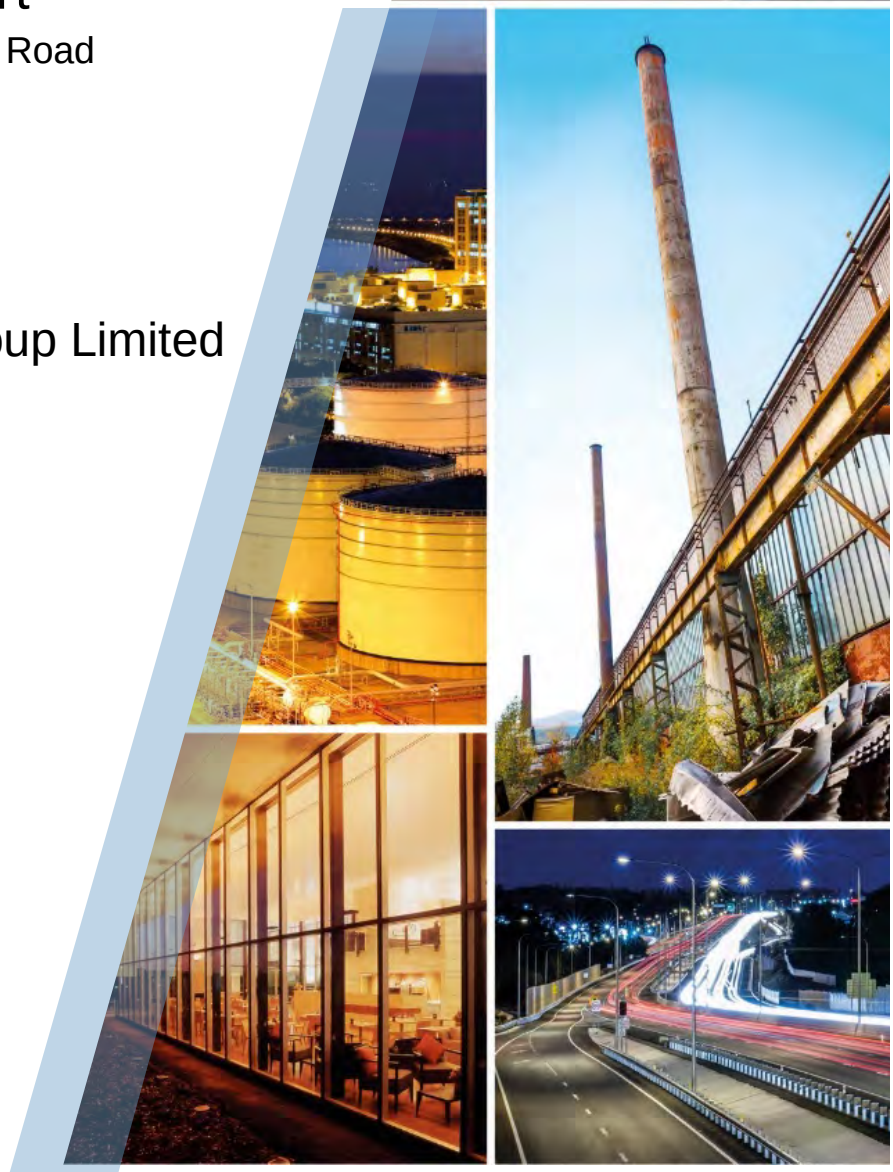
Phase Two Environmental Site Assessment

Portion of 18725 McCowan Road
East Gwillimbury, Ontario



Rice Commercial Group Limited

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Executive Summary

GHD Limited (GHD) was retained by Rice Commercial Group Limited (Rice Group) to complete a Phase Two Environmental Site Assessment (ESA) of a portion of the property located at 18725 McCowan Road in East Gwillimbury, Ontario (herein referred to as the Site or Property). The Site is currently owned by Overholt Farm Limited. The Site is an irregular-shaped parcel of land that is approximately 20 hectares (50 acres) in size. The Site is part of a larger parcel of land that is approximately 83 hectares (205 acres) in size and used for agricultural and residential purposes. The Site is currently vacant, vegetated land. The Phase Two ESA was completed to document environmental conditions at the Site in support of the restoration of the site for future agricultural land use.

The Site was used for agricultural cropland purposes from at least 1927 to 1990, at which time it was developed as a sand and gravel pit. The Site was operated as a sand and gravel pit from 1990 to 2005, when it was rehabilitated by grading the ground surface to a gradual slope, and reportedly re-distributing overburden soil that was initially stripped from the Site when the sand and gravel pit began operation.

During operation of the sand and gravel pit, there was reportedly a scale, scale house, and diesel fuel aboveground storage tank (AST) located on the northeastern portion of the Site. A water supply well was also present on the northeastern portion of the Site, which supplied water to a washroom located in the scalehouse. The washroom discharged to an on-Site septic system consisting of a septic tank and leaching field. The scale, scale house, AST, water supply well, and septic system were completely removed during closure of the sand and gravel pit. An asphalt paved driveway is still present on the northwestern portion of the Site, which was used to access the scale and scale house.

The objective of the Phase Two ESA was to investigate the Areas of Potential Environmental Concern (APECs) identified in GHD's Phase One ESA reported, which are provided below:

APEC #1 – Potential Historic Pesticide Use (on-Site): The Site has been used for agricultural cropland purposes (primarily potatoes, corn, wheat, soybeans, and hay) from at least 1927 until 1990, at which time it was developed as a sand and gravel pit. No specific information was available regarding the historic use of pesticides on Site. The potential use of pesticides on the Site is included in O. Reg. 153/04 as a PCA (#40 – Pesticides (including Herbicides, Fungicides, and Anti Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large Scale Applications), and has been identified in this report as **APEC #1**.

APEC #2 – Former Diesel Fuel AST (on-Site): Equipment such as loaders and mobile aggregate crushers/stackers were reportedly refueled on-Site while the Site was operated as a sand and gravel pit. The diesel fuel was reportedly stored in an AST near the scale house. At the time of the Site inspection, there were no ASTs present at the Site. The historic storage of diesel fuel in ASTs is included in O. Reg. 153/04 as a PCA (28 – Gasoline and Associated Products Storage in Fixed Tanks), and has been identified as **APEC #2**.

APEC #3 – Potential Former Pole-Mounted Transformer (on-Site): During the Site inspection, GHD observed a wooden utility pole on the northeastern portion of the Site, in the vicinity of the

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former scale and scalehouse. Disconnected electrical and telephone cables were visible on the wooden pole. Electricity was historically supplied to the former scale and scalehouse via a pole-mounted transformer historically attached to this wooden pole. Facility personnel stated the transformer was owned by Ontario Hydro and they were not aware of any spills or releases from the transformer. The pole-mounted transformer had been removed prior to the Site inspection. No other information was obtained during the Phase One ESA regarding the potential former pole-mounted transformer. The use of transformers is included in O. Reg. 153/04 as a PCA (55 – Transformer Manufacturing, Processing and Use), and has been identified as **APEC #3**.

Twelve boreholes were advanced during the Phase Two ESA using hand sampling techniques. Soil samples were submitted for laboratory analysis of one or more of the following: petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene, and xylenes (BTEX), polychlorinated biphenyls (PCBs), and organochlorine (OC) pesticides in order to investigate the APECs.

The applicable standards for the proposed land use (agricultural) were determined to be the Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Agricultural or Other Property Use for Coarse Textured Soils (MOECC Table 2 Standards), April 2011. The applicable standards for the current land use were determined to be the MOECC Table 2 Standards for Industrial/Commercial/Community Property Use and Coarse Textured Soils.

The concentrations of all analyzed samples were below the MOECC Table 2 Standards, Coarse Textured Soil, for both the proposed land use (Agricultural or Other) and the current land use (Industrial/Commercial/Community).

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1. Introduction

GHD Limited (GHD) was retained by Rice Commercial Group Limited (Rice Group) to conduct a Phase Two Environmental Site Assessment (ESA) of a portion of the property located at 18725 McCowan Road in East Gwillimbury, Ontario (herein referred to as the Site or Property). The Site is currently owned by Overholt Farm Limited. Compass directions (north, east, south, west) described in this report are referenced to "Project North", which is oriented parallel to McCowan Road. A Site Location Map and a Site Plan are provided on **Figure 1** and **Figure 2**, respectively. The Phase Two ESA was conducted in accordance with the requirements of Ontario Regulation 153/04, as amended (O. Reg. 153/04).

The objective of the Phase Two ESA was to investigate the Areas of Potential Environmental Concern (APECs) that were identified to be associated with the Site based on the findings of a Phase One ESA previously completed by GHD (GHD, August 2018)[1].

It is GHD's understanding that the Phase Two ESA was completed to document environmental conditions at the Site in support of the proposed filling of the former sand and gravel pit on the Site to support a future agricultural land use, and that a Record of Site Condition (RSC) may be completed at a future date.

This report has been prepared for the use of Rice Commercial Group Limited and may not be relied upon by others without the written consent of GHD.

1.1 Site Description

The Site is an irregular-shaped parcel of land that is approximately 20 hectares (50 acres) in size. The Site is part of a larger parcel of land that is approximately 83 hectares (205 acres) in size and used for agricultural and residential purposes. The Site is currently vacant, vegetated land.

1.2 Property Ownership

The Site is currently owned by Overholt Farm Limited. Contact information for the Property owner's representative is listed below:

Mr. Ari Soberano
Finance Manager, Development
Rice Commercial Group Limited
15 Gormley Industrial Avenue,Unit 3, Box 215
Gormley, Ontario L0H 1G0
(905) 888-1277
Ari.Soberano@ricegroup.ca

1.3 Current and Proposed Future Uses

The Site is currently vacant, vegetated land.

[1] Phase One Environmental Site Assessment, Portion of 18725 McCowan Road, East Gwillimbury, Ontario, written by GHD for Rice Commercial Group Limited, revised draft dated August 2, 2018.

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The Site was utilized as agricultural land from at least 1927 until 1990, and is part of a larger property that includes land to the north and east of the Site. Based on discussions with the Property owner, the house on the adjacent farmstead to the west of the Site, which is located on the larger parcel of land surrounding the Site, was constructed in approximately 1845. No previous buildings have reportedly been constructed on the Site, with the exception of a scale house between approximately 1990 and 2005, associated with the operation of the sand and gravel pit at the Site.

The Phase Two ESA was completed to document the existing environmental conditions at the Site in support of the potential restoration of the Site for agricultural land use. GHD understands that a Record of Site Condition may be filed for the Site in the future.

1.4 Applicable Site Condition Standards

Generic site condition standards are provided in the Ministry of the Environment and Climate Change (MOECC) document entitled, "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act,*" dated April 15, 2011. The 2011 standards are referenced in O. Reg. 153/04 – Records of Site Condition, as amended by O. Reg. 511/09 (hereafter referred to as the 2011 MOECC Standards).

The Standard provides site condition standards for certain chemicals, based on combinations of six different site-specific conditions, as follows:

- Property use type - agricultural, residential/parkland/institutional, or industrial/commercial/ community. The Property is currently vacant, vegetated land. The Property was most recently used as a sand and gravel pit (industrial/commercial land use), between approximately 1990 and 2005, and is proposed to be restored for agricultural land use. Analytical data were assessed to both industrial/commercial and agricultural land use.
- Restoration of groundwater quality - potable/non-potable. Properties in the vicinity of the Site are serviced by residential wells. Based on this, potable groundwater conditions are considered applicable to the Site.
- Restoration depth - full depth and stratified depth. For comparative purposes, results were compared to full depth standards.
- Soil texture – coarse or medium to fine. The analytical data were assessed to the more conservative coarse-textured standards.
- Shallow Soil Property - A shallow soil property means a property of which 1/3 or more of the area consists of soil equal to or less than 2 metres in depth beneath the soil surface, excluding any non-soil surface treatment. The Site is not considered to be shallow soil as 2/3 or more of the area consists of soil greater than 2 metres in depth.
- Within 30 metres of a Water Body - The Site is not located within 30 metres of a water body as defined by O. Reg. 153/04.

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The generic 2011 MOECC Standards are not applicable if the Site is considered to be an environmentally sensitive area. The conditions for the above are presented in Section 41 of O. Reg. 153/04.

In accordance with O. Reg. 153/04, an “area of natural significance” is defined as any of the following:

1. An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006.
2. An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources as having provincial significance.
3. A wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance.
4. An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant.
5. An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act.
6. An area identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species.
7. An area which is a habitat of a species that is classified under Section 7 of the Endangered Species Act, 2007 as a threatened or endangered species.
8. Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies.
9. An area set apart as a wilderness area under the Wilderness Areas Act.

A summary of GHD’s review is provided below:

1. The Site is not an area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006.
2. The Site is not considered to be an area of natural and scientific interest (life science or earth science) as identified by the Ministry of Natural Resources as having provincial significance. No areas of natural and scientific interest were identified to be located within 2 kilometres of the Site.
3. The Site is not a wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance.
4. This Site was not identified as an area designated by the Town of East Gwillimbury in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant.

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5. The Site is not an area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act.

6. The Site and Phase One ESA Study Area was not identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species.

7. The Site is not an area which is a habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species.

8. The Site is located within an area designated as Oak Ridges Moraine Countryside Area, but not located within an area designated as part of the Oak Ridges Moraine natural core area or natural linkage area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies.

9. The Site is not an area set apart as a wilderness area under the Wilderness Areas Act.

Based on the above information, and the definition of area of natural significance provided in O. Reg. 153/04, the Site is not considered to be environmentally significant.

In addition, Section 41 of O. Reg. 153/04 would apply if soil pH is outside of the range of 5 to 9 for surface soils, or 5 to 11 for subsurface soil. Soil samples were not analyzed for pH as part of the Phase Two ESA. Prior to the filing of a RSC, representative soil samples will need to be collected and analyzed to confirm soil pH.

Based on the above, the applicable standards for the proposed land use (agricultural) were determined to be the Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Agricultural or Other Property Use for Coarse Textured Soils (MOECC Table 2 Standards), April 2011. The applicable standards for the current land use were determined to be the MOECC Table 2 Standards for Industrial/Commercial/Community Property Use and Coarse Textured Soils.

2. Background Information

2.1 Physical Setting

The Site is located in an area of East Gwillimbury that is used primarily for agricultural and rural residential purposes. The Site and the surrounding adjacent properties were generally developed for agricultural or rural residential purposes since at least 1927. The Site was utilized as agricultural land from at least 1927 until 1990. The site was used as a sand and gravel pit between approximately 1990 and 2005. The following buildings or features were located on the properties surrounding the Site:

North: The Site is generally bound to the north by a farmstead and agricultural cropland. An access road that is part of the Site is located to the north of the farmstead.

West: The Site is generally bound to the west by a farmstead and McCowan Road, and further to the west by rural residential properties and a horse farm.

South: The Site is generally bound to the south by a residential property and Mill Road, and further to the south by agricultural cropland, vacant land, and a farmstead.

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East: The Site is generally bound to the east by agricultural cropland, and further to the east by a railway track.

Based on the topography of the area, the regional groundwater flow direction is anticipated to be predominantly in a northerly direction towards Lake Simcoe[2]. Locally, the topography slopes easterly. The western, south, and eastern portions of the Site generally slope downwards towards the center of the Site. The perimeter of the Site has an elevation of approximately 270 to 275 metres above mean sea level (mASL), and the low area in the center of the Site has an elevation of approximately 250 mAMSL[3].

The Site topography is uneven due to the former operation of the sand and gravel pit.

The Site is located in the broad physiographic region known as the Simcoe Lowlands, however the southwestern portion of the Site may be located in the broad physiographic region known as the Oak Ridges Moraine[4]. Overburden in the vicinity of the Site is reported to consist of ice contact deposits consisting primarily of gravel and sands, with minor till including esker, kame, end moraine, ice marginal delta and subaqueous fan deposits[5]. The bedrock geology in the vicinity of the Site consists of shale, limestone, dolostone, and siltstone of the Georgian Bay, Blue Mountain, and Billings Formations, and Collingwood and Eastview Members. Depth to bedrock in the vicinity of the Site is greater than approximately 40 metres below ground surface (mBGS)[6].

2.2 Past Investigations

GHD previously completed a draft Phase One ESA for the Site in August 2018. Based on the results of the Phase One ESA, the following areas of potential environmental concern (APECs) were identified to be associated with the Phase One Property:

APEC #1 – Potential Historic Pesticide Use (on-Site): The Site has been used for agricultural cropland purposes (primarily potatoes, corn, wheat, soybeans, and hay) from at least 1927 until 1990, at which time it was developed as a sand and gravel pit. No specific information was available regarding the historic use of pesticides on Site. The potential use of pesticides on the Site is included in O. Reg. 153/04 as a PCA (#40 – Pesticides (including Herbicides, Fungicides, and Anti Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large Scale Applications), and has been identified in this report as **APEC #1**.

APEC #2 – Former Diesel Fuel AST (on-Site): Equipment such as loaders and mobile aggregate crushers/stackers were reportedly refueled on-Site while the Site was operated as a sand and gravel pit. The diesel fuel was reportedly stored in an AST near the scale house. At the time of the Site inspection, there were no ASTs present at the Site. The historic storage of diesel fuel in ASTs

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2 Natural Resources Canada [map]. “The Atlas of Canada – Toporama”, governed by version 2.0 of the Open Government. License – Canada. November 13, 2017. <http://atlas.nrcan.gc.ca/toporama/en/index.html>

3 Based on information provided by Rice Group

4 Chapman, L.J., and Putnam D.F., “Physiography of Southern Ontario”, Ontario Geological Survey, Map P.2715 (coloured). Scale 1:600,000 dated 1984.

5 “Quaternary Geology of Ontario" [map]. Scale 1:1,000,000. OGS Earth Geoscience Data [computer files]. Sudbury, Ontario: Ontario Geological Survey & Ministry of Northern Development and Mines, 2011.

6 “Ministry of Environment and Climate Change Well Records” [map]. Scale varied. Government of Ontario [computer files]. Government of Ontario, 2017.

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is included in O. Reg. 153/04 as a PCA (28 – Gasoline and Associated Products Storage in Fixed Tanks), and has been identified as **APEC #2**.

APEC #3 – Potential Former Pole-Mounted Transformer (on-Site): During the Site inspection, GHD observed a wooden utility pole on the northeastern portion of the Site, in the vicinity of the former scale and scalehouse. Disconnected electrical and telephone cables were visible on the wooden pole. Electricity was historically supplied to the former scale and scalehouse via a pole-mounted transformer historically attached to this wooden pole. Facility personnel stated the transformer was owned by Ontario Hydro and they were not aware of any spills or releases from the transformer. The pole-mounted transformer had been removed prior to the Site inspection. No other information was obtained during the Phase One ESA regarding the potential former pole-mounted transformer. The use of transformers is included in O. Reg. 153/04 as a PCA (55 – Transformer Manufacturing, Processing and Use), and has been identified as **APEC #3**.

GHD is completing a Hydrogeological Assessment at the Site, concurrently with the Phase Two ESA, to characterize the current geological and hydrogeological conditions (quantity and quality) to determine potential impacts to the local groundwater regime (quality and quantity) from the potential filling, and to determine the requirement for groundwater control during construction and mitigation measures.

A summary of the hydrogeological investigation is below:

- GHD advanced six boreholes to a maximum depth of between 6.1 and 12.2 mBGS. Four of the boreholes were instrumented as monitoring wells.
- Stratigraphy encountered generally consisted of a thin layer of topsoil or clayey soil, underlain by native sands and gravels.
- Groundwater was encountered at approximately 2 mBGS in the center of the Site, and 10 to 18 mBGS around the perimeter of the Site.
- Seven groundwater samples (including 1 field duplicate and 1 trip blank) were submitted for laboratory analysis of petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals/inorganics. The concentrations of all analyzed parameters were below the MOECC Table 2 Standards for coarse-textured soils and all types of property use.

3. Scope of Investigation

3.1 Overview of Site Investigation

The following provides a summary of the investigations completed at the Site by GHD to investigate the the APECs identified in GHD's Phase One ESA. The Phase Two ESA included the advancement of boreholes, field screening, and the collection and laboratory analysis of soil samples as described in detail below. Soil quality was investigated to address the APECs identified in the Phase One ESA.

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3.2 Media Investigated

Water bodies are not present on or adjacent to the Site and therefore, there was no sediment sampled. The following field activities were completed to investigate the soil and groundwater quality associated with the APECs identified for the Site:

- Advancement of 12 boreholes to depths ranging from 0.3 to 0.6 mBGS.
- Field screening of soil samples.
- Laboratory analysis of 14 soil samples (including 1 field duplicate and 1 trip blank) from the 12 borehole locations. Soil samples were submitted for laboratory analysis of one or more of the following: PHCs, benzene, toluene, ethylbenzene, and xylenes (BTEX), polychlorinated biphenyls (PCBs), and organochlorine (OC) pesticides.

Sample locations are shown on **Figure 4**. A sample identification key is presented in **Table 1**.

The Sampling and Analysis Plan for the Phase Two ESA is presented in **Appendix A**.

3.3 Phase One Conceptual Site Model

The Site is an irregular-shaped parcel of land that is approximately 20 hectares (50 acres) in size. The Site is part of a larger parcel of land that is approximately 83 hectares (205 acres) in size and used for agricultural and residential purposes. The Site is currently vacant, vegetated land.

The majority of the Site is currently vegetated. An asphalt paved access road is present on the northwestern portion of the Site. The Site topography is uneven due to the former operation of the sand and gravel pit. The western, south, and eastern portions of the Site generally slope downwards towards the center of the Site. The perimeter of the Site has an elevation of approximately 270 to 275 mAMSL, and the low area in the center of the Site has an elevation of approximately 250 mAMSL[7]. Regional topography generally slopes downward in a mostly northerly direction towards Lake Simcoe[8].

A review of quaternary geology for the Site indicates that the majority of the Site is located in a broad physiographic region known as the Simcoe Lowlands, however the southwestern portion of the Site may be located in the broad physiographic region known as the Oak Ridges Moraine[9]. Overburden in the vicinity of the Site is reported to consist of ice contact deposits consisting primarily of gravel and sands, with minor till including esker, kame, end moraine, ice marginal delta and subaqueous fan deposits[10]. The bedrock geology in the vicinity of the Site consists of shale, limestone, dolostone, and siltstone of the Georgian Bay, Blue Mountain, and Billings Formations,

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7 Based on information provided by Rice Group

8 Natural Resources Canada [map]. “The Atlas of Canada – Toporama”, governed by version 2.0 of the Open Government. License – Canada. November 13, 2017. <http://atlas.nrcan.gc.ca/toporama/en/index.html>

9 Chapman, L.J., and Putnam D.F., “Physiography of Southern Ontario”, Ontario Geological Survey, Map P.2715 (coloured). Scale 1:600,000 dated 1984.

10 “Quaternary Geology of Ontario" [map]. Scale 1:1,000,000. OGS Earth Geoscience Data [computer files]. Sudbury, Ontario: Ontario Geological Survey & Ministry of Northern Development and Mines, 2011.

and Collingwood and Eastview Members. Depth to bedrock in the vicinity of the Site is greater than approximately 40 mBGS.[11].

A tributary of Mount Albert Creek is located approximately 700 metres southeast of the Site, nad Franklin Pond is located approximately 800 metres east of the Site. Lake Simcoe is the nearest major waterbody and is located approximately 15 kilometres to the northwest of the Site.

The Phase One ESA Conceptual Site Model is depicted on **Figure 3**.

3.4 Deviations from the Sampling and Analysis Plan

There were no deviations from the Phase Two ESA Sampling and Analysis Plan (presented in **Appendix A**).

3.5 Impediments

There were no impediments encountered during the Phase Two ESA.

4. Investigation Methods

4.1 General

The following investigative activities were undertaken in support of the Phase Two ESA. Investigations completed included the following, as described in detail in the following subsections:

- Advancement of boreholes.
- Collection of field screening measurements and observations.
- Collection and laboratory analysis of soil samples.
- Quality assurance and quality control measures.
- Elevation surveying.

The field investigation activities were completed in accordance with MOECC (MOECC recently changed names to the Ministry of Environment, Conservation and Parks, or MECP) protocols, GHD's standard operating procedures (SOPs), and standard industry practice.

Prior to completing any of the investigation activities, a Site-specific Health and Safety Plan (HASP) was prepared. The purpose of the HASP was to provide specific guidelines and established procedures for the protection of personnel performing the Site investigation activities. In addition, the appropriate public utility notifications were completed to assist with on-Site utility clearances.

[11] "Ministry of Environment and Climate Change Well Records" [map]. Scale varied. Government of Ontario [computer files]. Government of Ontario, 2017.

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4.2 Drilling

Prior to initiating subsurface activities all applicable utility companies (natural gas, cable, telephone, hydroelectricity, water, sewers, etc.) were contacted to demarcate the location of their respective underground utilities.

There were 12 boreholes advanced during the Phase Two ESA, on June 11, 2018. The boreholes were advanced by hand using a shovel or hand held soil auger. The boreholes were advanced to a maximum depth of 0.6 mBGS. Samples were collected from the topsoil, generally between ground surface and 0.3 mBGS. Prior to use and between each borehole location, the sampling equipment was thoroughly cleaned using Alconox® soap and potable water rinse.

The boreholes and monitoring well locations are shown on **Figure 4**.

The rationale for each investigative location is provided in the Sampling and Analysis Plan for the Phase Two ESA included as **Appendix A**.

4.3 Soil Sampling

A total of 14 soil samples (including 1 field duplicate and 1 trip blank) were collected for laboratory analysis. The soil was logged using the Unified Soil Classification System (USCS), making special note of any visual or olfactory evidence of potential impacts. A geological description of the soils encountered on Site is described in Section 6.1. Field screening methods are described in Section 5.4.

Soil samples obtained from each borehole were qualitatively and quantitatively screened for the presence of impact. Qualitative screening was based on visual and olfactory observations, while quantitative screening was based on the presence of undifferentiated VOCs in the headspace of soil samples collected as measured using a photo-ionization detector (PID).

Select soil samples were submitted for laboratory analysis of one or more of the following parameters: PHCs, BTEX, PCBs, and OC pesticides.

Soil samples were collected in laboratory supplied glass containers which were placed in a cooler containing ice for sample preservation. Undisturbed samples for VOC analysis were placed directly in sample containers provided by the laboratory. All soil samples were collected using the required sampling techniques in accordance with O Reg. 153/04, including the methanol field preservation method for those soil samples being submitted for analysis of PHC F_1 and VOCs.

Prior to use and between each borehole location, the drilling and sampling equipment was thoroughly cleaned using Alconox® soap and potable water rinse.

A sample identification key is presented in **Table 1.**

4.4 Field Screening Measurements

As discussed in Section 5.3, soil samples were collected by hand using a shovel or a hand held soil auger. Soil samples were placed into sealable plastic bags for headspace screening. The headspace soil samples were screened for undifferentiated VOC vapour readings using a PID (MiniRAE 2000 or 3000 Model).

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Prior to screening, the PID was inspected and calibrated according to the manufacturer's recommendations. Calibrating the MiniRae 2000 or 3000 is a two-point process using "fresh air" and the standard reference gas (also known as span gas). First, a "fresh air" calibration, which contained no detectable VOC [0.0 parts per million (ppm)], was used to set the zero point for the sensor. Then, a standard reference gas (isobutylene) that contains a known concentration (100 ppm) was used to set the second point of reference.

PID Model specifications are listed below:

Detector: Photo-ionization detector with 10.6 eV UV lamp

Measurement Accuracy (isobutylene):

0-2000 ppm: +/- 2 ppm or 10% of reading

>2000 ppm: +/- 20% of reading

Calibration: Two-point field calibration of zero and standard reference gas

Soil samples were generally selected for laboratory analysis based on samples exhibiting the strongest field evidence (visual/olfactory) and/or highest PID readings. As field evidence of impact and all PID readings [i.e., less than 10 parts per million (ppm)] were low, samples were selected on a basis to provide site coverage and delineation.

4.5 Groundwater: Monitoring Well Installation

Groundwater was not identified as a potentially contaminated media in the Phase One ESA, and was therefore not sampled in the Phase Two ESA.

4.6 Groundwater Field Measurements of Water Quality Parameters

This section left intentionally blank, as groundwater was not investigated during the Phase Two ESA.

4.7 Groundwater Sampling

This section left intentionally blank, as groundwater was not investigated during the Phase Two ESA.

4.8 Sediment Sampling

There are no water bodies or sediment on the Site.

4.9 Analytical Testing

Soil samples were submitted to Maxxam Analytics, a Standards Council of Canada (SCC) accredited analytical laboratory, for analysis of one or more of the following: PHCs, BTEX, PCBs, and pesticides.

Copies of all the analytical laboratory reports are provided in **Appendix C.**

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4.10 Residue Management Procedures

Soil cuttings and excess wash water were not generated during Phase Two ESA.

4.11 Elevation Surveying

The ground surface elevation of each borehole location was not measured directly, but was inferred using survey information obtained from Rice Group.

4.12 Quality Assurance and Quality Control Measures

A Quality Assurance/Quality Control (QA/QC) program was implemented during the program to ensure quality data was generated.

Samples were collected in laboratory supplied sampling containers with the appropriate preservative in accordance with O. Reg. 153/04, including the methanol field preservation method for those soil samples being submitted for analysis of PHC F_1 and VOCs.

Samples collected by GHD field personnel were labelled utilizing a field sample key, to prevent the identification of samples based on the borehole or monitoring well location the samples were collected from.

Samples were submitted under chain-of-custody protocol to an analytical laboratory for chemical analysis. From the time of collection to the time of submission to the laboratory, samples were stored on ice in a cooler to maintain sample integrity.

For quality assurance, the following was undertaken:

- Prior to use and between each borehole location, the drilling and sampling equipment was thoroughly cleaned using Alconox® soap and potable water rinse.
- Stainless Steel sampling equipment was used and cleaned using Alconox® soap and potable water rinse between each sample collection event.
- Between the collection of each soil sample, GHD field personnel donned a new pair of disposal nitrile gloves.

To validate the field analysis, in general one QA/ QC sample was submitted for every 10 samples of each media and each parameter submitted for laboratory analysis. QA/ QC samples included field duplicate and trip blank samples. GHD's QA/ QC field samples collected are summarized in **Table 1**. QC samples were also analyzed by the laboratory as required by their analytical methods.

Analytical results received by GHD were reviewed and validated. The validation program consisted of reviewing the following parameters:

- Sample holding times.
- Field duplicate analysis.
- Reagent blank analysis.

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5. Review and Evaluation

The results of the Site investigation activities are described in the following sections. The soil sampling locations are shown on **Figure 4**.

5.1 Geology

The boreholes completed during the Phase Two ESA were advanced to between 0.3 and 0.6 mBGS. Stratigraphy encountered during the Phase Two ESA consisted primarily of topsoil.

Stratigraphy encountered during GHD's Hydrogeological Assessment generally consisted of a thin layer of topsoil, underlain by native sands and gravels. Detailed descriptions of the geologic deposits encountered during GHD's Hydrogeological Assessment are presented on the stratigraphic logs provided in **Appendix B**. The location of geologic cross sections is presented on **Figure 4** and a cross section of the soil profile is presented on **Figures 5 and 6**.

5.2 Groundwater Elevations and Flow Direction

Groundwater elevation measurements and flow direction were not completed during the Phase Two ESA as there were no monitoring wells instrumented or sampled as part of this investigation. During GHD's Hydrogeological Assessment, groundwater was encountered between 2 mBGS at the base of the pit excavation, and 18 mBGS at the perimeter of the Site.

5.3 Groundwater Hydraulic Gradients

Groundwater hydraulic gradients were not completed during the Phase Two ESA as there were no monitoring wells instrumented or sampled as part of this investigation.

5.4 Soil Texture

GHD did not complete grain size testing during the Phase Two ESA. Based on the sands and gravels encountered during GHD's Hydrogeological Assessment, the soil has been conservatively assumed to be coarse textured, as defined in O. Reg. 153/04.

5.5 Soil: Field Screening

During borehole advancement, field screening of collected soil samples was undertaken for organic vapours using a PID and documenting any visual or olfactory evidence of impacts.

There were no elevated PID readings [i.e., greater than 10 parts per million (ppm)] observed in any of the soil samples collected during borehole advancement.

During the Phase Two ESA, there was no evidence of light or dense non-aqueous phase liquids.

5.6 Soil Quality

The concentrations of all analyzed parameters were below both the MOECC Table 2 Standards for industrial/commercial/community property use, and agricultural or other property use.

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A sample identification key is presented in **Table 1**. The soil analytical results and the applicable MOECC Table 2 Standards are presented in **Table 2**.

5.7 Groundwater Quality

This section left intentionally blank, as groundwater was not investigated during the Phase Two ESA.

5.8 Sediment Quality

This section left intentionally blank, as sediment was not investigated during the Phase Two ESA.

5.9 Quality Assurance and Quality Control Results

As previously discussed in Section 5.13, to validate the field analysis, in general one QA/ QC sample was submitted for every ten samples of each media and each parameter submitted for laboratory analysis. QA/QC samples included field duplicate samples. GHD's QA/ QC field samples collected are summarized in **Table 1**. QC samples were also analyzed by the laboratory as required by their analytical methods.

Analytical results received by GHD were reviewed and validated. The validation program consisted of reviewing the following parameters:

- Sample holding times.
- Field duplicate analysis.
- Trip blank analysis.
- Reagent blank analysis.

The results of the QA/ QC evaluations indicate that the results had acceptable levels of accuracy and precision and may be used. Review of the QA/QC information indicates that GHD's decision-making during sampling on Site was not affected by any data quality concerns and the overall objectives of the investigation were met.

5.10 Phase Two Conceptual Site Model

The Site is an irregular-shaped parcel of land that is approximately 20 hectares (50 acres) in size. The Site is part of a larger parcel of land that is approximately 83 hectares (205 acres) in size and used for agricultural and residential purposes. The Site is currently vacant, vegetated land.

The majority of the Site is currently vegetated. An asphalt paved access road is present on the northwestern portion of the Site. The Site topography is uneven due to the former operation of the sand and gravel pit. The western, south, and eastern portions of the Site generally slope downwards towards the center of the Site. The perimeter of the Site has an elevation of approximately 270 to 275 mASL, and the low area in the center of the Site has an elevation of

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approximately 250 mAMSL[12]. Regional topography generally slopes downward in a mostly northerly direction towards Lake Simcoe[13].

A review of quaternary geology for the Site indicates that the majority of the Site is located in a broad physiographic region known as the Simcoe Lowlands, however the southwestern portion of the Site may be located in the broad physiographic region known as the Oak Ridges Moraine[14]. Overburden in the vicinity of the Site is reported to consist of ice contact deposits consisting primarily of gravel and sands, with minor till including esker, kame, end moraine, ice marginal delta and subaqueous fan deposits[15]. The bedrock geology in the vicinity of the Site consists of shale, limestone, dolostone, and siltstone of the Georgian Bay, Blue Mountain, and Billings Formations, and Collingwood and Eastview Members. Depth to bedrock in the vicinity of the Site is greater than approximately 40 mBGS[16].

A tributary of Mount Albert Creek is located approximately 700 metres southeast of the Site, nad Franklin Pond is located approximately 800 metres east of the Site. Lake Simcoe is the nearest major waterbody and is located approximately 15 kilometres to the northwest of the Site.

Based on the results of GHD's Phase One ESA, the following PCAs as defined in O. Reg. 153/04 were identified for the Site:

Location on the Phase One Property	Potentially Contaminating Activity
Entire Site	#40 – Pesticides (including Herbicides, Fungicides, and Anti Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large Scale Applications
Northeastern Portion of the Site	#28 – Gasoline and Associated Products Storage in Fixed Tanks
Northeastern Portion of the Site	#55 – Transformer Manufacturing, Processing and Use

Based on the results of the Phase One ESA, including the Site inspection, information provided by Site representatives and regulatory agencies, documents reviewed, the review of Site history, and pending receipt and review of information from the MOECC, the following APECs were identified to be associated with the Site:

APEC #1 – Potential Historic Pesticide Use (on-Site): The Site has been used for agricultural cropland purposes (primarily potatoes, corn, wheat, soybeans, and hay) from at least 1927 until

12 Based on information provided by Rice Group

13 Natural Resources Canada [map]. "The Atlas of Canada – Toporama", governed by version 2.0 of the Open Government. License – Canada. November 13, 2017. <http://atlas.nrcan.gc.ca/toporama/en/index.html>

14 Chapman, L.J., and Putnam D.F., "Physiography of Southern Ontario", Ontario Geological Survey, Map P.2715 (coloured). Scale 1:600,000 dated 1984.

15 "Quaternary Geology of Ontario" [map]. Scale 1:1,000,000. OGS Earth Geoscience Data [computer files]. Sudbury, Ontario: Ontario Geological Survey & Ministry of Northern Development and Mines, 2011.

16 "Ministry of Environment and Climate Change Well Records" [map]. Scale varied. Government of Ontario [computer files]. Government of Ontario, 2017.

1990, at which time it was developed as a sand and gravel pit. No specific information was available regarding the historic use of pesticides on Site. The potential use of pesticides on the Site is included in O. Reg. 153/04 as a PCA (#40 – Pesticides (including Herbicides, Fungicides, and Anti Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large Scale Applications), and has been identified in this report as **APEC #1**.

APEC #2 – Former Diesel Fuel AST (on-Site): Equipment such as loaders and mobile aggregate crushers/stackers were reportedly refueled on-Site while the Site was operated as a sand and gravel pit. The diesel fuel was reportedly stored in an AST near the scale house. At the time of the Site inspection, there were no ASTs present at the Site. The historic storage of diesel fuel in ASTs is included in O. Reg. 153/04 as a PCA (28 – Gasoline and Associated Products Storage in Fixed Tanks), and has been identified as **APEC #2**.

APEC #3 – Potential Former Pole-Mounted Transformer (on-Site): During the Site inspection, GHD observed a wooden utility pole on the northeastern portion of the Site, in the vicinity of the former scale and scalehouse. Disconnected electrical and telephone cables were visible on the wooden pole. Electricity was historically supplied to the former scale and scalehouse via a pole-mounted transformer historically attached to this wooden pole. Facility personnel stated the transformer was owned by Ontario Hydro and they were not aware of any spills or releases from the transformer. The pole-mounted transformer had been removed prior to the Site inspection. No other information was obtained during the Phase One ESA regarding the potential former pole-mounted transformer. The use of transformers is included in O. Reg. 153/04 as a PCA (55 – Transformer Manufacturing, Processing and Use), and has been identified as **APEC #3**.

Based on the results of the Phase One ESA, the contaminants of concern were identified as PHCs, PCBs, and OC pesticides. The applicable media for the contaminants of concern is considered to be soil.

During GHD's Hydrogeological Assessment, groundwater was encountered between 2 mBGS at the base of the pit excavation, and 18 mBGS at the perimeter of the Site.The applicable standards for the Site were determined to be the MOECC Table 2 Standards for Coarse Textured Soils, and Industrial/Commercial/Community and Agricultural or Other Property Use.

Based on the soil analytical results, all soil samples submitted for laboratory analysis had concentrations below the applicable MOECC Table 2 Standards for Industrial/Commercial/Community and Agricultural or Other Property Use.

The following table outlines the APECs identified in the Phase One ESA and identifies the results of the Phase Two investigative activities that were undertaken in the area of each APEC.

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Table of Areas of Potential Environmental Concern
Portion of 18725 McCowan Road, East Gwillimbury, Ontario
(Refer to clause 16(2)(a), Schedule D, O. Reg. 153/04)

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-site or off-site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Ground Water, Soil and/or Sediment)	Summary of Investigation Activities
APEC #1: Potential Historic Pesticide Use	Entire Property	40. Pesticides (including Herbicides, Fungicides, and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large-Scale Applications	On-Site	OC Pesticides	Soil	All concentrations were below the MOECC Table 2 Standards for Agricultural or Other Property Use, and Industrial/Commercial/Community Property Use.
APEC #2: Former Diesel Fuel AST	Northeastern Portion of Property	28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs and BTEX	Soil	All concentrations were below the MOECC Table 2 Standards for Agricultural or Other Property Use, and Industrial/Commercial/Community Property Use.
APEC #3: Potential Former Pole-Mounted Transformer	Northeastern Portion of Property	55. Transformer Manufacturing, Processing, and Use	On-Site	PHCs, PCBs	Soil	All concentrations were below the MOECC Table 2 Standards for Agricultural or Other Property Use, and Industrial/Commercial/Community Property Use.

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6. Conclusions

The objective of the Phase Two ESA was to investigate the APECs identified in GHD's Phase One ESA. Based on the findings of the Site investigation activities undertaken by GHD, the following conclusions are provided:

- The Phase One ESA identified three APECs to be associated with the Site. Media potentially impacted was determined to be soil for each of the APECs.
- Soil samples were collected and submitted for chemical analysis to investigate the APECs.
- The concentrations of all analyzed samples were below the MOECC Table 2 Standards, Coarse Textured Soil, for both the proposed land use (Agricultural or Other) and the current land use (Industrial/Commercial/Community).

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All of Which is Respectfully Submitted,

GHD

Nicholas Cole, B.Eng.

Warren Croft, P. Eng. QP_{ESA}

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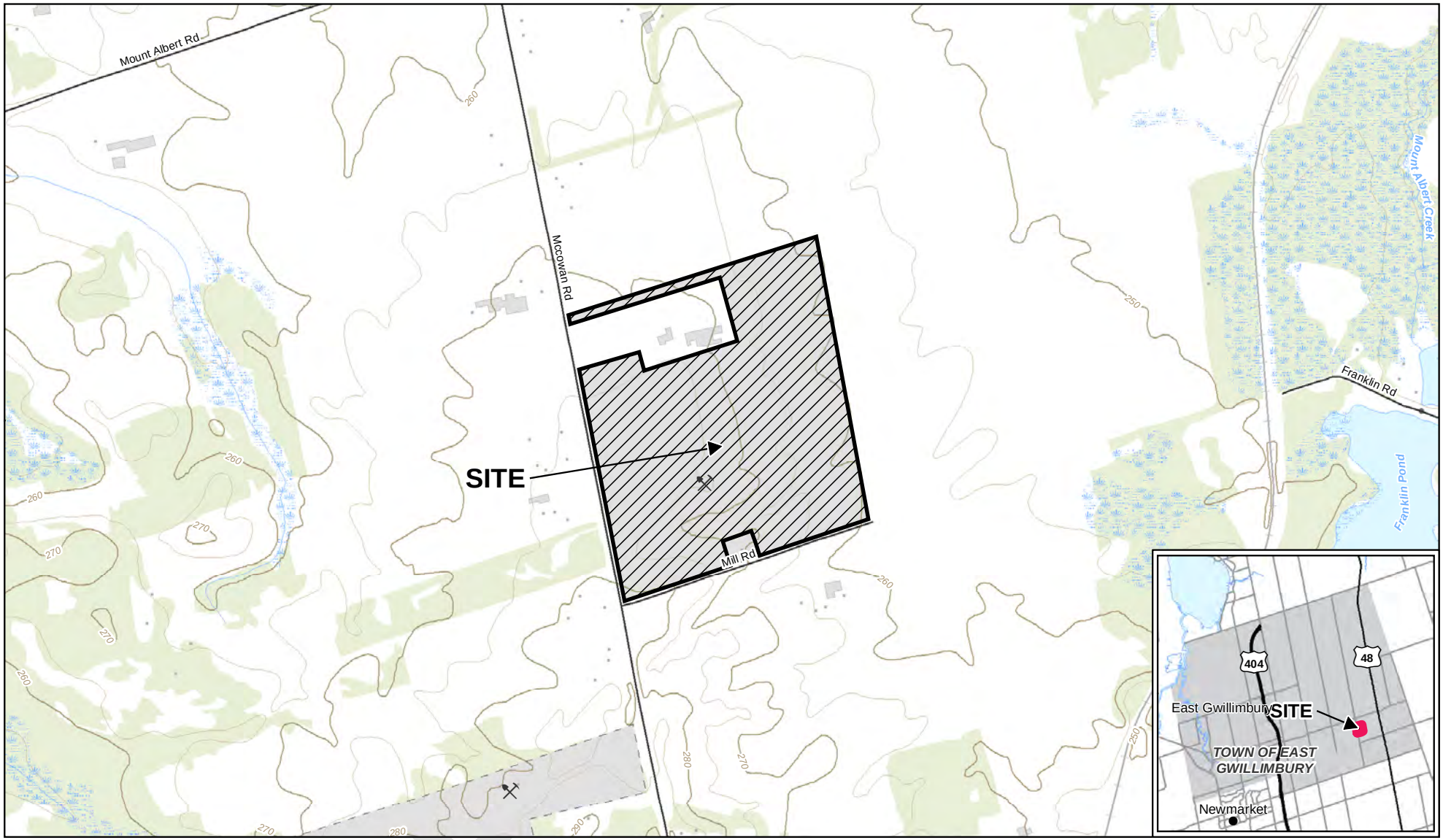
Figures



Source: MNRF NRVIS, 2017. Produced by GHD under licence from Ontario Ministry of Natural Resources and Forestry, © Queen's Printer 2018.

0 100 200 300
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

RICE COMMERCIAL GROUP LIMITED
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

11139891-226
Jul 18, 2018

SITE LOCATION MAP

FIGURE 1

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\003\11139891-226(003)GIS-WA001.mxd

Source: MNRF NRVIS, 2017. Produced by GHD under licence from Ontario Ministry of Natural Resources and Forestry, © Queen's Printer 2018.
Imagery: Regional Municipality of York 2016 orthoimagery.

0 50 100 150
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

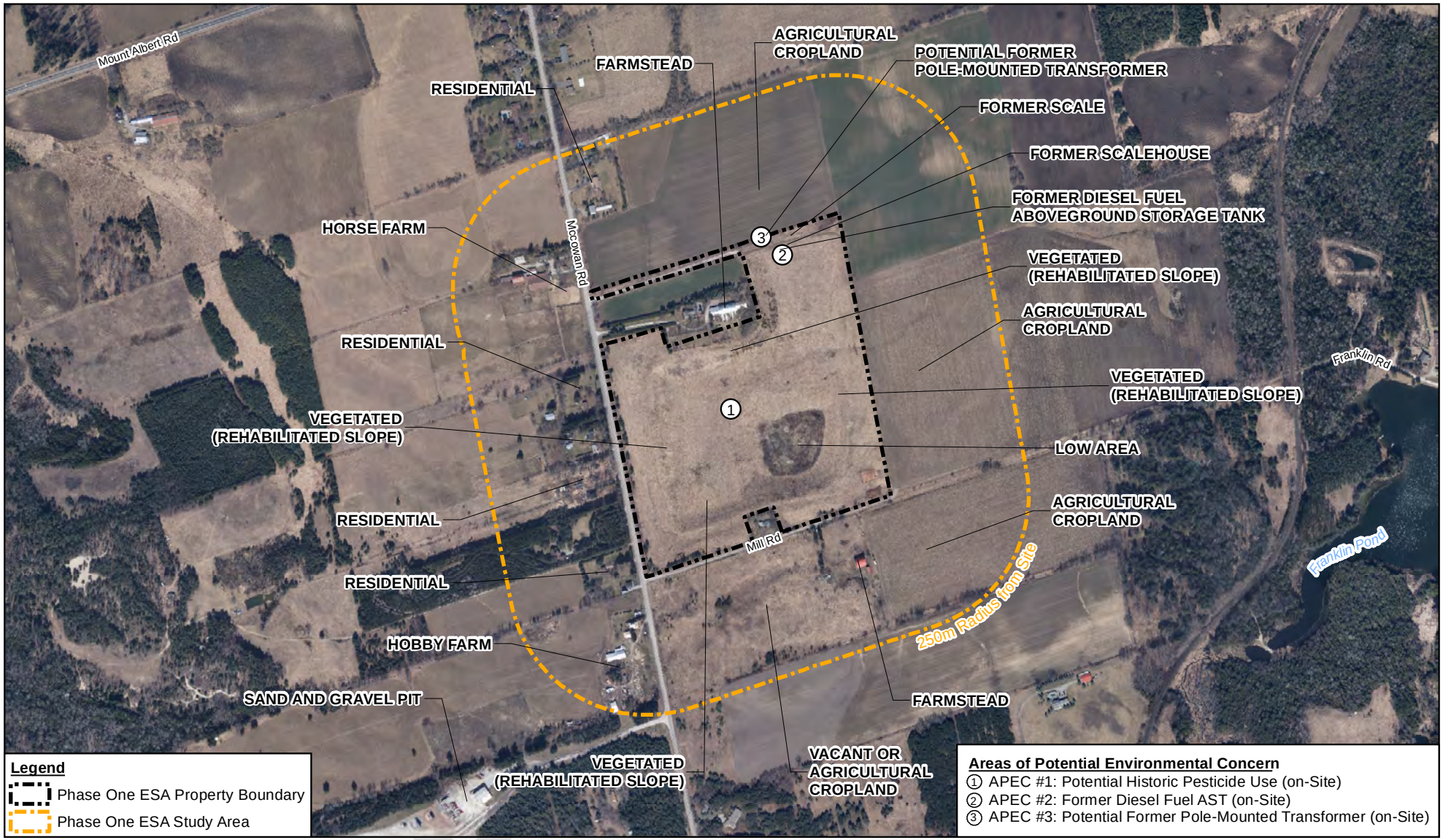
RICE COMMERCIAL GROUP LIMITED
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

11139891-226
Jul 18, 2018

SITE PLAN

FIGURE 2

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\003\11139891-226(003)GIS-WA002.mxd



Source: MNRF NRVIS, 2017. Produced by GHD under licence from Ontario Ministry of Natural Resources and Forestry, © Queen's Printer 2018.
Imagery: Regional Municipality of York 2016 orthoimagery.

0 100 200 300
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

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PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

11139891-226
Jul 18, 2018

PHASE ONE CONCEPTUAL SITE MODEL

FIGURE 3

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\003\11139891-226(003)GIS-WA003.mxd

Source: MNRF NRVIS, 2017. Produced by GHD under licence from Ontario Ministry of Natural Resources and Forestry, © Queen's Printer 2018.
Imagery: Regional Municipality of York 2016 orthoimagery.

0 50 100 150
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

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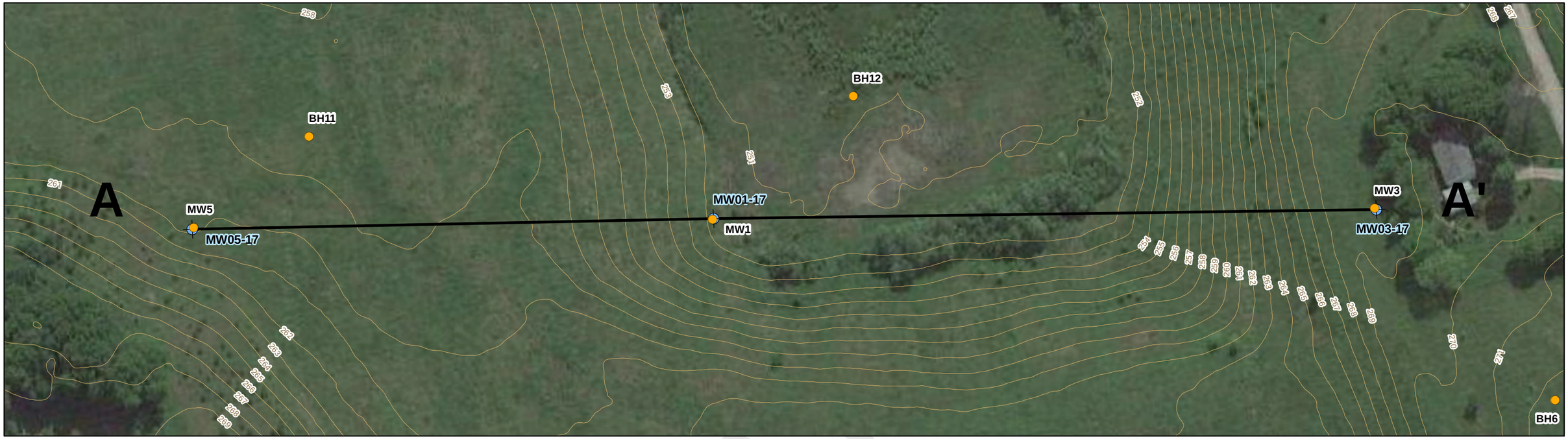
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

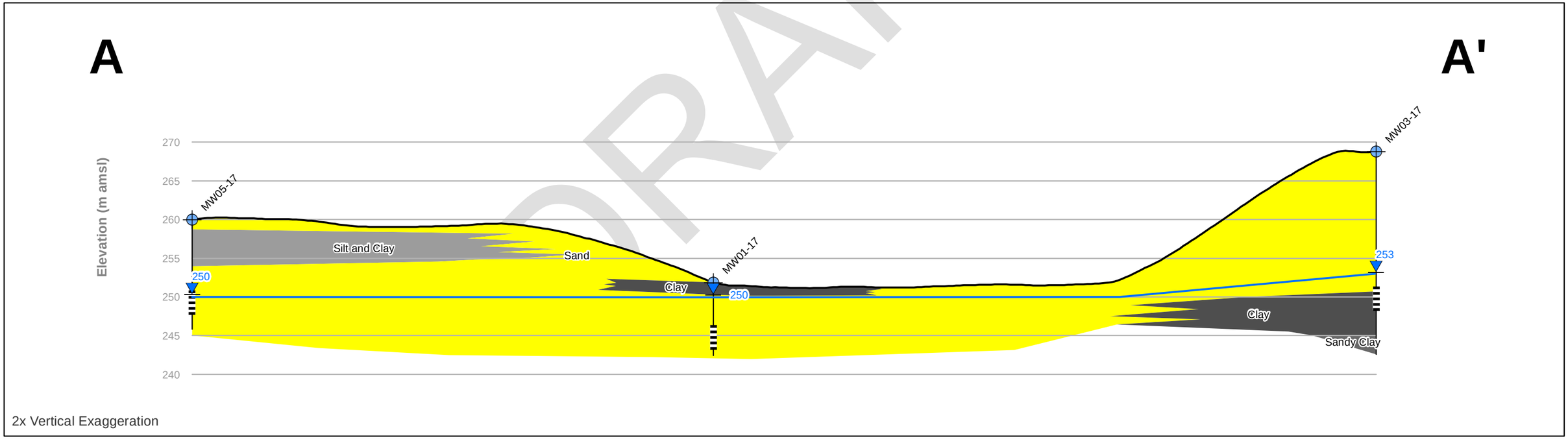
11139891-226
Jul 18, 2018

GEOLOGIC CROSS SECTION LOCATIONS

FIGURE 4

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\003\11139891-226(003)GIS-WA004.mxd





2x Vertical Exaggeration

Source: ESRI Basemap Imagery, 2013.

0 10 20 30
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

Legend

- Phase Two ESA Borehole Location
- Monitoring Well
- Groundwater Depth (mAMSL)
- Water Table
- Topographic / Cross-Section Line
- Contour (mAMSL)
- Well Screen

RICE COMMERCIAL GROUP LIMITED
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CROSS SECTION - A - A'

11139891-2.2.6
Jul 18, 2018

FIGURE 5

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\003\11139891-226(003)GIS-WA005.mxd

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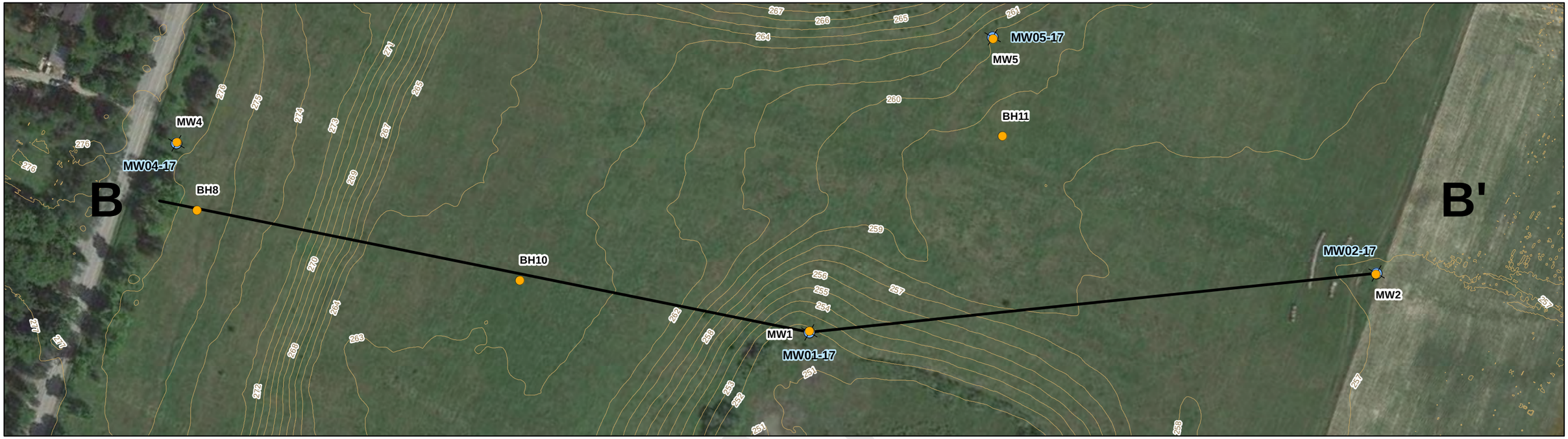

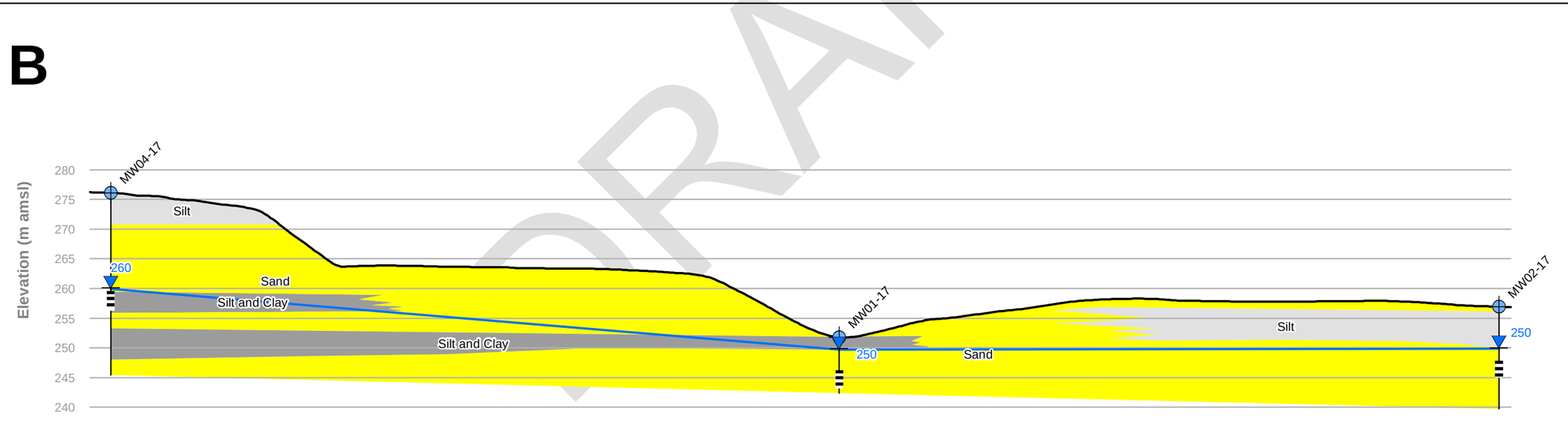

2x Vertical Exaggeration

Source: ESRI Basemap Imagery, 2013.

0 15 30 45
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

Legend

- Phase Two ESA Borehole Location
- Monitoring Well
- Groundwater Depth (mAMSL)
- Water Table
- Topographic / Cross-Section Line
- Contour (mAMSL)
- Well Screen

RICE COMMERCIAL GROUP LIMITED
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

CROSS SECTION - B - B'

11139891-2.2.6
Jul 18, 2018

FIGURE 6

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\003\11139891-226(003)GIS-WA006.mxd

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Tables

Table 1

Sample Identification Key
Phase Two Environmental Site Assessment
Portion of 18725 McCowan Road, East Gwillimbury, Ontario
Rice Commercial Group Limited

Sample Location	Date Collected	Depth (mBGS)	Sample Identification[1]	Sample Analysis				
				PHC (F_1 to F_4)	BTEX	OC Pesicides	PCBs	Moisture
BH1	6/11/2018	0.00-0.30	S-11139891-061118-NC-001	√	√		√	√
BH2	6/11/2018	0.00-0.30	S-11139891-061118-NC-002	√	√	√		√
BH3	6/11/2018	0.00-0.30	S-11139891-061118-NC-003			√		√
BH4	6/11/2018	0.00-0.30	S-11139891-061118-NC-004			√		√
BH4 (Field Duplicate)	6/11/2018	0.00-0.30	S-11139891-061118-NC-013			√		√
BH5	6/11/2018	0.00-0.30	S-11139891-061118-NC-005			√		√
BH6	6/11/2018	0.00-0.30	S-11139891-061118-NC-006			√		√
BH7	6/11/2018	0.00-0.30	S-11139891-061118-NC-007			√		√
BH8	6/11/2018	0.00-0.30	S-11139891-061118-NC-008			√		√
BH9	6/11/2018	0.00-0.30	S-11139891-061118-NC-009			√		√
BH10	6/11/2018	0.00-0.30	S-11139891-061118-NC-010			√		√
BH11	6/11/2018	0.00-0.30	S-11139891-061118-NC-011			√		√
BH12	6/11/2018	0.00-0.30	S-11139891-061118-NC-012			√		√
Trip Blank	6/11/2018	-	TRIP BLANK	√[2]	√			

Notes:

[1] Complete sample identification for S-11139891-061118-NC-001: The first letter (S) stands for soil; the following digits represent the project number; the following digits represent the sample date; the following letters are the sampler's initials; the following digits are the sample number.

[2] Analyzed for PHC F_1 only.

mBGS Metres below ground surface

PHC Petroleum Hydrocarbon

F_1 to F_4 Fraction 1 (F_1) is C6 to C10, Fraction 2 (F_2) is C>10 to C16, Fraction 3 (F_3) is C>16 to C34 and Fraction 4 (F_4) is C>34.

BTEX Benzene, Toluene, Ethylbenzene, and Xylenes

OC Organochlorine

PCBs Polychlorinated Biphenyls

TCLP Toxicity Characteristic Leaching Procedure

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Table 2

Soil Analytical Results
Phase Two Environmental Site Assessment
Portion of 18725 McCowan Road, East Gwillimbury, Ontario
Rice Commercial Group Limited

				Sample Location:	BH1	BH2	BH3	BH4	BH4	BH5	BH6
				Sample Identification:	S-11139891-061118-NC-001	S-11139891-061118-NC-002	S-11139891-061118-NC-003	S-11139891-061118-NC-004	S-11139891-061118-NC-013	S-11139891-061118-NC-005	S-11139891-061118-NC-006
				Sample Date:	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018
				Sample Depth (mBGS):	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30 Field Duplicate	0.00-0.30	0.00-0.30
Parameters	**Units**	**MOECC Table 2 Standard[1]**	**MOECC Table 2 Standard[2]**								
BTEX											
Benzene	ug/g	0.32	0.21	ND(0.020) /ND(0.020)	ND(0.020)	-	-	-	-	-	
Ethylbenzene	ug/g	1.1	1.1	ND(0.020) /ND(0.020)	ND(0.020)	-	-	-	-	-	
m&p-Xylenes	ug/g	-	-	ND(0.040)/ND(0.040)	ND(0.040)	-	-	-	-	-	
o-Xylene	ug/g	-	-	ND(0.020)/ND(0.020)	ND(0.020)	-	-	-	-	-	
Toluene	ug/g	6.4	2.3	ND(0.020) /ND(0.020)	ND(0.020)	-	-	-	-	-	
Xylenes (total)	ug/g	26	3.1	ND(0.040) /ND(0.040)	ND(0.040)	-	-	-	-	-	
PHCs											
Chromatogram to baseline at nC50	ug/g	-	-	ND() YES	ND() YES	-	-	-	-	-	
Petroleum hydrocarbons F1 (C6-C10)	ug/g	55	55	ND(10) /ND(10)	ND(10)	-	-	-	-	-	
Petroleum hydrocarbons F1 (C6-C10) - less BTEX	ug/g	55	55	ND(10) /ND(10)	ND(10)	-	-	-	-	-	
Petroleum hydrocarbons F2 (C10-C16)	ug/g	230	98	ND(10)	ND(10)	-	-	-	-	-	
Petroleum hydrocarbons F3 (C16-C34)	ug/g	1700	300	ND(50)	ND(50)	-	-	-	-	-	
Petroleum hydrocarbons F4 (C34-C50)	ug/g	3300	2800	ND(50)	ND(50)	-	-	-	-	-	
PCBs											
Aroclor-1242 (PCB-1242)	ug/g	-	-	ND(0.010)	-	-	-	-	-	-	
Aroclor-1248 (PCB-1248)	ug/g	-	-	ND(0.010)	-	-	-	-	-	-	
Aroclor-1254 (PCB-1254)	ug/g	-	-	ND(0.010)	-	-	-	-	-	-	
Aroclor-1260 (PCB-1260)	ug/g	-	-	ND(0.010)	-	-	-	-	-	-	
Total PCBs	ug/g	1.1	0.35	ND(0.010)	-	-	-	-	-	-	
OC Pesticides											
2,4'-DDD	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
2,4'-DDD + 4,4'-DDD	ug/g	4.6	3.3	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
2,4'-DDE	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
2,4'-DDE + 4,4'-DDE	ug/g	0.52	0.26	-	0.0058	0.0043	0.0039	0.0042	ND(0.0020)	0.0064	
2,4'-DDT	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
2,4'-DDT + 4,4'-DDT	ug/g	1.4	0.078	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
4,4'-DDD	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
4,4'-DDE	ug/g	-	-	-	0.0058	0.0043	0.0039	0.0042	ND(0.0020)	0.0064	
4,4'-DDT	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Aldrin	ug/g	0.088	0.05	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
alpha-Chlordane	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Chlordane	ug/g	0.05	0.05	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Dieldrin	ug/g	0.088	0.05	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Endosulfan	ug/g	0.3	0.04	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Endosulfan I	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Endosulfan II	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Endrin	ug/g	0.04	0.04	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
gamma-BHC (lindane)	ug/g	0.056	0.056	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
gamma-Chlordane	ug/g	-	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Heptachlor	ug/g	0.19	0.15	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Heptachlor epoxide	ug/g	0.05	0.05	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Hexachlorobenzene	ug/g	0.66	0.52	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Hexachlorobutadiene	ug/g	0.031	0.012	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Hexachloroethane	ug/g	0.21	0.089	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
Methoxychlor	ug/g	1.6	0.13	-	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	
Total PCBs	ug/g	1.1	0.35	-	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.015)	
Miscellaneous											
Moisture	%	-	-	15	9.5/10	13	8.7	8.2	2.3	13	

Notes:

[1] Ontario Ministry of the Environment and Climate Change (MOECC), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 15, 2011. Table 2: Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use and Coarse Textured Soils.

[2] Ontario Ministry of the Environment and Climate Change (MOECC), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 15, 2011. Table 2: Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Agricultural Property Use and Coarse Textured Soils.

mBGS metres Below Ground Surface
ug/g micrograms per gram
% percent
- Not analyzed
- / - Laboratory duplicate result

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Table 2

Soil Analytical Results
Phase Two Environmental Site Assessment
Portion of 18725 McCowan Road, East Gwillimbury, Ontario
Rice Commercial Group Limited

				Sample Location:	BH7	BH8	BH9	BH10	BH11	BH12	TRIPBLANK
				Sample Identification:	S-11139891-061118-NC-007	S-11139891-061118-NC-008	S-11139891-061118-NC-009	S-11139891-061118-NC-010	S-11139891-061118-NC-011	S-11139891-061118-NC-012	TRIP BLANK
				Sample Date:	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018	6/11/2018
				Sample Depth (mBGS):	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30	0.00-0.30	-
Parameters	**Units**	**MOECC Table 2 Standard[1] a**	**MOECC Table 2 Standard[2] b**								
BTEX											
Benzene	ug/g	0.32	0.21	-	-	-	-	-	-	ND(0.020)
Ethylbenzene	ug/g	1.1	1.1	-	-	-	-	-	-	ND(0.020)
m&p-Xylenes	ug/g	-	-	-	-	-	-	-	-	ND(0.040)
o-Xylene	ug/g	-	-	-	-	-	-	-	-	ND(0.020)
Toluene	ug/g	6.4	2.3	-	-	-	-	-	-	ND(0.020)
Xylenes (total)	ug/g	26	3.1	-	-	-	-	-	-	ND(0.040)
PHCs										
Chromatogram to baseline at nC50	ug/g	-	-	-	-	-	-	-	-	-
Petroleum hydrocarbons F1 (C6-C10)	ug/g	55	55	-	-	-	-	-	-	ND(10)
Petroleum hydrocarbons F1 (C6-C10) - less BTEX	ug/g	55	55	-	-	-	-	-	-	ND(10)
Petroleum hydrocarbons F2 (C10-C16)	ug/g	230	98	-	-	-	-	-	-	-
Petroleum hydrocarbons F3 (C16-C34)	ug/g	1700	300	-	-	-	-	-	-	-
Petroleum hydrocarbons F4 (C34-C50)	ug/g	3300	2800	-	-	-	-	-	-	-
PCBs										
Aroclor-1242 (PCB-1242)	ug/g	-	-	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	ug/g	-	-	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	ug/g	-	-	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	ug/g	-	-	-	-	-	-	-	-	-
Total PCBs	ug/g	1.1	0.35	-	-	-	-	-	-	-
Pesticides										
2,4'-DDD	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
2,4'-DDD + 4,4'-DDD	ug/g	4.6	3.3	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
2,4'-DDE	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
2,4'-DDE + 4,4'-DDE	ug/g	0.52	0.26	ND(0.0020)	0.0060	0.0023	0.0025	0.0084	ND(0.0020)	-
2,4'-DDT	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
2,4'-DDT + 4,4'-DDT	ug/g	1.4	0.078	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
4,4'-DDD	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
4,4'-DDE	ug/g	-	-	ND(0.0020)	0.0060	0.0023	0.0025	0.0084	ND(0.0020)	-
4,4'-DDT	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Aldrin	ug/g	0.088	0.05	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
alpha-Chlordane	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Chlordane	ug/g	0.05	0.05	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Dieldrin	ug/g	0.088	0.05	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Endosulfan	ug/g	0.3	0.04	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Endosulfan I	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Endosulfan II	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Endrin	ug/g	0.04	0.04	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
gamma-BHC (lindane)	ug/g	0.056	0.056	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
gamma-Chlordane	ug/g	-	-	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Heptachlor	ug/g	0.19	0.15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Heptachlor epoxide	ug/g	0.05	0.05	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Hexachlorobenzene	ug/g	0.66	0.52	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Hexachlorobutadiene	ug/g	0.031	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Hexachloroethane	ug/g	0.21	0.089	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	-
Methoxychlor	ug/g	1.6	0.13	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	-
Total PCBs	ug/g	1.1	0.35	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.015)	-
Miscellaneous										
Moisture	%	-	-	15	12	12	8.0	13	1.1	-

Notes:

[1] Ontario Ministry of the Environment and Climate Change (MOECC), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 15, 2011. Table 2: Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use and Coarse Textured Soils.

[2] Ontario Ministry of the Environment and Climate Change (MOECC), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 15, 2011. Table 2: Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Agricultural Property Use and Coarse Textured Soils.

mBGS metres Below Ground Surface
ug/g micrograms per gram
% percent
- Not analyzed
- / - Laboratory duplicate result

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Appendices

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Appendix A
Sampling and Analysis Plan

Attachment A Sampling and Analysis Plan

1. Sampling and Analysis Plan

The tasks for this project are discussed in the following sections. All work will be conducted in accordance with the requirements of Ontario Regulation 153/04 (O. Reg.153/04), as amended.

A Phase Two ESA will be completed to investigate the APECs identified in the Phase One ESA. The Phase Two ESA will consist of the advancement of 12 shallow boreholes, to be advanced by hand techniques, and the collection and submission of soil samples for laboratory analysis. The analytical results will be compared to the 2011 MOECC Table 2 Generic Site Condition Standard[1] for industrial/commercial/community property use, as well as agricultural or other property use. The proposed investigative locations and rationale are summarized in the table below and presented on the attached figure.

Proposed Location	Rationale	Proposed Depth	Proposed Analysis	
			Soil	Groundwater
BH1	Investigate APEC #3	1 mBGS	PHCs, PCBs	None
BH2	Investigate APEC #1 and APEC #2	1 mBGS	PHCs, BTEX, OC Pesticides	None
BH3 to BH12	Investigate APEC #1	1 mBGS	OC Pesticides	None
Note that APEC #1 – Potential Historic Pesticide Use, applies to the entire Site, as the topsoil at the Site was stockpiled prior to the Site being excavated for the sand and gravel operation, and the topsoil was reportedly spread back across the Site after the sand and gravel pit ceased operation. Therefore, there is potential for pesticides to be present across the Site in the topsoil, even in areas that had sand and gravel extracted and are well below original grade.				

mBGS: metres below ground surface

The subsurface investigation will be conducted in accordance with the methodology and accepted practices of O. Reg. 153/04, as amended.

1.1 Soil Sampling

Due to the shallow depth of the boreholes, all boreholes will be advanced by hand using a shovel and/or hand auger. All boreholes completed at the Site will be logged using the Unified Soil Classification System (USCS) by a GHD representative. The samples collected from the boreholes will be logged, detailing geologic conditions encountered, soil classification, stratigraphy, relative moisture content, field evidence of impact (i.e., odour, staining), and organic vapour headspace readings.

Soil samples collected from each borehole will be screened in the field for evidence of impact based on visual and olfactory observations and undifferentiated VOC vapour readings, as measured by the photoionization detector (PID). GHD personnel will collect soil samples from each borehole for laboratory

[1] *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Acti,* dated April 15, 2011.

analysis from the soil interval that exhibits the strongest field evidence of impact and/or the highest PID reading. Soil samples will be collected in laboratory-supplied sample containers specific to the analytical parameters.

All sampling equipment and tools, including any equipment used to collect soil samples during the advancement of the boreholes, will be thoroughly cleaned using the following sequence:

- Clean with tap water and detergent (Alconox or Sparkleen) using a brush if necessary to remove any particulate matter and any surface films.
- Rinse thoroughly with potable water.
- Final rinse with deionized water.

Qualitative and quantitative information will be included on the borehole stratigraphic logs.

It has been assumed that one soil sample from each borehole will be submitted and analyzed for one or more of the following parameters: PHCs, BTEX, PCBs, and OC Pesticides. Additional soil samples above and below the submitted sample will be preserved for future chemical analysis, if required for delineation purposes.

For QA/QC purposes, one duplicate sample will be submitted for every ten samples submitted for analysis. Soil samples will be submitted to a laboratory certified by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for the analysis of select chemical parameters on a 5 to 7 day turnaround time (TAT).

Based on the hand techniques being used for the boreholes, soil cuttings are not anticipated to be generated, and therefore a toxicity characteristic leachate procedure (TCLP) sample, normally required for disposal of containerized soil cuttings, is not anticipated to be required and has not been included in this sampling and analysis plan.

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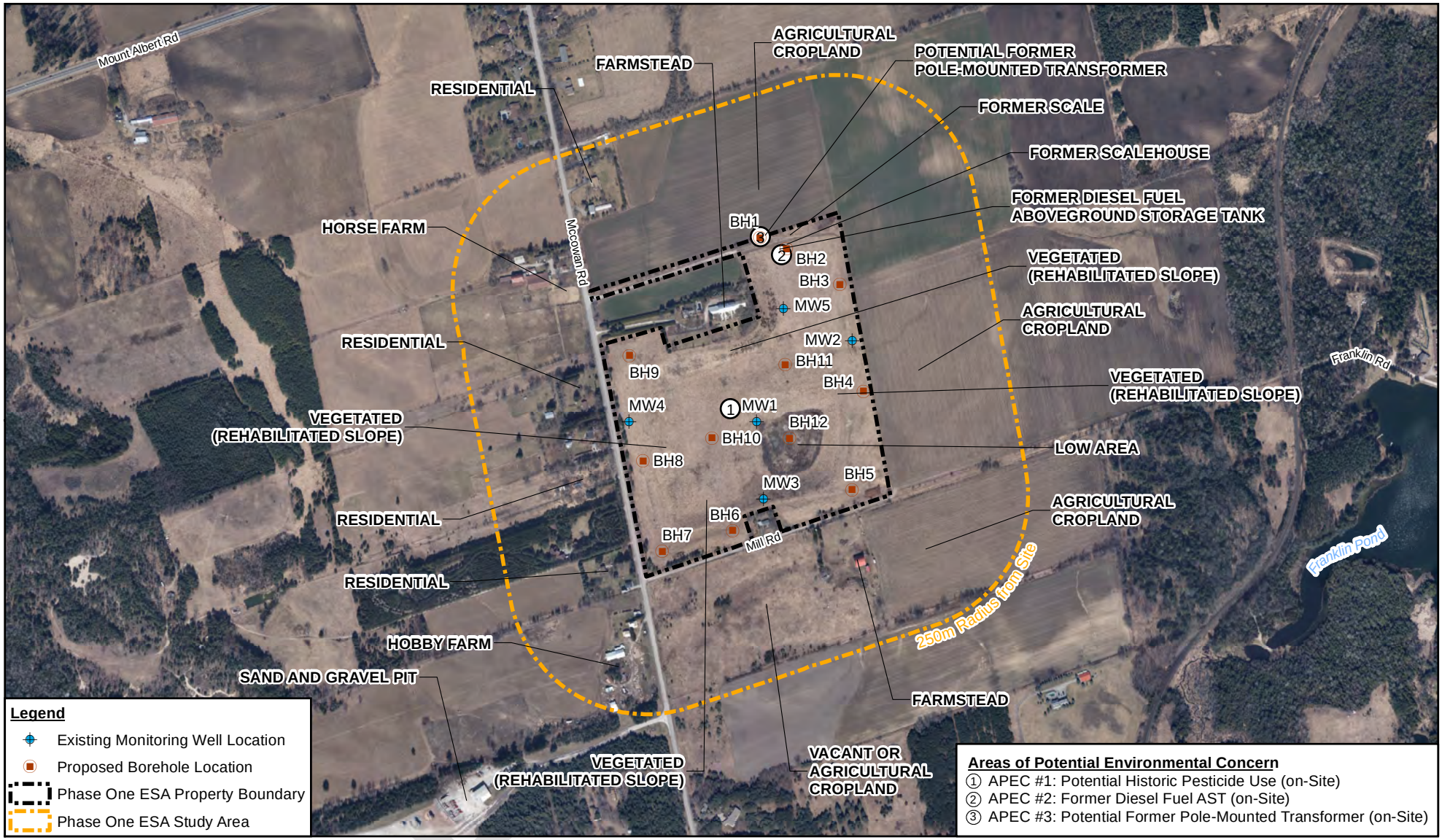

Source: MNRF NRVIS, 2017. Produced by GHD under licence from Ontario Ministry of Natural Resources and Forestry, © Queen's Printer 2017.
Imagery: Regional Municipality of York 2016 orthoimagery.

0 100 200 300
Meters

Coordinate System:
NAD 1983 UTM Zone 17N

RICE GROUP LIMITED
18725 MCCOWAN ROAD, EAST GWILLIMBURY, ONTARIO
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

11139891-224
Nov 21, 2017

PROPOSED INVESTIGATIVE LOCATIONS

FIGURE 2

GIS File: Q:\GIS\PROJECTS\11139000s\11139891\Layouts\SOBE001\11139891-224(SOBE001)GIS-WA002.mxd

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Appendix B
Stratigraphic and Instrumentation Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW1-17
DATE COMPLETED: November 6, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOP OF RISER GROUND SURFACE	252.58 251.80						
0.0	CLAY (TOPSOIL), silty, very soft, low plasticity, dark brown, moist, rootlets		CONCRETE					
		251.51		1		58	2	0.0
0.5	CLAY (NATIVE), silty, trace gravel, trace sand, very soft, low plasticity, grey, moist							
1.0	- cobble, boulder at 1.22m BGS			2		75	42	1.0
1.5			BENTONITE SEAL					
	SAND AND GRAVEL, silty, very dense, grey, moist	250.27						
2.0	- becomes wet at 2.06m BGS			3		92	61	2.0
2.5				4		88	39	1.0
3.0	SAND, gravelly, trace silt, compact, poorly sorted, brown and grey, wet	248.75		5		88	24	1.0
3.5								
4.0			NATIVE SAND AND GRAVEL (CAVED) MATERIAL					
4.5	SAND (TILL), with clay, with silt, trace gravel, very dense, grey, moist	247.22		6		38	>50	1.0
5.0								
5.5								
6.0	SAND AND GRAVEL, trace silt, trace clay, occassional cobbles/boulders, very dense, grey, wet	245.70		7		38	>50	1.0
6.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 29, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW1-17
DATE COMPLETED: November 6, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5	- brown at 7.62m BGS		SAND PACK; WELL SCREEN	8		71	>50	1.0
8.0								
8.5								
9.0								
9.5	- Split spoon sampler refusal at 9.45m BGS	242.35		9		54	>50	1.0
	END OF BOREHOLE @ 9.45m BGS							
10.0								
10.5								
11.0								
11.5								
12.0								
12.5								
13.0								
13.5								

WELL DETAILS
Screened interval:
246.00 to 242.96m BGS
5.79 to 8.84m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
246.61 to 242.35m BGS
5.18 to 9.45m BGS
Material: #2 Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
STATIC WATER LEVEL ▼ November 29, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW2-17
DATE COMPLETED: November 8, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOP OF RISER GROUND SURFACE	257.72 256.87						
0	SILT (TOPSOIL), with sand, trace clay, compact, dark brown, moist, rootlets	256.71	CONCRETE	1		79	12	0.0
0.5	SILT (NATIVE), with clay, trace sand, compact, brown, moist - grey at 0.53m BGS - trace clay, loose, light brown, moist at 0.76m BGS							
1.0				2		63	6	0.0
1.5	- layer of sand, fine to medium grained, trace gravel, brown, moist at 1.30m BGS - compact, light brown, moist at 1.52m BGS							
2.0				3		100	19	1.0
2.5	- with clay, compact, light brown, moist at 2.29m BGS			4		100	26	1.0
3.0	- becomes dense at 3.05m BGS			5		100	37	1.0
3.5								
4.0								
4.5	- minor oxidation staining at 4.57m BGS		BENTONITE SEAL					
5.0				6		100	37	1.0
5.5								
6.0				7A		100	37	1.0
6.5	SAND, silty, dense, fine grained, light brown, moist	250.62		7B				1.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 29, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW2-17
DATE COMPLETED: November 8, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5	- trace silt, dense, fine to medium grained, brown, wet at 7.62m BGS			8		88	46	1.0
8.0								
8.5								
9.0	- trace gravel, compact, fine grained at 9.14m BGS							
9.5				9		100	24	1.0
10.0								
10.5	- trace silt, dense, fine to medium grained, brown, wet at 10.67m BGS		WELL SCREEN					
11.0	SILT, trace clay, dense, grey, wet	245.80	SAND PACK	10A		100	44	1.0
				10B				1.0
11.5								
12.0	SAND, trace silt, compact, fine to medium grained, brown, wet	244.68						
12.5	SILT, trace sand, trace clay, trace gravel, compact, light brown, wet	244.22		11A		100	23	1.0
				11B				1.0
13.0								
13.5			NATIVE (CAVED) MATERIAL					
	SAND, trace silt, compact, fine grained, brown, wet	243.15		12A		100	29	1.0
	SAND AND GRAVEL, trace silt, compact, poorly	243.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 29, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW2-17
DATE COMPLETED: November 8, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
14.5	sorted, brown, wet - lightly cemented at 14.17m BGS			12B				1.0
15.0			NATIVE (CAVED) MATERIAL					
15.5	- dense, grey, wet at 15.70m BGS			13A			37	
16.0				13B		25	37	2.0
16.5								
17.0				14		25	93	2.0
17.5	END OF BOREHOLE @ 17.20m BGS	239.67	WELL DETAILS Screened interval: 247.77 to 244.73m BGS 9.09 to 12.14m BGS Length: 3.05m Diameter: 51mm Slot Size: #10 Material: PVC Sand Pack: 248.33 to 243.46m BGS 8.53 to 13.41m BGS Material: #2 Silica					
18.0								
18.5								
19.0								
19.5								
20.0								
20.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 29, 2017

DRAFT

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW3-17
DATE COMPLETED: November 17, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOP OF RISER GROUND SURFACE	269.64 268.74						
0.5	CLAY (TOPSOIL), silty, trace sand, stiff, dark brown, moist, rootlets	268.48	CONCRETE	1		92	13	1.0
	SILT (NATIVE), with sand, with clay, trace gravel, compact, brown, moist, oxidation stains							
1.0				2		38	10	0.0
1.5	- trace clay, light brown, moist to wet at 1.52m BGS							
	- becomes wet at 1.83m BGS			3		92	16	0.0
2.0								
2.5			BENTONITE SEAL	4		83	24	0.0
3.0	- becomes dense, grey, moist to wet at 3.05m BGS							
				5		83	33	0.0
3.5	- layer of sand, fine grained, grey, moist at 3.58m BGS	265.08						
4.0	SAND, silty, trace clay, trace gravel, compact, fine to medium grained, grey, moist							
4.5								
5.0	- small layer of silt, brown, moist to wet at 4.88m BGS			6		83	31	1.0
5.5								
6.0		262.64						
	SAND AND GRAVEL, trace silt, very dense, fine grained, grey, moist			7		38	>50	1.0
6.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

DRAFT

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW3-17
DATE COMPLETED: November 17, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5								
	SAND, with silt, trace gravel, dense, fine grained, grey, moist	261.12		8		38	>50	1.0
8.0			BENTONITE SEAL					
8.5								
9.0								
	SAND AND GRAVEL, with silt, very dense, poorly sorted, grey, moist	259.59		9		33	>50	1.0
9.5								
10.0								
10.5								
11.0				10		41	>50	1.0
11.5								
12.0								
12.5				11		38	>50	1.0
13.0								
13.5								

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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW3-17
DATE COMPLETED: November 17, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
14.5				12		42	>50	1.0
15.0			BENTONITE SEAL					
15.5				13		79	>50	1.0
16.0								
16.5								
17.0	CLAY, sandy, with gravel, with silt, hard, grey, moist to wet	251.67		14		17	>50	1.0
17.5								
18.0								
18.5				15		83	>50	0.0
19.0								
19.5	- decrease in moisture content at 19.81m BGS		WELL SCREEN SAND PACK					
20.0				16		50	>50	0.0
20.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW3-17
DATE COMPLETED: November 17, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
21.5								
22.0			SAND PACK	17		46	>50	0.0
22.5								
23.0	- with sand, with gravel, with silt, hard, low plasticity, moist at 22.86m BGS			18		58	<50	1.0
23.5								
24.0								
24.5			NATIVE (CAVED) MATERIAL	19		46	<50	1.0
25.0								
25.5								
26.0	END OF BOREHOLE @ 26.21m BGS	242.52		20		50	<50	1.0
26.5								
27.0								
27.5								

WELL DETAILS
Screened interval:
250.97 to 247.92m BGS
17.77 to 20.82m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
252.49 to 245.88m BGS
16.25 to 22.86m BGS
Material: #2 Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
STATIC WATER LEVEL ▼ November 30, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW4-17
DATE COMPLETED: November 14, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	TOP OF RISER GROUND SURFACE	276.96 276.11						
0.0	SILT (TOPSOIL), trace clay, trace sand, dark brown, moist, rootlets	275.85	CONCRETE	1		88	5	0.0
0.5	SILT (NATIVE) with sand, trace gravel, trace clay, loose, light brown, moist							
	- trace clay, compact, light brown, moist at 0.76m BGS			2		88	13	0.0
1.0								
1.5				3		83	24	0.0
2.0								
	- increase in moisture content, minor oxidation stains at 2.29m BGS		BENTONITE SEAL	4		100	22	0.0
2.5								
3.0				5A		79	34	0.0
	SAND, gravelly, with silt, trace clay, dense, fine grained, brown, moist, oxidation stains	272.75		5B				0.0
3.5								
4.0								
4.5	- trace silt, dense, fine to medium grained, grey, moist at 4.57m BGS			6		88	63	0.0
5.0								
5.5								
6.0	- trace gravel, trace silt, very dense, fine to medium grained, grey, moist at 6.10m BGS			7		100	57	0.0
6.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW4-17
DATE COMPLETED: November 14, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5								
8.0			BENTONITE SEAL	8		83	65	0.0
8.5								
9.0	- poorly sorted, light brown at 9.14m BGS							
9.5				9		92	86	1.0
10.0								
10.5								
11.0				10		92	66	0.0
11.5								
12.0	- trace silt, dense, fine to medium grained, brown, moist at 12.19m BGS							
12.5				11		92	31	0.0
13.0								
13.5	- trace silt, trace gravel, very dense, brown, moist at 13.72m BGS							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW4-17
DATE COMPLETED: November 14, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
14.5				12		63	>50	0.0
15.0								
15.5				13		0		
16.0								
16.5								
17.0	CLAY, sandy, with gravel, with silt, hard, brown, moist	259.34		14		63	>50	1.0
17.5								
18.0								
18.5	SILT, with sand, trace gravel, trace clay, very dense, grey, moist	257.82	WELL SCREEN	15		38	>50	1.0
19.0								
19.5			SAND PACK					
20.0	SAND, with gravel, with silt, trace clay, very dense, fine grained, brown, moist to wet	256.29		16		17	>50	1.0
20.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

DRAFT

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW4-17
DATE COMPLETED: November 14, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
21.5	CLAY, with silt, with sand, with gravel, hard, low plasticity, grey, moist	254.77		17		46	>50	1.0
22.0								
22.5								
23.0				18		46	<50	0.0
23.5								
24.0								
24.5	- sandy, with gravel, trace silt, hard, low plasticity, grey, moist at 24.38m BGS			19		50	<50	0.0
25.0								
25.5								
26.0	- with silt, with sand, trace gravel, hard, low plasticity, grey, moist at 25.91m BGS			20		33	<50	0.0
26.5			NATIVE (CAVED) MATERIAL					
27.0								
27.5	- with silt, trace gravel, trace sand, hard, low plasticity, grey, moist to wet at 27.43m BGS			21A		38	<50	0.0
	SAND AND SILT, with gravel, with clay, very dense, reddish/brown, moist to wet	248.52		21B				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

DRAFT

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW4-17
DATE COMPLETED: November 14, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
28.5								
29.0	- grey, moist to wet at 28.96m BGS		NATIVE (CAVED) MATERIAL	22		21	>50	0.0
29.5								
30.0								
30.5	SILT, with sand, trace clay, very dense, brown, moist to wet	245.63	WELL DETAILS Screened interval: 259.34 to 256.29m BGS 16.76 to 19.81m BGS Length: 3.05m Diameter: 51mm Slot Size: #10 Material: PVC Sand Pack: 259.80 to 253.86m BGS 16.31 to 22.25m BGS Material: #2 Silica					
31.0	END OF BOREHOLE @ 30.68m BGS	245.42		23		33	>50	1.0
31.5								
32.0								
32.5								
33.0								
33.5								
34.0								
34.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

DRAFT

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW5-17
DATE COMPLETED: November 9, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	TOP OF RISER	260.86						
	GROUND SURFACE	260.00						
	SILT (TOPSOIL), with clay, trace sand, loose, brown, moist	259.95	CONCRETE	1		79	8	1.0
0.5	SAND (NATIVE), silty, with clay, trace gravel, loose, brown, moist							
	SILT, with sand, trace gravel, trace clay, very loose, light brown, moist	259.24		2		25	3	0.0
1.0								
1.5	- with clay, compact, light brown, moist at 1.52m BGS			3		75	15	1.0
2.0								
2.5	- trace gravel, trace sand, trace clay, compact, light brown, moist at 2.29m BGS			4		75	15	0.0
3.0								
3.5				5		83	14	0.0
4.0			BENTONITE SEAL					
4.5	SILT AND CLAY, trace gravel, trace sand, compact, light brown, moist	255.43		6		100	15	1.0
5.0								
5.5								
6.0	CLAY, silty, trace sand, trace gravel, stiff, minor plasticity, light brown, moist	253.91		7		100	15	1.0
6.5								
7.0								
7.5	SAND, with gravel, with silt, compact, fine grained, light brown, moist	252.38		8		25	22	1.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ November 30, 2017

DRAFT

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Hydrogeological and Environmental Assessment
PROJECT NUMBER: 11139891
CLIENT: Rice Commercial Group Ltd.
LOCATION: 18725 McCowan Road, Mt. Albert, Ontario

HOLE DESIGNATION: MW5-17
DATE COMPLETED: November 9, 2017
DRILLING METHOD: 8" HSA
FIELD PERSONNEL: S. Howell

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
8.5								
9.0	- very dense at 9.14m BGS							
9.5				9A		67	>50	1.0
	SAND (TILL), gravelly, with silt, trace clay, very dense, brown, moist	250.40	WELL SCREEN	9B				1.0
10.0								
10.5								
	SAND, silty to silt with gravel, trace clay, very dense, brown, moist	249.34	SAND PACK	10		46	>50	1.0
11.0								
11.5								
12.0								
12.5				11		63	>50	1.0
13.0								
13.5								
	- small layer of silt, trace clay, brown, wet at 13.72m BGS							
14.0	- with silt, trace gravel, trace clay, very dense, fine grained, brown, wet at 13.74m BGS		NATIVE (CAVED) MATERIAL	12		71	>50	1.0
	END OF BOREHOLE @ 14.15m BGS	245.85						
14.5								
15.0								
15.5								

WELL DETAILS
Screened interval:
250.62 to 247.57m BGS
9.39 to 12.44m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
251.77 to 246.29m BGS
8.23 to 13.72m BGS
Material: #2 Silica

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
STATIC WATER LEVEL ▼ November 30, 2017

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Appendix C
Laboratory Certificates of Analysis

Your P.O. #: 73511983
Your Project #: 11139891-2.2.5
Your C.O.C. #: 668368-01-01, 668368-02-01

Attention:
11139891-2.2.5 - PO - 73511983

GHD Limited
455 Phillip St
Waterloo, ON
CANADA N2L 3X2

Report Date: 2018/06/19
Report #: R5254378
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8E4043
Received: 2018/06/12, 14:55

Sample Matrix: Soil
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	3	N/A	2018/06/18	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	2	2018/06/16	2018/06/17	CAM SOP-00316	CCME CWS m
Moisture	13	N/A	2018/06/15	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (3)	12	2018/06/18	2018/06/19	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters	12	N/A	2018/06/16	CAM SOP-00307	EPA 8081/8082 m
Polychlorinated Biphenyl in Soil	1	2018/06/16	2018/06/18	CAM SOP-00309	EPA 8082A m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your P.O. #: 73511983
Your Project #: 11139891-2.2.5
Your C.O.C. #: 668368-01-01, 668368-02-01

Attention:
11139891-2.2.5 - PO - 73511983

GHD Limited
455 Phillip St
Waterloo, ON
CANADA N2L 3X2

Report Date: 2018/06/19
Report #: R5254378
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8E4043
Received: 2018/06/12, 14:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Tanya Fidlin, Project Manager
Email: tfidlin@maxxam.ca
Phone# (905)817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

RESULTS OF ANALYSES OF SOIL

Maxxam ID		GYI077	GYI078	GYI078	GYI079		
Sampling Date		2018/06/11 16:05	2018/06/11 19:40	2018/06/11 19:40	2018/06/11 19:45		
COC Number		668368-01-01	668368-01-01	668368-01-01	668368-01-01		
	UNITS	S-11139891-061118-NC-001	S-11139891-061118-NC-002	S-11139891-061118-NC-002 Lab-Dup	S-11139891-061118-NC-003	RDL	QC Batch
Inorganics							
Moisture	%	15	9.5	10	13	1.0	5583989

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Maxxam ID		GYI080	GYI081	GYI082	GYI083		
Sampling Date		2018/06/11 19:50	2018/06/11 19:55	2018/06/11 20:55	2018/06/11 21:05		
COC Number		668368-01-01	668368-01-01	668368-01-01	668368-01-01		
	UNITS	S-11139891-061118-NC-004	S-11139891-061118-NC-005	S-11139891-061118-NC-006	S-11139891-061118-NC-007	RDL	QC Batch
Inorganics							
Moisture	%	8.7	2.3	13	15	1.0	5583989

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GYI084	GYI085	GYI086	GYI087		
Sampling Date		2018/06/11 20:50	2018/06/11 20:45	2018/06/11 20:35	2018/06/11 20:15		
COC Number		668368-01-01	668368-01-01	668368-02-01	668368-02-01		
	UNITS	S-11139891-061118-NC-008	S-11139891-061118-NC-009	S-11139891-061118-NC-010	S-11139891-061118-NC-011	RDL	QC Batch
Inorganics							
Moisture	%	12	12	8.0	13	1.0	5583989

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GYI088	GYI089		
Sampling Date		2018/06/11 20:05	2018/06/11 19:50		
COC Number		668368-02-01	668368-02-01		
	UNITS	S-11139891-061118-NC-012	S-11139891-061118-NC-013	RDL	QC Batch
Inorganics					
Moisture	%	1.1	8.2	1.0	5583989

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		GYI077			GYI077		
Sampling Date		2018/06/11 16:05			2018/06/11 16:05		
COC Number		668368-01-01			668368-01-01		
	UNITS	S-11139891-061118-NC-001	RDL	QC Batch	S-11139891-061118-NC-001 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/g	ND	0.020	5584536	ND	0.020	5584536
Toluene	ug/g	ND	0.020	5584536	ND	0.020	5584536
Ethylbenzene	ug/g	ND	0.020	5584536	ND	0.020	5584536
o-Xylene	ug/g	ND	0.020	5584536	ND	0.020	5584536
p+m-Xylene	ug/g	ND	0.040	5584536	ND	0.040	5584536
Total Xylenes	ug/g	ND	0.040	5584536	ND	0.040	5584536
F1 (C6-C10)	ug/g	ND	10	5584536	ND	10	5584536
F1 (C6-C10) - BTEX	ug/g	ND	10	5584536	ND	10	5584536
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	ND	10	5584372			
F3 (C16-C34 Hydrocarbons)	ug/g	ND	50	5584372			
F4 (C34-C50 Hydrocarbons)	ug/g	ND	50	5584372			
Reached Baseline at C50	ug/g	Yes		5584372			
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	107		5584536	105		5584536
4-Bromofluorobenzene	%	83		5584536	71		5584536
D10-Ethylbenzene	%	96		5584536	92		5584536
D4-1,2-Dichloroethane	%	110		5584536	108		5584536
o-Terphenyl	%	89		5584372			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not detected

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		GYI078			GYI090		
Sampling Date		2018/06/11 19:40			2018/06/11		
COC Number		668368-01-01			668368-02-01		
	UNITS	S-11139891-061118-NC-002	RDL	QC Batch	TRIP BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/g	ND	0.020	5584536	ND	0.020	5584536
Toluene	ug/g	ND	0.020	5584536	ND	0.020	5584536
Ethylbenzene	ug/g	ND	0.020	5584536	ND	0.020	5584536
o-Xylene	ug/g	ND	0.020	5584536	ND	0.020	5584536
p+m-Xylene	ug/g	ND	0.040	5584536	ND	0.040	5584536
Total Xylenes	ug/g	ND	0.040	5584536	ND	0.040	5584536
F1 (C6-C10)	ug/g	ND	10	5584536	ND	10	5584536
F1 (C6-C10) - BTEX	ug/g	ND	10	5584536	ND	10	5584536
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	ND	10	5584372			
F3 (C16-C34 Hydrocarbons)	ug/g	ND	50	5584372			
F4 (C34-C50 Hydrocarbons)	ug/g	ND	50	5584372			
Reached Baseline at C50	ug/g	Yes		5584372			
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	107		5584536	110		5584536
4-Bromofluorobenzene	%	69		5584536	66		5584536
D10-Ethylbenzene	%	85		5584536	90		5584536
D4-1,2-Dichloroethane	%	110		5584536	111		5584536
o-Terphenyl	%	90		5584372			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		GYI077		
Sampling Date		2018/06/11 16:05		
COC Number		668368-01-01		
	UNITS	**S-11139891-061118-NC-001**	**RDL**	**QC Batch**
PCBs				
Aroclor 1242	ug/g	ND	0.010	5584375
Aroclor 1248	ug/g	ND	0.010	5584375
Aroclor 1254	ug/g	ND	0.010	5584375
Aroclor 1260	ug/g	ND	0.010	5584375
Total PCB	ug/g	ND	0.010	5584375
Surrogate Recovery (%)				
Decachlorobiphenyl	%	89		5584375

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

ORGANOCHLORINATED PESTICIDES BY GC-ECD (SOIL)

Maxxam ID		GYI078	GYI079	GYI080	GYI081		
Sampling Date		2018/06/11 19:40	2018/06/11 19:45	2018/06/11 19:50	2018/06/11 19:55		
COC Number		668368-01-01	668368-01-01	668368-01-01	668368-01-01		
	UNITS	S-11139891-061118-NC-002	S-11139891-061118-NC-003	S-11139891-061118-NC-004	S-11139891-061118-NC-005	RDL	QC Batch
Calculated Parameters							
Chlordane (Total)	ug/g	ND	ND	ND	ND	0.0020	5582776
o,p-DDD + p,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5582776
o,p-DDE + p,p-DDE	ug/g	0.0058	0.0043	0.0039	ND	0.0020	5582776
o,p-DDT + p,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5582776
Total Endosulfan	ug/g	ND	ND	ND	ND	0.0020	5582776
Total PCB	ug/g	ND	ND	ND	ND	0.015	5582776
Pesticides & Herbicides							
Aldrin	ug/g	ND	ND	ND	ND	0.0020	5585397
a-Chlordane	ug/g	ND	ND	ND	ND	0.0020	5585397
g-Chlordane	ug/g	ND	ND	ND	ND	0.0020	5585397
o,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5585397
o,p-DDE	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDE	ug/g	0.0058	0.0043	0.0039	ND	0.0020	5585397
o,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5585397
Dieldrin	ug/g	ND	ND	ND	ND	0.0020	5585397
Lindane	ug/g	ND	ND	ND	ND	0.0020	5585397
Endosulfan I (alpha)	ug/g	ND	ND	ND	ND	0.0020	5585397
Endosulfan II (beta)	ug/g	ND	ND	ND	ND	0.0020	5585397
Endrin	ug/g	ND	ND	ND	ND	0.0020	5585397
Heptachlor	ug/g	ND	ND	ND	ND	0.0020	5585397
Heptachlor epoxide	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachlorobenzene	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachlorobutadiene	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachloroethane	ug/g	ND	ND	ND	ND	0.0020	5585397
Methoxychlor	ug/g	ND	ND	ND	ND	0.0050	5585397
Surrogate Recovery (%)							
2,4,5,6-Tetrachloro-m-xylene	%	67	72	70	78		5585397
Decachlorobiphenyl	%	90	113	113	103		5585397

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

ORGANOCHLORINATED PESTICIDES BY GC-ECD (SOIL)

Maxxam ID		GYI082	GYI083	GYI084	GYI085		
Sampling Date		2018/06/11 20:55	2018/06/11 21:05	2018/06/11 20:50	2018/06/11 20:45		
COC Number		668368-01-01	668368-01-01	668368-01-01	668368-01-01		
	UNITS	S-11139891-061118-NC-006	S-11139891-061118-NC-007	S-11139891-061118-NC-008	S-11139891-061118-NC-009	RDL	QC Batch
Calculated Parameters							
Chlordane (Total)	ug/g	ND	ND	ND	ND	0.0020	5582776
o,p-DDD + p,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5582776
o,p-DDE + p,p-DDE	ug/g	0.0064	ND	0.0060	0.0023	0.0020	5582776
o,p-DDT + p,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5582776
Total Endosulfan	ug/g	ND	ND	ND	ND	0.0020	5582776
Total PCB	ug/g	ND	ND	ND	ND	0.015	5582776
Pesticides & Herbicides							
Aldrin	ug/g	ND	ND	ND	ND	0.0020	5585397
a-Chlordane	ug/g	ND	ND	ND	ND	0.0020	5585397
g-Chlordane	ug/g	ND	ND	ND	ND	0.0020	5585397
o,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5585397
o,p-DDE	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDE	ug/g	0.0064	ND	0.0060	0.0023	0.0020	5585397
o,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5585397
Dieldrin	ug/g	ND	ND	ND	ND	0.0020	5585397
Lindane	ug/g	ND	ND	ND	ND	0.0020	5585397
Endosulfan I (alpha)	ug/g	ND	ND	ND	ND	0.0020	5585397
Endosulfan II (beta)	ug/g	ND	ND	ND	ND	0.0020	5585397
Endrin	ug/g	ND	ND	ND	ND	0.0020	5585397
Heptachlor	ug/g	ND	ND	ND	ND	0.0020	5585397
Heptachlor epoxide	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachlorobenzene	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachlorobutadiene	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachloroethane	ug/g	ND	ND	ND	ND	0.0020	5585397
Methoxychlor	ug/g	ND	ND	ND	ND	0.0050	5585397
Surrogate Recovery (%)							
2,4,5,6-Tetrachloro-m-xylene	%	72	75	71	78		5585397
Decachlorobiphenyl	%	96	107	102	110		5585397

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

ORGANOCHLORINATED PESTICIDES BY GC-ECD (SOIL)

Maxxam ID		GYI086	GYI087	GYI088	GYI089		
Sampling Date		2018/06/11 20:35	2018/06/11 20:15	2018/06/11 20:05	2018/06/11 19:50		
COC Number		668368-02-01	668368-02-01	668368-02-01	668368-02-01		
	UNITS	S-11139891-061118-NC-010	S-11139891-061118-NC-011	S-11139891-061118-NC-012	S-11139891-061118-NC-013	RDL	QC Batch
Calculated Parameters							
Chlordane (Total)	ug/g	ND	ND	ND	ND	0.0020	5582776
o,p-DDD + p,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5582776
o,p-DDE + p,p-DDE	ug/g	0.0025	0.0084	ND	0.0042	0.0020	5582776
o,p-DDT + p,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5582776
Total Endosulfan	ug/g	ND	ND	ND	ND	0.0020	5582776
Total PCB	ug/g	ND	ND	ND	ND	0.015	5582776
Pesticides & Herbicides							
Aldrin	ug/g	ND	ND	ND	ND	0.0020	5585397
a-Chlordane	ug/g	ND	ND	ND	ND	0.0020	5585397
g-Chlordane	ug/g	ND	ND	ND	ND	0.0020	5585397
o,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDD	ug/g	ND	ND	ND	ND	0.0020	5585397
o,p-DDE	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDE	ug/g	0.0025	0.0084	ND	0.0042	0.0020	5585397
o,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5585397
p,p-DDT	ug/g	ND	ND	ND	ND	0.0020	5585397
Dieldrin	ug/g	ND	ND	ND	ND	0.0020	5585397
Lindane	ug/g	ND	ND	ND	ND	0.0020	5585397
Endosulfan I (alpha)	ug/g	ND	ND	ND	ND	0.0020	5585397
Endosulfan II (beta)	ug/g	ND	ND	ND	ND	0.0020	5585397
Endrin	ug/g	ND	ND	ND	ND	0.0020	5585397
Heptachlor	ug/g	ND	ND	ND	ND	0.0020	5585397
Heptachlor epoxide	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachlorobenzene	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachlorobutadiene	ug/g	ND	ND	ND	ND	0.0020	5585397
Hexachloroethane	ug/g	ND	ND	ND	ND	0.0020	5585397
Methoxychlor	ug/g	ND	ND	ND	ND	0.0050	5585397
Surrogate Recovery (%)							
2,4,5,6-Tetrachloro-m-xylene	%	75	72	69	77		5585397
Decachlorobiphenyl	%	109	98	92	94		5585397

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not detected

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

TEST SUMMARY

Maxxam ID: GYI077 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-001 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	5584536	N/A	2018/06/18	Joe Paino
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5584372	2018/06/16	2018/06/17	Zhiyue (Frank) Zhu
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
Polychlorinated Biphenyl in Soil	GC/ECD	5584375	2018/06/16	2018/06/18	Svitlana Shaula

Maxxam ID: GYI077 Dup **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-001 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	5584536	N/A	2018/06/18	Joe Paino

Maxxam ID: GYI078 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-002 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	5584536	N/A	2018/06/18	Joe Paino
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5584372	2018/06/16	2018/06/17	Zhiyue (Frank) Zhu
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI078 Dup **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-002 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann

Maxxam ID: GYI079 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-003 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI080 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-004 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

TEST SUMMARY

Maxxam ID: GYI080 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-004 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI081 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-005 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI082 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-006 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI083 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-007 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI084 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-008 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI085 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-009 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann

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GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

TEST SUMMARY

Maxxam ID: GYI085 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-009 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI086 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-010 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI087 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-011 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI088 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-012 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI089 **Collected:** 2018/06/11
Sample ID: S-11139891-061118-NC-013 **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5583989	N/A	2018/06/15	Jatinder Ghumann
OC Pesticides (Selected) & PCB	GC/ECD	5585397	2018/06/18	2018/06/19	Li Peng
OC Pesticides Summed Parameters	CALC	5582776	N/A	2018/06/16	Automated Statchk

Maxxam ID: GYI090 **Collected:** 2018/06/11
Sample ID: TRIP BLANK **Shipped:**
Matrix: Soil **Received:** 2018/06/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	5584536	N/A	2018/06/18	Joe Paino

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.3°C

Results relate only to the items tested.

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Maxxam Job #: B8E4043
Report Date: 2018/06/19

QUALITY ASSURANCE REPORT

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5584372	o-Terphenyl	2018/06/16	97	60 - 130	100	60 - 130	92	%		
5584375	Decachlorobiphenyl	2018/06/18	95	60 - 130	83	60 - 130	89	%		
5584536	1,4-Difluorobenzene	2018/06/18	101 (3)	60 - 140	103	60 - 140	106	%		
5584536	4-Bromofluorobenzene	2018/06/18	92 (3)	60 - 140	94	60 - 140	76	%		
5584536	D10-Ethylbenzene	2018/06/18	98 (3)	60 - 140	89	60 - 140	80	%		
5584536	D4-1,2-Dichloroethane	2018/06/18	103 (3)	60 - 140	104	60 - 140	107	%		
5585397	2,4,5,6-Tetrachloro-m-xylene	2018/06/19	71	50 - 130	67	50 - 130	74	%		
5585397	Decachlorobiphenyl	2018/06/19	109	50 - 130	110	50 - 130	111	%		
5583989	Moisture	2018/06/15							5.1 (1)	20
5584372	F2 (C10-C16 Hydrocarbons)	2018/06/17	99	50 - 130	101	80 - 120	ND, RDL=10	ug/g	2.3 (2)	30
5584372	F3 (C16-C34 Hydrocarbons)	2018/06/17	93	50 - 130	97	80 - 120	ND, RDL=50	ug/g	NC (2)	30
5584372	F4 (C34-C50 Hydrocarbons)	2018/06/17	98	50 - 130	96	80 - 120	ND, RDL=50	ug/g	NC (2)	30
5584375	Aroclor 1242	2018/06/18					ND, RDL=0.010	ug/g	NC (2)	50
5584375	Aroclor 1248	2018/06/18					ND, RDL=0.010	ug/g	NC (2)	50
5584375	Aroclor 1254	2018/06/18					ND, RDL=0.010	ug/g	NC (2)	50
5584375	Aroclor 1260	2018/06/18	116	60 - 130	107	60 - 130	ND, RDL=0.010	ug/g	NC (2)	50
5584375	Total PCB	2018/06/18	116	60 - 130	107	60 - 130	ND, RDL=0.010	ug/g	NC (2)	50
5584536	Benzene	2018/06/18	103 (3)	60 - 140	103	60 - 140	ND, RDL=0.020	ug/g	NC (4)	50
5584536	Ethylbenzene	2018/06/18	97 (3)	60 - 140	100	60 - 140	ND, RDL=0.020	ug/g	NC (4)	50
5584536	F1 (C6-C10) - BTEX	2018/06/18					ND, RDL=10	ug/g	NC (4)	30
5584536	F1 (C6-C10)	2018/06/18	73 (3)	60 - 140	83	80 - 120	ND, RDL=10	ug/g	NC (4)	30
5584536	o-Xylene	2018/06/18	103 (3)	60 - 140	104	60 - 140	ND, RDL=0.020	ug/g	NC (4)	50
5584536	p+m-Xylene	2018/06/18	103 (3)	60 - 140	106	60 - 140	ND, RDL=0.040	ug/g	NC (4)	50
5584536	Toluene	2018/06/18	91 (3)	60 - 140	93	60 - 140	ND, RDL=0.020	ug/g	NC (4)	50
5584536	Total Xylenes	2018/06/18					ND, RDL=0.040	ug/g	NC (4)	50
5585397	a-Chlordane	2018/06/19	87	50 - 130	88	50 - 130	ND, RDL=0.0020	ug/g		
5585397	Aldrin	2018/06/19	74	50 - 130	76	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	Dieldrin	2018/06/19	94	50 - 130	84	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	Endosulfan I (alpha)	2018/06/19	85	50 - 130	76	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	Endosulfan II (beta)	2018/06/19	58	50 - 130	77	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5585397	Endrin	2018/06/19	86	50 - 130	79	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	g-Chlordane	2018/06/19	86	50 - 130	84	50 - 130	ND, RDL=0.0020	ug/g		
5585397	Heptachlor epoxide	2018/06/19	88	50 - 130	70	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	Heptachlor	2018/06/19	80	50 - 130	75	50 - 130	ND, RDL=0.0020	ug/g		
5585397	Hexachlorobenzene	2018/06/19	76	50 - 130	84	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	Hexachlorobutadiene	2018/06/19	86	50 - 130	88	50 - 130	ND, RDL=0.0020	ug/g		
5585397	Hexachloroethane	2018/06/19	68	50 - 130	72	50 - 130	ND, RDL=0.0020	ug/g		
5585397	Lindane	2018/06/19	69	50 - 130	71	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	Methoxychlor	2018/06/19	79	50 - 130	84	50 - 130	ND, RDL=0.0050	ug/g	NC (2)	40
5585397	o,p-DDD	2018/06/19	105	50 - 130	104	50 - 130	ND, RDL=0.0020	ug/g		
5585397	o,p-DDE	2018/06/19	90	50 - 130	87	50 - 130	ND, RDL=0.0020	ug/g		
5585397	o,p-DDT	2018/06/19	85	50 - 130	80	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40
5585397	p,p-DDD	2018/06/19	85	50 - 130	80	50 - 130	ND, RDL=0.0020	ug/g		
5585397	p,p-DDE	2018/06/19	100	50 - 130	88	50 - 130	ND, RDL=0.0020	ug/g		
5585397	p,p-DDT	2018/06/19	86	50 - 130	74	50 - 130	ND, RDL=0.0020	ug/g	NC (2)	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID [GYI078-02]

(2) Duplicate Parent ID

(3) Matrix Spike Parent ID [GYI077-03]

(4) Duplicate Parent ID [GYI077-03]

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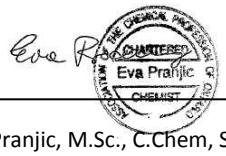
Maxxam Job #: B8E4043
Report Date: 2018/06/19

GHD Limited
Client Project #: 11139891-2.2.5
Your P.O. #: 73511983
Sampler Initials: NC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO: SAME AS ENVOICE		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#3000 GHD Limited	Company Name:		Quotation #:	B80174	Maxxam Job #:	Bottle Order #:
Attention:	Jennifer Balkwill	Attention:		P.O. #:	73511983		668368
Address:	651 Colby Dr Waterloo ON N2V 1C2	Address:		Project:	11139891-2.2.5	COC #:	Project Manager:
Tel:	(519) 884-7780 Ext: 3599 Fax: (519) 725-1394	Tel:	Fax:	Project Name:		C#668368-01-01	Tanya Fidlin
Email:	Jennifer.Balkwill@ghd.com, NationalEDDsupport@max	Email:		Site #:			
				Sampled By:	N. Coyne		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☐ PWQO ☐ Other ___	

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

12-Jun-18 14:55
Tanya Fidlin
B8E4043
VMK ENV-1227

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Petroleum Hydrocarbons: BTEX/F1-F4	O.Reg 153 PCBs	O.Reg 153 OC Pesticides excl. OCs	Petroleum Hydrocarbons CCME F1 & BTEX	# of Bottles	Comments
1		S-11139891-06[11]18-NC-001	June 11	16:05	SOIL		X	X		X	4	change w/ M. J. Balkwill regarding since we are doing O.Reg 153. BTEX
2		S-11139891-06[11]18-NC-002	June 11	19:40	SOIL		X	NC	X	X	4	↓ No PCBs ↓
3		S-11139891-06[11]18-NC-003	June 11	19:45	SOIL				X		1	
4		S-11139891-06[11]18-NC-004	June 11	19:50	SOIL				X		1	
5		S-11139891-06[11]18-NC-005	June 11	19:55	SOIL				X		1	
6		S-11139891-06[11]18-NC-006	June 11	20:55	SOIL				X		1	
7		S-11139891-06[11]18-NC-007	June 11	21:05	SOIL				X		1	
8		S-11139891-06[11]18-NC-008	June 11	20:50	SOIL				X		1	
9		S-11139891-06[11]18-NC-009	June 11	20:45	SOIL				X		1	
10		S-11139891-06[11]18-NC-010	June 11	20:35	SOIL				X		1	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Nicholas Coyne	18/06/12	17:51	BRENDA WOODWARD Brenda Woodward	2018/06/12	14:55	
BRENDA WOODWARD Brenda Woodward	2018/06/13	10:00	Rajni PARAMSER SINGH	2018/06/13	13:03	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	3°/3°/4°C	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT HTTP://MAXXAM.CA/WP-CONTENT/UPLOADS/ONTARIO-COC.PDF.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

White: Maxxa Yellow: Client

2/3/5

MW #449509

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CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO: SAME AS INVOICE		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#3000 GHD Limited	Company Name:		Quotation #:	B80174	Maxxam Job #:	Bottle Order #: 668368
Attention:	Jennifer Balkwill	Attention:		P.O. #:	73511983		
Address:	651 Colby Dr Waterloo ON N2V 1C2	Address:		Project:	11139891-2.2.5	COC #: C#668368-02-01	Project Manager: Tanya Fidlin
Tel:	(519) 884-7780 Ext: 3599 Fax: (519) 725-1394	Tel:	Fax:	Project Name:			
Email:	Jennifer.Balkwill@ghd.com, NationalEDDsupport@max	Email:		Site #:			
				Sampled By:	N. Coyne		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☐ PWQO ☐ Other ___	

Include Criteria on Certificate of Analysis (Y/N)? ___

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Petroleum Hydrocarbons, BTEX/F1-F4	O.Reg 153 PCBs	O.Reg 153 OC Pesticides excl. OCs	Petroleum Hydrocarbons CCME F1 & BTEX	# of Bottles	Comments
1		S-11139891-06-18-NC-011	Jun 11	20:10	SOIL				X		1	
2		S-11139891-06-18-NC-012	Jun 11	20:05	SOIL				X		1	
3		S-11139891-06-18-NC-013	Jun 11	19:50	SOIL				X		1	
4		S-11139891-06-18-NC-			SOIL						NC	
5		S-11139891-06-18-NC-			SOIL						NC	
6		S-11139891-06-18-NC-			SOIL						NC	
7		S-11139891-06-18-NC-			SOIL						NC	
8		S-11139891-06-18-NC-			SOIL						NC	
9		TRIP BLANK	Jun 11							X	2	
10												

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: X
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Nicholas Coyne	18/06/12	19:51	BRENDA Woodward Brenda Woodward	2018/06/12	14:55	
Brenda Woodward	2018/06/13	10:00	SEE PAGE 1			

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	3.3 / 4°C	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.

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SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

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Maxxam Analytics International Corporation o/a Maxxam Analytics

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

Warren Croft
warren.croft@ghd.com
416.866.2359

Nick Cole
nick.cole@ghd.com
289.374.3781

www.ghd.com

DRAFT