Ministry of Natural Resources Ontario,



Borehole Location Plan





Relevant Borehole Logs

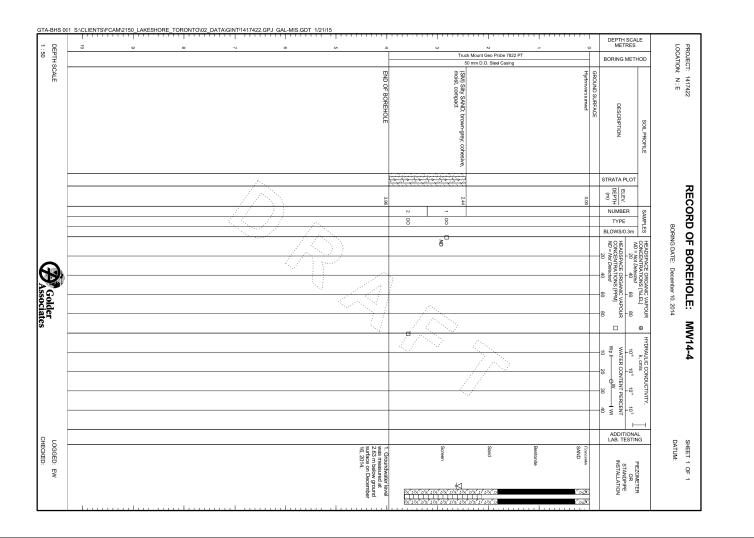
| 品 | 10 | 9 | 00 | | 7 | | 6 | cn | 4 | | ω | | N | - | - | , | DEPTH SCA METRES | | ę | 5 7 | 3 |
|---------------|----|---|----|--|-------|--------------------------------------|---|---------|----|----------------------------|---|--|-------|--|--|----------------|---|------------------------------------|--|---|---------------------------|
| PTH | | | | | | | | | 70 | Power A nm I. D. Hollow | | | | | | | BORING MET | HOD | TIDC | PROJECT: LOCATION: | j ā |
| DEPTH SCALE | | | | Borenoie open and dry at completion of drilling. | NOTE: | Highly weathered, grey SHALE Bedrock | (O) SILTY CLAY, some sand, some gravel; grey (TLL); cohesive, w-PL, firm | | | ini . D. Horow | | (CL) sandy SILTY CLAY, trace to some gravel: brown, turning grey (TILL); cohesive, w <pl stiff="" stiff<br="" to="" very="" w-pl,="">cohesive, w<pl td="" to="" w-pl="" w-pl<=""><td></td><td>riuc - (vuc) oiu i 1 vucht, sonne sano, trace organics rootlets, cohesive, w<pl, firm to stiff</pl, </td><td>ASPHALT FILL - (SPIGP) SAND and GRAVEL, some silt, asphalt fragments; dark brown; non-collesive, moist, compact</td><td>GROUND SURFACE</td><td>DESCRIPTION</td><td>SOIL PROFILE</td><td>SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm</td><td>PROJECT: 1417422 LOCATION: As Per Figure 2</td><td></td></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl></pl> | | riuc - (vuc) oiu i 1 vucht, sonne sano, trace organics rootlets, cohesive, w <pl, firm to stiff</pl, | ASPHALT FILL - (SPIGP) SAND and GRAVEL, some silt, asphalt fragments; dark brown; non-collesive, moist, compact | GROUND SURFACE | DESCRIPTION | SOIL PROFILE | SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm | PROJECT: 1417422 LOCATION: As Per Figure 2 | |
| | | | | | | | | | | | | | | | | | STRATA PLOT | | | | |
| | | | | | | 6,50 | | | | | | м Ц | | | 0.10 | | ELEV. DEPTH (m) | | | 2 | ס |
| | | | | | | 7B | 7A | л (2 | | 5 | | 4 | ω | N | | | NUMBER | SAM | | Ē | 2 |
| | | | | | | 4 | | SS 10 | | SS 11 | | SS 17 | SS 10 | SS 7 | SS 12 | | TYPE BLOWS/0.3m | SAMPLES | | | ğ |
| | | | | | | | | | | | | | | | | | SHE/ Cu, K | DYN/ RESI | | | <u>ב</u> |
| Golder | | | | | | | | | | | | | | | | | 20 40 60 80 SHEAR STRENGTH natV. + Q - • Cu, kPa remV. ⊕ U - O 20 40 60 80 | PENETRATION | | | RECORD OF ROREHOI E: 15-1 |
| | | | | | | | ō | 0 | | 0 | | 0 | 0 | 0 | | | 10 ⁵ 10 ⁵ 10 ⁴ 10 ³ WATER CONTENT PERCENT Wp - OW - WI 10 20 30 40 | HYDRAULIC CONDUCTIVITY, k, cm/s | | - - | 2 |
| Гос | | | | | | | | | | | | | | | | | ADDITIONA LAB. TESTIF | I NL NG | HAMMER TY | DATUM: | 2 |
| LOGGED: BC/SR | | | | | | | | | | | | | | | | | OR STANDPIPE INSTALLATION | PIEZOMETER | | Sheet 1 of 1 Datum: - | |

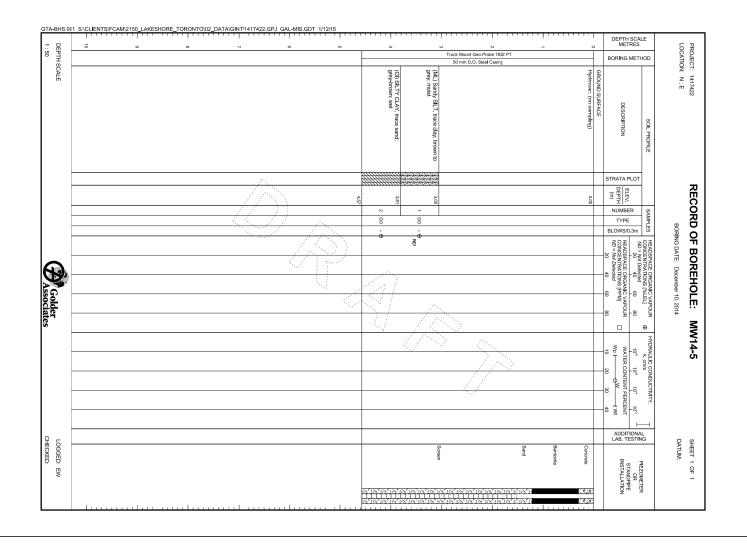
| 2 | 10 | 9 | | - 7 | თ | 5 | 4 | ω | | N | | | | | . | DEPTH S METRI | CALE ES | Ŷ | 5 | 뭐 |
|---|----|---|---|--|--------------------------------------|-------------------------------------|-----------------------------------|---------|---------|---|----|---|--|--|----------------|---|---|--|------------------------------|-----------------------|
| | | | | | | 70 | Power Auge mm I. D. Hollow Ste | | | | | | | | | BORING M | THOD | TIDCP | LOCATION: | PROJECT: |
| 1 | | | NOTE: 1. Borehole open and dry at completion of drilling. | | Highly weathered, grey SHALE Bedrock | - Becoming grey at a depth of 4.8 m | | | | | | urowni, curresive, w~r L, surr to very surr | (CL) sandy SILTY CLAY, trace to some gravel; brown (TILL), with sand seams brown: observe with stiff to your stiff | ASPHALT FILL - (SP/GP) SAND and GRAVEL, trace silt; grey; non-cohesive, moist, | GROUND SURFACE | DESCRIPTION | SOIL PROFILE | SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm | N: As Per Figure 2 | |
| | | | | | | | | | | | | 5.14 4.16 1.10 1.10 | 7107. 71107. | | | STRATA PL | т | | | |
| | | | | 7 75 | 6.32 | | | | | | | | 0.46 | 0.00 | | ELEV. DEPTH (m) | | | | 쥬 |
| - | | | | ************************************** | 7 SS | 68 6A SS | | 5 SS | 4 SS | | 3 | 2 SS | 1B | 1A SS | | NUMBER TYPE | SAMPLES | | | Ö |
| | | | | 0.50/ | 0.08 | ø | | 5 17 | 16 | | 23 | 21 | | 4 | | BLOWS/0.3 | | | BORIN | 2 |
| | | | | | | | | | | | | | | | | SHEAR STRENGTH nat V. + Q. • Cu, kPa rem V. ⊕ U - O 20 40 60 80 | WCE, BLOWS/0.3m | | BORING DATE: January 5. 2015 | RECORD OF BOREHOLE: 1 |
| - | | | | | | | | | | | | | | | | 20 O | HYDRAULIC CONDUCTIVITY, k, cm/s 40.6 40.6 40.4 40.3 | | | 15-2 |
| - | | | | | | | | | | | | | | | | ADDITIO LAB. TES INSTALLATION | | HAMMMER ITPE: AUTOMATIC | DATUM: - | SHEET 1 OF 1 |

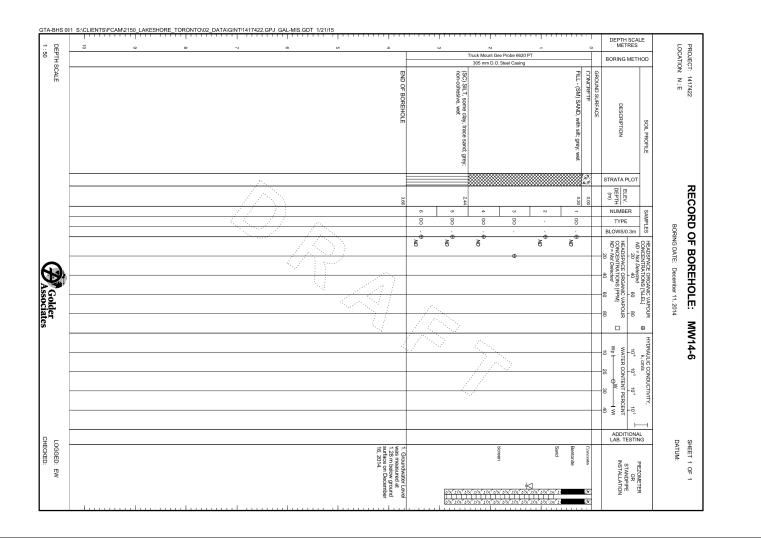
| 2 | - 10 | 9 | 00 | - 7 | | ი თ | 4 | | ω | N | | - | | DEPTH SCA METRES | LE | ş | Б | PR |
|---|------|---|----|---|-----------------|--------------------------------------|-------------------------------------|-------------------------------|-------|------|--|---|----------------|--|------------------------------------|--|------------------------------|--------------------------|
| | | | | | | | | Power A 70 mm I. D. Hollow | | | | | | ORING MET | HOD | T/DCP | CATIO | OJEC. |
| 2 | | | | Water level measured at 6.3 m below ground surface at the completion of drilling. | END OF BOREHOLE | Highly weathered, grey SHALE Bedrock | - Becoming grey at a depth of 4.0 m | | | | (CL) sandy SILTY CLAY, some gravel; brown (TILL); cohesive, w <pl, stiff="" to<br="">very stiff</pl,> | ASPHALT FILL - (SP/GP) SAND and GRAVEL, some silt, brown; non-cohesive, moist, compact | GROUND SURFACE | DESCRIPTION | SOIL PROFILE | SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm | LOCATION: As Per Figure 2 | F: 1417422 |
| | | | | | | | | | | | | | | TRATA PLOT | | | | |
| | | | | | 6.30 | .4 | | | | | 0.6 | 0.00 | | ELEV. DEPTH (m) | | | | 찐 |
| Ľ | | | | | | 7 68 | 6A | on | 4 | ω | N | - | | NUMBER | SA A | | | П С |
| - | | | | | | SS 0.05 | | SS 25 | SS 26 | S 26 | SS 13 | SS 27 | - | TYPE LOWS/0.3m | SAMPLES | | во | R |
| F | | | | | | 999 N | | u | 5 | a | ω | 7 | - | | - | | RING | |
| | | | | | | | | | | | | | | 00+ 00 00 | DYNAMIC PENETRATION | | BORING DATE: January 5, 2015 | RECORD OF BOREHOLE: 15-3 |
| _ | | | | | | | | | | | | | 10 20 30 40 | 10 ⁶ 10 ⁶ 10 ⁴ 10 ³ WATER CONTENT PERCENT Wp | HYDRAULIC CONDUCTIVITY, k, cm/s | H | = | Υ. |
| | | | | | | | | | | | | | _ | ADDITIONA LAB. TESTIN | | AMMEK IYPE | DATUM: | SHEET 1 OF |
| | | | | | ł | ⊲ | | | | | | | | OR STANDPIPE INSTALLATION | DIEZOMETER | HAMMER TYPE: AUTOMATIC | - | 1 OF 1 |

| | 10 | ø | 00 | . 7 | 0 | cn | ω 4 | | N | | | DEPTH S METRI | CALE ES | εų. | 6 PR |
|---|----|---|----|---|-----------------|--------------------------------------|--------------------------------------|------|--|--|---|-------------------------------|---|--|---|
| - | | | | | | | Power Auge 70 mm I. D. Hollow Ste | | | | | BORING M | ETHOD | T/DCP | PROJECT: LOCATION |
| | | | | NOTE: 1. Water level measured at 2.1 m below ground surface at the completion of drilling. | END OF BOREHOLE | Highly weathered, grey SHALE Bedrock | - Becoming grey at a depth of 3.0 m | | (ML/CL) CLAYEY SILT to SILTY CLAY, trace sand, with frequent sand and sit seams; brown; cohesive, w-PL, firm | FILL - (CL) SILTY CLAY, trace sand and gravel, cohesive, w-PL, firm | ASPHALT FLL - (SP/GP) SAND and GPAVEL, some silt, asphalt fragments; grey to black; non-cohesive, molst, compact | DESCRIPTION GROUND SURFACE | SOIL PROFILE | SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm | PROJECT: 1417422 LOCATION: As Per Figure 2 |
| - | | | | | | | | 1111 | 1111 | | | | тс | | |
| | | | | | 6.20 | 4.72 | | | 1.37 | 0.76 | 0.00 0.10 | ELEV. DEPTH (m) | | | RE |
| ł | | | | | 7 | 8 S | 5 S | 4 | ~ % | N SS | 1B 1A SS | NUMBER TYPE | SAMPLES | | S |
| ļ | | | | | 50/ 0.10 | 50/ 0.10 | 4 | 4 | 0 | 7 | 10 | BLOWS/0.3 | | | |
| | | | | | | | | | | | | STRENGTH natV 40 60 | PINAMIC PENETRATION H RESISTANCE, BLOWS/0.3m | | BORING DATE: January 5, 2015 |
| | | | | | | | | | | | 0 | | 10 ⁶ | | 4 |
| | | | | | | 0 | 0 | 0 | 0 | 0 | | ER CONTENT PERC | HYDRAULIC CONDUCTIVITY, k, cm/s 10 ⁶ 10 ⁶ 10 ⁴ 10 ³ | | |
| - | | | | | | | | МН | | | | ADDITIO LAB. TES | NAL TING | HAMMER T | SHE |
| | | | | | | | | | R | | | STANDPIPE | PIEZOMETER | HAMMER TYPE: AUTOMATIC | SHEET 1 OF 1 DATUM: - |

| DEPTH SCALE | 10 | ω | 7 | | o | σ | | 4 | | ω | | N | | - | • | | DEPTH SCA METRES | LE | SPT | Б | PRO |
|-------------|----|---|---|-----------------|--------------------------------------|------|----------------------------|------|-------------------------------------|---|------|----------------|----|---|---|----------------|---------------------------------|------------------------------------|--|--------------------|--------------------------|
| | | | | - | | | | 70 n | Power A m I. D. Hollow | | gers | | | | | E | BORING MET | HOD | /DCP | LOCATION: | PROJECT: |
| | | | Water level measured at 5.0 m below ground surface at the completion of drilling. | END OF BOREHOLE | Highly weathered, grey SHALE Bedrock | | | | - Becoming grey at a depth of 3.0 m | | | | | trace sand, with sand and silt seams; brown; cohesive, w <pl to="" w="">PL, very soft to firm</pl> | ASPHALT FILL - (SP/GP) SAND and GRAVEL, some slit; grey to brown; non-cohesive, moist, compact | GROUND SURFACE | DESCRIPTION | SOIL PROFILE | SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm | N: As Per Figure 2 | T: 1417422 |
| | | | | | 5 | HHH | $\overline{H}\overline{H}$ | 711, | HH | H | 777. | \overline{H} | ΗĤ | HH | | S | TRATA PLOT | | | | |
| | | | | 6.2 | 5,49 | | | | | | | | | | 0.00 0.10 0.46 | | ELEV. DEPTH (m) | | | | 찌 |
| | | | | 7 | 7 | 5 | | | σı | | 4 | ω | | N | 0 1 1 8 | | NUMBER | SA | | | В |
| | | | | | ss | ss v | | | SS | | SS | SS | | SS | SS | _ | TYPE | SAMPLES | | BC | R |
| | | | | 6 | 500 0 03 | WH | | | φ | | თ | ¢, | | თ | 13 | | BLOWS/0.3m | - | | DRING | Ö |
| | | | | | | | | | | | | | | | | | 00+ 00- 00- | RESISTANCE, BLOWS/0.3m | | | RECORD OF BOREHOLE: 15-5 |
| | | | | | | 0 | | | 0 | | 0 | | | 0 | 0 | 10 20 30 40 | | HYDRAULIC CONDUCTIVITY, k, cm/s | | | ΰı |
| | | | | | | | | | | | | МН | | | | | ADDITIONA LAB. TESTI | AL NG | HAMMER TY | DATUM: | SHE |
| | | | | | | | | | | | | | | | | | OR STANDPIPE INSTALLATION | PIEZOMETER | HAMMER TYPE: AUTOMATIC | UM: - | SHEET 1 OF 1 |







| → n | 1 | ۰ ۵ | • | 7 11111 | | ຫ ຫ | * | | ω ω | N 1111 | | .1 | | | DEPTH SCA METRES | LE | - T |
|------------------------|---|--------|---|---------|---|--------|-----------------|--------------------|------------|---------------|---|---|-----------|----------------------------|---|------------------------------------|---|
| DEPTH 1:50 | 0 | • | | 7 | 0 | 0 | | | | Wheel Mounte | d Geo Probe 420 m D. Steel Casing | - | | Ť | BORING MET | _ | ROJE |
| DEPTH SCALE 1 : 50 | | | | | | | END OF BOREHOLE | | | | 2. okci odding | (Min) SiL I, Sonie Gay, race sand, grey, cohesive, moist | 1 - | GROUND SURFACE CONCRETE | DESCRIPTION | SOIL PROFILE | PROJECT: 1417422 LOCATION: N;E |
| | | | | je. | | | | | | | | | <u> </u> | •0 [¥] ≽.₹ | STRATA PLOT | | т |
| | | | | | | | 3.66 | | | | | 50 | 0.30 | 0.00 | ELEV. DEPTH (m) | | ÊC |
| | | | | | | | | 6 DO | 5 DO | 4 DO | 0 | 2 00 | - 8 | _ | NUMBER TYPE | SAMPLES | ORI |
| | | | | | 1 | | | | | | , m | | | | BLOWS/0.3m | - | D OF BO |
| | | | | | | | | ຮ້ | N, | ß | ຮັ | | Ŋ | | ND = NC CONCE ND = NC 20 | HEADS | IG DAT |
| Golder | | | | | | | | | | | | | | | ND = NAV Detected 60 80 HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] 00 ND = Not Detected 80 20 40 60 80 | HEADSPACE ORGANIC VAPOUR | RECORD OF BOREHOLE: BORING DATE: December 11. 2014 |
| rold | | | | | | | 244 | | | | | | | | PPMJ 60 | C VAPO | 11. 20 E |
| er | | | | | | | | 11 | | | | | | | | | 14 |
| • <i>.</i> | | | | | | | - 194 <u>-</u> | <u>/ 4</u> // % | - 1. A. | | | | | - | | ⊕ ₽ | MW14-7 |
| | | | | | | | -1. | | | <u></u> | | | | _ | NP T | HYDRAULIC CONDUCTIVITY, k, cm/s | 4-7 |
| | | | | | | | | | | | | | | | 10 ⁻⁵ 10 ⁻¹ 10 ⁻¹ WATER CONTENT PERCENT Wp I OW I W 10 20 30 40 | IC CON | |
| | | | | | | | | | | | | | | | OW 30 | IDUCTI | |
| | | | | | | | | | | 14,4 | | | | | PERCENT 40 | VITY, | |
| | | | | | | | | | | | | | | | 40 M 103 | _ | |
| 우 _ | | | | | | | | | | | | | | | ADDITION/ LAB. TESTI | AL NG | — 0 |
| Logged: EW Checked: | | | | | | | | | | Screen | | Sand | Bentonite | Concrete | | | SHEET 1 OF 1 DATUM: |
| D: D: E | | | | | | | | | | | | | iite | Ť | STAN | PIEZO | 4 9 |
| | | | | | | | | | 205 205 20 | " the the the | un un un un | 115-21-215- | | 280 | OR STANDPIPE INSTALLATION | METER | - |
| | 1 | | | 1 | | | | | en en en | 2/3/2/3/2/3/ | 18, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18, | un al and | | ана 200 | 2 | | |

| SOIL LOG WITH GRA | APH+WELL 08 | 1211-INSCF | A.GPJ INSPE | C_SOL.GE | DT 3/12/13 | | | | | | | | | | | | | | | | |
|-------------------|--|---------------|--|--------------------------------------|-----------------------|----------------------------------|-----------|----------|-------------------|---|--------------------|-----------------------------------|--|----------------|--|---------------------------------|------------------------------|-------------------------------------|--|---------------------|-----------------------|
| ╷╷╷╷ | | ╷╸┛╷╴ | | | 1.1.1 | 4.88 | | ╷╷╷╷ | , , | | <u> </u> | - - - - | | Feet Metres | Depth (bgs) | DATE (START): | DESCRIBED BY: | LOCATION: | PROJECT: | | |
| | 12 77.63 | | | | | 8 80.07 | | | | 82.66 | | 04.19 | | es 84.95 | Elevation | STAR | IBED | ON: | Ξl | | |
| | :: אווווווווו | |)8.85 7/25///24 | | | .9 \ | | | | .66 | | | 8. 1. 1. | .95 | (m) | | 1 | | | | |
| | ŀŀŀŀŀŀŀŀŀ | | | | <u> </u> | | | | | | | ///// | XXX j |): | Stratigraphy | Janua | K. Va | 2150 | Prelin | Mond | Y |
| | SHALE (GEORGIAN BAY FORMATION), with interbedded limestone, siltstone, fissile, thinly-bedded to thinly laminated, grey | | SHALE (GEORGIAN BAY FORMATION), highly to completely weathered (inferred), with clay, grey | Gr : 0%, Sa : 5%, Si : 50%, Cl : 45% | trace sand, soft, wet | CL-SILTY CLAY. firm. arev. moist | | | compact | ML-SILT, trace clay, loose, light brown, moist | firm, very moist | CL-SILTY CLAY, stiff, grey, moist | SP-SAND (FILL), very loose, fine grained, poorly graded, brown, moist | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | January 28, 2013 DATE (FINISH): | K. Vander Meulen CHECKED BY: | 2150 Lake Shore Blvd. West, Toronto | Preliminary Geotechnical Investigation | Mondelez Canada Inc | BOREHOLE No.: |
| | ed | × | | | _ | | | | | | | | | | 0.4.4.4 | SH): | ΒY: _ | | | | <u>N</u> |
| RUN-2 | RUN-1 | SS-10 | X ss-9 | SS-8 | | SS-7A | SS-6 | | 200 | SS-4 | SS-3 | SS-2 | SS-1 | 1 | State Type and Number | January 28, 2013 | S. Sh | | | | |
| 90 | 80 | 30 | 30 | 100 | | 50 | 80 | 100 | | 100 | 50 | 62 | 80 | % | Recovery | Iry 28, | Shahangian | | | | MW1 84.95 m |
| 1 | I. | 17 | 19 | 27 | 5 | 21 | 16 | | | 17 | 21 | 13 | 15 | | Moisture Content | 2013 | ian | | | | MW1-13 95 m |
| 50 | 26 | 100/ 150mm | 100/ 150mm | 2-2-2-2 | | 3-3-4-4 | 5-7-14-14 | 5-6-9-11 | | 3-3-6-7 | 6-3-3-3 | 6-7-7-8 | 2-2-2-3 | | Blows per 6 in. / 15 cm or RQD | | | | | | |
| 1 | I | 100 | 100 | 4 | 1 | 7 | 21 | 5 | 1 | 9 | ი | 4 | 4 | z | Penetration | | ₩E | | | | B |
| | | 0 | | | (| • | ~ | | - | • | - • - | | • | 10 20 | (blows | | ē | ST . | PQ | | |
| Bentonite Seal → | | | 6.40 m- | | | Screen | | | Sand | 2.70 m- | D Bentonite Seal → | 3/4/2013 | 0.30 m - ₩ | | Shart test (Cu) △ Field Sensitivity (S) □ Lab O Water content (%) Waterberg limits (%) • ¬\" Value (blows / 12 in -30 cm) | | - WATER LEVEL | - SHELBY TUBE | - PQ size continue coring | | BOREHOLE REPORT |

| , , , , , , , , , , , , , , , , , , , | <u> </u> | 4, | · · · · · · · · · · · · · · · · · · · | | | Feet Metres 84.95 | Elevation (m) | DATE (START): | DESCRIBED BY: | LOCATION: | PROJECT: | CLIENT: | | |
|--|--|---|---|-----------------|--|-------------------------|--|------------------|------------------|-------------------------------------|--|----------------------|-----------------------------|----|
| | 3, | ସାର | v. v. | E. | ::::::::::::::::::::::::::::::::::::: | | Stratigraphy | January | K. Vand | 2150 La | Prelimin | Mondele | Y |) |
| | Date Depth (m) 3/4/2013 0.68 | <u>Ground Water Measurements</u> : (Surface elevation : 84.95 m) | Borehole terminated at 10.52 m bgs Borehole dry to 7.3 m bgs bgs' denotes below ground surface Gr, Sa, Si and Cl denotes Gravel, Sand, Silt and Clay respectively | END OF BOREHOLE | 100 mm of highly fractured rock with clay at 8.92 m depth | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | January 28, 2013 | K. Vander Meulen | 2150 Lake Shore Blvd. West, Toronto | Preliminary Geotechnical Investigation | Mondelez Canada Inc. | | |
| | Elev. (m) 84.27 | <u>·ements</u> : 4.95 m) | d at 10.52 m bgs m bgs v ground surface notes Gravel, spectively | | red rock with clay | JRFACE | | DATE (FINISH): | CHECKED BY: | , Toronto | estigation | | BOREHOLE No.: ELEVATION: | |
| | | | | | RUN-3 | | State Type and Number | January 28, 2013 | S. Shi | | | | | |
| | | | | | 3 100 | % | Recovery | ITV 28, | Shahangian | | | | MW1-13 84.95 m | |
| | | | | | I | | Moisture Content | 2013 | an | | | | 1-13 | i. |
| | | | | | 62 | | Blows per 6 in. / 15 cm or RQD | | | | | 8 | | _ |
| | | | | | 1 | z | Penetration Index/SCR | | | | | LEG | BC | |
| | | _ | | | | 10 20 30 40 50 60 70 80 | Shear test (Cu) Sensitivity (S) O Water content (%) Atterberg limits (%) "N" Value (blows / 12 in30 cm) | | | | PQ - | LEGEND | BOREHOLE | |
| | | | | | | 30 40 5 | ity (Cu ity (S) erberg value value | | - WATER LEVEL | - SHELBY TUBE | - PQ size continue coring | | | |
| | | | | | 10 | 50 60 |) Itent (% limits (| | RLE | BY TU | ze cor | | | |
| | | | | | 10 л | 70 80 | | | VEL | JBE | ıtinue | | of _2 | |
| | | | | | | 90 | Field Lab | | | | coring | | REPORT | |
| | | | | | | | | | | | | | | _ |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| LOG WITH GRAPH+WELL 081211-INSCRA.GPJ INSPEC_SOL.GDT 3/14.13 | | | | | | | | | | | | | | |
| | | | | | | Feet | Depth (bas) | DAT | DES | LOC | PRO | CLI | | |

| | ENU DU SONCHOUR | | , | ···· | | 25.4 mm lir | Feet Metres 81.46 G | Elevation (m) Stratigraphy | DATE (START): <u>January 29, 2013</u> |) BY: | PROJECT: Preliminary Geote | | |
|--|--|--------------|---|---|--|--|---|--|---------------------------------------|------------------------------|---|--------|-----------------------------|
| <u>Surface elevation : 81.46 m)</u> (Surface elevation : 81.46 m) Date Depth (m) Elev. (m) 3/4/2013 9.93 71.53 | ENU OF BUKKENDLE Borehole terminated at 15.34 m bgs Borehole terminated at 15.34 m bgs Borehole terminated at 15.34 m bgs Borehole to 6,9 m bgs bgs' denotes below ground surface Gr, Sa, Si and Ci denotes Gravel, Sand, Silt and Ciay respectively Ground Water Messurements - | | | | | 25.4 mm limestone 9.23 m depth | GROUND SURFACE 100 mm fractured rock with clay at 8.01 m depth 13 mm clay seam at 9.04 m depth | DESCRIPTION OF SOIL AND BEDROCK | DATE (FINISH): | CHECKED BY: | Preliminary Geotechnical Investigation 2150 Lake Shore Blvd. West. Toronto | Inc. | BOREHOLE No.: ELEVATION: |
| | | RUN-6 100 58 | I | RUN-5 100 64 | RUN4 100 - 85 | RUN-3 100 86 | % | Type and Number | January 29, 2013 | S. Shahangian | | | MW2-13 81.46 m |
| | | | Sand | 112.50 m- Bentonite Grout + 13.10 m- | I | | N 10 20 30 40 50 60 70 80 90 | Pendex Shear test (Cu) △ Pendex W → Atterberg limits (%) (blows / 12 in30 cm) | | I RC - ROCK CORE | PQ - PQ size continue coring ST - SHELBY TUBE | LEGEND | BOREHOLE REPORT |
| | | | | | | | | | | | | | |
| | ++WELL 081211-INSCRA.(| | 「 3/14/13 - ↓ ↓ ↓ ↓ ↓ ↓ ↓ | ++++++++++++++++++++++++++++++++++++++ | | | Feet Met | Depth (bgs) | DATE | DESCE | PROJE | CLIEN | |
| | 6.86 77.97 7.40 77.43 | | 5.18 7906 | | | | Feet Metres 84.83 GR0 | Elevation (m) Stratigraphy | DATE (START): January 31, 2013 | BY: | PROJECT: Preliminary Geotechn LOCATION: 2150 Lake Shore Blyc | | |
| Irmestone, fine graned siltsone, fissile, thiny-bedded to thiny laminated, grey 130 mm of highly fractured rock at 7.42 m depth 40 mm clay lens at 7.53 m depth horizontal fracture with clay infill at 7.8 m | - 6.86 77.97 FORMATION), highly to completely weathered (internet), with clay inclusion, area SHALE (GEORGIAN BAY FORMATION), with interbedded | | r 3/14/13 | 81.48 CL-ML-SILTY CLAV/CLAVEY SILT, brown, moist, stiff to very stiff | 82.70 trace sand, black/grey, brick fragments CL-SILTY CLAY, soft, low plasticity, brown, moist | | 84.83 GROUND SURFACE 84.68 TOPSOLL: 150 mm ML-SILT (FLL), trace clay, very loose to compact, brown, moist, highly oxidized | Elevation (m) Stratigraphy | January 31, 2013 DATE (FINISH): | K. Vander Meulen CHECKED BY: | PROJECT: Preliminary Geotechnical Investigation | | Y |
| , | 6.86 77.97 7.40 77.43 | | 5.18 7906 | 81.48 | 82.70 trace sand, blackligrey, brick fragments CL-SILTY CLAY, soft, low plasticity, brown, moist SS-4 100 20 | $\begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $ | 84.68 | Elevation (m) Stratigraphy So DESCRIPTION BEDROOF CK State Type and Number | January 31, 2013 | K. Vander Meulen | | | |

SOIL LOG WITH GRAPH+WELL 081211-INSCRA.GPJ INSPEC_SOL.GDT 3/14/13

| - <u> </u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ┶╍┶┶ | 1 | L + L + 10.61 | · · · · · · · · · · · · · · · · · · · | Feet Metres | · Depth (bgs) | DATE (START): | DESCRIBED BY: | LOCATION: | PROJECT: | CLIENT: | | REFERENCE No .: |
|--|---|-----------------|---------------------------------------|--|----------------------------|---|------------------|------------------|-------------------------------------|--|----------------------|-----------------------------|-----------------|
| | | | 74.22 | | 84.83 | Elevation (m) | ART): | ED BY: | - | | | | CENO |
| | | | ,,,,,,,,,,,, | ,,,,,,,,,,,,,,,,,,,,,,, | | Stratigraphy | Janu | | 215 | Prel | Mon | P |) |
| (Surface elevation : 8/ Date Depth (m) 3/4/2013 2.90 | Borehole terminated at 10.61 Borehole dry upon completite 'bgs' denotes below ground 'ground Water Measurements: 'Gurden Water Measurements | END OF BOREHOLE | 80 mm fractured rc | 80 mm highly fractured 1 7.98 m depth 80 mm of fractured rock horizontal fracture 50 mm fractured rock | GROUN | DESCR SOIL ANI | January 31, 2013 | K. Vander Meulen | 2150 Lake Shore Blvd. West, Toronto | Preliminary Geotechnical Investigation | Mondelez Canada Inc. | | 081211 |
| n : 84.83 m) (m) Elev. (m) 81.93 | Borehole terminated at 10.61 m bgs Borehole dry upon completion 'bgs' denotes below ground surface ro <u>rund Water Measurements</u> : foco alouviting 84 82 m | Ē | 80 mm fractured rock at 10.14 m depth | 80 mm highly fractured rock with clay at 7.98 m depth 80 mm of fractured rock horizontal fracture 50 mm fractured rock | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | DATE (FINISH): | CHECKED BY: | Nest, Toronto | I Investigation | | BOREHOLE No.: ELEVATION: | |
| | | | | 2 | | State Type and | | s | | | | | |
| | | | | RUN-3 100 | | Number | January 31, 2013 | Shahangian | | | | MW3 84.83 m | |
| | | | | 100 | % | Recovery | 31.2 | angia | | | | MW3-13 83 m | |
| | | | | 1 | | Moisture Content | 2013 | 5 | | | | - 1 3 | |
| | | | | 76 | | Blows per 6 in. / 15 cm or RQD | | | | | | | |
| | | | | 1 | z | Penetration Index/SCR | | ₩E | RC ST | | Ē | ω | |
| | | | | | 10 | Shear test (Cu) Sensitivity (S) Weather content (%) Attreberg limits (%) (blows / 12 in30 cm) | | ð | RC | PQ | LEGEND | Page: 2 | ENCLOSURE No .: |
| | | | | | 10 20 30 40 50 60 70 80 90 | Shear test (Cu) Sensitivity (S) O Water content (% Materberg limits (* Materberg limits (* Materberg limits (* Materberg limits (* Materberg limits (* Materberg limits (* Materberg limits (* | | - | י . מ ה | | D | REH Page: | LOS |
| | | - | | ^B | 40 | st (Cu berg 2 in | | VATE | | Qsi | | | L R |
| | | | - | entor | 50 60 |) limits | | RL | - SHELBY TUE | ze co | | F 🗖 | No.: |
| | | - | 10.61 | Bentonite Seal | 70 8 | n) (%) | | - WATER LEVEL | - SHELBY TUBE | PQ size continue coring | | ੂ ਨ | Ĩ |
| | | | 3 | eal | 00 90 | ∆ Field □ Lab | | | | le co | | ⊳ ₩ | |
| | | | | | | ъ е́ | | | | pring | | of 2 | ω |
| | | | | | | | | | | | | ~ | |

| | - 0.2.0 | | L, | | + | <u> </u> | 5.18 79.02 | ┷┰┸╼┥ | 4.12 80.08 | <u> </u> | ŢĿ.Ĺ., | | - 2.29 81.91 | | 0.15 84.05 | Feet Metres 84.20 | Depth (bgs) Elevation (m) | DATE (START): | DESCRIBED BY: | LOCATION: | PROJECT: | CLIENT: | | |
|---|-----------------|--|---|---|--|---|---|-------------------|---|----------------|-----------|---|---|--|--|-------------------|---|------------------|------------------|------------------------------------|--|----------------------|-----------------------------|--|
| | | ,,,,,,,,,,, | | | | ,,,,,,,,, | | | | | \square | | | | | | Stratigraphy | Fet | | 215 | Pre | Mo | | |
| Borehole terminates at 8.2 Borehole dry to 5.2 m bgs | END OF BOREHOLE | depth | 50 mm vertical frac | at 6.23 m depth 13 mm clay seam at 6.33 m depth 25 mm highly fractured rock at 6.3 | 13 mm horizontal a 5.84 m depth 40 mm horizontal fi | to thinly laminated, 100 mm section of depth | SHALE (GEORGIAN BAY FORMATION), with interbedded | grey | SHALE (GEORGIA FORMATION), high | | | CL-SILTY CLAY, trace sand, stiff, low plasticity, brown, moist Gr : 0%, Sa : 2%, Si : 69%, Cl : 29% | very moist to wet, s oxidized | ML-SILT, trace clay moist | SW-GW SAND & GRAVEL (FILL) compact, brown, moist, cobbles | GROUNI | DESCR SOIL AND | February 1, 2013 | K. Vander Meulen | 2150 Lake Shore Blvd. West, | Preliminary Geotechnical Investigation | Mondelez Canada Inc. | | |
| Borehole terminates at 8.23 m bgs Borehole dry to 5.2 m bgs | Ē | 13 mm highly fractured rock at 6.91 m depth | 50 mm vertical fracture at 6.4 m depth 13 mm horizontal and vertical fracture at 6 80 m denth | at o.23 m deptn 13 mm clay seam at 6.33 m depth 25 mm highly fractured rock at 6.36 m | 13 mm horizontal and vertical fracture 5.84 m depth 40 mm horizontal fracture with clay infill | to thinly laminated, grey 100 mm section of limestone at 5.82 m depth | N BAY interbedded | | SHALE (GEORGIAN BAY FORMATION), highly to completely weathered (inferred) with clav inclusion | | | ace sand, stiff, low loist si : 69%, Cl : 29% | very moist to wet, slightly dilatant, slightly oxidized | ML-SILT, trace clay, loose, dark brown, moist | n GRAVEL (FILL), roist, cobbles | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | DATE (FINISH): | CHECKED BY: | Vest, Toronto | I Investigation | | BOREHOLE No.: ELEVATION: | |
| | | RUN-3 | | RUN-2 | | RUN-1 | | SS-7 | SS-6 | \square ss-5 | \leq | SS-4 | SS-3 | SS-2 | SS-1 | | State Type and | Feb | ŝ | | | | | |
| _ | | 1-3 100 | | 1-2 80 | | 1-1 100 | | -7 50 | -6 72 | -5 100 | | .4 82 | -3 100 | -2 82 | -1 82 | % | Number Recovery | ruary | Shahangian | | | | MW4 84.20 m | |
| | | ŏ | | 0 I | | 8 | | 8 | 2 10 | 31 | | 2 23 | 21 | 2 22 | 2 | 0 | Moisture | February 1, 2013 | ıgian | | | | MW4-13 20 m | |
| | | 30 | | 45 | | 60 | | 13-14-25/ 75mm | 24-15-25-30 | 3-4-5-7 | | 5-5-7-8 | 3-4-4-5 | 4-4-5-4 | 10-11-11-9 | | Content Blows per 6 in. / 15 cm Or RQD | | | | | | | |
| | | I | | I | | I. | | 100 | 40 | 9 | ` | 12 | œ | 9 | 22 | z | Penetration Index/SCR | | | | | E | ω | |
| | i | 8.20 m | | |) | | 5,20 m- | | • | Screen | | ₽ | | ● O Bentonite Seal → WL 1.44 m- | 0.30 m | | Shear test (Cu) ∆ Field Sensitivity (S) Lab Water content (%) ↓ Attorberg limits (%) ↓ Try Yatu (blows / 12 in30 cm) | | | ST - SHELBY TUBE RC - ROCK CORE | PQ - PQ size continue coring | LEGEND | BOREHOLE REPORT | |

| SOIL LOG WITH GRAPH+WELL 081211-INSCRA.GPJ INSPEC_SOL.GDT 3/12/13 | ⊥ <u>, </u> ⊥ , <u></u> ⊥ , ⊥ , ⊥ | Feet Metres 84.20 | - Depth (bgs) Elevation (m) Stratigraphy | DATE (START): Febru | DESCRIBED BY: K. Va | LOCATION: 2150 | PROJECT: Prelin | CLIENT: Mond | | REFERENCE No.: |
|---|---|------------------------------|--|---------------------------------|------------------------------|-------------------------------------|--|----------------------|---------------------------------|------------------|
| | Ground Surface Gr, Sa, Si and Ci denotes Gravel, Sand, Silt and Clay respectively <u>Ground Water Measurements</u> : (Surface elevation : 84-20 m) Date Depth (m) Elev. (m) 3/4/2013 1.44 82.76 | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | February 1, 2013 DATE (FINISH): | K. Vander Meulen CHECKED BY: | 2150 Lake Shore Blvd. West, Toronto | Preliminary Geotechnical Investigation | Mondelez Canada Inc. | BOREHOLE No.: ELEVATION: | 081211 |
| | | % | State Type and Number Recovery Moisture Content Or 15 5 5 Recovery | February 1, 2013 | S. Shahangian | | | | .:MW4-1384.20 m | |
| | | N 10 20 30 40 50 60 70 80 90 | $\begin{array}{c c} \mbox{Prediction} & \mbox{Shear test} ({\rm Cu}) & \mbox{Δ Field} \\ \mbox{PenetarXSC} & \mbox{Shear test} ({\rm Cu}) & \mbox{Δ Lab} \\ \mbox{Δ box $ab} & \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} \\ \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} \\ \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} \\ \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} & \mbox{$\Delta$ box $bb} \\ \mbox{$\Delta$ box $bb} & \mbox $bb $bb $bb $bb $bb $bb $bb $bb $bb b | | | | | LEGEND | BOREHOLE REPORT Page: 2 of 2 | ENCLOSURE No.: 4 |
| SOIL LOG WITH GRAPH+WELL 081211-INSCRA.GPJ INSPEC_SOL.GDT 3/14/13 | | Feet Metre | - Depth (bgs) | DATE (S | DESCRI | LOCATIO | PROJEC | CLIENT: | | REFERE |

| REFERENCE No .: | 1 | 081211 | | | | | | | | ENCLOSURE No .: | LOS | URE | No | Ĩ | | თ | | |
|--|--------------|--|---|-----------------------------|-----------------------|-----------------------|---------------------|---|--------------------------|--|--------------------------------|----------------------------------|--|--|-------|-------------------------|--------|---|
| | | | BOREHOLE No.: ELEVATION: | | MW5 85.04 m | MW5-13 04 m | -13 | | B | | Page: | ΪŌ | F - | | ∾ 🖫 | ŏ | REPORT | |
| CLIENT: | Moi | Mondelez Canada Inc. | | | | | | | E | LEGEND | • | | | | | | | |
| PROJECT: | Pre | Preliminary Geotechnical Investigation | I Investigation | | | | | | | PQ | | °Q s | ize c | ontir | iue c | PQ size continue coring | 6 | |
| LOCATION: | | 2150 Lake Shore Blvd. West, K. Vander Meulen | Vest, Toronto CHECKED BY: | N. | Shahangian | andia | 2 | | | ST RC | | ROC | - SHELBY TUE - ROCK CORE | - SHELBY TUBE - ROCK CORE - WATER I EVEI | - т | | | |
| DATE (START): | | February 4, 2013 | DATE (FINISH): | | February 4 | | 2013 | | 4 | | | | | | 1 | i i | | L |
| Depth (bgs) Elevation (m) | Stratigraphy | DESCRI SOIL AND | DESCRIPTION OF SOIL AND BEDROCK | State Type and Number | | Recovery | Moisture Content | Blows per 6 in. / 15 cm or RQD | Penetration Index/SCR | Shear test (Cu) Sensitivity (S) O Water content (%) Water content | ar te sitivi Wat Atte | st (C er co rberg 12 in | Shear test (Cu) Sensitivity (S) Water content (%) H Atterberg limits (* * ", " value (blows / 12 in30 cm) | m) s (%) | | Field | | |
| et Metres 85.04 | | GROUND | GROUND SURFACE | | _ | % | | | z | 10 | 20 3 | 0 40 | 50 6 | 3 | 06 08 | 0 | | |
| | | TOPSOIL : 100 mm ML-SILT, trace clay oxidized | TOPSOIL : 100 mm ML-SILT, trace clay, loose, brown, moist, oxidized | SS-1 | | 50 | 18 | 3-3-3-5 | თ | | 0 | | | 0.30 | | 1 | | |
| <u></u> | | | | SS-2 | | 50 | 18 | 3-2-3-4 | σı | • | 0 | | | | | | | |
| <u> </u> | | | | SS-3 | | 50 | 15 | 2-3-2-4 | σı | - | - | | | | | | | |
| <u></u> | | compact, highly oxidized | dized | SS-4 | | 62 | 16 | 10-12-15-23 | 27 | 0 | | | | | | | | |
| | | grey | | SS-5 | | 100 | 14 | 8-12-13-13 | 25 | 0 | <u> </u> | | | | | _ | | |
| | | CL-SILTY CLAY, s | CL-SILTY CLAY, stiff, plastic, grey, moist | SS-6 | | 100 | 22 | 4-5-6-6 | 1 | | 0 | | | | | | | |
| <u>., l., l., l</u> ., l., l., l., l., l., l., l., l., l., l | | firm, plastic, very moist | oist | SS-7 | | 100 | 27 | 2-3-3-3 | თ | | 0 | | | | | | | |
| <u>. ., ., </u> | | soft, very molist to wet Gr : 1%, Sa : 7%, Si : 45%, Cl : 47% | vet ii : 45%, Cl : 47% | SS-8 | | 100 | 28 | 2-1-2-3 | ω | | | <u>~</u> | Bentonite | nite | Seal | ¥ | | |
| | | SHALE (GEORGIA FORMATION), high weathered (inferrec grey | SHALE (GEORGIAN BAY FORMATION), highly to completely weathered (inferred), with clay inclusion, grey | SS-9 | | 82 | 13 | 20-8-17-23/ 75mm | 25 | 0 | • | | | | | | | |
| | | 80 mm of highly fractured rock SHALE (GEORGIAN BAY FORMATION), with interbedde for thinly laminated, grey to thinly laminated, grey 100 mm of highly fractured roc m depth | 80 mm of highly fractured rock SHALE (GEORGIAN BAY FORMATION), with interbedded limestone, silstione, fissile, thiny-bedded to thinly laminated, grey 100 mm ohighly fractured rock at 7.37 m deeth | RUN-1 | | 75 | 1 | o | I | | | | | | | | | |
| <u> </u> | | 25 mm clay seam at 8.26 m depth 13 mm clay seam at 6.31 m depth 25 mm clay seam at 8.59 m depth 25 mm clay seam at 8.72 m depth | it 8.26 m depth it 8.31 m depth it 8.59 m depth it 8.72 m depth | RUN-2 | | 100 | 1 | 74 | ł | | | | | | | | | |

| | | | | 12 | | | | | | 1 | |
|-----------------------|--|---|---|--|---|---|--|--|---|---|--|
| 15.39 | | └╶╴┨┑╸╴┨┑╸╴┥┱╸╴┥ | <u></u> | Feet Metres | Depth (bgs) | DATE (START): | DESCRIBED BY: | LOCATION: | PROJECT: | | REFERENCE No .: |
| 69.65 | | | | 85.04 | Elevation (m) | ART): | ED BY: | - | | | CE No. |
| ************* | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | Stratigraphy | Febr | K. S | 2150 | Mon | |) |
| 50 mm vertical frac | 50 mm fracture at . | 25 mm vertical frac | 25 mm highly horiz fractures at 9.33 m 25 mm vertical frac 25 mm clay seam a 25 mm clay seam a 25 mm clay seam a vertical fracture at | GROUNI 80 mm vertical frac | DESCR SOIL AND | uary 4, 2013 | ander Meulen |) Lake Shore Blvd. V | delez Canada Inc. | | 081211 |
| ture at 14.21 m depth | 3.75 m depth | ture at 10.9 m depth | ontal and vertical depth ture at 9.76 m depth at 10.06 m depth to 57 m depth to 57 m depth | D SURFACE ture at 8.84 m depth |) BEDROCK | DATE (FINISH) | CHECKED BY: | Vest, Toronto | Investigation | ELEVATION: | |
| | _ | _ | | | State | | | | | | 8 |
| RUN-6 | RUN-5 | RUN-4 | RUN-3 | | Type and Number | Februa | S. Sha | | | 85. | |
| 100 | 100 | 96 | 100 | % | Recovery | ry 4, | hangi | | | 04 m | |
| I | I | I | I | | Moisture Content | 2013 | an | | | | 5 |
| 77 | 86 | 06 | 70 | | Blows per 6 in. / 15 cm or RQD | | | | | | |
| I | I | I | I | z | Penetration | | K 🗄 | |] [Ē | σ | 1 |
| | | | | - 10 | (blo ^v Tosshe | | RC | ST | GEN | R R | ENC |
| Bentonite Seal | Screen | WL 11.53 m 3/4/2013 11.60 m Sand | | | ear test (Cu) ∆ Field Institvity (S) □ Lab Water content (%) ↓ Attroberg limits (%) , "Nr Value ows / 12 in30 cm) | | - ROCK CORE - WATER LEVEL | - SHELBY TUBE | | | |
| | 50 mm vertical fracture at 14.21 m depth RUN-6 100 77 Bentonite St Bentonite St 15.40 | 50 nm fracture at 13.75 m depth - 86 Screen - 50 nm vertical fracture at 14.21 m depth - - - - 13.70 m 50 nm vertical fracture at 14.21 m depth RUN-6 100 Bentonite Seal + 50 nm vertical fracture at 14.21 m depth RUN-6 100 13.70 m - 50 nm vertical fracture at 14.21 m depth RUN-6 100 15.40 m - | 25 mm vertical fracture at 10.9 m depth RUN.4 96 90 WL 1152 m - 3142013 / 11.60 m - 3142000 / 11.60 | 25 mm highly horizontal and vertical fractures at 9.35 m depth RUN-3 100 | GROUND SURFACE N 10 20 30 40 50 60 70 60 90 25 mm tighty horizontal and vertical fractures at 9.33 m depth RUN-3 100 <td>Stratigraphy Stratigraphy CROUND SURFACE Stratigraphy 80 mm vertical fracture at 0.57 m depth 51 methy CROUND SURFACE Stratigraphy 25 mm highly horizonal and vertical fracture at 0.57 m depth 51 methy Stratigraphy N</td> <td>February 4. 2013 DATE (FINISH): February 4. 2013 Stratigraphy Solury 1. 2013 Solury 1. 2013 Solury 1. 2013 Solury 1. Stratigraphy Solury 1. 2013 <t< td=""><td>K. Vander Meulen CHECKED BY: S. Shahangan W. P MATERLEVEL February 4. 2013 DATE (FINISH): February 4. 2013 </td><td>2150 Lake Shoe Blod. West, Torono Shahangin Image: Shape sh</td><td>Mondelize Canada Inc. LEGEND Perlimitary Goldenchal Investigation Image: Solution Solutin Solutin Solution Solution Solution Solution Solution</td><td>BORCHOLE NO: Immediation Page: 2 0 Immediation Preliminary Generation Inc. Page: 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 1 0</td></t<></td> | Stratigraphy Stratigraphy CROUND SURFACE Stratigraphy 80 mm vertical fracture at 0.57 m depth 51 methy CROUND SURFACE Stratigraphy 25 mm highly horizonal and vertical fracture at 0.57 m depth 51 methy Stratigraphy N | February 4. 2013 DATE (FINISH): February 4. 2013 Stratigraphy Solury 1. 2013 Solury 1. 2013 Solury 1. 2013 Solury 1. Stratigraphy Solury 1. 2013 Solury 1. 2013 <t< td=""><td>K. Vander Meulen CHECKED BY: S. Shahangan W. P MATERLEVEL February 4. 2013 DATE (FINISH): February 4. 2013 </td><td>2150 Lake Shoe Blod. West, Torono Shahangin Image: Shape sh</td><td>Mondelize Canada Inc. LEGEND Perlimitary Goldenchal Investigation Image: Solution Solutin Solutin Solution Solution Solution Solution Solution</td><td>BORCHOLE NO: Immediation Page: 2 0 Immediation Preliminary Generation Inc. Page: 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 1 0</td></t<> | K. Vander Meulen CHECKED BY: S. Shahangan W. P MATERLEVEL February 4. 2013 DATE (FINISH): February 4. 2013 | 2150 Lake Shoe Blod. West, Torono Shahangin Image: Shape sh | Mondelize Canada Inc. LEGEND Perlimitary Goldenchal Investigation Image: Solution Solutin Solutin Solution Solution Solution Solution Solution | BORCHOLE NO: Immediation Page: 2 0 Immediation Preliminary Generation Inc. Page: 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 2 0 1 0 |

| BOREHOLE No.: MWR-13 ELEVATION: BOREHOLE Bore Bul, West, Toromo Freg. L K. Vandeter Malem CHCKED BY S. Shahangian Image: Shahangian Imag | SOIL LOG WITH GRAPH+WELL 081 | 1211-INSCRA.GPJ INSPEC | C_SOL.GDT 3/12/13 | | | | | | | <u> </u> | | | | | | |
|---|---|---|------------------------|-----------------------------|------------|---------------------|-------------------------|-----------------|---|------------|--|--------------|--------------|------------------------|-------------------|--------------------------|
| BOREHOLE No.: MME-11 Page: 1 Page: 1 Preliminary-Geolechnical Investigation ELEVATION: 86.20 m Page: 1 Preliminary-Geolechnical Investigation Carlot ELEVATION: 86.20 m Page: 1 Yumane Carlot Carlot Elevation Page: 1 Carlot Elevation Page: 1 | <u></u> | | ╷╵╷╵╷╵ | 4.57 | ┍╺┶╺┠╍╺╘╋┱ | | ┶┶┶┷┷ | ⊥ 1.22 | | | Depth (bgs) | DATE (ST | DESCRIE | PROJEC | CLIENT: | |
| BOREHOLE No: MMR-13 ENCREMCI Provider BOREHOLE Provide Provider Canada Investigation | | | | | | | | | | | | fart): | ED BY: | | | |
| BOREHOLE No.: MW6-13 B6_20 m BOREHOLE Page: In: Page: Labor Lecture In: Labor CHECKED BY: S.Shahangjan Page: 1. DATE (FINISH): Februar 5.2013 PAGE: N. NUMD SURFACE: SS-1 82 42 42-66 8 P. P. RC: | | | | | | | | | | | Stratigraphy | Febr | 1 | Preli | Mon | |
| ILEVATION: MM6-13 B6_20 m BOREHOLE Page: 1 Page: 1 Page | SHALE (GEORGJA FORMATION), with limestone, siltstone to thinly laminated, 76 mm highly fractu 8.16 m depth 50 mm highly fractu depth | SHALE (GEORGIA FORMATION), higi weathered (inferred grey | trace silt, firm, plas | CL-SILTY CLAY, s moist | moist | ML-SILT. trace clav | CL-SILIY CLAY, S | moist, oxidized | SM-SILTY SAND (loose, brown, mois | GROUN | DESCR SOIL AND | uary 5, 2013 | ander Meulen | minary Geotechnica | delez Canada Inc. | |
| o:: MW6-13 BOREHOLE 86.20 m Page: 1 Page: 1 Page: 1 Page: 1 Page: 1 February 5. 2013 Page: 1 Page: 1 State State Page: 1 Page: 1 February 5. 2013 Page: 1 Page: 1 Page: 1 State SS-1 82 42 Accest and the state of the | IN BAY interbedded grey ured rock with clay at ured rock at 8.59 m | NN BAY hly to completely d), with clay inclusion, | tic, very moist | tiff, low plasticity, grey, | - | v. compact. grev. | un, piasuc, grey, moisc | | FILL), trace clay, st, oxidized id. compact. brown. | DSURFACE | D BEDROCK | DATE (FINISH | - | I Investigation | | BOREHOLE N ELEVATION: |
| Immedian Image: 1 Image: 1 <t< td=""><td>7</td><td></td><td></td><td></td><td>~</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0 .:</td></t<> | 7 | | | | ~ | | | | | | | | | | | 0 .: |
| BOREHOLE Page: 1 Page: 1 1 Page: </td <td>iUN-1</td> <td>SS-9</td> <td>S - 8</td> <td>SS-6</td> <td>00 5</td> <td>SS-4</td> <td>SS-3</td> <td>SS-2</td> <td>SS-1</td> <td></td> <td></td> <td>ebrua</td> <td></td> <td></td> <td></td> <td>86.</td> | iUN-1 | SS-9 | S - 8 | SS-6 | 00 5 | SS-4 | SS-3 | SS-2 | SS-1 | | | ebrua | | | | 86. |
| BOREHOLE Page: 1 Page: 1 1 Page: </td <td>70</td> <td>100</td> <td>92</td> <td>92</td> <td>100</td> <td>100</td> <td>100</td> <td>62</td> <td>82</td> <td>%</td> <td>Recovery</td> <td>ry 5, 2</td> <td>hangia</td> <td></td> <td></td> <td>20 m</td> | 70 | 100 | 92 | 92 | 100 | 100 | 100 | 62 | 82 | % | Recovery | ry 5, 2 | hangia | | | 20 m |
| Page: _1_ t LEGEND LEGEND Renetration R | I | 27 | 21 20 | 20 18 | 20 | 16 | 19 | 1 | 42 | | Content | 2013 | a | | | -13 |
| Page: _1_ t LEGEND LEGEND Renetration R | 5 | 2-2-3-55/ 125mm | 2-3-3-4 | 5-10-16-10 | 4-5-6-10 | 3-5-7-11 | 4-4-5-5 | 5-6-7-8 | 4-2-6-6 | | Blows per 6 in. / 15 cm or RQD | | | | | |
| EHOLE | I | σ | ი <u>კ</u> | 9 26 | 1 | 12 | 9 | 13 | 8 | z | Penetration Index/SCR | | | \square | Ē | D |
| | | | • | | • | 8 | • | • | • | 10 20 30 4 | Shear test Sensitivity O Water Materbe W, W, Vali (blows / 12 | | | | GEND | Page: 1 |
| | Bentonite Seal | .70 m- | Cre | | | | Bentonite Seal- | | U.30 m WL 0.45 m 3/4/2013 | 60 70 80 | (Cu) △ Field (S) □ Lab content (%) arg limits (%) ue in30 cm) | | NCK CORE | l size continue coring | | [≏] 곱 |

| | - I _T · I · I · I · | <u> </u> | <u>+</u> | | · | | Borehole dry to 7.3 m bgs bys' denotes below ground surface <u>Ground Water Measurements</u> : (Surface elevation : 86.20 m) | | 25 mm fracture with clay at 986 m depth 100 mm highly fractured rock at 9.94 m depth 1120 mm vertical fracture at 10.06 m | 101 mm fractured rock at 9.23 m depth with clay infil at 9.5 m depth with clay infil at 9.5 m depth | Feet Metres 86.20 GROUND SURFACE | Depth (bgs) Elevation (m) Stratigraphy OESCRIPTION BEDROOCK | DATE (START): <u>February 5, 2013</u> DATE (FINISH): | BY: K. Vander Meulen | LOCATION: 2150 Lake Shore Blvd. West, Toronto | | BOREHOLE No.: ELEVATION: | REFERENCE No.: 081211 |
|---|--|---------------|---|--------------|-------|-----|--|----------------------|--|--|----------------------------------|---|--|--|---|--|---|-----------------------|
| | | | | | | | | | | RUN-2 100 50 | % | State Type and Number Recovery Moisture Content or 15 in: Sper | February 5, 2013 | S. Shahangian | 6 . 12 | | 36.20 m | |
| | | | | | | | | | 10.36 m | 1 | N 10 20 30 40 50 60 70 80 90 | Penetration Index/SCR Sensitivity (S) Lab Penetration (%) Lab Penetration (%) Lab (blow, ", Attorberg limits (%) (blow, ", Value (blow, ", Value) (%) | | RC | | | BOREHOLE REPORT | ENCLOSURE No.: 6 |
| | | | | | | | | | | | | | | | | | | |
| | 6.86 79.86 7.32 79.40 | | C_SOLGDT 3/1 | 213 | -+-+- | -++ | 2.59 84.13 Sandy CL-SILT plasticity | <u> </u> | | - 0.61 86.11 - 0.51 F | 86.72 | Depth (bgs) Elevation (m) Stratigraphy | DATE (START): February 6, 20 |) BY: | | CLIENT: Mondelez Can | | REFERENCE No.: 08121 |
| SolL LOG WITH GRAPH+Wet | - 6.86 79.86 SHALE (GEORGIAN BAY - 7.32 79.40 weathered (inferred), grey SHALE (GEORGIAN BAY | firm, plastic | | L-,+ SS-7 | | | 84.13 CL-SILTY CLAY, stiff to very stiff, low plasticity, grey, moist | | SS-2 | 86.41 TOPSOIL: 75 mm SM-SILTY SAND (FILL), trace clay, trace gravel, brown, molst, dense 86.11 ML-SILT (FILL), trace clay, compact, | Metres 86.72 GROUND SURFACE | Elevation (m) Stratigraphy SOL ESC ND BEED RON OCF K State Type and Number | February 6, 2013 DATE (FINISH): | BY: K. Vander Meulen CHECKED BY: S. | LOCATION: 2150 Lake Shore Blvd. West, Toronto | - | ELEVATION: M | 081211 |
| FORMATION), with interbedded to thinly laminated, soft, grey 25 mm horizontal and vertical fracture at 7.6 mm horizontal and vertical fracture at 8.33 m depth 76 mm horizontal and vertical fracture at | - 6.86 79.86 SHALE (GEORGIAN BAY - 7.32 79.40 weathered (inferred), grey SHALE (GEORGIAN BAY | firm, plastic | | | | | 84.13 CL-SILTY CLAY, stiff to very stiff, low plasticity, grey, moist | SS3 100 16 5-7-10-11 | | 86.64 TOPSOL: 75 mm SM-SILTY SAND (FILL), trace clay, trace gravel, brown, moist, dense ML-SILT (FILL), trace clay, compact. | Metres 86.72 | Elevation (m) Stratigraphy SOLE AND BEDROOF K State Type and | February 6, 2013 | BY: K. Vander Meulen CHECKED BY: S. Shahangian | | Mondelez Canada Inc. Tr. Pratiminary Genterhnical Investigation | BOREHOLE No.: MW7-13 ELEVATION: 86.72 m | 081211 |

| <u> - - - - - </u> | ++++++++++++++++++++++++++++++++++++++ | | Bepth (bgs) B Elevation (m) | | D BY: | CLIENT: N | | REFERENCE No .: |
|--|--|---|---|------------------|---|--|-----------------------------|-----------------|
| | | ********* | Stratigraphy | -ebru | 2150 C. Va | Mono | VS) | |
| bgs ¹ denotes below ground <u>Ground Water Measurements</u> : (Surface elevation : 86.72 m) Date Depth (m) Elev. (n 3/4/2013 2.52 84.20 | 50 mm highly fracture depth 25 mm horizontal and 10.42 m depth END OF BOREHOLE Borehole terminat Borehole terminat | 8.72 m depth clay lens at 8.99 m depth | DESCR SOIL ANI | February 6, 2013 | 2150 Lake Shore Blvd. West, K. Vander Meulen | Mondelez Canada Inc. Preliminary Geotechnical Investigation | | 081211 |
| 'bgs' denotes below ground surface <u>round Water Measurements</u> : urface elevation : 86.72 m) Date Depth (m) Elev. (m) 4/2013 2.52 84.20 | 50 mm highly fractured rock at 10.09 m dept 25 mm horizontal and vertical fracture at 10.42 m depth END OF BOREHOLE Borehole terminates at 10.52 m bgs Borehole dry to 7.3 m depth | at 8.99 m depth | DESCRIPTION OF SOIL AND BEDROCK | DATE (FINISH): | Vest, Toronto CHECKED BY: | Investigation | BOREHOLE No.: ELEVATION: | |
| | | | State | | | | lo.: | 1 |
| | | RUN-2 | Type and Number | February 6, 2013 | S. Shahangian | | 86. | |
| | | 100 | Recovery | IIY 6, | hang | | MW7-13 86.72 m | |
| | | 1 | Moisture Content | 2013 | ian | | 7-13 | |
| | | 70 | 6 in. / or RQD | | | | | |
| | | 1 2 | Penetration | | | | ω | |
| | | | ÷ ⊡●∻ू∎०% थ | | RC | | 9 | EN |
| | | | ows / | | | | REH Page: | SOTO |
| | | | Shear test (Cu) Sensitivity (S) Water content (%) W, W, Atterberg limits (%) (b)ows /12 in-30 cm) | | - SHELBY TUBE - ROCK CORE - WATER LEVEL | 0 | BOREHOLE | ENCLOSURE No .: |
| | | \ | ntent limit | | ERLEY | 70 0 | [≥] E | No |
| | 10.52 | | n (%) (%) | | | ontin | | Ĩ. |
| | N | | 5 00 | | | 2 | ∾ ₽ | 1 |
| | | | End Field | | - NOCK CORE | hino | REPORT | 7 |
| | | | | | | | ~~ | |
| | | | | | | | | il. |

| | | | - 5.34 78.64 - 5.60 78.38 | | -+ | | + + + 2.29 81.69 + + + + + + + + + + + + + + + + + + + | <u>+ </u> | | | Feet Metres 83.98 | Depth (bgs) Elevation (m) | DATE (START): | OBY: | LOCATION: 2 | | |
|--|-------------|--|---|--------------------------|--------------------------------------|---------|---|--|---|---|-------------------|--|------------------|--------------------------|---|----------------------|-----------------------------|
| N 5 7 6 | *********** | יייייייייייייייייייייייייייייייייייי | ΣΠØ | | | | | ť | 3 2 | | | Stratigraphy | ebrua | . Van | 150 L | Nonde | V |
| 61 cm of horizontal and vertical rock at 7.77 m depth 50 mm vertical fracture at 8.03 m depth 25 mm of clay at 8.23 m depth | | SHALE (GEORGIAN B/ FORMATION), with inte limestone, siltstone, fiss to thinly laminated, grey | SHALE (GEORGIAN BAY FORMATION), highly to completely weathered (inferred), grey | | trace sand and gravel, soft, plastic | | CL-SILTY CLAY, sof moist to wet | trace sand, wet, dilatant, very loose | ML-SILT, trace clay, loose, grey, very moist to wet, dilatant | SW-GW SAND AND GRAVEL (FILL). Ioose, brown, moist, trace cobbles | GROUND | DESCRIF SOIL AND | February 8, 2013 | K. Vander Meulen | Preliminary Geotechnical Investigation 2150 Lake Shore Blvd. West, Toronto | Mondelez Canada Inc. | |
| and vertical rock at ure at 8.03 m depth 3 m depth | | SHALE (GEORGIAN BAY FORMATION), with interbedded limestone, siltstone, fissile, thinly-bedded to thinly laminated, grey | 4 BAY y to completely arev | | el, soft, plastic | | CL-SILTY CLAY, soft, plastic, grey, very moist to wet | tant, very loose | loose, grey, very t | GRAVEL (FILL), trace cobbles | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | DATE (FINISH): | CHECKED BY: | Investigation est, Toronto | | BOREHOLE No.: ELEVATION: |
| | | _ | | $>\!\!\!<\!\!\!\!\!\!\!$ | \geq | \geq | \succ | \geq | $>\!\!<$ | > | | State | | | | | |
| RUN-3 | RUN-2 | RUN-1 | SS-8 | SS-7 | SS-6 | SS-5 | SS-4 | SS-3 | SS-2 | SS-1 | | Type and Number | February 8, 2013 | S. Shahangian | | | 83.0 |
| 95 | 100 | 75 | | 100 | 100 | 100 | 100 | 62 | 100 | 62 | % | Recovery | ry 8, | nangi | | | MW8-13 83.98 m |
| | I | I | I | 17 | 27 | 29 | 26 | 23 | 23 | თ | | Moisture Content | 2013 | an | | | 3-13 |
| 60 | 96 | 75 | 59/15mm | 2-2-4-5 | 2-1-3-4 | 2-1-2-3 | 2-2-1-3 | 2-1-2-4 | 2-2-3-4 | 22-6-3-3 | | Blows per 6 in. / 15 cm or RQD | | | | | |
| I. | I. | I | 100 | 6 | 4 | ω | ω | ω | σı | 9 | z | Penetration Index/SCR | | ĸE | | Ē | ω |
| | | | | 6 | • | • | • | • | • | | 10 3 | (blov | | RC | ST | LEGEND | _ R |
| | | | | 1 | 0 | 0 | 0 | 0 | 0 | | 20 30 | ar test sitivity Water Atterb vs / 12 | | - R | - St | | Page: |
| WL 7.94 m 3/4/2013 8.50 m Sand | | | | | Bentonite Seal → | | | | | 0.30 m- | | $ \begin{array}{l} \text{Shear test}\left(Cu\right) & \Delta \ \bar{F}\text{ield} \\ \text{Sensitivity}\left(S\right) & \Box \ lab \\ O \text{Vider content}\left(\%\right) \\ & \bigcup_{w \in V} \ Atterberg \ \text{limits}\left(\%\right) \\ & \bigoplus_{w \in V} \ Atterberg \ \text{limits}\left(\%\right) \\ & \bigoplus_{w \in V} \ Atterberg \ \text{limits}\left(\%\right) \\ & \bigoplus_{w \in V} \ Atterberg \ \text{limits}\left(\%\right) \\ & \bigoplus_{w \in V} \ Atterberg \ \text{limits}\left(\%\right) \\ & \bigoplus_{w \in V} \ Atterberg \ \text{limits}\left(\%\right) \\ & \bigoplus_{w \in V} \ Atterberg \ \ Atterberg \ Atterberg \ \ Atterberg \ \ Atterberg \ \ Atterberg \ \ Atterberg \ \ Atterberg \ \ Atterberg \ \ Atterberg \ \ Atterberg \ \ \ Atterberg$ | | ROCK CORE WATER LEVEL | - PQ size continue coring - SHELBY TUBE | | BOREHOLE REPORT |

| Image: Control Image: Contro Image: Control Image | SOIL LOG WITH GRAPH+WELL 081211-INSCRA.GPJ INSPEC_ | SOL.GDT 3/12/13 | | | | | | | | | | | | | - |
|--|---|---|---|----------------------|------------|-----------------|------------------|--|----------------|--------------|------------------------|-------------------------|-------------------|--------------|-----------------|
| BOREHOLE No.: MWB-13 BOREHOLE No.: MWB-13 Preiminary Generation rs. 39.8 m result result result 210 Lake Stone Blod West, Toronio CHECKED BY: Statampin Periminary Generation Periminary Generation 1 Stratigraphy DESCRIPTION OF Statampin Periminary Generation Periminary Generation 2 Stratigraphy DESCRIPTION OF Statampin Periminary Generation Periminary Generation 3 Stratigraphy DESCRIPTION OF Statampin Periminary Generation Periminary Generation 3 Stratigraphy DESCRIPTION OF Statampin Periminary Generation Periminary Generation 3 Stratigraphy DESCRIPTION OF Statampin Periminary Generation Periminary Generation 1 DESCRIPTION OF Statampin Periminary Generation Periminary Generation Periminary Generation 1 GROUND SURFACE Periminary Generation Periminary Generation Periminary Generation 1 GROUND SURFACE Periminary Generation Periminary Generation Periminary Generation 1 ENDOES ORGENOLE Periminary Generation Periminary Generation Periminary Generation 1 ENDOES ORGENOLE P | | <u>_</u> | | - <u> - - </u> - | ╶┤┬╴╴┤┰╴╴┤ | └╷┘╷┘╷┘╷┤╵╷┤╵╷┤ | Feet Metres | Depth (bgs) | DATE (ST | DESCRIB | LOCATIO | PROJECT | CLIENT: | | REFERENCE No .: |
| Inc. | | | | | | | 83.98 | Elevation (m) | ART): | ED BY: | z. | | | | VCE No. |
| Inc. Inc. <thinc.< th=""> Inc. Inc. <thi< td=""><td></td><td></td><td>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</td><td>,,,,,,,,,,,,,,,,,</td><td></td><td>******</td><td></td><td>Stratigraphy</td><td>Feb</td><td>K.V</td><td>215</td><td>Prel</td><td>Mon</td><td>Re al</td><td></td></thi<></thinc.<> | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ,,,,,,,,,,,,,,,,, | | ****** | | Stratigraphy | Feb | K.V | 215 | Prel | Mon | Re al | |
| OLE No.: MW8-13 BORREHOLE ION: 83.98 m Page: 2 VED BY: S sharhangian Po size oo State Type and Po size oo RUN44 100 Po or ROCK content Blows perform 6 in. / Type and 5 in. / Type and 16 in. / Type and 100 Po or ROCK content Blows / Po size oo RUN44 100 Po or ROCK content Blows / Po or ROCK content Blows / Po or ROCK content Blows / Po size oo Po size oo RUN44 100 Po or ROCK content Blows / Po or ROCK content Blows / Po size oo Po or ROCK content Blows / Po size oo RUN44 100 Po or ROCK content Blows / Po or ROCK content Blows / Po size oo Po or ROCK content Blows / Po size oo RUN45 100 Po or ROCK content Blows / Po or ROCK content Blows / Po size oo Po or ROCK content Blows / Po size oo Po or ROCK Po or ROCK content Blows / Po or ROCK c | <u>Ground Water Meas</u> ; (Surface elevation : J Date Depth (m) 3/4/2013 7.94 | END OF BOREHOLE Borehole terminat Borehole dry to 5.1 'bgs' denotes belo | 76 mm vertical fractur | | | | GROUND S | DESCRIPT SOIL AND B | ruary 8, 2013 | ander Meulen | 0 Lake Shore Blvd. Wes | iminary Geotechnical In | delez Canada Inc. | | 117190 |
| MW8-13 BOREHOLE 83.98 m Page: 2 83.98 m February 8, 2013 February 8, 2013 Recovery RUN46 100 RU120 RU140 < | <u>urements</u> : 83.98 m)) Elev. (m) 76.04 | tes at 13.90 m bgs 6 m depth w ground surface | e at 13.62 m depth | | | | SURFACE | | DATE (FINISH): | CHECKED BY: | st, Toronto | rvestigation | | BOREHOLE No. | |
| BOREHOLE an | | | RUN | | RUN | RUN | | | Febr | | | | | | |
| BOREHOLE an | | | -6 100 | | -5 100 | -4 100 | % | | uary 8 | hahang | | | | MN 3.98 | |
| Borger HOLE Page: _2 Blows parton R Discrete Police | | | | | | | | Moisture | , 2013 | gian | | | | /8-13 | |
| Image: 1 Image: 2 Penetration Index/SC Pointerstore N Hoo size oo N N <t< td=""><td></td><td></td><td>100</td><td></td><td>100</td><td>g S</td><td></td><td>Blows per 6 in. / 15 cm or RQD</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | | | 100 | | 100 | g S | | Blows per 6 in. / 15 cm or RQD | | | | | | | |
| Page: 2 Page: 2 Posize co - Po size co - SHELBY T - ROCK COI WATER LE WATER LE 20 30 40 50 60 20 30 40 50 60 Benton Benton | | | I | | I | I | z | Penetration | | κE | | | | B | |
| of _2 of _2 Sominue con TUBE EVEL EVEL Lab Screen 10.70 m -113.90 m -13.90 | | | | Bentc | | | 10 20 30 40 50 6 | Shear test (Cu) Sensitivity (S) Water content W ₂ W ₁ Atterberg limit W ₂ W ₁ Atterberg limit W ₂ W ₁ Atterberg limit | | | | | GEND | | |
| | | | | nite Seal → | | creen | 80 90 | △ Field □ Lab s (%) m) | | EVEL | TUBE | ontinue coring | | of 2 | |

| SUIL LOG WITH GF | RAPH+WELL 0 | 081211-INSCF | RA.GPJ INSPEC | C_SOL.GDT 3/ | 12/13 | | | | | | | 7 | | | | | | |
|--|--|---|---------------|----------------------------------|--|-----------|--|---|------------------|--|--|----------------------------|---|------------------|------------------|-------------------------------------|--|-----------------------------|
| | ـــــــــــــــــــــــــــــــــــــ | 6.86 | ┶┎┵┑┸ | 444 | ++ 4.57 | | 4,-4,-3.20 | ⊥ ₊ -⊥ ₊ ⊥ ₊ 2.29 | ┵╅┵╅┙ | 1.22 | | Feet Metres | Depth (bgs) | DATE (START): | DESCRI | LOCATION: | PROJECT: | |
| | Ú 77.04 | | | | 7 79.87 | | 0 81.24 | 9 82.15 | | 2 83.22 | 0 84.34 | | Elevation (m) | START): | DESCRIBED BY: | ov. | 9 | |
| | | | | | | | | | | | | | Stratigraphy | Janu | K.V | 215 | Prel | |
| highly fractured with clay at 7.47 m 25 mm horizontal fracture at 7.97 m depth | SHALE (GEORGIAN BAY FORMATION), with interbedded limestone, siltstone, fissile, thinly-bedded to thinly laminated, grey | SHALE (GEORGIAN BAY FORMATION), highly to completely weathered (inferred), grey | | firm, plastic, very moist to wet | CL-SILTY CLAY, stiff, low plasticity, grey, moist Gr : 0%, Sa : 0%, Si : 70%, Cl : 30% | some clay | ML-SILT, trace clay, compact, brown, moist | CL-SILTY CLAY, soft, plastic, brown, moist | some clay, loose | ML-SILT, trace clay, compact, brown, moist | ASPHALT: 100 mm SP-SAND (FILL), compact, brown, moist | GROUND SURFACE | DESCRIPTION OF SOIL AND BEDROCK | January 30, 2013 | K. Vander Meulen | 2150 Lake Shore Blvd. West, Toronto | Mondelez Canada Inc. Preliminary Geotechnical Investigation | |
| clay at 7.47 m depth cture at 7.97 m | BAY nterbedded issile, thinly-bedded ey | ompletely | | st to wet | , low plasticity, grey, 70%, CI : 30% | | compact, brown, | t, plastic, brown, | | compact, brown, | npact, brown, moist | SURFACE | | DATE (FINISH): | CHECKED BY: | st, Toronto | nvestigation | BOREHOLE No.: ELEVATION: |
| RUN-2 | RUN-1 | SS-10 | SS-9 | SS-8 | SS-7 | SS-6 | SS-5 | SS-4 | SS-3 | SS-2 | SS-1 | | State Type and | Jan | S.S | | | |
| 1-2 100 | 1-1 100 | 10 100 | 9 92 | | .7 82 | 6 100 | 5 100 | 62 | 92 | 62 | 72 | % | Number Recovery | January 30, 2013 | Shahangian | | | MW9 84.44 m |
| 0 | | о 3 | 30 | 0 20 | 22 | 0 23 | 0 20 | 23 | 21 | 14 | 7 | - | Moisture Content |), 2013 | gian | | | MW9-13 44 m |
| 83 | 80 | 26-71-50/ 125mm | 2-3-2-3 | 3-4-3-4 | 3-4-5-5 | 3-5-8-11 | 4-5-8-9 | 3-2-2-2 | 5-3-5-6 | 4-5-7-11 | 11-11-8-8 | | Blows per 6 in. / 15 cm or RQD | ľ | | | | |
| 1 | I | 100 | σı | 7 | Q | 13 | 13 | 4 | œ | 12 | 19 | z | Penetration Index/SCR | | κE | | | ω |
| Bentonite Seal - | | | • 6.40 m- | • | | 0 | Sand | ● 0 2.70 m7 ¥ | 0 | Bentonite Seal | 0.30 m | 10 20 30 40 50 60 70 80 90 | Indexist (Cu) △ Field Sensitivity (S) □ Lab W ¹ ₁ , U, Atterberg limits (%) (boys / 2, in-30 cm) | | ā | RC - | PQ - PQ size continue coring | Page: <u>1</u> of <u>2</u> |

| | <u>··</u> · · · · · · · · · | r-l,l,. | | | , | | | · I, · I, · | | 10.55 73.89 | | | Feet Metres 84.44 | Depth (Elevat (m) Stratigra | ion | DATE (START): <u>Janu</u> | | | | CLIENT: Mono | |
|--------|--|-----------------------------------|-----------------------------------|---|--|---------------|----------------------------------|--|---------------------|---|---|------|---|---|--|-------------------------------------|------------------|---|--|------------------------------------|--------------------------|
| | | | | | | 3/4/2013 2.74 | Nater Measure elevation : 84. | Borehole dry to 7.4 m depth 'bgs' denotes below ground surface Gr, Sa, Si and Cl denotes Gravel, Sand, Silt and Clay respectively | Borehole terminates | 40 mm horizontal tracture with clay infill at 10.09 m depth 13 mm highly fractured rock at 10.14 m depth | 13 mm clay seam at 9.5 m depth 40 mm highly fractured rock at 9.87 m depth 13 mm clay seam at 9.91 m depth | | GROUND SURFACE | SOIL AND BEDROCK | DESCEIDTIC | January 30, 2013 | K. vander Meulen | 2150 Lake Shore Blvd. West, Toronto | Preliminary Geotechnical Investigation | Mondelez Canada Inc. | |
| | | | | | | 81.70 | 44 m) | n depth ground surface otes Gravel, pectively | at 10.55 m bgs | e with clay infill ock at 10.14 m | | | RFACE | Stat | | | | | stigation | | BOREHOLE No.: |
| | | | | | | | | | | | RUN-3 100 64 | | % | Type : Numb Recov Moist Conte or RQD | very ure | January 30, 2013 | S. Shahangian | | | | MW9-13 84.44 m |
| | | | | | | | | | | 10.55 m- | | | N 10 20 30 40 50 60 70 80 90 | Penetra | $ \frac{1}{46} \sum_{n=1}^{\infty} \frac{1}{2} \frac{1}{2$ | | - WATER LEVEL | RC - ROCK CORE | PQ - PQ size continue coring ST - SHELBY TUBE | LEGEND | BOREHOLE REPORT |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | , see | | | | 10 | | | | | | | | |
| | G 32985-01.GPJ Cf 1 1 1 1 1 1 1 ອາ ບາ | SRA_CORP.GDT TTTTTT SO O | | -5.0 | | 40 | | - 3.0 | - 2.5 | - 2.0 | | -1.0 | 0.5 | 1111 | | m BGS | | LOCATI | CLIENT | PROJEC | |
| NOTES: | | | 5.5 | - 5.0 ML - SILT (WATERLAIN), stiff, gray, moist | | | | - 3.0 - 3.0 moist to wet at 3.20m BGS | | | - 1.5 - wet to saturated at 1.52m BCS | | 0.5 | 1 | | | | LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO | CLIENT: KRAFT CANADA INC. | PROJECT NAME: UST CLOSURE SERVICES | |
| NOTES: | | | - 5.5 END OF TEST PIT @ 5.18m BGS | ML - SILT (WATERLAIN), stiff, gray, moist | | | | | | - thin silty sand seams (less than 1cm thick), gray, slight petroleum hydrocarbon - 2.0 | | -1.0 | O.5 MUCL - SILTY CLAY, firm to stiff, mottled gray/olive, moist | ASPHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, brown, dry | | STRATIGRAPHIC DESCRIPTION & REMARKS | | | | RE SERVICES | STRATIGRAPHIC LOG |
| | | | - 5.5 END OF TEST PIT @ 5.18m BGS | | - silt, with clay, with sand, mottled brownlolive, moist to wet at 4.42m BGS | 40 | | - moist to wet at 3.20m BGS | | - thin sitly sand seams (less than 1cm thick), gray, slight petroleum hydrocarbon odour at 1.83m BGS | | -1.0 | MUCL - SILTY CLAY, firm to stiff, mottled gray/olive, moist | 1 | | STRATIGRAPHIC DESCRIPTION & REMARKS | | LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | | RE SERVICES | STRATIGRAPHIC LOG |
| NOTES: | | | - 5.5 END OF TEST PIT @ 5.18m BGS | ML - SILT (WATERLAIN), stiff, gray, moist | | | | | | | | -1.0 | O.5 MUCL - SILTY CLAY, firm to stiff, mottled gray/olive, moist | ASPHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, brown, dry | | STRATIGRAPHIC DESCRIPTION & REMARKS | | | | RE SERVICES | STRATIGRAPHIC LOG |

| TEST | PIT LOO | G 32985-01.GPJ CF | A_CORP.GDT | 21/5/04 | | | 11111 | | | | | 1111 | 1 | | | | 1 | | 1 | |
|-------------------|--|-------------------|------------|-----------------------------|---------------------|--|-------------|------|-------------------------|---|---|----------------|--------------------------|------|---|---|-----------|-------------------------------------|--|-------------------|
| | | -6.5 | -6.0 | 5.5 | -5.0 | -4.5 | -4.0 | -3.5 | -3.0 | -2.5 | -2.0 | | -1.5 | -1.0 | | ן ס ת | | DEPTH m BGS | PROJE CLIEN LOCAT | |
| CHEMICAL ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | END OF TEST PIT @ 5.18m BGS | | - soft, very moist to wet at 4.57m BGS | | | - no odour at 3.05m BGS | - thin sand slit seams (less than 1 cm thick), moderate to strong petroleum hydrocarbon odour at 2.74m BGS - slight odour at 2.74m BGS | - moderate to strong petroleum hydrocarbon odour at 2.13m BGS | | - soft, wet at 1.22m BGS | 2 | ML/CL - SILTY CLAY, stiff, dark gray, dry to moist, sligt petroleum hydrocarbon odour | ASPHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, light brown, dry | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: DH3-04 PROJECT NUMBER: 32985-01 DATE COMPLETED: 22 January 2004 CLIENT: KRAFT CANADA INC. DRILLING METHOD: DIRECT-PUSH LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | STRATIGRAPHIC LOG |
| | N TABLE | | | 5.18 | | | | | | | | | | | 0.61 | 0.15 | | DEPTH m BGS | January 200 RECT-PUSH PETER | |
| | | | | | Ch | | | | ω | | | $\binom{N}{2}$ | | | - | | NUMBE | R | 4 | |
| ţ. | | | | L | 4 .27 - 5.18 | 1 | 3.35 - 4.27 | 1 | 2.44 - 3.35 | 1 | | 1.22 - 2.44 | | | 0.00 - 1.22 | | INTERVAL | SAMPLE | | |
| | | | | | - | | Ν | | 78 | | | 148 | | | 4 | | PID (ppm) | fi | | Page 1 of 1 |

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| | 32985-1 | 0.55 | .0 | 5. 5. | 5.0 | 1 T T | -4.5 | | -4.0 | 111 | - 3.5 | 11 | - 3.0 | | - 2.5 | - 2.0 | 1.5 | · · · · | 5 | 0.5 | | m BGS | DEPTH | PROJECT PROJECT CLIENT: LOCATIO | |
|--|---------|------|----|----------|-----|-------|------|-----------------------------|-----------------------------|--|-------|---------------------------------------|-------------|---|-------|-------------|--|---------------|---|---|-----------|-------|-------------------------------------|--|-------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS | | | | | | | | END OF TEST PIT @ 4.27m BGS | - stiff, moist at 4.11m BGS | - soft to firm, very moist to wet at 3.81m BGS | | - stiff, moist, no odour at 3.20m BGS | | trace sand, moderate to slight odour at 2.74m BGS | | | - soft, mottled brown/gray, saturated, strong petroleum hydrocarbon odour at 1.52m BGS | | MU/CL - SILTY CLAY, stiff, dark gray, moist, black staining, petroleum hydrocarbon odour | ASCHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, light brown, dry - with slit, trace gravel at 0.46m BGS | | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BH4-04 PROJECT NUMBER: 32985-01 DATE COMPLETED: 22 January 2004 CLIENT: KRAFT CANADA INC. DIRLLING METHOD: DIRECT-PUSH LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | |
| ON TABLE | | | | | | | | 4.27 | | | | | | | | | | | 0.76 | 0.15 | | m BGS | DEPTH | BH4-04 January 200 RECT-PUSH PETER | |
| | | | | | | | | | | (*) | | | (w |) | | N | , | | | <u>ــ</u> | NUMB | ER | | 7 - 7 | |
| | | | | | | | | | | 3.35 - 4.27 | | | 2.44 - 3.35 | | 1 | 1.22 - 2.44 | | 1 | | 0.00 - 1.22 | INTERVAL | | SAMPLE | | |
| | | | | | | | | | | 4 | | | 334 | | | ŭ | | | | 7 | PID (ppm) | | ΪE | | Page 1 of 1 |

| NOTES: | σ 5 | ה ח | 6.0 | 5.5 | - | 5.0 | 4.5 | 4.0 | | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | | 1.0 | -0.5 | | | m BGS | _ | CLIENT: KF | PROJECT N | |
|---|--------|--------|-----|-----|---|-----|-----------------------------|-------------------------|---|-----------------------------|-------------|--|--|--------------------|--|-----|--|---|-----------|-------------------------------------|--------|-----------------------------|---|-------------------|
| ES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF TEST PIT @ 4.27m BGS | - no odour ar 3,61m BGS | 7 | - slight odour at 3.35m BGS | | - gray, saturated, strong petroleum hydrocarbon odour at 2.44m BGS | - gray, some brown mottling, moderate petroleum hydrocarbon odour at 1.98m BGS | - wet at 1.52m BGS | ML/CL - SILTY CLAY, stiff, mottled brown/gray, moist | | - sand, with silt, compact, poorly graded, brown, moist at 0.61m BGS | ASPHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, light brown, dry | | STRATIGRAPHIC DESCRIPTION & REMARKS | | EBLVD. W., TORONTO, ONTARIO | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BH5-04 DATE COMPLETED: 22 January 2004 | STRATIGRAPHIC LOG |
| N TABLE | | | | | | | 4.61 | 3 | | | | | | | 1.22 | | | 0.15 | | m BGS | | T-PUSH | BH5-04 January 2004 | |
| | | | | | | | | đ | | | (ω) | | 2 | | | | - | | NUMB | ER | | | | |
| | | | | | | | | 3.33 - 4,21 | | | 2.44 - 3.35 | | 1.22 - 2.44 | | | | 0.00 - 1.22 | | INTERVAL | | SAMPLE | | | |
| | | | | | | | | N | - | | 125 | | ¥ | | | | - | | PID (ppm) | | 'n | | | Page 1 of 1 |

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| TEST PIT L | OG 32985-01.GPJ | CRA_CORP.GD | T 21/5/04 | | | | | 111 | | 1111 | | | 1111 | | 1 1 1 1 | | | 1 | | | i |
|--|-----------------|-------------|-----------|------|-----------------------------|-----|--|--|-------------|------|-------------|--|--|---|--|-----------|-------------------------------------|---|--|-------------|-------------------|
| | 6.5 | -6.0 | 5.5 | -5.0 | 4.5 | 4.0 | 3.5 | 2 | -3.0 | -2.5 | -2.0 | 1.5 | 1.0 | -0.5 | | | DEPTH m BGS | LOCAT | PROJE | | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL AWALYSIS | | | | | END OF TEST PIT @ 4.27m BGS | 3 | - stiff, mottled gray/brown, no odour at 3.66m BGS | - moist, slight petroleum hydrocarbon odour at 3.35m BGS | | | | - Irace sand, soft, gray, saturated, strong petroleum hydrocarbon odour at 1.52m BGS | ML/CL - SILTY CLAY, stiff, low plasticity, massive, gray with black mottling, dry to moist - slight to moderate petroleum hydrocarbon odour at 1.22m BGS | SAND (FILL), loose, fine to medium grained, massive, light brown, dry, no odour | SAND and GRAVEL (FILL), compact to dense, coarse grained, brown, dry | | STRATIGRAPHIC DESCRIPTION & REMARKS | LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | PROJECT NUMBER: 32985-01 DATE COMPLETED: 22 January 2004 CLIENT: KRAFT CANADA INC. DRILLING METHOD: DIRECT-PUSH | | STRATIGRAPHIC LOG |
| U TABLE | | | | | 4.27 | | | | | | | | 1.01 | 0.46 | | | DEPTH m BGS | FER | 22 January 200 DIRECT-PUSH | | |
| | | | | | | | 4 | | ω | | (\sim) | | | - | | NUMBE | R | 1 | Ā | | |
| 1 | | | | | L | | 3 35 - 4 97 | 1 | 2.44 - 3.35 | 1 | 1.22 - 2.44 | | 1 | 0.00 - 1.22 | | INTERVAL | SAMPLE | | | | |
| | | | | | | 1 | 5 5 | | Ĩ | | 13.5 | | | 14 | | PID (ppm) | - m | | | Page 1 of 1 | |

| | | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE |
|-------|---|---|
| | | |
| 4.27 | | SANDY SILT, stiff, brown, moist, no odour END OF TEST PIT @ 4.57m BGS |
| | | sliy sand, dense, dilatent, saturaled at 2.44m BGS black petroleum hydrocarbon staining, strong petroleum hydrocarbon odour at 2.74m BGS |
| 0.76 | | SAND and GRAVEL (FILL), compact, coarse grained, weil graded, light brown/gray, dry SAND (FILL), loose, medium grained, poorly graded, brown, dry to moist |
| M BGS | | STRATIGRAPHIC DESCRIPTION & REMARKS |
| ER F. | BH7-04 January 20 RECT-PUS PETER | PROJECT NAME: UST CLOSURE SERVICES PROJECT NUMBER: 32985-01 PROJECT NUMBER: 32985-01 CLIENT: KRAFT CANADA INC. LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER |

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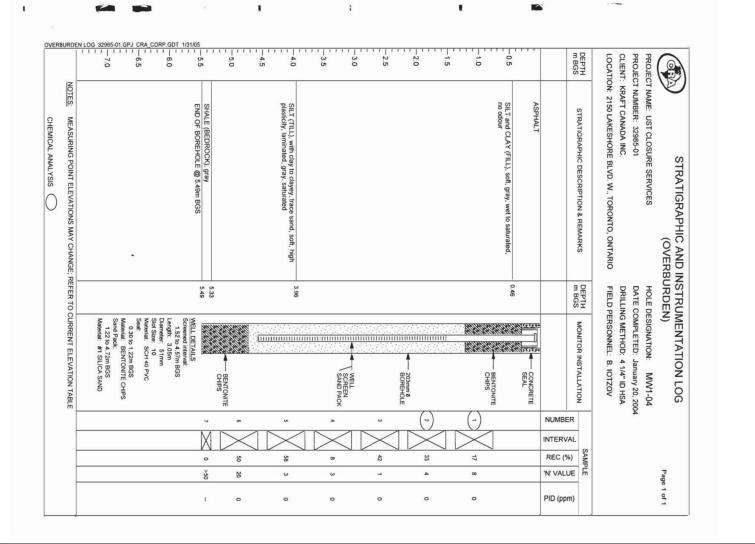
| TEST PIT LO | G 32985-01.GP | J CRA_CORP. | GDT 21/5/04 | | | | | | | | | | | | | | | | |
|--|---------------|-------------|-------------|------|-----------------------------|-------------|-------|-----------------------------|------|-------------|--|---|--------------------|--|-----------|-------------------------------------|--|---|-------------------|
| | -6.5 | -6.0 | -5.5 | -5.0 | -4.5 | -4.0 | - 3.5 | -3.0 | -2.5 | -2.0 | -1.5 | -1.0 | -0.5 | | | DEPTH m BGS | PROJE | PROJE | |
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | END OF TEST PIT @ 4.27m BGS | | | - stiff, moist at 2.74m BGS | | | - soft to firm, dilatent, brown, very moist, no odour at 1.52m BGS | ML/CL - SILTY CLAY, stiff, olive, moist, no odour | | ASPHALT/CONCRETE SILTY CLAY (FILL), with gravel, stif, mottled gray/brown, dry to moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | DATE COMPLETED: 22 DRILLING METHOD: DIP RONTO, ONTARIO FIELD PERSONNEL: K. | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BI | STRATIGRAPHIC LOG |
| N TABLE | | | | | 4.27 | | | | | | | 1.07 | | 0.21 | | m BGS | uary 2004 CT-PUSH | BH8-04 | |
| | | | | | | 4 | | ω | | 2 | | | | | NUMB | ER | | | |
| ŝ | | | | | L | 3.35 - 4.27 | 1 | 2.44 - 3.35 | | 1.22 - 2.44 | | | 0.00 - 1.22 | | INTERVAL | SAMPLE | | | |
| | | | | | | 0 | | 0 | | 0 | | | 0 | | PID (ppm) | h | | | Page 1 of 1 |

| NOTES | G 32985-01.GPJ CR ດ ຫຼັ | 5.5 | 5.0 | 4.5 | - 4.0 | 3.5 | - 3.0 | - 2.5 | | | - - 1.5 | -1.0 | - 0.5 | | | m BGS | DEPTH | PROJECT NUI PROJECT NUI CLIENT: KRAI LOCATION: 2 | | |
|---|-------------------------------|-----------------------------|-------------|-----------------------------------|-------------|--|----------------------|--------------------------|--|--|--------------|------|--|--|-----------|-------------------------------------|--------|---|-------------|-------------------|
| E MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | END OF TEST PIT @ 5.33m BGS | | - mottled gray/brown at 4.27m BGS | | - small sand seams (less than 1cm thick), dark gray/black, no odour at 3.35m BGS | | - saturated at 2.44m BGS | - sandy seam (10cm thick), light gray at 2.13m BGS | - soft, brown mottling, very moist to wet at 1.83m BGS | | | - with sit t at 0.30m BGS ML/CL - SILTY CLAY, firm to stiff, dark gray, moist, no odour | ASPHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, light brown dry | | STRATIGRAPHIC DESCRIPTION & REMARKS | | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BH9-04 PROJECT NUMBER: 3298-01 DATE COMPLETED: 23 January 2004 CLIENT: KRAFT CANADA INC. DRILLING METHOD: DIRECT-PUSH LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | | STRATIGRAPHIC LOG |
| N TABLE | | 5.33 | | | | | | | | | | | 0.46 | 0.09 | | m BGS | DEPTH | 1: BH9-04 23 January 200 DIRECT-PUSH K. PETER | | |
| | | | Ch. | | 4 | | ω | | | N | | | - | | NUMBI | ER | | * | | |
| | | Ľ | 4.27 - 5.33 | | 3.35 - 4.27 | | • 2.44 - 3.35 | | | 1.22 - 2.44 | | | 0.00 - 1.22 | | INTERVAL | | SAMPLE | | | |
| | | | o | | o | | 0 | | | 0 | | | 0 | | PID (ppm) | | Ē | | Page 1 of 1 | |

| | G 32865-01.0FJ CRA_CORP.GDT 21/5/04 | 5.0 | 1 1 1 1 1 1 A 4 D | 3 3 3 | | -1.5 | | m BGS | PROJECT CLIENT: K | |
|--|-------------------------------------|-------------|--|--|---|--|--|-------------------------------------|--|-------------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS | END OF TEST PIT @ 5.18m BGS | | - soft, diatent, saturated at 4.27m BGS - gray at 4.42m BGS | - stiff, mottled brown/gray, no odour at 3.51m BGS | - thin gray sand seams (less than 1cm thick), moderate petroleum hydrocarbon odour at 2.59m BGS | ML/CL - SILTY CLAY, stiff, brown with gray mottling, moist | ASPHALT SAND and GRAVEL (FILL), compact to dense, coarse grained, well graded, light brown, dry SAND (FILL), compact, medium grained, poorly graded, brown, moist | STRATIGRAPHIC DESCRIPTION & REMARKS | E COMPLETED: 23 LING METHOD: DIF D PERSONNEL: K. I | STRATIGRAPHIC LOG |
| N TABLE | | 5.18 | | | | 1.52 | 0.09 | m BGS | TER | RH10-04 |
| | | (0) | 4 | | ω | N | - | NUMBER | 4 | |
| ŝ | | 4.27 - 5.18 | - 3.35 - 4.27 - | | - 2.44 - 3.35 | - 1.22 - 2.44 | 0.00 - 1.22 | INTERVAL | SAMPLE | |
| | | ø | 30 | | 330 | o | 0 | PID (ppm) | m | Page 1 of 1 |

| | | | N TABLE | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | Z |
|-------------|-------------|----------|------------------------------|---|------------------------------|
| | | | 6.86 | Z | |
| 13 | 6,10 - 6,86 | (-) | | - shale fragments in spoon tip at 6.71m BGS | - 6.5 |
| | 1 | | | - soft, high plasticity, dilatent, very moist at 6.10m BGS | -6.0 |
| 25 | 5.18 - 6.10 | 6 | | | - 5.5 |
| | 1 | | | - trace clay, low plasticity, saturated at 5.18m BGS | -5.0 |
| 60 | 4.27 - 5.18 | Ch | | wr SiL. (YvAl EKLAIN), win day to dayey, win sand, son, high plasticity, gray, very moist | -4.5 |
| 120 | 3.35 - 4.27 | 4 | 4.11 | | 4.0 |
| | 1 | | | - sand seam (approximately 10cm thick), saturated at 3.35m BGS | - 3.5 |
| 150 | 2.44 - 3.35 | ω | | - moderate odour at 3.05m BGS | -3.0 |
| | | | | - moist to dry, strong petroleum hydrocarbon odour at 2.59m BGS | - 2.5 |
| | | | | - no staining at 2.29m BGS | |
| 670 | 1.22 - 2.44 | (\sim) | | - black staining, strong petroleum hydrocarbon odour at 1.68m BGS | 2.0 |
| | | | | - saturated at 1.37m BGS | 1.5 |
| | 1 | | | | -1.0 |
| 4 | 0.00 - 1.22 | - | | | -0.5 |
| | | | 0.15 | CONCRETE SANDY SILT (FILL), stiff, brown, moist | |
| PID (ppm) | INTERVAL | NUMB | | | |
| 'n | SAMPLE | ER | m BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | DEPTH m BGS |
| | | 4 | nuary 2004 CT-PUSH TER | | PROJEC CLIENT: LOCATIO |
| Page 1 of 1 | | | RH11_04 | | |
| | | | | STRATIGRAPHIC LOG | |

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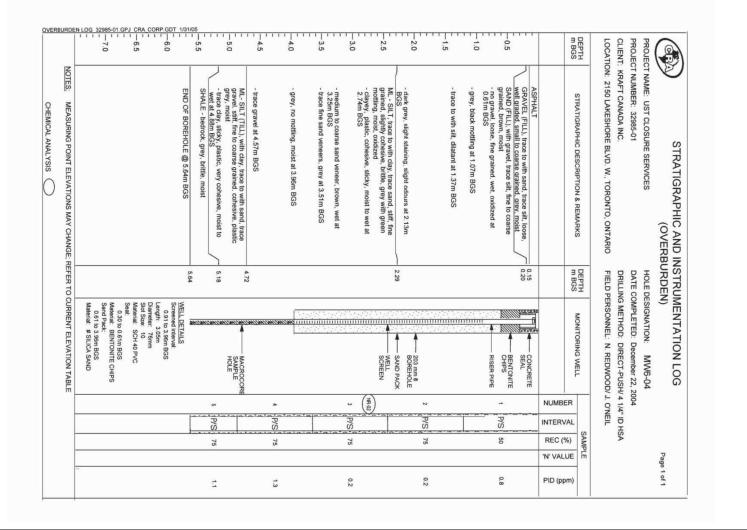


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| | 00EN.LOG 32995-01.GPJ CR4_CORP.GDT 1/31/05 0 0 0 0 0 0 0 0 0 | 4 4 5 | цітіцітіці а 3.0 р. љ 0 љ | -1.0 | 0.5 | DEPTH m BGS | |
|----------------------------|---|----------------------------|---------------------------------|---|--|-------------------------------------|---|
| CHEMICAL ANALYSIS | END OF BOREHOLE @ 4.97m BGS VIEL DETALS Screened interval: Legit: 306m Sid State:: Screened interval: Legit:: 306m Sid State:: Screened interval: | - with gravel at 4.57m BGS | - moist at 3.35m BGS | mottled gray/green, moist - wet at 2.29m BGS | ASPHALT SAND (FILL), dense, brown, moist - 81 with sand, laminated, mottled gray/green at 0.61m BGS SILT, trace sand, trace gravel, firm, laminated, | STRATIGRAPHIC DESCRIPTION & REMARKS | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) PROJECT NAME: UST CLOSURE SERVICES PROJECT NUMBER: 32985-01 CLIENT: KRAFT CANADA INC. LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: B. IOTZOV |
| | | | | | 0.46 | DEPTH m BGS | URDE HOLE E DATE C DRILLIN |
| עטראבואד ברביארווטוא ואפרב | MELL DETAILS Screened interval: 1.52 to 4.57m BGS Length: 3.05m Stot Size: 10 Material: SCH 40 PVC Seal: 0.30 to 122m BGS Sand Pack: 1.22 to 4.57m BGS Material: #1 SLL/CIA SAND | CHIPS BENTONTE | Swyb PACK | | SEAL CONCRETE | MONITOR INSTALLATION | STRUMENTATION LOG IRDEN) HOLE DESIGNATION: MW2-04 DATE COMPLETED: January 21, 2004 DRILLING METHOD: 4 1/4" ID HSA FIELD PERSONNEL: B. IOTZOV |
| | | ~ (*) | о ъ | 3 2 1 N A N | - | NUMBER | 4 |
| | | | 65 65 | , | 75 | INTERVAL REC (%) | |
| | | ¥62 | 5 5 23 4 | 3 18 | 16 | REC (%) | Pag |
| | | o o | o o | o o | o | PID (ppm) | Page 1 of 1 |

| | ENLOG 32985-01.0PJ CRA_CORP.GDT 1/31/0 0 0 0 0 0 0 0 0 | | 4.0 | 3.5 | | | 2.0 | 1.5 | -1.0 | 0.5 | | iii buo | DEPTH | PROJEC PROJEC CLIENT | |
|--|--|---------------------------------------|--|---|------|----------|-----|---------------------------|----------------------------------|--|----------|-----------|-------------------------------------|--|---|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS | END OF BOREHOLE @ 5.18m BGS | - with sand, with gravel at 4.88m BGS | ML - SILT (TILL), trace sand, trace gravel, stiff, medium plasticity, laminated, grav/olive, moist to wet | - trace gravel, trace sand, trace clay at 3.66m BGS | | | | - saturaled at 1.22m bios | SAND and SILT (TILL), firm, gray | SAND and GRAVEL (FILL), dense. gray/brown, slight petroleum hydrocarbon odour | ASPHALT | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: UST CLOSURE SERVICES PROJECT NUMBER: 32985-01 CLIENT: KRAFT CANADA INC. LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| REFER TO | | 5 18 | 4.27 | | | | | | 0.91 | 0.30 | | | DEPTH | HOLE D DATE C DRILLIN FIELD P | NSTRU |
| CURRENT ELEVATION TABLE | WELL DETAILS Screened interval: 1.52 to 4.57m BGS Length: 3.05m States: 51m States: 51m 0.30 to 1.27m BGS Material: BENTOWITE CHIPS 53m7 Pack: 1.22 to 4.77m BGS Material: #1 SLUCA SAND | BENTONITE | | | WELL | BOREHOLE | | [11] | | BENTONITE | CONCRETE | | MONITOR INSTALLATION | HOLE DESIGNATION: MW3-04 DATE COMPLETED: January 21, 2004 DRILLING METHOD: 4 1/4" ID HSA DRILLING METHOD: 4 1/4" ID HSA FIELD PERSONNEL: B. IOTZOV | MENTATION LOG |
| | | | (°) | 5 | | * | 3 | | 2 | - | | NUMBER | | 4 | |
| | | $ \times $ | | | | \leq | 50 | | \leq | 5 | | REC (%) | SA | | |
| | | 71 17 | 6 | 100 4 | | 38 4 | 2 | | 0 13 | 6 41 | - | 'N' VALUE | SAMPLE | | Pa |
| | | 0 | 0 | 0 | | 0 | 0 | | 1 | 0 | - | PID (ppm) | | | Page 1 of 1 |

| NOTES: ME | 5 5 0 Plastic | -4.0 - sand at 4.1 -4.5 ML - SI hard, w | -2.5 - with c -3.0 - black grained grained wet, - not di | -1.5 vegeta vegeta - trace - motili - 2.0 1.83m | -0.5 SAND [FI] grained, p gravet, not | m BGS STR/ | PROJECT NAME: UST CLOSU PROJECT NUMBER: 32985-01 CLIENT: KRAFT CANADA INC. LOCATION: 2150 LAKESHORE |
|---|---|---|---|---|--|-------------------------------------|---|
| MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | END OF BOREHOLE @ 4.57m BGS | -sand seam for 102mm, with silt, fine grained, grey at 4.11m BGS ML - SILT (TILL), with clay, trace gravel, trace sand, hard, well graded, fine to coarse grained, cohesive, | - with clay, green mottling at 2.44m BGS - black vegetative debris at 3.05m BGS SMML - SANDY SILT, slightly cohesive, fine grained, non plastic, slightly dilatent, grey, moist to wet, - not dilatent, moist at 3.51m BGS | vegetalive debris, moist vegetalive debris, moist - with sand, fine grained, trace oxidation, no vegetalive debris at 1.22m BGS - trace sand, coarse grained, grey oxidation motiling, moist to wet, sheen, storg petroleum hydrocarbon odour, black grease from 1.52 to 1.83m BGS | GSPHALT GRAVEL (FLL), with sand, trace sitt loose, fine to coarse grained, well graded, brownish grev, moist SAND (FLL), trace sitt, compact, fine to medium grained, poorly graded, brown with oxidation, moist to wet, no adours grey with dark grey mottling, wet, no odours at 0.76m BGS 0.76m BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | COVERBURDEN) PROJECT NAME: UST CLOSURE SERVICES PROJECT NUMBER: 32985-01 CLIENT: KRAFT CANADA INC. LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO DIRILLING METHOD: DIRECT-PUS LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: N. REDWOO |
| EFER TO | 4.88 | 4.57 | 3.20 | | 0.20 0.38 0.97 | DEPTH m BGS | HOLE D DATE C DRILLIN FIELD F |
| CURRENT ELEVATION TABLE | =TAILS =TAILS 4 interval: 0.4.57m BC 0.4.57m BC SCH 40 F SCH 40 F | | SOREEN | <u>a da kanada kanada kana</u> K | RISER PIPE | MONITORING WELL | HOLE DESIGNATION: MV5-04 DATE COMPLETED: December 22, 2004 DATE COMPLETED: DIRECT-PUSH/ 4 1/4" ID HSA DRILLING METHOD: DIRECT-PUSH/ 4 1/4" ID HSA FIELD PERSONNEL: N. REDWOOD/ J. O'NEIL |
| | | 4 | ω (RP.04 | 2 (NR.03) | | NUMBER | 2004 1 4 1/4" J. O'N |
| | | P/S | Pys | PVS | P/S | | EIL ID HS |
| | | 75 | 75 | 75 | 75 | REC (%) | |
| | | 1.0 | 1.4 | 0.6 | 0,6 | 'N' VALUE m | Page 1 of 1 |



| | | <u>NLOG 32985-0</u> ດາ ເກ | 1 1 1 | 6.0 | 5,5 | , , , , , , , , , , , , , , , , , , , | - 4.5 | -4.0 | - 3.5 | -3.0 | - 2.5 | | - 1.5 | | 5 | -0.5 | | | DEPTH m BGS | LOCATI | PROJEC | PROJEC | |
|-------------------|--|-------------------------------------|-------|-----|-----|---|-------|--------|-------|--|--|----------|------------|----------|-----------|----------|-------------------------------------|----------|-------------------------------------|------------------------------|--|---|-----------------------------------|
| CHEMICAL ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | и ж | | Note: Borehole was backfilled with bentonite chips and a concrete surface. | MUCL - CLAYEY SILT, firm to stiff, dark grey, moist, no odour END OF BOREHOLE @ 2.59m BGS | | odour | | | | GRANULAR FILL, no odour or staining | | STRATIGRAPHIC DESCRIPTION & REMARKS | E BLVD. W., TORONTO, ONTARIO | PROJECT NUMBER: 32865-02 DATE COMPLETED: November 14, 2005 CLIENT: KRAFT CANADA INC. DRILLING METHOD: 2" PERCUSSION/BOSCH | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BH | STRATIGRAPHIC LOG (OVERBURDEN) |
| | V TABLE | | | | | | | | | | 2.51 | | <u>د</u> م | 1.37 | | | 0.10 | | DEPTH m BGS | ER | ber 14, 2 CUSSIO | BH201-05 | |
| | | | | | | | | | | | | SS-3 | | SS-2 | | SS-1 | | NUMBE | ER | | 005 N/ROS | 01 | |
| | | | | | | | | | | | | \times | Sec. | \times | \square | \times | J | INTERV | | | CH CH | | |
| | | | | | | | | | | | | | | 100 | | 5 | | REC (9 | - 1 | | | | |
| | - | | | | | | | | | | | | | | | | | 'N' VAL | | | | | Page 1 of 1 |
| | | | | | | | | | | | | 0 | 0 | 0 | | 0 | | Eagle (p | pm) | | | | 1 of 1 |

| | N LOG 329 | 6.5 | 6.0 | 8P.GDT 1/6 | 111 | - 4.5 | -4.0 | 3.5 | - 3.0 | | - 2.5 | - 2.0 | 11 11 1.5 | - 1.0 | 0.5 | | | mpoo | DEPTH | LOCATI | CLIENT: | PROJEC | |
|--|-----------|-----|-----|------------|---------|-------|------|-----|--|-----------------------------|-------|---|---|-------|--|---------------|-------|---------|-------------------------------------|--|--|-------------|-----------------------------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | | Note: Borehole was backfilled with bentonite chips and a concrete surface. Borehole was redrilled from 1.5 to 2.3 m bgs. | END OF BOREHOLE @ 2.59m BGS | | - searris ur sity uey, yiey, sini, inuasi nurri 1.54 tu 2.39m coo | strong petroleum hydrocarbon odour, some sheen on soil surface at 1.37m BGS wet/saturated, dilatant, moderate petroleum hydrocarbon odour, fainter with depth at 1.52m BGS | | ML/SM - SILTY SAND/SANDY SILT, compact/firm, fine grained, dark grey, moist, mild petroleum hydrocarbon odour - dark grey/black staining, stronger petroleum hydrocarbon odour from 0.61 to 0.76m BGS | GRANULAR FILL | | | STRATIGRAPHIC DESCRIPTION & REMARKS | EBLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: | DATE COMPLETED: NOVEMBER: 3298-02 CLIENT: KRAFT CANADA INC. DRILLING METHOD: 2" PERCUSSION/B | RE SERVICES | STRATIGRAPHIC LOG (OVERBURDEN) |
| NTABLE | | | | | | | | | | 2.09 | 5 | | | Ø | | ŝ | | mBGS | DEPTH | TER | November 14, 2005 2" PERCUSSION/BOSCH | BH202-05 | |
| ľ | | | | | | | | | | | | SS-3 | | SS-2 | SS-1 | BH202-0.5-2 | NU | MBER | Γ | | 2005 DN/BO | G | |
| | | | | | | | | | | | > | < | \square | 5-5 | \supset | 25 | INTE | ERVAL | | | SCH | | |
| | | | | | | | | | | | | 0 | | 10 | 20 | | RE | C (%) | SAMPLE | | | | |
| - | | | | | | | | | | | | | | | | | 'N' \ | /ALUE | Ē | | | | Page 1 of 1 |
| | | | | | | | | | | | | 0 | | 5 |) | 10 | Eagle | e (ppm) | | | | | of 1 |

| | EN LOG 32985-02.G | 6.0 | | 4.5 | -4.0 | 3.5 | - 3.0 | 2.5 | -2.0 | -1.5 | -1.0 | -0.5 | | | DEPTH m BGS | LOCATIO | PROJEC | |
|--|-------------------|-----|------|-----|------|-----|-------|-----|--|-----------------------------|--|---|-------------------------------------|---|-------------------------------------|--|---|-----------------------------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS | | | | | | | | | Note: Borehole was backfilled with bentonite chips and a concrete surface. | END OF BOREHOLE @ 1.52m BGS | - silly, dark grey, wet/saturated, dilatant, faint petroleum hydrocarbon odour at 0.76m BGS | SM - SAND with slit, compact, fine to medium grained, brown, moist, some black coal clasts | GRANULAR FILL, no staining or odour | | STRATIGRAPHIC DESCRIPTION & REMARKS | CLIENT: KRAFT CANADA INC. LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | RESERVICES | STRATIGRAPHIC LOG (OVERBURDEN) |
| T ELEVATION TABLE | | | | | | | | | | 1.52 | | 0.46 | 0.15 S-BH203-0,5,2,5 0 | NUMBE INTERV REC (9 'N' VAL! Eagle (p | AL SAMPLE | DRILLING METHOD: 2" PERCUSSION/BOSCH FIELD PERSONNEL: K. PETER | HOLE DESIGNATION: BH203-05 DATE COMPLETED: November 14, 2005 | Page 1 of 1 |

| | NLOG 32985-02.GF 1 1 1 1 1 1 ອາ ອາ | 6.0 | 5.5 | 4.5 | 4.0 | 3.5 | - 3.0 | - 2.5 | -2.0 | - 1.5 | | 0.5 | | DEPTH | PROJE(PROJE(CLIENT LOCATI | |
|--|---|-----|-----|---------|-----|-----|-------|---|---|--|--|--|-------------------------|-------------------------------------|--|-----------------------------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | END OF BOREHOLE @ 2.29m BGS Note: Borehole was backfilled with bentonite chips and a concrete surface. | CL/ML - CLAYEY SILT, stiff, grey, moist, no odour or staining | - dark grey, faint petroleum hydrocarbon odour, some staining/sheen on soil at 1.37m BGS | ML/SM - SILTY SAND, soft, fine grained, brown, saturated, dilatant | - no recovery, very soft, spoons appear saturated from 0.20 to 0.76m BGS | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BH204-05 PROJECT NUMBER: 32985-02 DATE COMPLETED: November 14, 2005 DRILLING METHOD: 2" PERCUSSION/BOSCH LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | STRATIGRAPHIC LOG (OVERBURDEN) |
| ON TABLE | | | | | | | | 4.40 | 3 3 0 | | s | 0.20 | | DEPTH | BH204-05 /ember 14, 20 PERCUSSION | |
| Ī | | | | | | | | | SS-3 | | (1204-2.5 BH204-2.5 | SS-1 | NUMBER | | 5 2005 DN/BOS | |
| | | | | | | | | | > | \bigcirc | | \times | INTERVAL | | SCH | |
| - | | | | | | | | | 100 | | 20 | 0 | REC (%) | SAMPLE | | - |
| | | | | | | | | | σ | σı | σı | | 'N' VALUE Eagle (ppn | | | Page 1 of 1 |

| | | :N LOG 32985-02.G 1 1 1 1 1 1 ດາ ເກ | 6.0 | 5 5 | 5.0 | - 4.5 | -4.0 | - 3.5 | - 3.0 | -2.5 | -2.0 | - 1.5 | 1.0 | 0.5 | | DEPTH m BGS | PROJEC PROJEC CLIENT LOCATI | |
|-------------------|--|--|-----|--------|-----|-------|------|-------|-------|------|---|-----------------------------|--|---|-----------|-------------------------------------|--|----------------------|
| CHEMICAL ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | Note: Borehole was backfiled with bentonite chips and a concrete surface. | END OF BOREHOLE @ 1.52m BGS | - saturated, grey, trace clay at 1.07m BGS | CONCRETE FLOOR SLAB SMML - SILTY SAND, compact to dense, fine grained, brown, moist, no odour or staining | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: UST CLOSURE SERVICES HOLE DESIGNATION: BHZ05-05 PROJECT NUMBER: 32985-02 DATE COMPLETED: November 14, 2005 CLIENT: KRAFT CANADA INC. DRILLING METHOD: 2" PERCUSSION/BOSCH LOCATION: 2150 LAKESHORE BLVD. W., TORONTO, ONTARIO FIELD PERSONNEL: K. PETER | STRATIGRA (OVERBU |
| | EVATION TABLE | | | | | | | | | | | 1.52 | | 0.15 | | DEPTH m BGS | I: BH205-05 November 14, 20 2" PERCUSSION K. PETER | |
| | | | | | | | | | | | | | (H205-2 | SS-1 | NUMBE | R | 5 2005 DN/BO | 1 |
| | | | | | | | | | | | | | 5.5 | \times | INTERVA | | SCH | |
| | | | | | | | | | | | | | 100 | 70 | REC (% | - 17 | | |
| | | | | | | | | | | | | | | | 'N' VALU | E Fin | | Page 1 of 1 |
| | | | | | | | | | | | | | 0 | o | Eagle (pp | m) | | 1 of 1 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 2.GPJ SPL.GDT 12/5/13 თ თ | 5 N | | | | | | | | 6 0 | 0 2 | (m) DEPTH | | DATUM: Local BH LOCATION | PROJE | PROJEC | |
|---|---|--------------------------|--------------|---------------|-------------|---------|--------------|-------------|---------------|-------------------------|---|--|-----------------|------------------------------|---|---------------------------------|--|
| GROUNDWATER ELEVATIONS Shallow/ Single Installation 🕎 👤 Deep/Dual Installation 📡 | Ento OF Botsela LE 5 m Enorbols backfilled with bentonite upon completion. | SHALE weathered shale | trace gravel | | | | | | | SILTY CLAY grey, wet | ATS mm of reinforced concrete FILL sand and slit, trace gravel, saturated | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CI IENT | SPL CONSUITANTS LIMITED Geotechnical Environmental Materials Hydrogeology |
| illation | | | Ż | <i>††††</i> ; | <i>++++</i> | +++++ | <i>†††††</i> | <i>††††</i> | <i>++++</i> ; | 222 | - - | STRATA PLOT | | | d, Toro | | ogeolog |
| | | | 5AUNDIS | 4BUNDIST | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIST | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SAN | | onto, O | | 2 |
| | | 0 | DIST | DIST | TSID | DIST | DIST | DIST | DIST | DIST | | TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | | ž | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | | | GROUND WATE CONDITIONS | R | | | | G OF |
| .+ .ω | | | | | | | | | | | | ELEVATION | | | | | B |
| 3 \times 3 . Numbers refer $^{\circ}$ $^{\epsilon}$ =3 | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (FPa) UNCONF NED + 6 5-1610 XME 50 100 150 200 250 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/06/2013 | Diameter: | DRILLING DATA | Log of Borehole Bhi-1 |
| ⊖ ^e =3% Strain at Failure | | | | | | | | | | | | WATER CONTENT (%) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT (Mg/m ³) | wт | | 1889-2 | | |
| | | | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | | | 220 | | 1 OF 1 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 2.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | | - |
|---|---|-------------------------|---------|---------|---------|---------|-------------|---|--|---|--|------------------------|------------------------------|---|------------------------------------|--|
| GROUI | ග ග | | | | | | | 1 2 | 0.6 | 02 | (m) ELEV DEPTH | | DATU BH Lu | PRO. | PROJECT | ۰ |
| GROUNDWATER ELEVATIONS Shallow/ Single Installation 🖳 👤 Deep/Dual Installation 🔨 | Sample refuse.eta 1.5 m. Borehole backfilled with bentonite upon completion. | trace grave, trace sand | | | | | | SILTY CLAY trace sand, trace gravel, grey, wet | CLAYEY SILT trace sand, grey/brown, moist | 230 mm of reinforced concrete FILL sand and silt, grey/brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | SPL Consultants Limited Geotechnical Environmental Materials Hydrogeology |
| tion 🖉 | | | 7777 | +++++ | +++++; | +++++ | <i>4444</i> | 77777 | | | STRATA PLOT | _ | 4 | Toro | | eolog |
| × | | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIST | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SAI | | nto, C | | 4 |
| | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | TYPE | SAMPLES | | ž | | |
| IZ IO | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | S | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | | GROUND WATE CONDITIONS | ER | | | | 0 D |
| | | | | | | | | | | | ELEVATION | | 1 | | | FB |
| 3,×3; | | | | | | | | | | | | RESIS | Date: | Diameter: | DRILI Metho | OREH |
| $+$ ³ , \times ³ : Numbers refer to Sensitivity | | | | | | | | | | | 40 60 AR STRENGTH VCONF NED JICK TRIAXIAL 00 100 150 | ANCE PLO | Date: Nov/06/2013 | eter: | DRILLING DATA Method: Geo Probe | Log of Borehole BHI-2 |
| ○ ^ε =3% Strain at Failure | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (PA) ● OUICXTFINXIAL × LAB VANE 50 100 150 200 250 | N ALION | | | | |
| at Failure | | | | | | | | | | | WATER CONTENT 10 20 | PLASTIC NATURAL LIQUID | ENCL NO .: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | POCKET PEN (Cu) (kPa) | | ē. | 0.: 1 | | |
| | | | | | | | | | | | NATURAL UNIT (Mg/m ³) | WT |] | 889-22 | | |
| | | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 20 | | 1 OF 1 |

| | 4 9 | | | | 2.4 | | - N | 6.0 | 02 | ELEV DEPTH | (m) | BHLO | | PROJ |
|----------------------|---|------------|------------|---------|----------------------------|---------|--|--|--|--|----------------|-------------------|---|----------------------|
| | Semple retura 14.9 m. Borehole backfilled with bentontie upon completion | | | | SILTY CLAY brown, moist | | SILT some clay, trace sand, trace gravel, brown, moist | SILTY CLAY trace sand, trace gravel, brown, | 150 mm of reinfoced concrete FIL sand, trace gravel, trace silt, brown, moist | DESCRIPTION | SOIL PROFILE | | CLIENT: PROJECT LOCATION: 2150 Lke Shore Bivd, Toronto, ON | PROJECT: Mr.Christie |
| | | <i>444</i> | <i>444</i> | 7777 | +++++ | × × × × | × × × | RZ | \otimes | STRATA PLO | от | | d, Torc | |
| | | 4BU | 4AU | зви | 3AU | 2BU | 2AU | 1BU | 1AU | NUMBER | v | 1 | onto, C | |
| | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | TYPE | SAMPLES | | ž | |
| | | - | | | | - | | | - | "N" <u>BLOWS</u> 0.3 m | 5 | | | |
| GRAPH | | | | | | | | | | GROUND W. | | | | |
| + ω | | | | | | | | | | ELEVATION | | | | |
| .3.×3: | | | | | | | | | | SHEAR STRENGTH (kPa) UNICONF NED + FIELD VANE SUNCONF NED + FIELD VA | RESI | | Method: G Diameter: | DRIL |
| Numbe | | | | | | | | | | AR ST | STANC 20 | | od: G | LING |
| Numbers refer | | | | | | | | | | RENC | | DVNAMIC CONE DENE | Method: Geo Probe Diameter: | DRILLING DATA |
| | | | | | | | | | | 150 × + (k | -® | | 5 B | |
| ି ^ଅ = 3 % | | | | | | | | | | Pa) FIELD LAB \ LAB \ | -8 | TION | | |
| strain at Failure | | | | | | | | | | VANE /ANE 250 | -00 | | | |
| - AF Egi | | | | | | | | | | | T D | 1 | | |
| ure | | | | | | | | | | MATER CONTENT (%) | TIC NO | | | |
| | | | | | | | | | | | MOISTURE | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | POCKET (Cu) (kF | PEN. Pai | | REF. NO.: 1889-220 | |
| | | | | | | | | | | NATURAL U (Mg/m | JNIT WT 3) | 1 | 889-2 | |
| | | | | | | | | | | GR SA SI CL | REMARKS AND | | 20 | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 2.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | | | 1 |
|--|---|-----------------------|----------------|--------------|---------|---------|-------------------------------|----------|----------|--------------------------------------|---|--|-----------------|------------------------------|---|------------------------------------|---|
| <u>GROU</u> Shallow | | n | | | | | 18 | | | 02 | 00 | (m) ELEV DEPTH | | DATU BH L | PRO, | PROJECT: | |
| GROUNDWATER ELEVATIONS | Sample retrisul at 5.5 m. Borehou backfilled with bentonite upon completion. | trace weathered shale | | wet | | | SILTY CLAY grey, saturated | | | FILL sand and silt, brown/grey,moist | CONCRETE 230 mm of reinforced concrete | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| Deen/Dual Installation | artonite | | | | | | | | | ist | ate - | | | | hore Blv | | ials Hydr |
| allation | | | 77777 77777 | <i>++++;</i> | +++++ | +++++ | +++++ | | | \times | ь. P | STRATA PLOT | | | rd, Tor | | ogeolo |
| | | 5AU | 4BU | 4AU | зви | злU | 2BU | 2AU | 1BU | 1AU | | NUMBER | ş | | onto, | | gy C |
| ◀ | | 5AUNDIS | 4BUNDIS | 4AUNDIST | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIST | 1BUNDIST | 1AUNDIS | | TYPE | SAMPLES | | Q | | |
| | | - | | - | - | | - | - | | - | | "N" <u>BLOWS</u> 0.3 m | ES | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | | | GROUND WATEF | 3 | 1 | | | 0.00 |
| + | | | | | | | | | | | | ELEVATION | | | | | FBO |
| $3, \times 3$: Numbers refer $\circ \epsilon_{=3\%}$ Strain at Failure to Sensitivity | | | | | | | | | | | | 20 40 60 100 SHEAR STRENGTH (kPa) • UNCONF NED + FIELD VANE • CUNCK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/06/2013 | Diameter: | DRILLING DATA Method: Geo Probe | LOG OF BOREHOLE BHI-4 |
| at Failure | | | | | | | | | | | | WATER CONTENT CONTENT (%) WATER CONTENT (%) 10 20 30 NATURAL UNIT W (%) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 220 | | 1 OF 1 |

| GROUN | | | | | | | | | | 0.0 | 02 | (m) DEPTH | | DATU BH LC | PROJECT CLIENT: PROJECT | } |
|-------------------------------------|--|---------|---------------|----------------|--------------|-------------|-------------|-----------|----------------|--|--|--|------------------------|------------------------------|---|---|
| GROUNDWATER ELEVATIONS | END OF BOREHOLE 1. Sample retusa at 6.6 m. 2. Develove backfinde with bentonite upon completion. | | | trace gravel | | wet | saturated | grey, wet | | SILTE CLAT trace sand, brown, moist | 50 mm of reinforced concrete FILL sand, trace silt, brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | |
| | | ++++ | <i>++++</i> ; | +++++ +++++ | <i>+++++</i> | <i>++++</i> | <i>++++</i> | +++++ | ++++? ++++? | ++++7 | | STRATA PLOT | | | /d, Tor | |
| | | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS: | NUMBER TYPE | SAMPLES | | onto, ON | |
| | | | | | 4 | | | | | | | "N" <u>BLOWS</u> 0.3 m | ES | | | |
| GRAPH | | | | | | | | | | | | GROUND WATE CONDITIONS | R | | | |
| 2 | | | | | | | | | | | | ELEVATION | | | | |
| - 3 < 3. Numbers refer 💫 8=3% 🦕 = - | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH ((Fa) UNCONFINED + Field VANE QUICK THAXAL + A Sensitivity 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/07/2013 | DRILLING DATA Method: Geo Probe Diameter: | |
| | | | | | | | | | | | | WATER CONTENT LIMIT 10 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | PLASTIC NATURAL LIQUID | ENCL NO .: | REF. NO.: 1889-220 | |
| | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | ŏ | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 3.GPJ SPL.GDT | 12/5/13 | | | | | | | | | | | | | | | |
|--|---|--------------|---------------|--------------|---------|---------------------------|----------|---------|----------------------------|---------------------------------|--|---|---|-----------------|---|----------------------|--|
| <u>GROUN</u> Shallow | | | | | | 3.7 | | | _1 8 | 1.4 | 0 | 000 | (m) ELEV DEPTH | | CLIENT: PROJEC DATUM: I BH LOCA | PROJ | ٠ |
| GROUNDWATER ELEVATIONS Shallow Single Installation 🕎 👤 Deep/Dual Installation 🕎 | Semple refuse! at 6.7 m Borehole baddilled with bentonite upon completion. | | | wet | | SILTY CLAY grey, moist | | | CLAYEY SILT grey, moist | SILT trace clay, grey, moist | FILT and transverse workers FILT sand, trace silt, gravel, brown, moist | CONCRETE 150 mm of reinforced concrete | DESCRIPTION | SOIL PROFILE | CUENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie | SPL Consultants Limited Geolechnical Environmental Materials Hydrogeology |
| nstallatio | ō | <i>77777</i> | <i>++++</i> ; | <i>t††††</i> | 77777 | <i>t+t+t</i> , | <u> </u> | | <u> </u> | ×× | st (| s | TRATA PLOT | | Blvd, Te | | mite |
| | | 64 | 5BU | 5AU | 4BC | 4AU | 3BU | 3AU | 2BU | × × I | IBU 1AU | N | IUMBER | s | pronto, | | d |
| A | | 6AUNDIS | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUNDIS1 | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIST | 18UNDIS | т | YPE | SAMPLES | Q | | |
| | | 7 | 7 | - | - | - | 7 | | - | - | | 4" | N" <u>BLOWS</u> 0.3 m | ES | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | | | | ROUND WATER | <i>بد</i> | | | GO |
| | | | | | | | | | | | | | LEVATION | | | | FBO |
| $+$ ³ , \times ³ : Numbers refer \odot to Sensitivity | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) O UNCONFINED + EED VANE O UNCONFINAXIA, X LAB VANE OUICK TRIAXIA, X LAB VANE | RESISTANCE PLOT | Method: Geo Probe Diameter: Date: Nov/07/2013 | DRILLING DATA | log of Borehole Bhi-6 |
| €=3% Strain at Failure | | | | | | | | | | | | 00 | | | | | |
| Failure | | | | | | | | | | | | | IR CONTENT (%) | | REF. NO.: 1889-220 ENCL NO.: | | |
| | | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) NATURAL UNIT V | ντ | 1889 | | |
| | | | | | | | | | | | | GR SA SI CL | (Mg/m ³) GRAIN SIZE (%) (%) | REMARKS | -220 | | 1 OF 1 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 2.GPJ SPL.GDT 12/5/13 on | | | | | | 2.4 | | | 1 | | 00 | (m) ELEV DEPTH | | DATU BH L | PROJEC | |
|-----------------------------------|---|-------------|------------|----------|---------------|-----------------------|-------------------------|---------|----------------------------|----------|-----|-------------------------------|---|-----------------|------------------------------|--|------------------|
| GROUNDWATER ELEVATIONS | END OF BORELADLE Sample returation Sample returation Sem. Benchole backfilled with sand to Sem. Somm-diameter monitoring well installed. Water encountered at 3.4 mbg on Nov 6, 2013. | | saturated | | | | SILTY CLAY grey, wet | | Sonie vidy, provin, invist | SILT | | 150 mm of reinforced concrete | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT : MILCHINSINE CLIENT: CLIENT: | ITOT: Ma Objetio |
| | | <i>7777</i> | <i>444</i> | | <i>++++</i> + | | <i>++++</i> + | × × × | × × × × | × 🗱 | | Ì. | STRATA PLOT | | | /d, To | |
| | | 5BUNDIS | 5AUI | 4BUI | 4AUNDIS | зви | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUI | 170 | - | NUMBER | /S | | ronto, | |
| | | VDIST | 5AUNDIST | 4BUNDIST | VDIST | 3BUNDIST | VDIST | VDIST | VDIST | 1BUNDIST | | | TYPE | SAMPLES | | 0N | |
| 20 | | | | | | | | • | | | | | "N" <u>BLOWS</u> 0.3 m | S | | | |
| GRAPH | | III | | | | | | | | | | হেন্দ্র বিষয় | GROUND WATER | R | | | |
| + 60 | | | | | | W. L. 3. | | | | | | | ELEVATION | | | | |
| - ³ , × ³ : | | | | | | . 3.4 mBGL 1, 2013 | | | | | | | ●○SH | RESI | Date | Meth | |
| Numbe | | | | | | 3 BGL | | | | | | | 20 INCONI | STANCI | Nov | Method: Ge Diameter: | 1105 |
| Numbers refer | | | | | | | | | | | | | 20 40 60 100 SHEAR STRENGTH (kPa) 0 UNCONF VED 4 Gandaday 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/06/2013 | Method: Geo Probe Diameter: | TATA |
| 0 | | | | | | | | | | | | | 50 HH 8 | VETRA | ω | De | |
| °=3% | | | | | | | | | | | | | Pa) FIELD | TION | | | |
| Strain | | | | | | | | | | | | | ANE 250 | | | | |
| Strain at Failure | | | | | | | | | | | | | - 5 | | | | |
| IFO | | | | | | | | | | | | | WATER CONTENT (%) | IC NA | | | |
| | | | | | | | | | | | | | ER CONTEN | TURAL | т | J | |
| | | | | | | | | | | | | | UT (%) | 0 | ENCL NO .: | EF. | |
| | | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) | | ō | REF. NO.: 1889-220 | |
| | | | | | | | | | | | | | NATURAL UNIT V (Mg/m ³) | ντ | | 89-22 | |
| | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | Ó | |
| | | | | | | | | | | | | | ND BUTION SI CL | ARKS | | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 2.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | | | - |
|--|---|--------------------------|---------------|--------------|-------------------------|---------|--------------------------|----------------|--------------|------------------------------------|---------------------------------|-------------------------------|--|-----------------|---|----------------------|--|
| <u>GROUI</u> Shallow | თ დ | | | | 3.7 | | 2 2.4 | | | U.6 | | 00 | (m) ELEV DEPTH | | PRO, DATU BH L | PROJEC | |
| GROUNDWATER ELEVATIONS Shallow' Single Installation 🖳 👤 Deep/Dual Installation 🖳 | END OF BOLSENDLE Somple refuse at 15 g m, 2 30mm-dameter monitoring well installed, are recountered at 2.4 mbg Nov. 6, 2013 | trace sand, trace gravel | | | SILTY CLAY grey, wet | | CLAYEY SILT grey, wet | | grey/brown | Some clay, trace sand, grey, moist | FILL silt, grey/brown, moist | 250 mm of reinforced-concrete | DESCRIPTION | SOIL PROFILE | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie | SPL Consultants Limited Geolechnical Environmental Materials Hydrogeology |
| ation | | 777 | ++++; | +++++ | +++++ +++++ | | | × × × × × × | × × × × × | × × × > × × × | | 5 P | STRATA PLOT | | , Toro | | teology |
| × | | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS: | - | | NUMBER | SAN | nto, O | | |
| | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | ISI | - | | TYPE | SAMPLES | Ž | | |
| RB | | | Maria da Arti | a ta carte a | 1 | | | | | | | | 0.3 m | | | | 6 |
| <u>GRAPH</u> NOTES | | <u>IIII</u> | | | | | | \leq | | | | E 2 | | ` | | | Q |
| + ³ ,× ³ : | | | | | | | W. L. 2. Jun 11, | | | | | | ELEVATION | | | | B |
| $	imes 3^\circ$. Numbers refer \circ ^{E=3%} Strain at Failure to Sensitivity | | | | | | | , 2013 | | | | | | 20 40 60 100 SHEAR STRENGTH (KPa) • UNCONF VED + 8 Soucher 50 100 150 200 250 | RESISTANCE PLOT | Diameter: Diameter: Date: Nov/06/2013 | DRILLING DATA | Log of Borehole Bhi-8 |
| n at Failure | | | | | | | | | | | | | WATER CONTENT (%) 10 20 30 ATURAL UNIT (%) 10 20 30 10 20 30 | | REF. NO.: 1889-220 ENCL NO.: | | 1 OF 1 |

| | .2 4 | | | | 02 | (m) ELEV DEPTH | | DATU BH LO | PROJECT CLIENT: |
|--|--|----------------|---------|----------|---|---|------------------|--|------------------------------------|
| | END OF EOREMOLE 1. Sample refusal at 2.4 m. 2. Somm-diarneter monitoring well installed. 3. Water encountered at 2.1 mbg Nov. 5, 2013 | grey | wet | | 150 mm of reinforced-concrete FILL sand, trace gracel, trace silt, brown, | DESCRIPTION | SOIL PROFILE | PROJECT LOCATION: 2150 Lke Shore Blvd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: |
| | | | | | XXF: | STRATA PLOT | | i, Torc | |
| | | 2BU | 2AU | 1BU | 1AU | NUMBER | s, | onto, C | |
| | | 2BUNDIS | 2AUNDIS | 1BUNDIST | 1AUNDIS | TYPE | SAMPLES | ž | |
| | | 7 | | | | "N" <u>BLOWS</u> 0.3 m | ËS | | |
| | | | | | | GROUND WATER CONDITIONS | 3 | | |
| | | W. L. May 1 | | | | ELEVATION | | | |
| | | .2.1 mBGL | | | | 20 40 60 100 SHEAR STRENGTH (KPa) • UNCOMP NED + Ramwary 50 100 150 200 250 | PRESISTANCE PLOT | Diameter: Date: Nov/05/2013 | DRILLING DATA Method: Geo Probe |
| | | | | | | WATER CONTENT (%) WATER CONTENT (%) 10 20 30 POLICIENT (%) 10 20 POLICIENT (% | <u>р</u> л | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 2.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | | | - |
|--|--|----------------------|---|---------|--------------|---------|-------------------------------------|-----------|------------|--|-------------------------------------|-------------------------------|--|------------------------|---|------------------------------------|--|
| <u>GROUI</u> Shallow | ය ප | 55 | | | | | 2.4 | | | 0.6 | 02 | 0 0 | (m) ELEV DEPTH | | PRO, DATL BH L | PROJEC | |
| GROUNDWATER ELEVATIONS Shallow Single Installation | ENO FE desized at 5.8 m. Somhe refusal at 5.8 m. Somher adameter monitoring well installed. Water encountered at 3.6 mbg Nov. 6, 2013 | SHALE shale, grey | | | | | SILTY CLAY trace sand, grey, wet | grey, wet | grey/brown | SILT trace sand, trace gravel, trace clay, brown, oxidation, moist | FILL sand and silt, brown, moist | 230 mm of reinforced concrete | DESCRIPTION | SOIL PROFILE | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: | SPL Consultants Limited Geotechnical Environmental Materials Hydrogeology |
| ation | | | 7777, | ++++; | 77777 | +++++ | 7777 | | | | | - B- S- | STRATA PLOT | | , Torc | | ited |
| Ā | | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | | NUMBER | SA | onto, e | | 202 |
| 12 | | DIST | IDIST | DIST | UDIST | JDIST | DIST | IDIS | DIST | IDIS | DIST | | TYPE | SAMPLES | NC | | |
| | | | | | | | | · | | • | | | "N" <u>BLOWS</u> 0.3 m | S | | | 5 |
| <u>GRAPH</u> NOTES | | шп | | | | | | | | | | | GROUND WATER CONDITIONS | R | | | GO |
| + | | | <u>- 11 - 11 - 11 - 11 - 11 - 11 - 11 - 1</u> | <u></u> | L, | 5 | | | | | | | ELEVATION | _ | | | Ē |
| , × | | | | | | - | | | | | | | | 꼬밋 | 00 | 30 | 12 |
| $3, \times 3$: Numbers refer to Sensitivity | | | | | Jun 11, 2013 | 2 | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 UNCONF VIED + FELD VANE 50 100 150 200 250 | RESISTANCE PLOT | Diameter: Date: Nov/06/2013 | DRILLING DATA Method: Geo Probe | LOG OF BOREHOLE BHI-10 |
| O ^{€ =3%} Strain at Fallure | | | | | | | | | | | | | | | | | |
| t Failure | | | | | | | | | | | | | WATER CONTENT (%) | PLASTIC NATURAL LIQUID | REF. NO.: 1889-220 ENCL NO.: | | |
| | | | | | | | | | | | | _ | POCKET PEN. (Cu) (kPa) NATURAL UNIT V | NT | | | |
| | | | | | | | | | | | | | (Mg/m ³) | _ | 9-220 | | |
| | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | 1 OF 1 |

| GROUI | ۵. 4 | | 49 | | | | | 18 | 12 | 0.6 | 02 | (m) ELEV DEPTH | | DATU | PROJECT |
|---|--|--------------------------|----------------------|---------------------|---------------------------|----------|----------------------|--------------------------------------|--------------------------------|------------------------------------|--|---|---|---|------------------------------------|
| | Pessible backrilled with bentonite upon completion | CLAY TILL grey, moist | grey/brown, wet | moist to very moist | dry with fine sand layers | | brown, some organics | CLAYEY SILT trace sand, grey, wet | SILT some clay, grey, moist | SILT TILL some sand, trace clay | 230 mm of reinforced concrete FILL sand, trace silt, trace gravel, brown | DESCRIPTION | SOIL PROFILE | DATUM: Local INVI: 2130 Like Store Diva, Toronito, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie |
| | | Ì | | | | | | | | • • | | STRATA PLOT | 1 | | 1 |
| | | 6 UNDIST | 5AUNDIST 5BUNDIST | 4BUNDIST | 4AUNDIST | 3BUNDIST | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | 1AUNDIST | NUMBER TYPE "N" <u>BLOWS</u> | SAMPLES | nio, CN | 2 |
| GRAPH | | | | | | | | | | | | 0.3 m GROUND WATER CONDITIONS | | | |
| 3 | | | | | | | | | | | | ELEVATION | | | |
| + 3 X 3; Numbers refer O &=3% Strain at Failure | | | | | | | | | | | | 20 40 60 90 100 SHEAR STRENGTH (FPa) 0 UNCONF NED + FIELD WAYE 0 QUICK TRUVAL - L 45 WANE 50 100 150 200 250 | DYNAMIC CONE PENETRATION RESISTANCE PLOT | Date: Nov/05/2013 | DRILLING DATA Method: Geo Probe |
| rt Failurg | | | | | | | | | | | | WATER CONTENT (%) 10 20 30 POCKET PERI 10 20 30 POCKET PERI POCKET PERI PERI POCKET PERI POCKET PERI | NATURAL LIQUID | HEF. NO.: 1889-220 | |
| | | | | | | | | | | | | 0 - | REMARKS | 220 | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 1.GPJ SPL.GDT 12/5/13 | - | | | | | | | | | | | | | | | | | ۰ - |
|---|---|----------|--------------|---------|---------|----------|-------------------------|----------|----------|----------|-----------|------------------------------|------------------------------|---|-----------------|------------------------------|--|------------------------------------|---|
| GROUN | ත ව | | | | | | 30 | | | | | | 02 | (m) <u>ELEV</u> DEPTH | | DATL BH LO | PRO | CLIENT: | |
| GROUNDWATER ELEVATIONS Shallow Sincle Installation ∇ ■ Deen/Dutal Installation ▼ | Evanpfe retusat 6.2 m. 2. Borehole backfilled with bentonite upon completion. | | trace gravel | | | | SILTY CLAY grey, wet | | | q | nrevbrown | silt, some clay, grey, moist | 200 mm of reinfoced concrete | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lke Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| lation / | | ++ | <i>ttt</i> ; | ++++; | 7777 | +++++ | +++++ | \times | | | | XX | | STRATA PLOT | | | Toro | | geolog |
| ▼ | | 6AUNDIS | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUr | 3BUNDIS | 3AUNDIS | 2BUI | 2AUNDIS | 1BUNDIS | | 1AUNDIS | NUMBER | ŝ | | nto, O | | yy |
| 7 | | NDIS | | VDIST | VDIST | 4AUNDIST | VDIST | NDIST | 2BUNDIST | | | | | TYPE | SAMPLES | | ž | | |
| | | Ľ | | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | S | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | | | | | GROUND WATER CONDITIONS | R | | | | l G |
| | | | | | | | | | | | | | | ELEVATION | | | | | Log of Borehole Bhi-12 |
| $+$ ³ , \times ³ : Numbers refer to Sensitivity | | | | | | | | | | | | | | 은 <u>유</u> | RES N | Date | Diar | DRI | 亞 |
| Numb to Ser | | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 LINCONF NED + 8 FIELD VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/06/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| ers refe sitivity | | | | | | | | | | | | | | TRIAX | E PLC | /06/2 | | EO Pr | 모 |
| ų | | | | | | | | | | | | | | 15 GTH 60 | T MET | 013 | | obe A | -12 |
| ° • | | <u> </u> | | | | | | | | | | | | 200 A # [kPa] | | | | | |
| -3% St | | | | | | | | | | | | | | D VANE B VANE 250 | 2 | | | | |
| E=3% Strain at Failure | | <u> </u> | | | | | | | | | | | | 1 1 | P | | | | |
| -ailure | | | | | | | | | | | | | | Wp WOISTONE Wp W WATER CONTEN 10 20 3 | ASTIC | | | | |
| | | | | | | | | | | | | | | WATER CONTENT (%) WATER CONTENT (%) | NATU | | | | |
| | | | | | | | | | | | | | | | | Ē | RE | | |
| | | | | | | | | | | | | | | 10 F (%) | LIQUID | ENCL NO .: | F. NC | | |
| | | | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) | | | :: 18 | | |
| | | | | | | | | | | | | | | NATURAL UNIT V (Mg/m ³) | Νſ | | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REM, | | J | | - |
| | | | | | | | | | | | | | | AND AIN SIZE (%) (%) A SI CL | REMARKS | | | | ę |
| | | | | | | | | | | | | | | <u> ۲</u> | | | | | 7 - |

| GROUN | | | 5 5 | | | | | | 2.1 | 18 | | | 02 | 0 0 | (m) ELEV DEPTH | | DATU BH LC | PROJECT CLIENT: PROJECT | } |
|---|--|----------|--------------|----------|--------------|---------------|---|----------|----------|--------------------|----------|----------|----------|--|--|------------------------------|--|---|---|
| GROUNDWATER ELEVATIONS | END OF Bolketi AC 7 m. 2. Somm-diameter monitoring well installed. | | trace gravel | | saturated | | SILTY CGLAY SILTY CGLAY grøj, wet | | | Sand, brown, moist | | | CONCRETE | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: CONTINN: 2150 Lake Shore Blvd, Toronto, ON | | |
| | | | | 7777 | 7 <i>777</i> | <i>++++</i> ; | 7777 | 7777 | 777), | × _ × 8 | | | | A y S | STRATA PLOT | | | lvd, To | |
| | | 6AU | 5BU | 5AU | 4BU | 4AU | BU | 3AU | 2BU | | 2AU | 1BU | 1AU | N | NUMBER | ş | | ronto, | |
| | | 6AUNDIST | 5BUNDIST | 5AUNDIST | 4BUNDIST | 4AUNDIST | 3BUNDIST | 3AUNDIST | 2BUNDIST | | 2AUNDIST | 1BUNDIST | 1AUNDIST | | TYPE | SAMPLES | | Q | |
| zia | | | | | | | | | | | | | | - | N" <u>BLOWS</u> 0.3 m | | | | |
| GRAPH | | | | | | | | | | | | | | | GROUND WATER | ٩ | | | |
| + ω | | | | | | | | | | | | | | | ELEVATION | | | | |
| _ 3 , X 3. Numbers refer O ^{& =3%} Strain at Failure | | | | | | | | | | | | | | 55 55 55 55 55 55 55 | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 UNCONFINED + FIELD YANE 0 UNCK TRIAXIAL + CAB WANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/07/2013 | DRILLING DATA Method: Geo Probe Diameter: | |
| at Failure | | | | | | | | | | | | | | | | NATURAL HOUD 5 | ENCL NO.: | REF. NO.: 1889-220 | |
| | | | | | | | | | | | | | | GH SA SI UL | AND GRAIN SIZ DISTRIBUTI (%) | REMARKS | | 220 | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 3.GPJ SPL.GDT 12/5/13 | | | | | | | | | _ | <u> </u> | | | |
|------------------------|---|--|-------------|----------------|--|---------|---------------------|-------------|--|--------------|------------------------------|---|------------------------------------|---|
| BOU | | 3.7 | 22 0 | 200 R | 1 8 | 23 8 | | 25.4 0.4 | (m) ELEV DEPTH 25.6 | | BHL | PRO. | PROJECT | |
| GROUNDWATER ELEVATIONS | 3. Waler at 3.1 mbg Nov. 7, 2013 | END OF BOREHOLE 1. Sample refusal at 3.7 m. 2.50mm-diameter monitoring well | | | SILT some sand, trace gravel, strong PHC odour, brown, moist | | odilu, biowi, moist | | | SOIL PROFILE | DATUM: LOCAT BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| | | | | × × × × × × | | | | | STRATA PLOT | | | d, Toi | | ogeolo |
| | | | зви | зАU | 2BU | 2AU | 1BU | 1AU | NUMBER | ω | 1 | ronto, | | gy |
| | | | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | TYPE | SAMPLES | | Q | | |
| | | | - | - | - | - | - | - | "N" <u>BLOWS</u> 0.3 m | S | | | | |
| GRAPH | | | | | | | | XX | GROUND WATE | R | 1 | | | |
| + | | | artek artek | | <u>addada alaa</u> | | | XX | ELEVATION | | | | | 1 |
| 3,×3. Numbers refer | | | 23 | 23 | | 24 | | 25 | | ДС | | , , | 30 | |
| 3. Nu | | | | | | | | | | ESIST | ate: r | Diameter: | ethod | |
| mbers | | | | | | | | | SONF N 100 | NCEP | | | DRILLING DATA Method: Geo Prot | lÌ |
| refer | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 UNCONFINED ++ 6 50% 50 100 150 200 250 50 100 150 200 250 | - 57 | Date: Nov/07/2013 | | DRILLING DATA Method: Geo Probe | |
| 5 | | | | | | | | | 0 × + (kP ₂ 200 ∟∞ Ξ | N | | | | |
| e =3% | | | | | | | | | a) Tield VANI AB VANI 0 250 | Q | | | | L |
| Strain | | | | | | | | | | | | | | |
| €=3% Strain at Failure | | | | | | | | | WP W WATER CONTEN | PLAS | 1 | | | |
| P | | | | | | | | | WATER CONTENT (%) | | | | | |
| ŀ | | | | | | | | | 20 VITE | TURAL | | _ | | L |
| ŀ | | | | | | | | | | LIQUID | ENCL NO .: | Ë. | | |
| ŀ | | | | | | | | | POCKET PEN (Cu) (kPa) | | | Ö | | |
| ŀ | | | | | | | | | (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | | REF. NO.: 1889-220 | | |
| ľ | | | | | | | | | GR DIST | R | 1 | 220 | | |
| | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | | 9 |
| | | | | | | | | | | ŝ | | | | |

| | 1889-220 BOREHOLE LOGS SET 4.GPJ SPL.GDT ന ് | | 19.6 | | မ စ | 35 218 | 22.1 | | 1 5 | | 24 9 | 2 8 : 9 | (m) ELEV DEPTH 25.6 | | DATU BH LC | PROJECT CLIENT: |]• |
|--------------------|---|----------------------|--------------|------------|---------------------------------|---------------------|--|----------|---|---------------------------|--------------------------|-------------------------------------|--|--------------|------------------------------|--|--|
| | END OF BOREHOLE Sample refusal at 6.7 m Borehole backfilled with bentonite upon completion. | SHALE shale, grey | | | SILTY CLAY brown/grey, moist | SANDY SILT brown | strong PHC odour between 3-4.5 m trace gravel | | CLAVEY SILT trace sand, brown, moist | clayey silt, brown, moist | sandy silt, brown, moist | ASPHALT 75 mm of asphalt FILL | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PBO IECT I OCATION: 2150 I ake Shore Rivel Toronto ON | (Consection for an annual margine of the section of |
| | | | <i>77777</i> | <i>HHH</i> | <i>++++++</i> | | <u></u> | | | | | \rightarrow | STRATA PLOT | - | | f. | 00-0 |
| | | 5AU | 4BU | 4AU | BU | | 3AU | 2BU | 2AU | 1BU | 1 | 1AU | NUMBER | s | | ronto | 10 |
| | | 5AUNDIST | 4BUNDIST | 4AUNDIST | 3BUNDIST | | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | | 1ALINDIST | TYPE | SAMPLES | | Z | |
| n | | | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | S | | | |
| GRAPH | | | | | | | | | | | | | GROUND WATE CONDITIONS | R | | | |
| - ω | | 19 | 20 | N | 2 | 22 | | 23 | 24 | | 25 | | ELEVATION | | 1 | | |
| 3 3. Numbers refer | | | | | | | | Ĩ | | | | | ● ○ SHE | RESI | Date | DRILLING Method: G | |
| Numbe | | | | | | | | | | | | | AR ST NUCONF | STANC | : Nov/ | LING od: Ge | |
| refer | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 LINCOMF VED + Fills VANE 0 CUICKTRIAVAL - LAB VANE 50 100 150 200 250 | | Date: Nov/08/2013 | DRILLING DATA Method: Geo Probe | |
| , | | | | | | | | | | | | | 50 × + (K | N | ω | e | |
| 8=3% | | | | | | | | | | | | | Pa) FIELD V LAB V | , IQ | | | |
| 2 | | | | | | | | | | | | | -50 ANE | | | | |
| N | | | | | | | | | | | | | WA: | PLASTIC | 1 | | |
| | | | | | | | | | | | | | WATER CONTENT (%) | IC NAT | | | |
| | | | | | | | | | | | | | ONTENT | MOISTURE | _ | P | |
| | | | | | | | | | | | | | 4T (%) | LIQUID | ENCL NO .: | H S | |
| | | | · | | | | | | | | | | POCKET PEN (Cu) (kPa) | N. | | 100 | |
| | | | | | | | | | | | | | | WT I | | DEE NO . 1880.000 | |
| | | | | | | | | | | | | | SA (3 | REMARKS | | | |
| | | | | | | | | | | | | | NU SUTION SI CL | RKS | | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 4.GPJ SPL.GD | 12/5/13 | 3 | | | | | | | | | | | | | | - |
|---|--|---------|----------------------|--|---|---------|--------------------------------------|----------|--|---------|--|--|-----------------|------------------------------|---|------------------------------------|--|
| GROUNDWATER ELEVATIONS | | 190 | 6.1 | 10 | 4.6 | 21.1 | 30 | v v | 24 0 1.7 | | 28. - 9 | (m) ELEV DEPTH 25.7 | | BHL | PRO | CLIENT: | |
| GROUNDWATER ELEVATIONS | Sample refusal at 6 7 m, 2 Borchole backfilled with bentonite upon completion. | | SHALE shale, grey | | CLAYEY SILT dayey silt, brown, moist | | SILTY CLAY sity day, brown, moist | | CLAVEY SILT clayey silt, trace sand, brown, moist | | ASPHALT YOO mm of asphalt FILL sand, trace silt, brown, moist | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotecrinical Environmental Materials Hydrogeology |
| | | υ | 1 | <i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i> | <u></u> 4 | +++++ | <i>±±±±±±±</i> | | | | | STRATA PLOT | - | | Toron | | (Foina) |
| | | 5AUNDIS | ; | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIST | 2AUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | | ito, ON | | |
| | | IST | 5 | IST | IST | IST | IST | IST | <u>IS</u> | IST | IST | "N" <u>BLOWS</u> 0.3 m | PLES | | 2 | | |
| GRAPH | | | | | | | | | | | | GROUND WATER | R | | | | |
| | | 10 | | 20 | 21 | | 22 | 23 | 24 | | 25 | ELEVATION | | 1 | | | |
| + 3 X 3; Numbers refer O &=3% Strain at Failure | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) • LINCONF NED + SELEVINE • QUICK TRIUXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/08/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| - A PP - Ny was | | | | | | | | | | | | WATER CONTENT (%) 10 20 30 NATURAL QUE NATURAL QUE NA | LIQUID | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | | 유 모 · | RE | | 220 | | |

| 6. 7 | 18 9 | | | 43 | 21.4 | | | | - | 24.4 | | 22 89 29 29 29 29 | (m) ELEV DEPTH 25.6 | | DATU BH LC | PROJECT |
|---|-------------|-------------|---------|-------------------------|---------------------------------------|---------------|-------------|-------------|--------------------------------------|------------|---|----------------------------------|---|-----------------|------------------------------|---|
| Exproper backfilled with bentonite upon completion. | | saturated | | SILTY CLAY grey, wet | some clay, trace sand, wet | | | | trace sand, trace clay, brown, moist | trace clay | 125 mm of concrete FILL silt, trace sand, grey, moist | 50 mm of asphalt | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: CLIENT: C |
| ite | <i>++++</i> | <i>1111</i> | 7777 | ££££ | | × × > | < | × × > | | × | | | STRATA PLOT | | 1 | P S |
| | 6AUNDIS | 5BUNDIS | 5AUNDIS | 44444 4BUNDIS | × × × 4AUNDIS | × × × 3BUNDIS | × × 3AUNDIS | × × 2BUNDIS | × × × 2AUNDIS | | | 1AUNDIS | NUMBER | SAM | | aronto Ok |
| | IST | IST | IST | IST | IST | IST | IST | IST | IST | <u>.</u> | 5 | IST | "N" <u>BLOWS</u> 0.3 m | SAMPLES | | - |
| | | | | | | | | | | | | | GROUND WATER CONDITIONS | 3 | | |
| | 19 | 20 | | 21 | N N N N N N N N N N N N N N N N N N N | 8 | 23 | | 24 | | 25 | | ELEVATION | | _ | |
| | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) UNCONFINED + a FIELD WAR 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/08/2013 | DRILLING DATA Method: Geo Probe |
| | | | | | | | | | | | | | 60 80 100 GTH (KPa) + FIELD VANE AL × LAB VANE 150 200 250 | | ω | ŏ |
| | | | | | | | | | | | | | . 5 | PLASTIC NA | | |
| | | | | | | | | | | | | | WATER CONTENT (%) | | ENCL NO .: | DEE NO - 1880.330 |
| | | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) NATURAL UNIT W | | Ō. | D. 188 |
| | | | | | | | | | | | | | (Mg/m ³) | | ļ | 0 220 |
| | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | |

| | PL SOIL LOG 1889-220 BOREHOLE LOGS SET 3.GPJ SPL | .GDT 6.7 18.7 | | | | 21.1 4.6 | | | | | | 23 9 | | 22 | (m) ELEV DEPTH | | BH DA | PR | CLI PR |]. |
|-------------------------|--|----------------------------|----------------|--------------|---------------|-------------|-----------|-----------|----------|----------|-----------------------------|----------|----------|--|--|-----------------|------------------------------|---|------------------------------------|----|
| GEOLINDWATER ELEVATIONS | END OF DOREHOLE (D) Formation at 7.0 m. Sample retures at 7.0 m. Borehole backfilled with bentonite upon completion. | .7 SHALE .7 shale, grey | <u>0</u> | saturated | | | saturated | | | | 8 CLAY dark brown, moist | | | 400 mm of asphalt FILL sand and gravel, brown, moist | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr. Christie CLIENT: | |
| ŀ | U | | 77777 77777 | <i>77777</i> | <i>t†††</i> † | 75 | | \square | | | | | | \longrightarrow | STRATA PLOT | 1 | | lvd, To | | 60 |
| ľ | | | 6AU | 5BU | 5AU | 4BU | | | BU | 3AU | 2BU | 2AU | 1BU | 1A L | NUMBER | Ś | 1 | ronto, | | |
| | | | 6AUNDIS1 | 5BUNDIS1 | 5AUNDIS1 | 4BUNDIST | i | | 3BUNDIS1 | 3AUNDIS1 | 2BUNDIS1 | 2AUNDIST | 1BUNDIST | 1AUNDIST | TYPE | SAMPLES | | Q | | |
| | | | | | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | S | | | | |
| | | | | | | | | | | | | | | | GROUND WATER CONDITIONS | R | | | | |
| | | ā | 10 | 20 | | 21 | | 22 | | 23 | | 24 | Ľ | о л | ELEVATION | |] | | | |
| 3 3 Numbers refer | | | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 LINCONF NED + Educity 0 CUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/08/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| | | | | | | | | | | | | | | | WATER CONTENT (%) 10 20 30 FOR CONTENT (%) 10 20 50 FOR CONTENT (%) 10 | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | | |

| | 70 | 18.6 | | 49 | 20 8 | 3.7 | 22 0 | 2.4 | 23 2 | 2 2 11 | 12 | 24.4 | 03 | 22 22 2 2000 2 2000 2 | (m) ELEV DEPTH | | DATL BH L(| PROJEC | } |
|---------------------------|--|---------------|---------|-------------------------------------|---------|--|-----------|--------------------------------------|--------------------------|--------------|---------------------------------------|--------------|--------|------------------------------|--|---|------------------------------|---|---|
| | END OF BOREHOLE I. Borehole backfilled with bentonite upon completion. | | | SILTY CLAY silty clay, grey, wet | | CLAYEY SILT clayey silt, brown, wet | some clay | SILI trace sand, brown, saturated | CLAY dark grey, moist | grey | SILT trace sand, grey/brown, moist | brown, moist | | ASPHALT 100 mm of asphalt | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr. Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | |
| | W | <i>777777</i> | 77777 | 7777 | | | × × × × | × × > | $\langle \rangle$ | | < | | \geq | | STRATA PLOT | | | Nd, To | |
| | | 6AU | SBU | 5AU | 48 | 4AU | BE | 3AU | 2BU | | 2AU | 1BU | Z | | NUMBER | ç | | ronto, | |
| | | 6AUNDIS | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | | 2AUNDIS | 1BUNDIS | | | TYPE | SAMPLES | | Q | |
| | | - | - | - | | - | | - | - | | - | - | | | "N" <u>BLOWS</u> 0.3 m | ES | | | |
| GRAPH | | | | | | | | | | | | | | | GROUND WATER CONDITIONS | 1 | | | |
| - | | 19 | 20 | | 21 | ç | 3 | 23 | | | 24 | | 25 | | ELEVATION | | | | |
| .3 ∠ 3. Numbers refer | | | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (KPa) O UNCOVE NED + FIELD VANE O UNICK TRIAXIAL × LAB VANE 50 100 150 200 250 | DYNAMIC CONE PENETRATION RESISTANCE PLOT | Date: Nov/08/2013 | DRILLING DATA Method: Geo Probe Diameter: | |
| | | | | | | | | | | | | | | | Image: content content (%) Image: content(%) Image: content (%) <thi< td=""><td>NATURAL INCIDE</td><td>ENCL NO .:</td><td>REF. NO.: 1889-220</td><td></td></thi<> | NATURAL INCIDE | ENCL NO .: | REF. NO.: 1889-220 | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 3.GPJ SPL.GDT | | | | 3 | 23.1 22.5 22.5 | | 24 9 0.6 | (m) ELEV 25 5 | 9 | BH | R CL PR | |
|---|--|---------|------------------|--|---------------------------|----------------------|------------|--|---|--------------------------|--|------------------------------------|---|
| | END OF BOREHOLE upon completion. | | | brown, moist | 0 SILTY CLAY grey, wet | | trace clay | FL Sand and gravel, trace silt, brown Sand and gravel, trace silt, brown FILL slit, some sand, grey/brown, moist |] | SOIL PROFILE | ר העברי דעראי, בישע במיפ סוועוים מוענ, וסוטווע, טע DATUM: Local BH LOCATION: | PROJECT: Mr. Christie | Geotechnical Environmental Materials Hydrogeology |
| | - | +++++++ | <i>+++++++</i> ; | <i>;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;</i> | +++++++++ | × × × × | | | STRATA PLOT | | vä, i o | 1 | rogeolo |
| • • | | 6AUNDIS | 5AUNDIST | 4BUNDIST | 3BUNDIS 4AUNDIS | 3AUNDIS | 2AUNDIST | 1AUNDIST | NUMBER | SAN | 0110, 0 |) | y s |
| | | UIST I | | T | | TSIC | | | "N" <u>BLOWS</u> 0.3 m | SAMPLES | 2 | 2 | |
| <u>GRAPH</u> NOTES | | | | | | | | | GROUND WATER CONDITIONS | | | | 6 |
| | | 19 | 20 | 21 | 22 | 23 | 24 | 25 | ELEVATION | _ | | | |
| $+$ ³ , \times ³ : Numbers refer \circ ² =3% Strain at Failure | | | | | | <u> </u> | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) UNCOVENED + ELED VANE OUICK TRIAXIAL × LUB VARE 50 100 150 200 250 10 250 200 250 | DYNAMIC CONE PENETRATION | Date: Nov/08/2013 | DRILLING DATA Method: Geo Probe | Log of Borehole BH7 |
| ain at Failure | | | | | | | | | WATER CONTENT WL 10 20 30 | NATURAL INCID | ENCL NO .: | | |
| | | | | | | | | | POCKET PEN. (Cu) (kPa) NATURAL UNIT W (Mg/m ³) | т | D.: | | |
| | | | | | | | | | 유 모 · | REMARKS | | | 1 OF 1 |

| | 6.7 | 6.1 | -1 9 7 | 20.7 4 9 | | 22.1 3 5 | 23 | 3 | | 299 02 | (m) ELEV DEPTH 25.6 | | PROJECT PROJECT DATUM: L BH LOCA |
|---------------|---|----------------------|---------------|---|---------|---------------------------------------|----------------------------|---------|---------|---|---|-----------------|---|
| | END OF BOREHOLE Sampler enussi at 6,7 m. Derehoe backfulled with bentonite upon completion. | SHALE shale, grey | | SILTY CLAY silty clay, grey/brown, moist | | CLAYEY SILT some sand, grey, moist | SILTY CLAY brown, moist | | | ASPTALI 350 mm of asphalt FILL sand and gravel, brown, moist | | SOIL PROFILE | CLENT: Mr.Criniste CLENT: PROJECT LOCATION: 2150 Lake Shore Bird, Toronto, ON DATUM: Local BH LOCATION: |
| | ¢ | | <i>++++++</i> | <i>7777</i> | | <u> </u> | <i>77777</i> | | | | STRATA PLOT | - | ivd, To |
| | | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SA | ronto, (|
| - | | IDIST | | | DIST | | DIST | DIST | DIST | IDIST | TYPE | SAMPLES | 2 2 |
| <u>ه</u> | | | | | | | | | | 333 | "N" <u>BLOWS</u> 0.3 m GROUND WATE | | |
| GRAPH | - | | | | | | | | | XX | | :n | |
| + ω × ω | i | 10 | 20 | | 21 | 22 | 23 | 24 | | 25 | ELEVATION | | |
| ω. 2 | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (IPA) - UNCONFINED + FELOVANE - QUICKTRIAXAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Method: Geo Probe Diameter: Date: Nov/08/2013 |
| Numbers refer | | | | | | | | | | | CK TRIA | NOCE PL | : Geo F er: lov/08/ |
| afer | | | | | | | | | | | NGTH | | Probe 2013 |
| • | | | | | | | | | | | 200 × + (kPa) 200 LAF | V RATIO | |
| | | | | | | | | | | | 100 ID VANE B VANE 250 | 2 | |
| | | | | | | | | | | | . 5 | PL | |
| | | | | | | | | | | | WATER CONTENT LIN WATER CONTENT (%) | STIC N | |
| | | | | | | | | | | | | ATURAL | |
| | | | | | | | | | | | | LIQUID | REF. NO.: 1889-220 ENCL NO.: |
| | | | | | | | | | | | POCKET PEN (Cu) (kPa) | | NO.: 1 |
| | | | | | | | | | | | NATURAL UNIT (Mg/m ³) | WT | 389-22 |
| | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | 20 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 4.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | - |
|--|--|---------|---------------|---------|--|---------|----------|---|--------------|--|-----------------|------------------------------|---|----------------------|---|
| <u>GROU</u> Shallow | م ب | 19.1 | 4.6 198 | 8 | 30 | 22.1 | - 5 | 23.6 8 | 28.4 24.4 | (m) ELEV DEPTH | | DATU BH L | PRO, | CI IENT- | |
| GROUNDWATER ELEVATIONS Shallow' Single Installation ∇ | END or BOREHOLE Everage Everage I. Boreshole backfilled with bemonite upon completion. | | | - | SILT some clay, trace sand, brown, moist | | | i FIL clayey silt, some sand, brown/grey, moist | | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie | Geotechnical Environmental Materials Hydrogeology |
| ation | | | <i>++++++</i> | ~ | 0 | 77777 | 7777777 | | | STRATA PLOT | | | , Toro | | Jeolog |
| | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | NUMBER | SAI | | nto, C | | 4 |
| - | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | TYPE | SAMPLES | | ž | | |
| QN | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | | R | | | | ۵ 0 |
| | | | 20 | 21 | 22 | | 23 | 24 | 25 | ELEVATION | | 1 | | | F B |
| $+$ ³ , \times ³ : Numbers refer to Sensitivity | | | | 1 | <u> </u> | | <u> </u> | 4 | 5 | 은 약 문 · · · | RES | Date | Diar | | LOG OF BOREHOLE BH9 |
| Numb to Sei | | | | | | | | | | 20 40 60 100 SHEAR STRENGTH (kPa) 0 LINCONF NED + Statistical 0 QUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/11/2013 | Diameter: | DRILLING DATA | 풀 |
| oers refi nsitivity | | | | | | | | | | 40 60 TRENGTH VF NED TRIAXIAL 100 150 | DE PLO | /11/2 | 0 | DAT | EB |
| e, | | | | | | | | | | 150 A 150 F | N/H | 013 | 000 | nhe A | ප |
| ° | | | | | | | | | | 200 A # 16 80 | VATIO | | | | |
| -3% St | | | | | | | | | | Pa) FIELD VANE & Sensitivity LAB VANE 200 250 | Z | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | | | P | 4 | | | |
| Failure | | | | | | | | | | WP W WATER CONTENT | LASTIC | | | | |
| | | | | | | | | | | MIT CONSTRUCT Mo W W WATER CONTENT (%) 10 20 30 | NATU | | | | |
| | | | | | | | | | | | | Ē | RE | | |
| | | | | | | | | | | 1 1 | LIQUID | ENCL NO .: | F. NC | | |
| | | | | | | | | | | POCKET PEN. (Cu) (kPa) | |] [.] . | REF. NO.: 1889-220 | | |
| | | | | | | | | | | NATURAL UNIT ((Mg/m ³) | WT | | 89-22 | | |
| | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REM | | 0 | | _ |
| | | | | | | | | | | AND IAIN SIZE FRIBUTIO (%) SA SI (| REMARKS | | | | OF 1 |
| | | | | | | | | | | - CL | ŝ | | | | _ |

| | | 4 3 | 20.4 | 21 3 3.4 | | 18 | 1 2 22 8 | 23.4 | 03 | 24.6 | (m) ELEV DEPTH | | DATU BH LC | PROJECT |
|--|--|--|----------|-------------------------|-------------------|---------------------------|---------------------------------|--------------------------------|-------------------------|----------|---|---|------------------------------|---|
| | | END OF BOREHOLE 1. Borehole backfilled with bentonite upon completion. | | SILTY CLAY grey, wet | organics brown | SILT trace clay, brown | FILL silt, red and grey, wet | sand & silt, grey/brown, moist | FILL sand and gravel | ASPHALT | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr. Christie |
| | | | 7777) | <u>777 × ×</u> | < | · · · · · | | | $\overline{\mathbb{X}}$ | s s | TRATA PLOT | | | vd. T |
| | | | 4AUNDIST | 3BUNDIST | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | 1AUNDIST | | UMBER YPE | SAMPLES | | oronto, ON |
| GRAPH | | | | | | | | | | G | I" BLOWS 0.3 m ROUND WATEF ONDITIONS | | | |
| ⊦ ω | | | r | 2 | 22 | | 23 | | 24 | | LEVATION | | | |
| 3 < 3. Numbers refer → 6=3% results on Texture | | | | | | | | | | | 100 VANE VANE | DYNAMIC CONE PENETRATION RESISTANCE PLOT | Date: Nov/08/2013 | DRILLING DATA Method: Geo Probe Diameter: |
| | | | | | | | | | | GR SA SI | B CONTENT LIMIT W, W, W, (GU) (GU) (KPa) NATURAL UNITY (GU) (KPa) NATURAL UNITY (Mg/m ³) | NATURAL LIQUID 5 | ENCL NO .: | REF. NO.: 1889-220 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 4.GPJ SPL.GDT 12/5/13 | 200 | 20.6 | | 23 | 23 O | | 23 8 23 8 | ELEV DEPTH 24 5 | (m) | 뽀 | DA. | CLI | |
|---|--|---------|------|---------|--|---|---|--------------|---|----------------------------------|------|---|------------------------------------|---|
| | ENDOP BORHENDE Sample reveletion (Sample runnitioning well installed. | | | | 3 SILTY CLAY trace gravel, grey, very moist | 0 5 SANDY SILT trace clay, brown, moist | 8 FILL silly clay, trace sand, trace gravel, brown, moist | | | SOL PROFILE | | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| | | | 77 | ++++++ | <i></i> | X | | | STRATA PLO | от | | vd, Tor | | rogeolo |
| | | 3BUNDIS | | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS1 | 1AUNDIST | NUMBER | SA | | onto, (| | gy |
| ~ | | | | | | DIST | | DIST | TYPE | SAMPLES | | S | | |
| <u>a</u> s | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | | 1 | | | 5 |
| <u>GRAPH</u> NOTES | | | ΠÜ | | | | | XX XX | | | | | | LOG OF BOREHOLE BH11 |
| + 3 | | 20 | | 21 | 22 | 23 | | 24 | ELEVATION | | | | | BO |
| + 3, × 3. Numbers refer to Sensitivity | | | | | | | | | SHEAR STRENGTH (kPa) UNCONF NED + FELD VANE OUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESIS | | Diameter: Date: Nov | DRIL Meth | 臣 |
| Numbe to Sens | | | | | | | | | AR ST | RESISTANCE PLOT | | Diameter: Date: Nov/11/2013 | DRILLING DATA Method: Geo Probe | 16 |
| rs refer itivity | | | | | | | | | RENG | -40 EPLOT | | 11/201 | o Prot | 모 |
| | | | | | | | | | 50 × + (k | -® / | | ω | æ | = |
| °=3% | | | | | | | | | Pa) FIELD V LAB V LAB V | -8 | TION | | | |
| Strain | | | | | | | | | ANE 50 | -00 | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | ₹ T * | PLASTIC NATURAL LIMIT CONTENT | 1 | | | |
| re | | | | | | | | | WATER CONTENT (%) | | | | | |
| | | | | | | | | | -20 NTEN | STURAL | , | m 20 | | |
| | | | | | | | | | 30 VT (%) | - 5 | | REF. NO .: | | |
| ľ | | | | | | | | | POCKET (Cu) (kF | PEN. Pa) | | REF. NO .: 1889-220 | | |
| | | | | | | | | | NATURAL U (Mg/m | JNIT WT 3) | | 89-22 | | |
| | | | | | | | | | GR SA SI CL | AND | | 20 | | 1 OF 1 |

| GROUNI | 2.4 | 2.1 22 3 | 22.6 | 24. I 0.6 | 00 | (m) ELEV DEPTH 24.7 | ВНГО | DATU | PROJECT | |
|--|---|----------------------------------|--|---|---------------------------------------|--|--------------------------|---|------------------------------------|--|
| GROUNDWATER ELEVATIONS | END OF BOREHOLE 1. Borehole backfilled with bentonite upon completion. | CLAYEY SILT grey/brown, moist | FILL sand & silt, grey/brown, saturated | FILL silt & sand, trace gravel, trace brick, brown, moist | TOPSOIL topsoil, dark brown, moist | DESCRIPTION | SOIL PROFILE | PHOUECT LOCATION: 2150 Lake Shore Bivd, Toronto, ON DATUM: Local BLI CONTION: | PROJECT: Mr.Christie CLIENT: | |
| | | | | | | STRATA PLOT | | ă, 10 | | |
| | | | 2AUNDIS | 1BUI | 1AUNDIS | NUMBER | ş | ronto, | | |
| | | | 2AUNDIST | 1BUNDIST | NDIST | TYPE | SAMPLES | QN | | |
| | | | | | | "N" <u>BLOWS</u> 0.3 m | S | | | |
| GRAPH | | | | | | GROUND WATER CONDITIONS | | | | |
| + ω | | | 23 | 24 | | ELEVATION | | | | |
| 3, × 3. Numbers refer O = 3% Strain at Failure | | | | | | 100 VANE VANE | DYNAMIC CONE PENETRATION | Date: Nov/11/2013 | DRILLING DATA Method: Geo Probe | |
| at Failura | | | | | | WATER CONTENT W. 10 20 30 POCKET PEN 10 20 30 POCKET PEN (M) (PR) POCKET PEN (M) (PR) (M) (PR) | r | REF. NO.: 1889-220 ENCL NO.: | | |
| | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | EMARKS | | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 5.GPJ SPL.GDT 12/5/13 | - | | | | | | | | | | | | | | | - |
|--------------------------------------|--|-----|-----------------------|------------------|----------------------------|---------|---------|----------|--|----|-----------------------------|---|-----------------|--------------------------------|---|------------------------------------|---|
| GROUNDWATER ELEVATIONS | 4 ت | 198 | | | 30 | 21.7 | | | | 03 | 2 28 24: 4 | (m) ELEV DEPTH 24.7 | | BHL | PRO. | PROJECT | |
| GROUNDWATER ELEVATIONS | Benaloe backfilled with bentonite upon completion. | | trace shale fragments | | CLAYEY SILT grey, moist | | | | some clay, trace sand, gravel, brown, moist | | | DESCRIPTION | SOIL PROFILE | DA I UM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Centerininal Environmental Materials Libriroferiogy |
| | | 344 | <u></u> | <u>,,,,,,,,,</u> | | | | 1 | | | | STRATA PLOT | | | , Toro | | Rouge |
| | | ╞ | 4BUNDIS | 4AUNDIS | 3BUNDIST | 3AUNDIS | 2BUNDIS | 2AUNDIST | 1BUNDIS | | | NUMBER | SAI | | onto, C | | 9 |
| | | + | DIST | DIST | DIST | DIST | DIST | DIST | DIST | | | TYPE | SAMPLES | | ž | | |
| K Q | | ╞ | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | | | | | |
| GRAPH | | L | | | | | | | | | | GROUND WATE | =н | | | | |
| + 3 | | | 20 | N | 2 | 22 | | 23 | 5 | 24 | | ELEVATION | | | | | |
| + 3, × 3; Numbers refer | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (FPa) • UNCONFINED + 5 estability • QUICK TRAVAL × LAB VANE 50 100 150 200 250 | ANCE PLO | Date: Nov/11/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| ⊖ ^ε =3% Strain at Failure | | | | | | | | | | | | TH (kPa) + Somsitivity × LAB VANE 50 200 250 | | | , | œ | |
| At Ealling | | | | | | | | | | | | We w w w WATER CONTENT (%) | PLASTIC NATURAL | | | | |
| | | t | | | | | | | | | | 30 NT (%) | LIQUID | ENCL NO .: | REF. NO.: 1889-220 | | |
| | | t | | | | | | | | | | POCKET PER (Cu) (kPa) | ۹. | j ő | 0.: 18 | | |
| | | | | | | | | | | | | NATURAL UNIT (Mg/m ³) | WT | | 389-22 | | |
| | | | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | ŏ | | - |

| | 6.7 | 18 9 | 1 9 9 | 19.7 | 4.6 | 21 0 | | 32 | 3 | | 24.1 | | | 28 05 | | Ì | BHLO | PROJ | PROJECT CLIENT: |
|-----------------------------|--|---------------|---------------------|--------------|---------------------------|------|----------|---|-----------|------------------|------------|----------|------------------------------------|-----------------------------|---|----------------|------------------------------|---|------------------------------------|
| | END OF BOREHOLE 1. Sample refusal at 6.7 m. 2. 50mm-diameter monitoring well installed. | SHALE grey | CLAY grey, moist | | SILTY CLAY grey, moist | | | SILT trace clay, gravel, grey/brown, moist | dark grey | grey, wet | SILTY CLAY | | FILL sand and gravel, brown, moist | ASPHALT 75 mm of asphalt | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr. Christie CLIENT: |
| | | | M | ++++ ++++ | , <i>†††††</i> | | | | ++++++ | ++++++ ++++++ | | | • | | STRATA PLC | т | | vd, Tor | |
| | | 5AUNDIS | | 4BUNDIS | 4AUNDIST | | 3BUNDIS. | 3AUNDIS | 2BUNDIST | 2AUNDIS | _ | 1BUNDIST | 1AUNDIST | 1 | IUMBER | SA | | onto, C | |
| | | DIST | _ | DIST | DIST | | DIST | DIST | DIST | DIST | | | DIST | | | SAMPLES | | ž | |
| B | terestat t | | | | | | | | | | | | | | N" BLOWS 0.3 m | | 4 | | |
| GRAPH | | | | | | | | | | | | | | | CONDITIONS | | 4 | | |
| 3 | | 19 | | 20 | <u>1</u> | 2 | | 22 | 23 | | 24 | | 25 | | LEVATION | | | _ | |
| 3. N | | | | | | | | | | | | | | : | SHEAR STRENGTH (kPa) UNCONF NED UNCONF NED UNCK TRIAXIAL × LAB VANE OULCK TRIAXIAL × LAB VANE | | Date: Nov/08/2013 | Diameter: | DRILLING DATA Method: Geo Probe |
| 3 3. Numbers refer | | | | | | | | | | | | | | ; | R STRI | ANCE P | Nov/08 | er | NG D/ |
| refer | | | | | | | | | | | | | | | | .0 10 10 | /2013 | | ATA Probe |
| 2 | | | | | | | | | | | | | | ! | ,×+(xPa | | | | |
| €=3% c. | | | | | | | | | | | | | | | LD VANE BED VANE B VANI | 100 | | | |
| | | | | | | | | | | | | | | | | 52 | - | | |
| Ottoin at Fallura | | | | | | | | | | | | | | | W ₂ W W WATER CONTENT (%) | PLASTIC N | | | |
| | | | | | | | | | | | | | | | | MOISTURE | | | |
| | | | | | | | | | | | | | | | 30 ENT (% | | ENCL NO .: | REF. | |
| | | | | | | | | | | | | | | | POCKET I (Cu) (kP | | | REF. NO.: 1889-220 | |
| | | | | | | | | | | | | | | | NATURAL U (Mg/m ³ | | 1 | 1889-2 | |
| | | | | | | | | | | | | | | 01 07 01 | | R |] | 220 | |
| | | | | | | | | | | | | | | 2 | AIN SI (%) (%) | REMARKS AND | | | |

| SPL SOIL L | LOG 1889-220 BOREHOLE LOGS SET 3.GPJ SPL.GDT 12/5/13 | , | | | | | | | | | _ | | | | | - |
|------------------------|--|--|--------------|---------|-------------|---------|---------------|-----------------------|---------|---------------------------------------|---|--------------|-------------------|---|------------------------------------|--|
| GROU | | 4 9 | 20.7 | | 30 | 22 5 | 18 | 2 I 2 | 24 3 | 221 0750 2856 2844 | (m) ELEV DEPTH | | BHL | PRO | CLIENT: | - |
| GROUNDWATER ELEVATIONS | | END OF BOREHOLE Barehole backfilled with bentonite upon completion. | v wet | | grey, moist | | | silty clay, grey, wet | | FILL sand and gravel, brown, moist | | SOIL PROFILE | BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | оеотеонност стилопплетнат матегнать пуогодеогоду |
| | | | <i>++++;</i> | +++++ | +++++ | | \$ <u>} }</u> | | | | STRATA PLOT | | | d, Tor | | None |
| | | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIST | 1BUNDIS | 1AUNDIS: | NUMBER | - sA | | onto, (| | 07 |
| | | | IDIST | IDIST | IDIST | IDIST | IDIST | IDIST | | IDIST | TYPE | SAMPLES | | Z | | |
| n | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | ŝ | | | | |
| GRAPH | | | | | | | | | | | GROUND WATE CONDITIONS | R | | | | |
| - ω | | 20 | 21 | | 22 | 23 | | 24 | | 25 | ELEVATION | |] | | | |
| → 3 > 3. Numbers refer | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (Pa) 0 UNCONF NED + FIELD VANE 0 UNCONF NED + Strendbardy 0 CUICK THAVAAL - LAB VANE 50 100 150 200 250 | | Date: NOV/06/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| | | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 20 | | |

| 4 ω | 20 5 | 2.4 | 23 2 1 5 22 3 | 249.68 03.28 | (m) ELEV DEPTH 24.7 | PROJEC |
|---|--------------------------------------|--|---|---|--|---|
| Berehole backflied upon completion. | trace sand, trace shale, some gravel | CLAYEY SILT clayey silt, brown, moist | SILTY CLAY trace sand, organics, grey, wet | Topsoli Topsoli FILL send, brown, moist SILT trace sand, some clay, brown, moist | DESCRIPTION | T: Mr.C T LOC/ Local TION: |
| | | | <i>*****</i> ***** | | STRATA PLOT | d, Tora |
| | 3BUNDIS 4AUNDIS | 3AUNDIS | 2AUNDIS 2BUNDIS | 1AUNDIS 1BUNDIS | | onto, O |
| | | DIST | | | TYPE | ž |
| | | | | | 0.3 m | <u></u> |
| | | | | | GROUND WATER CONDITIONS | _ |
| | 21 | 22 | 23 | 24 | ELEVATION | |
| | | | | | PESISTANCE PLOT 20 40 60 80 100 SHEAR STRENGTH (Pa) 0 LINCONF NED + FILLD WAR 50 100 150 200 250 | DRILLING DATA Method: Geo Probe Diameter: Date: Nov/08/2013 Date: Nov/08/2013 |
| | | | | | < 52 | - - |
| | | | | | ATURAL LIQUID | REF. NO.: 1889-220 ENCL NO.: |
| | | | | | POCKET PEN. (Cu) (kPa) NATUBAL UNIT WT | 0.1188 |
| | | | | | NATURAL UNIT WT (Mg/m ²) | 9-220 |
| | | | | | REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 5.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | | - |
|---|---|---|---------------------|---|----------|------------|--------------------------------------|-----------|----------------------|--|------------------------|--------------------------|-------------------|---|------------------------------------|---|
| GROUI | | .2 .4 | 22.1 | 22 5 | | | | 03 | 2222 2429 3439 | ELEV DEPTH 24.6 | Ê | | DATU | PRO, | PRO, | |
| | | END OF BOREHOLE 1. Sample refusal at 2.4 m. 2. Borehole backfilled with bentonite upon completion. | | CLAY clay, brick and glass fragments | q | grey/brown | FILL silt, some clay, grey, moist | | | | | SOIL PROFILE | DATUM: Local | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| | | | $\backslash\rangle$ | XX | | XX | | \otimes | $\land \land$ | STRATA PLO | т | | | i, Toro | | geolog |
| ◄ ◀ | | | 2BUNDIS | | 2AUNDIST | | 1BUNDIS | | | NUMBER | _ | SA | | onto, (| | yy. |
| ~ | | | | | IDIST | | IDIST | Č. | | TYPE | | SAMPLES | | Z | | |
| | | | | | | | | | . | "N" <u>BLOWS</u> 0.3 m | | S. | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | GROUND W | | | | | | 60 |
| + | | | | | 23 | | , | 24 | | ELEVATION | | | | | | BC |
| $^3, \times$ 3 ; Numbers refer $_{\odot}$ $^{\epsilon}$ =3% Strain at Failure to Sensitivity | | | | | | | | | | SHEAR STRENGTH (kPa) UINCONF NED + FIELD VANE OULICK TRIAXIAL × LAB VANE 50 100 150 200 250 | | DYNAMIC CONE PENETRATION | Date: Nov/11/2013 | Diameter: | DRILLING DATA Method: Geo Probe | Log of Borehole BH17 |
| at Failure | | | | | | | | | | WATER CONTENT (%) 10 20 30 10 20 3 | PEN. Pa) JNIT WT | | ENCL NO .: | REF. NO.: 1889-220 | | 1 OF |

| GROUN | 4 | | | | | | | ç | 24 2 0 3 | 0 0 24 5 | (m) ELEV DEPTH 24 8 | | PROJ DATU BH LC | PROJEC |
|----------------------|---------------------------------------|----------|----------|----------|-----------|-----------|----------|-------------------------------------|----------------------------|---------------------------------------|---|-----------------|---|------------------------------------|
| | Ecorebacterioure upon completion. | | | | grey, wet | oxidation | | some clay, trace sand, brown, moist | FILL silt, brown, moist | TOPSOIL topsoil, dark brown, moist | DESCRIPTION | SOIL PROFILE | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr. Christie CLIENT: |
| | u . | | | | | | | - | × | | STRATA PLOT | 1 | Vd, To | |
| | | 4BU | 4AU | зви | зAU | 2BU | 2AU | 1BUI | | 1 AU | NUMBER | s. | ronto, | |
| | | 4BUNDIST | 4AUNDIST | 3BUNDIST | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | 00 | 1AI INDIST | TYPE | SAMPLES | 9 | |
| G | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | | | |
| GRAPH | | | | | | | | | | | GROUND WATE CONDITIONS | R | | |
| - ω | | 3 | 21 | | 22 | | 23 | 24 | | | ELEVATION | | | |
| 3 < 3. Numbers refer | | | | | | | | | | | 20 40 60 100 SHEAR STRENGTH (KPa) 0 UNCONFINED + 6 5 000000 50 100 150 200 250 | RESISTANCE PLOT | Diameter: Date: Nov/11/2013 | DRILLING DATA Method: Geo Probe |
| | | | | | | | | | | | WATER CONTENT 10 20 30 NATURAL UNITEN 10 20 30 NATURAL UNIT | | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | |

| | 7.6 | 178 | | | | | 29 | 22.4 | 15 | 23 8 | 25 0 0 3 | (m) ELEV DEPTH 25 3 | | DATU BH L | CLIENT: | PRO. |
|---|---|------------------------|-----------------|---------------|---------|--|--------------------------------|---------|----------------------------------|----------|--|---|-----------------|------------------------------|--|----------------------|
| - | END OF BOREHOLE Sample refusal at 7.6 m. Service backfilled with bentonite upon completion. | | | wet | | | SILTY-CLAY grey, very moist | | SILT trace clay, brown, moist | | ropsoli, dark brown FILL silt, trace clay, brown, damp | | SOIL PROFILE | DATUM: Local BH LOCATION: | CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie |
| ľ | | <i>7777</i> | <i>++++++</i> + | <i>+++++;</i> | ++++++ | <i>777777777777777777777777777777777777</i> | ++++++++ | × × × × | × × × × × × | | | STRATA PLOT | | | id, Tor | JECT: Mr.Christie |
| | | 5BUNDIS | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS: | 2BUNDIS | 2AUNDIST | 1BUNDIST | 1AUNDIST | NUMBER | SA | | onto, (| |
| | | DIST | DIST | IDIST | | DIST | DIST | DIST | DIST | DIST | | TYPE | SAMPLES | | ž | |
| | | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | | | | |
| | | | | | | | | | | | CK CK | | R | | | |
| | | 18 | 19 | | 20 | 22 | 22 | Į | 23 | 24 | 25 | ELEVATION | | | | |
| ſ | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTI (kPa) 0 UNCONF NED + FELD VANE 0 UNCK TRIAXIAL × LAB VANE 50 100 150 200 250 | PYNA | Date: | Method: G Diameter: | |
| | | | | | | | | | | | | AR ST JUICK T | STANCE | Nov/ | od: Ge eter: | DRILLING DATA |
| - | | | | | | | | | | | | F NED F NED 100 1 | RESISTANCE PLOT | Date: Nov/11/2013 | Method: Geo Probe Diameter: | DRILLING DATA |
| - | | | | | | | | | | | | 150 × + (k | NETRA | 13 | e | |
| | | | | | | | | | | | | KPa) FIELD 200 : | TION | | | |
| - | | | | | | | | | | | | 250 | | | | |
| - | | | | | | | | | | | | | PLAS | 1 | | |
| | | | | | | | | | | | | W _P W W WATER CONTENT (%) 10 20 30 | | | | |
| | | | | | | | | | | | | 20 VITENT | TURAL | _ | - | |
| | | | | | | | | | | | | | LIQUID | ENCL NO .: | REF. NO.: 1889-220 | |
| ┢ | | | | | | | | | | | | POCKET PEN (Cu) (kPa) | | NO.: | ю | |
| ľ | | | | | | | | | | | | NATURAL UNIT (Mg/m ³) | | 1 | 889-2 | |
| | | | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | R | | 20 | |

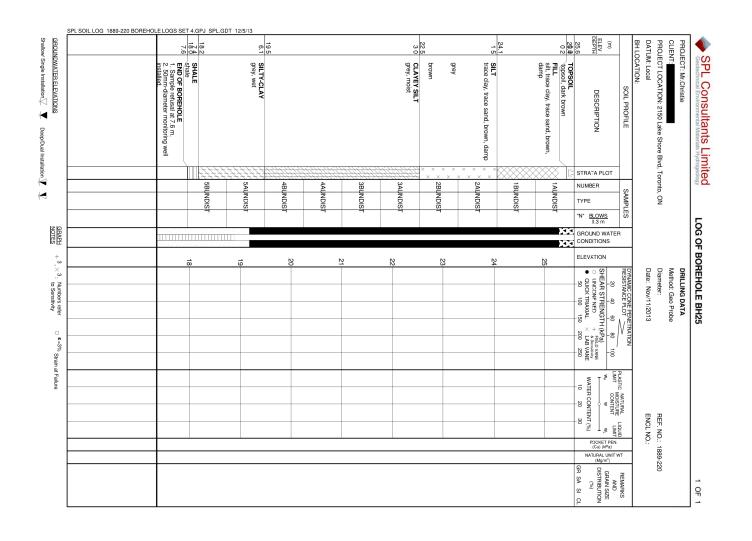
| 23 9 1 5 | 03 | (m) ELEV DEPTH 25.4 0 0 | PROJ DATU BH LC | PROJEC |
|--|--|---|---|------------------------------------|
| END OF BOREHOLE 1. Borehole backfilled with bentontie upon completion. | FIL FIL sill, trace sand, oxidized, brown | DESCRIPTION | PROLECT LOCATION: 2150 Lake Shore Bind, Toronto, ON DATUM: Local BH LOCATION: BH LOCATION: SOIL PROFILE SAME | PROJECT: Mr.Christie CLIENT: |
| 8 | | STRATA PLOT | d, To | |
| | 1AUNDIST | NUMBER TYPE "N" <u>BLOWS</u> 0.3 m | ronto, ON SAMPLES | |
| | | 0.3 m GROUND WATER CONDITIONS | - | |
| |) N | ELEVATION | | |
| | | 100 Silivity VANE 250 | Diameter: Date: Nov/11/2013 DYNAMIC CONE PENETRATION RESISTANCE PLOT | DRILLING DATA Method: Geo Probe |
| | | LIMIT CONTENT LOUDU LIMIT CONTENT LOUDU MATER CONTENT (%) 10 20 30 10 20 30 | EF. NO.: 1889-220 VCL NO.: | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 5.GPJ SPL.GDT 12/5/13 | 43 209 | 21 2 | | | U | 24 0 | 0 2 25 3 | (m) DEPTH | | DATU BH L | PRO. | PROJEC | • |
|---|---|-----------|-------------|----------|---------|------------|---------|-------------------------------------|---|--------------|------------------------------|---|------------------------------------|---|
| GROUNDWATER ELEVATIONS | Bend be becklived upon completion. | | | | | brown, wet | | Some clay, trace sand, brown, moist | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie | Geotechnical Environmental Materials Hydrogeology |
| | | 77 | <i>[[]]</i> | <u> </u> | | | | | STRATA PLOT | 1 | | d, To | | ogeolo |
| | | | B | 3AU | 2BU | 2AU | 1BU | 1AU | NUMBER | _ v | 1 | ronto, | | gy |
| | | | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | | N | | |
| | | | - | - | | | - | - | "N" <u>BLOWS</u> 0.3 m |] ES | | | | |
| <u>GRAPH</u> NOTES | | | | | | | | | GROUND WATE CONDITIONS | R | 1 | | | LOG OF BOREHOLE BH21 |
| | | 21 | | 22 | 23 | | 24 | 25 | ELEVATION | | 1 | | | |
| + ³ , × ³ : Numbers refer to Sensitivity | | Ť | | N | ω | | 4 | <u> </u> | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 INCOME MED + FED VANE 0 QUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RES | Dat | Diar | DRI | |
| to Se | | | | | | | | | | ISTAN | e: No | Diameter: | LLING | Þ |
| pers ret | | | | | | | | | 100 NF NET | CE PLO | Date: Nov/12/2013 | | DRILLING DATA Method: Geo Probe | |
| <u> </u> | | - | | | | | | | 15 GTH 6 | | 2013 | | robe | |
| ୍ଚ | | - | | | | | | | 200 A # [kPa] | N R | | | | |
| =3% SI | | _ | | | | | | | ED VAN B VAN 250 | z | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | | | | | | |
| Failure | | | | | | | | | WP W WATER CONTEN | LASTIC | | | | |
| | | | | | | | | | WI CONTENT LIN W5 W W WATER CONTENT (%) 10 20 30 | NATU | | | | |
| | | | | | | | | | | | E E | R | | |
| | | | | | | | | | 0 (%) _ w | LIQUID | ENCL NO.: | FNC | | |
| | | | | | | | | | POCKET PEN (Cu) (kPa) | 4. | | REF. NO.: 1889-220 | | |
| - | | - | | | | | | | NATURAL UNIT (Mg/m ³) | WT | - | 89-22 | | |
| | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 0 | |]_ |
| | | 1 | | | | | | | AIN S AIN S AIN S A S | ; ₽ | 1 | | | ç |

| SPL SOIL LOG 1889-220 BOREHOLE LOGS SET | 4 0 | 20.7 | | | | | 24.1 1 5 | c.c | 299 299 2503 | | (j) | BHLC | CLIENT: PROJEC | PROJ |
|---|---|---------|---------|-----------------|---------|---------|----------------------------|--|--|---|------------------|---------------------|--|----------------------|
| GROUNDWITER ELEVATIONS | BoreHoLE 1. Borelove backfilled with bentonite upon completion. | moist | | grey/brown, wet | | | CLAYEY SILT grey, moist | SILT Itrace sand, some clay, brown, moist | ASPHALI 450 mm of asphalt FILL sand and gravel, brown, moist FIL | DESCRIPTION | SOIL PROFILE | BH LOCATION: | CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie |
| | | | | | | | XXXX | × × × `` | | STRATA PLO | т | | d, Tor | |
| | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | s | | onto, | |
| | | | | | DIST | | | | DIST | TYPE | SAMPLES | | N | |
| | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | Si li | | | |
| GRAPH | | | | | | | | | | GROUND W | | | | DRILLING DATA |
| + ω | | 21 | | 22 | 23 | | 24 | | 25 | ELEVATION | | | | |
| 3. ~ 3. Numbers refer | | | | | | | | | | SHEAR STRENGTH (kPa) UNCONF NED + Fill VANE OUNCK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESIS | | Method: G Diameter: | PRIL |
| Numbe | | | | | | | | | | | 20 2 | | od: Ge eter: | |
| srefer | | | | | | | | | | RENG RIAXIAI | 20 40 60 80 | DAILE: NOV/VO/ZU 13 | Method: Geo Probe Diameter: | DRILLING DATA |
| 0 | | | | | | | | | | 2×+(K | ° / | | ა ნ | |
| • 6 | | | | | | | | | | Pa) FIELD V LAB V | -8 / | TION | | |
| Strain | | | | | | | | | | 50 ANE | | | | |
| | | | | | | | | | | _ NA _ MP | PLASTIC LIMIT | 1 | | |
| Ď | | | | | | | | | | 10 2 | IC NAT | | | |
| | | | | | | | | | | WATER CONTENT (%) | MOISTURE | ļ | , R | |
| | | | | | | | | | | - | 70 | ENCL NO.: | E NO | |
| | | | | | | | | | | POCKET (Cu) (kP | | | 2 :: 188 | |
| | | | | | | | | | | |) | - | REF. NO.: 1889-220 | |
| | | | | | | | | | | GR SA SI CL | REMARKS | | - | |
| | | | | | | | | | | CL N | ί γ | | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 5.GPJ SPL.GDT 12/5/13 | N | | | | | | | | | סי | 0 7 | ٦. |
|---|---|---------|---------------|---------------------------|---------|---------|--|---|--------------|------------------------------|---|------------------------------------|-----|
| INDOE | 4 დ | 21.1 | | 22 | 23 24 | | 0 2 | (m) ELEV DEPTH 25.6 | | | ROJE | CLIENT: | |
| GROUNDWATER ELEVATIONS | Berchole backfluid upon completion. | | | SILTY CLAY grey, moist | | wet | SILT some clay, trace sand, trace gravel, brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | |
| | | | <i>++++++</i> | <i>77777</i> | | | | STRATA PLOT | 1 | | /d, To | | 000 |
| | | звu | 3AU | 2BU | 2AU | 1BU | 1AU | NUMBER | s. | 1 | ronto, | | |
| | | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | | Q | | |
| | | - | - | - | 7 | - | - | "N" <u>BLOWS</u> 0.3 m | S | | | | |
| GRAPH | | | | | | | | GROUND WATE CONDITIONS | R | 1 | | | |
| | | | 22 | 23 | 24 | | 25 | ELEVATION | | 1 | | | |
| + 3 X 3; Numbers refer O 8=3% Strain at Failure | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH ((Pa)) • UNCONFNED + FIELD VANE • QUICKTRUAVAL + A Sensibility 50 100 150 200 250 | | Date: Nov/12/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| At Eally | | | | | | | | WATER CONTENT 10 20 30 NATURAL (MITEN (Ga) (kEP a) NATURAL (MITEN (Ga) (kEP a) NATURAL (MITEN (Ga) (kEP a) NATURAL (MITEN (Ga) (kEP a) | LIQUID | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | AND GRAIN SIZE (%) GR SA SI CL | REMARKS | | -220 | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 5.GPJ SPL.GDT 12/5/13 | N | N | | | | N | . | N | (m) ELEV DEPTH 25.7 | | | 0 1 | ٦, |
|--|--|------------|---------|----------|-----------|--------------------|------------------------|----------|--|--|-----------------|--|------------------------------------|---|
| OUND | * ŏ | 43 21.1 | 1.4 | | | @ | | | 0280 | | | | PROJECT: | G |
| GROUNDWATER ELEVATIONS | Borance backfilled with bentonite upon completion. | Grey, wet | | | saturated | SILT brown, wet | CLAY dark grey, wet | grey | Appsoil SILT Some clay, trace sand, trace gravel, brown | DESCRIPTION | SOIL PROFILE | PHOJEC I LOCA I ION: 2150 Lake Shore Bivd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| | | 14 | | | | | \square | | | STRATA PLOT | | | | geoiu |
| | | | 3BUNDIS | 3AUI | 2BUNDIS | 2AUNDIS | | 1BUNDIS | 1AU | NUMBER | ٩S | onto, | | ЧУ |
| | | | NDIST | 3AUNDIST | NDIST | VDIST | | NDIST | 1AUNDIST | TYPE | SAMPLES | l S | | |
| | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | ŝ | | | |
| GRAPH | | | | | | | | | | GROUND WATER CONDITIONS | | | | |
| + 3 | | | | 22 | 23 | | 24 | | 25 | ELEVATION | | | | |
| . 3, × 3; Numbers refer O ⁸ =3% Strain at Failure | | | | | | | | | | 100 100 VANE VANE 250 | RESISTANCE PLOT | Diameter: Date: Nov/12/2013 | DRILLING DATA Method: Geo Probe | |
| at Failure | | | | | | | | | | WATER CONTENT (%) 10 20 30 10 20 3 | т | REF. NO.: 1889-220 ENCL NO.: | | |
| | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | MARKS | | | CF T |



| GROUND | PL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | 21 8 4 0 | | 2.4 | | | Co | 253 | (m) ELEV DEPTH | _ | DATUM: Local BH LOCATION | PROJEC CLIENT: PROJEC | 1 |
|--------------------------|--|---------|-----------------------------------|---------|-------------------------|---------|-----------------------|---|--------------------------------|--|-----------------|------------------------------|--|---|
| GROUNDWATER ELEVATIONS | Benchole backflied upon completion. | | CLAYEY SILT brown, moist, hard | | SILTY CLAY grey, wet | | oxidation organics | silt, some clay, trace sand and gravel, greyish brown, moist | TOPSOIL brown, moist, loose | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | |
| | - | | | +++++ | <i>++++</i> + | | | | | STRATA PLOT | | | vd, Tor | |
| | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SA | | onto, C | |
| - | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | | ž | |
| GRAPH | | | | | | | | | | GROUND WATE | R | | | |
| . [| | | | | | | | | | CONDITIONS | | | | |
| _3 < 3. | | 21 | | 22 | 23 | 1 | 2 | 25 | | | REDY | Da | Dia Dia | , |
| Numt | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (FPa) - UNCONFINED + (FED VANE - QUICK TRAXAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/13/2013 | DRILLING DATA Method: Geo Probe Diameter: | |
| Numbers refer | | | | | | | | | | 40 TREN TRIAXI | CE PLO | v/13/20 | àeo Pro | |
| _ | | | | | | | | | | 150 × + (k | N | 13 | be | |
| ε =3% | | | | | | | | | | KPa) FIELD V 200 2 | TION | | | |
| | | | | | | | | | | | | | | |
| ⊖ 8=3% Studie of Follows | | | | | | | | | | Wp W WATER CONTENT 10 20 | PLASTI | | | |
| | | | | | | | | | | WATER CONTENT (%) 10 20 30 | | | | |
| | | | | | | | | | | | | Ð | R | |
| | | | | | | | | | | | LIQUID | ENCL NO .: | REF. NO.: 1889-220 | |
| + | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT (Mg/m ³) | NT | i. | : 1889 | |
| ┢ | | | | | | | | | | (Mg/m ³) GR DG G | л | | -220 | |
| | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | |
| | | | | | | | | | | | ŝ | | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | | | | | | | | - |
|--|--|------------------|-------------------|---|---|------------------------|------------------------------|---|-------------------|---|
| <u>GROU</u> Shallov | ת | 24.1 | | 28-0 1-0 | (m) ELEV DEPTH 25.7 | | BHL | PRO | CLIE | |
| GROUNDWATER ELEVATIONS Shallow' Single Installation ∇ | EDGPEDDE Endende backfilled with bentontie upon completion | grey, very moist | occassional brick | FIL FIL silt, brown, moist, loose | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| allation | | ** | <u> </u> | | STRATA PLOT | 1 | | vd, To | | rogeolo |
| | | | Ē | IAL | NUMBER | _ s | 1 | ronto, | | ygy |
| | | | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | | Q | | |
| | | | - | 4 | "N" <u>BLOWS</u> 0.3 m | ۳. | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | GROUND WATE | R | 1 | | | 60 |
| | | | | | ELEVATION | | 1 | | |) Ť |
| + ³ ,× ³ : | | | | 25 | | REPY | | | | 澋 |
| to Sensitivity | | | | | 20 40 60 HEAR STRENGTH UNCONF NED QUICK TRIAXIAL 50 100 150 | RESISTANCE PLOT | Date: NOV/13/2013 | Diameter: | Method: Geo Probe | LOG OF BOREHOLE BH27 |
| ○ ^ε =3 [%] Strain at Failure | | | | | H (KPa) H (KPa) + EffELD VANE + & Sensitivity × LAB VANE 200 250 | | | | ų. | |
| at Failure | | | | | LIMIT CONTENT LIMI We w w WATER CONTENT (%) 10 20 30 | PLASTIC NATURAL LIQUID | | REF. NO.: 1889-220 | | |
| | | | | | POCKET PEN (Cu) (kPa) | <u>5</u> | | 0.: 1 | | |
| | | | | | NATURAL UNIT (Mg/m ³) | WΤ | | 1889-2 | | |
| | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 20 | | 1 OF 1 |

| | 202 | (m) ELEV DEPTH 25.7 | | BHL | PROJEC |
|--|---|---|---------------------|------------------------------|---|
| END OF BOREHOLE 1. Sample refusal at 1.5 m 2. Berehole backfilled with bentonite upon completion. | 90 mm FILL Stand gravel SLT SLT SLT SLT Tace sand, oxidation, brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON |
| | ~~~ <u>`</u> | STRATA PLOT | 1 | | d, To |
| | 1AL | NUMBER | 6 | 1 | ronto |
| story | 1AUNDIST | TYPE | SAMPLES | | , Q |
| | | "N" <u>BLOWS</u> 0.3 m | ES | | |
| | | GROUND WAT | ĒR | | |
| | | ELEVATION | | 1 | |
| | 25 | • ़ थ | 교업 | | |
| | | 20 40 68 100 SHEAR STRENGTH (KPa) UNCONFINED + REMUNITION OULICK TRIAVIAL × LAB VANE 50 100 150 200 250 | ANCE PLO | Date: Nov/13/2013 | Method: Geo Probe Diameter: |
| | | H (kPa) + Field VANE + Sensitivity × LAB VANE 0 200 250 | MAIION | | Ū |
| | | P CONTENT | PLASTIC NATURAL LIC | ENCL NO .: | REF. |
| | | | LIQUID | No | NO.:: |
| | | POCKET PEI (Cu) (kPa) NATURAL UNIT | | | REF. NO.: 1889-220 |
| | | (Mg/m ³) | | | 3-220 |
| | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | - |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | |
|---|---|--------------|-------------|-----------|----------------|----------|---------------|-----------------------|-----------------------------------|---|-----------------|------------------------------|---|------------------------------------|---|
| <u>GROUI</u> Shallow | 4 0 | 20 9 | | | | | | | 255 03 | (m) ELEV DEPTH | | BHL | PRO, | PROJECT | |
| GROUNDWATER ELEVATIONS Shallow/ Single Installation 🕎 📃 Deep/Dual Installation 🝸 | Experience backfulder Experience backfulder upon completion. | | | | oxidation zone | | organic layer | brown, moist, compact | Some clay, trace sand and gravel, | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| allation | | × × < × × | × × × × × × | × × × × × | × × × × × × | × × × × | × × × × × × | × × × × × × | ×_×511 | STRATA PLOT | | | rd, To | | ogeolo |
| ĀĀ | | 4BUI | 4AU | 3BUNDIS | 3AUNDIS | 2BUI | 2AU | 1BUNDIS | 1AUNDIS | NUMBER | _s | 1 | ronto, | | gy C |
| D. | | 4BUNDIST | 4AUNDIST | VDIST | VDIST | 2BUNDIST | 2AUNDIST | VDIST | VDIST | TYPE | SAMPLES | | N | | |
| 220 | | | | | | • | | | | "N" <u>BLOWS</u> 0.3 m | S | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | GROUND WATE CONDITIONS | R | | | | 0.0 |
| + 3 | | 21 | 22 | | 23 | | 24 | 25 | | ELEVATION | | 1 | | | BO |
| $+$ 3 , \times 3 ; Numbers refer \circ ϵ =3% Strain at Failure | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) • UNCONFINED + Fills VANE • QUICK TRUXAL + LAS VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/13/2013 | Diameter: | DRILLING DATA Method: Geo Probe | LOG OF BOREHOLE BH29 |
| at Failure | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | | 1 OF 1 |

| 0 0 | 6.6 19 0 | 6.1 193 | 198 | | | | | | | 60 | 2 0 1 0 | 25.00 | (m) ELEV DEPTH | | DATU | PROJECT CLIENT: |
|--|-------------|------------|---------------------------------------|-----------|---------|-----------|-------------|-----------------------------------|----------------|--|--|----------------------|--|-----------------|------------------------------|--|
| END OF BOREHOLE 1. Sample retusat 8.8 m 2. 50 mm-diameter monitoring well Installed | | | | | | | | organics at 2 m (thickness 0.7 m) | organic layers | SILT some clay, greyish brown, moist, very stiff | SANU trace silt, brown, very moist, loose | dark brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON |
| | | | × × × × × × × × × × × × × × × × × × × | × × × × × | < | × × × × × | × × × × × × | × × × × × | × × × | γ × × × × × | • . • . | • _x s | STRATA PLOT | 1 | | vd, To |
| | | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | | 1 BUNDIS | 1 AUNDIS | N | IUMBER | SA | | onto, (|
| | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | | DIST | DIST | | YPE | SAMPLES | | ž |
| | | | | | | | | | | | | _ | N" BLOWS 0.3 m | | | |
| | | | | | | | | | | | | | CONDITIONS | | | |
| | \$ | | 20 | 21 | 22 | | 23 | 24 | | 5 | ວ ກ | | LEVATION | | _ | |
| | | | | | | | | | | | | ę | 20 40 60 80 100 SHEAR STRENGTH (kPa) UNICOME NED 4 FIELD VANE OLICICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/12/2013 | DRILLING DATA Method: Geo Probe Diameter: |
| | | | | | | | | | | | | | CK TRIA | NOCE PI | lov/12 | : Geo F |
| | | | | | | | | | | | | į | NGTH 60 | | 2013 | Probe |
| | | | | | | | | | | | | | >00 × + (kPa) LAB = 00 | V RATIO | | |
| | | | | | | | | | | | | | 100 Ensitivity B VANE | 2 | | |
| | | | | | | | | | | | | | | P | | |
| | | | | | | | | | | | | | | PLASTIC M | | |
| | | | | | | | | | | | | | | MOISTURAL | _ | |
| | | | | | | | | | | | | | ENT (%) | | ENCL NO .: | REF. NO.: 1889-220 |
| | | | | | | | | | | | | | POCKET PEN (Cu) (kPa) | | NO.: | 0 .: 1 |
| | | | | | | | | | | | | | NATURAL UNIT (Mg/m ³) | WT | | 889-2 |
| | | | | | | | | | | | | GH SA SI CI | AND STRIBUTI (%) | REMARKS | | 20 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | | | | _ |
|---|---|------|----|------|----------------|--------------|--------------|-------|--|------------|--|-------------------|---|-----------------|------------------------------|---|------------------------------------|--|
| | 4 0 | 20 9 | 40 | 21 9 | | | | | | | | 2 8 .0 | (m) ELEV DEPTH 25 8 | | BHL | PRO. | CLIENT: | |
| GROUNDWATER ELEVATIONS | Berahole backflied upon completion. | wet | | | | | | | organic layer at 1.4 m (thickness 200 mm) | very moist | SILT some clay, trace sand, trace gravel, brown, moist | dark brown, moist | DESCRIPTION | SOIL PROFILE | DATOM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | CLIENT: | Geotecrinical Environmental Materials Hydrogeology |
| | | | | ×× | × × × × × × | × × × × × | × × × × × | × × × | × × × × × | × × > | < | XE | STRATA PLOT | _ | 4 | , Toro | | Jeology |
| | | 4B | 4A | 5 | зв | 3A | 6 | ŭ | 2A | 1B | | \$ | NUMBER | SAN | | nto, O | | |
| | | | | | | | _ | | | | | | "N" <u>BLOWS</u> 0.3 m | SAMPLES | | z | | |
| GRAPH NOTES | | | | | | | | | | | | | GROUND WATE | R | - | | | |
| | | | | | | | | | | | | | CONDITIONS | | $\left\{ \right.$ | | | |
| + ³ ,× | | 21 | | 22 | | 23 | | 24 | | 25 | | | | 20 | | , , | < 0 | |
| $+$ ³ , \times ³ ; Numbers refer \circ ^{ϵ} =3% Strain at Failure | | | | | | | | | | | | | 20 40 69 80 100 SHEAR STRENGTH (kPa) • UNCONF NED + 6 Genearby • OUICK TRAVAL + 4 Genearby 50 100 150 200 250 | RESISTANCE PLOT | | Diameter: | DRILLING DATA Method: Geo Probe | |
| at Failure | | | | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT (Mg/m ³) | LIQUID | ENCL NU: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | R | | 220 | | |

| GROUN | PL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 س س | | 4 | 219 | | | | 24 3 1 5 | | | 28.9 0.2 | (m) ELEV DEPTH | | DATU BH LC | PROJEC | |
|------------------------|---|---------|-----------------|-----------|--------------|-------------|--------------------------|---------------------------------------|------------------------------------|--|---|--|--------------|------------------------------|--|--------------------|
| GROUNDWATER ELEVATIONS | 1. So for EPOLE 1. So form-diameter monitoring well installed vater encountered at 0.9 mbg Nov. 12, 2013. | shale | grey, wet, soft | | | | occasional grey fissures | SILT some clay, brown, moist, hard | | FILL silt, some clay, trace sand and gravel, greyish brown, wet, loose | TOPSOIL 150 mm, dark brown, wet, loose | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: MIT-UTITISTIE CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | IEOT. Mr. Obvictio |
| ľ | | | ++++++++ | × × × | × × × × × | × × × × × × | × × × × | × | | **** | X E s | TRATA PLOT | | | rd, Tor | |
| | | Ę | | | | | - E | | | Ę | | IUMBER | SA | | onto, C | |
| - | | UNDIST | UNDIST | | | UNDIST | UNDIST | | | UNDIST | | YPE | SAMPLES | | ž | |
| g, i | | a sugar | | i en text | | | | | | | | N" BLOWS 0.3 m | | | | |
| GRAPH | | | | | | | | | × 7< | | | ONDITIONS | | | | |
| - 3 <u>-</u> 3 - | | | 21 | 22 | | 23 | 24 | 2 | 40v 12 | 2 | | LEVATION | | _ | | |
| з. х | | | | | | | | | 23 W. L. 24.9 m Nov 12, 2013 | | | | RESIST | Date: Nov/12/2013 | Method: Geo Probe Diameter: | |
| Numbers refer | | | | | | | | | | | | | ANCE F | Nov/12 | ter: | |
| refer | | | | | | | | | | | | | | 2/2013 | Probe | |
| | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) O LINCCNF NED + FIELD VANE O LUICK TRIAXIA + Associativity O LUICK TRIAXIA + LAB VANE | N H | | | |
| S = 3% cm = 1 = 1 | | | | | | | | | | | | 100 ELD VAN B VAN | ž | | | |
| | | | | | | | | | | | | | 7 | | | |
| | | | | | | | | | | | | | ASTIC | | | |
| | | | | | | | | | | | | | NATUR | | | |
| - | | | | | | | | | | | | | ₽,₽ | ENC | REF. | |
| | | | | | | | | | | | | POCKET PEN (Cu) (kPa) | LIQUID | ENCL NO .: | NO.: | |
| ŀ | | | | | | | | | | | | (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | | REF. NO.: 1889-220 | |
| ľ | | | | | | | | | | | g | DIST | R | | 220 | |
| | | | | | | | | | | | | | REMARKS | | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | _ |
|---|---|------------------|-----------------|---------|---|---------|---------|----------------------------------|--|--|-----------------|--|---|
| GROUI | ற் ப | 19.7 | 4.6 | 2 | 30 | 22 8 | | | 25 2 0.6 | (m) ELEV DEPTH | | PROJECT CLIENT: PROJECT DATUM: L BH LOCA | |
| GROUNDWATER ELEVATIONS | Exp of BoartHOLE Evade backfilled with bentonite upon completion. | shale fragments | grey, wet, sott | - | SAND trace silt, brownish grey, saturated clayey silt, grey | | | zones of oxida ion, brown, moist | 90 mm 91 FIL silt, some clay, trace sand and silt, some clay, trace sand and silt, some clay, trace sand and | | SOIL PROFILE | CLENT: Mr.Christie CLENT PROJECT LOCATION: 2150 Lake Shore Bivd, Toronto, ON DATUM: Local BH LOCATION: | Geotechnical Environmental Materials Hydrogeology |
| | | ++++++ ++++++ | <i><u> </u></i> | | | 77777 | +++++++ | ++++++ | <u> </u> | STRATA PLOT | | I, Toro | geolog |
| | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIST | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | NUMBER | SAN | nto, O | 4 |
| | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | T | TYPE | SAMPLES | z | |
| NGR | | | | | | | | | | "N" BLOWS 0.3 m | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | CONDITIONS | | | P |
| + ,,, | | 20 | 21 | 22 | | 23 | 24 | S | 0 n | ELEVATION | | | B |
| \pm 3 , \times 3 . Numbers refer $$\odot^{\epsilon=3\%}$$ Strain at Failure | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (KPa) 0 UNCONF NED + FIELD VINIE 0 UNCONF NED + A Sensitivity 50 100 150 200 250 | RESISTANCE PLOT | DRILLING DATA Method: Geo Probe Diameter: Date: Nov/12/2013 | LOG OF BOREHOLE BH33 |
| at Failure | | | | | | | | | | WATER CONTENT (%) 10 20 30 NATURAL (MIT EN 10 | | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 1 OF 1 |

| GRO | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | 21 3 | | | | -1 51 | 24 0 | 25.1 | 28 0 0.1 | (m) DEPTH | | BH DA PR | CLI |
|--|---|----------|----|------------|----------|---|--------------------------|------|-------------|--|-----------------|---|------------------------------------|
| GROUNDWATER ELEVATIONS | EVD OF EPICLE Sample refusal at 4.6 m Bonchole backfilled with bentonite upon completion. | | | damp/moist | | 5 CLAYEY SILT clayey silt, trace sand, brown, damp | silty clay, brown, moist | | | DESCRIPTION | SOIL PROFILE | PROJECT LOCATION: 2150 Lake Shore Bivd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: |
| | | | | | | | | | * | STRATA PLOT | | d, Tor | |
| | | 3BUNDIST | | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | | | NUMBER TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | onto, ON | |
| GRAPH | | | | | | | | | | GROUND WATER CONDITIONS | 1 | | |
| + ω | | | 22 | | 23 | 24 | ŗ | vл | | ELEVATION | | | |
| 3, × 3. Numbers refer O = 3% Strain at Failure | | | | | | | | | | 100 VANE VANE | RESISTANCE PLOT | Diameter: Date: Nov/13/2013 | DRILLING DATA Method: Geo Probe |
| at Ealling | | | | | | | | | | WATER CONTENT (%) 10 20 30 10 20 3 | | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | |

| | L SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | 20 | | | | | 12 | 0.6 24.4 | 25 | (m) ELEV DEPTH | | BH DA | PR | CLI PR |
|---|--|----------|----------|-------------------------------------|-------------|-------------|--|---|-----------|---|-----------------|------------------------------|---|------------------------------------|
| GROUNDWATER ELEVATIONS | END OF BOREHOLE 1. Borehole backfilled with bentonite upon completion | | | clayey siit, occasional silt layers | | | 2 SILT some clay, grey, moist, hard | .6 FILL silt, some clay, trace sand and gravel, brown, moist, compact | | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: |
| | | × × × | × × × × | × × × × × × × | × × × × × × | × × × × × × | × × × × × × | | \otimes | STRATA PLOT | 1 | | /d, To | |
| | | 4BUNDIST | 4AUNDIST | 3BUNDIST | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | 1AUNDIST | NUMBER TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | | ronto, ON | |
| GRAPH | | | | | | | | | | GROUND WATE CONDITIONS | R | | | |
| | | 21 | | 22 | 23 | | 24 | 25 | | ELEVATION | | | | |
| + 3 × 3. Numbers refer © 8=3% strain at Failure | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (KPa) • UNCONFINED + FELL VANE • QUICK TRIVXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/13/2013 | Diameter: | DRILLING DATA Method: Geo Probe |
| | | | | | | | | | | WATER CONTENT 10 20 20 (KPa) NATURAL UNIT 10 20 10 (W) 10 20 10 (W) | LIQUID | ENCL NO.: | REF. NO.: 1889-220 | |
| | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 220 | |

| 24 3 1 5 | | 28.9 0.9 | (m) ELEV DEPTH 25.9 | | DATU | PROJEC |
|--|---------|---|---|---|---|------------------------------------|
| END OF FOREHOLE 1. Borehole backfilled with bentonite upon completion. | grey | PLL silt, trace clay and sand, brown, moist | DESCRIPTION | SOIL PROFILE | PHOUECT LOCATION: 2150 Lake Shore Bivd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: |
| X | **** | **** | STRATA PLOT | | ĝ, | |
| | 1BL | 1AL | NUMBER | 6 | ronto | |
| | 1BUNDIS | 1AUNDIS: | TYPE | SAMPLES | Ç | |
| | 4 | <u>0</u> | "N" <u>BLOWS</u> 0.3 m | ES | | |
| | | | GROUND WATER CONDITIONS | 3 | | |
| | | | ELEVATION | | | |
| | 25 | | • े भ | REDY | Da | |
| | | | 100 VANE VANE 250 | DYNAMIC CONE PENETRATION RESISTANCE PLOT | Diameter: Date: Nov/13/2013 | DRILLING DATA Method: Geo Probe |
| | | | Image: Construct Construct Construct AND w construct construct </td <td></td> <td>HEF. NO.: 1889-220 ENCL NO.:</td> <td></td> | | HEF. NO.: 1889-220 ENCL NO.: | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | · · · | | | | | | |
|---|---|---------|----------|------------|---------------------------------------|---|---------|----------|--|-----------------|------------------------------|---|------------------------------------|---|
| GROU | 8 | 21 2 | | | | 23.7 | 24 3 | 25.0 | (m) ELEV DEPTH | | BHL | PRO. | PROJECT | |
| GROUNDWATER ELEVATIONS Shallow/ Single Installation ∇ \bullet Deep Dual Installation ∇ | Leschuid Vinture Vontonite upon completion. | | | brown/grey | clayey silt, trace sand, brown, moist | SILTY CLAY Silty clay, trace sand, grey, very moist CLAYEY SILT CLAYEY SILT | | | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie | Geotechnical Environmental Materials Hydrogeology |
| tion 🗸 | | | <u>ω</u> | 1111 | <u></u> | 447777 12 | | ••••••• | STRATA PLOT | - | - | Toron | | eology |
| | | 3BUNDIS | 3AUNDIS | | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAM | | nto, Of | | |
| | | - IST | - IS | | IST | - ST | - ST | - IS | "N" <u>BLOWS</u> 0.3 m | SAMPLES | | 2 | | |
| GRAPH NOTES | | | | | | | | | GROUND WATE | R | | | | LOG OF BOREHOLE BH37 |
| 1 | | | | | | | | | CONDITIONS | | - | | | 유 |
| + ³ ,× | | | 22 | | 23 | 24 | č | ა л | | 20 | | 0 | 2 0 | ١ R |
| + ³ , × ³ : Numbers refer to Sensitivity | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) • UNCONF NED + FIED VANE • QUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/13/2013 | Diameter: | DRILLING DATA Method: Geo Probe | EHO |
| nbers re iensitivit | | | _ | | | | | | STRE | NCE PL | ov/13/ | | Geo F | |
| y y | | | _ | | | | | | XIAL 150 NGTH | I PER | 2013 | | robe | H37 |
| ୍ଷ | | | | | | | | | 200 × + (kPa) 200 A | VIAIO | | | | |
| O [€] =3% Strain at Failure | | | | | | | | | ED VANE B VANE 250 | 2 | | | | |
| ain at F | | | _ | | | | | | | P | - | | | |
| ailure | | | _ | | | | | | | ASTIC | | | | |
| | | | | | | | | | WATER CONTENT (%) | | | | | |
| | | | _ | | | | | | | | ENCI | REF | | |
| | | | | | | | | | POCKET PEN (Cu) (kPa) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | 1 | 1889-: | | |
| | | | | | | | | | GR S | | 1 | 220 | | |
| | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | | 1 0F |
| l | | | | | | | | | р g | S | | | | |

| | ـــ ە | 24.2 | 25.1 0.6 | 28.9 0.1 | (III) ELEV DEPTH 25.7 | | DATU BH LC | CLIENT: |
|-------------------------|--|--------------|-------------------------------|---------------|--|------------------------|------------------------------|---|
| GROUNDWATER EI EVATIONS | Bercihole backflied upon completion. | soft soft | sand and gravel, brown, moist | 90 mm FILL | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | CLIENT: 2150 Lake Shore Bivd, Toronto, ON |
| | | ***** | | i | STRATA PLO | | | d, To |
| | | 1BUNDIS | | 1AUNDIS | NUMBER | {v} | 1 | ronto, |
| | | VDIST | | | TYPE | SAMPLES | | Q |
| | | | | | "N" <u>BLOWS</u> 0.3 m | S | | |
| GRAPH | | | | | GROUND WA | FER | | |
| + | | | 25 | | ELEVATION | | 1 | |
| 3,×3: Numbers refer | | | | | R STREN | | Date: Nov/13/2013 | Method: Geo Probe Diameter: |
| E=3% Strain at Failure | | | | | | 3 | | |
| Failure | | | | | R CONTEN | PLASTIC NATURAL LIQUID | ENCL NO .: | REF. NO.: 1889-220 |
| ŀ | | | | | NATURAL UN (Mg/m ³) | IT WT | 1 | 1889-2 |
| | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 220 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET | 7.GPJ SI | PL.GDT 12/5/1 | 3 | | | | | | | | | | | | | _ |
|--------------------------------------|---|----------|--------------------|---|-------------|---------|---------|---|---------|---|---|---|--|-----------------|------------------------------|--|----------------------|
| GROUNDWATER ELEVATIONS | 7.6 | 18.1 | 18.7 | 5 8 | 19 9 | | | 30 | 22.6 | -1 5 | 24.2 | 29 0.1 9 24 8 | (m) ELEV DEPTH 25.7 | | DATL BH L | CLIENT: | PRO. |
| GROUNDWATER ELEVATIONS | END OF BOREHOLE 1. Samble returns at 7.1 m. 2. Somm-diameter monitoring well installed at 7.6 m. | | SHALE | SILTY CLAY silty clay, grey, very moist trace gravel, trace shale fragments | | | | CLAYEY SILT clayey silt, trace sand, grey, moist | | SILT some sand, trace clay, brown, damp/moist | FILL clayey silt, some sand, trace gravel, brown/red, moist | ASPHALT 25 mm of asphalt FILL sand and gravel, brown, damp | | SOIL PROFILE | DATUM: Local BH LOCATION: | CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie |
| | | | 77777 | +++++ | <u>7777</u> | | | | | | | | STRATA PLOT | | | d, Torr | - and a |
| | | | 5AUNDIS 5BUNDIS | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SA | | onto, C | 57 |
| | | | | | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | TYPE | SAMPLES | | ž | |
| <u>G</u> | | | | | | | | | | | | 158 | "N" <u>BLOWS</u> 0.3 m | | | | |
| GRAPH | | | | ШШ | | | | | | | | 000 | | R | | | |
| + ω | | | 19 | | 20 | 2 | | 22 | 23 | 24 | | 25 | ELEVATION | | | | |
| × 3: 1 | | | | | | | | | | | | | 20 40 60 100 SHEAR STRENGTH (KPa) C UNCONFNED + Gaussiavy QUICK TRAVAL + LAB VANE 50 100 150 200 250 | PESIS | Date: | Method: G Diameter: | |
| 3 × 3. Numbers refer | | | | | | | | | | | | | AR STI | RESISTANCE PLOT | Date: Nov/13/2013 | Method: Geo Probe Diameter: | DRILLING DATA |
| s refer | | | | | | | | | | | | | | PLOT | 3/201 | o Prob | DATA |
| 0 | | | | | | | | | | | | | 20 × + (x 8 | N | ω | ā | |
| e =3% | | | | | | | | | | | | | Pa) FIELD V & Bensil | TION | | | |
| Strain | | | | | | | | | | | | | 50 May 10 | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | | | | | WATER CONTENT 10 20 3 | PLAST | 1 | | |
| ¢ | | | | | | | | | | | | | WATER CONTENT (%) WATER CONTENT (%) | NAT | | | |
| | | | | | | | | | | | | | | | ų. | R | |
| | | | | | | | | | | | | | UT (%) | LIQUIE | ENCL NO .: | REF. NO.: 1889-220 | |
| | | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) | | | 0.: 18 | |
| | | | | | | | | | | | | | NATURAL UNIT V (Mg/m ³) | ΝT | | 89-22 | |
| | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 0 | - |

| GROUN | 4 \$ | 21.1 | | | | 08 | 24.9 | (m) ELEV DEPTH 25.7 | 9 | PRO. DATL | PROJEC |
|---|---|---|---------|---------|-------------------|--|---------|---|--------------------------|--|------------------------------------|
| GROUNDWATER ELEVATIONS | 1. Sample relius at 4.6 m. 2. Borehole backfilled with bentonite upon completion. | grey | | | trace sand, brown | CLAYEY SILT brick fragments, brown/red, moist | | | SOIL PROFILE | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local RH I OCATION: | PROJECT: Mr.Christie CLIENT: |
| | | <u> </u> | | | | | | STRATA PLOT | | d, Torc | |
| - | | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SAM | nto, Of | |
| \vdash | | - I I I I I I I I I I I I I I I I I I I | | | - North | - I I I I I I I I I I I I I I I I I I I | | "N" <u>BLOWS</u> 0.3 m | SAMPLES | 2 | |
| GRAPH | | | | | | | | GROUND WATEF | 1 | | |
| + | | | 22 | 23 | 24 | , | v تر | ELEVATION | | | |
| 3,×3: Numbers refer C =3% Strain at Failure | | | | | | | л | 20 40 60 00 100 SHEAR STRENGTH (kPa) 0 LINCONFINED + FELD WARE 50 100 150 200 250 | DYNAMIC CONE PENETRATION | Diameter: Date: Nov/13/2013 | DRILLING DATA Method: Geo Probe |
| 4 E-211 20 | | | | | | | | WATER CONTENT CHANT WATER CONTENT (%) WATER CONTENT (%) POCKET PEN POCKET PEN POCKET PEN NATURAL UNIT Marmin GR | NATURAL INCIDE | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | 1 | _ |
|--|---|---|---------|--|----------|---|---|-----------|---|-----------------|---|----------------------|
| GROUI | | 4.6 | 21 22 | 30 | 22.7 | | 24 2 | 28 - 9 | (m) ELEV DEPTH 25.8 | | CLIENT: PROJECT DATUM: L BH LOCA | PRO. |
| GROUNDWATER ELEVATIONS | | END OF BOREHOLE 1. Borehole backfilled with bentonite upon completion. | | CLAVEY SILT brown, moist/very moist | | FILL clayey silt, some sand, trace organics, black/brown, moist | brick fragments, asphalt fragments, grey | | | SOIL PROFILE | LOC/ .ocal | PROJECT: Mr.Christie |
| | | | | | | | | | STRATA PLOT | | d, Toj | |
| | | | 3BUNDIS | 3AUNDIS: | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AU | NUMBER | _s | onto, | |
| | | | VDIS. | VDIS | VDIS | VDIS. | VDIS: | 1AUNDIS | TYPE | SAMPLES | Q | |
| | | | | | | | - | | "N" <u>BLOWS</u> 0.3 m | S | | |
| GRAPH NOTES | | | | | | | | | GROUND WATE CONDITIONS | R |] | |
| | | | | 22 | 23 | 24 | | 2 | ELEVATION | | 1 | DRILLING DATA |
| ,×3: | | | | | <u> </u> | 4 | | n | 20 40 60 80 100 SHEAR STRENGTH (IP2) • UNCONFINED + 6 5-0000000 50 100 150 200 250 50 100 150 200 250 | RESI | Meth Dian | PRI |
| $+$ ³ , \times ³ : Numbers refer to Sensitivity | | | | | | | | | AR S | RESISTANCE PLOT | Method: Geo Probe Diameter: Date: Nov/13/2013 | DRILLING DATA |
| ərs refe sitivity | | | | | | | | | TRIAXI | E PLO | eo Pro | DAT |
| | | | | | | | | | 15 GTH (| N | 113 be | |
| ् ६ =३ | | | | | | | | | 200 LAB | VAION | | |
| ^{1%} Stra | | | | | | | | | VANE VANE 250 | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | . 5 | PL | { | |
| ilure | | | | | | | | | We WATER CONTENT LIN WATER CONTENT (%) | STIC | | |
| | | | | | | | | | CONTEN 20 | | | |
| | | | | _ | | | | | | | REF. | |
| | | | | | | | | | POCKET PEN (Cu) (kPa) | | REF. NO.: ENCL NO.: | |
| | | | | | | | | | (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | | GR DS G | | -220 | |
| | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | |
| | | | | | | | | | TION | Ś | | |

| GROUN | | 4 9 20 3 | 20 9 | | | 2.4 | 23 3 | | 25 0.1 | (m) ELEV DEPTH 25.8 | | CLIENT: PROJEC DATUM: BH LOC/ | PROJ |
|--------------------------------------|--|-------------|---------|----------|----------|---|---------|--|--|--|-----------------|---|----------------------|
| GROUNDWATER ELEVATIONS | Serverbore Description at 55 m. Borehole backfilled with bentonite upon completion. | SHALE | | | | CLAYEY SILT occasional sand layer, grey, moist | grey | silt, trace clay and sand, brown, moist | FILL sand, trace gravel, brown, moist | DESCRIPTION | SOIL PROFILE | CLENT: PROJECT LOCATION: 2150 Lake Shore Bivd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie |
| | | | 2222 | <u> </u> | <u> </u> | | | | | STRATA PLOT | 1 | d, To | |
| | | 5AU | 4BU | 4AU | 3BL | 3AU | 28U | 1BU | 1AU | NUMBER | ŝ | ronto, | |
| | | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | g | |
| | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | ES | | |
| GRAPH NOTES | | | | | | | | · | | GROUND WATE CONDITIONS | R | | |
| + | | | 21 | 22 | | 23 | 24 | 25 | | ELEVATION | | | |
| 3, × 3. Numbers refer | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 UNCONF NED + FIELD VANE 0 UNCK TRIAXIAL × LAB VANE 50 100 150 200 250 | DYNA | Method: G Diameter: Date: Nov | DRIL |
| Number | | | | | | | | | | AR ST | TANCE | od: Ge eter: Nov/ | DRILLING DATA |
| 's refer tivitv | | | | | | | | | | F NED F NED F NED 100 1 | RESISTANCE PLOT | Method: Geo Probe Diameter: Date: Nov/13/2013 | DATA |
| 0 | | | | | | | | | | 4L GTH (K | | ωĕ | |
| ○ ^ε =3% Strain at Fallure | | | | | | | | | | KPa) FIELD 200 2 | TION | | |
| Strain | | | | | | | | | | 250 | | | |
| at Failu | | | | | | | | | | WP W WATER CONTENT | PLAST | | |
| re | | | | | | | | | | WATER CONTENT LIN WATER CONTENT (%) | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | REF. NO.: ENCL NO.: | |
| | | | | | | | | | | POCKET PEN (Cu) (kPa) | | REF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | | | NATURAL UNIT (Mg/m ³) | WT | 89-22 | |
| | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REM | ö | |
| | | | | | | | | | | AND AIN SIZE RIBUTION (%) A SI CI | REMARKS | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | |
|---|---|---------|---------|----------|---------|--|---|--|-----------------|------------------------------|---|------------------------------------|---|
| <u>GROU</u> Shallov | 4. • | 21 0 | | | | 60 | 280 0.1 8 | (m) ELEV DEPTH | | BHL | PRO | CLIE | |
| GROUNDWATER ELEVATIONS | EVEX EVEX Sample refusal at 4.6 m. Borehole backfilled with bentontle upon completion. | | | | | CLAVEY SILT trace sand, brown, moist | ASPHALI 25 mm of asphalt FIL sand and gravel, brown, moist | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| • llation | | | | | | | | STRATA PLOT | 1 | | vd, To | | rogeolo |
| | | звu | 3AU | 2BU | 2AU | Ē | ĨĄ | NUMBER | v | 1 | ronto, | | y gy |
| ▼ | | 3BUNDIS | 3AUNDIS | 2BUNDIS1 | 2AUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | | Q | | |
| | | Г | - | | | - | - | "N" <u>BLOWS</u> 0.3 m | ES | | | | 5 |
| GRAPH NOTES | | | | | | | | GROUND WATER CONDITIONS | R | 1 | | | 0.00 |
| 1 | | 21 | 22 | 23 | | 24 | 25 | ELEVATION | | 1 | | | FBO |
| + ³ , × ³ : Numbers refer to Sensitivity | | | | | | | | 20 40 SHEAR STREN • UNCONF NED • QUICK TRIAXI 50 100 | RESISTANCE PLOT | Date: Nov/13/2013 | Diameter: | DRILLING DATA Method: Geo Probe | LOG OF BOREHOLE BH43 |
| r ں 3% Strain at Fallure | | | | | | | | 20 40 60 100 SHEAR STRENGTH ((Pa) 0 UNCONFINED 4 50 0000000 50 100 150 200 250 50 100 150 200 250 | | 013 | 5 | be | 43 |
| at Failure | | | | | | | | WATER CONTENT (%) | | ENC | REF. | | |
| | | | | | | | | 90 (%) 90 (%) | JUID | ENCL NO .: | REF. NO.: 1889-220 | | |
| | | | | | | | | (Cu) (kPa) NATURAL UNIT V (Mg/m ³) | | | 1889- | | |
| | | | | | | | | 9 P 0 | R | | 220 | | 1 OF 1 |

| upor compression c | END OF BOREHOLE 1. Borehole backfilled with bentonite upon completion. | FILL silt, some clay, trace sand and gravel, brown, very moist | ASHITHALI 90 mm FILL sand and gravel, brown, moist, loose | DESCRIPTION | | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PROJECT LOCATION |
|--|--|--|--|---|---|------------------------------|--|
| | lonite | d and | wn, moist, loose | IPTION | SOIL PROFILE | | PHOUECT: Mr.Unifstie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON |
| | | | | STRATA PLOT | | | d, Tor |
| | | 1BUNDIST | 1AUNDIS: | NUMBER | SA | | onto, (|
| | | | IDIST | TYPE | SAMPLES | | 2 Z |
| | | | | "N" <u>BLOWS</u> 0.3 m | | | |
| | | | | GROUND WATER CONDITIONS | ۶ | | |
| | | | 25 | ELEVATION | | | |
| | | | | 20 40 60 100 SHEAR STRENGTH (KPa) 0 UNCONFINED 4 Generality 4 Generality 50 100 150 200 250 | DYNAMIC CONE PENETRATION RESISTANCE PLOT | Date: Nov/13/2013 | Method: Geo Probe Diameter: |
| | | | | Image: Content Conten | NATURAL HOUD 5 | ENCL NO.: | REF. NO.: 1889-220 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | |
|---|--|-----------------|--------------------------|----------|---------|---------|--------------------------------------|----------------------|---------|----------|-------------|---|-----------------|---|----------------------|
| GROU | | | 2 9 8 4.7 | 21 0 | | | 23.1 | | 0 | 24 8 | 255 26 A | (m) ELEV DEPTH | | PROJECT DATUM: I BH LOCA | PRO |
| | Sample retural at 4.7 m. Stom-retarned remotioning well installed at 5.3 m. | END OF BOREHOLE | 3 SHALE 7 Shale, grey | | | | dayey silt, trace sand, brown, moist | trace wood fragments | | | | DESCRIPTION | SOIL PROFILE | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie |
| | | | | <u> </u> | | | <i>UUU</i> X | | | | XX2 | STRATA PLOT | | i, Torr | |
| 1 | | | 4AUNDIS | | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | N | IUMBER | SA | onto, (| |
| ~ | | | IDIST | | IDIST | IDIST | IDIST | IDIST | IDIST | IDIST | Т | YPE | SAMPLES | 2 Z | |
| RD . | | | | | | | | | | | " | N" <u>BLOWS</u> 0.3 m | S | | |
| GRAPH NOTES | | | | | | | | | | | | ROUND WATER | R | | |
| 1 | | | | <u>y</u> | | N) | N | N | | | E | LEVATION | | | |
| + ³ , × ³ : Numbers refer to Sensitivity | | | | 1 | | 22 | 23 | 4 | 2 | 25 | | 20 40 60 100 SHEAR STRENGTH (kPa) OLINCONF NED + 8 Soussidy OLINCT RIAXAL + LAB VANE OLINCT RIAXAL + LAB VANE | BES | Dat Dia | DR |
| to Se | | | | | | | | | | | Ę | | RESISTANCE PLOT | Diameter: Date: Nov/14/2013 | DRILLING DATA |
| pers ref | | | | | | | | | | _ | Ē | | CE PLO | v/14/2 | 3 DAT |
| e, | | | | | | | | | | | Ę | A GTH 6 | DT NET | 013 | A A |
| ୍ଦୁ | | | | | | | | | | _ | | × + (kPa) FEE A | | | |
| .3% St | | | | | | | | | | | | D VANE | 2 | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | | | | | P | | |
| Failure | | | | | | | | | | _ | | | LASTIC | | |
| | | | | | | | | | | | | | NATU | | |
| | | | | | | | | | | | | | | E R | |
| | | | | | | | | | | | | 5 1 | LIQUID | REF. NO.: ENCL NO.: | |
| [| | | | | | | | | | | | POCKET PEN. (Cu) (kPa) | | REF. NO.: 1889-220 ENCL NO.: | |
| - | | | | | | | | | | | G | NATURAL UNIT V (Mg/m ³) | VT | 39-22 | |
| | | | | | | | | | | | GH SA SI | AND GRAIN SIZE DISTRIBUTION (%) | REMARKS | | |
| | | | | | | | | | | | | | | | |

| GROUN | | 24.1 1 5 | 80 | 24.9 | 2 8.9 | (m) ELEV DEPTH 25.6 | | DATU BH LC | PROJ | PROJEC |
|---------------------------|---|-----------------|--|---------------------------------------|-----------------------------|---|-----------------|------------------------------|---|------------------------------------|
| | Sample refusal at 15 m. Berehole backfland with bentonite upon completion. | END OF BOREHOLE | FILL silt mixed with slag, brown, moist | FILL sand and gravel, brown, moist | ASPHALT 90 mm of asphalt | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: |
| | | X | | | Ì | STRATA PLOT | | | d, To | |
| | | | 1BU | 1AU | | NUMBER | ş | | ronto, | |
| | | | 1BUNDIST | 1AUNDIS | | TYPE | SAMPLES | | 8 | |
| | | | | _ | | "N" <u>BLOWS</u> 0.3 m | 5 | | | |
| GRAPH | | Τ | | | | GROUND WATER CONDITIONS | 3 | | | |
| + | | T | | 25 | | ELEVATION | | | | |
| $3 \ge 3$. Numbers refer | | | | 5 | | 20 40 60 100 SHEAR STRENGTH (KPa) UNCONFINED + 6 5 000000 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/13/2013 | Diameter: | DRILLING DATA Method: Geo Probe |
| C 8=3% Studio at Falling | | | | | | - 5 | | | | |
| | | | | | | | NATURAL | ENCL NO .: | REF. NO.: 1889-220 | |
| | | + | | | _ | (Cu) (kPa) NATURAL UNIT V (Mg/m ³) | vт | | 1889- | |
| | | | | | | ត្ន 🗗 | REMARKS | | 220 | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | | | | - ٦ |
|--|---|--|--|--|----------|---------|------|--|--------------------------------------|---|------------------------|--------------|---|------------------------------------|---|
| <u>GROU</u> Shallov | | 4.6 | 21 0 | 30 | 222 | | 24.2 | 0 8 | | ELEV DEPTH | 1 | BH L | PRO | PROJECT | |
| GROUNDWATER ELEVATIONS Shallow/ Single Installation ▼ DeecoDual Installation ▼ | upor i | END OF BOREHOLE 1. Borehole backfilled with bentonite | grey | CLAYEY SILT TILL shale fragments, trace gravel, brown, moist | | | | FILL clayey silt, some sand, brown, moist | FILL sand and gravel, brown, damp | | SOIL PROFILE | BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| hallation | | | j <u>ol (</u> | ب (1) (1) (1) | | | ×× | | | STRATA PLC | т | | vd, To | | rogeol |
| | | | 3BU | 3AU | 2BU | 2AU | Ē | | IAU | NUMBER | v | 1 | ironto, | | ogy C |
| | | | 3BUNDIS | 3AUNDIS | 2BUNDIS1 | 2AUNDIS | | | 1AUNDIST | TYPE | SAMPLES | | 9 | | |
| | | | 7 | - | - | | | | 7 | "N" <u>BLOWS</u> 0.3 m | ES | | | | 5 |
| GRAPH NOTES | | | | | | | | | | GROUND WA | | 1 | | | 0.00 |
| 1 | | | , , | 22 | 23 | | 24 | | 25 | ELEVATION | | 1 | | | 1 B |
| $+$ 3 \times 3 : Numbers refer \circ ϵ =3% Strain at Failure | | | | N | | ; | | | | SHEAR STRENGTH (kPa) UNCONF NED + Floring OUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | 20 40 60 80 100 | | Diameter: | DRILLING DATA Method: Geo Probe | LOG OF BOREHOLE BH47 |
| at Failure | | | | | | | | | | WATER CONTENT (%) 10 20 000 POCKET I POCKET (%) NATURAL U NATURAL U Mg/m | PLASTIC NATURAL LIQUID | | REF. NO.: 1889-220 | | |
| | | | | | | | | | | GHAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS AND | | 5 | | 1 OF 1 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | (m) ELEV DEPTH 25.6 0 0 | PROJEC CLIENT: PROJEC DATUM: BH LOC/ |
|---|---|--|---|
| | FIL sit, some day, greyish brown, moist 1. Borehole backfilled upon completion. | DESCRIPTION FILL moist and gravel, brown with black, | T: Mr.C T LOC/ Local ATION: |
| | | STRATA PLOT | d, Tor |
| | 18UNDIS | TYPE | onto, ON |
| | | "N" <u>BLOWS</u> 0.3 m | 2 |
| GRAPH | | GROUND WATER CONDITIONS | |
| - ω | N 55 | ELEVATION | |
| 3 × 3. Numbers refer C 8=3% estado et Enlluro | | PESSTANCE PLOT 2. 40 60 90 100 SHEAR STRENGTH (kPa) 0 LINCOMF NED + executive 5.0 100 150 200 250 5.0 100 150 200 250 | DRILLING DATA Method: Geo Probe Diameler: Date: Nov/13/2013 Date: Nov/13/2013 |
| | Image: Constraint of the second se | UMATTE MANTERAL LUMUT UMATTE MANTERIAL LUMUT WATER CONTENT (%) 10 20 30 POCKET KE | REF. NO.: 1889-220 ENCL NO.: |
| | | NATURAL LINIT WT (Mg/m ²) GRAIN SIZE GR SA SI CL | 9-220 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | 1 | | | | - | - | | | - ٦ |
|---|---|-------------|---|---------|----------|--|--|----------------------------------|--|--------------|-------------------|---|------------------------------------|---|
| GROU | | 21 0 4.6 | မ စ | 21 8 | | 24 0 1 5 | 08 | 2 8 0. 1 248 | (m) ELEV DEPTH 25.6 | | BHL | PRO | PROJECT | |
| GROUNDWATER ELEVATIONS | upon completion. | | SILTY CLAY silty clay, trace gravel, grey, very moist | | | CLAYEY SILT trace gravel, brown/grey, moist | FILL clayey silt, some sand, some gravel, brown, moist | | | SOIL PROFILE | BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| vian | | | +++++ +++++ | | | <i>#####</i> X | | • | STRATA PLOT | | | d, Ton | | geolog |
| | | | 3BU | 3AU | 2BU | 2AU | 1BU | 1AU | NUMBER | s | | onto, | | gy C |
| 7 | | | 3BUNDIS | 3AUNDIS | 2BUNDIS1 | 2AUNDIS | 1BUNDIST | 1AUNDIST | TYPE | SAMPLES | | Q | | |
| | | | - | - | - | | - | - | "N" <u>BLOWS</u> 0.3 m | ES | | | | 5 |
| GRAPH NOTES | | | | | | | | | GROUND WATE CONDITIONS | R | 1 | | | LOG OF BOREHOLE BH49 |
| 1 | | | | N | N | N | | N | ELEVATION | | 1 | | | 1 B |
| + 3, × 3. Numbers refer to Sensitivity | | Ŧ | | 22 | 23 | 24 | | 25 | • ः <u>भ</u> | REN | e Da | | | 12 |
| to S | | - | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) • UNCONFINED + FIELD VANE • QUICK FINAVAL × LAB VANE 50 100 150 200 250 | | Date: NOV/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | <u>5</u> |
| nbers n ensitivi | | | | | | | | | STRE | | 0V/14/ | | Geo F | |
| efer ty | | | | | | | | | NGTI 60 | OTEN | 2010 | 5015 | robe | 1 [°] |
| 0 | | | | | | | | | × + (k 200 ⊑≋⊒8 | N | | | | 1 |
| e =3% | | | | | | | | | a) a) a) a) a) a) a) a) a) a) a) a) a) a | Q2 | | | | |
| Strain | | | | | | | | | | | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | We WATER CONTENT | PLAS | 1 | | | |
| IFe | | | | | | | | | WATER CONTENT (%) | TC NO. | | | | |
| | | - | | | | | | | NITEN | TURAL | | | | |
| | | | | | | | | _ | | LIQUID | | REF. | | |
| | | + | | | | | | | POCKET PEN (Cu) (kPa) | | ENCL NO .: | NO.: | | |
| | | + | | | | | | | (Cu) (kPa) NATURAL UNIT (Mg/m ³) | WT | 1 | REF. NO .: 1889-220 | | |
| | | + | | | | | | | GR DS G | | 1 | -220 | | |
| | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | | | |
| | | | | | | | | | | KS | | | | OF 1 |

| | .2 4 | 23 23 | 1 2 | 0.6 | ол 1 00 | (m) ELEV DEPTH 25.7 | | DATUN BH LO | PROJEC |
|----------------------|--|----------|---|--|---|--|-----------------|------------------------------|--|
| | EDIO OF BOREHOLE Borehole backfilled with bentonite upon completion. | wet | FILL silty clay, trace sand, grey, moist | FILL silt with some clay, greyish brown, moist | FILL gravel with some sand and silt, brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd. Toronto. ON |
| | | | | | | STRATA PLOT | | | /d. Top |
| | | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SAI | | onto. C |
| | | DIST | DIST | DIST | DIST | TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | | ž |
| GRAPH | | | | | | GROUND WATE CONDITIONS | R | | |
| | | | 24 | 25 | | ELEVATION | | | |
| 3 × 3. Numbers refer | | | | | | 20 40 60 80 100 SHEAR STRENGTH ((Fa) UNCONF VED T+ (Fa) O UIXCRENVAL × LAS VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | DRILLING DATA Method: Geo Probe Diameter: |
| | | | | | | WATER CONTENT (G) (KPa) 10 20 30 NATURAL UMIT IN POCKET PEN NATURAL UMIT | | ENCL NO.: | RFF NO · 1389-220 |
| | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | - |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | | | | | | | _ | | | | - |
|---|---|---|---------|-------------------------------|------|---------------|------------|--|-----------------|------------------------------|---|------------------------------------|--|
| GROU | | 2.4 | 3 | 15 | 24 5 | | .28 .49 | (m) ELEV DEPTH 26.0 | | | PRO, | PRO, | |
| GROUNDWATER ELEVATIONS | upon completion. | END OF BOREHOLE 1 Borehole backfilled with bentonite | | FILL silty clay, grey, wet | | and grey, wet | | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Concontinuer Letter control materiale i traisgeoregy |
| - | ā | etir | ~~~~ | ~~ | | | | STRATA PLOT | | | Blvd, T | | ijaiogoo |
| ŀ | | ľ | | | | <u> </u> | 5 | NUMBER | | | oront | | fRou |
| ŀ | | | 2BUNDIS | 2AUNDIS | ; | 1BUNDIST | 1AUNDIS | ТҮРЕ | SAM | | o, ON | | |
| | | + | IST | IST | | IST | IST | "N" <u>BLOWS</u> 0.3 m | SAMPLES | | - | | |
| GRAPH | | ╡ | | | | | | GROUND WATE | R | | | | |
| - F | | ╡ | | | | 25 | | ELEVATION | | 1 | | | |
| + 3 X 3. Numbers refer 0 8=3% Strain at Failure | | | 24 | | | | | 20 40 60 100 SHEAR STRENGTH ((Fa) UNCONFINED + 5 8-600 50 100 150 200 250 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| at Dall-wa | | | | | | | | WATER CONTENT (%) WATER CONTENT (%) 10 20 30 VEX (%) 10 20 30 GR SA SI CL | LIQUID | ENCL NO.: | REF. NO.: 1889-220 | | |

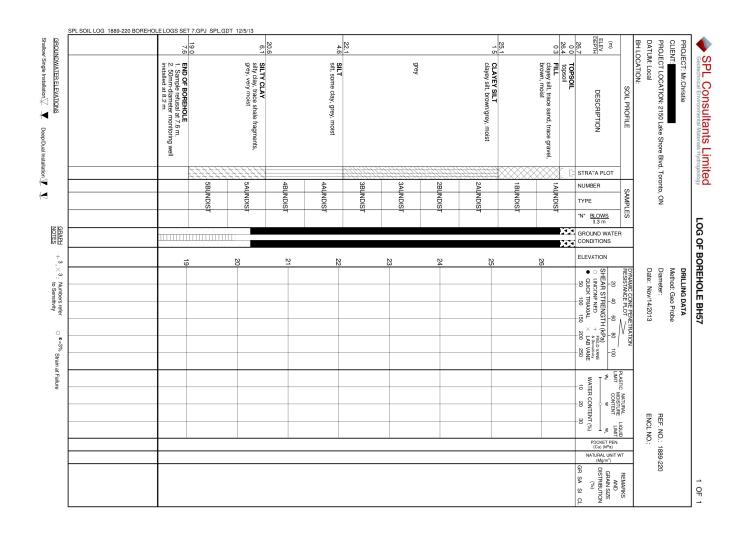
| 70 | | | | | | | 24.6 1.7 | c | 25 5 2 | (m) ELEV DEPTH 26.3 | | DATU BH LO | PROJECT CLIENT: |
|---|---------|---------|---------|---------|-------------|---------|----------------------------------|--|--|--|-----------------|--|------------------------------------|
| END OF BOREHOLE 1. Sample refusal at 7.0 m. 2. 50mm-diameter monitoring well installed at 7.6 m. | | | | | grey, moist | | CLAYEY SILT brown/grey, moist | clayey silt, trace sand, trace gravel, brown, moist | FILE silt, some clay, some sand, some gravel, brown, moist | DESCRIPTION | SOIL PROFILE | PHOLEC I LOCATION: 2130 Lake Shore Bivd, Toronto, ON DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: |
| 3114 | | | | | | | X | | | STRATA PLOT | - | IVa, Ton | |
| | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | NUMBER | SAM | onto, Or | ! |
| | - IS | ŝ | ŝ | ŝ | ŝ | IST I | IST I | ŝ | - IST | "N" <u>BLOWS</u> 0.3 m | SAMPLES | 2 | |
| | | | | | | | | | 10 10 | GROUND WATE | R | | |
| 19 | 20 | | 21 | 22 | 23 | | 24 | 25 | 26 | ELEVATION | | | |
| | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) • UNCON WED + FIELD VANE • QUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | DRILLING DATA Method: Geo Probe |
| | | | | | | | | | | 40 STREN DNF NEE | NCE PLC | er: ov/14/2 | Geo Pr |
| | | | | | | | | | | AL + (K | | 013 | obe |
| | | | | | | | | | | Pa) FIELD VM & Sensitive A B VAI 250 251 | TION | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | PLASTIC NATURAL | | |
| | | | | | | | | | | | ATURAL | пд | |
| | | | | | | | | | | 10 T (%) | LIQUID | HEF. NO.: 1889-220 ENCL NO.: | |
| | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT | | .: 1889 D.: | |
| | | | | | | | | | | AND GRAIN SIZE (%) GR SA SI CL | 72 | -220 | |
| | | | | | | | | | | AIN SA (%) | REMARKS | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | 1 | | | | | | | | | | | - |
|--|---|--|----------|------------------------|----------|---|------|--|--------------|--------------------------------|---|------------------------------------|---|
| GROU | | 12 .4 | 23 3 | 15 | 24 2 | | 28.0 | (m) ELEV DEPTH | | BHL | PRO, | CLIEI | |
| GROUNDWATER ELEVATIONS | | END OF BOREHOLE Sample refused at 2.4 m. Borehole backfilled with bentonite upon completion. | | clayey silt, grey, wet | | FILL sand, trace silt, brown, saturated | | DESCRIPTION | SOIL PROFILE | DA I UM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| 1 | | ¢ | **** | ~~~ | | | | STRATA PLOT | | | lvd, To | | drogeol |
| | | | 2BE | L L | e p | ******** | 2000 | NUMBER | s | 1 | pronto, | | ogy |
| | | | 2BUNDIST | | 1BUNDIST | | | TYPE | SAMPLES | | 9 N | | |
| | | | - | - | - | - | | "N" <u>BLOWS</u> 0.3 m |] E | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | GROUND WATE | R | 1 | | | LOG OF BOREHOLE BH53 |
| | | | | 24 | | 25 | | ELEVATION | | 1 | | | FBC |
| + ³ , × ³ : Numbers refer to Sensitivity | | | | 4 | | <u>5</u> | | 20 40 60 100 SHEAR STRENGTH (KPa) UNCONFINED + FEDDANE OLUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESI | Date | Dian | DRI | |
| Numb to Sen | | | | | | | | AR S | | Date: Nov/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| ers refei sitivity | | | | | | | | | E PLOT | /14/20 | | DATA eo Pro | 모 |
| | | | | | | | | 150 × + (| N | 13 | | be | 53 |
| °=3 | | | | | | | | (KPa) + FIELD A Bons 200 | | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | D VANE 3 VANE 250 | | | | | |
| at Failu | | | | | | | | WATER CONTENT 10 20 3 | PLAST | 1 | | | |
| re | | | | | | | | WATER CONTENT (%) WATER CONTENT (%) | | | | | |
| | | | | | | | | W W NTENT | URAL | | R | | |
| | | | | | | | | UIT (%) | LIQUID | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | POCKET PEN (Cu) (kPa) | | | D.: 18 | | |
| | | | | | | | | NATURAL UNIT (Mg/m ³) | ΝT | 4 | 89-22 | | |
| | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | õ | | 1 OF 1 |

| GROUN | | 2.4 | 20 | 24.4 | 0 2 | 26.4 26.2 | (m) ELEV DEPTH | | DATU BH LC | PROJEC | 3 |
|--------------------------|------------------|---|------------------------|----------|---|--------------------|---|--------------------------|------------------------------|--|---|
| GROUNDWATER ELEVATIONS | upor completion. | END OF BOREHOLE 1. Sample refusal at 2.4 m. 2. Borehole backfilled with bentonite | SILT CLAY grey, wet | wet | FIL FIL sill with some clay, trace sand, brown, moist, | TOPSOIL | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd. Toronto. ON | |
| ŀ | | | 777 777 | | |) <u>×</u> . | RATA PLOT | | | vd. To | |
| | | | 2BUNDIS | 2AUNDIST | 1AUNDIS 1BUNDIS | NL | JMBER | SA | | ronto. (| |
| | | | IDIST | IDIST | | TY "N | PE | SAMPLES | | Z | |
| 8 | | _ | | | | | BLOWS 0.3 m | | | | |
| GRAPH | | | | | | | ONDITIONS | <u> </u> | | | |
| + 3 × 3. | | | | 25 | 26 | | EVATION | 70 | _ | | |
| 3. Nu | | | | | | 5 | 20 40 60 80 100 SHEAR STRENGTH (kPa) O LINCONF NED + Resulting O LUICK TRIAXIAL × LAB VANE | DYNAMIC CONE PENETRATION | Date: Nov/14/2013 | DRILLING DATA Method: Geo Probe Diameter: | |
| Numbers refer | | | | | | 10 | STRE | NCE PL | ov/14/2 | Geo P | |
| fer | | | | | | | NGTH 60 | OFENETI | 2013 | robe | 1 |
|) 8 | | | | | | 20 | × (kPa) FIEL | ¥ RATION | | | |
| ⊖ 8=3% Strain at Failure | | | | | | | 100 D VANE Nailivity | - | | | |
| 1 | | _ | | | | - | - 57 | 2 | | | |
| B | | | | | | | WATER CONTENT (%) | N N | | | |
| · | | | | | | 18 | ER CONTEN | TURAL | т | п | |
| | | | | | | 8 | UMIT (%) | | ENCL NO .: | RFF NO · 1889-220 | |
| ļ | | | | | | | POCKET PEN. (Cu) (kPa) | | 0 | - - 18 | |
| | | _ | | | | ្ន | NATURAL UNIT W (Mg/m ³) | m | | 39-22 | |
| | | | | | | GR SA SI CI | AND GRAIN SIZE DISTRIBUTION (%) | REMARKS | | - | |

| 10 | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 6.GPJ SPL.GDT 12/5/13 | | | | | | | | _ | | | | - |
|--|---|---|----------------|---------|----------|------------------------------------|-------------------|--|-----------------|------------------------------|---|------------------------------------|---|
| GROUNDWATER ELEVATIONS | | 2 2 | 22 | | | | 2 9 9 | (m) ELEV DEPTH | | BHL | PRO | CLIENT: | |
| GROUNDWATER ELEVATIONS | | END OF BOREHOLE 1. Sample refusal at 2.4 m. 2. Borehole backfilled with bentonite upon completion | | | | FILL sand, cinders brown, moist | ASPHALT 120 mm | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie | Geotechnical Environmental Materials Hydrogeology |
| | | onite | | | | | | STRATA PLOT | | | e Blvd, Tc | | Hydrogeol |
| | | | 28 | 24 | Ē | Į | 5 | NUMBER | 6 | 1 | pronto | | ogy |
| | | | 2BUNDIST | 2AUNDIS | 1BUNDIST | | | TYPE | SAMPLES | | , N | | |
| | | | - 1 | | | - | | "N" <u>BLOWS</u> 0.3 m | Es | | | | |
| GRAPH | | | | | | | | GROUND WATE | R | | | | |
| + | | | | N | | N | | ELEVATION | | 1 | | | |
| + 3, × 3: Numbers refer O ==3% Strain at Failure | | | | 24 | | | | 20 40 60 100 SHEAR STRENGTH (kPa) 0 UNICONF NED + FEDD VAVE 0 UNICONF TRIAXIAL × LAB VAVE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| 1 : | | | | | | | | WATER CONTENT 10 20 30 NATER CONTENT (%) POCKETPER POCKETPER NATER CONTENT (Mg/m ²) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | EMARKS | | | | - |

| | 24. | 2 | | | 0.1 0.1 | (m) ELEV DEPTH 26.5 | | DATU) BH LO | PROJEC |
|--|---|-----------------------|----------|---|---|--|-----------------|------------------------------|---|
| GROUNNWATER EI EVANTONS | END OF BOREHOLE 1. Sample refusal at 4.9 m. 2. Borehole backfilled with bentonite upon completion. | silty clay, grey, wet | | SILT some clay, trace sand, brown, moist, hard, iron staining | FILL silt, trace sand and clay, brown, very moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: CLIENT: C |
| | | | | | | STRATA PLOT | | | d. Tor |
| | | 2BUNDIS | 2AUNDIST | 1BUNDIS | 1AUNDIS: | NUMBER | SAN | | onto. C |
| | | DIST | DIST | DIST | | TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | | ž |
| | | | | | | 0.3 m GROUND WATER CONDITIONS | ۲. | | |
| + | | | | | N) | ELEVATION | | | |
| 3 < | | | 25 | | 26 | 20 40 60 80 100 SHEAR STRENGTH (kPa) 0 UNCONF NED + FIELD VAR 0 UNCK THIAXIAL + A UNAVANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | DRILLING DATA Method: Geo Probe Diameter: |
| • 6 6 6 7 6 7 6 1 1 1 1 1 1 1 1 1 1 | | | | | | - 5 | | | |
| | | | | | | R CONTENT (%) | NATURAL | ENCL NO .: | REF. NO.: 1889-220 |
| | | | | | | POCKET PEN. (Cu) (kPa) NATURAL UNIT V | VT | Ĕ | 1889 |
| | | | | | | | - 1 | | 3-220 |



| | 2.4 | 18 23.2 | 2 2 0 | | 25 3 0 3 | (m) ELEV DEPTH 25.6 | | DATL BH LC | PROJEC |
|------------------------|---|------------|-------------|---|---|---|-----------------|------------------------------|---|
| | Sample refusal at 2.4 m. Sample refusal at 2.4 m. Borehole backfilled with bentonite upon completion. | SILTY CLAY | | trace clay, trace sand, trace gravel, brown, moist some clay, grey, wet | TOPSOIL trace sand, trace gravel, dark brown, moist SILT | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr. Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON |
| | 5 | <i>111</i> | | | | STRATA PLOT | 1 | | d, Tor |
| | | 2BUNDIS | 2AUNDIST | 1BUNDIS | 1AUNDIST | NUMBER TYPE | SAMPLES | | onto, ON |
| | | | | | | "N" <u>BLOWS</u> 0.3 m | -ES | | |
| OB A DH | | | | | | GROUND WATE CONDITIONS | R | | |
| | | | 24 | 25 | | ELEVATION | | | |
| 3 Numbers refer 8-30/- | | | | | | 20 40 60 100 SHEAR STRENGTH ((Fa) UNCONFUED T+ (s Sensitivity 0 UINCRIFUXAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | DRILLING DATA Method: Geo Probe Diameter: |
| | | | | | | | PLASTIC NATUR | | |
| | | | | | | POCKET PEN. (Cu) (kPa) | LIQUID | ENCL NO .: | REF. NO.: 1889-220 |
| | | | | | | | | | 89-220 |
| | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 0 |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | _ | | | | - |
|--|---|--|--------------|----------------|------------------------|---------|---------|---------|--|--|--|--------------|------------------------------|---|------------------------------------|---|
| GROU | | 49 | 20 7 | | 30 | 22 5 | | | | 05-00-00-00-00-00-00-00-00-00-00-00-00-0 | (m) ELEV DEPTH 25.5 | | BHL | PRO, | PROJECT | |
| | uppor completion: | END OF BOREHOLE 1. Sample refusal at 4.9 m. 2 Borshole backfilled with bentonite | | | SILT CLAY grey, wet | | | | black SILT some clay, trace sand, brown, wet | | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| | | | 7777 7777 | +++++ +++++ | +++++ | | | | | <u> </u> | STRATA PLOT | | | d, Tor | | geolog |
| | | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | s | | onto, (| | уy |
| | | | IDIST | IDIST | IDIST | IDIST | IDIST | IDIST | IDIST | IDIST | TYPE | SAMPLES | | Z | | |
| asi | | | | | | | | | | | "N" <u>BLOWS</u> 0.3 m | | | | | 5 |
| GRAPH NOTES | | | | | | | | | | | GROUND WAT CONDITIONS | ER | | | | |
| + 3 | | | 21 | | 22 | 23 | | 24 | | 25 | ELEVATION | | | | | 8 |
| $^3, \times ^3$. Numbers refer $^{\circ}$ $^{\epsilon=3\%}$ Strain at Failure | | | | | | | | | | | SHEAR STRENGTH (KPa) UNCONFINED UNCONFINED UNCONFINED UNCONFINED UNCONFINED UNCONFINED UNCONFINED S0 100 150 200 250 | | Date: Nov/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| t Failure | | | | | | | | | | | POCKET PE (Cu) (kPa) NATURAL UNI (Mg/m ³) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 20 | | - |

| | | 79 | 18 3 | | 6.1 | 8 | 4.6 | 21.6 | 30 0 | 23 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 24.1 2 3 .9 | | 03 | 25 9 | (m) ELEV DEPTH | | DATU | CLIENT: |
|---|--|----|--------------|--------------|---|---------|--|----------|--|--|-----------------------|----------|---------------|---------------------------------------|---|--------------------------|--|------------------------------------|
| | END OF BOREHOLE 1. Sample refusal at 7.9 m. 2. Somm-diameter monitoring well installed at 8.4 m. | | | | SILTY CLAY silty clay, grey, saturated | | SILT silt, some sand, trace gravel, brown, saturated | | CLAYEY SILT clayey silt, brown, moist | organic silt SILT silt, some clay, trace sand, brown, moist | SILT | | o // - | TOPSOIL topsoil, dark brown, moist | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: 2130 Lake Shore Bivd, Toronid, ON | PROJECT: Mr.Christie |
| | | | <i>77777</i> | <i>+++++</i> | ££2 | | | <u> </u> | | | ; 🔛 | | | <u>)</u> (2 s | STRATA PLOT | | Vd, 10 | |
| | | | 6AU | - PAG | | 4BU | 4AU | 3BL | 3AL | 2BU | 2AU | 1BU | IA I | N | NUMBER | Ś | ronio, | |
| | | | 6AUNDIS | | | 4BUNDIS | 4AUNDIS | 3BUNDIST | 3AUNDIS | 2BUNDIST | 2AUNDIS | 1BUNDIST | 1AUNDIST | т | TYPE | SAMPLES | Q | 2 |
| | | | | | | 7 | | 7 | | 7 | | | | | "N" <u>BLOWS</u> 0.3 m | ËS | | |
| | | | | | | | | | | | | | | | GROUND WATER | 1 | | |
| | | 18 | er. | : | 20 | | 21 | 22 | 23 | | 24 | 25 | | | ELEVATION | | | |
| | | Ĩ | | | | | | | | | Ī | | | | ● ° SHE | PESIS | Date: Nov | Meth |
| | | | | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) UNCONF NED + FIELD VANE O UNCONF NAXUAL + A Soundary O UNCK TRUXXAL × LAB VANE 50 100 150 200 250 | DYNAMIC CONE PENETRATION | Date: Nov/15/2013 | DRILLING DATA Method: Geo Probe |
| | | | | | | | | | | | | | | | | PLOT | 15/2010 | o Prob |
| | | | | | | | | | | | | | | | 0 TH 0 8 | VIETRAT | ω | Φ |
| | | | | | | | | | | | | | | | a) a) field VA A Bensitiv A Bensitiv | TION | | |
| | | | | | | | | | | | | | | 2 | | | | |
| | | | | | | | | | | | | | | | WATE | | | |
| | | | | | | | | | | | | | | | WATER CONTENT (%) | NATU | | |
| | | | | | | | | | | | | | | | UTENT 0 | | | 1 |
| | | | | | | | | | | | | | | | 5 16 | 2 | ENCL NO .: | |
| | | | | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) NATURAL UNIT W | π | ENCL NO .: 1889-220 | |
| | | | | | | | | | | | | | | 9 | (Mg/m ³) | _ | 9-220 | |
| | | | | | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GB SA SI CI | REMARKS | | |
| 1 | | | | | | | | | | | | | | 19 | | λ. | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | _ | | | | - |
|---|--|---------|---------|---------|-----------|---------|-----------------|---|---------|---|-----------------|------------------------------|---|------------------------------------|---|
| GROUN | 4 0 | 20 9 | | | | | | 0.6 | 25.2 | (m) ELEV DEPTH | | BHLO | PRO | PROJECT | |
| | Sample refusel at £9 m. Sample refusel backfilled with bentonite upon completion. | | | | saturated | wet | some clay, grey | some clay, trace sand, brown/grey, moist | | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| | | ~ | N | 6 | 6 | N) | N | | | STRATA PLOT | | - | Toro | | eology |
| | | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIS | NUMBER | SAN | | nto, O | | |
| | | DIST | - DIST | DIST | ISIC | - Dist | JISIT | ISIC | ISIC | "N" <u>BLOWS</u> 0.3 m | SAMPLES | | z | | |
| GRAPH NOTES | | | | | | | | | | GROUND WATE | | - | | | |
| | | | | | | | | | | CONDITIONS | | - | | | 1 |
| + 3,× | | 21 | 22 | | 23 | | 24 | 25 | | ELEVATION | 70 | | _ | ~ • | |
| $^3, \times ^3$; Numbers refer $^{\circ}$ $^{\circ}$ $^{\circ}$ $^{\circ}$ Strain at Fallure | | | | | | | | | | 20 40 60 90 100 SHEAR STRENGTH (KPa) - UNCONFINED + FIELD VANE - QUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| at Failure | | | | | | | | | | POCKET PEN (Cu) (kPa) NATURAL UNIT (Mg/m ³) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 20 | | - |

| d | 19.6 | | | | | | 24 0 1 8 | | 28.4 25.4 05 | (m) ELEV DEPTH 25.8 | | CLIENT: PROJEC DATUM: BH LOCA |
|--|---------|----------|------------|---------|----------|---------|----------------------------|--------------|--|--|-----------------|---|
| Sample refusal at 6.2 m. Somm-diameter monitoring well Installed at 6.7 m. | | | wet | | | | CLAVEY SILT grey, moist | brown, moist | ASPTALI 75 mm of asphalt FILL sand and gravel, brown, moist SILT SULT | DESCRIPTION | SOIL PROFILE | CLENT. |
| | 22 | | | | | | | 1 | | STRATA PLOT | 1 | d, Toro |
| _ | 5AUNDIS | 4BUNDIS | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | NUMBER | SAI | onto, C |
| _ | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | DIST | TYPE | SAMPLES | ž |
| - 1 | | Ang tana | rinder ind | | | | | | 22 | "N" <u>BLOWS</u> 0.3 m GROUND WATE | | |
| | | | | | | | | |)XX | | | |
| | | 20 | 21 | | <u>v</u> | 23 | 24 | ŗ | о л | ELEVATION | | |
| | | | | | | | | | | | PESIST. | Method: G Diameter: Date: Nov |
| | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH ((Fa) UNCONFINED T+ (ELD VANE 5 0000 150 200 250 50 100 150 200 250 | RESISTANCE PLOT | Method: Geo Probe Diameter: Date: Nov/15/2013 |
| | | | | | | | | | | NGTH | | Probe 2013 |
| _ | | | | | | | | | | × + (kPa) 200 - 200 | | |
| _ | | | | | | | | | | 100 Prositivity 3 VANE 250 | ~ | |
| | | | | | | | | | | . 5 | P | |
| | | | | | | | | | | WATER CONTENT (%) | STIC | |
| _ | | | | | | | | | | CONTE | ATURAL | |
| _ | | | | | | | | | | NT (%) | | REF. NO.: ENCL NO.: |
| | | | | | | | | | | POCKET PEN. (Cu) (kPa) | - | REF. NO.: 1889-220 ENCL NO.: |
| | | | | | | | | | | NATURAL UNIT \ (Mg/m ³) | NΤ | 389-22 |
| 1 | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | ö |
| 1 | | | | | | | | | | AND AIN SIZ RIBUTIO (%) A SI | ARK | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT 12/5/13 | | | | | | | | | | | _ |
|---------------|---|--|---------|---------------------------|----------|----------------------|--|------------------------------|---------|---|------------------------------------|--------------------------------------|
| GROU | | 2.4 | 23 0 | 12 | 24.3 | 299.29 29-24 3 | (m) ELEV DEPTH 25.5 | | BHL | PRO. | CLIE | |
| | | END OF BOREHOLE Sample refusal at 2.4 m. Borehole backfilled with bentonite upon completion. | | SILTY CLAY grey, moist | | | | SOIL PROFILE | 1.77 | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | осонол плоять втитотные протодоогоду |
| | | | +++++ | <i>444</i> | | | STRATA PLOT | | | d, To | | Bo |
| | | | 2BUNDIS | 2AU | 1BUI | 1 AUNDIS | NUMBER | s | | onto, | | 37 |
| | | | VDIST | 2AUNDIS1 | 1BUNDIS1 | VDIST | TYPE | SAMPLES | | Q | | |
| | | | | | | 7 | "N" <u>BLOWS</u> 0.3 m | S | | | | |
| GRAPH | | | | | | | GROUND WAT CONDITIONS | ER | | | | |
| | | | | 24 | | 25 | ELEVATION | | 1 | | | |
| ہ ہ | | | | 4 | | 5 | SHEAR STRENGTH (KPa) UNICONF NED + 6 RELAYING OLIUCK TRIAXIAL × LAB VANE 50 100 150 200 250 | RES | | Dia | Met | |
| Numbers refer | | | | | | | EAR S | ISTAN | IAMIC 0 | Diameter: | DRILLING DATA Method: Geo Probe | |
| | | | | | | | TRIAX | A PLO | | CINH | àeo Pr | |
| | | | | _ | | | 150 JGTH | ⁸ // ⁹ | PENETE | 012 | A obe | |
| | | | | | | | 200 AB | 1 3 | ATION | | | |
| | | | | | | | D VANE VANE 250 | ŝ | | | | |
| | | | | | | | | ΓŖ | - | | | |
| | | | | | | | WATER CONTENT (%) | PLASTIC NATURAL | | | | |
| | | | | | | | CONTE | | | | | |
| | | | | | | | 30 W | | | REF. | | |
| | | | | | | | POCKET PI (Cu) (kPa) | | - ? | REF. NO .: 1889-220 | | |
| | | | | | | | NATURAL UN (Mg/m ³) | T WT | 1 | 1889-2 | | |
| | | | | | | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 220 | | |

| GROUN | 2.4 2.4 | о Эл | | 24 8 1.1 | 02 | 25.9 | (m) ELEV DEPTH | | DATU BH LC | PROJEC |
|------------------------|---|-----------|-----------|-------------|--|-----------------------|--|-----------------|------------------------------|--|
| GROUNDWATER ELEVATIONS | END OF BOREHOLE 1. Sample refusal at 2.4 m. 2. Borehole backfilled with bentonite upon completion. | grey, wet | some clay | SILT | FILL silt, some clay, trace sand, brown, moist | TOPSOIL dark brown | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PHOJECT: Mr.Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON |
| | | | | | | 125 | STRATA PLOT | | | д. То |
| | | 2BU | 2AU | 1BU | 1A | ١ | NUMBER | s | | ronto, |
| | | 2BUNDIS | 2AUNDIST | 1BUNDIS | 1 AUNDIS | Т | TYPE | SAMPLES | | 9 |
| | | - | - | - | | | "N" <u>BLOWS</u> 0.3 m | ES | | |
| GRAPH NOTES | | | | | | | GROUND WATE | ٦ | | |
| + | | 24 | | 25 | | | ELEVATION | | | |
| | | | | | | | 20 40 60 100 SHEAR STRENGTH (kPa) • UNCOMFINED + FIELD VANE • OUNC TRIAXIAL × LAB VANE 50 100 150 200 250 | RESISTANCE PLOT | Date: Nov/14/2013 | DHILLING DATA Method: Geo Probe Diameter: |
| Strain at Failure | | | | | | | UMIT CONTENT LIMIT IN CONTENT LIMIT CONTENT LIMIT CONTENT CONTENT CONTENT CONTENT (%) WATER CONTENT (%) CGUIDE CAN SIZE (%) CG | | ENCL NO .: | REF. NO.: 1889-220 |

| r | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 7.GPJ SPL.GDT | | 19 | | | | | 15 | <u> </u> | 299 0.1 | (m) ELEV 25.6 | | Ψç | 2 72 | P 7 | |
|---|---|------------|----------|----------------------|----------|----------|----------|---|--|------------|---|-----------------|------------------------------|---|------------------------------------|---|
| GROUNDWATER ELEVATIONS | END OF BOREHOLE 1. Sample release at 6.1 m, 2. 50mm-diameter monitoring well installed at 6.7 m. | <u>6.1</u> | 95 dry | shale tragments, wet | | | | CLAVEY SILT clayey silt, trace sand, grey, very moist | b) Pills, Line clayey silt, trace sand, trace gravel, brown/red, moist | | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | овотвонниса внинопппенна матенать пусновеоюду |
| | | | | | | | | | | | STRATA PLOT | | | rd, Toro | | ninafin a |
| | | | 4BUNDIST | 4AUNDIST | 3BUNDIST | 3AUNDIST | 2BUNDIST | 2AUNDIST | 1BUNDIST | 1AUNDIST | TYPE "N" <u>BLOWS</u> 0.3 m | SAMPLES | | into, ON | | |
| GRAPH | | | | | | | | | | | GROUND WATER | 3 | | | | |
| 1 | | 19 | 20 | N | 2 | 22 | 23 | 24 | | 25 | ELEVATION | | 1 | | | |
| \pm 3 \times 3. Numbers refer \bigcirc ϵ =3% Strain at Failure | | | | | | | | | | | 100 VANE VANE 250 | RESISTANCE PLOT | Date: Nov/14/2013 | Diameter: | DRILLING DATA Method: Geo Probe | |
| | | | | | | | | | | | WATER CONTENT CONTENT CONTENT CONTENT WATER CONTENT (%) 10 20 30 POCKET PEN (GJ) (KPR) NATURAL UNIT W (Mg/m ²) | | ENCL NO.: | REF. NO.: 1889-220 | | |
| | | | | | | | | | | | AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | REMARKS | | 20 | | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 8.GPJ SPL.GDT 12/5/13 | _ | | | | | | | , , | | | (m) ELEV DEPTH | | 80 | τοτ | , |
|---------------------|---|-----------|---------|----------|------------------|---------|---------------|-------------------------|-------------------------|--|-----------------------------|--|-----------------|------------------------------|---|-----|
| | თ | | | | | | | -1 | | | 25.6 | PTH D | | DATUM: Local BH LOCATION | PROJEC | |
| | Sample refusated 6.2 m. Sample refusated 8.2 m. Borehole backfilled with bentontle upon completion. | | | | | | | SILTY CLAY grey, wet | some clay, brown, moist | FILL sand and gravel, trace silt, brown, moist SILT | ASPHALT 75 mm of asphalt | DESCRIPTION | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr.Christie CLIENT: CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | |
| t | | 77. 72 | 7777 | 77777 | 77772, 77772, | +++++; | <i>+++++;</i> | <i>77777</i> | | | s s | TRATA PLOT | | | d, Tor | 0 |
| | | 5AUNDIS | 4BUNDIS | 4AUI | 3BUNDIS | 3AUNDIS | 2BUI | 2AUNDIS | 1BUI | 1 AUNDIS | N | UMBER | ٩S | | onto, | |
| | | NDIST | NDIST | 4AUNDIST | VDIST | VDIS | 2BUNDIST | DIS | 1BUNDIST | UDIST | | YPE | SAMPLES | | g | |
| | | | | | | | | | | | 1" | N" <u>BLOWS</u> 0.3 m | S | | | |
| GRAPH | | | | | | | | | | | | ROUND WATER | ٦ | | | |
| | | | 20 | N | 2 | 22 | 23 | 24 | | 25 | | LEVATION | | | | |
| | | | | | | | | | | | | ● ○ SHE | RESI | Date | DRILLING Method: G Diameter: | |
| 3 . 3 Numbers refer | | | | | | | | | | | | AR ST | STANC | : Nov | od: G | 222 |
| are refer | | | | | | | | | | | Ē | | RESISTANCE PLOT | Date: Nov/15/2013 | DRILLING DATA Method: Geo Probe Diameter: | |
| | | | | | | | | | | | Ē | | | 13 | be | |
|) 8 } | | | | | | _ | | | | | | KPa) FIELD LAB | TION | | | |
| ~ | | | | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) O LINCONF NED + FIELD VANE O DUCK TRIAXIA, × LAB VANE EDUCK TRIAXIA, × LAB VANE | | | | |
| £=3% | | | | | | | | | | | | - 5 | PIAS | | | |
| ľ | | | | | | | | | | | | WATER CONTENT (%) | IC NA | | | |
| ľ | | | | | | | | | | | 5 | ER CONTENT | TURAL | т | л | |
| ŀ | | | | | | | | | | | | | | ENCL NO.: | REF. NO.: 1889-220 | |
| ŀ | | | | | | | | | | | | POCKET PEN. (Cu) (kPa) | 2 | ō | 0:: 1 | |
| | | | | | | | | | | | | NATURAL UNIT W (Mg/m ³) | VT | | 389-22 | |
| | | | | | | | | | | | GH SA SI CI | AND RAIN SIZ STRIBUTI | REMARKS | | 20 | |

| | SPL SOIL LOG 1889-220 BOREHOLE LOGS SET 8.GPJ SPL.GDT 12/5/13 | | N | | N | | | N | | | | <u>φ</u> ς | קק | Ω₽ | • |
|---|---|---|-----------|-------------|----------------|--------------|---------|--|-----------------------------|--|-----------------|-------------------|---|------------------------------------|---|
| IOUND) | | 4.6 | | 30 | | | | 24 9 0.6 | 280.5 | | - | | | PROJECT: | G C |
| GROUNDWATER ELEVATIONS Shallow/ Single Installation ∑ ▼ Deeo/Dual Installation ▼ | | END OF BOREHOLE 1. Sample refusal at 2.4 m. 2. Borehole backfilled with bentonite upon completion. | grey, wet | CLAYEY SILT | | | | FIL sand and gravel, brown, moist SILTY CLAY organics, black, moist | ASPHALT 25 mm of asphalt | DESCRIPTION | SOIL PROFILE | BH LOCATION: | PROJECT LOCATION: 2150 Lake Shore Blvd, Toronto, ON | PROJECT: Mr.Christie CLIENT: | Geotechnical Environmental Materials Hydrogeology |
| allation | | - | | | 77777 77777 | <i>77777</i> | 7777 | 2222 XXX | s s | STRATA PLOT | 1 | | vd, To | | rogeolo |
| | | | зви | 3AU | 2BU | 2AU | 1BU | ĨĄ | N | NUMBER | Ś | 1 | ronto, | | ygy C |
| | | | 3BUNDIS | 3AUNDIS | 2BUNDIST | 2AUNDIS | 1BUNDIS | 1AUNDIST | Т | TYPE | SAMPLES | | Q | | |
| | | | - | - | - | | | - | " | N" <u>BLOWS</u> 0.3 m | ES | | | | 5 |
| <u>GRAPH</u> NOTES | | | | | | | | | | GROUND WATE | R | 1 | | | LOG OF BOREHOLE BH67 |
| 1 | | | Ņ | 22 | 23 | | 24 | 25 | | ELEVATION | | 1 | | | FB |
| + ³ , $	imes$ ³ . Numbers refer to Sensitivity | | | 1 | 2 | <u>ل</u> | | 4 | <u> </u> | | 20 40 60 100 SHEAR STRENGTH (kPa) O UNCONFINED + FED VANE O UNCONFINAVAL × LAB VANE 50 100 150 200 250 | RES | Date | Diar | DRII Meth | <u>F</u> |
| Numb to Ser | | | | | | | | | Ę | AR S | RESISTANCE PLOT | Date: NOV/15/2013 | Diameter: | DRILLING DATA Method: Geo Probe | ġ |
| ers refe isitivity | | | | | | | | | Ē | TREN TRIAXL | E PLO | /10/20 | 15/00 | eo Pro | 9 |
| | | | | | | | | | Ę | AL GTH | N | 10 | 3 | obe | 67 |
| ः • | | | | | | | | | | A LAB | V ATION | | | | |
| 3% Stra | | | | | | | | | | 100 VANE VANE | | | | | |
| ○ ^ε =3% Strain at Failure | | | | | | | | | | - 5 | PS | 1 | | | |
| ilure | | | | | | | | | | UMIT CONTENT LIN We W W WATER CONTENT (%) | STIC | | | | |
| | | | | | | | | | | | ATURA | | | | |
| | | | | | | | | | | ő (; _ | | | REF. | | |
| | | | | | | | | | | POCKET PEN. (Cu) (kPa) | | ENCL NO .: | NO.: | | |
| | | | | | | | | | | (Cu) (kPa) NATURAL UNIT \ (Mg/m ³) | | | REF. NO .: 1889-220 | | |
| | | | | | | | | | Ę | 2 DS GF | | 1 | 220 | | |
| | | | | | | | | | UH SA SI U | AND GRAIN SIZE DISTRIBUTION (%) | REMARKS | | | | 1 OF |
| | | | | | | | | | F | | ŝ | | | | |

| GROUNDWATER EI EVATIONS | PL SOIL LOG 1889-220 BOREHOLE LOGS SET 8.GPJ SPL.GDT 12/5/13 م | 19 | 20 2 | | | | 23 8 1 8 | | Ę. | (m) ELEV DEPTH 25.6 | | BH DA | |
|----------------------------|---|------|---------|---------|----------|---------|------------------------------|---------|---|---|--------------|------------------------------|---|
| | END OF POCHENCE Sample reisel at 6.2 m. Borehole backfilled with bentonite upon completion. | | | | | | 8 CLAYEY SILT grey, moist | | Sinn of asphalt SILT grey/orange, moist | | SOIL PROFILE | DATUM: Local BH LOCATION: | PROJECT: Mr. Christie CLIENT: PROJECT LOCATION: 2150 Lake Shore Blvd. Toronto, ON |
| | | 7777 | | | <u> </u> | | 1111 | | | STRATA PLOT | 1 | | d. 7 |
| | | 4BU | 4AU | звц | 3AU | 2BU | 2AU | 1BU | 1AU | NUMBER | _ v | 1 | ronto, |
| | | | 4AUNDIS | 3BUNDIS | 3AUNDIS | 2BUNDIS | 2AUNDIS | 1BUNDIS | 1AUNDIST | TYPE | SAMPLES | | g |
| | | | | - | _ | | | | - | "N" <u>BLOWS</u> 0.3 m | ES | | |
| GRAPH | | | | | | | | | | GROUND WATE CONDITIONS | R | | |
| 2 | | 20 | 2 | | 22 | 23 | 24 | 1 | 25 | ELEVATION | | | |
| 3 3 Numbers refer = 8 - 3% | | | | | | | | · | | 20 40 60 90 100 SHEAR STRENGTH (KPa) 0 UNCONFINED + FIELD VANE 0 QUICK TRIAXIAL × LAB VANE 50 100 150 200 250 | | Date: Nov/15/2013 | DRILLING DATA Method: Geo Probe Diameter: |
| | | | | | | | | | | R CONTENT 20 | WT | ENCL NO.: | REF. NO.: 1889-220 |

| | 2 92.4 9.1 END OF BOREHOLE Borehole dry upon completion. Water Level Readings: Uptie Oct. 22/04 3.25 | 2011201120 | | 95.4 94.5 | | 4.6 SILT some clay, | <u></u> | | | (A)B | I pocc. origenity | CLAYEY SILI mottled brown-grey stiff to very stiff | 0.0 TOPSOIL 25mm Still, trace sand, trace gravel and clay, trace gravel and clay, 0.6 (Possible FILL) | (m) DESCRIPTION | SOIL PROFILE | DATUM ELEVATION: Assumed Datum - See Drawing No. 1 for LocalDate: October 15, 2009 | CLIENT: Kraft Canada Inc. PROJECT: Transformer Upgrades LOCATION: Toronto | GEO-CANADA |
|---------------------------------|---|----------------|---------------------|---|-----------|------------------------|---------|-------|------|-------|-------------------|--|---|--|-----------------|--|---|-------------------|
| L | | | @ | 1 177777777777777777777777777777777777 | | 8 | | 5 | 2743 | 4 | | N | - | NUMBER | 1-1 | wing No. | | |
| F | | RAR | SS 55 | SS 12 | | SS 32 | | SS 17 | | SS 18 | SS 21 | SS 14 | SS 10 | TYPE "N" <u>BLOWS</u> D.3 m | SAMPLES | . 1 for Lo | | |
| GRAPH NOTES | | ' minimini | 550/ | | | | | | | | | | | GROUND WAT | ER | calitate: | Metho | Log |
| +3 | | 8 | | g | <u></u> 8 | | 9 | s ilþ | | | | 5 | 101 | ELEVATION | | October | Method: Continuo Diameter: 110mm | |
| × | | | | | | | | | | | | | | O UNCO ZO | RESISTANCE PLOT | 15, 2004 | Method: Continuous flight solid-stem augers Diameter: 110mm | LOG OF BOREHOLE 1 |
| Numbers refer to Sensitivity | | | | | | | | | - | _ | | | | AD CTRIAXIA | ICE PLOT | | pht solid- | DLE 1 |
| °, | | | | | | | | | | | | | | | | | stem aug | |
| | | | | | | | | | | | | | | SHEAR STRENGTH (KPa) O UNCONFINED + FIELD VANE O QUICK TRNXIAL X LAB YANE 20 40 60 60 100 | j z | | Jers | |
| €=3% Strain at Falture | | | | | | | | | | | | | 0 | | PLASTIC | 1 | | |
| lure | | | 0 | + | | Ĵ | | 0 | | 9 | 0 | | | WATER CONTENT (%) | MOISTURAL | | REF. NO.: G ENCL NO.: 1 | |
| | | | | | | | | _ | | | | | | | | | REF. NO.: G-04.0903 ENCL NO.: 1 | |
| | | | | | | | | | | | | L | | (f2 , U | | 1 | 4,0903 | |
| | | | Spiil spoon wet. | | | 8 73 19 | | | | | | c, 89 , | 5 | - | AND | | | 1 OF 1 |

| Ģ | EO-CANADA SOIL LOG B | OREHOLE LOGS G040903.GPJ G | EO-CANADA TEMPLATE.G | DT 2/11/04 | r | <u></u> | | | Sim o | | | |
|-------------------------------------|--|---|----------------------|------------------|---|---------|--|--------------|---|---|---|-------------------|
| | 9.1 9.1 | 00 F 7.3 | 95.6 6.1 | | 3 0 | 98.7 | 101.1 0.6 | 101.7 0.0 | (m) ELEV DEPTH | 30RE | ROJI | |
| | 1 END OF BOREHOLE Borehole dry upon completion. Water Level Readings: Date WL, Depth (m) Oct. 22/04 5.45 | a BEGROCK (Inferred) grey grey | | very motet dayey | SILT some clay, coc. very thin sitt partings grey, very stiff very stiff | | CLAYEY SILT Coulds, worwn CLAYEY SILT Coulded brown grey, occ. Fisarles very slift to hard | | SOIL PROFILE DESCRIPTION | BOREHOLE LOCATION: Refer to Drawing No. 1 | CLLENT: Kraft Canada Inc. CLENT: Kraft Canada Inc. PROJECT: Transformer Upgrades LOCATION: Toronio LOCATION: Toronio LOCATION: Toronio LOCATION: Assumed Datum - See Drawing No. 1 for LocaDate: October 15, 2004 | GEO-CANADA |
| | | | | | | | | <u> ^^^^</u> | | <u> </u> | Drawi | Þ |
| | | ω α | 7 | 6 | 5 | 4 | <u>ω Ν</u> | | | | Ng Ng | ļ |
| | | SS | SS | S | S | ss | SS SS | | YPE MPLES | |). 1 fo | |
| | | - 50/ | ω | 17 | 22 | 32 | 18 | 16 | N" <u>BLOWS</u> 0.3 m | | | |
| GRAPH NOTES | | | | mmun | | | | | SROUND WATER | | DRIL Meth Dian | ဝို |
| | | | | | | | × - | | | 1 | DRILLING DATA Method: Continuot Diameter: 110mm Date: October 15, | 유 |
| +3,×3; | | 93 94 | 95 | | | 66 | 100 | | | D. | DAT/ ontinu 110m ber 1: | BO |
| ~ | | | | | | | | | 20 40 60 80 100 SHEAR STRENGTH (kPa) O UNCONFINED + FIELD VANE O QUICK TRIAXUAL X LA VANE 20 40 60 80 100 | DYNAMIC CONE PENETRATION | DRILLING DATA Method: Continuous flight solid-stem augers Diameter: 110mm Inzele: October 15, 2004 | LOG OF BOREHOLE 2 |
| to Sensitivity | | | | | | | | | 20 40 60 EAR STRENGT UNCONFINED QUICK TRIAXIAL 20 40 60 | CON | ight so | l E |
| s refer bivity | | | | | | | | | | PEN | olid-st | N |
| | | | 1.7- | | | | | | H (kPa) + FIELD VAN + FIELD VAN × LAB VANE 80 100 | TRAT | em a | |
| 0 ** | | | | | | | | | 100 (a) (a) (a) (a) (a) (a) (a) (a) (a) (a) | ION. | Igers | |
| ^{3%} Stra | | | | | | | | | 100 VANE | | | |
| O ^{s=3%} Strain at Failure | | | | | | | | | 252 | | | |
| allure | | o o | | | • | o | • | | PLASTIC MUSTURE LIQU LIMIT CONTENT LIM Wp W W I | | 무 곪 | |
| | | | | o | | | | | | | | |
| | | | | | | | | | | | REF. NO.: G ENCL NO.: 2 | |
| | | | _ | | | | · · | | 5 = 5 | _ | REF. NO.: G-04.0903 ENCL NO.: 2 | |
| | | | | | | | | | (RV VNIT WEIGHT | | 603 | |
| | | | U U U | | | | 7 65 28 | | GRAIN SIZE DISTRIBUTION (%) GR SA SI CL | DEMARKS | | 1 OF 1 |

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| | JORDE | N LOG 0812 | 9.0 | 00 00 05 | 8.0 | ^{3/13} 7.5 | 7.0 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | | m BGS | DEPTH | CLIEN LOCAT | PROJE | |
|---------------------|--|----------------|-----|----------------|-----|------------------------|-----|---------|-----|-----|-----|-----|-----|-----|---|---|---|---|----------------|-------------------------------------|--------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | | | | | - low plasticity, grey END OF BOREHOLE @ 2.59m BGS | | CL-SILTY CLAY (TILL), trace gravel, stiff, medium plasticity, brown, moist | SM-SILTY SAND (FILL), trace gravel, compact, fine grained, poorly graded, brown, moist CL-SILTY CLAY, stiff, medium plasticity, brown, moist | CONCRETE FLOOR | STRATIGRAPHIC DESCRIPTION & REMARKS | | CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geolechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | EFER TO CUP | | | | | | | | | | | | | | 26 26 | 9117495 9117495 | - - - | 0.5 | | m BGS | DEPTH | DRILLIN FIELD F | HOLE D DATE C | C AND INSTRUM (OVERBURDEN) |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | | | | BENTONITE SEAL | SEAL | CONCETE | BOREHOLE | 2 | DRILLING METHOD: SPLIT-SPOON FIELD PERSONNEL: K. Vander Meulen | HOLE DESIGNATION: BH1-13 DATE COMPLETED: March 2, 2013 | IMENTATION LOG V) |
| | | | | | | | | | | | | | | | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | (n) | - | NUME | BER | | 2 | | |
| | - | | | | | | | | | | | | | | | | \gtrsim | \gtrsim | INTER | | ٩S | | | |
| | | | | | | | | | | | | | | | č | 76 | 0.76 | 0.76 | REC | LUE | SAMPLE | | | Pa |
| | | | | | | | | | | | | | | | - | 04 | 0.8 | 0.5 | PID (p | opm) | | | | Page 1 of 1 |

| OVERB | URDE | N LOG 08 | 111 | | прп | | | | | | | | | | | | | | T | | | 30 | | | т т | | 1 |
|---------------------|--|----------|---------|------|-----|-----|-----|-----|-------|-----|-----|-----|-----|-------|-----|-----|-----------------------------|------|--|--|----------------|-------------------------------------|---|---|-------------------------------|---|---|
| | | 9.5 | 9.0 | -8.5 | 8.0 | 7.5 | 7.0 | 6.5 | - 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | - 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | DEPTH m BGS | | CATI | ROJE | | |
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | | | | | | | END OF BOREHOLE @ 1.83m BGS | | CL-SILTY CLAY, stiff, medium plasticity, brown, very moist | L), trace gravel, compact, aded, brown, moist | CONURETE ELOOR | STRATIGRAPHIC DESCRIPTION & REMARKS | | CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West. Toronto | PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) | |
| | FER TO CU | | | | | | | | | | | | | | | | 1.8 | | | 0.5 | \$ | M BGS | _ | FIELD | DATE | C AND INSTRUM (OVERBURDEN) | |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | | | | | SEA | BENTONITE | SEAL | | BOREHOLE | | DRILLING METHOD: SPLIT-SPOON FIELD PERSONNEL: K. Vander Meulen | DATE COMPLETED: March 2, 2013 | JMENTATION LOG | |
| | - | | | | | | | | | | | | | | | | | 2 | (-) | | NUME | VAL | | 2 | | | |
| | | | | | | | | | | | | | | | | | | 0.61 | 0.61 | | REC | <u>7</u> | | | | P | |
| | - | | | | | | | | | | | | | | | | | 2.4 | 5.1 | | PID (p | | | | | Page 1 of 1 | |

| STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERFUNCTION CONCERPT Multiplication and Plane Tro ESA PROJECT NUMBER 201211 CULTAR: Mondeal: Consume Team To ESA PROJECT NUMBER 20121 CULTAR: Mondeal: Consume Team To ESA PROJECT NUMBER 2012 CULTAR: Mondeal: Consume Team To ESA PROJECT NUMBER 2012 TEAM TO ESCRETTION & REALINAS TEAM TO ESCRETTION AND TO ESCRETTION TO AREA TEAM TO ESCRETTION TO AREA TEAM TO ESCRETTION AND TO AREA TEAM TO ESCRETTION AND TO AREA TEAM TO ESCRETTION TO AREA TEAM TO ESCRE | OVERBL | RDE | LOG 081 | 211.GPJ | | ORP.GD | 3/3/13 | | 11111 | | | | | | | | | | | 11111 | | | | | | 1 |
|--|--------|----------------------|---------|---------|-----|--------|--------|------|-------|-----|-----|-------|-----|-----|-----|-----|-----|-------|-----------------------------|---------------------|----------|---------|-------------------------------------|---|--|----------------------|
| STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Investigation and Phase Two ESA DALE COMPLETES March 2: 03 DALE COMPLETES March 2: 03 DALE OPERSONIE: K Vander Meuter FELD PERSONIE: K Vander Meuter March 2: 0000 Tim. medum plastely, grey. 000 Tim. medum plastely, grey. 1,5 0LE @ 152m BGS 0LE @ 152m BGS 0LE @ 152m BGS | | | 9.5 | 9.0 | 8.5 | 8.0 | 7.5 | -7.0 | 6.5 | 6.0 | 5.5 | - 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | - 2.0 | 1.5 | 1.0 | 0.5 | | DEPTH m BGS | LOCATI | PROJE | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | | | | | | | | | | | | | | END OF BOREHOLE @ 1.52m BGS | - very moist to wet | | | STRATIGRAPHIC DESCRIPTION & REMARKS | : Mondelez Canada Inc. ON: 2150 Lake Shore Blvd. West, Toronto | CT NAME: Geotechnical Investigation and Phase Two ESA CT NUMBER: 081211 | STRATIGRAPHIC AND |
| Image: Section of the section of t | | ER TO CUF | | | | | | | | | | | | | | | | | .5 | | | | DEPTH m BGS | FIELD F | HOLE D DATE C | NSTRU BURDEI |
| Image: Second state | | RENT ELEVATION TABLE | | | | | | | | | | | | | | | | | | BENTONITE | SEAL | | BOREHOLE | 4G METHOD: SPLIT-SPOON PERSONNEL: K. Vander Meulen | COMPLETED: March 2, 2013 | IMENTATION LOG N) |
| 0.5 0.7 76 REC (m) | | | | | | | | | | | | | | | | | | | (| ~ | | NUMBE | R | 2 | | |
| State REC (m) State REC (m) State | | | | | | | | | | | | | | | | | | | \square | ×1 | \times | INTERV | 'AL | | | |
| INVALUE INVALUE Since Sinc | | | | | | | | | | | | | | | | | | | | 0.61 | 0.76 | REC (r | n) SAM | | | |
| 8 8 PID (ppm) | | | | | | | | | | | | | | | | | | | | | | 'N' VAL | UE R | | | Pag |
| | | | | | | | | | | | | | | | | | | | | 0.8 | 0.8 | PID (pp | m) | | | le 1 of 1 |

| 9.5 | 9.0 | 8.5 | 8.0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | m BGS | DEPTH | PROJEC CLIENT: LOCATIO | PROJEC | |
|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|-----|-----|-----|---|----------------|-------------------------------------|--------|---|--|---|
| | | | | | | | | | | | | | | | | | AVEL (FILL), fine to coarse brown, moist | CONCRETE FLOOR | STRATIGRAPHIC DESCRIPTION & REMARKS | | PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | | | | | | | | | | | | | | | | 0.9 | | | m BGS | DEPTH | DATE (PRILLIN FIELD F | HOLE [| OVERBURDEN |
| | | | | | | | | | | | | | | | | | BENTONITE | | BOREHOLE | | DATE COMPLETED: March 2, 2013 DRILLING METHOD: SPLIT-SPOON FIELD PERSONNEL: K. Vander Meulen | HOLE DESIGNATION: BH4-13 | JMENTATION LOG N) |
| | | | | | | | | | | | | | | | | _ | _ | NUM | | | | | |
| | | | | | | | | | | | | | | | | | 0.76 | INTE | | SA | | | |
| | | | | | | | | | | | | | | | | | 76 | 'N' V/ | ALUE | SAMPLE | | | Pa |
| | | | | | | | | | | | | | | | | | 0.4 | PID (| ppm) | | | | Page 1 of 1 |

| IZ | 1111 | 9.5 | 9.0 | CRA_CC | 8.0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | - <u>1</u> .5 | 1.0 | 0.5 | | m BGS | DEPTH | LOCATIO | PROJECT | | |
|--|------|-----|-----|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|-----|-------------|------|---------------|-------------------------------------|---|---|---|---------------------------------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | | | | | | | | | | | AVEL (FILL) | | | STRATIGRAPHIC DESCRIPTION & REMARKS | LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NUMBER: 0812111 CI IENT: Mondelez Canada Inc | FNAME: Opphochaical Investigation and Deaps Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG |
| -ER TO CUI | | | | | | | | | | | | | | | | | | | | 0.3 | § | m BGS | DEPTH | FIELD F | | | CAND INSTRUM |
| RRENT ELEVATION TABLE | | | | | | | | | | | | | | | | | | | | SEAL | | | | FIELD PERSONNEL: K. Vander Meulen | DATE COMPLETED: March 2, 2013 | | JMENTATION LOG N) |
| | | | | | | | | | | | | | | | | | | | | | NUM | IBER | | | | | |
| | | | | | | | | | | | | | | | | | | | | | INTE | RVAL | | | | | |
| | | | | | | | | | | | | | | | | | | | | | - | C (m) ALUE | SAMPLE | | | | _ |
| | | | | | | | | | | | | | | | | | | | | | | ALUE | | | | c | Page 1 of 1 |

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| | | N LOG 08 9.5 | | 0011 00 07 | 8.0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | DEPTH m BGS | LOCATIO | CLIENT: | PROJEC | | |
|---------------------|--|-----------------|------|------------------|-----|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----------------------------|--------|-----------------------|---|--|---------|-------------------------------------|---|------------------------------|--|---|--|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | | | | | | END OF BOREHOLE @ 2.44m BGS | | - stiff, brown, moist | CL-SIL IY CLAY, firm, low plasticity, grey, moist | SP-SAND (FILL), fine grained, poorly graded, brown, moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | LOCATION: 2150 Lake Shore Blvd. West, Toronto | CLIENT: Mondelez Canada Inc. | PROJECT NAME: Geotechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) | |
| | FER TO CUP | | | | | | | | | | | | | | | 12.4 | | ***** | HHB HHB | 0.2 | § | DEPTH m BGS | FIELD F | DRILLIN | HOLE D | C AND INSTRUM (OVERBURDEN) | |
| | RENT ELEVATION TABLE | | | | | | | | | | | | | | | | | SEAL | | SEAL SEAL | | BOREHOLE | FIELD PERSONNEL: K. Vander Meulen | DRILLING METHOD: SPLIT-SPOON | HOLE DESIGNATION: BH6-13 DATE COMPLETED: March 2, 2013 | IMENTATION LOG V) | |
| | | | | | | | | | | | | | | | | | з — | |) | _ | | _ | | | | | |
| | - | | | | | | | | | | | | | | | | 0.61 | 0.76 | | 0.76 | REC (r | — Ī | | | | т | |
| | - | | | | | | | | | | | | | | | | 0.1 | 0.2 | | 0.1 | PID (pp | | | | | Page 1 of 1 | |

| | | N LOG 08121 | 9.0 | 00 07 07 | 8.0 0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 1.5 | 1.0 | 0.5 | | DEPTH m BGS | CLIENT LOCATI | PROJE | |
|---------------------|--|-----------------|-----|----------------|----------|-----|-----|-------------------------------|----------|--------------------|---------|---|------|-----------------------|-----------|---------------------|---------------|--|--|----------|-------------------------------------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BUREHOLE @ 0.10111 BGS | | | | | | - brown, moist to wet | | - medium plasticity | | CL-SIL1Y CLAY, low plasticity, grey, moist | MCGW SAND& GRAVEL (FILL), coarse to medium grained, well graded, brown, moist | 6 22 5 1 | STRATIGRAPHIC DESCRIPTION & REMARKS | CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | FER TO CUP | | | | | | | | <u>,</u> | <i>HHHH</i> | | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | | ××××× | | DEPTH m BGS | DRILLIN FIELD F | HOLE D DATE C | C AND INSTRUM (OVERBURDEN) |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | SEAL | BEATOMITE | | | | | | BOREHOLE | DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffith | HOLE DESIGNATION: BH101-13 DATE COMPLETED: February 7, 2013 | IMENTATION LOG N) |
| | | | | | | | | | 10 | | • | 00 | 7 | (m) | cn | 4 | * - F - V - Y | N | | NUMBI | ER | | ω | |
| | | | | | | | | | P/S | <u>, v sni sni</u> | C 10 10 | P/S | P/S | - PS | PVS | NS No. | 10 mg 10 mg | Skl | 42 42 42 4 | | | | | |
| | - | | | | | | | | 0.61 | 0.0 | 2 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | REC (I | - 11 | | | _ |
| | | | | | | | | | 0.0 | 000 | 2 | 0.1 | 0.6 | 159 | 1.3 | 9.3 | 3.3 | 0.9 | 0.1 | PID (pp | | | | Page 1 of 1 |

| OVERE | BURDE | N LOG 0812 9.5 | 11.GPJ (11 11 9.0 | 00 05 | P.GDT 2/ | 7.5 | 7.0 | 0 5 | 6.0 | 5.0 | 4.5 | 4.0 | 3.5 | | 2.5 | 2.0 | | | 0.5 | | DEPTH m BGS | PROJ CLIEN LOCA | PROJ | |
|---------------------|--|-------------------|----------------------------|----------|----------|-----|-----|-----------------------------|-------|--|---|--|---|--|---|------------------------|---------------|--|--|--------------------|-------------------------------------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BOREHOLE @ 6.10m BGS | | less slit content, high plasticity, grey, moist to wet | CL-SILTY CLAY, medium plasticity, grey, moist | SM-SILTY SAND, fine grained, poorly graded, brown, wet | CL-SILTY CLAY, medium plasticity, grey, moist | - 152 mm section of coarse gravel , grey, slight | - moist to wet, slight black staining, slight odour | | | SP-SAND (FILL), medium grained, poorly graded, brown, moist | ASPHALT SW-GW SAND & GRAVEL (FILL), well graded, grey, moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | REFER TO CU | | | | | | | <u>e</u> | | | | 4.0 | | 3.0 | | | | | 0.2 | | M BGS | DATE (DRILLII FIELD | HOLE | C AND INSTRUM |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | BENTONITE | | | | | | | BOREHOLE | DATE COMPLETED: February 7, 2013 DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffith | HOLE DESIGNATION: BH102-13 | JMENTATION LOG |
| | | | | | | | | | 5 | 9 • | 00 | | (m | 4 | on So Solu | 4 • 1 < • * < • * < | دن میں ایک | N | | NUMBE | R | ű | ω | |
| | | | | | | | | | P/S 0 | P/S 0 | P/S | P/S 0 | CH 2 CH 2 CH 2 | " a> 1 a> | P/S, 0 | P/S 0 | P/S 0 | P/S 0 | P/S 0 | INTERV | | | | |
| | | | | | | | | | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | REC (n 'N' VALU | - 3 | | | ۍ ۲ |
| | | | | | | | | | 1.4 | 1.2 | 21.9 | 1.4 | 283 | | 10.3 | 0.3 | 5.2 | 1.6 | 1.5 | PID (ppi | m) | | | Page 1 of 1 |

| | | 90 50 51 | 9.0 | 8.5 .5 | 8.0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | ; | רוון כ ת | | DEPTH m BGS | LOCATI | CLIENT | PROJEC | |
|---------------------|--|----------------|-----|-----------|-----|-----|-----|------------------------------|----------|-----------|---|---------------------------------|------|------|--|---|---|---------------------------------|----------------------------|--|--|----------------------|-------------------------------------|---|------------------------------|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BOREHOLE (0,0,10m BGS | | | | - trace fine sand, brown, moist | | | - 152 mm section of moist to wet, slight odour | - medium plasticity, grey, slight odour | CL-SILTY CLAY, low plasticity, brown, moist | - dark brown, slightly oxidized | - black staining, no odour | SP-SAND (FILL), fine grained, poorly graded, | SAND & GRAVEL (FILL), coarse to medium | | STRATIGRAPHIC DESCRIPTION & REMARKS | LOCATION: 2150 Lake Shore Blvd. West, Toronto | CLIENT: Mondelez Canada Inc. | PROJECT NAME: Geotechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | EFER TO CUI | | | | | | | | <u>A</u> | | ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | | | | | | | ***** | **** | ×*** | × | | DEPTH m BGS | FIELD F | DRILLIN | HOLE D | C AND INSTRUM (OVERBURDEN) |
| | RENT ELEVATION TABLE | | | | | | | | | | | | | SEAL | BENTONITE | | | | | | | | BOREHOLE | FIELD PERSONNEL: L. Griffith | DRILLING METHOD: GEOPROBE | HOLE DESIGNATION: BH103-13 | IMENTATION LOG N) |
| | | | | | | | | | 6 | | | 00 | 7 | 6 |) (| | 4 | ω | 22 | | | NUMBE | R | | | ω | |
| | | | | | | | | | Ska | ~ #> #> " | P/S | PVS | P/S | P/S | " a> 1 a> ' a | | P/S | P/S | S/d | × 42 · | P/S | INTERV | | | | | |
| | | | | | | | | | 0.61 | | 0.61 | 0.61 | 0.61 | 0.61 | 0.01 | 2 | 0.61 | 0.61 | 0.61 | | 0.61 | REC (m | - P | | | | _ |
| | | | | | | | | | 4.4 | | 0.1 | 3.1 | 114 | 299 | 3 | 474 | 9.7 | 4.4 | 0.7 | | 0.7 | 'N' VALU PID (ppr | - | | | | Page 1 of 1 |

| | ILGS 081211.0PJ CRA_CORP.GDT 225413 | DEPTH m BGS | |
|--|---|-------------------------------------|---|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE LABORATORY ANALYSIS | ASPHALT ASPHALT SMC-GW SAND & GRAVEL (FILL), oarse to medium grained, weil graded, grey, moist CL-SILTY CLAY, low plasticity, brown, moist CL-SILTY CLAY, low plasticity, brown, moist CL-SILTY CLAY, low plasticity, brown, moist - medium plasticity, grey, moist to wet END OF BOREHOLE @ 6.10m BGS | STRATIGRAPHIC DESCRIPTION & REMARKS | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) PROJECT NAME: Geolechnical Investigation and Phase Two ESA HOLE DESIGNATION: BH104. PROJECT NUMBER: 081211 DATE COMPLETED: February 7, 20 CLIENT: Mondelez Canada Inc. DRILLING METHOD: GEOPROBE LOCATION: 2150 Lake Shore Bivd. West, Toronto FIELD PERSONNEL: L. Griffith |
| FER TO CUP | | DEPTH m BGS | C AND INSTRUM (OVERBURDEN)) ESA HOLE DES DATE COM DRILLING I FIELD PER |
| RRENT ELEVATION TABLE | SEATONE | BOREHOLE | STRUMENTATION LOG IRDEN) HOLE DESIGNATION: BH104-13 DATE COMPLETED: February 7, 2013 DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffith |
| | | _ | |
| | P P | | |
| | | -12 | Page 1 of 1 |

| | JORDE | N LOG 0812 11111111 0 5 | 9.0 | 00 00 05 | P.GDT 2 | 7.5 | 7.0 | 6.5 | 6.0 | ບາ ບາ ບາ | 5.0 | 4.5 | | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | | | > | 0.5 | | m BGS | DEPTH | CLIENT | PROJE | |
|---------------------|--|----------------------------------|-----|----------------|-------------|-----|-----|-----------------------------|--|---|---------------------|---|---------------------|------|----------------|-----------|--|---|--|--|---|--|--------------------|-------------------------------------|--------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BOREHOLE @ 6.10m BGS | | - medium plasticity, arey, moist to wet | - slightly oxidized | - slightly oxidized | - slightly oxidized | | - moist to wet | | - niowi i giey, siginiy oxiazed, sigin odoal | | CL-SILTY CLAY, low plasticity, brown, moist - slight black staining, no odour | SM-SILTY SAND (FILL), medium grained, poorly graded, moist, oxidized | SP-SAND (FILL), medium grained, poorly graded, brown, moist | SW-GW SAND & GRAVEL (FILL), coarse to medium grained, well graded, grey, moist | 5 22 24 4 | STRATIGRAPHIC DESCRIPTION & REMARKS | | CLENT: Mondelez Canada Inc. CLENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | ER TO CUF | | | | | | | | - 7//////////////////////////////////// | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | | m BGS | DEPTH | PRILLIN FIELD P | HOLED | URDEN |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | | | BENTONITE | | | | | | | | BOREHOLE | | DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffith | HOLE DESIGNATION: BH105-13 | MENTATION LOG V) |
| | | | | | | | | | 5 | | œ | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | 7 | | | (on) | 4 | ω | | N | - | NUMB | ER | | | ω | |
| | | | | | | | | | P/S | - " <n 1<="" td=""><td>Pys</td><td>P/S</td><td></td><td>P/S</td><td>Ū</td><td>5 a 2 a 2</td><td>P/S</td><td>P/S</td><td>P/S</td><td>12 12</td><td>ν P/S</td><td>P/S</td><td></td><td></td><td>0</td><td></td><td></td><td></td></n> | Pys | P/S | | P/S | Ū | 5 a 2 a 2 | P/S | P/S | P/S | 12 12 | ν P/S | P/S | | | 0 | | | |
| | - | | | | | | | | 0.61 | | 0.61 | 0.61 | | 0.61 | 0.01 | 2 | 0.61 | 0.61 | 0.61 | | 0.61 | 0.61 | REC (| m) | SAMPLE | | | _ |
| | | | | | | | | | | | | | | | | | | | | | | | IN VAL | | a | | | Page 1 of 1 |

| OVER | | N LOG 0812 9 9 5 | .0 .0 | 00 05 | .00 .0 | 7.5 | 7.0 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | | -1.0 | 0.5 | | DEPTH m BGS | CLIENT: | PROJEC | |
|---------------------|--|---------------------------|----------|----------|-----------|-----|-----|-----------------------------|-------------|--|----------|---|-----------------------|-----------------------|---------------------|----------|--|---|---|-------------------|-------------------------------------|------------------------------|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BOREHOLE @ 6.10m BGS | | - 152 mm section of tine slity sand, brown, wet - grey, moist | | - grey | - slight odour, brown | - strong odour, moist | - strong odour, wet | | CL-SILTY CLAY, Iow plasticity, grey, moist, slightly oxidized - slight odour, grey | SP-SAND (FILL), fine grained, poorly graded, brown, moist | ASPHALT SW-GW SAND & GRAVEL (FILL), medium to fine grained, well graded, brown, moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | CLIENT: Mondelez Canada Inc. | PROJECT NAME: Geotechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | FER TO CUP | | | | | | | | ***** | | **** | ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | ****** | | | | <u></u> | <u>.</u> | | | DEPTH m BGS | DRILLIN | HOLE D | C AND INSTRUM (OVERBURDEN) |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | BENTONITE SEAL | | | | | | | BOREHOLE | DRILLING METHOD: GEOPROBE | HOLE DESIGNATION: BH106-13 DATE COMPLETED: February 7. 2013 | NMENTATION LOG |
| | | | | | | | | 5 <u>~~~~</u> | * a> [a> ' | ہ <u>ہ چ</u> | ° | ~ | ***** | ») | о о | 4 | ω | N | | NUMBE | ER | | ω | |
| | | | | | | | | P/S 0.61 | × => => ' | P/S 0.61 | P/S 0.61 | P/S 0.61 | × 42 12 V | | P/S 0 | P/S 0.61 | P/S 0.61 | P/S 0 | 4P/S 0.61 | INTERV | | | | |
| | ŀ | | | | | | | 61 | | 61 | 61 | 61 | | <u>n</u> | 0.61 | 61 | 61 | 0.61 | 61 | REC (r 'N' VAL | - 2 | | | Ра |
| | | | | | | | | 0.2 | | 0.6 | 1.4 | 0.8 | | 203 | 82.3 | 105 | 6,5 | 0.9 | 1.8 | PID (pp | m) | | | Page 1 of 1 |

| | | N LOG 0812 | 9.0 | 00 05 | P.GDT 2 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | | 1.0 | 0.5 | | m BGS | | PROJEC CLIENT LOCATI | PROJEC | |
|---------------------|--|----------------|-----|----------|-------------|-----|-----|-----------------------------|----------------|-----|----------------|---------------------------|-------|------------|-----------|------------------------------|---|---|---|--|--------|-------------------------------------|--------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BOREHOLE @ 6.10m BGS | | | - moist to wet | - medium plasticity, grey | - wet | | | - slight odour, moist to wet | | CL-SILTY CLAY, low plasticity, brown, moist - strong odour, brown / grey | SP-SAND (FILL), fine grained, poorly graded, brown, moist | SW-GW SAND & GRAVEL (FILL), coarse to medium grained, well graded, grey, moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | | PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | ER TO CUF | | | | | | | | Kuun | | | | | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | , | | m BGS | | DATE C DRILLIN FIELD P | HOLE D | URDE |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | C F | BENTONITE | | | | | | | BOREHOLE | | DATE COMPLETED: February 7, 2013 DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffith | HOLE DESIGNATION: BH107-13 | IMENTATION LOG V) |
| | | | | | | | | | 5 1 = 2 = 1 | | م ساره، «م | 00 > " -> " | | ი • • • | | رن حد <u>ا</u> حد `` حد | (4) (4) | ω •> •> •> •> | N | | NUMBE | R | | | ω | |
| | | | | | | | | | Skd | | | P/S | PS | P/S | | | P/S | P/S | P/S | P/S | INTERV | | ω | | | |
| | | | | | | | | | 0.61 | 2 | 0.61 | 0.61 | 0.61 | 0.61 | | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | REC (r | n) | SAMPLE | | | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | Page 1 of 1 |

| 9.5 | 9.0 | 8.5 | 8.0DT 8.0 0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | | | 0.5 | | DEPTH m BGS | PROJEC CLIENT: LOCATIC | PROJEC | |
|--|-----|-----|-------------------|-----|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----|--|-----------------|---|---|---------|-------------------------------------|---|--|---|
| NOTES: MEASUBING DOINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TARLE | | | | | | | | | | | | | | | - Refusal END OF BOREHOLE @ 1.89m BGS | CONCRETE (FILL) | SP-SAND (FILL), fine grained, poorly graded, brown, moist | CONCHETE SWACHVSAND & GRAVEL (FILL) coarse to medium grained, weil graded, brown, moist | 2 | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | | | | | | | | | | | | | | | 1.8 | | , with the second se | | | DEPTH m BGS | DATE C DRILLIN FIELD F | HOLE | C AND INSTRUM (OVERBURDEN) |
| | | | | | | | | | | | | | | | | | SEAL | | | BOREHOLE | =ebn GEO | HOLE DESIGNATION: BH108-13 | JMENTATION LOG N) |
| | | | | | | | | | | | | | | | | 3/di | | N 1 P/S | | /AL | | | |
| | | | | | | | | | | | | | | | ľ | 0.61 | - 451.45 | | REC (I | <u> </u> | | | |
| | | | | | | | | | | | | | | | | | | | 'N' VAL | UE | | | Page 1 of 1 |

| | | 9.5 | 8.5 | 8.0 | 7.5 | 7.0 | | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | m BGS | | PROJE CLIENT LOCATI | PROJE | |
|---------------------|--|-----|------|-----|-----|-----|------------------------------------|----------|----------|---|---|---|---|-----------|-----------------|----------------|---|---|---|--------|-------------------------------------|--------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | בואט טר פטאברוטבב (00 מ. וטוזו פעס | | | - moist to wet, grey | - slignny oxialzea, no oaour | | - medium plasticity, grey | | | - strong odour | CL-SILTY CLAY, low plasticity, brown, moist | son-suc ir sANU (FLL), little day, ime grained, poorly graded, brown, moist - slightly oxidized | SW-GW SAND & GRAVEL (FILL), coarse to medium grained, brown, moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | | PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Bivd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | ER TO CU | | | | | | | <u>"</u> | | ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;; | | | | , , , | <u>i</u> xxxxx | | 8 | m BGS | 7 | DATE C DRILLIN FIELD F | HOLE D | NSTRL ;URDE |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | BENTONITE | | | | | | 3 | BOREHOLE | | =ebn GEO | HOLE DESIGNATION: BH109-13 | JMENTATION LOG N) |
| | | | | | | | | ð | | | 00 * 10 * 10 ! | ~ | (m | | ر. مەلمە °مە | 4 | ω | N | | NUMBE | R | | | ω | |
| | | | | | | | | | 12 12 10 | · 112 112 | P/S | P/St o | NS A | | P/A | PYS | P/S | P/S | P/S | INTERV | | ε | | | |
| | | | | | | | | 0.61 | 0.61 | 2 | 0.61 | 0.61 | 0.61 | | 0 61 | 0.61 | 0.61 | 0.61 | 0.61 | REC (r | n) JE F | SAMPLE | | | P |
| | - | | | | | | | | | | | | | | | | | | | | | | | | Page 1 of 1 |

| 99 90 8.5 5.5 4.5 90 90 90 8.5 5.5 4.5 90 90 90 90 90 90 90 90 90 90 90 90 90 | | DEPTH m BGS | 5233. | \sim |
|---|---------|-------------------------------------|---|---|
| NOTE / / | | SS 코 | ROJE | |
| L.S.ILTY CLAY (FILL), frm, low plasticity, grey, promotis present of the providence | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: Geolechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | | DEPTH m BGS | Hole di Date co Drillin Field P | STRU |
| RENT ELEVATION TABLE | | BOREHOLE | HOLE DESIGNATION: BH110-13 DATE COMPLETED: February 22, 2013 DRILLING METHOD: HAND DRILL FIELD PERSONNEL: L. Griffith | MENTATION LOG V) |
| | NUMB | BER | | |
| | | VAL | | |
| | REC (| (m) LUE | | |
| | 'N' VAL | | | Page |
| 8 | PID (pr | pm) | | Page 1 of 1 |

| | | N LOG 0812 9.5 | 9.0 | 8.5 | 8.0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | | 2.0 | 1.5 | .0 | 0.5 | | | DEPTH | LOCATIO | PROJEC | |
|---------------------|--|-------------------|-----|-----|-----|-----|-----|-----|-----|-----------------------------|-----------------------------|---------------|------|------|------|------|--|--|--|----------------------------|-----------------------|-------------------------------------|---|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | | | END OF BOREHOLE @ 4.88m BGS | - Refusal (Shale fragments) | | | | | | CL-SILTY CLAY, stiff, low plasticity, grey, moist - medium plasticity, very moist | SM-SILTY SAND (FILL), compact, fine grained, poorly graded, brown, moist | CL-SILTY CLAY (FILL), stiff, low plasticity, grey, moist | SW-GW SAND & GRAVEL (FILL) | | STRATIGRAPHIC DESCRIPTION & REMARKS | CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NAME: Geotechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | ER TO CUR | | | | | | | | | | 2224.9 | <u>Auttur</u> | | | | | | | | | | DEPTH | FIELD PI | HOLE DE DATE CO | USTRU URDEN |
| | RENT ELEVATION TABLE | | | | | | | | | | | | | | SEAL | | | | | | | BOREHOLE | DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffth | HOLE DESIGNATION: BH111-13 DATE COMPLETED: February 22, 2013 | MENTATION LOG V) |
| | | | | | | | | | | | | 00 | 7 | 6 | σ | 4 | ω | 22 | | - | NUMBER | | | ωω | |
| | | | | | | | | | | | | S/d | P/S | P/S | P/S | P/S | PIS | P/S | * a> [a> | PIS | INTERVA | | | | |
| | - | | | | | | | | | | | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | | 0.61 | REC (m) | - 코 | | | |
| | | | | | | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 'N' VALUE PID (ppm | - | | | Page 1 of 1 |

| OVER | BURDE | N LOG 08121 | 1.GPJ | CRA_COR | P.GDT 2/ | 25/13 | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|--|-------------|-------|---------|----------|-------|-------|-------|-------|-------|--|------|---|-------|-------|-------|-------|---------|--|--|----------------------------|--------------------|-------------------------------------|--|---|--|--|---|
| | | - 9.5 | - 9.0 | - 8.5 | - 8.0 | - 7.5 | - 7.0 | - 6.5 | - 6.0 | - 5.5 | - 5.0 | | -4.5 | - 4.0 | - 3.5 | - 3.0 | - 2.5 | - 2.0 | - 1.5 | - 1.0 | - 0.5 | | m BGS | | LOCAT | CLIENT | PROJE | |
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | - Ketusai (snale tragments) END OF BOREHOLE @ 4.88m BGS | | CL-SILTY CLAY (TILL), trace sand, trace gravel, medium plasticity, grey, moist to very moist | | | | | | - medium plasticity, moist to very moist | CL-SILTY CLAY, firm, low plasticity, grey, moist | SW-GW SAND & GRAVEL (FILL) | | STRATIGRAPHIC DESCRIPTION & REMARKS | | LOCATION: 2150 Lake Shore Blvd. West, Toronto | PROJECT NUMBER: U81211 CLIENT: Mondelez Canada Inc. | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | ER TO CU | | | | | | | | | | æ4.9 | 1075 | | | | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | ××××3 | | M BGS | | FIELD F | | HOLE | URDE |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | | | SEAL | | | | | | | BOREHOLE | | FIELD PERSONNEL: L. Griffith | DRILLING METHOD: GEOPROBE | HOLE DESIGNATION: BH112-13 | NMENTATION LOG |
| | | | | | | | | | | | | (• | ~) | 7 | 6 | cn | 4 | | ω | 22 | - | NUMB | ER | | | 6 | ω | |
| | | | | | | | | | | | | 0 | 12 12 12 | PS | PVS | P/S | P/S | × 42 42 | PVS | PIS | PIS | INTER | | | | | | |
| | | | | | | | | | | | | 0.01 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | | 0.61 | 0.61 | 0.61 | REC (| -13 | | | | | |
| | - | | | | | | | | | | | 0.0 | 00 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 'N' VAL PID (pp | | | | | | Page 1 of 1 |

| | JENLOG 081211.GPJ CRA_CORP.GDT 2/25/13 | | 5. 4.5 | 4.0 | 2 2 2 0 5 0 | 1.5 0 | 0.5 | DEPTH m BGS | PROJEC PROJEC CLIENT: LOCATIO | |
|--|--|--|-------------------------------|---------------------|--|---|----------------------------|-------------------------------------|---|---------------------------------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE LABORATORY ANALYSIS | | - Refusal (Shale fragments) END OF BOREHOLE @ 6.10m BGS | - high plasticity, very moist | - međium plasticity | | CL-SIL IY CLAY, tirm, low plasticity, grey, moist, slightly oxidized | SW-GW SAND & GRAVEL (FILL) | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: Geolechnical Investigation and Phase Two ESA PROJECT NUMBER: 081211 CLIENT: Mondelez Canada Inc. LOCATION: 2150 Lake Shore Blvd. West, Toronto | STRATIGRAPHIC AND INSTRUMENTATION LOG |
| | | | | | | | ****** | DEPTH m BGS | Hole D Date C DRILLIN FIELD P | C AND INSTRUM |
| KRENT ELEVATION TABLE | | 5 | | SEAL 0 | / | 3) 2 | | BOREHOLE | HOLE DESIGNATION: BH113-13 DATE COMPLETED: February 22, 2013 DRILLING METHOD: GEOPROBE FIELD PERSONNEL: L. Griffith | MENTATION LOG |
| | | S/4 | NS SA | NA NA | avavatavavatav | PS S | - P/S | INTERVAL | | |
| | | 0.61 | 0.61 | 0.61 0.61 | 45 45 45 45 45 45 45 45 45 45 45 45 45 4 | 0.61 | 0.61 | REC (m) | | |
| | | | | | | | | 'N' VALUE | - | Page |
| | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | PID (ppm) | | Page 1 of 1 |

| | | 9.5 | 9.0 | .RA_COR | 8. 0 | 7.5 | 7.0 | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | DEPTH m BGS | LUCAIR | CLIENT | PROJEC | PROJEC | |
|---------------------|--|-----|-----|-------------|---------|-----|-----|-----------------------------|---|----------|--------|-------------------|-------|-----|-----------|--------|----------|-----------|---|----------------------------|---------------------|-------------------------------------|---|------------------------------|-----------------------------------|--|---|
| LABORATORY ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | | | END OF BOREHOLE @ 6.10m BGS | CL-SILTY CLAY (TILL), firm, low plasticity, grey, moist - Refusal (Shale fragments) | | | - high plasticity | | | | | | | CL-SILTY CLAY, firm, low plasticity, grey, moist - slight black discolouration | SW-GW SAND & GRAVEL (FILL) | | STRATIGRAPHIC DESCRIPTION & REMARKS | LUCATION: 2130 Lake Shore Bivd. West, Toronto | CLIENT: Mondelez Canada Inc. | PROJECT NUMBER: 081211 | PROJECT NAME: Geotechnical Investigation and Phase Two ESA | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | ER TO CUP | | | | | | | | 6.1 | | ***** | ****** | | | ·////// | ****** | | | | ×**** | | DEPTH m BGS | | | DATE C | HOLE D | NSTRU |
| | RRENT ELEVATION TABLE | | | | | | | | | | | | | | SEAL | | | | | | | BOREHOLE | FIELD PERSONNEL: L. Grimm | URILLING METHOD: GEOPROBE | DATE COMPLETED: February 22, 2013 | HOLE DESIGNATION: BH114-13 | IMENTATION LOG N) |
| | | | | | | | | | 6 V | | 9 (P/S | s/P/S | 7 P/S | | | 5 AP/S | 4 P/S | () PVS | 2 AP/S | 1 PP/S | NUMBE | _ | | | ω | ω | |
| | | | | | | | | | 0.61 | × n> 1 n | 0.61 | 0.61 | 0.61 | 0 | × a> 1 a> | 0.61 | 0.61 | 0.61 | S 0.61 | 0.61 | REC (r | n) VAMPI | | | | | |
| | | | | | | | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 'N' VALI PID (pp | | 1 | | | | Page 1 of 1 |

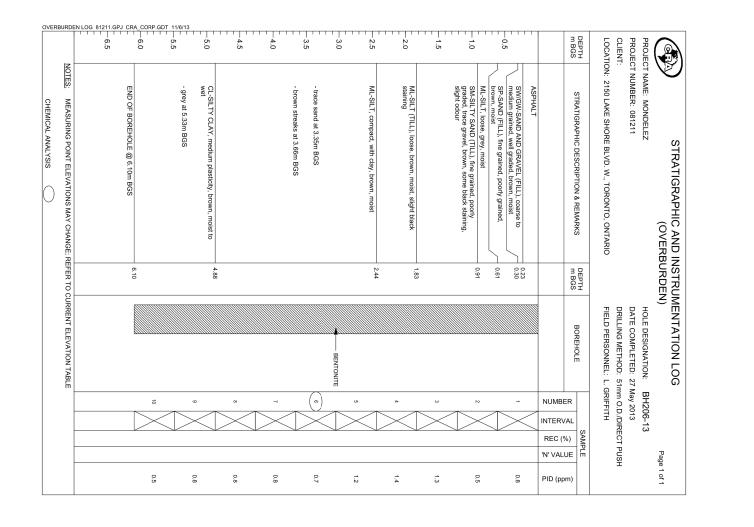
| | | NLOG 81211.GPJ | 6. 0 | 5 5 5 | 5.0 | 4.5 | 4.0 | ω 5 | - 3.0 | 2.5 | 2.0 | | 1.0 | 0.5 | | | DEPTH | PROJEC PROJEC CLIENT: LOCATIO | |
|-------------------|--|--------------------|---------|-------------|-----|---|--------|--|------------|----------|-----------|-------|--------|--|---------|-----------|-------------------------------------|---|---|
| CHEMICAL ANALYSIS | NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | | | | - Refusal, concrete at 4.27m BGS END OF BOREHOLE @ 4.27m BGS | | SM-SILTY SAND, fine grained, poorly graded, grey, moist - wet at 3.51m BGS | | | | | | Construct Product of the construction of | ASPHALT | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: MONDELEZ PROJECT NUMBER: 081211 CLIENT: LOCATION: 2150 LAKE SHORE BLVD. W., TORONTO, ONTARIO | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| | EFER TO (| | | | | 4.27 | | 3.35 | | | | | | 0.30 | 0.15 | | DEPTH | | URDE |
| | URRENT ELEVATION TABLE | | | | | | | | | | BENTONITE | | | | | | BOREHOLE | HOLE DESIGNATION: BH201-13 DATE COMPLETED: 27 May 2013 DRILLING METHOD: 51mm O.D./DIRECT PUSH FIELD PERSONNEL: L. GRIFFITH | IMENTATION LOG N) |
| | | | | | | | 7 | (m) |) | თ | 4 | ω | 2 | - | | NUMBER | | BH2 May 20 nm 0.1 GRIFFI | |
| | | | | | | | \geq | \bigcirc | \bigcirc | \times | \times | \ge | \geq | \bigcirc | \leq | INTERVA | | BH201-13 May 2013 nm O.D./DIRE BRIFFITH | |
| | | | | | | | | | | | | | | | | REC (%) | SAMPLE | ECT PI | _ |
| | + | | | | | | | | | | | | | | | 'N' VALUE | : m - 1 | USH | Page 1 of 1 |
| | | | | | | | 0.4 | 0.5 | | 0.6 | 0.5 | 0.7 | 0.7 | 0.7 | | PID (ppm) | | | of 1 |

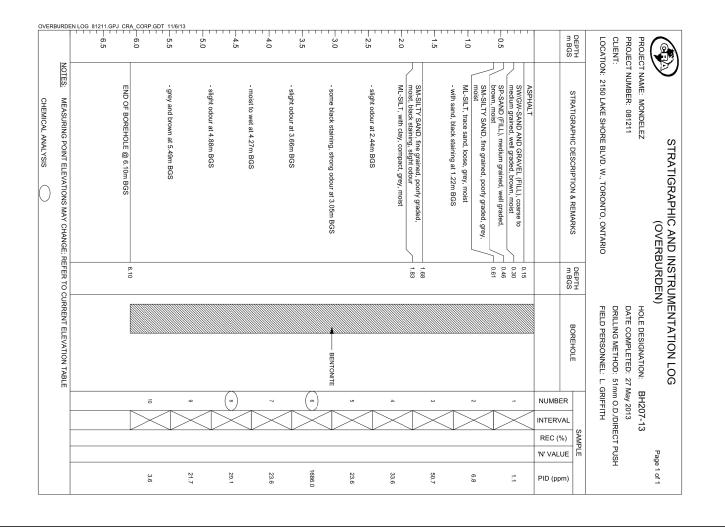
| | 6.5 | 6.0 | .GDT 11/6/13 ເກ | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | DEPTH m BGS | LOCATIC | PROJEC CLIENT: | |
|---|---------|-----|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---------|-------------------------------------|--|---|---|
| NOTES: | | | | | | | | | | | | | EN - R | | S | N: 2150 | t name: T numbe | Ð |
| MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | | | | - Refusal at 0.15m BGS END OF BOREHOLE @ 0.15m BGS | | STRATIGRAPHIC DESCRIPTION & REMARKS | LOCATION: 2150 LAKE SHORE BLVD. W., TORONTO, ONTARIO | PROJECT NAME: MONDELEZ PROJECT NUMBER: 081211 CLIENT: | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| EFER TO C | | | | | | | | | | | | | 0.15 | | DEPTH m BGS | | | URDE |
| URRENT ELEVATION TABLE | | | | | | | | | | | | | | | BOREHOLE | FIELD PERSONNEL: L. GRIFFITH | HOLE DESIGNATION: BHZUZ-13 DATE COMPLETED: 27 May 2013 DRILLING METHOD: 51mm O.D./DIRECT PUSH | _ |
| | | | | | | | | | | | | | | | _ | RIFFITH | 1: BHZUZ-13 27 May 2013 51mm O.D./DIRE | |
| | | | | | | | | | | | | | | REC (| | | 'T3 IRECI | ; |
| | | | | | | | | | | | | | | 'N' VAL | - 12 | | r Pus | Pag |
| | | | | | | | | | | | | | | | | | т | Page 1 of 1 |

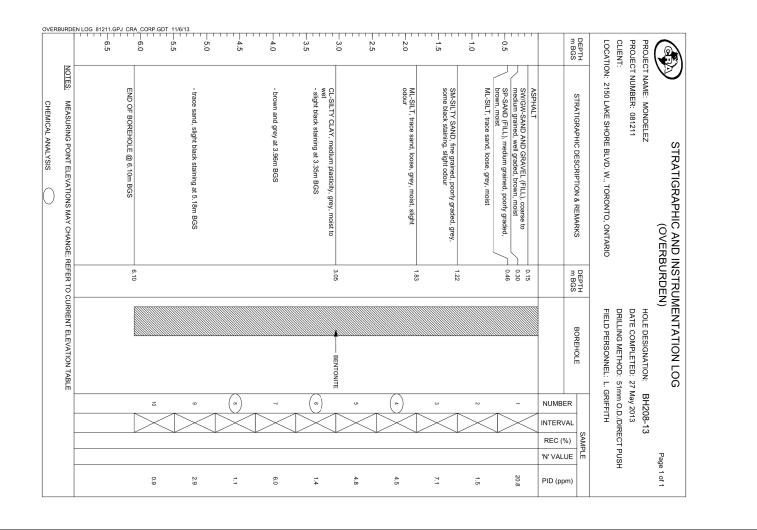
| | N LOG 81211.0 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | 2.0 | 1.5 | 1.0 | 0.5 | | | DEPTH m BGS | CLIENT: LOCATIO | PROJEC | |
|---|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------------|-----------------------------------|----------|-------------------------------------|--|---|---|
| NOTES: N | | | | | | | | | | | | | END | - Refusal | | STF | DN: 2150 L | PROJECT NAME: MONDELE PROJECT NUMBER: 081211 | Ø |
| MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE | | | | | | | | | | | | | END OF BOREHOLE @ 0.15m BGS | ASPHALT - Refusal at 0.15m BGS | | STRATIGRAPHIC DESCRIPTION & REMARKS | CLIENT: LOCATION: 2150 LAKE SHORE BLVD. W., TORONTO, ONTARIO | PROJECT NAME: MONDELEZ PROJECT NUMBER: 081211 | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| IGE; R | | | | | | | | | | | | | Į | | | | RIO | | |
| EFER TO | | | | | | | | | | | | | | 0.15 | | DEPTH m BGS | | | C AND INSTRUM (OVERBURDEN) |
| CURRENT ELEVATION TABLE | | | | | | | | | | | | | | | | BOREHOLE | DRILLING METHOD: 51mm O.D./DIRECT PUSH FIELD PERSONNEL: L. GRIFFITH | HOLE DESIGNATION: BH203- DATE COMPLETED: 27 May 2013 | JMENTATION LOG N) |
| | | | | | | | | | | | | | | | NUMBER | 2 | nm O.I 3RIFFI | BH203-13 May 2013 | |
| | | | | | | | | | | | | | | | INTERVA | | D./DIR ITH | 03-13)13 | |
| | | | | | | | | | | | | | | | REC (%) | SAMPLE | ECT | 50 | |
| | | | | | | | | | | | | | | | 'N' VALU | | PUSH | | Page 1 of 1 |
| | | | | | | | | | | | | | | | | | | | of 1 |

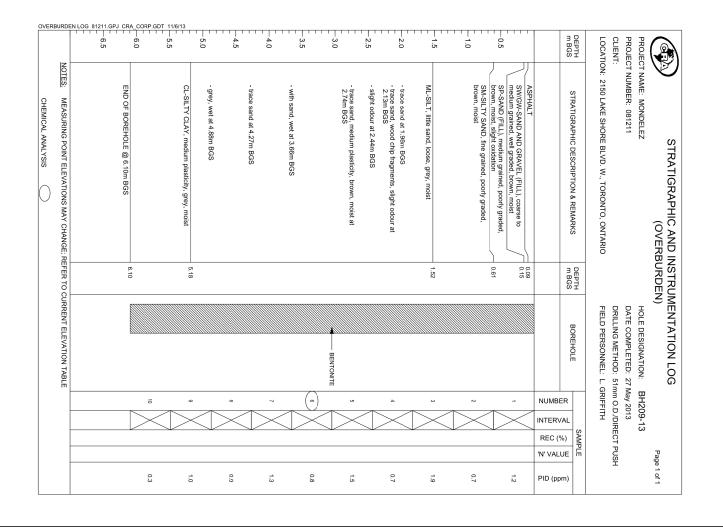
| | N LOG 81211.GPJ CF | 6.0 | 11/6/13 0.5 0.5 0.5 | 4.5 | 4.0 | 3.5 | 2 2 2 5 | 2.0 | 1.5 | 1.0 | | 0.5 | | DEPTH m BGS | PROJEC PROJEC CLIENT: LOCATIC | |
|--|-----------------------------|--------|--|--|---|--------|------------|---|---|---|---|---|---------|-------------------------------------|---|---|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | END OF BOREHOLE @ 6.10m BGS | | - medium plasticity, moist to wet at 4.88m BGS | slight oxidation CL-SILTY CLAY, low plasticity, grey, moist to wet - trace sand at 4.27m BGS - low plasticity, moist at 4.57m BCS | SP-SAND, fine grained, poorly graded, brown, moist ML-SILT, trace clay, low plasticity, brown, moist, | | | - little sand, wet, slight oxidation at 1.83m BGS | ML-SILT, trace clay, low plasticity, brown, moist | SM-SILTY SAND, fine grained, poorly graded, brown, moist | SP-SAND (FILL), fine grained, poorly graded, brown, moist | ASPHALT SW/GW-SAND AND GRAVEL (FILL), coarse to medium grained, well graded, brown, moist | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: MONDELEZ PROJECT NUMBER: 081211 CLIENT: LOCATION: 2150 LAKE SHORE BLVD. W., TORONTO, ONTARIO | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| REFER TO | | 6.10 | | ,# = | 3.96 | ມ ກ | | | | 4 0.91 | | 0.15 | | DEPTH m BGS | | NSTRL 3URDE |
| L CURRENT ELEVATION TABLE | | | | | | BENN | | | | | | | | BOREHOLE | HOLE DESIGNATION: DATE COMPLETED: 27 DRILLING METHOD: 511 FIELD PERSONNEL: L. 1 | IMENTATION LOG N) |
| ľ | | 10 | œ | | 7 | ō | ы | 4 | ω | N | , | - | NUMBE | ER | I: BH204- 27 May 2013 51mm O.D./C L. GRIFFITH | |
| | | \geq | \square | \succ | \leq | \geq | \ge | \times | \times | \geq | \langle | \ge | INTERV | | BH204-13 May 2013 nm O.D./DIRE GRIFFITH | |
| + | | | | | | | | | | | | | REC (S | <u> </u> | I: BH204-13 27 May 2013 51mm O.D./DIRECT PUSH L. GRIFFITH | _ |
| + | | | | | | | | | | | | | 'N' VAL | | USH | Page 1 of 1 |
| | | 0.6 | 0.7 | 1.0 | 0.7 | 2.4 | 2.1 | 0.9 | 0.7 | 0.9 | > | 0.8 | PID (pp | m) | | of 1 |

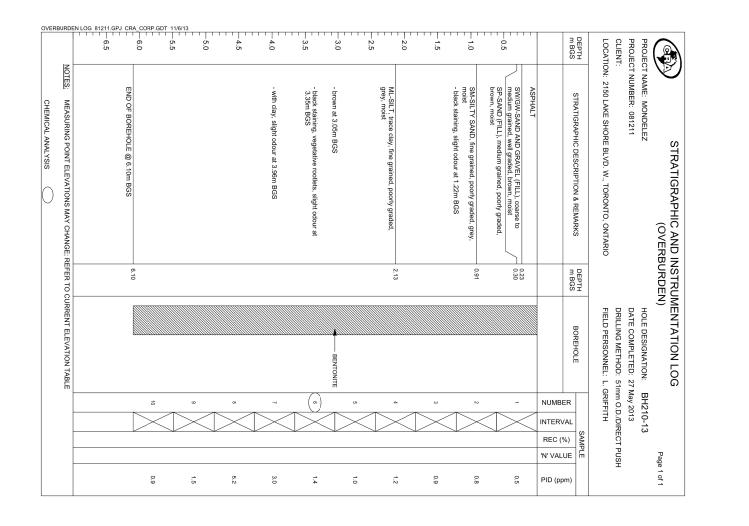
| IZ | EN LOG 81211.GPJ ດາ ເກ | 6.0 | 5.5 | | 4.5 | 4.0 | 3.5 | 3.0 | 2.5 | - 2.0 | 1.5 | | 1.0 | 0.5 | | m BGS | DEPTH | PROJEC PROJEC CLIENT: LOCATIC | |
|--|------------------------------|-----------------------------|--------|--------|--|--------|--|--|--------|--------|-------------------------------|---|--|--|---------|-------|-------------------------------------|---|-------------|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | END OF BOREHOLE @ 6.10m BGS | | | CL-SILTY CLAY, medium plasticity, arey moist | | - trace sand, loose, moist to wet at 3.66m BGS | ML-SILT, trace clay, compact, brown, moist | | | - black staining at 1.52m BGS | - wood fragments, slight odour at 1.22m BGS | ML-SILT (TILL), trace clay, compact, grey, moist | SW/GW-SAND AND GRAVEL (FILL), coarse to medium grained, well graded, brown, moist | ASPHALT | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NAME: MONDELEZ PROJECT NUMBER: 081211 CLIENT: LOCATION: 2150 LAKE SHORE BLVD. W., TORONTO, ONTARIO | OVERBURDEN) |
| REFER TO | | 6.10 | | | 4.57 | | | 2.74 | | | | | 0.91 | 0.15 | | m BGS | DEPTH | | BURDE |
| CURRENT ELEVATION TABLE | | | | | | | | BENTONITE | | | | | | | | | ROREHOIE | HOLE DESIGNATION: BH205- DATE COMPLETED: 27 May 2013 DRILLING METHOD: 51mm 0.D./C FIELD PERSONNEL: L. GRIFFITH | - |
| | | 10 | 9 | , | | 7 | (m) | л л | | 4 | ω | _ | 2 | | NUM | BER | | 4: BH205-13 27 May 2013 51mm O.D./DIRECT PUSH L. GRIFFITH | |
| | | \geq | \leq | \leq | \leq | \geq | | \searrow | \leq | \leq | \geq | | \times | \mid | | | s | /DIRE | |
| | | | | | | | | | | | | | | | REC | | SAMPLE | CT PU | Ţ |
| | | 0.4 | 0.5 | , 1 | 0.3 | 0.5 | 0.9 | 1.5 | | 2.9 | 1.4 | | 0.7 | 0.8 | PID (| | | HSH | Page 1 of 1 |











| | EN LOG 81211.GP | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 | ບ ເມື່ອ ເ | | 2.0 | | , , , , , , , , , , , , , , , , , , , | 1.0 | 0.5 | | | DEPTH m BGS | PROJEC CLIENT: LOCATIO | |
|--|-----------------|-----------------------------|-----------------|--------------------------|----------|--------|--|---|------------------|---|--|--------------|--|--|----------|-------------------------------------|---|---|
| NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE | | END OF BOREHOLE @ 6.10m BGS | | - with clay at 4.88m BGS | | | uradz vegletative matter, vegletative stammig at 3.05m BGS | teopo isopatsiiso poster isopatsiiso pateito at | | ML-SILT, trace clay, fine grained, poorly graded, grey, moist | SM-SILTY SAND, fine grained, poorly graded, brown, moist | urown, moist | SP-SAND (FILL), medium grained, poorly graded, | ASPHALT SW/GW-SAND AND GRAVEL (FILL), coarse to | | STRATIGRAPHIC DESCRIPTION & REMARKS | PROJECT NUMBER: 081211 CLIENT: LOCATION: 2150 LAKE SHORE BLVD. W., TORONTO, ONTARIO | STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) |
| REFER TO | | 6.10 | | | | | | | | 1.52 | 1.22 | | 0.30 | 0.15 | | DEPTH m BGS | | 3URDE |
| CURRENT ELEVATION TABLE | | | | | | | | | | | | | | | | BOREHOLE | DATE COMPLETED: 27 May 2013 DRILLING METHOD: 51mm O.D./DIRECT PUSH FIELD PERSONNEL: L. GRIFFITH | IMENTATION LOG |
| | | | ÷ , | • | | 7 | (m) | J | 4 | ω | | N | | | NUMBE | R | May 20 nm O.E GRIFFI | BH011-13 |
| | | | \triangleleft | | \times | \geq | \geq | \ge | \triangleright | \geq | \leq | \ge | \geq | \leq | INTERV | |)./DIRE | - - - |
| | | | | | | | | | | | | | | | REC (% | | | P |
| | | | D 0 | 2 | 0.4 | 0.2 | 0.4 | 0.2 | 0.4 | 0.5 | | 0.5 | 0.5 | _ | PID (ppr | | H | Page 1 of 1 |

