HADDAD GEOTECHNICAL INC.

Geotechnical & Environmental Engineers

Phase Two Environmental Site Assessment
591 Liverpool Road
Pickering, Ontario

PRIVILEGED AND CONFIDENTIAL

Prepared for:

Pickering Harbour Company Limited
c/o The Biglieri Group
20 Leslie Street, Suite 121
Toronto, Ontario
M4M 3L4

Project: 16-11612

May 11, 2017

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Pickering Harbour Company Limited
c/o The Biglieri Group
20 Leslie Street, Suite 121
Toronto, Ontario
M4M 3L4

Attention: Ms. Melinda Holland

Re: Phase Two Environmental Site Assessment
591 Liverpool Road,
Pickering, Ontario

Further to your authorization, Haddad Geotechnical Inc. has conducted a Phase Two environmental site assessment of the above-noted property. The results of our assessment, with our site observations, results of laboratory testing, confirmation of remediation of the site, comments and recommendations are presented in the following report.

We trust that the information presented in this report satisfies your present requirements. Should you require further information, please contact our office.

Yours very truly,
HADDAD GEOTECHNICAL INC.

Golnaz Arab, Ph.D.

D. Graham Fisher, M.E.Sc., P. Eng., QP_{ESA}

Encs.
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Phase Two Environmental Site Assessment
591 Liverpool Road, Pickering, Ontario

Executive Summary

Haddad Geotechnical Inc. was authorized by Pickering Harbour Company Limited to conduct a Phase Two Environmental Site Assessment of the above noted property. It is understood that the Client proposed to redevelop the subject property for a combined residential and commercial development. It is also understood that the present assessment is required for purpose of site documentation and preliminary planning and that the Client does not require the completion of a Record of Site Condition (RSC) for the subject site, in accordance with Ontario Regulation 153/04 (amended by 511/09), at this time.

The purpose of a Phase Two Environmental Site Assessment is to further delineate the presence and/or extent of contamination on a subject property, and is accomplished primarily by collecting and analyzing samples of the materials present on a site. For the subject site, the purpose of the current Phase Two assessment is to provide a general overview of the potential environmental concerns which were identified by Phase One Environmental Site Assessment of the property.

The results of the Phase One Environmental Site Assessment of the subject site and adjacent properties indicated that there was potential contaminating activities (PCAs) indicated on the Phase One property, and beyond the boundaries of the Phase One property, within the Phase One study area, summarized as follows:

On-Site Potential Contaminating Activities, PCAs:

- The Pickering Harbour Company Limited at 591 Liverpool Road has a registered waste generator (Generator # ON2249997) of aliphatic solvents and residues, waste crankcase oils and lubricants, petroleum distillates, and light fuels from 2004 onwards.
- Coolwater Farms Limited was a registered waste generator (Generator # ON1766100) of light fuels, waste oils & lubricants and pharmaceutical from 1993 to 2001 on the Phase One property.
- Reported presence of two retail fuel storage tanks on the property.
- Two Scott's manufacturing directory reports regarding the animal aquaculture on 1986 and plastic product manufacturing, pump and compressor manufacturing, and doll, toy and game manufacturing on 1998.

Off-Site Potential Contaminating Activities, PCAs:

- TSSA pipeline incident at 631 Liverpool Road, 224m north of northwest of the property and upgradient of the Phase One property, in July 2016. *Potential for impact on soils and groundwater in below the Phase One study area.*
- Reported presence of two retail fuel storage tanks in 590 Liverpool Road.

Based on the above PCAs, it was our recommendation that there was sufficient

uncertainty of the environmental condition of the subject property to warrant that further environmental site assessment (Phase Two) be conducted. Analysis plan was developed to investigate soil and groundwater condition at the property to identify any potential contaminants of concern associated with the Petroleum Hydrocarbons (PHCs, F1-F4), Polycyclic Aromatic Hydrocarbon (PAHs), Volatile Organic Compounds (VOCs), metals and inorganics.

The fieldwork at the site was carried out on February 13th to 16th 2017, which included the advancement of ten sampled boreholes and installation of three monitoring well within the identified APECs, and collection of soil samples for chemical analyses for the above noted potential contaminants. The boreholes extended to depths ranging between 5±m to 12±m below existing grades in exterior areas. Samples of soil and groundwater were collected from the site and submitted to Maxxam Analytics Inc. in Mississauga for chemical analyses.

The applicable assessment criteria from Ontario Regulation 153/04 (as amended) for the assessment of analysis data of testing of soil and groundwater samples was made on the following basis:

- The site is not considered to be sensitive, based on the definition set in Ontario Regulation 153/04.
- Groundwater in the vicinity of the subject property in the City of Toronto is considered to be potable.
- Full depth restoration is to be used.
- The subject property is to be redeveloped for residential and commercial uses.
- The subsoils below the site may be considered to be medium/ fine grained soil on the basis of results of gradation analyses.

In light of the above, the criteria selected for the project is Ontario Ministry of the Environment (MOE), “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act”, April 15, 2011, Table No. 1, “Full Depth Background Site Condition Standards is assumed for areas of the site within 30m of the edge of water in the existing natural area, and Table No. 2, “Full Depth Generic Site Condition Standards (SCS) in a Potable Water Condition”, for sites in Residential/Park land/ Institutional Property use with coarse grained soil is assumed for the remainder of the site.

Based on the results obtained from chemical analysis of soil and groundwater samples, the subject property is in conformance with Ontario Ministry of the Environment (MOE), “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act”, April 15, 2011, Table No. 2, “Full Depth Generic Site Condition Standards in Potable Ground Water Condition”, for residential/park land/institutional uses, with the exception of one location, BH5, where conductivity of 1.1 mS/cm exceeds the Table 2 SCS of 0.7 mS/cm. This exceedance may be attributed to use of salt on the parking area of the site, for control of snow and ice.

Based on the results obtained from chemical analysis of soil and groundwater samples, the subject property is in conformance with Ontario Ministry of the Environment (MOE), “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act”, April 15, 2011, Table No. 1, “Background Site Condition Standards”, for residential/park land/institutional uses, with the exception of several locations where conductivity and petroleum hydrocarbons, F2 and F4 phases. The Table 1 SCS is applicable to the portion of the site within 30m of the existing natural are to the east of the property. Only one of the above-noted exceedance, at borehole BH14, where lies with the 30m of the existing natural area to the east of the site, one location, BH5, where only petroleum hydrocarbons F4 phase of

1190 µg/g exceeds the Table 1 SCS of 120µg/g.

On the above basis, excavation and removal of soils found to exceed the applicable site condition standard in each area of the site, followed by confirmatory sampling will be required prior to submission of a Record of Site Condition for the property.

Table of Contents

Phase Two Environmental Site Assessment
591 Liverpool Road
Pickering, Ontario

1. INTRODUCTION

1.1 Site Description

1. The property under consideration, 591 Liverpool Road, is located along the east (nominal) side of Liverpool Road, in the City of Pickering, as indicated on the Key Plan, Drawing No. 1. The UTM coordinates for the approximate centre of the site are 654,427 E and 4,852,971 N.

2. The Phase One property has irregular shape, with driveway access from Liverpool Road at the west side of the property. The property has total approximate area of 4.45 acres (1.8 Ha). The property is primarily used as a parking lot.

3. The property was surrounded by fences from east, south, and north sides and covered by marsh and hedges on the east side. Lake Ontario was located on the south side of the property.

4. The property identification number (PIN) is 26326-0159 (LT).

1.2 Applicable Site Condition Standards

1. The applicable assessment criteria from Ontario Regulation 153/04 (as amended) for the assessment of analysis data of testing of soil and groundwater samples was made on the following basis:
   - The easterly section of the site lies adjacent to and within 30m of an existing natural area (see Drawing No. 1). This section of the site is considered to be environmentally sensitive, based on the definition set in Ontario Regulation 153/04.
   - The reminder of the site beyond the setback of 30m from the edge of water of the existing natural area is not considered to be sensitive, based on the definition set in Ontario Regulation 153/04.
   - Groundwater in the vicinity of the subject property in the City of Pickering is considered to be non-potable, however, the site is located in close proximity to Lake Ontario which is used for drinking water supply at locations beyond the City of Pickering.
   - Full depth restoration is to be used.
   - The subject property is to be redeveloped for residential/park land/institutional property use.

2. In light of the above, the criteria selected for the project is Ontario Ministry of the Environment (MOE), “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act”, April 15, 2011, Table No. 1, “Full Depth Background Site Condition Standards is assumed for areas of the site within 30m of the edge of water in the existing natural area, and Table No. 2, “Full Depth Generic Site Condition Standards in a Potable Water Condition”, for sites in Residential/Park land/ Institutional Property use with

coarse grained soil is assumed for the remainder of the site.

2. BACKGROUND INFORMATION

2.1 Physical Setting

1. The Phase Two property is located along the east (nominal) side of Liverpool Road, in the City of Pickering, as indicated on the Key Plan, Drawing No. 1. The UTM coordinates for the approximate centre of the site are 654,427 E and 4,852,971 N.

2. The Phase One property has an irregular shape, with driveway access from Liverpool Road at the west side of the property. The property has total approximate area of 4.45 acres (1.8 Ha). The property is primarily used as a vehicle parking lot and seasonal storage yard for boats, with an existing building in the north-central area of the site being used for office and storage.

3. The topography of the Phase One property generally slopes from northwest to southeast.

4. The property was surrounded by fences from east, south, and north sides and covered by marsh and hedges on the east side. Lake Ontario was located to the south side of the property. A natural area, with body of water is located along the east side of the site.

2.2 Previous Investigations/Assessments

1. A Phase One Environmental Site Assessment (ESA) of the subject property was carried out by Haddad Geotechnical Inc., dated March 17, 2017 (Ref. 3).

2.3 Identified issues

1. The Phase One ESA of the subject property identified several potential contaminating activities (PCAs) at the subject site and adjacent properties which could be contributing to areas of potential environmental concern (APECs) are summarized as follows:

On-Site Potential Contaminating Activities, PCAs:

- The Pickering Harbour Company Limited at 591 Liverpool Road has a registered waste generator (Generator # ON2249997) of aliphatic solvents and residues, waste crankcase oils and lubricants, petroleum distillates, and light fuels from 2004 onwards.
- Coolwater Farms Limited was a registered waste generator (Generator # ON1766100) of light fuels, waste oils & lubricants and pharmaceutical from 1993 to 2001 on the Phase One property.
- Reported presence of two retail fuel storage tanks on the property.
- Two Scott's manufacturing directory reports regarding the animal aquaculture on 1986 and plastic product manufacturing, pump and compressor manufacturing, and doll, toy and game manufacturing on 1998.

Off-Site Potential Contaminating Activities, PCAs:

- TSSA pipeline incident at 631 Liverpool Road, 224m north of northwest of the property and upgradient of the Phase One property, in July 2016. *Potential for impact on soils and groundwater in below the Phase One study area.*
- Reported presence of two retail fuel storage tanks in 590 Liverpool Road.

2.4 Measurements to Address Identified Issues

1. Based on the finding of the Phase One ESA, it was determined that the scope of the Phase Two ESA is to include advancement of boreholes and installation of monitoring wells, and sampling of soil and groundwater for chemical analysis for Petroleum Hydrocarbons (PHCs, F1-F4), Polycyclic Aromatic Hydrocarbon (PAHs), Volatile Organic Compounds (VOCs) and metals.

3. SCOPE OF THE INVESTIGATION

3.1 Overview of the Investigation

1. The fieldwork at the site to date was carried on February 13th,14th, 15th, and 16th 2017. The field work was conducted concurrently with a geotechnical investigation of the site.

2. A total of fourteen boreholes were conducted on the site, at the locations as presented on the Borehole Location Plan, Drawing No. 1.

3. Drilling of boreholes and installation of monitoring wells were carried out by Strong Drilling and was supervised by Saam Rostampour, under direction of Graham Fisher, P.Eng., QPESA, of Haddad Geotechnical Inc. A total of ten (10) boreholes were carried out with installation of monitoring wells at three locations. The boreholes were labeled BH1 to BH14.

4. The boreholes were advanced using a track-mounted, Powerprobe CME55 HT drilling equipment employing solid stem augers. The sampling of soils was carried out with a split spoon sampler, driven by a 140-lb hammer, falling 30" (760mm). Sampling was conducted at 0.76±m intervals from surface to 3m below grade.

5. Monitoring wells were installed at Borehole locations 1, 2, and 6 for measurement of groundwater levels and to obtain samples of groundwater for chemical analysis. The monitoring wells were developed by purging to remove three volumes of water prior sampling of groundwater. A summary of well construction details is presented in Table No. 1.

6. Detailed descriptions of the subsoil and groundwater conditions encountered, details of monitoring wells, groundwater levels, locations and depths of samples for chemical analysis are presented in the Borehole logs, Drawing Nos. 2 to 11.

7. The surface elevations at the Borehole locations are referenced to the top of the catch basin in the east side of the Liverpool Road and north side of the existing entrance of the subject site, elevation 76.98±m, as indicated on Site Plan Drawing No.1, as per the site survey plan prepared J. D. Barnes Limited.

8. The samples of soil and groundwater were submitted to Maxxam Analytics Inc. in Mississauga for chemical analysis.

9. Chemical analysis of representative samples of soils obtained from the boreholes was conducted for Petroleum Hydrocarbons (PHCs, F1-F4), Polycyclic Aromatic Hydrocarbon (PAHs), Volatile Organic Compounds (VOCs) and metals.

10. Chemical analysis of samples of groundwater obtained from the monitoring wells was

conducted for Petroleum Hydrocarbons (PHCs, F1-F4), Polycyclic Aromatic Hydrocarbon (PAHs), Volatile Organic Compounds (VOCs) and metals.

11. Headspace measurements of combustible vapours were carried out for the soil samples obtained from the boreholes, using a MiniRAE 2000 volatile organic compound and hydrocarbon detection meter (PID), with the results of the measurements for each sample being presented on the Borehole Logs.

12. The results of gradation analyses of representative samples of the soils encountered below the site are presented on Drawing No. 12, 13, and 14.

3.2 Media Investigated

1. The media investigated below the site include soil layers, fill materials, and underlying natural soils, as well as groundwater.

2. The rationale for the borehole locations and depths of the assessment is as follows:

Borehole Nos.	Rationale for Borehole Location
BH1 / MW1	Located in east portion of the site, in the area of the proposed building B. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics. Chemical analysis of groundwater samples for VOC, PAH, metals, and inorganics.
BH2/MW2	Located in south portion of the site, in the area of the proposed building C. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics. Chemical analysis of groundwater samples for VOC, PAH, metals, and inorganics.
BH5	Located in west portion of the site, in the area of the proposed building B. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.
BH6/MW6	Located in northwest portion of the site, in the area of the proposed building A. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics. Chemical analysis of groundwater samples for VOC, PAH, metals, and inorganics.
BH7	Located in north portion of the site, in the area of the proposed building A. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.
BH9	Located in east portion of the site, in the area of the proposed building B. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.
BH10	Located in west portion of the site, in the area of the proposed building A. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.
BH11	Located almost in the centre portion of the site. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.
BH12	Located almost in the centre portion of the site. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.
BH14	Located in southeast portion of the site, in the east side of the proposed building C. Sampling and testing of soil samples for PHCs, VOCs, PAHs, metal and inorganics.

3.3 Analytical Testing

1. Chemical analyses of soil and groundwater samples were conducted by Maxxam Analytics Inc., in Mississauga, Ontario.

2. A listing of samples collected for analysis is presented in Table Nos. 3 and 4 in the Figures & Tables section of this report.

3.4 Residue Management

1. Residues, including drill spoils from the drilling operations and water purged from wells were retained on the subject site in steel drums, pending receipt of results of chemical analysis of soil and groundwater samples.

3.5 Quality Assurance and Quality Control Measures

1. Soil samples were bottled in sealed glass jars and vials and were placed in coolers with ice packs pending delivery to Maxxam Analytics Inc. Samples were delivered to the analysis lab as soon as possible after collection.

2. Sample jars were individually labeled with the project number, site address, borehole location and sample number, as well as requested chemical analysis for each sample.

3. Between each sampling event by the dual tube sampler, the sampler was washed using a solution of water and dish detergent, then rinsed with water, before and after each sampling event, in order to minimize potential cross-contamination. A new, clear inner tube sample was inserted for each sampling event.

4. For groundwater sampling at monitoring wells MW-1, MW-2, and MW-3, new 5/8" Waterra® High Density Tubing (HDPE) and foot-pump were used every purging and sampling event. New tubing was used for the bladder pump and multi-probe units for each sampling event.

5. Trip Blanks were ordered from Maxxam Analytics Inc. lab for purpose of QA/QC.

6. The Trip Blank consisted of six 40mL glass vials and two 500mL amber glass jars filled with distilled water and sealed at the lab with custody seals. The samples travelled with the containers to be used for sampling groundwater at the Site, to the Site and back to the lab without being opened.

7. The Trip Blank was submitted for analysis of groundwater samples for Volatile Organic Compounds (VOCs).

4. FINDINGS

4.1 Description of Site Geology

1. Detailed descriptions of subsoil conditions are presented on Borehole Logs, Appendix A.

2. The surficial materials at Borehole Nos. 1, 2, 5, 11 and 14 were observed to consist of gravel surface and/or granular materials. The surficial materials at Borehole Nos. 7 and 9 were observed to consist of top soil and organic materials.

3. Fill materials, consisting of sand and gravels with some silt, and occasional organic stains, in moist to wet condition, very loose to medium compact state, being brown to dark brown with grey seams in colour, were encountered below the surficial materials at Borehole locations 6, 7, 9, 10 and 12 and below the upper fill materials at Borehole locations 1, 2, 5, 11 and 14.

4. These fill materials extended to depths ranging from 2.2±m to 4.2±m below existing grades.

5. Layers of dark brown to black peat and/or organic materials in wet condition were observed within fill materials at Borehole locations 1, 2, 9, 12 and 14.

6. Natural, stiff to very stiff, sandy clayey silt subsoils with trace gravels were observed to underlay the fill materials at Borehole location 1.

7. Natural, medium dense to very dense, silty sand subsoils with trace to some clay and trace to some gravels were observed to underlay the fill materials at Borehole locations 2, 5, 6, 10 to 12 and 14 and the upper native subsoils at Borehole locations 1 and 9.

8. Natural, medium dense to very dense, gravely silty sand subsoils with trace clay were observed to underlay the fill materials at Borehole locations 7 and 9 and the upper native subsoils at Borehole location 2.

9. Weathered shale bedrock and refusal of split spoon sampler was encounter to underlay the native subsoils at depths ranging from 7.6±m to 10.7±m below existing grades (i.e. elevations varying from 66.4±m to 69.2±m) at Borehole locations 1, 2, 5 to 7 and 9.

10. Coring of the bedrock was conducted below depth of 12.15±m below existing grade, at Borehole No. 1, using NXL core barrel, and NW casing.

11. The bedrock was observed to consist primarily of grey shale (Georgian Bay formation, Dundas unit), with limestone bands up to 65mm thickness.

12. The bedrock to depth 18.15±m (elevations 58.9±m) below existing grade at Borehole No. 1, indicated recoveries of 92% to 98% and R.Q.D. of less than 80%, being fair to good condition of the bedrock.

4.2 Groundwater Elevation and Flow Directions

1. Upon completion of drilling operations at Borehole Nos. 1, 2, 5, 6, 7, 9, 10, 11, 12 and 14, water rose to the depths ranging from 1.2±m to 10.7±m below existing grade, as indicated on the borehole logs, Drawing Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11, respectively.

2. Monitoring wells MW1, MW2 and MW3 were installed by Haddad Geotechnical Inc., adjacent to three sampled borehole locations (i.e. BH Nos. 1, 2 and 6) to depths 6±m, 5.8±m and 6.2±m below existing grades, respectively, at the approximate location as shown on the Borehole Location Plan, Drawing No. 1. A summary of well construction details is presented in Table No. 1.

3. The monitoring wells were developed by purging to remove three volumes of water prior sampling of groundwater.

4. A summary of water level measurements is presented on Table No. 2. The static water

levels measured at the monitoring wells on March 22, 2017, were at 2.3m depth (elevation 74.8m) at MW1, 1.86m (elevation 72.2m) at MW2, and 1.85m depth (elevation 75.2m) at MW3. Water level measurements on May 10, 2017, indicated that the water levels had risen to 1.45m depth (elevation 75.6m) at MW1 and 0.32m depth (elevation 76.8m) at MW2,

5. The observed groundwater levels indicate a direction of groundwater flow from west to east.

6. The measured static water levels on March 22, 2017 are similar to average water levels on Lake Ontario and Frenchman's Bay adjacent to the site. The measurements of water levels on May 10, 2017 were conducted after several days of rainfall and are representative of seasonally high groundwater levels.

4.3 Fine-Medium or Coarse-Grained Soil Texture

1. The laboratory analysis of borehole samples carried out included the determination of moisture contents for all samples, with results as presented on the Borehole Logs, Appendix A.

2. The findings of gradation analyses of the natural subsoils are also presented in Appendix A.

3. The results of the gradation analyses carried out on the upper native subsoils sample obtained from Borehole No. 1 indicated 4% gravels, 30% sand, 39% silt and 27% clay.

4. The results of the gradation analyses carried out on the upper and lower native subsoils samples obtained from Borehole Nos. 1, 5, 6, 9 and 10 indicated 8% to 17% gravels, 36% to 54% sand, 27% to 36% silt and 9% to 13% clay.

5. The results of the gradation analyses carried out on the upper and lower native subsoils samples obtained from Borehole Nos. 2, 7, 9 and 14 indicated 23% to 30% gravels, 43% to 60% sand, 10% to 24% silt and 3% to 6% clay.

6. On the basis of the above gradation analyses, the majority of the soils underlying the site may be considered to be coarse-grained.

4.4 Soil Quality

1. Representative soil samples encountered in the boreholes were submitted to Maxxam Analytics Inc., with samples analysed for Petroleum Hydrocarbons (F1-F4), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), metals and inorganics.

2. A listing of the soil samples, with location, depth range, sample description, result of on-site screening measurements, and analyses conducted are presented in Table No. 3 for soil samples obtained from the site.

3. Results of the analysis are presented in the Certificates of Analysis presented by Maxxam Analytics Laboratories Ltd., which are included in Appendix B. The results of the chemical analyses of soils samples are summarized on Table No. 4 to No. 8.

4. The chemical analysis of soil samples indicated that the measured concentrations of all parameters at the all borehole locations, were found to be within the Table 1 (2011)

Background site condition standards for properties in residential/parkland/institutional uses, with several exceptions as noted in Table No 10.

5. The chemical analysis of soil samples indicated that the measured concentrations of all parameters at the all borehole locations, were found to be within the Table 2 (2011) site condition standards, coarse soils, for properties in residential/parkland/institutional uses, with the exception of sample 11612-1602-01, obtained from BH5, SS0, 0 – 0.6m depth. for which Conductivity measurements of 1.1mS/cm exceed the Table 2 SCS of 0.7mS/cm. (see Table No. 11).

4.5 Groundwater Quality

1. Representative groundwater samples were obtained from Monitoring Wells and were submitted to Maxxam Analytics Inc., with samples analysed for Petroleum Hydrocarbons (F1-F4), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), and inorganics.

2. A listing of the groundwater samples, with location, sample description, and analyses conducted are presented in Table No. 4.

3. Results of the analysis are presented in the Certificates of Analysis presented by Maxxam Analytics Inc., which are included in Appendix B. The results of the chemical analyses of groundwater samples are summarized on Table No. 9.

4. The chemical analysis of groundwater samples indicated that the measured concentrations of all parameters at the all monitoring well locations, were found to be within the Table 2 (2011) limits, potable groundwater for all uses.

5. The chemical analysis of groundwater samples indicated that the measured concentrations of all parameters at the all monitoring well locations, were found to be within the Table 1 (2011) Background site condition standard, with exception of copper which exceeds the Table 1 SCS at each of the monitoring wells.

4.6 Quality Assurance and Quality Control

1. The overall quality of field data from the investigation did not affect decision making in the selection and analysis of samples. The overall objectives of the investigation and the assessment were met.

5. CONCLUSIONS

1. Based on the results obtained from chemical analysis of soil and groundwater samples, the subject property is in conformance with Ontario Ministry of the Environment (MOE), “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act”, April 15, 2011, Table No. 2, “Full Depth Generic Site Condition Standards in Potable Ground Water Condition”, for residential/park land/institutional uses, with the exception of one location, BH5, where conductivity of 1.1 mS/cm exceeds the Table 2 SCS of 0.7 mS/cm. This exceedance may be attributed to use of salt on the parking are of the site, for control of snow and ice.

2. Based on the results obtained from chemical analysis of soil and groundwater samples, the subject property is in conformance with Ontario Ministry of the Environment (MOE), “Soil,

Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", April 15, 2011, Table No. 1, "Background Site Condition Standards", for residential/park land/institutional uses, with the exception of several locations where conductivity and petroleum hydrocarbons, F2 and F4 phases. The Table 1 SCS is applicable to the portion of the site within 30m of the existing natural are to the east of the property. Only one of the above-noted exceedance, at borehole BH14, where lies with the 30m of the existing natural area to the east of the site, one location, BH5, where only petroleum hydrocarbons F4 phase of 1190 µg/g exceeds the Table 1 SCS of 120µg/g.

3. On the above basis, excavation and removal of soils found to exceed the applicable site condition standard in each area of the site, followed by confirmatory sampling will be required prior to submission of a Record of Site Condition for the property.

6. QUALIFICATIONS OF ENVIRONMENTAL ASSESSOR

1. The current Phase Two Environmental Site Assessment was conducted by Ms. Golnaz Arab, PhD., under the supervision of Mr. D. Graham Fisher, M.E.Sc., P.Eng, QP_{ESA}.

2. Ms. Arab has over five years of experience in environmental engineering, including environmental site assessments, solid waste management, remediation and process design.

3. Ms. Arab holds Ph.D. degree in Environmental Engineering, from the University of Alberta, Canada (2017). She also holds degree of Bachelor of Science, Civil Engineering, from Mazandran University, Iran (2007), and Masters of Science, Environmental Engineering, from K.N. Toosi University of Technology, Iran (2010).

4. Mr. Fisher has been the President of Haddad Geotechnical Inc. since 1988, and has over twenty-five years of professional engineering experience, in Alberta and Ontario, in a wide range of geotechnical and environmental engineering projects, including site assessment and remediation.

5. Mr. Fisher holds degrees of Bachelor of Engineering Science in Civil Engineering (1979) and Master of Engineering Science in Geotechnical Engineering (1982), both from the University of Western Ontario. Mr. Fisher is a registered Professional Engineer in the Province of Ontario since 1984, and a designated Consulting Engineer since 1990.

6. Mr. Fisher is recognized as a Qualified Person by Ontario Ministry of the Environment for purpose of submitting Record of Site Condition.

7. REPORT LIMITATIONS

1. It should be noted that the information, observations, and recommendations presented in this report are of a general nature only, and are limited to the exposed areas on the site, portions of the surrounding sites visible from the subject site and public areas. Should additional information become apparent upon access to restricted areas, excavation or construction, or further investigation, our office should be contacted so that the situation may be reassessed and alternate recommendations made, if deemed necessary.

2. The Phase Two Environmental Site Assessment was prepared for the exclusive use of The Pickering Harbour Company Limited.

3. The information provided and recommendations presented in this report reflect the best judgement of Haddad Geotechnical Inc. in light of the information available to it at the time of preparation. Any use which third parties, other than those named above, makes of this report or any reliance on or decisions to be based on it are the responsibility of those third parties. Haddad Geotechnical Inc. accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

4. This report is meant to provide a summary of the investigation and requirements for remedial activities and does not present a complete Phase Two Environmental Site Assessment in accordance with Ontario Regulation 153/04 Record of Site Condition Standard.

We trust that the information presented in this report satisfies your present requirements. Should you require further information, please contact our office.

Yours very truly,
HADDAD GEOTECHNICAL INC.

Golnaz Arab, Ph.D.

D. Graham Fisher, M.E.Sc., P. Eng., QP_{ESA}

Encs.
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8. REFERENCES

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.

2. Canadian Standards Association (CSA) Z769-00 guideline for Phase II Environmental Site Assessment.

3. “Phase One Environmental Site Assessment, 591 Liverpool Road, Pickering, Ontario”, prepared for Pickering Harbour Company Limited, by Haddad Geotechnical Inc., Project No. 16-11612, March 17, 2017.

FIGURES & TABLES

Table No. 1
Summary of Well Construction Details

Well	MW1	MW2	MW3
Installation Date	02/14/17	02/14/17	02/14/17
Grade Elevation, m	99.35	99.38	99.35
Screened interval, m	3.0-6.0	3.0-6.0	3.0-6.0
Screen length, m	3.0	3.0	3.0
Riser length, m	3.0	3.0	3.0
Sand Backfill, m	0.5-6.0	0.3-6.0	0.3-6.0
Bentonite Backfill, m	0.0-0.5	0.0-0.3	0.0-0.3
Well Tag Number	n/a		

Table No. 2
Water Level Measurements in Wells

Monitoring Well (BH) No.	Existing Grade Elevation, ±m	Reading on March 22, 2017		Reading on May 10, 2017		Soils
		Depth, ±m	Groundwater Elevation at or below, ±m	Depth, ±m	Groundwater Elevation at or below, ±m	
MW1-BH1	77.07	2.3	74.8	1.45	75.6	Fill Materials
MW2-BH2	77.1	1.86	75.2	0.32	76.8	Fill Materials
MW3-BH6	77.07	1.87	75.2	No Reading		Fill Materials

Table No. 3
List of Soil Samples Submitted for Chemical Analyses

Date Sampled	COC #	COC Sample No.	Borehole, Sample	Depth, ft	Maxxam ID	Metals + Inorganics	PHCs F1	PHCs F2-F4	VOCs	PAHs
Feb 13 2017	61770	11612-1302-01	BH2, SS1	2.5-4.5	DXG850	1	1	1	1	1
		11612-1302-02	BH2, SS3	7.5-9.5	DXG851	-	1	1	1	-
		11612-1302-03	BH9, SS1	2.5-4.5	DXG852	1	1	1	1	1
		11612-1302-04	BH9, SS2	2.5-4.5	DXG853	1	1	1	1	-
		11612-1302-05	BH12, SS1	2.5-4.5	DXG854	1	1	1	1	1
		11612-1302-06	BH12, SS5	12.5-14.5	DXG855	1	-	-	-	1
		11612-1302-07	BH12, SS3	7.5-9.5	DXG856	-	1	1	1	-
		11612-1302-08	BH14, SS1	2.5-4.5	DXG857	1	1	1	1	1
		11612-1302-09	BH14, SS5	12.5-15	DXG858	1	1	1	1	1
Feb 14, 2017	76418	11612-1402-01	BH7, SS1	2.5-4.5	DXG506	1	1	1	1	1
		11612-1402-02	BH7, SS4	10-12.5	DXG507	1	1	1	1	-
		11612-1402-03	BH7, SS1 FD	2.5-4.5	DXG508	1	-	-	-	1
		11612-1402-04	BH7, SS4 FD	10-12	DXG509	-	1	1	1	-
		11612-1402-05	BH6, SS6	15-17	DXG510	1	1	1	1	1
		11612-1402-06	BH6, SS1	2.5-4.5	DXG511	-	1	1	1	-
		11612-1402-07	BH6, SS2	5-7	DXG512	1	-	1	1	1
		11612-1402-08	BH11, SS1	2.5-4.5	DXG513	1	1	-	-	1
		Trip blank			DXG514	-	1	-	1	-
Feb 15, 2017	61705	11612-1502-01	BH1, SS1	2.5-4.5	DXQ026	1	-	-	-	-
		11612-1502-02	BH1, SS3	7.5-10	DXQ027	-	1	1	1	-
		Trip blank			DXQ028	-	1	1	1	-
Feb 16, 2017	76420	11612-1602-01	BH5, SS0	0-2	DXU919	1	1	1	1	1
		11612-1602-03	BH5, SS0 FD	0-2	DXU921	1	1	1	1	1
		11612-1602-02	BH5, SS6	15-17	DXU920	-	1	1	1	-
		11612-1602-04	BH5, SS6 FD	15-17	DXU922	-	1	1	1	-
		11612-1602-05	BH10, SS2	5-7	DXU923	1	-	-	-	1
		11612-1602-06	BH10, SS4	10-12	DXU924	-	1	1	1	-
		11612-1602-07	Trip blank		DXU925	-	1	1	1	-
Total # samples						17	22	22	23	14

Table No. 4
List of Groundwater Samples Submitted for Chemical Analysis

Borehole & Monitoring Well	Haddad Sample ID	Maxxam Lab No.	Chemical Analyses
BH1- MW1	11612-2303-MW01	B759104	Ontario Regulation 153 VOC, PAH, PHC, metals, and inorganics.
Bh2-MW2	11612-2303-MW02	B759104	Ontario Regulation 153 VOC, PAH, PHC, metals, and inorganics.
BH2-MW2 Duplicate	11612-2303-MW04	B759104	Ontario Regulation 153 VOC, PAH, PHC, metals, and inorganics.
BH6-MW3	11612-2303-MW03	B759104	Ontario Regulation 153 VOC, PAH, PHC, metals, and inorganics.

Table No. 5a – Summary of Results of Chemical Analyses of Soil Samples (VOC)

Sample ID	RDL	11612-1302-01	11612-1302-02	11612-1302-03	11612-1302-04	11612-1302-05	11612-1302-07	11612-1302-08	11612-1302-09	TRIP BLANK	Guideline	
Borehole & Sample No.		BH2, SS1	BH2 SS3	BH9, SS1	BH9 SS2	BH12, SS1	BH12, SS3	BH14, SS1	BH14, SS5			
Laboratory ID / Guideline ID		DXG850	DXG851	DXG852	DXG853	DXG854	DXG856	DXG857	DXG858	DXG859	2011 Table 1 Background	2011 Table 2- Potable GW
Maxxam Job #		B730394	B730394	B730394	B730394	B730394	B730394	B730394	B730394	B730394	Res/Park/ Inst/	Res/Park/ Inst
Sampling Date		13-02-17	13-02-17	13-02-17	13-02-17	13-02-17	13-02-17	13-02-17	13-02-17	13-02-17		
Units	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Acetone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	16
Benzene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.21
Bromodichloromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.5
Bromoform	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.27
Bromomethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Carbon Tetrachloride	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Chlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.4
Chloroform	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Dibromochloromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.3
1,2-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.2
1,3-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	4.8
1,4-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.083
1,1-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.47
1,2-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
1,1-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Cis-1,2-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.9
Trans-1,2-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.084
1,2-Dichloropropane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Cis-1,3-Dichloropropylene	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	NV	NV
Trans-1,3-Dichloropropylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	NV	NV
Ethylbenzene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	1.1
Ethylene Dibromide	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Methyl Ethyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	16
Methylene Chloride	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.1
Methyl Isobutyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	1.7
Methyl-t-Butyl Ether	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.75
Styrene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.7
1,1,1,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.058
1,1,2,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Toluene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2	2.3
Tetrachloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.28
1,1,1-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.38
1,1,2-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Trichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.061
Vinyl Chloride	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.02
m-Xylene & p-Xylene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
o-Xylene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
Total Xylenes	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	3.1
Dichlorodifluoromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	16
Dioxane, 1,4-	-	-	-	-	-	-	-	-	-	-	0.2	1.8
Hexane(n)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.8
Trichlorofluoromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	4
1,3-Dichloropropene (cis + trans)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05

Table No. 5b - Summary of Results of Chemical Analyses of Soil Samples (VOC)

Sample ID	RDL	11612-1402-01	11612-1402-02	11612-1402-04	11612-1402-05	11612-1402-06	11612-1402-07	TRIP BLANK	Guideline	
Borehole / Sample No.		BH7, SS1	BH7, SS4	BH7, SS4 FD	BH6 SS6	BH6, SS1	BH6, SS2			
Laboratory ID / Guideline ID		DXJ506	DXJ507	DXJ509	DXJ510	DXJ511	DXJ512	DXJ514		
Maxxam Job #		B730975	B730975	B730975	B730975	B730975	B730975	B730975	2011 Table 1 Background	2011 Table 2- Potable GW
Sampling Date		14-02-17	14-02-17	14-02-17	14-02-17	14-02-17	14-02-17	14-02-17	Res/Park/ Inst/Ind/ Comm/Comm'ty	Res/Park/ Inst
Units	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Acetone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	16
Benzene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.21
Bromodichloromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.5
Bromoform	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.27
Bromomethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Carbon Tetrachloride	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Chlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.4
Chloroform	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Dibromochloromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.3
1,2-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.2
1,3-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	4.8
1,4-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.083
1,1-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.47
1,2-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
1,1-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Cis-1,2-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.9
Trans-1,2-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.084
1,2-Dichloropropane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Cis-1,3-Dichloropropylene	NV	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	NV	NV
Trans-1,3-Dichloropropylene	NV	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	NV	NV
Ethylbenzene	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	1.1
Ethylene Dibromide	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Methyl Ethyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	16
Methylene Chloride	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.1
Methyl Isobutyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	1.7
Methyl-t-Butyl Ether	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.75
Styrene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.7
1,1,1,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.058
1,1,2,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Toluene	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2	2.3
Tetrachloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.28
1,1,1-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.38
1,1,2-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Trichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.061
Vinyl Chloride	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.02
m-Xylene & p-Xylene	NV	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
o-Xylene	NV	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
Total Xylenes	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	3.1
Dichlorodifluoromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	16
Dioxane, 1,4-	0.2	-	-	-	-	-	-	-	0.2	1.8
Hexane(n)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.8
Trichlorofluoromethane	0.25	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	4
1,3-Dichloropropene (cis + trans)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	0.05	0.05

Table No. 5c
Summary of Results of Chemical Analyses of Soil Samples (VOCs).

Sample ID	RDL	11612-1502-02	TRIP BLANK	Guideline	
Borehole / Sample No.		BH1, SS3			
Laboratory ID / Guideline ID		DXQ027	DXQ028	2011 Table 1- Background	2011 Table 2- Potable
Maxxam Job #		B732439	B732439	Res/Park/ Inst/Ind/ Comm/Comm'ty	Res/Park/ Inst
Sampling Date		15-February-2017			
Units	µg/g	µg/g	µg/g	µg/g	µg/g
Acetone	0.5	<0.50	<0.50	0.5	16
Benzene	0.02	<0.020	<0.020	0.02	0.21
Bromodichloromethane	0.05	<0.050	<0.050	0.05	1.5
Bromoform	0.05	<0.050	<0.050	0.05	0.27
Bromomethane	0.05	<0.050	<0.050	0.05	0.05
Carbon Tetrachloride	0.05	<0.050	<0.050	0.05	0.05
Chlorobenzene	0.05	<0.050	<0.050	0.05	2.4
Chloroform	0.05	<0.050	<0.050	0.05	0.05
Dibromochloromethane	0.05	<0.050	<0.050	0.05	2.3
1,2-Dichlorobenzene	0.05	<0.050	<0.050	0.05	1.2
1,3-Dichlorobenzene	0.05	<0.050	<0.050	0.05	4.8
1,4-Dichlorobenzene	0.05	<0.050	<0.050	0.05	0.083
1,1-Dichloroethane	0.05	<0.050	<0.050	0.05	0.47
1,2-Dichloroethane	0.05	<0.050	<0.050	0.05	0.05
1,1-Dichloroethylene	0.05	<0.050	<0.050	0.05	0.05
Cis-1,2-Dichloroethylene	0.05	<0.050	<0.050	0.05	1.9
Trans-1,2-Dichloroethylene	0.05	<0.050	<0.050	0.05	0.084
1,2-Dichloropropane	0.05	<0.050	<0.050	0.05	0.05
Cis-1,3-Dichloropropylene	NV	<0.030	<0.030	NV	NV
Trans-1,3-Dichloropropylene	NV	<0.040	<0.040	NV	NV
Ethylbenzene	0.05	<0.020	<0.020	0.05	1.1
Ethylene Dibromide	0.05	<0.050	<0.050	0.05	0.05
Methyl Ethyl Ketone	0.5	<0.50	<0.50	0.5	16
Methylene Chloride	0.05	<0.050	<0.050	0.05	0.1
Methyl Isobutyl Ketone	0.5	<0.50	<0.50	0.5	1.7
Methyl-t-Butyl Ether	0.05	<0.050	<0.050	0.05	0.75
Styrene	0.05	<0.050	<0.050	0.05	0.7
1,1,1,2-Tetrachloroethane	0.05	<0.050	<0.050	0.05	0.058
1,1,2,2-Tetrachloroethane	0.05	<0.050	<0.050	0.05	0.05
Toluene	0.2	<0.020	<0.020	0.2	2.3
Tetrachloroethylene	0.05	<0.050	<0.050	0.05	0.28
1,1,1-Trichloroethane	0.05	<0.050	<0.050	0.05	0.38
1,1,2-Trichloroethane	0.05	<0.050	<0.050	0.05	0.05
Trichloroethylene	0.05	<0.050	<0.050	0.05	0.061
Vinyl Chloride	0.02	<0.020	<0.020	0.02	0.02
m-Xylene & p-Xylene	NV	<0.020	<0.020	NV	NV
o-Xylene	NV	<0.020	<0.020	NV	NV
Total Xylenes	0.05	<0.020	<0.020	0.05	3.1
Dichlorodifluoromethane	0.05	<0.050	<0.050	0.05	16
Dioxane, 1,4-	0.2	-	-	0.2	1.8
Hexane(n)	0.05	<0.050	<0.050	0.05	2.8
Trichlorofluoromethane	0.25	<0.050	<0.050	0.05	4
1,3-Dichloropropene (cis + trans)	0.05	<0.050	<0.050	0.05	0.05

Table No. 5d
Summary of Results of Chemical Analyses of Soil Samples (VOCs).

Sample ID	RDL	11612-1602-01	11612-1602-02	11612-1602-03	11612-1602-04	11612-1602-06	11612-1602-07	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/ Inst Coarse
Borehole / Sample No.		**BH5, SS0**	**BH5, SS6**	**BH5, SS0 FD**	**BH5, SS6 FD**	**BH10, SS4**	**Trip Blank**		
Laboratory ID / Guideline ID		**DXU919**	**DXU920**	**DXU921**	**DXU922**	**DXU924**	**DXU925**		
Maxxam Job #		**B733580**	**B733580**	**B733580**	**B733580**	**B733580**	**B733580**		
Sampling Date		**16-02-17**	**16-02-17**	**16-02-17**	**16-02-17**	**16-02-17**	**16-02-17**		
Units	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**
Acetone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	16
Benzene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.21
Bromodichloromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.5
Bromoform	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.27
Bromomethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Carbon Tetrachloride	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Chlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.4
Chloroform	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Dibromochloromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.3
1,2-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.2
1,3-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	4.8
1,4-Dichlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.083
1,1-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.47
1,2-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
1,1-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Cis-1,2-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	1.9
Trans-1,2-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.084
1,2-Dichloropropane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Cis-1,3-Dichloropropylene	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	NV	NV
Trans-1,3-Dichloropropylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	NV	NV
Ethylbenzene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	1.1
Ethylene Dibromide	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Methyl Ethyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	16
Methylene Chloride	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.1
Methyl Isobutyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	1.7
Methyl-t-Butyl Ether	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.75
Styrene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.7
1,1,1,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.058
1,1,2,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Toluene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2	2.3
Tetrachloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.28
1,1,1-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.38
1,1,2-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
Trichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.061
Vinyl Chloride	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.02
m-Xylene & p-Xylene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
o-Xylene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
Total Xylenes	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	3.1
Dichlorodifluoromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	2.8
Hexane(n)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	4
Trichlorofluoromethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05	0.05
1,3-Dichloropropene (cis + trans)		<0.050	<0.050	-	<0.050	<0.050	<0.050	0.05	0.05

Table No. 6a
Summary of Results of Chemical Analyses of Soil Samples (Metals +Inorganics).

Sample ID	Units	RDL	11612-1302-01	11612-1302-03	11612-1302-04	11612-1302-05	11612-1302-06	11612-1302-08	11612-1302-09	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/Inst Coarse Soils
Borehole / Sample No.			**BH2, SS1**	**BH9, SS1**	**BH9, SS2**	**BH12, SS1**	**BH12, SS5**	**BH14, SS1**	**BH14, SS5**		
Laboratory ID / Guideline ID			**DXG850**	**DXG852**	**DXG853**	**DXG854**	**DXG855**	**DXG857**	**DXG858**		
Maxxam Job #			**B730394**	**B730394**	**B730394**	**B730394**	**B730394**	**B730394**	**B730394**		
Sampling Date			**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**		
Antimony	µg/g	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.3	7.5
Arsenic	µg/g	1	2.3	2.3	4.1	2	3.6	2.1	3.9	18	18
Barium	µg/g	0.5	37	89	39	100	39	90	38	220	390
Beryllium	µg/g	0.2	0.22	0.51	0.4	0.6	0.38	0.51	0.37	2.5	4
Boron (Hot Water Soluble)	µg/g	0.05	0.29	0.22	0.096	0.3	<0.050	0.47	<0.050	NV	1.5
Cadmium	µg/g	0.1	<0.10	0.13	<0.10	0.22	0.11	0.2	<0.10	1.2	1.2
Chromium	µg/g	1	9.5	18	11	22	11	19	12	70	160
Chromium VI	µg/g	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.66	8
Cobalt	µg/g	0.1	2.9	7	9.5	7.6	12	6.8	9.6	21	22
Copper	µg/g	0.5	9.7	17	23	17	19	18	20	92	140
Lead	µg/g	1	17	11	17	26	15	18	14	120	120
Mercury	µg/g	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.27	0.27
Molybdenum	µg/g	0.5	<0.50	<0.50	1	<0.50	0.83	0.53	0.94	2	6.9
Nickel	µg/g	0.5	6.5	16	21	17	25	15	20	82	100
Selenium	µg/g	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	2.4
Silver	µg/g	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Thallium	µg/g	0.05	0.063	0.17	0.19	0.18	0.24	0.17	0.24	1	20
Vanadium	µg/g	5	13	26	20	31	20	28	21	86	85
Zinc	µg/g	5	28	47	38	62	51	59	36	290	340
pH			10.4	7.28	7.69	7.2	7.71	7.95	7.66	NV	
Conductivity	mS/cm	0.002	**0.61**	0.27	0.15	0.24	0.13	0.37	0.13	0.57	0.7
Sodium Adsorption Ratio	N/A		0.58	0.46	0.28	0.67	0.31	0.83	0.31	2.4	5
Cyanide, Free	µg/g	0.01	<0.01	0.02	<0.01	0.01	<0.01	0.02	<0.01	0.051	0.051
Boron (Total)	µg/g	5	<5.0	6.8	5.6	7	5.1	6.4	5.2	36	120
Uranium	µg/g	0.05	0.41	0.6	0.61	0.61	0.52	0.6	0.54	2.5	23

Table No. 6b
Summary of Results of Chemical Analyses of Soil Samples (Metals + Inorganics).

Sample ID	Units	RDL	11612-1402-01	11612-1402-02	11612-1402-03	11612-1402-05	11612-1402-07	11612-1402-08	11612-1502-01	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/Inst Coarse Soils
Borehole / Sample No.			**BH7, SS1**	**BH7, SS2**	**BH7, SS1 FD**	**BH6, SS6**	**BH5, SS2**	**BH11, SS1**	**BH1, SS3**		
Laboratory ID / Guideline ID			**DXJ506**	**DXJ507**	**DXJ508**	**DXJ510**	**DXJ512**	**DXJ513**	**DXQ026**		
Maxxam Job #			**B730975**	**B730975**	**B730975**	**B730975**	**B730975**	**B730975**	**B732439**		
Sampling Date			**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**	**15-02-17**		
Antimony	µg/g	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.3	7.5
Arsenic	µg/g	1	1.4	2.7	1.2	3.4	<1.0	1.3	1.8	18	18
Barium	µg/g	0.5	78	22	56	27	11	63	31	220	390
Beryllium	µg/g	0.2	0.38	0.28	0.3	0.28	<0.20	0.29	0.23	2.5	4
Boron (Hot Water Soluble)	µg/g	0.05	0.089	<0.050	0.066	0.066	0.14	<0.050	0.36	NV	1.5
Cadmium	µg/g	0.1	0.14	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	1.2	1.2
Chromium	µg/g	1	15	9.4	12	11	5.5	13	11	70	160
Chromium VI	µg/g	0.2	0.3	<0.2	0.2	<0.2	<0.2	0.3	<0.2	0.66	8
Cobalt	µg/g	0.1	4.9	5.9	3.8	6.8	1.9	4.6	3.4	21	22
Copper	µg/g	0.5	9.2	16	7.2	18	3.7	8.9	10	92	140
Lead	µg/g	1	5	9	4.2	11	2.7	4.2	11	120	120
Mercury	µg/g	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.27	0.27
Molybdenum	µg/g	0.5	<0.50	0.6	<0.50	0.64	<0.50	<0.50	0.66	2	6.9
Nickel	µg/g	0.5	11	14	8.4	17	4.3	9.6	8.7	82	100
Selenium	µg/g	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	2.4
Silver	µg/g	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Thallium	µg/g	0.05	0.088	0.098	0.076	0.13	<0.050	0.097	0.073	1	20
Vanadium	µg/g	5	22	16	19	16	15	20	15	86	85
Zinc	µg/g	5	35	26	31	29	11	26	42	290	340
pH			7.6	7.71	7.63	7.72	7.81	7.67	7.6	NV	
Conductivity	mS/cm	0.002	0.2	0.19	0.17	0.23	0.13	0.24	0.28	0.57	0.7
Sodium Adsorption Ratio	N/A		0.42	0.54	0.35	0.27	0.41	0.24	0.23	2.4	5
Cyanide, Free	µg/g	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.051	0.051
Boron (Total)	µg/g	5	7.5	<5.0	7	<5.0	<5.0	6.8	5	36	120
Uranium	µg/g	0.05	0.46	0.6	0.41	0.57	0.52	0.41	0.4	2.5	23

Table No. 6c
Summary of Results of Chemical Analyses of Soil Samples (Metals + Inorganics).

Sample ID	Units	RDL	11612-1602-01	11612-1602-03	11612-1602-05	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/Inst Coarse Soils
Borehole / Sample No.			BH5, SS0	BH5, SS0 FD	BH10, SS2		
Laboratory ID / Guideline ID			DXU919	DXU921	DXU923		
Maxxam Job #			**B733580**	**B733580**	**B733580**		
Sampling Date			**16-02-17**	**16-02-17**	**16-02-17**		
Antimony	µg/g	0.2	<0.20	<0.20	<0.20	1.3	7.5
Arsenic	µg/g	1	2.5	1.6	2.4	18	18
Barium	µg/g	0.5	74	22	80	220	390
Beryllium	µg/g	0.2	0.49	<0.20	0.5	2.5	4
Boron (Hot Water Soluble)	µg/g	0.05	0.46	0.37	0.16	NV	1.5
Cadmium	µg/g	0.1	0.15	0.1	0.11	1.2	1.2
Chromium	µg/g	1	22	8.3	18	70	160
Chromium VI	µg/g	0.2	**0.8**	<0.2	<0.2	0.66	8
Cobalt	µg/g	0.1	5	2.9	7.4	21	22
Copper	µg/g	0.5	14	7.7	15	92	140
Lead	µg/g	1	16	8.6	15	120	120
Mercury	µg/g	0.05	<0.050	<0.050	<0.050	0.27	0.27
Molybdenum	µg/g	0.5	0.57	0.8	<0.50	2	6.9
Nickel	µg/g	0.5	12	6.4	16	82	100
Selenium	µg/g	0.5	<0.50	<0.50	<0.50	1.5	2.4
Silver	µg/g	0.2	<0.20	<0.20	<0.20	0.5	0.2
Thallium	µg/g	0.05	0.099	0.061	0.15	1	20
Vanadium	µg/g	5	25	12	26	86	85
Zinc	µg/g	5	55	29	48	290	340
pH			11.8	8.99	7.78	NV	
Conductivity	mS/cm	0.002	**1.1**	0.27	0.3	0.57	0.7
Sodium Adsorption Ratio	N/A		0.55	0.23	0.43	2.4	5
Cyanide, Free	µg/g	0.01	<0.01	<0.01	<0.01	0.051	0.051
Boron (Total)	µg/g	5	12	<5.0	6	36	120
Uranium	µg/g	0.05	0.61	0.39	0.52	2.5	23

Table No. 7a
Summary of Results of Chemical Analyses of Soil Samples (PHCs, BTEX).

Sample ID	Units	RDL	11612-1302-01	11612-1302-02	11612-1302-03	11612-1302-04	11612-1302-05	11612-1302-06	11612-1302-08	11612-1302-09	TRIP BLANK	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/Inst Coarse Soils
Borehole / Sample No.			BH2, SS1	BH2, SS3	BH9, SS1	**BH9, SS2**	**BH12, SS1**	**BH12, SS5**	**BH14, SS1**	**BH14, SS4**			
Laboratory ID / Guideline ID			DXG850	DXG851	DXG852	DXG853	DXG854	DXG856	DXG857	DXG858	DXG859		
Maxxam Job #			**B730394**	**B730394**	**B730394**	**B730394**	**B730394**	**B730394**	**B730394**	**B730394**	**B730394**		
Sampling Date			**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**	**13-02-17**		
Benzene	µg/g	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.17
Toluene	µg/g	1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2	6
Ethylbenzene	µg/g	0.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	1.6
m/p xylenes	µg/g	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
o xylene	µg/g	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
Total Xylenes	µg/g	0.1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	25
F1 (C6-C10)	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	25	65
F1 (C6-C10) - BTEX	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	25	65
F2 (C10-C16)	µg/g	10	**17**	<10	<10	**47**	<10	<10	<10	<10	-	10	150
F3 (C16-C34)	µg/g	50	71	<50	<50	130	<50	<50	140	<50	-	240	1300
F4 (C34-C50)	µg/g	50	50	<50	<50	<50	<50	<50	**190**	<50	-	120	5600
Reached Baseline at C50	µg/g		NO	YES	YES	YES	YES	YES	NO	YES	-	NV	NV
F4 Gravimetric	µg/g	100	**140**	-	-	-	-	-	**1000**	-	-	120	5600

Table No. 7b
Summary of Results of Chemical Analyses of Soil Samples (PHCs, BTEX).

Sample ID	Units	RDL	11612-1402-01	11612-1402-02	11612-1402-04	11612-1402-05	11612-1402-06	11612-1402-07	TRIP BLANK	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/Inst Coarse Soils
Borehole / Sample No.			**BH7, SS1**	**BH7, SS4**	**BH7, SS4 FD**	**BH6 SS6**	**BH6, SS1**	**BH6, SS2**			
Laboratory ID / Guideline ID			**DXJ506**	**DXJ507**	**DXJ509**	**DXJ510**	**DXJ511**	**DXJ512**	**DXJ514**		
Maxxam Job #			**B730975**	**B730975**	**B730975**	**B730975**	**B730975**	**B730975**	**B730975**		
Sampling Date			**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**	**14-02-17**		
Benzene	µg/g	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.17
Toluene	µg/g	1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2	6
Ethylbenzene	µg/g	0.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	1.6
m/p xylenes	µg/g	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
o xylene	µg/g	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
Total Xylenes	µg/g	0.1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	25
F1 (C6-C10)	µg/g	10	<10	<10	<10	<10	<10	<10	<10	25	65
F1 (C6-C10) - BTEX	µg/g	10	<10	<10	<10	<10	<10	<10	<10	25	65
F2 (C10-C16)	µg/g	10	<10	**20**	**20**	**25**	<10	<10	-	10	150
F3 (C16-C34)	µg/g	50	<50	110	98	100	<50	<50	-	240	1300
F4 (C34-C50)	µg/g	50	<50	<50	<50	<50	<50	<50	-	120	5600
Reached Baseline at C50	µg/g		YES	YES	YES	YES	YES	YES	-	NV	NV
F4 Gravimetric	µg/g	100	-	-	-	-	-	-	-	120	5600

Table No. 7c
Summary of Results of Chemical Analyses of Soil Samples (PHCs, BTEX).

Sample ID	Units	RDL	11612-1502-02	TRIP BLANK	11612-1602-01	11612-1602-02	11612-1602-03	11612-1602-04	11612-1602-06	11612-1602-07	Guideline 2011 Table 1- Background Res/Park/ Inst/Ind/ Comm/Comm'ty	Guideline 2011 Table 2 Potable GW Res/Park/Inst Coarse Soils
Borehole / Sample No.			**BH7, SS1**		**BH5, SS0**	**BH5, SS6**	**BH5, SS0 FD**	**BH5, SS6 FD**	**BH10, SS4**	**Trip Blank**		
Laboratory ID / Guideline ID			**DXQ027**	**DXQ028**	**DXU919**	**DXU920**	**DXU921**	**DXU922**	**DXU924**	**DXU925**		
Maxxam Job #			**B732439**	**B732439**	**B733580**	**B733580**	**B733580**	**B733580**	**B733580**	**B733580**		
Sampling Date			**15-02-17**	**14-02-17**	**16-02-17**	**16-02-17**	**16-02-17**	**16-02-17**	**16-02-17**	**16-02-17**		
Benzene	µg/g	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.02	0.17
Toluene	µg/g	1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2	6
Ethylbenzene	µg/g	0.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	1.6
m/p xylenes	µg/g	0.2	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
o xylene	µg/g	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NV	NV
Total Xylenes	µg/g	0.1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05	25
F1 (C6-C10)	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	25	65
F1 (C6-C10) - BTEX	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	25	65
F2 (C10-C16)	µg/g	10	<10	-	<10	**49**	**26**	**48**	**22**	-	10	150
F3 (C16-C34)	µg/g	50	<50	-	<50	220	110	210	99	-	240	1300
F4 (C34-C50)	µg/g	50	<50	-	56	88	<50	82	<50	-	120	5600
Reached Baseline at C50	µg/g		NO	-	NO	YES	YES	NO	YES	-	NV	NV
F4 Gravimetric	µg/g	100	**150**	-	<100	-	-	<100	-	-	120	5600

Table No. 8a
Summary of Results of Chemical Analyses of Soil Samples (PAHs).

Sample ID	UNITS	RDL	11612-1302-01	11612-1302-03	11612-1302-05	11612-1302-06	11612-1302-08	11612-1302-09	Guideline 2011 Table 1 Background Res/Park/Inst
Borehole / Sample No.			BH2, SS1	BH9, SS1	BH9, SS2`	BH12, SS5	BH14, SS1	BH14, SS5	
Laboratory ID / Guideline ID			DXG850	DXG852	DXG854	DXG855	DXG857	DXG858	
Maxxam Job #			B730394	B730394	B730394	B730394	B730394	B730394	
Sampling Date			13-02-17	13-02-17	13-02-17	13-02-17	13-02-17	13-02-17	
Acenaphthene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.072
Acenaphthylene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.093
Anthracene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.16
Benzo(a)anthracene	µg/g	0.005	0.0083	<0.0050	<0.0050	<0.0050	0.012	<0.0050	0.36
Benzo(a)pyrene	µg/g	0.005	0.0069	<0.0050	<0.0050	<0.0050	0.015	<0.0050	0.3
Benzo(b/j)fluoranthene	µg/g	0.005	0.012	<0.0050	0.0071	<0.0050	0.025	<0.0050	0.47
Benzo(ghi)perylene	µg/g	0.005	0.0064	<0.0050	<0.0050	<0.0050	0.015	<0.0050	0.68
Benzo(k)fluoranthene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	0.0073	<0.0050	0.48
Chrysene	µg/g	0.005	0.012	<0.0050	<0.0050	<0.0050	0.014	<0.0050	2.8
Dibenzo(a,h)anthracene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.1
Fluoranthene	µg/g	0.005	0.024	<0.0050	0.007	<0.0050	0.031	<0.0050	0.56
Fluorene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.12
Indeno(1,2,3-cd)pyrene	µg/g	0.005	0.0053	<0.0050	<0.0050	<0.0050	0.017	<0.0050	0.23
1-Methylnaphthalene[1]	µg/g	0.005	<0.0050	<0.0050	<0.0050	0.015	<0.0050	<0.0050	0.59
2-Methylnaphthalene [1]	µg/g	0.005	0.0057	<0.0050	<0.0050	0.018	<0.0050	<0.0050	0.59
Naphthalene	µg/g	0.005	<0.0050	<0.0050	<0.0050	0.0061	<0.0050	<0.0050	0.09
Phenanthrene	µg/g	0.005	0.021	<0.0050	0.0052	0.014	0.014	<0.0050	0.69
Pyrene	µg/g	0.005	0.022	<0.0050	0.0065	<0.0050	0.025	<0.0050	1
Methylnaphthalene,2-(1-)	µg/g	0.0071	<0.0071	<0.0071	<0.0071	0.032	<0.0071	<0.0071	0.59

[1] The methylnaphthalene standards are applicable to both 1-Methylnaphthelene and 2-Methylnapthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

Table No. 8b
Summary of Results of Chemical Analyses of Soil Samples (PAHs).

Sample ID	UNITS	RDL	11612-1402-01	11612-1402-03	11612-1402-05	11612-1402-07	11612-1402-08	Guideline 2011 Table 1 Background Res/Park/Inst
Borehole / Sample No.			BH7, SS1	BH7, SS1 FD	BH6, SS6	BH6, SS2	BH11, SS1	
Laboratory ID / Guideline ID			DXJ506	DXJ508	DXJ510	DXJ512	DXJ513	
Maxxam Job #			B730975	B730975	B730975	B730975	B730975	
Sampling Date			14-02-17	14-02-17	14-02-17	14-02-17	14-02-17	
Acenaphthene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.072
Acenaphthylene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.093
Anthracene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.16
Benzo(a)anthracene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.36
Benzo(a)pyrene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.3
Benzo(b/j)fluoranthene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.47
Benzo(ghi)perylene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.68
Benzo(k)fluoranthene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.48
Chrysene	µg/g	0.005	<0.0050	<0.0050	0.015	<0.0050	<0.0050	2.8
Dibenzo(a,h)anthracene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.1
Fluoranthene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.56
Fluorene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.12
Indeno(1,2,3-cd)pyrene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.23
1-Methylnaphthalene[1]	µg/g	0.005	<0.0050	<0.0050	<0.0050	0.015	<0.0050	0.59
2-Methylnaphthalene [1]	µg/g	0.005	<0.0050	<0.0050	<0.0050	0.016	<0.0050	0.59
Naphthalene	µg/g	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.09
Phenanthrene	µg/g	0.005	<0.0050	<0.0050	<0.0050	0.009	<0.0050	0.69
Pyrene	µg/g	0.005	<0.0050	<0.0050	0.0061	<0.0050	<0.0050	1
Methylnaphthalene,2-(1-)	µg/g	0.0071	<0.0071	<0.0071	<0.0071	0.032	<0.0071	0.59

[1] The methylnaphthalene standards are applicable to both 1-Methylnaphthelene and 2-Methylnapthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

Table No. 8c
Summary of Results of Chemical Analyses of Soil Samples (PAHs).

Sample ID	UNITS	RDL	11612-1602-01	11612-1602-03	11612-1602-05	Guideline 2011 Table 1 Background Res/Park/Inst
Borehole / Sample No.			BH7, SS1	BH7, SS1 FD	BH6, SS6	
Laboratory ID / Guideline ID			DXU919	DXU921	DXU923	
Maxxam Job #			B733580	B733580	B733580	
Sampling Date			14-02-17	14-02-17	14-02-17	
Acenaphthene	µg/g	0.005	0.011	<0.0050	<0.0050	0.072
Acenaphthylene	µg/g	0.005	<0.0050	<0.0050	<0.0050	0.093
Anthracene	µg/g	0.005	0.029	<0.0050	<0.0050	0.16
Benzo(a)anthracene	µg/g	0.005	0.087	<0.0050	0.014	0.36
Benzo(a)pyrene	µg/g	0.005	0.077	<0.0050	0.014	0.3
Benzo(b/j)fluoranthene	µg/g	0.005	0.097	<0.0050	0.024	0.47
Benzo(ghi)perylene	µg/g	0.005	0.044	<0.0050	0.015	0.68
Benzo(k)fluoranthene	µg/g	0.005	0.034	<0.0050	0.0073	0.48
Chrysene	µg/g	0.005	0.075	<0.0050	0.014	2.8
Dibenzo(a,h)anthracene	µg/g	0.005	0.01	<0.0050	<0.0050	0.1
Fluoranthene	µg/g	0.005	0.23	<0.0050	0.023	0.56
Fluorene	µg/g	0.005	0.0095	<0.0050	<0.0050	0.12
Indeno(1,2,3-cd)pyrene	µg/g	0.005	0.047	<0.0050	0.016	0.23
1-Methylnaphthalene[1]	µg/g	0.005	0.025	<0.0050	<0.0050	0.59
2-Methylnaphthalene [1]	µg/g	0.005	0.032	<0.0050	<0.0050	0.59
Naphthalene	µg/g	0.005	0.015	<0.0050	<0.0050	0.09
Phenanthrene	µg/g	0.005	0.15	<0.0050	<0.0050	0.69
Pyrene	µg/g	0.005	0.18	<0.0050	0.022	1
Methylnaphthalene,2-(1-)	µg/g	0.0071	0.056	<0.0071	<0.0071	0.59

[1] The methylnaphthalene standards are applicable to both 1-Methylnaphthelene and 2-Methylnapthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

Table No. 9a
Summary of Results of Chemical Analyses of Groundwater Samples (VOCs, PHCs, CHLORIDE)

Sample ID			11612-2303-MW01	11612-2303-MW02	11612-2303-MW03	11612-2303-MW04	TRIP BLANK	Guideline	
Monitoring Well No.	Units	RDL	MW1	MW2	MW2-FD	MW3		2011 Table 1-Background All Types of Property Use Fine Grained	Table 2 Potable GW All Property Uses Coarse
Laboratory ID / Guideline ID			ECL965	ECL966	ECL967	ECL968	ECL969		
Maxxam Job #			B759104	B759104	B759104	B759104	B759104		
Sampling Date			23-03-17	23-03-17	23-03-17	23-03-17	23-03-17		
Acetone	µg/L	10	<11	<10	<10	<10	<10	2700	10
Benzene	µg/L	0.2	0.28	<0.20	<0.20	0.28	<0.20	0.5	0.2
Bromodichloromethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	2	0.5
Bromoform	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	5	1
Bromomethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.89	0.5
Carbon Tetrachloride	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.2	0.2
Chlorobenzene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Chloroform	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	2	0.2
Dibromochloromethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	2	0.5
1,2-Dichlorobenzene	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
1,3-Dichlorobenzene	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
1,4-Dichlorobenzene	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
1,1-Dichloroethane	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
1,2-Dichloroethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
1,1-Dichloroethylene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Cis-1,2-Dichloroethylene	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	0.5
Trans-1,2-Dichloroethylene	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	0.5
1,2-Dichloropropane	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Cis-1,3-Dichloropropylene	µg/L	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	NV	0.3
Trans-1,3-Dichloropropylene	µg/L	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	NV	0.4
Ethylbenzene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Ethylene Dibromide	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.2	0.2
Methyl Ethyl Ketone	µg/L	10	<10	<10	<10	<10	<10	400	10
Methylene Chloride	µg/L	2	<2.0	<2.0	<2.0	<2.0	<2.0	5	2
Methyl Isobutyl Ketone	µg/L	5	<5.0	<5.0	<5.0	<5.0	<5.0	640	5
Methyl-t-Butyl Ether	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	15	0.5
Styrene	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
1,1,1,2-Tetrachloroethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	1.1	0.5
1,1,2,2-Tetrachloroethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
Toluene	µg/L	0.2	0.44	<0.20	<0.20	0.41	<0.20	0.8	0.2
Tetrachloroethylene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
1,1,1-Trichloroethane	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
1,1,2-Trichloroethane	µg/L	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	0.5
Trichloroethylene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
Vinyl Chloride	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	0.2
m-Xylene & p-Xylene	µg/L	0.2	0.21	<0.20	<0.20	<0.20	<0.20	NV	0.2
o-Xylene	µg/L	0.2	0.78	<0.20	<0.20	0.74	<0.20	NV	0.2
Total Xylenes	µg/L	0.2	0.99	<0.20	<0.20	0.74	<0.20	72	0.2
Dichlorodifluoromethane	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0	590	1
Dioxane, 1,4-	µg/L		-	-	-	-	-	50	-
Hexane(n)	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0	5	1
Trichlorofluoromethane	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	150	0.5
1,3-Dichloropropene (cis + trans)	µg/L		<0.50	<0.50	<0.50	<0.50	-	0.5	0.5
Chloride	mg/L		74	78	320	73	-	790	790
F1 (C6-C10)	µg/L	25	43	<25	<25	36	<25	420	750
F1 (C6-C10) - BTEX	µg/L	25	41	<25	<25	35	<25	420	750
F2 (C10-C16)	µg/L	100	<100	<100	<100	<100	-	150	150
F3 (C16-C34)	µg/L	200	<200	<200	<200	<200	-	500	500
F4 (C34-C50)	µg/L	200	<200	<200	<200	<200	-	500	500
Reached Baseline at C50			YES	YES	YES	YES		NV	NV
F4 Gravimetric	µg/L	200	-	-	-	-	-	500	500

Table No. 9b
Summary of Results of Chemical Analyses of Groundwater Samples (PAHs)

Sample ID			11612-2303-MW01	11612-2303-MW02	11612-2303-MW03	11612-2303-MW04	Guideline	
Monitoring Well No.	Units	RDL	MW1	MW2	MW2-FD	MW3	2011 Table 1-Background All Types of Property Use Fine Grained	Table 2 Potable GW All Property Uses Coarse
Laboratory ID / Guideline ID			ECL965	ECL966	ECL967	ECL968		
Maxxam Job #			B759104	B759104	B759104	B759104		
Sampling Date			23-03-17	23-03-17	23-03-17	23-03-17		
Acenaphthene	µg/L	0.05	0.061	<0.050	<0.050	<0.050	4.1	4.1
Acenaphthylene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	1	1
Anthracene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.1	2.4
Benzo(a)anthracene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.2	1
Benzo(a)pyrene	µg/L	0.01	<0.010	<0.010	<0.010	<0.010	0.01	0.01
Benzo(b/j)fluoranthene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.1	0.1
Benzo(ghi)perylene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.2	0.2
Benzo(k)fluoranthene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.1	0.1
Chrysene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.1	0.1
Dibenzo(a,h)anthracene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.2	0.2
Fluoranthene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.4	0.41
Fluorene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	120	120
Indeno(1,2,3-cd)pyrene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.2	0.2
1-Methylnaphthalene[1]	µg/L	0.05	0.086	<0.050	<0.050	0.06	2	3.2
2-Methylnaphthalene [1]	µg/L	0.05	0.094	<0.050	<0.050	0.061	2	3.2
Naphthalene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	7	11
Phenanthrene	µg/L	0.03	0.051	<0.030	<0.030	<0.030	0.1	1
Pyrene	µg/L	0.05	<0.050	<0.050	<0.050	<0.050	0.2	4.1
Methylnaphthalene, 2-(1-)	µg/L	0.05	0.180	<0.050	<0.050	0.121	2	3.2

Table No. 9c
Summary of Results of Chemical Analyses of groundwater Samples (Metals + Inorganics)

Sample ID	Units	1611612-0326-MW1	1611612-0326-MW2	1611612-0326-MW3	1611612-0326-MW4	Guideline		RDL
Monitoring Well No.		MW1	MW2	MW2 (FD)	MW3			
Laboratory ID / Guideline ID		ECQ255	ECQ256	ECQ257	ECU716	2011 Table 1-Background	2011 Table 2-Potable GW	
Maxxam Job #		B759947	B759947	B759947	B759947	All Types of Property Use Coarse Grained		
Sampling Date		26-03-17	26-03-17	26-03-17	26-03-17			
Metals & inorganics								
Antimony	µg/L	<0.50	<0.50	<0.50	0.63	1.5	6	0.5
Arsenic	µg/L	<1.0	<1.0	<1.0	<1.0	13	25	1
Barium	µg/L	180	99	130	170	610	1000	2
Beryllium	µg/L	<0.50	<0.50	<0.50	<0.50	0.5	4	0.5
Boron	µg/L	44	<10	<10	42	1700	5000	10
Cadmium	µg/L	<0.10	<0.10	<0.10	<0.10	0.5	2.7	0.1
Chromium	µg/L	5.6	7.4	6.5	5.7	11	50	5
Chromium VI	µg/L	5.9	8	6.7	6.8	25	25	0.5
Cobalt	µg/L	1.6	2.6	1.1	1.6	3.8	3.8	0.5
Copper	µg/L	**12**	**58**	**9.6**	**15**	5	87	1
Lead	µg/L	<0.50	<0.50	<0.50	<0.50	1.9	10	0.5
Mercury	µg/L	<0.1	<0.1	<0.1	<0.1	0.1	0.29	0.1
Molybdenum	µg/L	14	9.8	12	14	23	70	0.5
Nickel	µg/L	2.8	6.7	1.8	3.1	14	100	1
Sodium	µg/L	160000	46000	180000	150000	490000	490000	100
Selenium	µg/L	<2.0	<2.0	<2.0	<2.0	5	10	2
Silver	µg/L	<0.10	<0.10	<0.10	<0.10	0.3	1.5	0.1
Thallium	µg/L	<0.050	<0.050	<0.050	<0.050	0.5	2	0.05
Vanadium	µg/L	1.2	0.86	<0.50	1.2	3.9	6.2	0.5
Zinc	µg/L	<5.0	<5.0	<5.0	<5.0	160	1100	5
Cyanide, Free	µg/L	<1	<1	<1	<1	5	66	1
Nitrate	mg/L	-	-	-	-	NV	NV	-
Nitrite	mg/L	-	-	-	-	NV	NV	-
Chloride	mg/L	-	-	-	-	790	790	-
Uranium	µg/L	<0.10	<0.10	<0.10	<0.10	8.9	20	0.1

Table No. 10
Summary of Borehole Soil Samples with Measured Concentrations Exceeding MOE (2011) Table 1 Background Criteria for Residential/Parkland/Institutional Property Uses

Sample Number and Location	Depth Range, m	Maxxam Lab ID	Parameter (MOE Table 1 Background Criteria for Residential Property Use	Sample Concentration [µg/g]
11612-1302-01 BH2, SS1	0.76-1.4	DXG850	Conductivity (0.57) PHCs F2 (10) PHCs F4 (120)	0.61 17 50+140 = 190
11612-1302-04 BH9, SS2	1.5 – 2.1	DXG853	PHCs F2 (10)	47
11612-1302-08 BH14, SS1	0.76 – 1.4	DXG857	PHCs F4 (120)	190 + 1000 = 1190
11612-1402-02 BH7, SS4	3.0 - 3.6	DXJ507	PHCs F2 (10)	20
11612-1402-04 BH7, SS4 FIELD DUPLICATE	3.0 - 3.6	DXJ509	PHCs F2 (10)	20
11612-1402-05 BH6, SS6	6.1 – 6.6	DXJ510	PHCs F2 (10)	25
11612-1502-02 BH7, SS1	0.75 -1.4	DXQ027	PHCS F4 (120)	150
11612-1602-01 BH5, SS0	0.0 – 0.6	DXU919	Conductivity (0.57) Chromium VI (0.66)	1.1 0.8
11612-1602-02 BH5, SS6	6.1 – 6.6	DXU920	PHCs F2 (10)	49
11612-1602-03 BH5, SS0 FIELD DUPLICATE	0.0 - 0.6	DXU921	PHCs F2 (10)	26
11612-1602-04 BH5, SS6 FIELD DUPLICATE	6.1 – 6.6	DXU922	PHCs F2 (10)	48
11612-1602-06 BH10, SS4	3.0 - 3.6	DXU924	PHCs F2 (10)	22

Table No. 11
Summary of Borehole Soil Samples with Measured Concentrations exceeding MOE (2011) Table 2 Potable Groundwater for Residential/Parkland/Institutional Property Uses

Sample Number and Location	Depth Range, m	Maxxam Lab ID	Parameter (MOE Table 1 Background Criteria for Residential Property Use	Sample Concentration [µg/g]
11612-1602-01 BH5, SS0	0.0 – 0.6	DXU919	Conductivity (0.7)	1.1

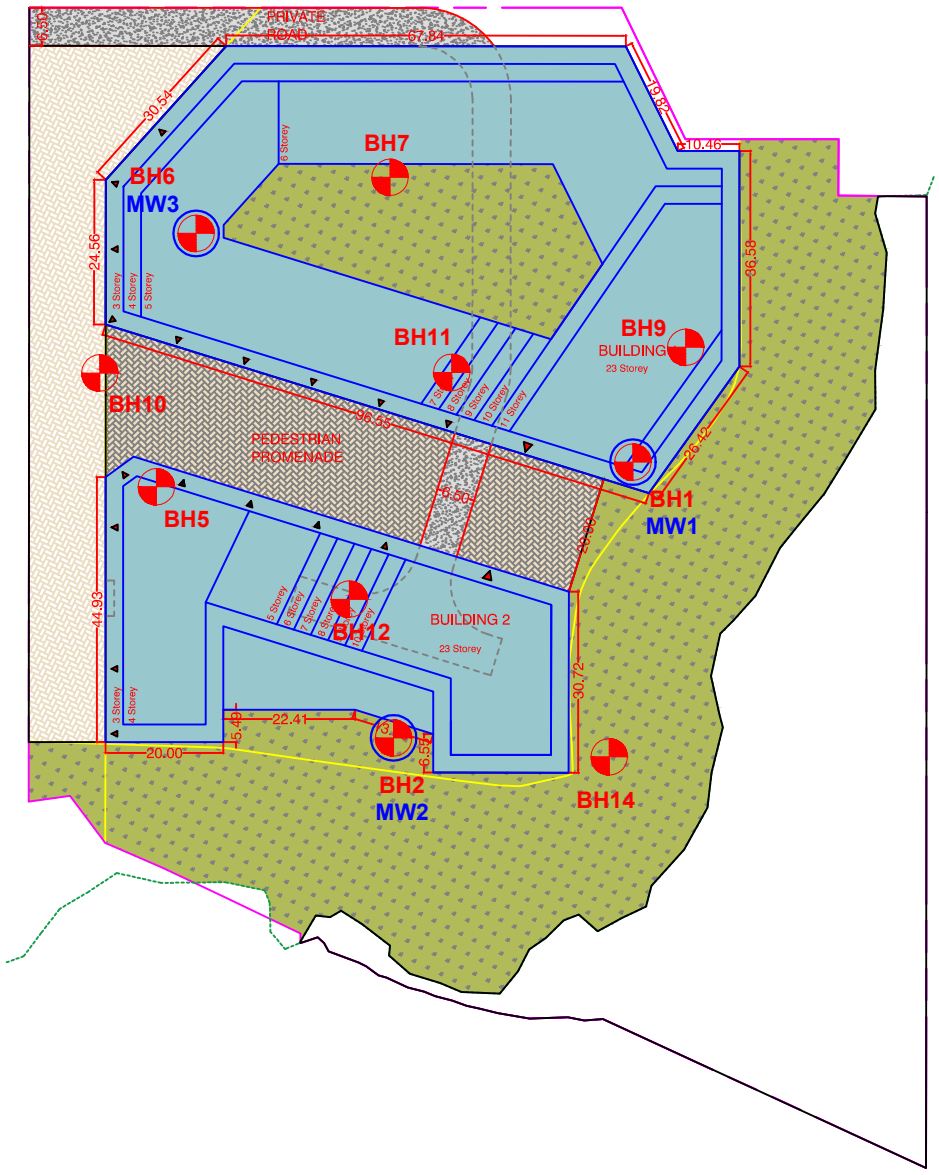
Table No. 12
Summary of Groundwater Samples with Measured Concentrations exceeding MOE (2011) Table 1 Background Criteria for all Property Uses

Sample Number and Location	Maxxam Lab ID	Parameter (MOE Table 1 Background Criteria for Residential Property Use	Sample Concentration [µg/g]
11612-1326-MW1 Well MW1	ECQ255	Copper (5)	12
11612-1326-MW2 Well MW2	ECQ256	Copper (5)	58
11612-1326-MW3 Well MW2 FIELD DUPLICATE	ECQ257	Copper (5)	9.6
11612-1326-MW4 Well MW3	ECU716	Copper (5)	15

Appendix “A”

Borehole Logs and Laboratory Testing

Reference Point
Top of the catch basin at the east side of Liverpool Road and north side of entrance of the subject site, 76.98±m, as per the site plan provided by the client.



BH: APPROXIMATE LOCATION OF BOREHOLES

MW: APPROXIMATE LOCATION OF MONITORING WELLS

SCALE (APPROXIMATE)

0 25 50 75m

HADDAD GEOTECHNICAL INC.
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info@haddadgeo.com

591 LIVERPOOL ROAD, PICKERING

PRELIMINARY CONCEPTUAL SITE PLAN SHOWING APPROXIMATE LOCATION OF BOREHOLES & MONITORING WELLS

SCALE: AS INDICATED
DRAWN BY: RV

PROJECT: 16-11612
DRAWING No. 1
DATE: APRIL 26, 2017

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 1

Project No. 16-11612
Drawing No. 2

Project: Proposed Mixed-Use Development
Location: 591 LIVERPOOL ROAD, PICKERING
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 77.07±m, see Note 1
Start Date: 15/02/2017 | End Date: 15/02/2017 | Field Supervision: SR/GA

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

	Description	Elev. ±m	Depth ±m
BH -1	GROUND SURFACE MW -1	77.07	0.0
	GRAVEL SURFACE GRANULAR MATERIALS FILL - medium compact sand and silt, with some gravels, occ. organic stains, brown, moist to very moist		1.0
	becomes clayey below 1.5±m depth	75.6 (05/10/17)	2.0
	Layer of dark brown to black Peat in wet condition between 2±m to 2.3±m depth	74.8 (03/22/17)	
	SANDY CLAYEY SILT - trace gravels stiff to very stiff, brown, very moist	74 (upon borehole completion)	3.0
		72.5	4.0
	SILTY SAND - trace to some clay, trace gravels, very dense, brown, moist		5.0
			6.0
			7.0
			8.0
	SHALE - very dense, weathered, grey, moist	67.9	9.0
			10.0
	START OF CORING	64.9	11.0
	SHALE BEDROCK, grey, fractured, limestone bands with 5±mm thickness throughout		12.0
			13.0
	CONTINUED ON DRAWING No. 3	63.3	14.0
			15.0

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
AS0	–	5.9	1.2
SS1	27	5.8	0.9
SS2	12	10.9	1.2
SS3	15	19.9	1.1
M SS4	18	13.6	0.9
SS5	9	13.8	1.8
SS6	59	7.4	1.8
M SS7	58	6.2	3.2
+ SS8	50/6"	4.9	35.0
+ SS9	50/3"	4.2	28.1

RUN NUMBER	RUN LENGTH, m	RECOVERY, %	R.Q.D., %	CORE SIZE / CASING	JOINT SYSTEM	COMMENTS
1	1.70	96	66.0	NXL /NW		fair

HADDAD GEOTECHNICAL INC.

Project No. 16-11612
Drawing No. 3

Engineering Data Sheet For Borehole No. 1

Project: Proposed Mixed Use Development

Location: 591 LIVERPOOL ROAD, PICKERING

Hole Location: see Drawing No. 2

Hole Elevation & Datum: 77.07, see Note 1

Start Date: 15/02/2017 | End Date: 15/02/2017 | Field Supervision: SR

Split Spoon | Pocket Penetrometer
Auger Sample | Unconfined Compression
Shelby Tube | Water Level
Core Sample | Vane Test, Sensitivity
51mm dia Cone | 51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	RUN NUMBER	RUN LENGTH, m	RECOVERY, %	R.Q.D., %	CORE SIZE / CASING	JOINT SYSTEM	COMMENTS - ROCK QUALITY	Sample No.	"N"	Moisture Content %	Headspace Vapours ppm
CONTINUED FROM DRAWING No. 2	63.3	14.0											
SHALE BEDROCK, grey, fractured, limestone bands with 5±mm thickness throughout		15.0	2	1.27	98	72.0	NXL /NW		fair				
limestone band with 65±mm thickness observed within Run Number 3		16.0	3	1.52	92	80.0	NXL /NW		good				
		17.0											
		18.0	4	1.57	98	67.8	NXL /NW		fair				
END OF CORED HOLE	58.9												

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole caved to 11.6±m depth, water rose to 3±m below grade upon completion.
3. Monitoring well installed by Haddad Geotechnical Inc. to depth of 6±m below grade adjacent to the borehole and water level rose to 2.3 ±m and 1.45 ±m below grade after 34 and 84 days, as recorded, respectively.

19.0
20.0
21.0
22.0
23.0
24.0
25.0
26.0
27.0
28.0
29.0

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 2

Project No. 16-11612
Drawing No. 4

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 77.1±m, see Note 1
Start Date: 13/02/2017 | End Date: 13/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

	Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
BH2	GROUND SURFACE MW2	77.1	0.0				
	GRAVEL SURFACE FILL - loose to medium compact gravely sand with some silt, brown, moist	76.8 (05/10/17)		AS0	–	8.1	
	FILL - medium compact silt and clay, with trace to some sand, occ. gravel, occ. roots, occ. organic stains, brown to grey, moist to very moist		1.0	SS1	17	11.5	1.1
		75.2 (03/22/17)	2.0	SS2	4	13.7	3.6
	Layer of dark brown to black Peat in wet condition between 2.3±m to 2.5±m depth			SS3	7	10.7	30.2
			3.0	SS4	33	8.7	17.9
		73	4.0	SS5	61	5.6	5.4
	SILTY SAND - trace to some clay, trace gravels, very dense, occ. oxidized seams/pockets, brown, moist	72.5 (upon borehole completion)		SS6	50/6"	8.7	5.9
			5.0				
		71	6.0				
	GRAVELLY SAND, some silt, trace clay, very dense, grey, moist to very moist			SS7	58	8.1	3.1
			7.0				
	occ. shale fragments below 7.5±m depth						
	Layer of stiff to very stiff wet clay between 8±m to 8.2±m depth		8.0	SS8	15	6.0	3.6
			9.0	SS9	50/6"	1.3	3.1
			10.0				
	SHALE - very dense, weathered, grey, moist	66.4	11.0	SS10	50/3"	6.1	10.8
			12.0	SS11	50/3"	-	11.9
	END OF BOREHOLE	64.8					
			13.0				
			14.0				
			15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client .
2. Borehole caved to 5.8±m depth, water rose to 4.6±m below grade upon completion.
3. Monitoring well installed by Haddad Geotechnical Inc. to depth of 5.8±m below grade adjacent to the borehole and water level rose to 1.86±m and 0.32±m below grade after 36 and 86 days, as recorded, respectively.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 5

Project No. 16-11612
Drawing No. 5

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 76.33±m, see Note 1
Start Date: 16/02/2017 | End Date: 16/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	76.33	0.0				
GRAVEL SURFACE FILL - sand and gravel with some silt and some clay, dark brown very moist			AS0	-	5.9	3.5
FILL - medium compact silt and clay, occ. gravel, occ. organic stains, dark brown to brown, moist to very moist		1.0	SS1	13	22.2	2.1
		2.0	SS2	26	13.9	1.9
	74.1					
SILTY SAND - some gravel, some clay, dense to very dense, occ. oxidized seams, brown, moist to very moist			M SS3	60	8.5	2.3
		3.0	+ SS4	50/6"	7.7	2.5
becomes grey below 4±m depth		4.0	SS5	30	7.2	2.9
			SS6	43	6.2	3.4
occ. wet seams below 5±m depth		5.0				
▼	70.5					
		6.0	SS7	52	11.1	2.6
		7.0				
			+ SS8	50/6"	9.1	3.5
SHALE - very dense, weathered, grey, moist to very moist	68.3	8.0				
		9.0	+ SS9	50/3"	14.4	14.2
		10.0				
			+ SS10	50/2"	12.6	20.1
		11.0				
END OF BOREHOLE	64.1	12.0	+ SS11	50/2"	14.8	19.8
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole caved to 11±m depth, water rose to 5.8±m below existing grade upon completion.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 6

Project No. 16-11612
Drawing No. 6

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 77.07±m, see Note 1
Start Date: 14/02/2017 | End Date: 14/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

	Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
BH6	GROUND SURFACE	77.07	0.0				
	FILL - medium compact silt and clay with some sand, occ. gravel, occ. oxidized pockets, brown, moist to very moist			AS0	–	13.3	1.4
			1.0	SS1	15	11.0	1.6
		75.2 (03/22/17)	2.0	SS2	15	8.0	0.9
	SILTY SAND - some gravel, trace to some clay, medium dense to dense, occ. shale fragments, occ. oxidized seams, brown, moist to very moist	74.7		SS3	50/6"	7.7	1.1
		73.7 (upon borehole completion)	3.0	SS4	45	6.4	0.8
	becomes grey below 3.5±m depth		4.0	SS5	36	6.1	1.6
			5.0	SS6	29	7.0	36.1
			6.0	SS7	26	10.9	17.4
	becomes very dense and occ. shale fragments below 7.5±m depth		7.0				
			8.0	SS8	50/6"	7.3	13.2
	SHALE - very dense, weathered, grey, moist to very moist	67.9	9.0	SS9	50/3"	11.4	5.2
			10.0				
			11.0	SS10	50/2"	10.2	8.2
	END OF BOREHOLE	64.9	12.0	SS11	50/1"	14.9	7.1
			13.0				
			14.0				
			15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

MW3

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole caved to 11±m depth, water rose to 3.35±m below grade upon completion.
3. Monitoring well installed by Haddad Geotechnical Inc. to depth of 6.2±m below grade adjacent to the borehole and water level rose to 1.87 ±m below grade after 35 days, as recorded.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 7

Project No. 16-11612
Drawing No. 7

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 76.86±m, see Note 1
Start Date: 14/02/2017 | End Date: 14/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	76.86	0.0				
TOP SOIL FILL - loose to medium compact silt and clay with some sand, occ. gravel, occ. organic stains, occ. oxidized seams, brown, very moist to wet		1.0	AS0	-	21.9	25
		2.0	SS1	15	25.3	1.0
			SS2	8	7.3	1.4
	74.2		SS3	26	14.3	1.2
GRAVELY SILTY SAND - trace clay, medium dense to dense, occ. oxidized seams, grey, moist	73.8	3.0	SS4	23	2.9	1.3
		4.0	SS5	45	5.8	1.2
occ. wet seams below 4.5±m depth		5.0	SS6	46	5.6	2.6
becomes very dense below 6±m depth		6.0	SS7	50/6"	5.1	2.4
		7.0				
	69.2		SS8	50/6"	4.3	3.6
SHALE - very dense, weathered, grey, moist to very moist		8.0				
		9.0	SS9	50/2"	10.7	1.2
		10.0				
			SS10	50/2"	10.3	2.3
		11.0				
END OF BOREHOLE	64.6	12.0	SS11	50/2"	11.5	1.6
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole open to 12.2±m depth and water rose to 3±m below existing grade upon completion.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 9

Project No. 16-11612
Drawing No. 8

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 77.19±m, see Note 1
Start Date: 13/02/2017 | End Date: 13/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	77.19	0.0				
TOP SOIL FILL - loose to medium compact silt and clay with some sand, occ. gravel, occ. organic stains, occ. oxidized seams, dark brown, very moist to wet		1.0	AS0	-	10.9	1.2
			SS1	13	13.2	1.5
Layers of dark brown to black Peat in wet condition below 4.5±m depth		2.0	SS2	14	16.2	1.6
		3.0	SS3	7	23.7	1.8
			SS4	4	30.9	1.8
	73	4.0	SS5	27	13.9	1.5
GRAVELY SILTY SAND - trace clay, medium dense to very dense, occ. shale fragments, occ. oxidized seams, brown to grey, moist		5.0	M SS6	79	5.7	3.8
	71.1	6.0	SS7	50/6"	4.3	1.7
SAND & SILT - some gravel, some clay, very dense, occ. shale fragments, grey, moist		7.0				
		8.0	M SS8	50/6"	7.1	4.3
	68	9.0	SS9	50/2"	10.8	47.2
SHALE - very dense, weathered, grey, moist to very moist		10.0				
	66.5		SS10	50/2"	4.0	20.6
		11.0				
END OF BOREHOLE	65	12.0	SS11	50/1"	12.4	3.8
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole open to 12.2±m depth and water rose to 10.7±m below existing grade upon completion.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 10

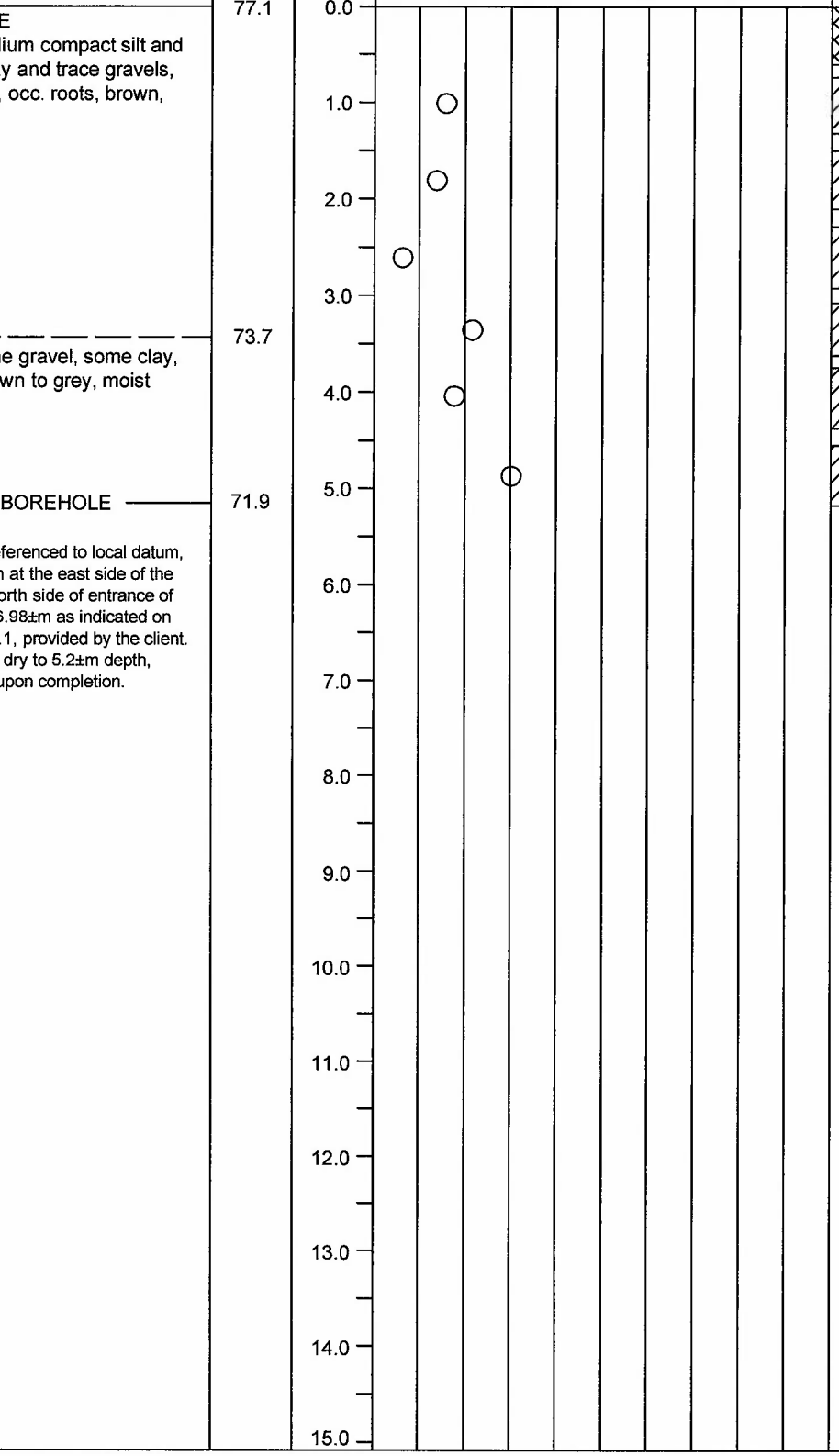
Project No. 16-11612
Drawing No. 9

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 77.1±m, see Note 1
Start Date: 16/02/2017 | End Date: 16/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	77.1	0.0				
GRAVEL SURFACE FILL - loose to medium compact silt and sand with some clay and trace gravels, occ. organic stains, occ. roots, brown, very moist		1.0	AS0	-	11.6	2.6
		2.0	SS1	16	13.5	1.7
		3.0	SS2	13	14.9	2.6
	73.7		SS3	6	12.8	2.1
SILTY SAND - some gravel, some clay, medium dense, brown to grey, moist		4.0	SS4	22	7.5	2.1
		5.0	SS5	18	9.8	.2.1
END OF BOREHOLE	71.9		SS6	31	7.7	2.1
		6.0				
		7.0				
		8.0				
		9.0				
		10.0				
		11.0				
		12.0				
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80



NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole open and dry to 5.2±m depth, below existing grade upon completion.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 11

Project No. 16-11612
Drawing No. 10

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 76.41±m, see Note 1
Start Date: 14/02/2017 | End Date: 14/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	76.41	0.0				
GRAVEL SURFACE FILL - sand with some gravels, brown very moist to wet			AS0	-	7.4	1.1
FILL - loose to medium compact silt and clay with some sand, occ. gravels, occ. oxidized pockets, brown, wet	75.2	1.0	SS1	12	14.6	1.2
		2.0	SS2	8	13.9	1.0
	73.8		SS3	20	12.9	1.4
SILTY SAND - some gravel, some clay, medium dense to very dense, brown, moist		3.0	SS4	85	8.3	1.4
becomes grey below 4±m depth		4.0	SS5	53	7.4	1.0
occ. shale fragments below 4.5±m depth			SS6	50/6"	4.3	1.5
END OF BOREHOLE	71.5	5.0				
		6.0				
		7.0				
		8.0				
		9.0				
		10.0				
		11.0				
		12.0				
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole caved to 1.2±m depth below existing grade and wet at its base upon completion.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 12

Project No. 16-11612
Drawing No. 11

Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 76.84 ±m, see Note 1
Start Date: 13/02/2017 | End Date: 13/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	76.84	0.0				
GRAVEL SURFACE FILL - loose silt and clay with some sand, occ. gravels, occ. roots, occ. organic stains, brown to grey, moist to very moist			AS0	-	9.7	3.1
		1.0	SS1	15	11.9	7.9
Layers of dark brown to black Peat in wet condition below 2±m depth		2.0	SS2	9	17.0	3.2
▼	73.8		SS3	10	14.2	16.4
		3.0	SS4	20	11.0	1.9
	73					
SILTY SAND - some gravel, some clay, very dense, occ. shale fragments, brown to grey, moist		4.0	SS5	60	7.1	50.6
			SS6	50/6"	7.8	1.1
END OF BOREHOLE	71.9	5.0				
		6.0				
		7.0				
		8.0				
		9.0				
		10.0				
		11.0				
		12.0				
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole open to 4.9±m depth and water rose to 3±m below existing grade upon completion.

HADDAD GEOTECHNICAL INC.

Engineering Data Sheet For Borehole No. 14

Project No. 16-11612
Drawing No. 12

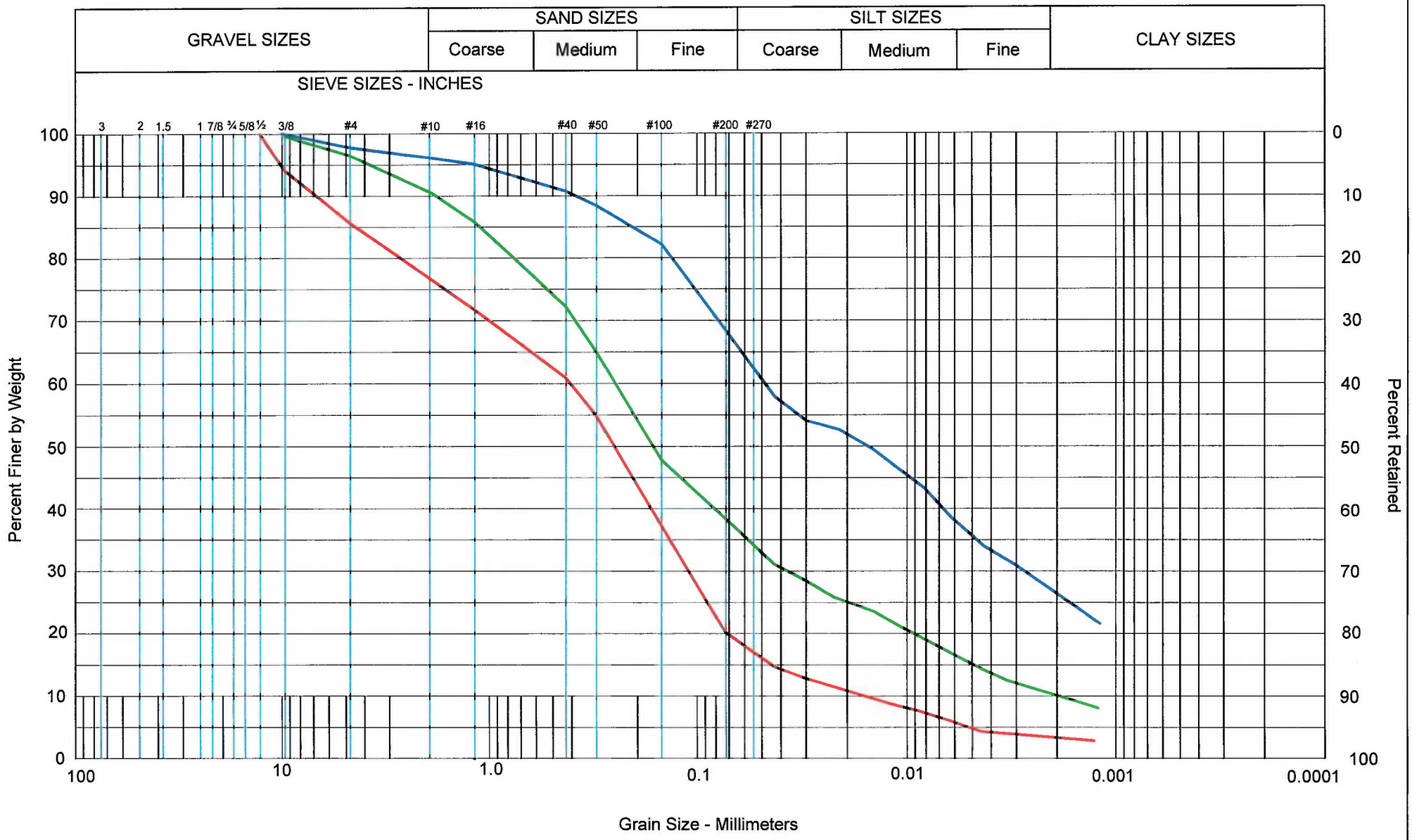
Project: Proposed Mixed-Use Development
Location: 591 Liverpool Road, Pickering
Hole Location: see Drawing No. 1
Hole Elevation & Datum: 77 ±m, see Note 1
Start Date: 13/02/2017 | End Date: 13/02/2017 | Field Supervision: SR

Split Spoon
Auger Sample
Shelby Tube
Core Sample
51mm dia Cone
Pocket Penetrometer
Unconfined Compression
Water Level
Vane Test, Sensitivity
51mm dia Split Spoon
Gradation Analysis Completed M

Description	Elev. ±m	Depth ±m	Sample No.	"N"	Moisture Content %	Vapour Reading (ppm)
GROUND SURFACE	77.0	0.0				
GRANULAR MATERIALS FILL - loose to medium compact gravely sand with some silt, occ. organic stains, brown, very moist to wet			AS0	-	9.8	2.7
		1.0	M SS1	12	15.2	1.3
		2.0	SS2	8	13.4	2.6
FILL - loose silt and clay with some sand, occ. gravels, occ. roots, occ. oxidized seams, brown to grey, very moist Layers of dark brown to black Peat in wet condition below 3±m depth			SS3	6	30.4	2.4
		3.0	SS4	7	38.9	2.8
	73	4.0	SS5	31	8.8	4.2
SILTY SAND - some gravel, some clay, medium dense to very dense, brown to grey, moist	72.6					
END OF BOREHOLE	72	5.0	SS6	50/6"	8.1	0
		6.0				
		7.0				
		8.0				
		9.0				
		10.0				
		11.0				
		12.0				
		13.0				
		14.0				
		15.0				

Strength and Penetration Resistance
C kPa
N (Standard Penetration Value) Blows/300mm
20 40 60 80

NOTES:
1. Elevation datum, referenced to local datum, top of the Catch Basin at the east side of the Liverpool Road and north side of entrance of the subject site, El. 76.98±m as indicated on Site Plan Drawing No.1, provided by the client.
2. Borehole open to 5±m depth and water rose to 4.4±m below existing grade upon completion.



BH1 SS4 - (3±m to 3.6±m) (4% Gravel, 30% Sand, 39% Silt, 27% Clay)

BH1 SS7 - (6.1±m to 6.7±m) (9% Gravel, 54% Sand, 27% Silt, 10% Clay)

BH2 SS7 - (6.1±m to 6.7±m) (23% Gravel, 58% Sand, 16% Silt, 3% Clay)

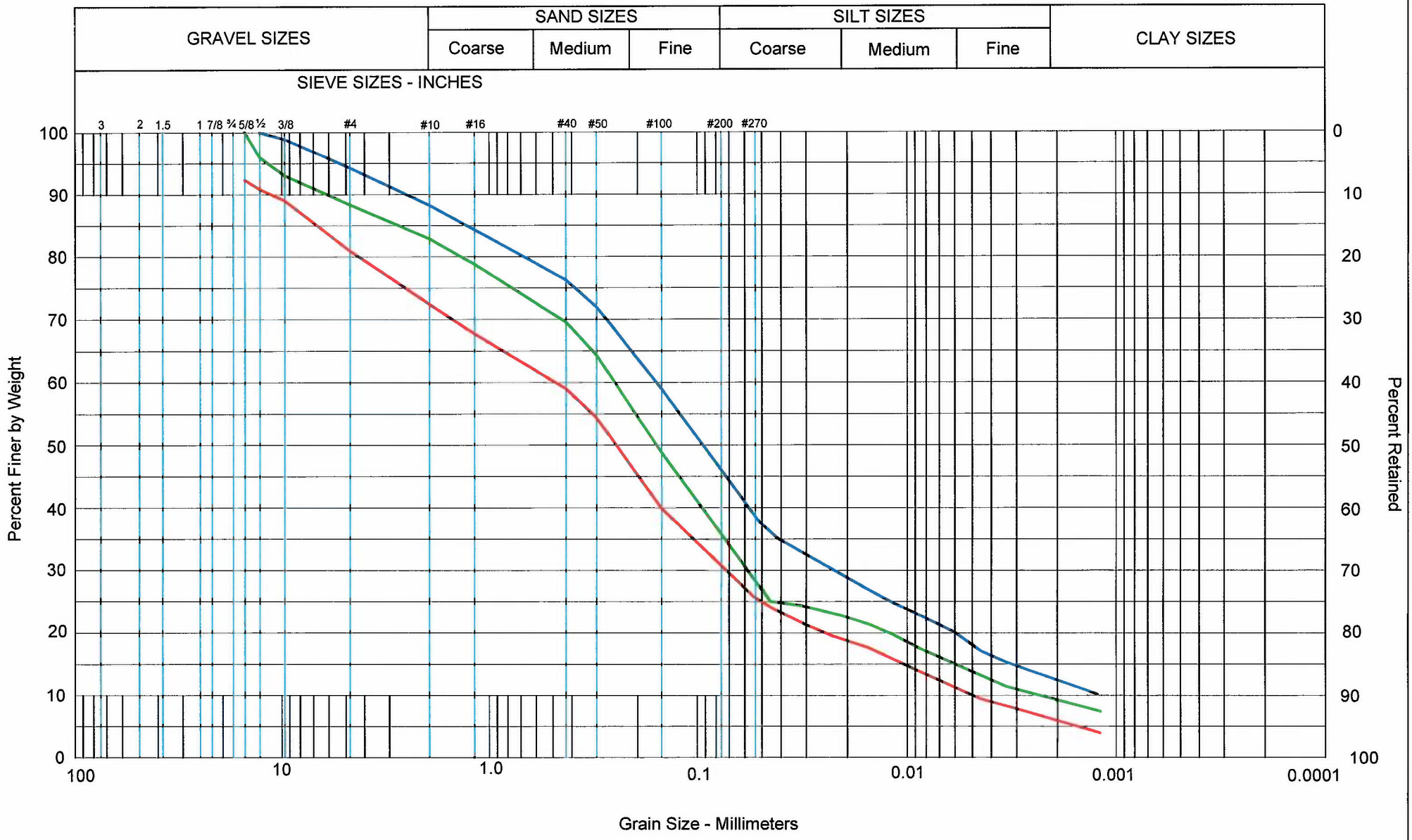
HADDAD GEOTECHNICAL INC.
151 Amber Street, Unit 17, 18
Markham, Ontario L3R 3B3
phone: 905-475-0951, fax: 905-475-8338
info@haddadgeo.com

591 LIVERPOOL ROAD, PICKERING

GRADATION ANALYSES A.S.T.M. D422
NATIVE SUBSOILS

SCALE: AS INDICATED
DRAWN BY: CF

PROJECT: 16-11612
DRAWING No. 13
DATE: MARCH 22, 2017



BH5 SS3 - (2.3±m to 2.9±m) (12% Gravel, 42% Sand, 33% Silt, 13% Clay)

BH6 SS4 - (3±m to 3.6±m) (17% Gravel, 47% Sand, 27% Silt, 9% Clay)

BH7 SS7 - (6±m to 6.6±m) (27% Gravel, 43% Sand, 24% Silt, 6% Clay)

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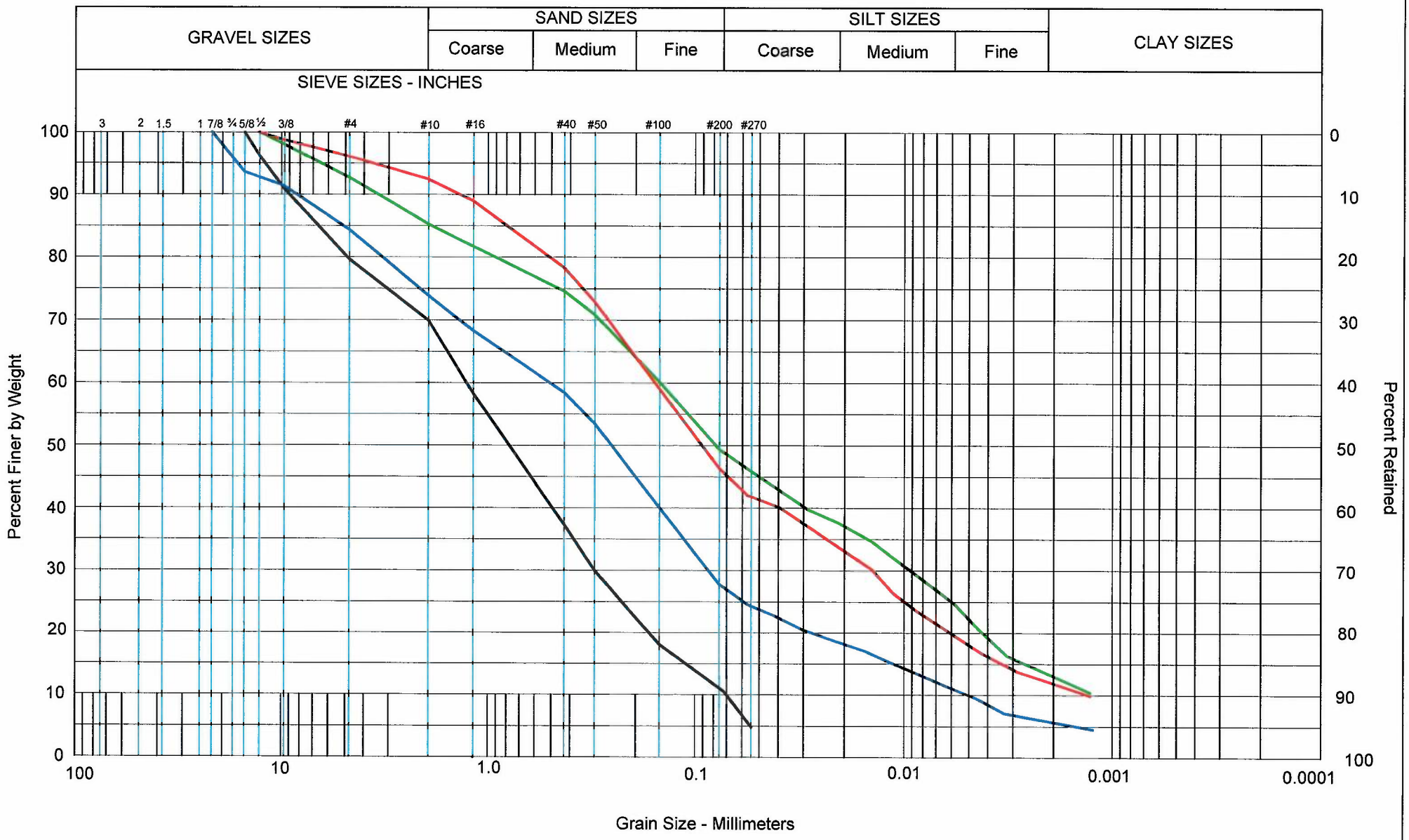
591 LIVERPOOL ROAD, PICKERING

GRADATION ANALYSES A.S.T.M. D422
NATIVE SUBSOILS

SCALE: AS INDICATED
DRAWN BY: CF

PROJECT: 16-11612
DRAWING No. 14
DATE: MARCH 29, 2017



BH9 SS6 - (4.5±m to 5.1±m) (26% Gravel, 47% Sand, 21% Silt, 6% Clay)

BH9 SS8 - (7.5±m to 8±m) (15% Gravel, 36% Sand, 36% Silt, 13% Clay)

BH10 SS1 - (0.8±m to 1.4±m) (8% Gravel, 46% Sand, 34% Silt, 12% Clay)

BH14 SS1 - (0.8±m to 1.4±m) (30% Gravel, 60% Sand, 10% Silt)

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591 LIVERPOOL ROAD, PICKERING

GRADATION ANALYSES A.S.T.M. D422
NATIVE SUBSOILS

SCALE: AS INDICATED
DRAWN BY: CF

PROJECT: 16-11612
DRAWING No. 15
DATE: MARCH 29, 2017

Appendix “B”

Certificates of Chemical Analysis
Maxxam Analytics Inc.

1. Maxxam Analytics Inc., Job No. B730394, February 22, 2017 Chemical analysis of soil samples obtained from Boreholes.

2. Maxxam Analytics Inc., Job No. B730975, February 24, 2017 Chemical analysis of soil samples obtained from Boreholes.

3. Maxxam Analytics Inc., Job No. B732439, February 24, 2017 Chemical analysis of soil samples obtained from Boreholes.

4. Maxxam Analytics Inc., Job No. B733580, February 27, 2017 Chemical analysis of soil samples obtained from Boreholes.

5. Maxxam Analytics Inc., Job No. B759104, March 31, 2017 Chemical analysis of water samples obtained from Monitoring Wells.

6. Maxxam Analytics Inc., Job No. B759947, March 31, 2017 Chemical analysis of water samples obtained from Monitoring Wells.

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 16-11612-01
Your Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your C.O.C. #: 61770

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/22
Report #: R4366320
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B730394
Received: 2017/02/14, 11:18

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	6	N/A	2017/02/21	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	7	2017/02/17	2017/02/17	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	9	N/A	2017/02/16		EPA 8260C m
Free (WAD) Cyanide	7	2017/02/16	2017/02/18	CAM SOP-00457	OMOE E3015 m
Conductivity	7	2017/02/17	2017/02/17	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	7	2017/02/17	2017/02/22	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	8	2017/02/17	2017/02/18	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric)	2	2017/02/22	2017/02/22	CAM SOP-00316	CCME PHC-CWS m
Strong Acid Leachable Metals by ICPMS	7	2017/02/17	2017/02/17	CAM SOP-00447	EPA 6020B m
Moisture	9	N/A	2017/02/15	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	5	2017/02/17	2017/02/18	CAM SOP-00318	EPA 8270D m
PAH Compounds in Soil by GC/MS (SIM)	1	2017/02/17	2017/02/21	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	7	2017/02/16	2017/02/16	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	7	N/A	2017/02/21	CAM SOP-00102	EPA 6010C
SAR - ICP Metals	7	2017/02/17	2017/02/17	CAM SOP-00408	EPA 6010C m
Volatile Organic Compounds and F1 PHCs	9	N/A	2017/02/16	CAM SOP-00230	EPA 8260C 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

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. #: 16-11612-01
Your Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your C.O.C. #: 61770

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/22
Report #: R4366320
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B730394
Received: 2017/02/14, 11:18

dilution methods. Results relate to samples tested.

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

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.
(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.

Encryption Key

Maxxam
22 Feb 2017 16:57:08

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: ABrasil@maxxam.ca
Phone# (905)817-5817

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This report has been generated and distributed using a secure automated process.
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 Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID		DXG850	DXG852	DXG853	DXG854	DXG855		
Sampling Date		2017/02/13 10:00	2017/02/13 13:30	2017/02/13 13:45	2017/02/13 12:00	2017/02/13 12:15		
COC Number		61770	61770	61770	61770	61770		
	UNITS	11612-1302-01	11612-1302-03	11612-1302-04	11612-1302-05	11612-1302-06	RDL	QC Batch
Calculated Parameters								
Sodium Adsorption Ratio	N/A	0.58	0.46	0.28	0.67	0.31		4862727
Inorganics								
Conductivity	mS/cm	0.61	0.27	0.15	0.24	0.13	0.002	4867512
Free Cyanide	ug/g	ND	0.02	ND	0.01	ND	0.01	4866588
Moisture	%	12	15	8.3	15	9.5	1.0	4865348
Available (CaCl2) pH	pH	10.4	7.28	7.69	7.20	7.71		4866137
Metals								
Soluble Calcium (Ca)	mg/L	79.6	33.1	20.2	30.8	15.9	0.5	4867507
Soluble Magnesium (Mg)	mg/L	ND	2.8	2.2	2.4	2.3	0.5	4867507
Soluble Sodium (Na)	mg/L	19	10	ND	14	5	5	4867507
Inorganics								
Chromium (VI)	ug/g	ND	ND	ND	ND	ND	0.2	4868174
Metals								
Hot Water Ext. Boron (B)	ug/g	0.29	0.22	0.096	0.30	ND	0.050	4867406
Acid Extractable Antimony (Sb)	ug/g	ND	ND	ND	ND	ND	0.20	4867422
Acid Extractable Arsenic (As)	ug/g	2.3	2.3	4.1	2.0	3.6	1.0	4867422
Acid Extractable Barium (Ba)	ug/g	37	89	39	100	39	0.50	4867422
Acid Extractable Beryllium (Be)	ug/g	0.22	0.51	0.40	0.60	0.38	0.20	4867422
Acid Extractable Boron (B)	ug/g	ND	6.8	5.6	7.0	5.1	5.0	4867422
Acid Extractable Cadmium (Cd)	ug/g	ND	0.13	ND	0.22	0.11	0.10	4867422
Acid Extractable Chromium (Cr)	ug/g	9.5	18	11	22	11	1.0	4867422
Acid Extractable Cobalt (Co)	ug/g	2.9	7.0	9.5	7.6	12	0.10	4867422
Acid Extractable Copper (Cu)	ug/g	9.7	17	23	17	19	0.50	4867422
Acid Extractable Lead (Pb)	ug/g	17	11	17	26	15	1.0	4867422
Acid Extractable Molybdenum (Mo)	ug/g	ND	ND	1.0	ND	0.83	0.50	4867422
Acid Extractable Nickel (Ni)	ug/g	6.5	16	21	17	25	0.50	4867422
Acid Extractable Selenium (Se)	ug/g	ND	ND	ND	ND	ND	0.50	4867422
Acid Extractable Silver (Ag)	ug/g	ND	ND	ND	ND	ND	0.20	4867422
Acid Extractable Thallium (Tl)	ug/g	0.063	0.17	0.19	0.18	0.24	0.050	4867422
Acid Extractable Uranium (U)	ug/g	0.41	0.60	0.61	0.61	0.52	0.050	4867422
Acid Extractable Vanadium (V)	ug/g	13	26	20	31	20	5.0	4867422
Acid Extractable Zinc (Zn)	ug/g	28	47	38	62	51	5.0	4867422

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID		DXG850	DXG852	DXG853	DXG854	DXG855		
Sampling Date		2017/02/13 10:00	2017/02/13 13:30	2017/02/13 13:45	2017/02/13 12:00	2017/02/13 12:15		
COC Number		61770	61770	61770	61770	61770		
	UNITS	11612-1302-01	11612-1302-03	11612-1302-04	11612-1302-05	11612-1302-06	RDL	QC Batch
Acid Extractable Mercury (Hg)	ug/g	ND	ND	ND	ND	ND	0.050	4867422

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID		DXG855			DXG857			DXG858		
Sampling Date		2017/02/13 12:15			2017/02/13 11:00			2017/02/13 11:15		
COC Number		61770			61770			61770		
	UNITS	11612-1302-06 Lab-Dup	RDL	QC Batch	11612-1302-08	RDL	QC Batch	11612-1302-09	RDL	QC Batch
Calculated Parameters										
Sodium Adsorption Ratio	N/A			4862727	0.83		4862727	0.31		4862727
Inorganics										
Conductivity	mS/cm	0.14	0.002	4867512	0.37	0.002	4867512	0.13	0.002	4867512
Free Cyanide	ug/g		0.01	4866588	0.02	0.02	4866588	ND	0.01	4866588
Moisture	%		1.0	4865348	20	1.0	4865348	10	1.0	4865348
Available (CaCl2) pH	pH			4866137	7.95		4865705	7.66		4866137
Metals										
Soluble Calcium (Ca)	mg/L	16.1	0.5	4867507	43.8	0.5	4867507	16.9	0.5	4867507
Soluble Magnesium (Mg)	mg/L	2.2	0.5	4867507	3.2	0.5	4867507	2.0	0.5	4867507
Soluble Sodium (Na)	mg/L	5	5	4867507	21	5	4867507	ND	5	4867507
Inorganics										
Chromium (VI)	ug/g		0.2	4868174	ND	0.2	4868174	ND	0.2	4868174
Metals										
Hot Water Ext. Boron (B)	ug/g		0.050	4867406	0.47	0.050	4867406	ND	0.050	4867406
Acid Extractable Antimony (Sb)	ug/g		0.20	4867422	ND	0.20	4867422	ND	0.20	4867422
Acid Extractable Arsenic (As)	ug/g		1.0	4867422	2.1	1.0	4867422	3.9	1.0	4867422
Acid Extractable Barium (Ba)	ug/g		0.50	4867422	90	0.50	4867422	38	0.50	4867422
Acid Extractable Beryllium (Be)	ug/g		0.20	4867422	0.51	0.20	4867422	0.37	0.20	4867422
Acid Extractable Boron (B)	ug/g		5.0	4867422	6.4	5.0	4867422	5.2	5.0	4867422
Acid Extractable Cadmium (Cd)	ug/g		0.10	4867422	0.20	0.10	4867422	ND	0.10	4867422
Acid Extractable Chromium (Cr)	ug/g		1.0	4867422	19	1.0	4867422	12	1.0	4867422
Acid Extractable Cobalt (Co)	ug/g		0.10	4867422	6.8	0.10	4867422	9.6	0.10	4867422
Acid Extractable Copper (Cu)	ug/g		0.50	4867422	18	0.50	4867422	20	0.50	4867422
Acid Extractable Lead (Pb)	ug/g		1.0	4867422	18	1.0	4867422	14	1.0	4867422
Acid Extractable Molybdenum (Mo)	ug/g		0.50	4867422	0.53	0.50	4867422	0.94	0.50	4867422
Acid Extractable Nickel (Ni)	ug/g		0.50	4867422	15	0.50	4867422	20	0.50	4867422
Acid Extractable Selenium (Se)	ug/g		0.50	4867422	ND	0.50	4867422	ND	0.50	4867422
Acid Extractable Silver (Ag)	ug/g		0.20	4867422	ND	0.20	4867422	ND	0.20	4867422
Acid Extractable Thallium (Tl)	ug/g		0.050	4867422	0.17	0.050	4867422	0.24	0.050	4867422
Acid Extractable Uranium (U)	ug/g		0.050	4867422	0.60	0.050	4867422	0.54	0.050	4867422
Acid Extractable Vanadium (V)	ug/g		5.0	4867422	28	5.0	4867422	21	5.0	4867422
Acid Extractable Zinc (Zn)	ug/g		5.0	4867422	59	5.0	4867422	36	5.0	4867422

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID		DXG855			DXG857			DXG858		
Sampling Date		2017/02/13 12:15			2017/02/13 11:00			2017/02/13 11:15		
COC Number		61770			61770			61770		
	UNITS	**11612-1302-06 Lab-Dup**	**RDL**	**QC Batch**	**11612-1302-08**	**RDL**	**QC Batch**	**11612-1302-09**	**RDL**	**QC Batch**
Acid Extractable Mercury (Hg)	ug/g		0.050	4867422	ND	0.050	4867422	ND	0.050	4867422

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

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Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 PAHS (SOIL)

Maxxam ID		DXG850	DXG852	DXG854	DXG855	DXG857		
Sampling Date		2017/02/13 10:00	2017/02/13 13:30	2017/02/13 12:00	2017/02/13 12:15	2017/02/13 11:00		
COC Number		61770	61770	61770	61770	61770		
	UNITS	11612-1302-01	11612-1302-03	11612-1302-05	11612-1302-06	11612-1302-08	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	ND	ND	ND	0.032	ND	0.0071	4862481
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	ND	ND	ND	ND	ND	0.0050	4868280
Acenaphthylene	ug/g	ND	ND	ND	ND	ND	0.0050	4868280
Anthracene	ug/g	ND	ND	ND	ND	ND	0.0050	4868280
Benzo(a)anthracene	ug/g	0.0083	ND	ND	ND	0.012	0.0050	4868280
Benzo(a)pyrene	ug/g	0.0069	ND	ND	ND	0.015	0.0050	4868280
Benzo(b/j)fluoranthene	ug/g	0.012	ND	0.0071	ND	0.025	0.0050	4868280
Benzo(g,h,i)perylene	ug/g	0.0064	ND	ND	ND	0.015	0.0050	4868280
Benzo(k)fluoranthene	ug/g	ND	ND	ND	ND	0.0073	0.0050	4868280
Chrysene	ug/g	0.012	ND	ND	ND	0.014	0.0050	4868280
Dibenz(a,h)anthracene	ug/g	ND	ND	ND	ND	ND	0.0050	4868280
Fluoranthene	ug/g	0.024	ND	0.0070	ND	0.031	0.0050	4868280
Fluorene	ug/g	ND	ND	ND	ND	ND	0.0050	4868280
Indeno(1,2,3-cd)pyrene	ug/g	0.0053	ND	ND	ND	0.017	0.0050	4868280
1-Methylnaphthalene	ug/g	ND	ND	ND	0.015	ND	0.0050	4868280
2-Methylnaphthalene	ug/g	0.0057	ND	ND	0.018	ND	0.0050	4868280
Naphthalene	ug/g	ND	ND	ND	0.0061	ND	0.0050	4868280
Phenanthrene	ug/g	0.021	ND	0.0052	0.014	0.014	0.0050	4868280
Pyrene	ug/g	0.022	ND	0.0065	ND	0.025	0.0050	4868280
Surrogate Recovery (%)								
D10-Anthracene	%	90	86	91	90	89		4868280
D14-Terphenyl (FS)	%	91	89	93	92	91		4868280
D8-Acenaphthylene	%	85	83	86	85	86		4868280

RDL = Reportable Detection Limit
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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 PAHS (SOIL)

Maxxam ID		DXG858		
Sampling Date		2017/02/13 11:15		
COC Number		61770		
	UNITS	11612-1302-09	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	ND	0.0071	4862481
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	ND	0.0050	4868280
Acenaphthylene	ug/g	ND	0.0050	4868280
Anthracene	ug/g	ND	0.0050	4868280
Benzo(a)anthracene	ug/g	ND	0.0050	4868280
Benzo(a)pyrene	ug/g	ND	0.0050	4868280
Benzo(b/j)fluoranthene	ug/g	ND	0.0050	4868280
Benzo(g,h,i)perylene	ug/g	ND	0.0050	4868280
Benzo(k)fluoranthene	ug/g	ND	0.0050	4868280
Chrysene	ug/g	ND	0.0050	4868280
Dibenz(a,h)anthracene	ug/g	ND	0.0050	4868280
Fluoranthene	ug/g	ND	0.0050	4868280
Fluorene	ug/g	ND	0.0050	4868280
Indeno(1,2,3-cd)pyrene	ug/g	ND	0.0050	4868280
1-Methylnaphthalene	ug/g	ND	0.0050	4868280
2-Methylnaphthalene	ug/g	ND	0.0050	4868280
Naphthalene	ug/g	ND	0.0050	4868280
Phenanthrene	ug/g	ND	0.0050	4868280
Pyrene	ug/g	ND	0.0050	4868280
Surrogate Recovery (%)				
D10-Anthracene	%	89		4868280
D14-Terphenyl (FS)	%	91		4868280
D8-Acenaphthylene	%	83		4868280

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID		DXG850	DXG851	DXG851	DXG852	DXG853		
Sampling Date		2017/02/13 10:00	2017/02/13 10:15	2017/02/13 10:15	2017/02/13 13:30	2017/02/13 13:45		
COC Number		61770	61770	61770	61770	61770		
	UNITS	11612-1302-01	11612-1302-02	11612-1302-02 Lab-Dup	11612-1302-03	11612-1302-04	RDL	QC Batch
Inorganics								
Moisture	%		26				1.0	4864742
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	ND	ND		ND	ND	0.050	4862482
Volatile Organics								
Acetone (2-Propanone)	ug/g	ND	ND	ND	ND	ND	0.50	4864453
Benzene	ug/g	ND	ND	ND	ND	ND	0.020	4864453
Bromodichloromethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Bromoform	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Bromomethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Carbon Tetrachloride	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Chlorobenzene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Chloroform	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Dibromochloromethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,2-Dichlorobenzene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,3-Dichlorobenzene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,4-Dichlorobenzene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Dichlorodifluoromethane (FREON 12)	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,1-Dichloroethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,2-Dichloroethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,1-Dichloroethylene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
cis-1,2-Dichloroethylene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
trans-1,2-Dichloroethylene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,2-Dichloropropane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
cis-1,3-Dichloropropene	ug/g	ND	ND	ND	ND	ND	0.030	4864453
trans-1,3-Dichloropropene	ug/g	ND	ND	ND	ND	ND	0.040	4864453
Ethylbenzene	ug/g	ND	ND	ND	ND	ND	0.020	4864453
Ethylene Dibromide	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Hexane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Methylene Chloride(Dichloromethane)	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Methyl Ethyl Ketone (2-Butanone)	ug/g	ND	ND	ND	ND	ND	0.50	4864453
Methyl Isobutyl Ketone	ug/g	ND	ND	ND	ND	ND	0.50	4864453
Methyl t-butyl ether (MTBE)	ug/g	ND	ND	ND	ND	ND	0.050	4864453

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID		DXG850	DXG851	DXG851	DXG852	DXG853		
Sampling Date		2017/02/13 10:00	2017/02/13 10:15	2017/02/13 10:15	2017/02/13 13:30	2017/02/13 13:45		
COC Number		61770	61770	61770	61770	61770		
	UNITS	11612-1302-01	11612-1302-02	11612-1302-02 Lab-Dup	11612-1302-03	11612-1302-04	RDL	QC Batch
Styrene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,1,1,2-Tetrachloroethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,1,2,2-Tetrachloroethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Tetrachloroethylene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Toluene	ug/g	ND	ND	ND	ND	ND	0.020	4864453
1,1,1-Trichloroethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
1,1,2-Trichloroethane	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Trichloroethylene	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Trichlorofluoromethane (FREON 11)	ug/g	ND	ND	ND	ND	ND	0.050	4864453
Vinyl Chloride	ug/g	ND	ND	ND	ND	ND	0.020	4864453
p+m-Xylene	ug/g	ND	ND	ND	ND	ND	0.020	4864453
o-Xylene	ug/g	ND	ND	ND	ND	ND	0.020	4864453
Total Xylenes	ug/g	ND	ND	ND	ND	ND	0.020	4864453
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	4864453
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	4864453
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	17	ND		ND	47	10	4867840
F3 (C16-C34 Hydrocarbons)	ug/g	71	ND		ND	130	50	4867840
F4 (C34-C50 Hydrocarbons)	ug/g	50	ND		ND	ND	50	4867840
Reached Baseline at C50	ug/g	No	Yes		Yes	Yes		4867840
Surrogate Recovery (%)								
o-Terphenyl	%	100	95		95	97		4867840
4-Bromofluorobenzene	%	95	95	95	95	100		4864453
D10-o-Xylene	%	91	91	89	92	96		4864453
D4-1,2-Dichloroethane	%	107	104	104	105	104		4864453
D8-Toluene	%	94	93	92	93	94		4864453

RDL = Reportable Detection Limit
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Lab-Dup = Laboratory Initiated Duplicate
ND = Not detected

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Maxxam Job #: B730394
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Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID		DXG854	DXG856	DXG857	DXG858		
Sampling Date		2017/02/13 12:00	2017/02/13 12:25	2017/02/13 11:00	2017/02/13 11:15		
COC Number		61770	61770	61770	61770		
	UNITS	11612-1302-05	11612-1302-07	11612-1302-08	11612-1302-09	RDL	QC Batch
Inorganics							
Moisture	%		12			1.0	4864742
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	ND	ND	ND	ND	0.050	4862482
Volatile Organics							
Acetone (2-Propanone)	ug/g	ND	ND	ND	ND	0.50	4864453
Benzene	ug/g	ND	ND	ND	ND	0.020	4864453
Bromodichloromethane	ug/g	ND	ND	ND	ND	0.050	4864453
Bromoform	ug/g	ND	ND	ND	ND	0.050	4864453
Bromomethane	ug/g	ND	ND	ND	ND	0.050	4864453
Carbon Tetrachloride	ug/g	ND	ND	ND	ND	0.050	4864453
Chlorobenzene	ug/g	ND	ND	ND	ND	0.050	4864453
Chloroform	ug/g	ND	ND	ND	ND	0.050	4864453
Dibromochloromethane	ug/g	ND	ND	ND	ND	0.050	4864453
1,2-Dichlorobenzene	ug/g	ND	ND	ND	ND	0.050	4864453
1,3-Dichlorobenzene	ug/g	ND	ND	ND	ND	0.050	4864453
1,4-Dichlorobenzene	ug/g	ND	ND	ND	ND	0.050	4864453
Dichlorodifluoromethane (FREON 12)	ug/g	ND	ND	ND	ND	0.050	4864453
1,1-Dichloroethane	ug/g	ND	ND	ND	ND	0.050	4864453
1,2-Dichloroethane	ug/g	ND	ND	ND	ND	0.050	4864453
1,1-Dichloroethylene	ug/g	ND	ND	ND	ND	0.050	4864453
cis-1,2-Dichloroethylene	ug/g	ND	ND	ND	ND	0.050	4864453
trans-1,2-Dichloroethylene	ug/g	ND	ND	ND	ND	0.050	4864453
1,2-Dichloropropane	ug/g	ND	ND	ND	ND	0.050	4864453
cis-1,3-Dichloropropene	ug/g	ND	ND	ND	ND	0.030	4864453
trans-1,3-Dichloropropene	ug/g	ND	ND	ND	ND	0.040	4864453
Ethylbenzene	ug/g	ND	ND	ND	ND	0.020	4864453
Ethylene Dibromide	ug/g	ND	ND	ND	ND	0.050	4864453
Hexane	ug/g	ND	ND	ND	ND	0.050	4864453
Methylene Chloride(Dichloromethane)	ug/g	ND	ND	ND	ND	0.050	4864453
Methyl Ethyl Ketone (2-Butanone)	ug/g	ND	ND	ND	ND	0.50	4864453
Methyl Isobutyl Ketone	ug/g	ND	ND	ND	ND	0.50	4864453
Methyl t-butyl ether (MTBE)	ug/g	ND	ND	ND	ND	0.050	4864453

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

Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID		DXG854	DXG856	DXG857	DXG858		
Sampling Date		2017/02/13 12:00	2017/02/13 12:25	2017/02/13 11:00	2017/02/13 11:15		
COC Number		61770	61770	61770	61770		
	UNITS	11612-1302-05	11612-1302-07	11612-1302-08	11612-1302-09	RDL	QC Batch
Styrene	ug/g	ND	ND	ND	ND	0.050	4864453
1,1,1,2-Tetrachloroethane	ug/g	ND	ND	ND	ND	0.050	4864453
1,1,2,2-Tetrachloroethane	ug/g	ND	ND	ND	ND	0.050	4864453
Tetrachloroethylene	ug/g	ND	ND	ND	ND	0.050	4864453
Toluene	ug/g	ND	ND	ND	ND	0.020	4864453
1,1,1-Trichloroethane	ug/g	ND	ND	ND	ND	0.050	4864453
1,1,2-Trichloroethane	ug/g	ND	ND	ND	ND	0.050	4864453
Trichloroethylene	ug/g	ND	ND	ND	ND	0.050	4864453
Trichlorofluoromethane (FREON 11)	ug/g	ND	ND	ND	ND	0.050	4864453
Vinyl Chloride	ug/g	ND	ND	ND	ND	0.020	4864453
p+m-Xylene	ug/g	ND	ND	ND	ND	0.020	4864453
o-Xylene	ug/g	ND	ND	ND	ND	0.020	4864453
Total Xylenes	ug/g	ND	ND	ND	ND	0.020	4864453
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	4864453
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	4864453
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	4867840
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	140	ND	50	4867840
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	190	ND	50	4867840
Reached Baseline at C50	ug/g	Yes	Yes	No	Yes		4867840
Surrogate Recovery (%)							
o-Terphenyl	%	98	97	95	96		4867840
4-Bromofluorobenzene	%	96	94	95	95		4864453
D10-o-Xylene	%	95	89	94	91		4864453
D4-1,2-Dichloroethane	%	104	103	104	104		4864453
D8-Toluene	%	94	94	93	94		4864453

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

Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		DXG859		
Sampling Date				
COC Number		61770		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/g	ND	0.050	4862482
Volatile Organics				
Acetone (2-Propanone)	ug/g	ND	0.50	4864453
Benzene	ug/g	ND	0.020	4864453
Bromodichloromethane	ug/g	ND	0.050	4864453
Bromoform	ug/g	ND	0.050	4864453
Bromomethane	ug/g	ND	0.050	4864453
Carbon Tetrachloride	ug/g	ND	0.050	4864453
Chlorobenzene	ug/g	ND	0.050	4864453
Chloroform	ug/g	ND	0.050	4864453
Dibromochloromethane	ug/g	ND	0.050	4864453
1,2-Dichlorobenzene	ug/g	ND	0.050	4864453
1,3-Dichlorobenzene	ug/g	ND	0.050	4864453
1,4-Dichlorobenzene	ug/g	ND	0.050	4864453
Dichlorodifluoromethane (FREON 12)	ug/g	ND	0.050	4864453
1,1-Dichloroethane	ug/g	ND	0.050	4864453
1,2-Dichloroethane	ug/g	ND	0.050	4864453
1,1-Dichloroethylene	ug/g	ND	0.050	4864453
cis-1,2-Dichloroethylene	ug/g	ND	0.050	4864453
trans-1,2-Dichloroethylene	ug/g	ND	0.050	4864453
1,2-Dichloropropane	ug/g	ND	0.050	4864453
cis-1,3-Dichloropropene	ug/g	ND	0.030	4864453
trans-1,3-Dichloropropene	ug/g	ND	0.040	4864453
Ethylbenzene	ug/g	ND	0.020	4864453
Ethylene Dibromide	ug/g	ND	0.050	4864453
Hexane	ug/g	ND	0.050	4864453
Methylene Chloride(Dichloromethane)	ug/g	ND	0.050	4864453
Methyl Ethyl Ketone (2-Butanone)	ug/g	ND	0.50	4864453
Methyl Isobutyl Ketone	ug/g	ND	0.50	4864453
Methyl t-butyl ether (MTBE)	ug/g	ND	0.050	4864453
Styrene	ug/g	ND	0.050	4864453
1,1,1,2-Tetrachloroethane	ug/g	ND	0.050	4864453
1,1,2,2-Tetrachloroethane	ug/g	ND	0.050	4864453

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

Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		DXG859		
Sampling Date				
COC Number		61770		
	UNITS	TRIP BLANK	RDL	QC Batch
Tetrachloroethylene	ug/g	ND	0.050	4864453
Toluene	ug/g	ND	0.020	4864453
1,1,1-Trichloroethane	ug/g	ND	0.050	4864453
1,1,2-Trichloroethane	ug/g	ND	0.050	4864453
Trichloroethylene	ug/g	ND	0.050	4864453
Trichlorofluoromethane (FREON 11)	ug/g	ND	0.050	4864453
Vinyl Chloride	ug/g	ND	0.020	4864453
p+m-Xylene	ug/g	ND	0.020	4864453
o-Xylene	ug/g	ND	0.020	4864453
Total Xylenes	ug/g	ND	0.020	4864453
F1 (C6-C10)	ug/g	ND	10	4864453
F1 (C6-C10) - BTEX	ug/g	ND	10	4864453
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	94		4864453
D10-o-Xylene	%	88		4864453
D4-1,2-Dichloroethane	%	105		4864453
D8-Toluene	%	93		4864453

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		DXG850	DXG857	DXG857		
Sampling Date		2017/02/13 10:00	2017/02/13 11:00	2017/02/13 11:00		
COC Number		61770	61770	61770		
	UNITS	**11612-1302-01**	**11612-1302-08**	**11612-1302-08 Lab-Dup**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons						
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	140	1000	1200	100	4871645

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

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

TEST SUMMARY

Maxxam ID: DXG850
Sample ID: 11612-1302-01
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4862481	N/A	2017/02/21	Automated Statchk
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
F4G (CCME Hydrocarbons Gravimetric)	BAL	4871645	2017/02/22	2017/02/22	Debra Deslandes
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4868280	2017/02/17	2017/02/18	Mitesh Raj
pH CaCl2 EXTRACT	AT	4866137	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG851
Sample ID: 11612-1302-02
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
Moisture	BAL	4864742	N/A	2017/02/15	Min Yang
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG851 Dup
Sample ID: 11612-1302-02
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG852
Sample ID: 11612-1302-03
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4862481	N/A	2017/02/21	Automated Statchk
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

TEST SUMMARY

Maxxam ID: DXG852
Sample ID: 11612-1302-03
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4868280	2017/02/17	2017/02/18	Mitesh Raj
pH CaCl2 EXTRACT	AT	4866137	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG853
Sample ID: 11612-1302-04
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
pH CaCl2 EXTRACT	AT	4866137	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG854
Sample ID: 11612-1302-05
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4862481	N/A	2017/02/21	Automated Statchk
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4868280	2017/02/17	2017/02/18	Mitesh Raj
pH CaCl2 EXTRACT	AT	4866137	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

TEST SUMMARY

Maxxam ID: DXG854 **Collected:** 2017/02/13
Sample ID: 11612-1302-05 **Shipped:**
Matrix: Soil **Received:** 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG855 **Collected:** 2017/02/13
Sample ID: 11612-1302-06 **Shipped:**
Matrix: Soil **Received:** 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4862481	N/A	2017/02/21	Automated Statchk
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4868280	2017/02/17	2017/02/18	Mitesh Raj
pH CaCl2 EXTRACT	AT	4866137	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai

Maxxam ID: DXG855 Dup **Collected:** 2017/02/13
Sample ID: 11612-1302-06 **Shipped:**
Matrix: Soil **Received:** 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai

Maxxam ID: DXG856 **Collected:** 2017/02/13
Sample ID: 11612-1302-07 **Shipped:**
Matrix: Soil **Received:** 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
Moisture	BAL	4864742	N/A	2017/02/15	Min Yang
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG857 **Collected:** 2017/02/13
Sample ID: 11612-1302-08 **Shipped:**
Matrix: Soil **Received:** 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4862481	N/A	2017/02/21	Automated Statchk
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

TEST SUMMARY

Maxxam ID: DXG857
Sample ID: 11612-1302-08
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
F4G (CCME Hydrocarbons Gravimetric)	BAL	4871645	2017/02/22	2017/02/22	Debra Deslandes
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4868280	2017/02/17	2017/02/18	Mitesh Raj
pH CaCl2 EXTRACT	AT	4865705	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

Maxxam ID: DXG857 Dup
Sample ID: 11612-1302-08
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
F4G (CCME Hydrocarbons Gravimetric)	BAL	4871645	2017/02/22	2017/02/22	Debra Deslandes

Maxxam ID: DXG858
Sample ID: 11612-1302-09
Matrix: Soil

Collected: 2017/02/13
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4862481	N/A	2017/02/21	Automated Statchk
Hot Water Extractable Boron	ICP	4867406	2017/02/17	2017/02/17	Jolly John
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Free (WAD) Cyanide	TECH	4866588	2017/02/16	2017/02/18	Xuanhong Qiu
Conductivity	AT	4867512	2017/02/17	2017/02/17	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868174	2017/02/17	2017/02/22	Manoj Kumar Gera
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4867840	2017/02/17	2017/02/18	Zhiyue (Frank) Zhu
Strong Acid Leachable Metals by ICPMS	ICP/MS	4867422	2017/02/17	2017/02/17	Viviana Canzonieri
Moisture	BAL	4865348	N/A	2017/02/15	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4868280	2017/02/17	2017/02/21	Mitesh Raj
pH CaCl2 EXTRACT	AT	4866137	2017/02/16	2017/02/16	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4862727	N/A	2017/02/21	Automated Statchk
SAR - ICP Metals	ICP	4867507	2017/02/17	2017/02/17	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

TEST SUMMARY

Maxxam ID: DXG859
Sample ID: TRIP BLANK
Matrix: Soil

Collected:
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4862482	N/A	2017/02/16	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4864453	N/A	2017/02/16	Denis Reid

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GENERAL COMMENTS

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

Package 1	6.0°C

Cooler custody seal was present and intact.

Sample DXG853 [11612-1302-04] : SAR Analysis: Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Sample DXG858 [11612-1302-09] : SAR Analysis: Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Results relate only to the items tested.

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Maxxam Job #: B730394
Report Date: 2017/02/22

QUALITY ASSURANCE REPORT

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4864453	4-Bromofluorobenzene	2017/02/15	105	60 - 140	104	60 - 140	96	%		
4864453	D10-o-Xylene	2017/02/15	105	60 - 130	97	60 - 130	86	%		
4864453	D4-1,2-Dichloroethane	2017/02/15	99	60 - 140	101	60 - 140	104	%		
4864453	D8-Toluene	2017/02/15	102	60 - 140	101	60 - 140	93	%		
4867840	o-Terphenyl	2017/02/18	97	60 - 130	97	60 - 130	99	%		
4868280	D10-Anthracene	2017/02/18	95	50 - 130	96	50 - 130	96	%		
4868280	D14-Terphenyl (FS)	2017/02/18	99	50 - 130	98	50 - 130	97	%		
4868280	D8-Acenaphthylene	2017/02/18	91	50 - 130	92	50 - 130	90	%		
4864453	1,1,1,2-Tetrachloroethane	2017/02/16	99	60 - 140	99	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,1,1-Trichloroethane	2017/02/16	96	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,1,2,2-Tetrachloroethane	2017/02/16	97	60 - 140	97	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,1,2-Trichloroethane	2017/02/16	94	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,1-Dichloroethane	2017/02/16	94	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,1-Dichloroethylene	2017/02/16	96	60 - 140	97	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,2-Dichlorobenzene	2017/02/16	92	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,2-Dichloroethane	2017/02/16	91	60 - 140	92	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,2-Dichloropropane	2017/02/16	93	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,3-Dichlorobenzene	2017/02/16	89	60 - 140	89	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	1,4-Dichlorobenzene	2017/02/16	89	60 - 140	89	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Acetone (2-Propanone)	2017/02/16	92	60 - 140	93	60 - 140	ND, RDL=0.50	ug/g	NC	50
4864453	Benzene	2017/02/16	94	60 - 140	95	60 - 130	ND, RDL=0.020	ug/g	NC	50
4864453	Bromodichloromethane	2017/02/16	97	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Bromoform	2017/02/16	100	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Bromomethane	2017/02/16	104	60 - 140	102	60 - 140	ND, RDL=0.050	ug/g	NC	50
4864453	Carbon Tetrachloride	2017/02/16	99	60 - 140	99	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Chlorobenzene	2017/02/16	96	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Chloroform	2017/02/16	94	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	cis-1,2-Dichloroethylene	2017/02/16	100	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	cis-1,3-Dichloropropene	2017/02/16	95	60 - 140	93	60 - 130	ND, RDL=0.030	ug/g	NC	50
4864453	Dibromochloromethane	2017/02/16	99	60 - 140	99	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Dichlorodifluoromethane (FREON 12)	2017/02/16	91	60 - 140	92	60 - 140	ND, RDL=0.050	ug/g	NC	50

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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
4864453	Ethylbenzene	2017/02/16	93	60 - 140	92	60 - 130	ND, RDL=0.020	ug/g	NC	50
4864453	Ethylene Dibromide	2017/02/16	97	60 - 140	97	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	F1 (C6-C10) - BTEX	2017/02/16					ND, RDL=10	ug/g	NC	30
4864453	F1 (C6-C10)	2017/02/16	95	60 - 140	88	80 - 120	ND, RDL=10	ug/g	NC	30
4864453	Hexane	2017/02/16	97	60 - 140	97	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Methyl Ethyl Ketone (2-Butanone)	2017/02/16	96	60 - 140	97	60 - 140	ND, RDL=0.50	ug/g	NC	50
4864453	Methyl Isobutyl Ketone	2017/02/16	96	60 - 140	98	60 - 130	ND, RDL=0.50	ug/g	NC	50
4864453	Methyl t-butyl ether (MTBE)	2017/02/16	94	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Methylene Chloride(Dichloromethane)	2017/02/16	103	60 - 140	104	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	o-Xylene	2017/02/16	93	60 - 140	92	60 - 130	ND, RDL=0.020	ug/g	NC	50
4864453	p+m-Xylene	2017/02/16	91	60 - 140	90	60 - 130	ND, RDL=0.020	ug/g	NC	50
4864453	Styrene	2017/02/16	95	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Tetrachloroethylene	2017/02/16	94	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Toluene	2017/02/16	89	60 - 140	89	60 - 130	ND, RDL=0.020	ug/g	NC	50
4864453	Total Xylenes	2017/02/16					ND, RDL=0.020	ug/g	NC	50
4864453	trans-1,2-Dichloroethylene	2017/02/16	94	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	trans-1,3-Dichloropropene	2017/02/16	98	60 - 140	92	60 - 130	ND, RDL=0.040	ug/g	NC	50
4864453	Trichloroethylene	2017/02/16	95	60 - 140	96	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Trichlorofluoromethane (FREON 11)	2017/02/16	102	60 - 140	103	60 - 130	ND, RDL=0.050	ug/g	NC	50
4864453	Vinyl Chloride	2017/02/16	101	60 - 140	102	60 - 130	ND, RDL=0.020	ug/g	NC	50
4864742	Moisture	2017/02/15							0.96	20
4865348	Moisture	2017/02/15							0.74	20
4865705	Available (CaCl2) pH	2017/02/16			98	97 - 103			0.52	N/A
4866137	Available (CaCl2) pH	2017/02/16			98	97 - 103			0.10	N/A
4866588	Free Cyanide	2017/02/18	102	75 - 125	101	80 - 120	ND, RDL=0.01	ug/g	NC	35
4867406	Hot Water Ext. Boron (B)	2017/02/17	96	75 - 125	100	75 - 125	ND, RDL=0.050	ug/g	NC	40
4867422	Acid Extractable Antimony (Sb)	2017/02/17	100	75 - 125	106	80 - 120	ND, RDL=0.20	ug/g	NC	30
4867422	Acid Extractable Arsenic (As)	2017/02/17	100	75 - 125	100	80 - 120	ND, RDL=1.0	ug/g	NC	30
4867422	Acid Extractable Barium (Ba)	2017/02/17	NC	75 - 125	100	80 - 120	ND, RDL=0.50	ug/g	5.6	30
4867422	Acid Extractable Beryllium (Be)	2017/02/17	99	75 - 125	98	80 - 120	ND, RDL=0.20	ug/g	NC	30
4867422	Acid Extractable Boron (B)	2017/02/17	97	75 - 125	97	80 - 120	ND, RDL=5.0	ug/g	NC	30

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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
4867422	Acid Extractable Cadmium (Cd)	2017/02/17	100	75 - 125	99	80 - 120	ND, RDL=0.10	ug/g	NC	30
4867422	Acid Extractable Chromium (Cr)	2017/02/17	106	75 - 125	100	80 - 120	ND, RDL=1.0	ug/g	9.1	30
4867422	Acid Extractable Cobalt (Co)	2017/02/17	99	75 - 125	99	80 - 120	ND, RDL=0.10	ug/g	11	30
4867422	Acid Extractable Copper (Cu)	2017/02/17	96	75 - 125	101	80 - 120	ND, RDL=0.50	ug/g	9.4	30
4867422	Acid Extractable Lead (Pb)	2017/02/17	NC	75 - 125	101	80 - 120	ND, RDL=1.0	ug/g	13	30
4867422	Acid Extractable Mercury (Hg)	2017/02/17	93	75 - 125	96	80 - 120	ND, RDL=0.050	ug/g	NC	30
4867422	Acid Extractable Molybdenum (Mo)	2017/02/17	104	75 - 125	101	80 - 120	ND, RDL=0.50	ug/g	NC	30
4867422	Acid Extractable Nickel (Ni)	2017/02/17	103	75 - 125	99	80 - 120	ND, RDL=0.50	ug/g	1.4	30
4867422	Acid Extractable Selenium (Se)	2017/02/17	101	75 - 125	100	80 - 120	ND, RDL=0.50	ug/g	NC	30
4867422	Acid Extractable Silver (Ag)	2017/02/17	99	75 - 125	105	80 - 120	ND, RDL=0.20	ug/g	NC	30
4867422	Acid Extractable Thallium (Tl)	2017/02/17	97	75 - 125	100	80 - 120	ND, RDL=0.050	ug/g	NC	30
4867422	Acid Extractable Uranium (U)	2017/02/17	98	75 - 125	99	80 - 120	ND, RDL=0.050	ug/g	13	30
4867422	Acid Extractable Vanadium (V)	2017/02/17	NC	75 - 125	99	80 - 120	ND, RDL=5.0	ug/g	NC	30
4867422	Acid Extractable Zinc (Zn)	2017/02/17	NC	75 - 125	99	80 - 120	ND, RDL=5.0	ug/g	NC	30
4867507	Soluble Calcium (Ca)	2017/02/17			95	80 - 120	0.6, RDL=0.5	mg/L	1.1	30
4867507	Soluble Magnesium (Mg)	2017/02/17			93	80 - 120	ND, RDL=0.5	mg/L	NC	30
4867507	Soluble Sodium (Na)	2017/02/17			94	80 - 120	ND,RDL=5	mg/L	NC	30
4867512	Conductivity	2017/02/17			100	90 - 110	ND, RDL=0.002	mS/cm	1.8	10
4867840	F2 (C10-C16 Hydrocarbons)	2017/02/18	103	50 - 130	101	80 - 120	ND, RDL=10	ug/g	NC	30
4867840	F3 (C16-C34 Hydrocarbons)	2017/02/18	106	50 - 130	107	80 - 120	ND, RDL=50	ug/g	NC	30
4867840	F4 (C34-C50 Hydrocarbons)	2017/02/18	112	50 - 130	112	80 - 120	ND, RDL=50	ug/g	NC	30
4868174	Chromium (VI)	2017/02/22	147 (1)	75 - 125	89	80 - 120	ND, RDL=0.2	ug/g	NC	35
4868280	1-Methylnaphthalene	2017/02/18	86	50 - 130	88	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	2-Methylnaphthalene	2017/02/18	87	50 - 130	88	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Acenaphthene	2017/02/18	95	50 - 130	95	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Acenaphthylene	2017/02/18	91	50 - 130	93	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Anthracene	2017/02/18	86	50 - 130	88	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Benzo(a)anthracene	2017/02/18	102	50 - 130	102	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Benzo(a)pyrene	2017/02/18	101	50 - 130	102	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Benzo(b/j)fluoranthene	2017/02/18	98	50 - 130	97	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Benzo(g,h,i)perylene	2017/02/18	94	50 - 130	97	50 - 130	ND, RDL=0.0050	ug/g	NC	40

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
4868280	Benzo(k)fluoranthene	2017/02/18	96	50 - 130	105	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Chrysene	2017/02/18	100	50 - 130	100	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Dibenz(a,h)anthracene	2017/02/18	94	50 - 130	95	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Fluoranthene	2017/02/18	104	50 - 130	104	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Fluorene	2017/02/18	93	50 - 130	95	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Indeno(1,2,3-cd)pyrene	2017/02/18	106	50 - 130	110	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Naphthalene	2017/02/18	87	50 - 130	89	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Phenanthrene	2017/02/18	94	50 - 130	95	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4868280	Pyrene	2017/02/18	105	50 - 130	104	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4871645	F4G-sg (Grav. Heavy Hydrocarbons)	2017/02/22	96	65 - 135	99	65 - 135	ND, RDL=100	ug/g	14	50

N/A = Not Applicable

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

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 (one or both samples < 5x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B730394
Report Date: 2017/02/22

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD. PICKERING
Your P.O. #: 16-11612-01

VALIDATION SIGNATURE PAGE

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

Brad Newman, 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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CAM FCD-01191/2

CHAIN OF CUSTODY RECORD 61770

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Haddad Geotechnical Inc.	Company Name:	Quotation #:	☑ Regular TAT (5-7 days) Most analyses
Contact Name: Graham Fisher.	Contact Name:	P.O. #/ AFE#: 16-11612-01	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 151 Amber St. Markham L3R 3J7	Address:	Project #: 16-11612	Rush TAT (Surcharges will be applied) ☐ 1 Day ☐ 2 Days ☐ 3-4 Days
		Site Location: 591 Liverpool Rd. Pickering	
Phone: 905-475-0951 Fax:	Phone: Fax:	Site #:	Date Required:
Email: info@haddadgeo.com.	Email:	Sampled By: SR	Rush Confirmation #:

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

Regulation 153
☑ Table 1 ☒ Res/Park ☐ Med/ Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☑ Table 3 ☐ Agri/ Other
☐ Table ____
FOR RSC (PLEASE CIRCLE) (Y) / N

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ MISA ☐ Storm Sewer Bylaw
☐ PWQO Region ____
☐ Other (Specify) ____
☐ REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: (Y) / N

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

LABORATORY USE ONLY

CUSTODY SEAL Y / N Present	Intact	COOLER TEMPERATURES
Y	Y	5/5/8

COOLING MEDIA PRESENT: (Y) / N

Analysis Requested (REFER TO BACK OF COC)

#	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	PAHS	HOLD- DO NOT ANALYZE	COMMENTS
1	11612-1302-01	2017/02/13	10 am	S	6		✓	✓	✓	✓		✓	✓		
2	11612-1302-02	"	10:15 am	S	4		✓	✓	✓				~~✓~~		
3	11612-1302-03	"	1:30 pm	S	6		✓	✓	✓	✓		✓	✓		
4	11612-1302-04	"	1:45 pm	S	5		✓	✓	✓	✓		✓			
5	11612-1302-05	"	12 pm	S	6		✓	✓	✓	✓		✓	✓		
6	11612-1302-06	"	12:15 pm	S	2					✓		✓	✓		
7	11612-1302-07	"	12:25 pm	S	4		✓	✓	✓						
8	11612-1302-08	"	11 am	S	6		✓	✓	✓	✓		✓	✓		
9	11612-1302-09	"	11:15 am	S	6		✓	✓	✓	✓		✓	✓		
10															

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
[signature] / SALVADOR HALOG	2017/02/14	11:18	[signature] ASIAD BHAIDU	2017/02/14	11:18

14-Feb-17 11:18
Antonella Brasil
B730394
KES ENV-1225

COC-1004 (10/14) - ENV. ENG.

White: Maxxam ~ Yellow: Client

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 16-11612-02
Your Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your C.O.C. #: 76418

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/24
Report #: R4368592
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B730975
Received: 2017/02/14, 19:19

Sample Matrix: Soil
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	5	N/A	2017/02/24	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	6	2017/02/21	2017/02/21	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	6	N/A	2017/02/21		EPA 8260C m
Free (WAD) Cyanide	6	2017/02/18	2017/02/21	CAM SOP-00457	OMOE E3015 m
Conductivity	6	2017/02/22	2017/02/22	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	6	2017/02/18	2017/02/22	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	5	2017/02/18	2017/02/18	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	1	2017/02/18	2017/02/19	CAM SOP-00316	CCME CWS m
Strong Acid Leachable Metals by ICPMS	6	2017/02/21	2017/02/21	CAM SOP-00447	EPA 6020B m
Moisture	8	N/A	2017/02/17	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	5	2017/02/22	2017/02/23	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	6	2017/02/22	2017/02/22	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	6	N/A	2017/02/23	CAM SOP-00102	EPA 6010C
SAR - ICP Metals	6	2017/02/22	2017/02/22	CAM SOP-00408	EPA 6010C m
Volatile Organic Compounds and F1 PHCs	7	N/A	2017/02/17	CAM SOP-00230	EPA 8260C 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.

Your P.O. #: 16-11612-02
Your Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your C.O.C. #: 76418

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
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CANADA L3R 3B3

Report Date: 2017/02/24
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CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B730975
Received: 2017/02/14, 19:19

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

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.
(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.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: ABrasil@maxxam.ca
Phone# (905)817-5817

==========

This report has been generated and distributed using a secure automated process.
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 Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXJ506	DXJ507	DXJ508	DXJ510		
Sampling Date			2017/02/14 11:00	2017/02/14 11:15	2017/02/14 11:00	2017/02/14 01:15		
COC Number			76418	76418	76418	76418		
	UNITS	Criteria	11612-1402-01	11612-1402-02	11612-1402-03	11612-1402-05	RDL	QC Batch
Calculated Parameters								
Sodium Adsorption Ratio	N/A	**2.4**	0.42	0.54	0.35	0.27		4864197
Inorganics								
Conductivity	mS/cm	**0.57**	0.20	0.19	0.17	0.23	0.002	4870442
Free Cyanide	ug/g	**0.051**	ND	ND	ND	ND	0.01	4869122
Moisture	%	-	14	7.5	11	7.3	1.0	4868327
Available (CaCl2) pH	pH	-	7.60	7.71	7.63	7.72		4870573
Metals								
Soluble Calcium (Ca)	mg/L	-	24.4	14.7	21.2	18.4	0.5	4870434
Soluble Magnesium (Mg)	mg/L	-	0.6	3.3	0.7	5.1	0.5	4870434
Soluble Sodium (Na)	mg/L	-	8	9	6	ND	5	4870434
Inorganics								
Chromium (VI)	ug/g	**0.66**	0.3	ND	0.2	ND	0.2	4868390
Metals								
Hot Water Ext. Boron (B)	ug/g	-	0.089	ND	0.066	0.066	0.050	4869907
Acid Extractable Antimony (Sb)	ug/g	**1.3**	ND	ND	ND	ND	0.20	4869982
Acid Extractable Arsenic (As)	ug/g	**18**	1.4	2.7	1.2	3.4	1.0	4869982
Acid Extractable Barium (Ba)	ug/g	**220**	78	22	56	27	0.50	4869982
Acid Extractable Beryllium (Be)	ug/g	**2.5**	0.38	0.28	0.30	0.28	0.20	4869982
Acid Extractable Boron (B)	ug/g	**36**	7.5	ND	7.0	ND	5.0	4869982
Acid Extractable Cadmium (Cd)	ug/g	**1.2**	0.14	ND	ND	ND	0.10	4869982
Acid Extractable Chromium (Cr)	ug/g	**70**	15	9.4	12	11	1.0	4869982
Acid Extractable Cobalt (Co)	ug/g	**21**	4.9	5.9	3.8	6.8	0.10	4869982
Acid Extractable Copper (Cu)	ug/g	**92**	9.2	16	7.2	18	0.50	4869982
Acid Extractable Lead (Pb)	ug/g	**120**	5.0	9.0	4.2	11	1.0	4869982
Acid Extractable Molybdenum (Mo)	ug/g	**2**	ND	0.60	ND	0.64	0.50	4869982
Acid Extractable Nickel (Ni)	ug/g	**82**	11	14	8.4	17	0.50	4869982
Acid Extractable Selenium (Se)	ug/g	**1.5**	ND	ND	ND	ND	0.50	4869982
Acid Extractable Silver (Ag)	ug/g	**0.5**	ND	ND	ND	ND	0.20	4869982
Acid Extractable Thallium (Tl)	ug/g	**1**	0.088	0.098	0.076	0.13	0.050	4869982
Acid Extractable Uranium (U)	ug/g	**2.5**	0.46	0.60	0.41	0.57	0.050	4869982

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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 #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXJ506	DXJ507	DXJ508	DXJ510		
Sampling Date			2017/02/14 11:00	2017/02/14 11:15	2017/02/14 11:00	2017/02/14 01:15		
COC Number			76418	76418	76418	76418		
	UNITS	**Criteria**	**11612-1402-01**	**11612-1402-02**	**11612-1402-03**	**11612-1402-05**	**RDL**	**QC Batch**
Acid Extractable Vanadium (V)	ug/g	**86**	22	16	19	16	5.0	4869982
Acid Extractable Zinc (Zn)	ug/g	**290**	35	26	31	29	5.0	4869982
Acid Extractable Mercury (Hg)	ug/g	**0.27**	ND	ND	ND	ND	0.050	4869982

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXJ512	DXJ513		
Sampling Date			2017/02/14 10:00	2017/02/14 13:00		
COC Number			76418	76418		
	UNITS	Criteria	11612-1402-07	11612-1402-08	RDL	QC Batch
Calculated Parameters						
Sodium Adsorption Ratio	N/A	**2.4**	0.41	0.24		4864197
Inorganics						
Conductivity	mS/cm	**0.57**	0.13	0.24	0.002	4870442
Free Cyanide	ug/g	**0.051**	ND	ND	0.01	4869122
Moisture	%	-	15	15	1.0	4868327
Available (CaCl2) pH	pH	-	7.81	7.67		4870573
Metals						
Soluble Calcium (Ca)	mg/L	-	11.7	29.4	0.5	4870434
Soluble Magnesium (Mg)	mg/L	-	0.7	2.7	0.5	4870434
Soluble Sodium (Na)	mg/L	-	5	ND	5	4870434
Inorganics						
Chromium (VI)	ug/g	**0.66**	ND	0.3	0.2	4868390
Metals						
Hot Water Ext. Boron (B)	ug/g	-	0.14	ND	0.050	4869907
Acid Extractable Antimony (Sb)	ug/g	**1.3**	ND	ND	0.20	4869982
Acid Extractable Arsenic (As)	ug/g	**18**	ND	1.3	1.0	4869982
Acid Extractable Barium (Ba)	ug/g	**220**	11	63	0.50	4869982
Acid Extractable Beryllium (Be)	ug/g	**2.5**	ND	0.29	0.20	4869982
Acid Extractable Boron (B)	ug/g	**36**	ND	6.8	5.0	4869982
Acid Extractable Cadmium (Cd)	ug/g	**1.2**	ND	ND	0.10	4869982
Acid Extractable Chromium (Cr)	ug/g	**70**	5.5	13	1.0	4869982
Acid Extractable Cobalt (Co)	ug/g	**21**	1.9	4.6	0.10	4869982
Acid Extractable Copper (Cu)	ug/g	**92**	3.7	8.9	0.50	4869982
Acid Extractable Lead (Pb)	ug/g	**120**	2.7	4.2	1.0	4869982
Acid Extractable Molybdenum (Mo)	ug/g	**2**	ND	ND	0.50	4869982
Acid Extractable Nickel (Ni)	ug/g	**82**	4.3	9.6	0.50	4869982
Acid Extractable Selenium (Se)	ug/g	**1.5**	ND	ND	0.50	4869982
Acid Extractable Silver (Ag)	ug/g	**0.5**	ND	ND	0.20	4869982
Acid Extractable Thallium (Tl)	ug/g	**1**	ND	0.097	0.050	4869982
Acid Extractable Uranium (U)	ug/g	**2.5**	0.52	0.41	0.050	4869982

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXJ512	DXJ513		
Sampling Date			2017/02/14 10:00	2017/02/14 13:00		
COC Number			76418	76418		
	UNITS	**Criteria**	**11612-1402-07**	**11612-1402-08**	**RDL**	**QC Batch**
Acid Extractable Vanadium (V)	ug/g	**86**	15	20	5.0	4869982
Acid Extractable Zinc (Zn)	ug/g	**290**	11	26	5.0	4869982
Acid Extractable Mercury (Hg)	ug/g	**0.27**	ND	ND	0.050	4869982

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 PAHS (SOIL)

Maxxam ID			DXJ506	DXJ508	DXJ510	DXJ512	DXJ513		
Sampling Date			2017/02/14 11:00	2017/02/14 11:00	2017/02/14 01:15	2017/02/14 10:00	2017/02/14 13:00		
COC Number			76418	76418	76418	76418	76418		
	UNITS	Criteria	11612-1402-01	11612-1402-03	11612-1402-05	11612-1402-07	11612-1402-08	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	**0.59**	ND	ND	ND	0.032	ND	0.0071	4864198
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	**0.072**	ND	ND	ND	ND	ND	0.0050	4872792
Acenaphthylene	ug/g	**0.093**	ND	ND	ND	ND	ND	0.0050	4872792
Anthracene	ug/g	**0.16**	ND	ND	ND	ND	ND	0.0050	4872792
Benzo(a)anthracene	ug/g	**0.36**	ND	ND	ND	ND	ND	0.0050	4872792
Benzo(a)pyrene	ug/g	**0.3**	ND	ND	ND	ND	ND	0.0050	4872792
Benzo(b/j)fluoranthene	ug/g	**0.47**	ND	ND	ND	ND	ND	0.0050	4872792
Benzo(g,h,i)perylene	ug/g	**0.68**	ND	ND	ND	ND	ND	0.0050	4872792
Benzo(k)fluoranthene	ug/g	**0.48**	ND	ND	ND	ND	ND	0.0050	4872792
Chrysene	ug/g	**2.8**	ND	ND	0.015	ND	ND	0.0050	4872792
Dibenz(a,h)anthracene	ug/g	**0.1**	ND	ND	ND	ND	ND	0.0050	4872792
Fluoranthene	ug/g	**0.56**	ND	ND	ND	ND	ND	0.0050	4872792
Fluorene	ug/g	**0.12**	ND	ND	ND	ND	ND	0.0050	4872792
Indeno(1,2,3-cd)pyrene	ug/g	**0.23**	ND	ND	ND	ND	ND	0.0050	4872792
1-Methylnaphthalene	ug/g	**0.59**	ND	ND	ND	0.015	ND	0.0050	4872792
2-Methylnaphthalene	ug/g	**0.59**	ND	ND	ND	0.016	ND	0.0050	4872792
Naphthalene	ug/g	**0.09**	ND	ND	ND	ND	ND	0.0050	4872792
Phenanthrene	ug/g	**0.69**	ND	ND	ND	0.0090	ND	0.0050	4872792
Pyrene	ug/g	**1**	ND	ND	0.0061	ND	ND	0.0050	4872792
Surrogate Recovery (%)									
D10-Anthracene	%	-	99	101	104	102	99		4872792
D14-Terphenyl (FS)	%	-	102	103	106	103	103		4872792
D8-Acenaphthylene	%	-	91	92	96	95	91		4872792

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXJ506	DXJ507	DXJ509	DXJ510		
Sampling Date			2017/02/14 11:00	2017/02/14 11:15	2017/02/14 11:15	2017/02/14 01:15		
COC Number			76418	76418	76418	76418		
	UNITS	Criteria	11612-1402-01	11612-1402-02	11612-1402-04	11612-1402-05	RDL	QC Batch
Inorganics								
Moisture	%	-			7.0		1.0	4867867
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4864199
Volatile Organics								
Acetone (2-Propanone)	ug/g	**0.5**	ND	ND	ND	ND	0.50	4865759
Benzene	ug/g	**0.02**	ND	ND	ND	ND	0.020	4865759
Bromodichloromethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Bromoform	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Bromomethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Carbon Tetrachloride	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Chlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Chloroform	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Dibromochloromethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,2-Dichlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,3-Dichlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,4-Dichlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,1-Dichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,2-Dichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,1-Dichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,2-Dichloropropane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	ND	ND	0.030	4865759
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	ND	ND	0.040	4865759
Ethylbenzene	ug/g	**0.05**	ND	ND	ND	ND	0.020	4865759
Ethylene Dibromide	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Hexane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	ND	ND	ND	0.50	4865759

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXJ506	DXJ507	DXJ509	DXJ510		
Sampling Date			2017/02/14 11:00	2017/02/14 11:15	2017/02/14 11:15	2017/02/14 01:15		
COC Number			76418	76418	76418	76418		
	UNITS	Criteria	11612-1402-01	11612-1402-02	11612-1402-04	11612-1402-05	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	ND	ND	ND	0.50	4865759
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Styrene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Tetrachloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Toluene	ug/g	**0.2**	ND	ND	ND	ND	0.020	4865759
1,1,1-Trichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
1,1,2-Trichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Trichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4865759
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	ND	ND	ND	0.050	4865759
Vinyl Chloride	ug/g	**0.02**	ND	ND	ND	ND	0.020	4865759
p+m-Xylene	ug/g	-	ND	ND	ND	ND	0.020	4865759
o-Xylene	ug/g	-	ND	ND	ND	ND	0.020	4865759
Total Xylenes	ug/g	**0.05**	ND	ND	ND	ND	0.020	4865759
F1 (C6-C10)	ug/g	**25**	ND	ND	ND	ND	10	4865759
F1 (C6-C10) - BTEX	ug/g	**25**	ND	ND	ND	ND	10	4865759
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	**10**	ND	**20**	**20**	**25**	10	4868968
F3 (C16-C34 Hydrocarbons)	ug/g	**240**	ND	110	98	100	50	4868968
F4 (C34-C50 Hydrocarbons)	ug/g	**120**	ND	ND	ND	ND	50	4868968
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes		4868968
Surrogate Recovery (%)								
o-Terphenyl	%	-	87	89	89	89		4868968
4-Bromofluorobenzene	%	-	100	100	101	103		4865759
D10-o-Xylene	%	-	85	83	87	89		4865759
D4-1,2-Dichloroethane	%	-	99	101	99	100		4865759
D8-Toluene	%	-	90	90	89	90		4865759

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXJ511	DXJ512		
Sampling Date			2017/02/14 13:00	2017/02/14 10:00		
COC Number			76418	76418		
	UNITS	Criteria	11612-1402-06	11612-1402-07	RDL	QC Batch
Inorganics						
Moisture	%	-	14		1.0	4867867
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	ND	0.050	4864199
Volatile Organics						
Acetone (2-Propanone)	ug/g	**0.5**	ND	ND	0.50	4865759
Benzene	ug/g	**0.02**	ND	ND	0.020	4865759
Bromodichloromethane	ug/g	**0.05**	ND	ND	0.050	4865759
Bromoform	ug/g	**0.05**	ND	ND	0.050	4865759
Bromomethane	ug/g	**0.05**	ND	ND	0.050	4865759
Carbon Tetrachloride	ug/g	**0.05**	ND	ND	0.050	4865759
Chlorobenzene	ug/g	**0.05**	ND	ND	0.050	4865759
Chloroform	ug/g	**0.05**	ND	ND	0.050	4865759
Dibromochloromethane	ug/g	**0.05**	ND	ND	0.050	4865759
1,2-Dichlorobenzene	ug/g	**0.05**	ND	ND	0.050	4865759
1,3-Dichlorobenzene	ug/g	**0.05**	ND	ND	0.050	4865759
1,4-Dichlorobenzene	ug/g	**0.05**	ND	ND	0.050	4865759
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	ND	0.050	4865759
1,1-Dichloroethane	ug/g	**0.05**	ND	ND	0.050	4865759
1,2-Dichloroethane	ug/g	**0.05**	ND	ND	0.050	4865759
1,1-Dichloroethylene	ug/g	**0.05**	ND	ND	0.050	4865759
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	0.050	4865759
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	0.050	4865759
1,2-Dichloropropane	ug/g	**0.05**	ND	ND	0.050	4865759
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	0.030	4865759
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	0.040	4865759
Ethylbenzene	ug/g	**0.05**	ND	ND	0.020	4865759
Ethylene Dibromide	ug/g	**0.05**	ND	ND	0.050	4865759
Hexane	ug/g	**0.05**	ND	ND	0.050	4865759
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	ND	0.050	4865759
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	ND	0.50	4865759

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXJ511	DXJ512		
Sampling Date			2017/02/14 13:00	2017/02/14 10:00		
COC Number			76418	76418		
	UNITS	Criteria	11612-1402-06	11612-1402-07	RDL	QC Batch
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	ND	0.50	4865759
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	ND	0.050	4865759
Styrene	ug/g	**0.05**	ND	ND	0.050	4865759
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	0.050	4865759
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	0.050	4865759
Tetrachloroethylene	ug/g	**0.05**	ND	ND	0.050	4865759
Toluene	ug/g	**0.2**	ND	ND	0.020	4865759
1,1,1-Trichloroethane	ug/g	**0.05**	ND	ND	0.050	4865759
1,1,2-Trichloroethane	ug/g	**0.05**	ND	ND	0.050	4865759
Trichloroethylene	ug/g	**0.05**	ND	ND	0.050	4865759
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	ND	0.050	4865759
Vinyl Chloride	ug/g	**0.02**	ND	ND	0.020	4865759
p+m-Xylene	ug/g	-	ND	ND	0.020	4865759
o-Xylene	ug/g	-	ND	ND	0.020	4865759
Total Xylenes	ug/g	**0.05**	ND	ND	0.020	4865759
F1 (C6-C10)	ug/g	**25**	ND	ND	10	4865759
F1 (C6-C10) - BTEX	ug/g	**25**	ND	ND	10	4865759
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	**10**	ND	ND	10	4868968
F3 (C16-C34 Hydrocarbons)	ug/g	**240**	ND	ND	50	4868968
F4 (C34-C50 Hydrocarbons)	ug/g	**120**	ND	ND	50	4868968
Reached Baseline at C50	ug/g	-	Yes	Yes		4868968
Surrogate Recovery (%)						
o-Terphenyl	%	-	87	89		4868968
4-Bromofluorobenzene	%	-	101	102		4865759
D10-o-Xylene	%	-	87	88		4865759
D4-1,2-Dichloroethane	%	-	98	99		4865759
D8-Toluene	%	-	90	90		4865759

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID			DXJ514		
Sampling Date					
COC Number			76418		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Volatile Organics					
Acetone (2-Propanone)	ug/g	**0.5**	ND	0.50	4865759
Benzene	ug/g	**0.02**	ND	0.020	4865759
Bromodichloromethane	ug/g	**0.05**	ND	0.050	4865759
Bromoform	ug/g	**0.05**	ND	0.050	4865759
Bromomethane	ug/g	**0.05**	ND	0.050	4865759
Carbon Tetrachloride	ug/g	**0.05**	ND	0.050	4865759
Chlorobenzene	ug/g	**0.05**	ND	0.050	4865759
Chloroform	ug/g	**0.05**	ND	0.050	4865759
Dibromochloromethane	ug/g	**0.05**	ND	0.050	4865759
1,2-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4865759
1,3-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4865759
1,4-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4865759
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	0.050	4865759
1,1-Dichloroethane	ug/g	**0.05**	ND	0.050	4865759
1,2-Dichloroethane	ug/g	**0.05**	ND	0.050	4865759
1,1-Dichloroethylene	ug/g	**0.05**	ND	0.050	4865759
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4865759
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4865759
1,2-Dichloropropane	ug/g	**0.05**	ND	0.050	4865759
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	0.030	4865759
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	0.040	4865759
Ethylbenzene	ug/g	**0.05**	ND	0.020	4865759
Ethylene Dibromide	ug/g	**0.05**	ND	0.050	4865759
Hexane	ug/g	**0.05**	ND	0.050	4865759
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	0.050	4865759
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	0.50	4865759
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	0.50	4865759
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	0.050	4865759
Styrene	ug/g	**0.05**	ND	0.050	4865759
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4865759

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Us
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID			DXJ514		
Sampling Date					
COC Number			76418		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4865759
Tetrachloroethylene	ug/g	**0.05**	ND	0.050	4865759
Toluene	ug/g	**0.2**	ND	0.020	4865759
1,1,1-Trichloroethane	ug/g	**0.05**	ND	0.050	4865759
1,1,2-Trichloroethane	ug/g	**0.05**	ND	0.050	4865759
Trichloroethylene	ug/g	**0.05**	ND	0.050	4865759
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	0.050	4865759
Vinyl Chloride	ug/g	**0.02**	ND	0.020	4865759
p+m-Xylene	ug/g	-	ND	0.020	4865759
o-Xylene	ug/g	-	ND	0.020	4865759
Total Xylenes	ug/g	**0.05**	ND	0.020	4865759
F1 (C6-C10)	ug/g	**25**	ND	10	4865759
F1 (C6-C10) - BTEX	ug/g	**25**	ND	10	4865759
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	100		4865759
D10-o-Xylene	%	-	86		4865759
D4-1,2-Dichloroethane	%	-	99		4865759
D8-Toluene	%	-	89		4865759

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Us
ND = Not detected

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

TEST SUMMARY

Maxxam ID: DXJ506
Sample ID: 11612-1402-01
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4864198	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4869907	2017/02/21	2017/02/21	Jolly John
1,3-Dichloropropene Sum	CALC	4864199	N/A	2017/02/21	Automated Statchk
Free (WAD) Cyanide	TECH	4869122	2017/02/18	2017/02/21	Xuanhong Qiu
Conductivity	AT	4870442	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868390	2017/02/18	2017/02/22	Sally Coughlin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4868968	2017/02/18	2017/02/18	Atoosa Keshavarz
Strong Acid Leachable Metals by ICPMS	ICP/MS	4869982	2017/02/21	2017/02/21	Daniel Teclu
Moisture	BAL	4868327	N/A	2017/02/17	Nimarta Singh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4872792	2017/02/22	2017/02/23	Jett Wu
pH CaCl2 EXTRACT	AT	4870573	2017/02/22	2017/02/22	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4864197	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4870434	2017/02/22	2017/02/22	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

Maxxam ID: DXJ507
Sample ID: 11612-1402-02
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	4869907	2017/02/21	2017/02/21	Jolly John
1,3-Dichloropropene Sum	CALC	4864199	N/A	2017/02/21	Automated Statchk
Free (WAD) Cyanide	TECH	4869122	2017/02/18	2017/02/21	Xuanhong Qiu
Conductivity	AT	4870442	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868390	2017/02/18	2017/02/22	Sally Coughlin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4868968	2017/02/18	2017/02/18	Atoosa Keshavarz
Strong Acid Leachable Metals by ICPMS	ICP/MS	4869982	2017/02/21	2017/02/21	Daniel Teclu
Moisture	BAL	4868327	N/A	2017/02/17	Nimarta Singh
pH CaCl2 EXTRACT	AT	4870573	2017/02/22	2017/02/22	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4864197	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4870434	2017/02/22	2017/02/22	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

Maxxam ID: DXJ508
Sample ID: 11612-1402-03
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4864198	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4869907	2017/02/21	2017/02/21	Jolly John
Free (WAD) Cyanide	TECH	4869122	2017/02/18	2017/02/21	Xuanhong Qiu
Conductivity	AT	4870442	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868390	2017/02/18	2017/02/22	Sally Coughlin
Strong Acid Leachable Metals by ICPMS	ICP/MS	4869982	2017/02/21	2017/02/21	Daniel Teclu

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

TEST SUMMARY

Maxxam ID: DXJ508
Sample ID: 11612-1402-03
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	4868327	N/A	2017/02/17	Nimarta Singh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4872792	2017/02/22	2017/02/23	Jett Wu
pH CaCl2 EXTRACT	AT	4870573	2017/02/22	2017/02/22	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4864197	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4870434	2017/02/22	2017/02/22	Suban Kanapathippllai

Maxxam ID: DXJ509
Sample ID: 11612-1402-04
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4864199	N/A	2017/02/21	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4868968	2017/02/18	2017/02/18	Atoosa Keshavarz
Moisture	BAL	4867867	N/A	2017/02/17	Prgya Panchal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

Maxxam ID: DXJ510
Sample ID: 11612-1402-05
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4864198	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4869907	2017/02/21	2017/02/21	Jolly John
1,3-Dichloropropene Sum	CALC	4864199	N/A	2017/02/21	Automated Statchk
Free (WAD) Cyanide	TECH	4869122	2017/02/18	2017/02/21	Xuanhong Qiu
Conductivity	AT	4870442	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868390	2017/02/18	2017/02/22	Sally Coughlin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4868968	2017/02/18	2017/02/18	Atoosa Keshavarz
Strong Acid Leachable Metals by ICPMS	ICP/MS	4869982	2017/02/21	2017/02/21	Daniel Teclu
Moisture	BAL	4868327	N/A	2017/02/17	Nimarta Singh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4872792	2017/02/22	2017/02/23	Jett Wu
pH CaCl2 EXTRACT	AT	4870573	2017/02/22	2017/02/22	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4864197	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4870434	2017/02/22	2017/02/22	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

Maxxam ID: DXJ511
Sample ID: 11612-1402-06
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4864199	N/A	2017/02/21	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4868968	2017/02/18	2017/02/18	Atoosa Keshavarz
Moisture	BAL	4867867	N/A	2017/02/17	Prgya Panchal

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

TEST SUMMARY

Maxxam ID: DXJ511
Sample ID: 11612-1402-06
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

Maxxam ID: DXJ512
Sample ID: 11612-1402-07
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4864198	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4869907	2017/02/21	2017/02/21	Jolly John
1,3-Dichloropropene Sum	CALC	4864199	N/A	2017/02/21	Automated Statchk
Free (WAD) Cyanide	TECH	4869122	2017/02/18	2017/02/21	Xuanhong Qiu
Conductivity	AT	4870442	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868390	2017/02/18	2017/02/22	Sally Coughlin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4868968	2017/02/18	2017/02/19	Atoosa Keshavarz
Strong Acid Leachable Metals by ICPMS	ICP/MS	4869982	2017/02/21	2017/02/21	Daniel Teclu
Moisture	BAL	4868327	N/A	2017/02/17	Nimarta Singh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4872792	2017/02/22	2017/02/23	Jett Wu
pH CaCl2 EXTRACT	AT	4870573	2017/02/22	2017/02/22	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4864197	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4870434	2017/02/22	2017/02/22	Suban Kanapathippllai
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

Maxxam ID: DXJ513
Sample ID: 11612-1402-08
Matrix: Soil

Collected: 2017/02/14
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4864198	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4869907	2017/02/21	2017/02/21	Jolly John
Free (WAD) Cyanide	TECH	4869122	2017/02/18	2017/02/21	Xuanhong Qiu
Conductivity	AT	4870442	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4868390	2017/02/18	2017/02/22	Sally Coughlin
Strong Acid Leachable Metals by ICPMS	ICP/MS	4869982	2017/02/21	2017/02/21	Daniel Teclu
Moisture	BAL	4868327	N/A	2017/02/17	Nimarta Singh
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4872792	2017/02/22	2017/02/23	Jett Wu
pH CaCl2 EXTRACT	AT	4870573	2017/02/22	2017/02/22	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4864197	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4870434	2017/02/22	2017/02/22	Suban Kanapathippllai

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

TEST SUMMARY

Maxxam ID: DXJ514
Sample ID: TRIP BLANK
Matrix: Soil

Collected:
Shipped:
Received: 2017/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4865759	N/A	2017/02/17	John Wu

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

GENERAL COMMENTS

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

Package 1	5.3°C

Cooler custody seal was present and intact.

Sample DXJ510 [11612-1402-05] : SAR Analysis: Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Sample DXJ513 [11612-1402-08] : SAR Analysis: Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Results relate only to the items tested.

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Maxxam Job #: B730975
Report Date: 2017/02/24

QUALITY ASSURANCE REPORT

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4865759	4-Bromofluorobenzene	2017/02/16	110	60 - 140	109	60 - 140	99	%		
4865759	D10-o-Xylene	2017/02/16	103	60 - 130	104	60 - 130	79	%		
4865759	D4-1,2-Dichloroethane	2017/02/16	95	60 - 140	97	60 - 140	101	%		
4865759	D8-Toluene	2017/02/16	100	60 - 140	99	60 - 140	89	%		
4868968	o-Terphenyl	2017/02/18	93	60 - 130	94	60 - 130	89	%		
4872792	D10-Anthracene	2017/02/23	93	50 - 130	96	50 - 130	98	%		
4872792	D14-Terphenyl (FS)	2017/02/23	95	50 - 130	103	50 - 130	103	%		
4872792	D8-Acenaphthylene	2017/02/23	84	50 - 130	84	50 - 130	90	%		
4865759	1,1,1,2-Tetrachloroethane	2017/02/16	101	60 - 140	113	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,1,1-Trichloroethane	2017/02/16	100	60 - 140	112	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,1,2,2-Tetrachloroethane	2017/02/16	89	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,1,2-Trichloroethane	2017/02/16	86	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,1-Dichloroethane	2017/02/16	93	60 - 140	105	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,1-Dichloroethylene	2017/02/16	95	60 - 140	106	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,2-Dichlorobenzene	2017/02/16	90	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,2-Dichloroethane	2017/02/16	88	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,2-Dichloropropane	2017/02/16	90	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,3-Dichlorobenzene	2017/02/16	89	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	1,4-Dichlorobenzene	2017/02/16	91	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Acetone (2-Propanone)	2017/02/16	82	60 - 140	102	60 - 140	ND, RDL=0.50	ug/g	NC	50
4865759	Benzene	2017/02/16	96	60 - 140	106	60 - 130	ND, RDL=0.020	ug/g	NC	50
4865759	Bromodichloromethane	2017/02/16	96	60 - 140	109	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Bromoform	2017/02/16	100	60 - 140	113	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Bromomethane	2017/02/16	105	60 - 140	118	60 - 140	ND, RDL=0.050	ug/g	NC	50
4865759	Carbon Tetrachloride	2017/02/16	107	60 - 140	120	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Chlorobenzene	2017/02/16	96	60 - 140	106	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Chloroform	2017/02/16	96	60 - 140	108	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	cis-1,2-Dichloroethylene	2017/02/16	103	60 - 140	116	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	cis-1,3-Dichloropropene	2017/02/16	87	60 - 140	99	60 - 130	ND, RDL=0.030	ug/g	NC	50
4865759	Dibromochloromethane	2017/02/16	102	60 - 140	114	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Dichlorodifluoromethane (FREON 12)	2017/02/16	97	60 - 140	107	60 - 140	ND, RDL=0.050	ug/g	NC	50

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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
4865759	Ethylbenzene	2017/02/16	89	60 - 140	97	60 - 130	ND, RDL=0.020	ug/g	NC	50
4865759	Ethylene Dibromide	2017/02/16	93	60 - 140	104	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	F1 (C6-C10) - BTEX	2017/02/16					ND, RDL=10	ug/g	NC	30
4865759	F1 (C6-C10)	2017/02/16	85	60 - 140	84	80 - 120	ND, RDL=10	ug/g	NC	30
4865759	Hexane	2017/02/16	100	60 - 140	110	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Methyl Ethyl Ketone (2-Butanone)	2017/02/16	85	60 - 140	100	60 - 140	ND, RDL=0.50	ug/g	NC	50
4865759	Methyl Isobutyl Ketone	2017/02/16	84	60 - 140	95	60 - 130	ND, RDL=0.50	ug/g	NC	50
4865759	Methyl t-butyl ether (MTBE)	2017/02/16	91	60 - 140	103	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Methylene Chloride(Dichloromethane)	2017/02/16	103	60 - 140	116	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	o-Xylene	2017/02/16	89	60 - 140	97	60 - 130	ND, RDL=0.020	ug/g	NC	50
4865759	p+m-Xylene	2017/02/16	88	60 - 140	95	60 - 130	ND, RDL=0.020	ug/g	NC	50
4865759	Styrene	2017/02/16	93	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Tetrachloroethylene	2017/02/16	105	60 - 140	117	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Toluene	2017/02/16	92	60 - 140	101	60 - 130	ND, RDL=0.020	ug/g	NC	50
4865759	Total Xylenes	2017/02/16					ND, RDL=0.020	ug/g	NC	50
4865759	trans-1,2-Dichloroethylene	2017/02/16	99	60 - 140	110	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	trans-1,3-Dichloropropene	2017/02/16	85	60 - 140	97	60 - 130	ND, RDL=0.040	ug/g	NC	50
4865759	Trichloroethylene	2017/02/16	105	60 - 140	117	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Trichlorofluoromethane (FREON 11)	2017/02/16	109	60 - 140	122	60 - 130	ND, RDL=0.050	ug/g	NC	50
4865759	Vinyl Chloride	2017/02/16	105	60 - 140	113	60 - 130	ND, RDL=0.020	ug/g	NC	50
4867867	Moisture	2017/02/17							0	20
4868327	Moisture	2017/02/17							3.3	20
4868390	Chromium (VI)	2017/02/22	83	75 - 125	89	80 - 120	ND, RDL=0.2	ug/g	NC	35
4868968	F2 (C10-C16 Hydrocarbons)	2017/02/19	94	50 - 130	94	80 - 120	ND, RDL=10	ug/g	NC	30
4868968	F3 (C16-C34 Hydrocarbons)	2017/02/19	95	50 - 130	95	80 - 120	ND, RDL=50	ug/g	NC	30
4868968	F4 (C34-C50 Hydrocarbons)	2017/02/19	87	50 - 130	87	80 - 120	ND, RDL=50	ug/g	NC	30
4869122	Free Cyanide	2017/02/21	103	75 - 125	97	80 - 120	ND, RDL=0.01	ug/g	NC	35
4869907	Hot Water Ext. Boron (B)	2017/02/21	98	75 - 125	98	75 - 125	ND, RDL=0.050	ug/g	NC	40
4869982	Acid Extractable Antimony (Sb)	2017/02/21	89	75 - 125	96	80 - 120	ND, RDL=0.20	ug/g	NC	30
4869982	Acid Extractable Arsenic (As)	2017/02/21	97	75 - 125	99	80 - 120	ND, RDL=1.0	ug/g	NC	30
4869982	Acid Extractable Barium (Ba)	2017/02/21	NC	75 - 125	100	80 - 120	ND, RDL=0.50	ug/g	0.099	30

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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
4869982	Acid Extractable Beryllium (Be)	2017/02/21	96	75 - 125	96	80 - 120	ND, RDL=0.20	ug/g	NC	30
4869982	Acid Extractable Boron (B)	2017/02/21	93	75 - 125	97	80 - 120	ND, RDL=5.0	ug/g	NC	30
4869982	Acid Extractable Cadmium (Cd)	2017/02/21	96	75 - 125	96	80 - 120	ND, RDL=0.10	ug/g	NC	30
4869982	Acid Extractable Chromium (Cr)	2017/02/21	NC	75 - 125	101	80 - 120	ND, RDL=1.0	ug/g	2.5	30
4869982	Acid Extractable Cobalt (Co)	2017/02/21	99	75 - 125	99	80 - 120	ND, RDL=0.10	ug/g	3.2	30
4869982	Acid Extractable Copper (Cu)	2017/02/21	98	75 - 125	98	80 - 120	ND, RDL=0.50	ug/g	3.9	30
4869982	Acid Extractable Lead (Pb)	2017/02/21	96	75 - 125	99	80 - 120	ND, RDL=1.0	ug/g	NC	30
4869982	Acid Extractable Mercury (Hg)	2017/02/21	96	75 - 125	98	80 - 120	ND, RDL=0.050	ug/g	NC	30
4869982	Acid Extractable Molybdenum (Mo)	2017/02/21	100	75 - 125	99	80 - 120	ND, RDL=0.50	ug/g	NC	30
4869982	Acid Extractable Nickel (Ni)	2017/02/21	96	75 - 125	100	80 - 120	ND, RDL=0.50	ug/g	2.0	30
4869982	Acid Extractable Selenium (Se)	2017/02/21	92	75 - 125	99	80 - 120	ND, RDL=0.50	ug/g	NC	30
4869982	Acid Extractable Silver (Ag)	2017/02/21	99	75 - 125	99	80 - 120	ND, RDL=0.20	ug/g	NC	30
4869982	Acid Extractable Thallium (Tl)	2017/02/21	95	75 - 125	97	80 - 120	ND, RDL=0.050	ug/g	NC	30
4869982	Acid Extractable Uranium (U)	2017/02/21	96	75 - 125	95	80 - 120	ND, RDL=0.050	ug/g	0.31	30
4869982	Acid Extractable Vanadium (V)	2017/02/21	NC	75 - 125	100	80 - 120	ND, RDL=5.0	ug/g	NC	30
4869982	Acid Extractable Zinc (Zn)	2017/02/21	NC	75 - 125	99	80 - 120	ND, RDL=5.0	ug/g	2.8	30
4870434	Soluble Calcium (Ca)	2017/02/22			95	80 - 120	ND, RDL=0.5	mg/L	0.26	30
4870434	Soluble Magnesium (Mg)	2017/02/22			97	80 - 120	ND, RDL=0.5	mg/L	6.0	30
4870434	Soluble Sodium (Na)	2017/02/22			93	80 - 120	ND,RDL=5	mg/L	NC	30
4870442	Conductivity	2017/02/22			100	90 - 110	ND, RDL=0.002	mS/cm	0.42	10
4870573	Available (CaCl2) pH	2017/02/22			99	97 - 103			0.11	N/A
4872792	1-Methylnaphthalene	2017/02/23	109	50 - 130	103	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	2-Methylnaphthalene	2017/02/23	104	50 - 130	99	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Acenaphthene	2017/02/23	102	50 - 130	103	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Acenaphthylene	2017/02/23	95	50 - 130	92	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Anthracene	2017/02/23	85	50 - 130	85	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Benzo(a)anthracene	2017/02/23	102	50 - 130	102	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Benzo(a)pyrene	2017/02/23	102	50 - 130	109	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Benzo(b/j)fluoranthene	2017/02/23	109	50 - 130	121	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Benzo(g,h,i)perylene	2017/02/23	110	50 - 130	112	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Benzo(k)fluoranthene	2017/02/23	107	50 - 130	121	50 - 130	ND, RDL=0.0050	ug/g	NC	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
4872792	Chrysene	2017/02/23	106	50 - 130	112	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Dibenz(a,h)anthracene	2017/02/23	107	50 - 130	105	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Fluoranthene	2017/02/23	106	50 - 130	110	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Fluorene	2017/02/23	98	50 - 130	97	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Indeno(1,2,3-cd)pyrene	2017/02/23	114	50 - 130	114	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Naphthalene	2017/02/23	91	50 - 130	93	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Phenanthrene	2017/02/23	100	50 - 130	104	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872792	Pyrene	2017/02/23	107	50 - 130	110	50 - 130	ND, RDL=0.0050	ug/g	NC	40

N/A = Not Applicable

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

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 (one or both samples < 5x RDL).

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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Scientific Services

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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Maxxam Job #: B730975
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-02

Exceedence Summary Table – Reg153/04 T1-Soil/Res

Result Exceedences

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
11612-1402-02	DXJ507-02	F2 (C10-C16 Hydrocarbons)	10	20	10	ug/g
11612-1402-04	DXJ509-01	F2 (C10-C16 Hydrocarbons)	10	20	10	ug/g
11612-1402-05	DXJ510-02	F2 (C10-C16 Hydrocarbons)	10	25	10	ug/g

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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CAM FCD-01191/2

CHAIN OF CUSTODY RECORD 76418

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Haddad Geotechnical Inc.	Company Name:	Quotation #:	✓ Regular TAT (5-7 days) Most analyses
Contact Name: Graham Fisher	Contact Name:	P.O. #/ AFE#: 16-11612-02	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 151 Amber St. Markham L3R 3J7	Address:	Project #: 16-11612	Rush TAT (Surcharges will be applied)
Phone: 905-475 0951 Fax:	Phone: Fax:	Site Location: 591 Liverpool Rd. Pickering	☐ 1 Day ☐ 2 Days ☐ 3-4 Days
Email: info@haddadgeo.com.	Email:	Site #:	Date Required:
		Sampled By: SR.	

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

Regulation 153	Other Regulations
☑ Table 1 ☑ Res/Park ☐ Med/ Fine	☐ CCME ☐ Sanitary Sewer Bylaw
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ MISA ☐ Storm Sewer Bylaw
☐ Table 3 ☐ Agri/ Other	☐ PWQO Region
☐ Table ____	☐ Other (Specify)
FOR RSC (PLEASE CIRCLE) (Y) N	☐ REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: (Y) N

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	PAH's	HOLD- DO NOT ANALYZE
1	11612-1402-01	2017/02/14	11am	S	5		✓	✓	✓	✓		✓	✓	
2	11612-1402-02	"	11:15 am	S	4		✓	✓	✓	✓		✓		
3	11612-1402-03	"	11 am	S	2					✓		✓	✓	
4	11612-1402-04	"	11:15 am	S	3		✓	✓	✓					
5	11612-1402-05	"	1:15 am	S	5		✓	✓	✓	✓		✓	✓	
6	11612-1402-06	"	1 pm	S	3		✓	✓	✓					
7	11612-1402-07	"	10 am	S	5		✓	✓	✓	✓		✓	✓	
8	11612-1402-08	"	1 pm	S	2					✓		✓	✓	
9	Trip blanks				1		✓		✓					
10														

REFER TO BACK OF COC

14-Feb-17 19:19
Antonella Brasil
B730975
GK1 ENV-902

LABORATORY USE ONLY

CUSTODY SEAL (Y) / N		COOLER TEMPERATURES
Present	Intact	
Y	Y	7 2017/02/14 T.K
		4/5/4

COOLING MEDIA PRESENT: (Y) / N

COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
	17-20 Feb-14/17			2017/02/14	~~19:19~~ 19:19	2017/2/14 T.K

COC-1004 (10/14) - ENV. ENG.

White: Maxxam ~ Yellow: Client

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 16-11612-03
Your Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your C.O.C. #: 61705, na

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/24
Report #: R4368402
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B732439
Received: 2017/02/16, 09:57

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Hot Water Extractable Boron	1	2017/02/22	2017/02/23	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	1	N/A	2017/02/22		EPA 8260C m
1,3-Dichloropropene Sum	1	N/A	2017/02/23		EPA 8260C m
Free (WAD) Cyanide	1	2017/02/21	2017/02/22	CAM SOP-00457	OMOE E3015 m
Conductivity	1	2017/02/22	2017/02/22	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	1	2017/02/22	2017/02/23	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	1	N/A	2017/02/21	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2017/02/21	2017/02/22	CAM SOP-00316	CCME CWS m
Strong Acid Leachable Metals by ICPMS	1	2017/02/22	2017/02/22	CAM SOP-00447	EPA 6020B m
Moisture	2	N/A	2017/02/21	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT	1	2017/02/23	2017/02/23	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	1	N/A	2017/02/23	CAM SOP-00102	EPA 6010C
SAR - ICP Metals	1	2017/02/22	2017/02/22	CAM SOP-00408	EPA 6010C m
Volatile Organic Compounds and F1 PHCs	1	N/A	2017/02/22	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Soil	1	N/A	2017/02/22	CAM SOP-00228	EPA 8260C 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.

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. #: 16-11612-03
Your Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your C.O.C. #: 61705, na

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/24
Report #: R4368402
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B732439
Received: 2017/02/16, 09:57

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

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.
(2) 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.
(3) 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.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: ABrasil@maxxam.ca
Phone# (905)817-5817

==========

This report has been generated and distributed using a secure automated process.
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 Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXQ026		
Sampling Date			2017/02/15 10:15		
COC Number			na		
	UNITS	**Criteria**	**11612-1502-01**	**RDL**	**QC Batch**
Calculated Parameters					
Sodium Adsorption Ratio	N/A	**2.4**	0.23		4866442
Inorganics					
Conductivity	mS/cm	**0.57**	0.28	0.002	4871823
Free Cyanide	ug/g	**0.051**	0.01	0.01	4870304
Moisture	%	-	6.6	1.0	4870398
Available (CaCl2) pH	pH	-	7.60		4872114
Metals					
Soluble Calcium (Ca)	mg/L	-	40.0	0.5	4871815
Soluble Magnesium (Mg)	mg/L	-	0.9	0.5	4871815
Soluble Sodium (Na)	mg/L	-	5	5	4871815
Inorganics					
Chromium (VI)	ug/g	**0.66**	ND	0.2	4872214
Metals					
Hot Water Ext. Boron (B)	ug/g	-	0.36	0.050	4871528
Acid Extractable Antimony (Sb)	ug/g	**1.3**	ND	0.20	4871531
Acid Extractable Arsenic (As)	ug/g	**18**	1.8	1.0	4871531
Acid Extractable Barium (Ba)	ug/g	**220**	31	0.50	4871531
Acid Extractable Beryllium (Be)	ug/g	**2.5**	0.23	0.20	4871531
Acid Extractable Boron (B)	ug/g	**36**	5.0	5.0	4871531
Acid Extractable Cadmium (Cd)	ug/g	**1.2**	0.12	0.10	4871531
Acid Extractable Chromium (Cr)	ug/g	**70**	11	1.0	4871531
Acid Extractable Cobalt (Co)	ug/g	**21**	3.4	0.10	4871531
Acid Extractable Copper (Cu)	ug/g	**92**	10	0.50	4871531
Acid Extractable Lead (Pb)	ug/g	**120**	11	1.0	4871531
Acid Extractable Molybdenum (Mo)	ug/g	**2**	0.66	0.50	4871531
Acid Extractable Nickel (Ni)	ug/g	**82**	8.7	0.50	4871531
Acid Extractable Selenium (Se)	ug/g	**1.5**	ND	0.50	4871531
Acid Extractable Silver (Ag)	ug/g	**0.5**	ND	0.20	4871531
Acid Extractable Thallium (Tl)	ug/g	**1**	0.073	0.050	4871531

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

ND = Not detected

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 #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXQ026		
Sampling Date			2017/02/15 10:15		
COC Number			na		
	UNITS	**Criteria**	**11612-1502-01**	**RDL**	**QC Batch**
Acid Extractable Uranium (U)	ug/g	**2.5**	0.40	0.050	4871531
Acid Extractable Vanadium (V)	ug/g	**86**	15	5.0	4871531
Acid Extractable Zinc (Zn)	ug/g	**290**	42	5.0	4871531
Acid Extractable Mercury (Hg)	ug/g	**0.27**	ND	0.050	4871531

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXQ027		
Sampling Date			2017/02/15 10:30		
COC Number			na		
	UNITS	Criteria	11612-1502-02	RDL	QC Batch
Inorganics					
Moisture	%	-	16	1.0	4870480
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	0.050	4866312
Volatile Organics					
Acetone (2-Propanone)	ug/g	**0.5**	ND	0.50	4867865
Benzene	ug/g	**0.02**	ND	0.020	4867865
Bromodichloromethane	ug/g	**0.05**	ND	0.050	4867865
Bromoform	ug/g	**0.05**	ND	0.050	4867865
Bromomethane	ug/g	**0.05**	ND	0.050	4867865
Carbon Tetrachloride	ug/g	**0.05**	ND	0.050	4867865
Chlorobenzene	ug/g	**0.05**	ND	0.050	4867865
Chloroform	ug/g	**0.05**	ND	0.050	4867865
Dibromochloromethane	ug/g	**0.05**	ND	0.050	4867865
1,2-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4867865
1,3-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4867865
1,4-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4867865
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	0.050	4867865
1,1-Dichloroethane	ug/g	**0.05**	ND	0.050	4867865
1,2-Dichloroethane	ug/g	**0.05**	ND	0.050	4867865
1,1-Dichloroethylene	ug/g	**0.05**	ND	0.050	4867865
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4867865
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4867865
1,2-Dichloropropane	ug/g	**0.05**	ND	0.050	4867865
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	0.030	4867865
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	0.040	4867865
Ethylbenzene	ug/g	**0.05**	ND	0.020	4867865
Ethylene Dibromide	ug/g	**0.05**	ND	0.050	4867865
Hexane	ug/g	**0.05**	ND	0.050	4867865
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	0.050	4867865

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

ND = Not detected

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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXQ027		
Sampling Date			2017/02/15 10:30		
COC Number			na		
	UNITS	Criteria	11612-1502-02	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	0.50	4867865
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	0.50	4867865
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	0.050	4867865
Styrene	ug/g	**0.05**	ND	0.050	4867865
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4867865
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4867865
Tetrachloroethylene	ug/g	**0.05**	ND	0.050	4867865
Toluene	ug/g	**0.2**	ND	0.020	4867865
1,1,1-Trichloroethane	ug/g	**0.05**	ND	0.050	4867865
1,1,2-Trichloroethane	ug/g	**0.05**	ND	0.050	4867865
Trichloroethylene	ug/g	**0.05**	ND	0.050	4867865
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	0.050	4867865
Vinyl Chloride	ug/g	**0.02**	ND	0.020	4867865
p+m-Xylene	ug/g	-	ND	0.020	4867865
o-Xylene	ug/g	-	ND	0.020	4867865
Total Xylenes	ug/g	**0.05**	ND	0.020	4867865
F1 (C6-C10)	ug/g	**25**	ND	10	4867865
F1 (C6-C10) - BTEX	ug/g	**25**	ND	10	4867865
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	**10**	ND	10	4871307
F3 (C16-C34 Hydrocarbons)	ug/g	**240**	ND	50	4871307
F4 (C34-C50 Hydrocarbons)	ug/g	**120**	ND	50	4871307
Reached Baseline at C50	ug/g	-	Yes		4871307
Surrogate Recovery (%)					
o-Terphenyl	%	-	91		4871307
4-Bromofluorobenzene	%	-	96		4867865
D10-o-Xylene	%	-	104		4867865
D4-1,2-Dichloroethane	%	-	100		4867865
D8-Toluene	%	-	102		4867865

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

O.REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID			DXQ028		
Sampling Date					
COC Number			na		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	0.050	4866312
Volatile Organics					
Acetone (2-Propanone)	ug/g	**0.5**	ND	0.50	4870110
Benzene	ug/g	**0.02**	ND	0.020	4870110
Bromodichloromethane	ug/g	**0.05**	ND	0.050	4870110
Bromoform	ug/g	**0.05**	ND	0.050	4870110
Bromomethane	ug/g	**0.05**	ND	0.050	4870110
Carbon Tetrachloride	ug/g	**0.05**	ND	0.050	4870110
Chlorobenzene	ug/g	**0.05**	ND	0.050	4870110
Chloroform	ug/g	**0.05**	ND	0.050	4870110
Dibromochloromethane	ug/g	**0.05**	ND	0.050	4870110
1,2-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4870110
1,3-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4870110
1,4-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4870110
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	0.050	4870110
1,1-Dichloroethane	ug/g	**0.05**	ND	0.050	4870110
1,2-Dichloroethane	ug/g	**0.05**	ND	0.050	4870110
1,1-Dichloroethylene	ug/g	**0.05**	ND	0.050	4870110
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4870110
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4870110
1,2-Dichloropropane	ug/g	**0.05**	ND	0.050	4870110
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	0.030	4870110
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	0.040	4870110
Ethylbenzene	ug/g	**0.05**	ND	0.020	4870110
Ethylene Dibromide	ug/g	**0.05**	ND	0.050	4870110
Hexane	ug/g	**0.05**	ND	0.050	4870110
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	0.050	4870110
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	0.50	4870110
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	0.50	4870110
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	0.050	4870110

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Us
ND = Not detected

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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

O.REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID			DXQ028		
Sampling Date					
COC Number			na		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Styrene	ug/g	**0.05**	ND	0.050	4870110
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4870110
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4870110
Tetrachloroethylene	ug/g	**0.05**	ND	0.050	4870110
Toluene	ug/g	**0.2**	ND	0.020	4870110
1,1,1-Trichloroethane	ug/g	**0.05**	ND	0.050	4870110
1,1,2-Trichloroethane	ug/g	**0.05**	ND	0.050	4870110
Trichloroethylene	ug/g	**0.05**	ND	0.050	4870110
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	0.050	4870110
Vinyl Chloride	ug/g	**0.02**	ND	0.020	4870110
p+m-Xylene	ug/g	-	ND	0.020	4870110
o-Xylene	ug/g	-	ND	0.020	4870110
Total Xylenes	ug/g	**0.05**	ND	0.020	4870110
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	96		4870110
D4-1,2-Dichloroethane	%	-	93		4870110
D8-Toluene	%	-	99		4870110

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Us
ND = Not detected

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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID			DXQ028		
Sampling Date					
COC Number			na		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons					
F1 (C6-C10)	ug/g	**25**	ND	10	4870483
F1 (C6-C10) - BTEX	ug/g	**25**	ND	10	4870483
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	-	101		4870483
4-Bromofluorobenzene	%	-	92		4870483
D10-Ethylbenzene	%	-	97		4870483
D4-1,2-Dichloroethane	%	-	103		4870483

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

TEST SUMMARY

Maxxam ID: DXQ026
Sample ID: 11612-1502-01
Matrix: Soil

Collected: 2017/02/15
Shipped:
Received: 2017/02/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	4871528	2017/02/22	2017/02/23	Jolly John
Free (WAD) Cyanide	TECH	4870304	2017/02/21	2017/02/22	Xuanhong Qiu
Conductivity	AT	4871823	2017/02/22	2017/02/22	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4872214	2017/02/22	2017/02/23	Sally Coughlin
Strong Acid Leachable Metals by ICPMS	ICP/MS	4871531	2017/02/22	2017/02/22	Daniel Teclu
Moisture	BAL	4870398	N/A	2017/02/21	Valentina Kaftani
pH CaCl2 EXTRACT	AT	4872114	2017/02/23	2017/02/23	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4866442	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4871815	2017/02/22	2017/02/22	Suban Kanapathippllai

Maxxam ID: DXQ027
Sample ID: 11612-1502-02
Matrix: Soil

Collected: 2017/02/15
Shipped:
Received: 2017/02/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4866312	N/A	2017/02/23	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4871307	2017/02/21	2017/02/22	Zhiyue (Frank) Zhu
Moisture	BAL	4870480	N/A	2017/02/21	Valentina Kaftani
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4867865	N/A	2017/02/22	Yang (Philip) Yu

Maxxam ID: DXQ028
Sample ID: TRIP BLANK
Matrix: Soil

Collected:
Shipped:
Received: 2017/02/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4866312	N/A	2017/02/22	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	4870483	N/A	2017/02/21	Joe Paino
Volatile Organic Compounds in Soil	GC/MS	4870110	N/A	2017/02/22	Anna Gabrielyan

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Maxxam Job #: B732439
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Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

GENERAL COMMENTS

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

Package 1	6.3°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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Maxxam Job #: B732439
Report Date: 2017/02/24

QUALITY ASSURANCE REPORT

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4867865	4-Bromofluorobenzene	2017/02/22	98	60 - 140	99	60 - 140	96	%		
4867865	D10-o-Xylene	2017/02/22	113	60 - 130	85	60 - 130	107	%		
4867865	D4-1,2-Dichloroethane	2017/02/22	100	60 - 140	103	60 - 140	100	%		
4867865	D8-Toluene	2017/02/22	102	60 - 140	99	60 - 140	101	%		
4870110	4-Bromofluorobenzene	2017/02/21	102	60 - 140	103	60 - 140	101	%		
4870110	D4-1,2-Dichloroethane	2017/02/21	98	60 - 140	101	60 - 140	109	%		
4870110	D8-Toluene	2017/02/21	101	60 - 140	100	60 - 140	94	%		
4870483	1,4-Difluorobenzene	2017/02/21	98	60 - 140	100	60 - 140	102	%		
4870483	4-Bromofluorobenzene	2017/02/21	116	60 - 140	112	60 - 140	98	%		
4870483	D10-Ethylbenzene	2017/02/21	96	60 - 140	91	60 - 140	87	%		
4870483	D4-1,2-Dichloroethane	2017/02/21	98	60 - 140	99	60 - 140	100	%		
4871307	o-Terphenyl	2017/02/21	89	60 - 130	91	60 - 130	91	%		
4867865	1,1,1,2-Tetrachloroethane	2017/02/22	101	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,1,1-Trichloroethane	2017/02/22	90	60 - 140	90	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,1,2,2-Tetrachloroethane	2017/02/22	106	60 - 140	111	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,1,2-Trichloroethane	2017/02/22	103	60 - 140	103	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,1-Dichloroethane	2017/02/22	90	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,1-Dichloroethylene	2017/02/22	91	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,2-Dichlorobenzene	2017/02/22	99	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,2-Dichloroethane	2017/02/22	90	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,2-Dichloropropane	2017/02/22	94	60 - 140	96	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,3-Dichlorobenzene	2017/02/22	93	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	1,4-Dichlorobenzene	2017/02/22	97	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Acetone (2-Propanone)	2017/02/22	103	60 - 140	100	60 - 140	ND, RDL=0.50	ug/g	NC	50
4867865	Benzene	2017/02/22	89	60 - 140	90	60 - 130	ND, RDL=0.020	ug/g	NC	50
4867865	Bromodichloromethane	2017/02/22	95	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Bromoform	2017/02/22	100	60 - 140	104	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Bromomethane	2017/02/22	82	60 - 140	84	60 - 140	ND, RDL=0.050	ug/g	NC	50
4867865	Carbon Tetrachloride	2017/02/22	92	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Chlorobenzene	2017/02/22	100	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Chloroform	2017/02/22	91	60 - 140	92	60 - 130	ND, RDL=0.050	ug/g	NC	50

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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
4867865	cis-1,2-Dichloroethylene	2017/02/22	94	60 - 140	96	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	cis-1,3-Dichloropropene	2017/02/22	76	60 - 140	81	60 - 130	ND, RDL=0.030	ug/g	NC	50
4867865	Dibromochloromethane	2017/02/22	100	60 - 140	102	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Dichlorodifluoromethane (FREON 12)	2017/02/22	69	60 - 140	71	60 - 140	ND, RDL=0.050	ug/g	NC	50
4867865	Ethylbenzene	2017/02/22	97	60 - 140	94	60 - 130	ND, RDL=0.020	ug/g	NC	50
4867865	Ethylene Dibromide	2017/02/22	101	60 - 140	102	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	F1 (C6-C10) - BTEX	2017/02/22					ND, RDL=10	ug/g	NC	30
4867865	F1 (C6-C10)	2017/02/22	100	60 - 140	93	80 - 120	ND, RDL=10	ug/g	NC	30
4867865	Hexane	2017/02/22	94	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Methyl Ethyl Ketone (2-Butanone)	2017/02/22	110	60 - 140	112	60 - 140	ND, RDL=0.50	ug/g	NC	50
4867865	Methyl Isobutyl Ketone	2017/02/22	110	60 - 140	118	60 - 130	ND, RDL=0.50	ug/g	NC	50
4867865	Methyl t-butyl ether (MTBE)	2017/02/22	94	60 - 140	96	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Methylene Chloride(Dichloromethane)	2017/02/22	89	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	o-Xylene	2017/02/22	96	60 - 140	94	60 - 130	ND, RDL=0.020	ug/g	NC	50
4867865	p+m-Xylene	2017/02/22	93	60 - 140	90	60 - 130	ND, RDL=0.020	ug/g	NC	50
4867865	Styrene	2017/02/22	96	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Tetrachloroethylene	2017/02/22	90	60 - 140	87	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Toluene	2017/02/22	92	60 - 140	90	60 - 130	ND, RDL=0.030 (1)	ug/g	NC	50
4867865	Total Xylenes	2017/02/22					ND, RDL=0.020	ug/g	NC	50
4867865	trans-1,2-Dichloroethylene	2017/02/22	84	60 - 140	85	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	trans-1,3-Dichloropropene	2017/02/22	72	60 - 140	74	60 - 130	ND, RDL=0.040	ug/g	NC	50
4867865	Trichloroethylene	2017/02/22	89	60 - 140	89	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Trichlorofluoromethane (FREON 11)	2017/02/22	92	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4867865	Vinyl Chloride	2017/02/22	90	60 - 140	86	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870110	1,1,1,2-Tetrachloroethane	2017/02/21	99	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,1,1-Trichloroethane	2017/02/21	96	60 - 140	92	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,1,2,2-Tetrachloroethane	2017/02/21	96	60 - 140	103	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,1,2-Trichloroethane	2017/02/21	97	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,1-Dichloroethane	2017/02/21	95	60 - 140	92	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,1-Dichloroethylene	2017/02/21	99	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50

Maxxam Job #: B732439
Report Date: 2017/02/24

QUALITY ASSURANCE REPORT(CONT'D)

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4870110	1,2-Dichlorobenzene	2017/02/21	96	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,2-Dichloroethane	2017/02/21	91	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,2-Dichloropropane	2017/02/21	96	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,3-Dichlorobenzene	2017/02/21	98	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	1,4-Dichlorobenzene	2017/02/21	100	60 - 140	96	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Acetone (2-Propanone)	2017/02/21	89	60 - 140	96	60 - 140	ND, RDL=0.50	ug/g	NC	50
4870110	Benzene	2017/02/21	94	60 - 140	91	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870110	Bromodichloromethane	2017/02/21	100	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Bromoform	2017/02/21	96	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Bromomethane	2017/02/21	95	60 - 140	94	60 - 140	ND, RDL=0.050	ug/g	NC	50
4870110	Carbon Tetrachloride	2017/02/21	99	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Chlorobenzene	2017/02/21	101	60 - 140	99	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Chloroform	2017/02/21	94	60 - 140	92	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	cis-1,2-Dichloroethylene	2017/02/21	95	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	cis-1,3-Dichloropropene	2017/02/21	98	60 - 140	101	60 - 130	ND, RDL=0.030	ug/g	NC	50
4870110	Dibromochloromethane	2017/02/21	96	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Dichlorodifluoromethane (FREON 12)	2017/02/21	84	60 - 140	80	60 - 140	ND, RDL=0.050	ug/g	NC	50
4870110	Ethylbenzene	2017/02/21	103	60 - 140	98	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870110	Ethylene Dibromide	2017/02/21	96	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Hexane	2017/02/21	108	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Methyl Ethyl Ketone (2-Butanone)	2017/02/21	92	60 - 140	102	60 - 140	ND, RDL=0.50	ug/g	NC	50
4870110	Methyl Isobutyl Ketone	2017/02/21	100	60 - 140	111	60 - 130	ND, RDL=0.50	ug/g	NC	50
4870110	Methyl t-butyl ether (MTBE)	2017/02/21	95	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Methylene Chloride(Dichloromethane)	2017/02/21	94	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	o-Xylene	2017/02/21	98	60 - 140	95	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870110	p+m-Xylene	2017/02/21	102	60 - 140	96	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870110	Styrene	2017/02/21	103	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Tetrachloroethylene	2017/02/21	98	60 - 140	92	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Toluene	2017/02/21	95	60 - 140	91	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870110	Total Xylenes	2017/02/21					ND, RDL=0.020	ug/g	NC	50
4870110	trans-1,2-Dichloroethylene	2017/02/21	97	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50

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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
4870110	trans-1,3-Dichloropropene	2017/02/21	97	60 - 140	102	60 - 130	ND, RDL=0.040	ug/g	NC	50
4870110	Trichloroethylene	2017/02/21	96	60 - 140	93	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Trichlorofluoromethane (FREON 11)	2017/02/21	100	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870110	Vinyl Chloride	2017/02/21	98	60 - 140	93	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870304	Free Cyanide	2017/02/22	92	75 - 125	94	80 - 120	ND, RDL=0.01	ug/g	NC	35
4870398	Moisture	2017/02/21							5.3	20
4870480	Moisture	2017/02/21							0.87	20
4870483	F1 (C6-C10) - BTEX	2017/02/21					ND, RDL=10	ug/g	NC	30
4870483	F1 (C6-C10)	2017/02/21	89	60 - 140	87	80 - 120	ND, RDL=10	ug/g	NC	30
4871307	F2 (C10-C16 Hydrocarbons)	2017/02/22	94	50 - 130	96	80 - 120	ND, RDL=10	ug/g	NC	30
4871307	F3 (C16-C34 Hydrocarbons)	2017/02/22	93	50 - 130	95	80 - 120	ND, RDL=50	ug/g	NC	30
4871307	F4 (C34-C50 Hydrocarbons)	2017/02/22	108	50 - 130	97	80 - 120	ND, RDL=50	ug/g	NC	30
4871528	Hot Water Ext. Boron (B)	2017/02/23	NC	75 - 125	97	75 - 125	ND, RDL=0.050	ug/g	0.89	40
4871531	Acid Extractable Antimony (Sb)	2017/02/22	91	75 - 125	100	80 - 120	ND, RDL=0.20	ug/g	NC	30
4871531	Acid Extractable Arsenic (As)	2017/02/22	98	75 - 125	99	80 - 120	ND, RDL=1.0	ug/g	NC	30
4871531	Acid Extractable Barium (Ba)	2017/02/22	NC	75 - 125	97	80 - 120	ND, RDL=0.50	ug/g	2.8	30
4871531	Acid Extractable Beryllium (Be)	2017/02/22	97	75 - 125	97	80 - 120	ND, RDL=0.20	ug/g	NC	30
4871531	Acid Extractable Boron (B)	2017/02/22	90	75 - 125	94	80 - 120	ND, RDL=5.0	ug/g	NC	30
4871531	Acid Extractable Cadmium (Cd)	2017/02/22	94	75 - 125	95	80 - 120	ND, RDL=0.10	ug/g	NC	30
4871531	Acid Extractable Chromium (Cr)	2017/02/22	NC	75 - 125	100	80 - 120	ND, RDL=1.0	ug/g	6.6	30
4871531	Acid Extractable Cobalt (Co)	2017/02/22	96	75 - 125	100	80 - 120	ND, RDL=0.10	ug/g	4.0	30
4871531	Acid Extractable Copper (Cu)	2017/02/22	NC	75 - 125	96	80 - 120	ND, RDL=0.50	ug/g	0.19	30
4871531	Acid Extractable Lead (Pb)	2017/02/22	NC	75 - 125	95	80 - 120	ND, RDL=1.0	ug/g	4.0	30
4871531	Acid Extractable Mercury (Hg)	2017/02/22	94	75 - 125	91	80 - 120	ND, RDL=0.050	ug/g	NC	30
4871531	Acid Extractable Molybdenum (Mo)	2017/02/22	98	75 - 125	99	80 - 120	ND, RDL=0.50	ug/g	NC	30
4871531	Acid Extractable Nickel (Ni)	2017/02/22	95	75 - 125	100	80 - 120	ND, RDL=0.50	ug/g	1.1	30
4871531	Acid Extractable Selenium (Se)	2017/02/22	97	75 - 125	98	80 - 120	ND, RDL=0.50	ug/g	NC	30
4871531	Acid Extractable Silver (Ag)	2017/02/22	98	75 - 125	101	80 - 120	ND, RDL=0.20	ug/g	NC	30
4871531	Acid Extractable Thallium (Tl)	2017/02/22	91	75 - 125	94	80 - 120	ND, RDL=0.050	ug/g	NC	30
4871531	Acid Extractable Uranium (U)	2017/02/22	92	75 - 125	92	80 - 120	ND, RDL=0.050	ug/g	11	30
4871531	Acid Extractable Vanadium (V)	2017/02/22	NC	75 - 125	99	80 - 120	ND, RDL=5.0	ug/g	NC	30

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Maxxam Job #: B732439
Report Date: 2017/02/24

QUALITY ASSURANCE REPORT(CONT'D)

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4871531	Acid Extractable Zinc (Zn)	2017/02/22	NC	75 - 125	102	80 - 120	ND, RDL=5.0	ug/g	1.1	30
4871815	Soluble Calcium (Ca)	2017/02/22			103	80 - 120	ND, RDL=0.5	mg/L	1.2	30
4871815	Soluble Magnesium (Mg)	2017/02/22			98	80 - 120	ND, RDL=0.5	mg/L	NC	30
4871815	Soluble Sodium (Na)	2017/02/22			96	80 - 120	ND,RDL=5	mg/L	NC	30
4871823	Conductivity	2017/02/22			100	90 - 110	ND, RDL=0.002	mS/cm	0.91	10
4872114	Available (CaCl2) pH	2017/02/23			99	97 - 103			0.21	N/A
4872214	Chromium (VI)	2017/02/23	2.4 (2)	75 - 125	87	80 - 120	ND, RDL=0.2	ug/g	NC	35

N/A = Not Applicable

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

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 (one or both samples < 5x RDL).

(1) Detection limit was raised due to background level present.

(2) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The matrix spike was reanalyzed to confirm result.

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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Scientific Services

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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Maxxam Job #: B732439
Report Date: 2017/02/24

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 591 LIVERPOOL RD., PICKERING
Your P.O. #: 16-11612-03

Exceedence Summary Table – Reg153/04 T1-Soil/Res

Result Exceedences

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
No Exceedences						

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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IMMEDIATE TEST

6740 Campobello Road, Mississauga, Ontario L5N-2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/2

CHAIN OF CUSTODY RECORD 61705

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Haddad Geotechnical Inc.	Company Name:	Quotation #:	☑ Regular TAT (5-7 days) Most analyses
Contact Name: Graham Fisher	Contact Name:	P.O. #/ AFE#: 16-11612-03	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 151 Humber St. Markham L3R 3J7	Address:	Project #: 16-11612	Rush TAT (Surcharges will be applied) ☐ 1 Day ☐ 2 Days ☐ 3-4 Days
Phone: 905-475-0951 Fax:	Phone: Fax:	Site Location: 591 Liverpool Rd. Pickering	
Email: info@haddadgeo.com	Email:	Site #:	Date Required:
		Sampled By: SR	Rush Confirmation #:

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

Regulation 153
☑ Table 1 ☐ Res/Park ☐ Med/ Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/ Other
☐ Table ____
FOR RSC (PLEASE CIRCLE) (Y) / N

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ MISA ☐ Storm Sewer Bylaw
☐ PWQO Region
☐ Other (Specify)
☐ REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: (Y) / N

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

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHC F2 - F4	VOCs	REFER TO BACK OF COC: REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	HOLD- DO NOT ANALYZE
1	11612-1502-01	2017/02/15	10:15am	S	2					✓		✓	
2	11612-1502-02	"	10:30am	S	3		✓	✓	✓				
3	Trip Blank												
4													
5													
6													
7													
8													
9													
10													

LABORATORY USE ONLY

CUSTODY SEAL Y / N		COOLER TEMPERATURES
Present	Intact	
Y	Y	7/8/4

COOLING MEDIA PRESENT: (Y) / N

COMMENTS

16-Feb-17 09:57
Antonella Brasil
B732439
SEL ENV-1101

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
[signature] / SALVADOR URBINA	2017/02/16	09:57	[signature]	2017/02/16	09:57

COC-1004 (10/14) - ENV. ENG.

White: Maxxam ~ Yellow: Client

Maxxam
A Bureau Veritas Group Company

Your P.O. #: 16-11612-04
Your Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your C.O.C. #: 76420

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/27
Report #: R4371382
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B733580
Received: 2017/02/17, 11:38

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	3	N/A	2017/02/24	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	3	2017/02/22	2017/02/23	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	6	N/A	2017/02/24		EPA 8260C m
Free (WAD) Cyanide	3	2017/02/22	2017/02/24	CAM SOP-00457	OMOE E3015 m
Conductivity	1	2017/02/23	2017/02/23	CAM SOP-00414	OMOE E3530 v1 m
Conductivity	2	2017/02/24	2017/02/24	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	3	2017/02/23	2017/02/23	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	5	2017/02/23	2017/02/23	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric)	3	2017/02/25	2017/02/25	CAM SOP-00316	CCME PHC-CWS m
Strong Acid Leachable Metals by ICPMS	3	2017/02/22	2017/02/22	CAM SOP-00447	EPA 6020B m
Moisture	6	N/A	2017/02/23	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	1	2017/02/22	2017/02/23	CAM SOP-00318	EPA 8270D m
PAH Compounds in Soil by GC/MS (SIM)	2	2017/02/23	2017/02/24	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	3	2017/02/23	2017/02/23	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	1	N/A	2017/02/23	CAM SOP-00102	EPA 6010C
Sodium Adsorption Ratio (SAR)	2	N/A	2017/02/24	CAM SOP-00102	EPA 6010C
SAR - ICP Metals	1	2017/02/22	2017/02/23	CAM SOP-00408	EPA 6010C m
SAR - ICP Metals	2	2017/02/24	2017/02/24	CAM SOP-00408	EPA 6010C m
Volatile Organic Compounds and F1 PHCs	6	N/A	2017/02/22	CAM SOP-00230	EPA 8260C 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.

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Your P.O. #: 16-11612-04
Your Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your C.O.C. #: 76420

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/02/27
Report #: R4371382
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B733580
Received: 2017/02/17, 11:38

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.

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

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.
(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.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: ABrasil@maxxam.ca
Phone# (905)817-5817

==========

This report has been generated and distributed using a secure automated process.
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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXU919	DXU919		DXU921	DXU923		
Sampling Date			2017/02/17 09:15	2017/02/17 09:15		2017/02/17 09:40	2017/02/17 09:00		
COC Number			76420	76420		76420	76420		
	UNITS	Criteria	11612-1602-01	11612-1602-01 Lab-Dup	QC Batch	11612-1602-03	11612-1602-05	RDL	QC Batch
Calculated Parameters									
Sodium Adsorption Ratio	N/A	**2.4**	0.55		4868604	0.23	0.43		4868604
Inorganics									
Conductivity	mS/cm	**0.57**	**1.1**		4872193	0.27	0.30	0.002	4875311
Free Cyanide	ug/g	**0.051**	ND	ND	4872568	ND	ND	0.01	4872568
Moisture	%	-	7.4		4873619	6.9	16	1.0	4873619
Available (CaCl2) pH	pH	-	11.8	11.8	4872120	8.99	7.78		4872120
Metals									
Soluble Calcium (Ca)	mg/L	-	159		4872189	35.6	37.5	0.5	4875309
Soluble Magnesium (Mg)	mg/L	-	ND		4872189	1.5	5.6	0.5	4875309
Soluble Sodium (Na)	mg/L	-	25		4872189	5	11	5	4875309
Inorganics									
Chromium (VI)	ug/g	**0.66**	**0.8**	**0.8**	4874109	ND	ND	0.2	4874109
Metals									
Hot Water Ext. Boron (B)	ug/g	-	0.46		4871836	0.37	0.16	0.050	4871836
Acid Extractable Antimony (Sb)	ug/g	**1.3**	ND		4871822	ND	ND	0.20	4871822
Acid Extractable Arsenic (As)	ug/g	**18**	2.5		4871822	1.6	2.4	1.0	4871822
Acid Extractable Barium (Ba)	ug/g	**220**	74		4871822	22	80	0.50	4871822
Acid Extractable Beryllium (Be)	ug/g	**2.5**	0.49		4871822	ND	0.50	0.20	4871822
Acid Extractable Boron (B)	ug/g	**36**	12		4871822	ND	6.0	5.0	4871822
Acid Extractable Cadmium (Cd)	ug/g	**1.2**	0.15		4871822	0.10	0.11	0.10	4871822
Acid Extractable Chromium (Cr)	ug/g	**70**	22		4871822	8.3	18	1.0	4871822
Acid Extractable Cobalt (Co)	ug/g	**21**	5.0		4871822	2.9	7.4	0.10	4871822
Acid Extractable Copper (Cu)	ug/g	**92**	14		4871822	7.7	15	0.50	4871822
Acid Extractable Lead (Pb)	ug/g	**120**	16		4871822	8.6	15	1.0	4871822
Acid Extractable Molybdenum (Mo)	ug/g	**2**	0.57		4871822	0.80	ND	0.50	4871822
Acid Extractable Nickel (Ni)	ug/g	**82**	12		4871822	6.4	16	0.50	4871822
Acid Extractable Selenium (Se)	ug/g	**1.5**	ND		4871822	ND	ND	0.50	4871822
Acid Extractable Silver (Ag)	ug/g	**0.5**	ND		4871822	ND	ND	0.20	4871822

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			DXU919	DXU919		DXU921	DXU923		
Sampling Date			2017/02/17 09:15	2017/02/17 09:15		2017/02/17 09:40	2017/02/17 09:00		
COC Number			76420	76420		76420	76420		
	UNITS	**Criteria**	**11612-1602-01**	**11612-1602-01 Lab-Dup**	**QC Batch**	**11612-1602-03**	**11612-1602-05**	**RDL**	**QC Batch**
Acid Extractable Thallium (Tl)	ug/g	**1**	0.099		4871822	0.061	0.15	0.050	4871822
Acid Extractable Uranium (U)	ug/g	**2.5**	0.61		4871822	0.39	0.52	0.050	4871822
Acid Extractable Vanadium (V)	ug/g	**86**	25		4871822	12	26	5.0	4871822
Acid Extractable Zinc (Zn)	ug/g	**290**	55		4871822	29	48	5.0	4871822
Acid Extractable Mercury (Hg)	ug/g	**0.27**	ND		4871822	ND	ND	0.050	4871822

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 PAHS (SOIL)

Maxxam ID			DXU919	DXU919	DXU921		DXU923		
Sampling Date			2017/02/17 09:15	2017/02/17 09:15	2017/02/17 09:40		2017/02/17 09:00		
COC Number			76420	76420	76420		76420		
	UNITS	Criteria	11612-1602-01	11612-1602-01 Lab-Dup	11612-1602-03	QC Batch	11612-1602-05	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	**0.59**	0.056		ND	4868433	ND	0.0071	4868433
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	**0.072**	0.011	0.0085	ND	4874256	ND	0.0050	4872413
Acenaphthylene	ug/g	**0.093**	ND	ND	ND	4874256	ND	0.0050	4872413
Anthracene	ug/g	**0.16**	0.029	0.026	ND	4874256	ND	0.0050	4872413
Benzo(a)anthracene	ug/g	**0.36**	0.087	0.073	ND	4874256	0.014	0.0050	4872413
Benzo(a)pyrene	ug/g	**0.3**	0.077	0.061	ND	4874256	0.014	0.0050	4872413
Benzo(b/j)fluoranthene	ug/g	**0.47**	0.097	0.075	ND	4874256	0.024	0.0050	4872413
Benzo(g,h,i)perylene	ug/g	**0.68**	0.044	0.035	ND	4874256	0.015	0.0050	4872413
Benzo(k)fluoranthene	ug/g	**0.48**	0.034	0.027	ND	4874256	0.0073	0.0050	4872413
Chrysene	ug/g	**2.8**	0.075	0.064	ND	4874256	0.014	0.0050	4872413
Dibenz(a,h)anthracene	ug/g	**0.1**	0.010	0.0079	ND	4874256	ND	0.0050	4872413
Fluoranthene	ug/g	**0.56**	0.23	0.18	ND	4874256	0.023	0.0050	4872413
Fluorene	ug/g	**0.12**	0.0095	0.0083	ND	4874256	ND	0.0050	4872413
Indeno(1,2,3-cd)pyrene	ug/g	**0.23**	0.047	0.039	ND	4874256	0.016	0.0050	4872413
1-Methylnaphthalene	ug/g	**0.59**	0.025	0.019	ND	4874256	ND	0.0050	4872413
2-Methylnaphthalene	ug/g	**0.59**	0.032	0.025	ND	4874256	ND	0.0050	4872413
Naphthalene	ug/g	**0.09**	0.015	0.013	ND	4874256	ND	0.0050	4872413
Phenanthrene	ug/g	**0.69**	0.15	0.14	ND	4874256	ND	0.0050	4872413
Pyrene	ug/g	**1**	0.18	0.14	ND	4874256	0.022	0.0050	4872413
Surrogate Recovery (%)									
D10-Anthracene	%	-	87	90	97	4874256	103		4872413
D14-Terphenyl (FS)	%	-	111	96	93	4874256	104		4872413
D8-Acenaphthylene	%	-	91	96	102	4874256	95		4872413

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXU919	DXU920	DXU920	DXU921		
Sampling Date			2017/02/17 09:15	2017/02/17 09:35	2017/02/17 09:35	2017/02/17 09:40		
COC Number			76420	76420	76420	76420		
	UNITS	Criteria	11612-1602-01	11612-1602-02	11612-1602-02 Lab-Dup	11612-1602-03	RDL	QC Batch
Inorganics								
Moisture	%	-		7.5			1.0	4873809
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	ND		ND	0.050	4868603
Volatile Organics								
Acetone (2-Propanone)	ug/g	**0.5**	ND	ND	ND	ND	0.50	4870116
Benzene	ug/g	**0.02**	ND	ND	ND	ND	0.020	4870116
Bromodichloromethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Bromoform	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Bromomethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Carbon Tetrachloride	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Chlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Chloroform	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Dibromochloromethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,2-Dichlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,3-Dichlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,4-Dichlorobenzene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,1-Dichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,2-Dichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,1-Dichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,2-Dichloropropane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	ND	ND	0.030	4870116
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	ND	ND	0.040	4870116
Ethylbenzene	ug/g	**0.05**	ND	ND	ND	ND	0.020	4870116
Ethylene Dibromide	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Hexane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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 #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXU919	DXU920	DXU920	DXU921		
Sampling Date			2017/02/17 09:15	2017/02/17 09:35	2017/02/17 09:35	2017/02/17 09:40		
COC Number			76420	76420	76420	76420		
	UNITS	Criteria	11612-1602-01	11612-1602-02	11612-1602-02 Lab-Dup	11612-1602-03	RDL	QC Batch
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	ND	ND	ND	0.50	4870116
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	ND	ND	ND	0.50	4870116
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Styrene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Tetrachloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Toluene	ug/g	**0.2**	ND	ND	ND	ND	0.020	4870116
1,1,1-Trichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
1,1,2-Trichloroethane	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Trichloroethylene	ug/g	**0.05**	ND	ND	ND	ND	0.050	4870116
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	ND	ND	ND	0.050	4870116
Vinyl Chloride	ug/g	**0.02**	ND	ND	ND	ND	0.020	4870116
p+m-Xylene	ug/g	-	ND	ND	ND	ND	0.020	4870116
o-Xylene	ug/g	-	ND	ND	ND	ND	0.020	4870116
Total Xylenes	ug/g	**0.05**	ND	ND	ND	ND	0.020	4870116
F1 (C6-C10)	ug/g	**25**	ND	ND	ND	ND	10	4870116
F1 (C6-C10) - BTEX	ug/g	**25**	ND	ND	ND	ND	10	4870116
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	**10**	ND	**49**		**26**	10	4873371
F3 (C16-C34 Hydrocarbons)	ug/g	**240**	ND	220		110	50	4873371
F4 (C34-C50 Hydrocarbons)	ug/g	**120**	56	88		ND	50	4873371
Reached Baseline at C50	ug/g	-	No	No		Yes		4873371
Surrogate Recovery (%)								
o-Terphenyl	%	-	102	101		101		4873371
4-Bromofluorobenzene	%	-	94	93	94	94		4870116
D10-o-Xylene	%	-	107	100	101	101		4870116
D4-1,2-Dichloroethane	%	-	95	97	96	96		4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXU919	DXU920	DXU920	DXU921		
Sampling Date			2017/02/17 09:15	2017/02/17 09:35	2017/02/17 09:35	2017/02/17 09:40		
COC Number			76420	76420	76420	76420		
	UNITS	Criteria	11612-1602-01	11612-1602-02	11612-1602-02 Lab-Dup	11612-1602-03	RDL	QC Batch
D8-Toluene	%	-	98	99	99	98		4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXU922	DXU924		
Sampling Date			2017/02/17 10:15	2017/02/17 08:55		
COC Number			76420	76420		
	UNITS	Criteria	11612-1602-04	11612-1602-06	RDL	QC Batch
Inorganics						
Moisture	%	-	7.6	11	1.0	4873809
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	ND	0.050	4868603
Volatile Organics						
Acetone (2-Propanone)	ug/g	**0.5**	ND	ND	0.50	4870116
Benzene	ug/g	**0.02**	ND	ND	0.020	4870116
Bromodichloromethane	ug/g	**0.05**	ND	ND	0.050	4870116
Bromoform	ug/g	**0.05**	ND	ND	0.050	4870116
Bromomethane	ug/g	**0.05**	ND	ND	0.050	4870116
Carbon Tetrachloride	ug/g	**0.05**	ND	ND	0.050	4870116
Chlorobenzene	ug/g	**0.05**	ND	ND	0.050	4870116
Chloroform	ug/g	**0.05**	ND	ND	0.050	4870116
Dibromochloromethane	ug/g	**0.05**	ND	ND	0.050	4870116
1,2-Dichlorobenzene	ug/g	**0.05**	ND	ND	0.050	4870116
1,3-Dichlorobenzene	ug/g	**0.05**	ND	ND	0.050	4870116
1,4-Dichlorobenzene	ug/g	**0.05**	ND	ND	0.050	4870116
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	ND	0.050	4870116
1,1-Dichloroethane	ug/g	**0.05**	ND	ND	0.050	4870116
1,2-Dichloroethane	ug/g	**0.05**	ND	ND	0.050	4870116
1,1-Dichloroethylene	ug/g	**0.05**	ND	ND	0.050	4870116
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	0.050	4870116
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	ND	0.050	4870116
1,2-Dichloropropane	ug/g	**0.05**	ND	ND	0.050	4870116
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	0.030	4870116
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	ND	0.040	4870116
Ethylbenzene	ug/g	**0.05**	ND	ND	0.020	4870116
Ethylene Dibromide	ug/g	**0.05**	ND	ND	0.050	4870116
Hexane	ug/g	**0.05**	ND	ND	0.050	4870116
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	ND	0.050	4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

O.REG 153 VOCS & F1-F4 (SOIL)

Maxxam ID			DXU922	DXU924		
Sampling Date			2017/02/17 10:15	2017/02/17 08:55		
COC Number			76420	76420		
	UNITS	Criteria	11612-1602-04	11612-1602-06	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	ND	0.50	4870116
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	ND	0.50	4870116
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	ND	0.050	4870116
Styrene	ug/g	**0.05**	ND	ND	0.050	4870116
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	0.050	4870116
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	ND	0.050	4870116
Tetrachloroethylene	ug/g	**0.05**	ND	ND	0.050	4870116
Toluene	ug/g	**0.2**	ND	ND	0.020	4870116
1,1,1-Trichloroethane	ug/g	**0.05**	ND	ND	0.050	4870116
1,1,2-Trichloroethane	ug/g	**0.05**	ND	ND	0.050	4870116
Trichloroethylene	ug/g	**0.05**	ND	ND	0.050	4870116
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	ND	0.050	4870116
Vinyl Chloride	ug/g	**0.02**	ND	ND	0.020	4870116
p+m-Xylene	ug/g	-	ND	ND	0.020	4870116
o-Xylene	ug/g	-	ND	ND	0.020	4870116
Total Xylenes	ug/g	**0.05**	ND	ND	0.020	4870116
F1 (C6-C10)	ug/g	**25**	ND	ND	10	4870116
F1 (C6-C10) - BTEX	ug/g	**25**	ND	ND	10	4870116
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	**10**	**48**	**22**	10	4873371
F3 (C16-C34 Hydrocarbons)	ug/g	**240**	210	99	50	4873371
F4 (C34-C50 Hydrocarbons)	ug/g	**120**	82	ND	50	4873371
Reached Baseline at C50	ug/g	-	No	Yes		4873371
Surrogate Recovery (%)						
o-Terphenyl	%	-	100	100		4873371
4-Bromofluorobenzene	%	-	94	93		4870116
D10-o-Xylene	%	-	118	97		4870116
D4-1,2-Dichloroethane	%	-	96	97		4870116
D8-Toluene	%	-	98	98		4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID			DXU925		
Sampling Date			2017/02/17		
COC Number			76420		
	UNITS	Criteria	11612-1602-07-TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	**0.05**	ND	0.050	4868603
Volatile Organics					
Acetone (2-Propanone)	ug/g	**0.5**	ND	0.50	4870116
Benzene	ug/g	**0.02**	ND	0.020	4870116
Bromodichloromethane	ug/g	**0.05**	ND	0.050	4870116
Bromoform	ug/g	**0.05**	ND	0.050	4870116
Bromomethane	ug/g	**0.05**	ND	0.050	4870116
Carbon Tetrachloride	ug/g	**0.05**	ND	0.050	4870116
Chlorobenzene	ug/g	**0.05**	ND	0.050	4870116
Chloroform	ug/g	**0.05**	ND	0.050	4870116
Dibromochloromethane	ug/g	**0.05**	ND	0.050	4870116
1,2-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4870116
1,3-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4870116
1,4-Dichlorobenzene	ug/g	**0.05**	ND	0.050	4870116
Dichlorodifluoromethane (FREON 12)	ug/g	**0.05**	ND	0.050	4870116
1,1-Dichloroethane	ug/g	**0.05**	ND	0.050	4870116
1,2-Dichloroethane	ug/g	**0.05**	ND	0.050	4870116
1,1-Dichloroethylene	ug/g	**0.05**	ND	0.050	4870116
cis-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4870116
trans-1,2-Dichloroethylene	ug/g	**0.05**	ND	0.050	4870116
1,2-Dichloropropane	ug/g	**0.05**	ND	0.050	4870116
cis-1,3-Dichloropropene	ug/g	**0.05**	ND	0.030	4870116
trans-1,3-Dichloropropene	ug/g	**0.05**	ND	0.040	4870116
Ethylbenzene	ug/g	**0.05**	ND	0.020	4870116
Ethylene Dibromide	ug/g	**0.05**	ND	0.050	4870116
Hexane	ug/g	**0.05**	ND	0.050	4870116
Methylene Chloride(Dichloromethane)	ug/g	**0.05**	ND	0.050	4870116
Methyl Ethyl Ketone (2-Butanone)	ug/g	**0.5**	ND	0.50	4870116
Methyl Isobutyl Ketone	ug/g	**0.5**	ND	0.50	4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID			DXU925		
Sampling Date			2017/02/17		
COC Number			76420		
	UNITS	Criteria	11612-1602-07-TRIP BLANK	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/g	**0.05**	ND	0.050	4870116
Styrene	ug/g	**0.05**	ND	0.050	4870116
1,1,1,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4870116
1,1,2,2-Tetrachloroethane	ug/g	**0.05**	ND	0.050	4870116
Tetrachloroethylene	ug/g	**0.05**	ND	0.050	4870116
Toluene	ug/g	**0.2**	ND	0.020	4870116
1,1,1-Trichloroethane	ug/g	**0.05**	ND	0.050	4870116
1,1,2-Trichloroethane	ug/g	**0.05**	ND	0.050	4870116
Trichloroethylene	ug/g	**0.05**	ND	0.050	4870116
Trichlorofluoromethane (FREON 11)	ug/g	**0.25**	ND	0.050	4870116
Vinyl Chloride	ug/g	**0.02**	ND	0.020	4870116
p+m-Xylene	ug/g	-	ND	0.020	4870116
o-Xylene	ug/g	-	ND	0.020	4870116
Total Xylenes	ug/g	**0.05**	ND	0.020	4870116
F1 (C6-C10)	ug/g	**25**	ND	10	4870116
F1 (C6-C10) - BTEX	ug/g	**25**	ND	10	4870116
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	92		4870116
D10-o-Xylene	%	-	116		4870116
D4-1,2-Dichloroethane	%	-	96		4870116
D8-Toluene	%	-	98		4870116

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID			DXU919	DXU919	DXU920	DXU922		
Sampling Date			2017/02/17 09:15	2017/02/17 09:15	2017/02/17 09:35	2017/02/17 10:15		
COC Number			76420	76420	76420	76420		
	UNITS	**Criteria**	**11612-1602-01**	**11612-1602-01 Lab-Dup**	**11612-1602-02**	**11612-1602-04**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons								
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	**120**	**150**	**150**	ND	ND	100	4877115

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
ND = Not detected

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

TEST SUMMARY

Maxxam ID: DXU919
Sample ID: 11612-1602-01
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4868433	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4871836	2017/02/22	2017/02/23	Suban Kanapathippllai
1,3-Dichloropropene Sum	CALC	4868603	N/A	2017/02/24	Automated Statchk
Free (WAD) Cyanide	TECH	4872568	2017/02/22	2017/02/24	Xuanhong Qiu
Conductivity	AT	4872193	2017/02/23	2017/02/23	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4874109	2017/02/23	2017/02/23	Sally Coughlin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4873371	2017/02/23	2017/02/23	Ksenia Trofimova
F4G (CCME Hydrocarbons Gravimetric)	BAL	4877115	2017/02/25	2017/02/25	Sandeep Kaur
Strong Acid Leachable Metals by ICPMS	ICP/MS	4871822	2017/02/22	2017/02/22	Daniel Teclu
Moisture	BAL	4873619	N/A	2017/02/23	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4874256	2017/02/23	2017/02/24	Jett Wu
pH CaCl2 EXTRACT	AT	4872120	2017/02/23	2017/02/23	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4868604	N/A	2017/02/23	Automated Statchk
SAR - ICP Metals	ICP	4872189	2017/02/23	2017/02/23	Azita Fazaeli
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

Maxxam ID: DXU919 Dup
Sample ID: 11612-1602-01
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	4872568	2017/02/22	2017/02/24	Xuanhong Qiu
Hexavalent Chromium in Soil by IC	IC/SPEC	4874109	2017/02/23	2017/02/23	Sally Coughlin
F4G (CCME Hydrocarbons Gravimetric)	BAL	4877115	2017/02/25	2017/02/25	Sandeep Kaur
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4874256	2017/02/23	2017/02/24	Jett Wu
pH CaCl2 EXTRACT	AT	4872120	2017/02/23	2017/02/23	Neil Dassanayake

Maxxam ID: DXU920
Sample ID: 11612-1602-02
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4868603	N/A	2017/02/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4873371	2017/02/23	2017/02/23	Ksenia Trofimova
F4G (CCME Hydrocarbons Gravimetric)	BAL	4877115	2017/02/25	2017/02/25	Sandeep Kaur
Moisture	BAL	4873809	N/A	2017/02/23	Valentina Kaftani
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

Maxxam ID: DXU920 Dup
Sample ID: 11612-1602-02
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

TEST SUMMARY

Maxxam ID: DXU921
Sample ID: 11612-1602-03
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4868433	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4871836	2017/02/22	2017/02/23	Suban Kanapathippllai
1,3-Dichloropropene Sum	CALC	4868603	N/A	2017/02/24	Automated Statchk
Free (WAD) Cyanide	TECH	4872568	2017/02/22	2017/02/24	Xuanhong Qiu
Conductivity	AT	4875311	2017/02/24	2017/02/24	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4874109	2017/02/23	2017/02/23	Sally Coughlin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4873371	2017/02/23	2017/02/23	Ksenia Trofimova
Strong Acid Leachable Metals by ICPMS	ICP/MS	4871822	2017/02/22	2017/02/22	Daniel Teclu
Moisture	BAL	4873619	N/A	2017/02/23	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4874256	2017/02/23	2017/02/24	Jett Wu
pH CaCl2 EXTRACT	AT	4872120	2017/02/23	2017/02/23	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4868604	N/A	2017/02/24	Automated Statchk
SAR - ICP Metals	ICP	4875309	2017/02/24	2017/02/24	Jolly John
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

Maxxam ID: DXU922
Sample ID: 11612-1602-04
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4868603	N/A	2017/02/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4873371	2017/02/23	2017/02/23	Ksenia Trofimova
F4G (CCME Hydrocarbons Gravimetric)	BAL	4877115	2017/02/25	2017/02/25	Sandeep Kaur
Moisture	BAL	4873809	N/A	2017/02/23	Valentina Kaftani
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

Maxxam ID: DXU923
Sample ID: 11612-1602-05
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4868433	N/A	2017/02/24	Automated Statchk
Hot Water Extractable Boron	ICP	4871836	2017/02/22	2017/02/23	Suban Kanapathippllai
Free (WAD) Cyanide	TECH	4872568	2017/02/22	2017/02/24	Xuanhong Qiu
Conductivity	AT	4875311	2017/02/24	2017/02/24	Tahir Anwar
Hexavalent Chromium in Soil by IC	IC/SPEC	4874109	2017/02/23	2017/02/23	Sally Coughlin
Strong Acid Leachable Metals by ICPMS	ICP/MS	4871822	2017/02/22	2017/02/22	Daniel Teclu
Moisture	BAL	4873619	N/A	2017/02/23	Valentina Kaftani
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4872413	2017/02/22	2017/02/23	Mitesh Raj
pH CaCl2 EXTRACT	AT	4872120	2017/02/23	2017/02/23	Neil Dassanayake
Sodium Adsorption Ratio (SAR)	CALC/MET	4868604	N/A	2017/02/24	Automated Statchk
SAR - ICP Metals	ICP	4875309	2017/02/24	2017/02/24	Jolly John

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

TEST SUMMARY

Maxxam ID: DXU924
Sample ID: 11612-1602-06
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4868603	N/A	2017/02/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4873371	2017/02/23	2017/02/23	Ksenia Trofimova
Moisture	BAL	4873809	N/A	2017/02/23	Valentina Kaftani
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

Maxxam ID: DXU925
Sample ID: 11612-1602-07- TRIP BLANK
Matrix: Soil

Collected: 2017/02/17
Shipped:
Received: 2017/02/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4868603	N/A	2017/02/24	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4870116	N/A	2017/02/22	John Wu

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

GENERAL COMMENTS

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

Package 1	11.3°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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Maxxam Job #: B733580
Report Date: 2017/02/27

QUALITY ASSURANCE REPORT

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4870116	4-Bromofluorobenzene	2017/02/22	100	60 - 140	101	60 - 140	94	%		
4870116	D10-o-Xylene	2017/02/22	111	60 - 130	109	60 - 130	116	%		
4870116	D4-1,2-Dichloroethane	2017/02/22	93	60 - 140	98	60 - 140	97	%		
4870116	D8-Toluene	2017/02/22	108	60 - 140	107	60 - 140	98	%		
4872413	D10-Anthracene	2017/02/22	102	50 - 130	105	50 - 130	106	%		
4872413	D14-Terphenyl (FS)	2017/02/22	103	50 - 130	105	50 - 130	103	%		
4872413	D8-Acenaphthylene	2017/02/22	99	50 - 130	99	50 - 130	99	%		
4873371	o-Terphenyl	2017/02/23	98	60 - 130	100	60 - 130	98	%		
4874256	D10-Anthracene	2017/02/24	110	50 - 130	85	50 - 130	86	%		
4874256	D14-Terphenyl (FS)	2017/02/24	100	50 - 130	103	50 - 130	98	%		
4874256	D8-Acenaphthylene	2017/02/24	105	50 - 130	83	50 - 130	91	%		
4870116	1,1,1,2-Tetrachloroethane	2017/02/22	97	60 - 140	99	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,1,1-Trichloroethane	2017/02/22	89	60 - 140	89	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,1,2,2-Tetrachloroethane	2017/02/22	90	60 - 140	100	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,1,2-Trichloroethane	2017/02/22	92	60 - 140	97	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,1-Dichloroethane	2017/02/22	88	60 - 140	90	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,1-Dichloroethylene	2017/02/22	92	60 - 140	90	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,2-Dichlorobenzene	2017/02/22	102	60 - 140	104	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,2-Dichloroethane	2017/02/22	81	60 - 140	86	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,2-Dichloropropane	2017/02/22	88	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,3-Dichlorobenzene	2017/02/22	105	60 - 140	105	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	1,4-Dichlorobenzene	2017/02/22	107	60 - 140	105	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Acetone (2-Propanone)	2017/02/22	79	60 - 140	87	60 - 140	ND, RDL=0.50	ug/g	NC	50
4870116	Benzene	2017/02/22	88	60 - 140	90	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870116	Bromodichloromethane	2017/02/22	89	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Bromoform	2017/02/22	89	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Bromomethane	2017/02/22	83	60 - 140	86	60 - 140	ND, RDL=0.050	ug/g	NC	50
4870116	Carbon Tetrachloride	2017/02/22	91	60 - 140	90	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Chlorobenzene	2017/02/22	100	60 - 140	101	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Chloroform	2017/02/22	86	60 - 140	89	60 - 130	ND, RDL=0.050	ug/g	NC	50

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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
4870116	cis-1,2-Dichloroethylene	2017/02/22	92	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	cis-1,3-Dichloropropene	2017/02/22	92	60 - 140	96	60 - 130	ND, RDL=0.030	ug/g	NC	50
4870116	Dibromochloromethane	2017/02/22	91	60 - 140	99	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Dichlorodifluoromethane (FREON 12)	2017/02/22	60	60 - 140	63	60 - 140	ND, RDL=0.050	ug/g	NC	50
4870116	Ethylbenzene	2017/02/22	103	60 - 140	101	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870116	Ethylene Dibromide	2017/02/22	91	60 - 140	98	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	F1 (C6-C10) - BTEX	2017/02/22					ND, RDL=10	ug/g	NC	30
4870116	F1 (C6-C10)	2017/02/22	102	60 - 140	92	80 - 120	ND, RDL=10	ug/g	NC	30
4870116	Hexane	2017/02/22	98	60 - 140	95	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Methyl Ethyl Ketone (2-Butanone)	2017/02/22	84	60 - 140	95	60 - 140	ND, RDL=0.50	ug/g	NC	50
4870116	Methyl Isobutyl Ketone	2017/02/22	88	60 - 140	101	60 - 130	ND, RDL=0.50	ug/g	NC	50
4870116	Methyl t-butyl ether (MTBE)	2017/02/22	88	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Methylene Chloride(Dichloromethane)	2017/02/22	90	60 - 140	94	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	o-Xylene	2017/02/22	99	60 - 140	98	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870116	p+m-Xylene	2017/02/22	102	60 - 140	100	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870116	Styrene	2017/02/22	102	60 - 140	104	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Tetrachloroethylene	2017/02/22	99	60 - 140	96	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Toluene	2017/02/22	96	60 - 140	96	60 - 130	ND, RDL=0.020	ug/g	NC	50
4870116	Total Xylenes	2017/02/22					ND, RDL=0.020	ug/g	NC	50
4870116	trans-1,2-Dichloroethylene	2017/02/22	87	60 - 140	88	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	trans-1,3-Dichloropropene	2017/02/22	99	60 - 140	102	60 - 130	ND, RDL=0.040	ug/g	NC	50
4870116	Trichloroethylene	2017/02/22	91	60 - 140	91	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Trichlorofluoromethane (FREON 11)	2017/02/22	89	60 - 140	88	60 - 130	ND, RDL=0.050	ug/g	NC	50
4870116	Vinyl Chloride	2017/02/22	84	60 - 140	86	60 - 130	ND, RDL=0.020	ug/g	NC	50
4871822	Acid Extractable Antimony (Sb)	2017/02/22	89	75 - 125	103	80 - 120	ND, RDL=0.20	ug/g	NC	30
4871822	Acid Extractable Arsenic (As)	2017/02/22	101	75 - 125	99	80 - 120	ND, RDL=1.0	ug/g	NC	30
4871822	Acid Extractable Barium (Ba)	2017/02/22	NC	75 - 125	101	80 - 120	ND, RDL=0.50	ug/g	0.57	30
4871822	Acid Extractable Beryllium (Be)	2017/02/22	104	75 - 125	101	80 - 120	ND, RDL=0.20	ug/g	NC	30
4871822	Acid Extractable Boron (B)	2017/02/22	95	75 - 125	101	80 - 120	ND, RDL=5.0	ug/g	NC	30
4871822	Acid Extractable Cadmium (Cd)	2017/02/22	99	75 - 125	98	80 - 120	ND, RDL=0.10	ug/g	NC	30

Maxxam Job #: B733580
Report Date: 2017/02/27

QUALITY ASSURANCE REPORT(CONT'D)

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4871822	Acid Extractable Chromium (Cr)	2017/02/22	NC	75 - 125	99	80 - 120	ND, RDL=1.0	ug/g	2.3	30
4871822	Acid Extractable Cobalt (Co)	2017/02/22	98	75 - 125	98	80 - 120	ND, RDL=0.10	ug/g	1.8	30
4871822	Acid Extractable Copper (Cu)	2017/02/22	NC	75 - 125	97	80 - 120	ND, RDL=0.50	ug/g	0.90	30
4871822	Acid Extractable Lead (Pb)	2017/02/22	95	75 - 125	98	80 - 120	ND, RDL=1.0	ug/g	2.1	30
4871822	Acid Extractable Mercury (Hg)	2017/02/22	92	75 - 125	94	80 - 120	ND, RDL=0.050	ug/g	NC	30
4871822	Acid Extractable Molybdenum (Mo)	2017/02/22	100	75 - 125	102	80 - 120	ND, RDL=0.50	ug/g	NC	30
4871822	Acid Extractable Nickel (Ni)	2017/02/22	NC	75 - 125	98	80 - 120	ND, RDL=0.50	ug/g	0.83	30
4871822	Acid Extractable Selenium (Se)	2017/02/22	98	75 - 125	99	80 - 120	ND, RDL=0.50	ug/g	NC	30
4871822	Acid Extractable Silver (Ag)	2017/02/22	100	75 - 125	102	80 - 120	ND, RDL=0.20	ug/g	NC	30
4871822	Acid Extractable Thallium (Tl)	2017/02/22	92	75 - 125	98	80 - 120	ND, RDL=0.050	ug/g	NC	30
4871822	Acid Extractable Uranium (U)	2017/02/22	93	75 - 125	96	80 - 120	ND, RDL=0.050	ug/g	3.4	30
4871822	Acid Extractable Vanadium (V)	2017/02/22	NC	75 - 125	98	80 - 120	ND, RDL=5.0	ug/g	2.6	30
4871822	Acid Extractable Zinc (Zn)	2017/02/22	NC	75 - 125	101	80 - 120	ND, RDL=5.0	ug/g	0.21	30
4871836	Hot Water Ext. Boron (B)	2017/02/23	101	75 - 125	96	75 - 125	ND, RDL=0.050	ug/g	NC	40
4872120	Available (CaCl2) pH	2017/02/23			98	97 - 103			0.071	N/A
4872189	Soluble Calcium (Ca)	2017/02/23			105	80 - 120	ND, RDL=0.5	mg/L	1.5	30
4872189	Soluble Magnesium (Mg)	2017/02/23			95	80 - 120	ND, RDL=0.5	mg/L	0.18	30
4872189	Soluble Sodium (Na)	2017/02/23			101	80 - 120	ND,RDL=5	mg/L	1.3	30
4872193	Conductivity	2017/02/23			101	90 - 110	ND, RDL=0.002	mS/cm	3.2	10
4872413	1-Methylnaphthalene	2017/02/23	96	50 - 130	100	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	2-Methylnaphthalene	2017/02/23	96	50 - 130	100	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Acenaphthene	2017/02/23	104	50 - 130	107	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Acenaphthylene	2017/02/23	102	50 - 130	105	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Anthracene	2017/02/23	92	50 - 130	95	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Benzo(a)anthracene	2017/02/23	113	50 - 130	116	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Benzo(a)pyrene	2017/02/23	114	50 - 130	115	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Benzo(b/j)fluoranthene	2017/02/23	109	50 - 130	114	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Benzo(g,h,i)perylene	2017/02/23	120	50 - 130	122	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Benzo(k)fluoranthene	2017/02/23	108	50 - 130	112	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Chrysene	2017/02/23	110	50 - 130	114	50 - 130	ND, RDL=0.0050	ug/g	NC	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
4872413	Dibenz(a,h)anthracene	2017/02/23	114	50 - 130	118	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Fluoranthene	2017/02/23	113	50 - 130	116	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Fluorene	2017/02/23	104	50 - 130	107	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Indeno(1,2,3-cd)pyrene	2017/02/23	127	50 - 130	130 (1)	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Naphthalene	2017/02/23	96	50 - 130	101	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Phenanthrene	2017/02/23	105	50 - 130	109	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872413	Pyrene	2017/02/23	113	50 - 130	116	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4872568	Free Cyanide	2017/02/24	102	75 - 125	99	80 - 120	ND, RDL=0.01	ug/g	NC	35
4873371	F2 (C10-C16 Hydrocarbons)	2017/02/23	101	50 - 130	103	80 - 120	ND, RDL=10	ug/g	NC	30
4873371	F3 (C16-C34 Hydrocarbons)	2017/02/23	108	50 - 130	109	80 - 120	ND, RDL=50	ug/g	NC	30
4873371	F4 (C34-C50 Hydrocarbons)	2017/02/23	114	50 - 130	113	80 - 120	ND, RDL=50	ug/g	NC	30
4873619	Moisture	2017/02/23							0.91	20
4873809	Moisture	2017/02/23							0.62	20
4874109	Chromium (VI)	2017/02/23	73 (2)	75 - 125	87	80 - 120	ND, RDL=0.2	ug/g	NC	35
4874256	1-Methylnaphthalene	2017/02/24	97	50 - 130	90	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4874256	2-Methylnaphthalene	2017/02/24	87	50 - 130	82	50 - 130	ND, RDL=0.0050	ug/g	23	40
4874256	Acenaphthene	2017/02/24	89	50 - 130	89	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4874256	Acenaphthylene	2017/02/24	102	50 - 130	86	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4874256	Anthracene	2017/02/24	108	50 - 130	82	50 - 130	ND, RDL=0.0050	ug/g	9.9	40
4874256	Benzo(a)anthracene	2017/02/24	112	50 - 130	89	50 - 130	ND, RDL=0.0050	ug/g	18	40
4874256	Benzo(a)pyrene	2017/02/24	95	50 - 130	98	50 - 130	ND, RDL=0.0050	ug/g	24	40
4874256	Benzo(b/j)fluoranthene	2017/02/24	82	50 - 130	92	50 - 130	ND, RDL=0.0050	ug/g	25	40
4874256	Benzo(g,h,i)perylene	2017/02/24	89	50 - 130	94	50 - 130	ND, RDL=0.0050	ug/g	22	40
4874256	Benzo(k)fluoranthene	2017/02/24	77	50 - 130	93	50 - 130	ND, RDL=0.0050	ug/g	22	40
4874256	Chrysene	2017/02/24	98	50 - 130	91	50 - 130	ND, RDL=0.0050	ug/g	16	40
4874256	Dibenz(a,h)anthracene	2017/02/24	91	50 - 130	89	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4874256	Fluoranthene	2017/02/24	98	50 - 130	83	50 - 130	ND, RDL=0.0050	ug/g	25	40
4874256	Fluorene	2017/02/24	91	50 - 130	101	50 - 130	ND, RDL=0.0050	ug/g	NC	40
4874256	Indeno(1,2,3-cd)pyrene	2017/02/24	105	50 - 130	93	50 - 130	ND, RDL=0.0050	ug/g	18	40
4874256	Naphthalene	2017/02/24	89	50 - 130	84	50 - 130	ND, RDL=0.0050	ug/g	NC	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
4874256	Phenanthrene	2017/02/24	105	50 - 130	86	50 - 130	ND, RDL=0.0050	ug/g	7.4	40
4874256	Pyrene	2017/02/24	98	50 - 130	107	50 - 130	ND, RDL=0.0050	ug/g	26	40
4875309	Soluble Calcium (Ca)	2017/02/24			96	80 - 120	0.6, RDL=0.5	mg/L	5.3	30
4875309	Soluble Magnesium (Mg)	2017/02/24			100	80 - 120	ND, RDL=0.5	mg/L	NC	30
4875309	Soluble Sodium (Na)	2017/02/24			97	80 - 120	ND,RDL=5	mg/L	0.65	30
4875311	Conductivity	2017/02/24			103	90 - 110	ND, RDL=0.002	mS/cm	0	10
4877115	F4G-sg (Grav. Heavy Hydrocarbons)	2017/02/25	98	65 - 135	99	65 - 135	ND, RDL=100	ug/g	NC	50

N/A = Not Applicable

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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) The recovery was slightly above the upper control limit. This may represent a high bias in some results for this specific analyte. For results that were not detected (ND), this potential bias has no impact.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Scientific Services

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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Maxxam Job #: B733580
Report Date: 2017/02/27

Haddad Geotechnical Inc
Client Project #: 16-11612
Site Location: 571 LIVERPOOL RD, PICKERING
Your P.O. #: 16-11612-04
Sampler Initials: SH

Exceedence Summary Table – Reg153/04 T1-Soil/Res

Result Exceedences

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
11612-1602-01	DXU919-01	Chromium (VI)	0.66	0.8	0.2	ug/g
11612-1602-01	DXU919-01-Lab Dup	Chromium (VI)	0.66	0.8	0.2	ug/g
11612-1602-01	DXU919-01	Conductivity	0.57	1.1	0.002	mS/cm
11612-1602-01	DXU919-02	F4G-sg (Grav. Heavy Hydrocarbons)	120	150	100	ug/g
11612-1602-01	DXU919-02-Lab Dup	F4G-sg (Grav. Heavy Hydrocarbons)	120	150	100	ug/g
11612-1602-02	DXU920-01	F2 (C10-C16 Hydrocarbons)	10	49	10	ug/g
11612-1602-03	DXU921-02	F2 (C10-C16 Hydrocarbons)	10	26	10	ug/g
11612-1602-04	DXU922-01	F2 (C10-C16 Hydrocarbons)	10	48	10	ug/g
11612-1602-06	DXU924-01	F2 (C10-C16 Hydrocarbons)	10	22	10	ug/g

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Maxxam
A Bureau Veritas Group Company

6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/2

IMMEDIATE

CHAIN OF CUSTODY RECORD 76420

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: HADDAD GEOTECHNICAL INC.	Company Name:	Quotation #:	✓ Regular TAT (5-7 days) Most analyses
Contact Name: GRAHAM FISHER	Contact Name:	P.O. #/ AFE#: 16-11612-04	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 151 AMBER ST. UNIT 17 MARKHAM, ON. L3K 3J7	Address:	Project #: 16-11612	Rush TAT (Surcharges will be applied) ✓ 1 Day ☐ 2 Days ☐ 3-4 Days
Phone: 905 475 0951 Fax:	Phone: Fax:	Site Location: 571 LIVERPOOL RD. PICKERING	
Email: info@haddadgeo.com	Email:	Site #:	Date Required:
		Sampled By: SHANDOR HALIC	Rush Confirmation #:

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

Regulation 153	Other Regulations
✓ Table 1 ☐ Res/Park ☐ Med/ Fine	☐ CCME ☐ Sanitary Sewer Bylaw
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ MISA ☐ Storm Sewer Bylaw
✓ Table 3 ☐ Agri/ Other	☐ PWQO Region
☐ Table ____	☐ Other (Specify)
FOR RSC (PLEASE CIRCLE) (Y) N	☐ REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: (Y) N

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

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	PAH's	HOLD: DO NOT ANALYZE
1	11612-1602-01	2017/02/17	09:15	S	7		✓	✓	✓	✓		✓	✓	
2	11612-1602-02	"	09:35	S	5		✓	✓	✓					
3	11612-1602-03	"	09:40	S	7		✓	✓	✓	✓		✓	✓	
4	11612-1602-04	"	10:15	S	5		✓	✓	✓					
5	11612-1602-05	"	09:00	S	2					✓		✓	✓	
6	11612-1602-06	"	08:55	S	5		✓	✓	✓					
7	11612-1602-07	"					✓		✓					
8														
9														
10														

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
SHANDOR HALIC	2017/02/17	11:38	SHRUTI PATEL	2017/02/17	11:38

LABORATORY USE ONLY

CUSTODY SEAL (Y) N		COOLER TEMPERATURES
Present	Intact	
Y	Y	11.1 | 11.2

COOLING MEDIA PRESENT: (Y) N

COMMENTS

17-Feb-17 11:38
Antonella Brasil
B733580
GK1 ENV-1205

COC-1004 (10/14) - ENV. ENG.

Maxxam
A Bureau Veritas Group Company

Your Project #: 11612
Your C.O.C. #: 603593-01-01

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/03/31
Report #: R4408889
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B759104
Received: 2017/03/24, 10:55

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	4	N/A	2017/03/29	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	4	N/A	2017/03/29		EPA 8260C m
Chloride by Automated Colourimetry	3	N/A	2017/03/30	CAM SOP-00463	EPA 325.2 m
Chloride by Automated Colourimetry	1	N/A	2017/03/31	CAM SOP-00463	EPA 325.2 m
Petroleum Hydrocarbons F2-F4 in Water (1)	4	2017/03/29	2017/03/30	CAM SOP-00316	CCME PHC-CWS m
PAH Compounds in Water by GC/MS (SIM)	4	2017/03/24	2017/03/25	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	5	N/A	2017/03/28	CAM SOP-00230	EPA 8260C 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.

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

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) 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.

Your Project #: 11612
Your C.O.C. #: 603593-01-01

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/03/31
Report #: R4408889
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B759104
Received: 2017/03/24, 10:55

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: ABrasil@maxxam.ca
Phone# (905)817-5817
==========
This report has been generated and distributed using a secure automated process.
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.

VOLATILE ORGANICS BY GC/MS (WATER)

Maxxam ID			ECL969		
Sampling Date					
COC Number			603593-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Volatile Organics					
Acetone (2-Propanone)	ug/L	**2700**	ND	10	4914676
Benzene	ug/L	**0.5**	ND	0.20	4914676
Bromodichloromethane	ug/L	**2**	ND	0.50	4914676
Bromoform	ug/L	**5.0**	ND	1.0	4914676
Bromomethane	ug/L	**0.89**	ND	0.50	4914676
Carbon Tetrachloride	ug/L	**0.2**	ND	0.20	4914676
Chlorobenzene	ug/L	**0.5**	ND	0.20	4914676
Chloroform	ug/L	**2**	ND	0.20	4914676
Dibromochloromethane	ug/L	**2**	ND	0.50	4914676
1,2-Dichlorobenzene	ug/L	**0.5**	ND	0.50	4914676
1,3-Dichlorobenzene	ug/L	**0.5**	ND	0.50	4914676
1,4-Dichlorobenzene	ug/L	**0.5**	ND	0.50	4914676
Dichlorodifluoromethane (FREON 12)	ug/L	**590**	ND	1.0	4914676
1,1-Dichloroethane	ug/L	**0.5**	ND	0.20	4914676
1,2-Dichloroethane	ug/L	**0.5**	ND	0.50	4914676
1,1-Dichloroethylene	ug/L	**0.5**	ND	0.20	4914676
cis-1,2-Dichloroethylene	ug/L	**1.6**	ND	0.50	4914676
trans-1,2-Dichloroethylene	ug/L	**1.6**	ND	0.50	4914676
1,2-Dichloropropane	ug/L	**0.5**	ND	0.20	4914676
cis-1,3-Dichloropropene	ug/L	**0.5**	ND	0.30	4914676
trans-1,3-Dichloropropene	ug/L	**0.5**	ND	0.40	4914676
Ethylbenzene	ug/L	**0.5**	ND	0.20	4914676
Ethylene Dibromide	ug/L	**0.2**	ND	0.20	4914676
Hexane	ug/L	**5**	ND	1.0	4914676
Methylene Chloride(Dichloromethane)	ug/L	**5**	ND	2.0	4914676
Methyl Ethyl Ketone (2-Butanone)	ug/L	**400**	ND	10	4914676
Methyl Isobutyl Ketone	ug/L	**640**	ND	5.0	4914676
Methyl t-butyl ether (MTBE)	ug/L	**15**	ND	0.50	4914676
Styrene	ug/L	**0.5**	ND	0.50	4914676
1,1,1,2-Tetrachloroethane	ug/L	**1.1**	ND	0.50	4914676
1,1,2,2-Tetrachloroethane	ug/L	**0.5**	ND	0.50	4914676
Tetrachloroethylene	ug/L	**0.5**	ND	0.20	4914676
Toluene	ug/L	**0.8**	ND	0.20	4914676

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

VOLATILE ORGANICS BY GC/MS (WATER)

Maxxam ID			ECL969		
Sampling Date					
COC Number			603593-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
1,1,1-Trichloroethane	ug/L	**0.5**	ND	0.20	4914676
1,1,2-Trichloroethane	ug/L	**0.5**	ND	0.50	4914676
Trichloroethylene	ug/L	**0.5**	ND	0.20	4914676
Trichlorofluoromethane (FREON 11)	ug/L	**150**	ND	0.50	4914676
Vinyl Chloride	ug/L	**0.5**	ND	0.20	4914676
p+m-Xylene	ug/L	-	ND	0.20	4914676
o-Xylene	ug/L	-	ND	0.20	4914676
Total Xylenes	ug/L	**72**	ND	0.20	4914676
F1 (C6-C10)	ug/L	**420**	ND	25	4914676
F1 (C6-C10) - BTEX	ug/L	**420**	ND	25	4914676
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	94		4914676
D4-1,2-Dichloroethane	%	-	111		4914676
D8-Toluene	%	-	95		4914676

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

O.REG 153 INORGANICS PKG (LAB FILTERED)

Maxxam ID			ECL965		ECL966			ECL967		
Sampling Date			2017/03/23 16:00		2017/03/23 16:00			2017/03/23 16:00		
COC Number			603593-01-01		603593-01-01			603593-01-01		
	UNITS	Criteria	11612-2303-MW01	QC Batch	11612-2303-MW02	RDL	QC Batch	11612-2303-MW03	RDL	QC Batch
Inorganics										
Dissolved Chloride (Cl)	mg/L	**790**	74	4919288	78	1.0	4921070	320	4.0	4919288

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses

Maxxam ID			ECL968		
Sampling Date			2017/03/23 16:00		
COC Number			603593-01-01		
	UNITS	Criteria	11612-2303-MW04	RDL	QC Batch
Inorganics					
Dissolved Chloride (Cl)	mg/L	**790**	73	1.0	4919288

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

O.REG 153 PAHS (WATER)

Maxxam ID			ECL965	ECL966	ECL967	ECL968		
Sampling Date			2017/03/23 16:00	2017/03/23 16:00	2017/03/23 16:00	2017/03/23 16:00		
COC Number			603593-01-01	603593-01-01	603593-01-01	603593-01-01		
	UNITS	Criteria	11612-2303-MW01	11612-2303-MW02	11612-2303-MW03	11612-2303-MW04	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/L	**2**	0.18	ND	ND	0.12	0.071	4913277
Polyaromatic Hydrocarbons								
Acenaphthene	ug/L	**4.1**	0.061	ND	ND	ND	0.050	4913805
Acenaphthylene	ug/L	**1**	ND	ND	ND	ND	0.050	4913805
Anthracene	ug/L	**0.1**	ND	ND	ND	ND	0.050	4913805
Benzo(a)anthracene	ug/L	**0.2**	ND	ND	ND	ND	0.050	4913805
Benzo(a)pyrene	ug/L	**0.01**	ND	ND	ND	ND	0.010	4913805
Benzo(b/j)fluoranthene	ug/L	**0.1**	ND	ND	ND	ND	0.050	4913805
Benzo(g,h,i)perylene	ug/L	**0.2**	ND	ND	ND	ND	0.050	4913805
Benzo(k)fluoranthene	ug/L	**0.1**	ND	ND	ND	ND	0.050	4913805
Chrysene	ug/L	**0.1**	ND	ND	ND	ND	0.050	4913805
Dibenz(a,h)anthracene	ug/L	**0.2**	ND	ND	ND	ND	0.050	4913805
Fluoranthene	ug/L	**0.4**	ND	ND	ND	ND	0.050	4913805
Fluorene	ug/L	**120**	ND	ND	ND	ND	0.050	4913805
Indeno(1,2,3-cd)pyrene	ug/L	**0.2**	ND	ND	ND	ND	0.050	4913805
1-Methylnaphthalene	ug/L	**2**	0.086	ND	ND	0.060	0.050	4913805
2-Methylnaphthalene	ug/L	**2**	0.094	ND	ND	0.061	0.050	4913805
Naphthalene	ug/L	**7**	ND	ND	ND	ND	0.050	4913805
Phenanthrene	ug/L	**0.1**	0.051	ND	ND	ND	0.030	4913805
Pyrene	ug/L	**0.2**	ND	ND	ND	ND	0.050	4913805
Surrogate Recovery (%)								
D10-Anthracene	%	-	92	98	96	92		4913805
D14-Terphenyl (FS)	%	-	78	88	88	82		4913805
D8-Acenaphthylene	%	-	102	106	105	103		4913805

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

O.REG 153 VOCS BY HS & F1-F4 (WATER)

Maxxam ID			ECL965		ECL966	ECL967		
Sampling Date			2017/03/23 16:00		2017/03/23 16:00	2017/03/23 16:00		
COC Number			603593-01-01		603593-01-01	603593-01-01		
	UNITS	Criteria	11612-2303-MW01	RDL	11612-2303-MW02	11612-2303-MW03	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4912938
Volatile Organics								
Acetone (2-Propanone)	ug/L	**2700**	ND (1)	11	ND	ND	10	4914676
Benzene	ug/L	**0.5**	0.28	0.20	ND	ND	0.20	4914676
Bromodichloromethane	ug/L	**2**	ND	0.50	ND	ND	0.50	4914676
Bromoform	ug/L	**5.0**	ND	1.0	ND	ND	1.0	4914676
Bromomethane	ug/L	**0.89**	ND	0.50	ND	ND	0.50	4914676
Carbon Tetrachloride	ug/L	**0.2**	ND	0.20	ND	ND	0.20	4914676
Chlorobenzene	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
Chloroform	ug/L	**2**	ND	0.20	ND	ND	0.20	4914676
Dibromochloromethane	ug/L	**2**	ND	0.50	ND	ND	0.50	4914676
1,2-Dichlorobenzene	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676
1,3-Dichlorobenzene	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676
1,4-Dichlorobenzene	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676
Dichlorodifluoromethane (FREON 12)	ug/L	**590**	ND	1.0	ND	ND	1.0	4914676
1,1-Dichloroethane	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
1,2-Dichloroethane	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676
1,1-Dichloroethylene	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
cis-1,2-Dichloroethylene	ug/L	**1.6**	ND	0.50	ND	ND	0.50	4914676
trans-1,2-Dichloroethylene	ug/L	**1.6**	ND	0.50	ND	ND	0.50	4914676
1,2-Dichloropropane	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
cis-1,3-Dichloropropene	ug/L	**0.5**	ND	0.30	ND	ND	0.30	4914676
trans-1,3-Dichloropropene	ug/L	**0.5**	ND	0.40	ND	ND	0.40	4914676
Ethylbenzene	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
Ethylene Dibromide	ug/L	**0.2**	ND	0.20	ND	ND	0.20	4914676
Hexane	ug/L	**5**	ND	1.0	ND	ND	1.0	4914676
Methylene Chloride(Dichloromethane)	ug/L	**5**	ND	2.0	ND	ND	2.0	4914676
Methyl Ethyl Ketone (2-Butanone)	ug/L	**400**	ND	10	ND	ND	10	4914676
Methyl Isobutyl Ketone	ug/L	**640**	ND	5.0	ND	ND	5.0	4914676
Methyl t-butyl ether (MTBE)	ug/L	**15**	ND	0.50	ND	ND	0.50	4914676
Styrene	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected
(1) The detection limit was raised due to laboratory background interference.

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

O.REG 153 VOCS BY HS & F1-F4 (WATER)

Maxxam ID			ECL965		ECL966	ECL967		
Sampling Date			2017/03/23 16:00		2017/03/23 16:00	2017/03/23 16:00		
COC Number			603593-01-01		603593-01-01	603593-01-01		
	UNITS	Criteria	11612-2303-MW01	RDL	11612-2303-MW02	11612-2303-MW03	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/L	**1.1**	ND	0.50	ND	ND	0.50	4914676
1,1,2,2-Tetrachloroethane	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676
Tetrachloroethylene	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
Toluene	ug/L	**0.8**	0.44	0.20	ND	ND	0.20	4914676
1,1,1-Trichloroethane	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
1,1,2-Trichloroethane	ug/L	**0.5**	ND	0.50	ND	ND	0.50	4914676
Trichloroethylene	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
Trichlorofluoromethane (FREON 11)	ug/L	**150**	ND	0.50	ND	ND	0.50	4914676
Vinyl Chloride	ug/L	**0.5**	ND	0.20	ND	ND	0.20	4914676
p+m-Xylene	ug/L	-	0.21	0.20	ND	ND	0.20	4914676
o-Xylene	ug/L	-	0.78	0.20	ND	ND	0.20	4914676
Total Xylenes	ug/L	**72**	0.99	0.20	ND	ND	0.20	4914676
F1 (C6-C10)	ug/L	**420**	43	25	ND	ND	25	4914676
F1 (C6-C10) - BTEX	ug/L	**420**	41	25	ND	ND	25	4914676
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	**150**	ND	100	ND	ND	100	4918562
F3 (C16-C34 Hydrocarbons)	ug/L	**500**	ND	200	ND	ND	200	4918562
F4 (C34-C50 Hydrocarbons)	ug/L	**500**	ND	200	ND	ND	200	4918562
Reached Baseline at C50	ug/L	-	Yes		Yes	Yes		4918562
Surrogate Recovery (%)								
o-Terphenyl	%	-	104		104	103		4918562
4-Bromofluorobenzene	%	-	93		93	94		4914676
D4-1,2-Dichloroethane	%	-	102		110	107		4914676
D8-Toluene	%	-	99		95	96		4914676

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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O.REG 153 VOCS BY HS & F1-F4 (WATER)

Maxxam ID			ECL968		
Sampling Date			2017/03/23 16:00		
COC Number			603593-01-01		
	UNITS	Criteria	11612-2303-MW04	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	**0.5**	ND	0.50	4912938
Volatile Organics					
Acetone (2-Propanone)	ug/L	**2700**	ND	10	4914676
Benzene	ug/L	**0.5**	0.28	0.20	4914676
Bromodichloromethane	ug/L	**2**	ND	0.50	4914676
Bromoform	ug/L	**5.0**	ND	1.0	4914676
Bromomethane	ug/L	**0.89**	ND	0.50	4914676
Carbon Tetrachloride	ug/L	**0.2**	ND	0.20	4914676
Chlorobenzene	ug/L	**0.5**	ND	0.20	4914676
Chloroform	ug/L	**2**	ND	0.20	4914676
Dibromochloromethane	ug/L	**2**	ND	0.50	4914676
1,2-Dichlorobenzene	ug/L	**0.5**	ND	0.50	4914676
1,3-Dichlorobenzene	ug/L	**0.5**	ND	0.50	4914676
1,4-Dichlorobenzene	ug/L	**0.5**	ND	0.50	4914676
Dichlorodifluoromethane (FREON 12)	ug/L	**590**	ND	1.0	4914676
1,1-Dichloroethane	ug/L	**0.5**	ND	0.20	4914676
1,2-Dichloroethane	ug/L	**0.5**	ND	0.50	4914676
1,1-Dichloroethylene	ug/L	**0.5**	ND	0.20	4914676
cis-1,2-Dichloroethylene	ug/L	**1.6**	ND	0.50	4914676
trans-1,2-Dichloroethylene	ug/L	**1.6**	ND	0.50	4914676
1,2-Dichloropropane	ug/L	**0.5**	ND	0.20	4914676
cis-1,3-Dichloropropene	ug/L	**0.5**	ND	0.30	4914676
trans-1,3-Dichloropropene	ug/L	**0.5**	ND	0.40	4914676
Ethylbenzene	ug/L	**0.5**	ND	0.20	4914676
Ethylene Dibromide	ug/L	**0.2**	ND	0.20	4914676
Hexane	ug/L	**5**	ND	1.0	4914676
Methylene Chloride(Dichloromethane)	ug/L	**5**	ND	2.0	4914676
Methyl Ethyl Ketone (2-Butanone)	ug/L	**400**	ND	10	4914676
Methyl Isobutyl Ketone	ug/L	**640**	ND	5.0	4914676
Methyl t-butyl ether (MTBE)	ug/L	**15**	ND	0.50	4914676
Styrene	ug/L	**0.5**	ND	0.50	4914676
1,1,1,2-Tetrachloroethane	ug/L	**1.1**	ND	0.50	4914676

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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O.REG 153 VOCS BY HS & F1-F4 (WATER)

Maxxam ID			ECL968		
Sampling Date			2017/03/23 16:00		
COC Number			603593-01-01		
	UNITS	Criteria	11612-2303-MW04	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	**0.5**	ND	0.50	4914676
Tetrachloroethylene	ug/L	**0.5**	ND	0.20	4914676
Toluene	ug/L	**0.8**	0.41	0.20	4914676
1,1,1-Trichloroethane	ug/L	**0.5**	ND	0.20	4914676
1,1,2-Trichloroethane	ug/L	**0.5**	ND	0.50	4914676
Trichloroethylene	ug/L	**0.5**	ND	0.20	4914676
Trichlorofluoromethane (FREON 11)	ug/L	**150**	ND	0.50	4914676
Vinyl Chloride	ug/L	**0.5**	ND	0.20	4914676
p+m-Xylene	ug/L	-	ND	0.20	4914676
o-Xylene	ug/L	-	0.74	0.20	4914676
Total Xylenes	ug/L	**72**	0.74	0.20	4914676
F1 (C6-C10)	ug/L	**420**	36	25	4914676
F1 (C6-C10) - BTEX	ug/L	**420**	35	25	4914676
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	**150**	ND	100	4918562
F3 (C16-C34 Hydrocarbons)	ug/L	**500**	ND	200	4918562
F4 (C34-C50 Hydrocarbons)	ug/L	**500**	ND	200	4918562
Reached Baseline at C50	ug/L	-	Yes		4918562
Surrogate Recovery (%)					
o-Terphenyl	%	-	103		4918562
4-Bromofluorobenzene	%	-	93		4914676
D4-1,2-Dichloroethane	%	-	100		4914676
D8-Toluene	%	-	99		4914676

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

TEST SUMMARY

Maxxam ID: ECL965
Sample ID: 11612-2303-MW01
Matrix: Water

Collected: 2017/03/23
Shipped:
Received: 2017/03/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4913277	N/A	2017/03/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	4912938	N/A	2017/03/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	4919288	N/A	2017/03/30	Alina Dobreanu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	4918562	2017/03/29	2017/03/30	Zhiyue (Frank) Zhu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	4913805	2017/03/24	2017/03/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4914676	N/A	2017/03/28	Blair Gannon

Maxxam ID: ECL966
Sample ID: 11612-2303-MW02
Matrix: Water

Collected: 2017/03/23
Shipped:
Received: 2017/03/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4913277	N/A	2017/03/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	4912938	N/A	2017/03/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	4921070	N/A	2017/03/31	Alina Dobreanu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	4918562	2017/03/29	2017/03/30	Zhiyue (Frank) Zhu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	4913805	2017/03/24	2017/03/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4914676	N/A	2017/03/28	Blair Gannon

Maxxam ID: ECL967
Sample ID: 11612-2303-MW03
Matrix: Water

Collected: 2017/03/23
Shipped:
Received: 2017/03/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4913277	N/A	2017/03/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	4912938	N/A	2017/03/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	4919288	N/A	2017/03/30	Alina Dobreanu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	4918562	2017/03/29	2017/03/30	Zhiyue (Frank) Zhu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	4913805	2017/03/24	2017/03/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4914676	N/A	2017/03/28	Blair Gannon

Maxxam ID: ECL968
Sample ID: 11612-2303-MW04
Matrix: Water

Collected: 2017/03/23
Shipped:
Received: 2017/03/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4913277	N/A	2017/03/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	4912938	N/A	2017/03/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	4919288	N/A	2017/03/30	Alina Dobreanu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	4918562	2017/03/29	2017/03/30	Zhiyue (Frank) Zhu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	4913805	2017/03/24	2017/03/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4914676	N/A	2017/03/28	Blair Gannon

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

TEST SUMMARY

Maxxam ID: ECL969
Sample ID: TRIP BLANK
Matrix: Water

Collected:
Shipped:
Received: 2017/03/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	4914676	N/A	2017/03/28	Blair Gannon

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

GENERAL COMMENTS

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

Package 1	8.3°C

Cooler custody seal was present and intact.

For all samples, 11612-2303-MW01, 11612-2303-MW02, 11612-2303-MW03 and 11612-2303-MW04, all 40mL vials for F1BTEX and VOC analyses contained visible sediment. Also all 250mL amber glass bottles for F2-F4 and PAH analyses contained visible sediment, which was included in the extraction. Additionally, all 125mL plastic bottles for chromium VI and cyanide analyses contained visible sediment, the 100mL clear glass bottles for mercury analysis contained visible sediment, the 500mL plastic bottle for chloride analysis contained visible sediment, and the 120mL plastic bottle for dissolved metals analysis contained visible sediment.

Results relate only to the items tested.

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Maxxam Job #: B759104
Report Date: 2017/03/31

QUALITY ASSURANCE REPORT

Haddad Geotechnical Inc
Client Project #: 11612

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4913805	D10-Anthracene	2017/03/25	103	50 - 130	98	50 - 130	96	%		
4913805	D14-Terphenyl (FS)	2017/03/25	92	50 - 130	93	50 - 130	92	%		
4913805	D8-Acenaphthylene	2017/03/25	110	50 - 130	102	50 - 130	103	%		
4914676	4-Bromofluorobenzene	2017/03/28	99	70 - 130	98	70 - 130	97	%		
4914676	D4-1,2-Dichloroethane	2017/03/28	105	70 - 130	103	70 - 130	102	%		
4914676	D8-Toluene	2017/03/28	101	70 - 130	101	70 - 130	98	%		
4918562	o-Terphenyl	2017/03/30	108	60 - 130	105	60 - 130	99	%		
4913805	1-Methylnaphthalene	2017/03/27	NA	50 - 130	100	50 - 130	ND, RDL=0.050	ug/L	3.9	30
4913805	2-Methylnaphthalene	2017/03/27	128	50 - 130	96	50 - 130	ND, RDL=0.050	ug/L	6.4	30
4913805	Acenaphthene	2017/03/27	94	50 - 130	103	50 - 130	ND, RDL=0.050	ug/L	2.8	30
4913805	Acenaphthylene	2017/03/27	112	50 - 130	108	50 - 130	ND, RDL=0.050	ug/L	7.8	30
4913805	Anthracene	2017/03/27	105	50 - 130	101	50 - 130	ND, RDL=0.050	ug/L	4.0	30
4913805	Benzo(a)anthracene	2017/03/27	105	50 - 130	103	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Benzo(a)pyrene	2017/03/27	102	50 - 130	104	50 - 130	ND, RDL=0.010	ug/L	NC	30
4913805	Benzo(b/j)fluoranthene	2017/03/27	98	50 - 130	99	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Benzo(g,h,i)perylene	2017/03/27	102	50 - 130	106	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Benzo(k)fluoranthene	2017/03/27	96	50 - 130	103	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Chrysene	2017/03/27	102	50 - 130	106	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Dibenz(a,h)anthracene	2017/03/27	99	50 - 130	102	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Fluoranthene	2017/03/27	115	50 - 130	114	50 - 130	ND, RDL=0.050	ug/L	2.8	30
4913805	Fluorene	2017/03/27	116	50 - 130	100	50 - 130	ND, RDL=0.050	ug/L	3.2	30
4913805	Indeno(1,2,3-cd)pyrene	2017/03/27	109	50 - 130	113	50 - 130	ND, RDL=0.050	ug/L	NC	30
4913805	Naphthalene	2017/03/27	105	50 - 130	93	50 - 130	ND, RDL=0.050	ug/L	3.6	30
4913805	Phenanthrene	2017/03/27	119	50 - 130	103	50 - 130	ND, RDL=0.030	ug/L	4.0	30
4913805	Pyrene	2017/03/27	113	50 - 130	112	50 - 130	ND, RDL=0.050	ug/L	4.2	30
4914676	1,1,1,2-Tetrachloroethane	2017/03/28	102	70 - 130	100	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	1,1,1-Trichloroethane	2017/03/28	99	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	1,1,2,2-Tetrachloroethane	2017/03/28	101	70 - 130	97	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	1,1,2-Trichloroethane	2017/03/28	102	70 - 130	98	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	1,1-Dichloroethane	2017/03/28	101	70 - 130	98	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	1,1-Dichloroethylene	2017/03/28	104	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	1,2-Dichlorobenzene	2017/03/28	102	70 - 130	100	70 - 130	ND, RDL=0.50	ug/L	NC	30

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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
4914676	1,2-Dichloroethane	2017/03/28	99	70 - 130	95	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	1,2-Dichloropropane	2017/03/28	95	70 - 130	92	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	1,3-Dichlorobenzene	2017/03/28	101	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	1,4-Dichlorobenzene	2017/03/28	103	70 - 130	101	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	Acetone (2-Propanone)	2017/03/28	95	60 - 140	92	60 - 140	ND, RDL=10	ug/L	NC	30
4914676	Benzene	2017/03/28	96	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Bromodichloromethane	2017/03/28	99	70 - 130	96	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	Bromoform	2017/03/28	99	70 - 130	96	70 - 130	ND, RDL=1.0	ug/L	NC	30
4914676	Bromomethane	2017/03/28	102	60 - 140	97	60 - 140	ND, RDL=0.50	ug/L	NC	30
4914676	Carbon Tetrachloride	2017/03/28	104	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Chlorobenzene	2017/03/28	103	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Chloroform	2017/03/28	100	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	cis-1,2-Dichloroethylene	2017/03/28	105	70 - 130	102	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	cis-1,3-Dichloropropene	2017/03/28	96	70 - 130	91	70 - 130	ND, RDL=0.30	ug/L	NC	30
4914676	Dibromochloromethane	2017/03/28	103	70 - 130	100	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	Dichlorodifluoromethane (FREON 12)	2017/03/28	90	60 - 140	90	60 - 140	ND, RDL=1.0	ug/L	NC	30
4914676	Ethylbenzene	2017/03/28	98	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Ethylene Dibromide	2017/03/28	102	70 - 130	98	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	F1 (C6-C10) - BTEX	2017/03/28					ND, RDL=25	ug/L	NC	30
4914676	F1 (C6-C10)	2017/03/28	100	60 - 140	100	60 - 140	ND, RDL=25	ug/L	NC	30
4914676	Hexane	2017/03/28	97	70 - 130	95	70 - 130	ND, RDL=1.0	ug/L	NC	30
4914676	Methyl Ethyl Ketone (2-Butanone)	2017/03/28	96	60 - 140	92	60 - 140	ND, RDL=10	ug/L	NC	30
4914676	Methyl Isobutyl Ketone	2017/03/28	88	70 - 130	85	70 - 130	ND, RDL=5.0	ug/L	NC	30
4914676	Methyl t-butyl ether (MTBE)	2017/03/28	92	70 - 130	90	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	Methylene Chloride(Dichloromethane)	2017/03/28	101	70 - 130	97	70 - 130	ND, RDL=2.0	ug/L	NC	30
4914676	o-Xylene	2017/03/28	96	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	p+m-Xylene	2017/03/28	94	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Styrene	2017/03/28	94	70 - 130	92	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	Tetrachloroethylene	2017/03/28	104	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Toluene	2017/03/28	96	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Total Xylenes	2017/03/28					ND, RDL=0.20	ug/L	NC	30
4914676	trans-1,2-Dichloroethylene	2017/03/28	103	70 - 130	100	70 - 130	ND, RDL=0.50	ug/L	NC	30

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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
4914676	trans-1,3-Dichloropropene	2017/03/28	98	70 - 130	92	70 - 130	ND, RDL=0.40	ug/L	NC	30
4914676	Trichloroethylene	2017/03/28	99	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30
4914676	Trichlorofluoromethane (FREON 11)	2017/03/28	106	70 - 130	104	70 - 130	ND, RDL=0.50	ug/L	NC	30
4914676	Vinyl Chloride	2017/03/28	98	70 - 130	96	70 - 130	ND, RDL=0.20	ug/L	NC	30
4918562	F2 (C10-C16 Hydrocarbons)	2017/03/30	93	50 - 130	92	60 - 130	ND, RDL=100	ug/L	3.2	30
4918562	F3 (C16-C34 Hydrocarbons)	2017/03/30	104	50 - 130	101	60 - 130	ND, RDL=200	ug/L	NC	30
4918562	F4 (C34-C50 Hydrocarbons)	2017/03/30	99	50 - 130	98	60 - 130	ND, RDL=200	ug/L	NC	30
4919288	Dissolved Chloride (Cl)	2017/03/30	NC	80 - 120	102	80 - 120	ND, RDL=1.0	mg/L	1.5	20
4921070	Dissolved Chloride (Cl)	2017/03/31	NC	80 - 120	100	80 - 120	ND, RDL=1.0	mg/L	0.35	20

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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).

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Maxxam Job #: B759104
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Scientific Services

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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Exceedence Summary Table – Reg153/04 T1-GW

Result Exceedences

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
No Exceedences						

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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24-Mar-17 10:55
Antonella Brasil
B759104
KES ENV-1288

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATI		For Lab Use Only:	
Company Name:	#4807 Haddad Geotechnical Inc	Company Name:		Quotation #	A72013		Bottle Order #:
Attention:	Julie Newman	Attention:	Graham Fisher	P.O. #:			603593
Address:	151 Amber St Unit 17, 18 Markham ON L3R 3B3	Address:		Project:	11612		Project Manager:
Tel:	(905) 475-0951 x227 Fax: (905) 475-8338 x	Tel:	(905) 475-0951 x223 Fax: (905) 475-8338 x	Project Name:		COC #:	
Email:	Accounts@haddadgeo.com	Email:	gfisher@haddadgeo.com;inbox@haddadgeo.com	Site #:		C#603593-01-01	Antonella Brasil
				Sampled By:			

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
[X] Table 1 [X] Res/Park [ ] Medium/Fine	[ ] CCME [ ] Sanitary Sewer Bylaw	
[ ] Table 2 [ ] Ind/Comm [X] Coarse	[ ] Reg 558 [ ] Storm Sewer Bylaw	
[ ] Table 3 [ ] Agri/Other [X] For RSC	[ ] MISA Municipality	
[ ] Table ___	[ ] PWQO	
	[ ] Other	

Include Criteria on Certificate of Analysis (Y/N)? No

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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	O.Reg 153 VOCs & F1-F4 (Water)	O.Reg 153 PAHs (Water)	O.Reg 153 Metals & Inorganics Pkg (Wtr)	# of Bottles	Comments
1		11612-2303-MW01	17/03/23	16:00	GW	✓	✓	✓	12	
2		11612-2303-MW02	17/03/23	16:00	GW	✓	✓	✓	12	
3		11612-2303-MW03	17/03/23	16:00	GW	✓	✓	✓	12	
4		11612-2303-MW04	17/03/23	16:00	GW	✓	✓	✓	12	
5	~~Ice Blank~~	Trip Blank								
6										
7										
8										
9										
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
			Shruti SHRUTI PATEL	2017/03/24	10:55	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	8/8/9	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

on ice

Your Project #: 11612
Your C.O.C. #: 601232-01-01, 61766

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/03/31
Report #: R4409212
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B759947
Received: 2017/03/27, 11:20

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Chromium (VI) in Water	3	N/A	2017/03/28	CAM SOP-00436	EPA 7199 m
Chromium (VI) in Water	1	N/A	2017/03/30	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	3	N/A	2017/03/28	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide	1	N/A	2017/03/30	CAM SOP-00457	OMOE E3015 m
Mercury	2	2017/03/28	2017/03/29	CAM SOP-00453	EPA 7470A m
Mercury	1	2017/03/29	2017/03/30	CAM SOP-00453	EPA 7470A m
Mercury	1	2017/03/30	2017/03/30	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	3	N/A	2017/03/28	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2017/03/31	CAM SOP-00447	EPA 6020B 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.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: 11612
Your C.O.C. #: 601232-01-01, 61766

Attention:Graham Fisher

Haddad Geotechnical Inc
151 Amber St
Unit 17, 18
Markham, ON
CANADA L3R 3B3

Report Date: 2017/03/31
Report #: R4409212
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B759947
Received: 2017/03/27, 11:20

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: ABrasil@maxxam.ca
Phone# (905)817-5817
==========
This report has been generated and distributed using a secure automated process.
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 Job #: B759947
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

O.REG 153 METALS & INORGANICS PKG (WTR)

Maxxam ID			ECQ255	ECQ256		ECQ257		
Sampling Date			2017/03/26 13:00	2017/03/26 13:15		2017/03/26 13:30		
COC Number			601232-01-01	601232-01-01		601232-01-01		
	UNITS	Criteria	1611612-0326-MW1	1611612-0326-MW2	QC Batch	1611612-0326-MW3	RDL	QC Batch
Inorganics								
Free Cyanide	ug/L	**5**	ND	ND	4916801	ND	1	4916801
Metals								
Chromium (VI)	ug/L	**25**	5.9	8.0	4916313	6.7	0.50	4916313
Mercury (Hg)	ug/L	**0.1**	ND	ND	4916976	ND	0.1	4918555
Dissolved Antimony (Sb)	ug/L	**1.5**	ND	ND	4916785	ND	0.50	4916785
Dissolved Arsenic (As)	ug/L	**13**	ND	ND	4916785	ND	1.0	4916785
Dissolved Barium (Ba)	ug/L	**610**	180	99	4916785	130	2.0	4916785
Dissolved Beryllium (Be)	ug/L	**0.5**	ND	ND	4916785	ND	0.50	4916785
Dissolved Boron (B)	ug/L	**1700**	44	ND	4916785	ND	10	4916785
Dissolved Cadmium (Cd)	ug/L	**0.5**	ND	ND	4916785	ND	0.10	4916785
Dissolved Chromium (Cr)	ug/L	**11**	5.6	7.4	4916785	6.5	5.0	4916785
Dissolved Cobalt (Co)	ug/L	**3.8**	1.6	2.6	4916785	1.1	0.50	4916785
Dissolved Copper (Cu)	ug/L	**5**	**12**	**58**	4916785	**9.6**	1.0	4916785
Dissolved Lead (Pb)	ug/L	**1.9**	ND	ND	4916785	ND	0.50	4916785
Dissolved Molybdenum (Mo)	ug/L	**23**	14	9.8	4916785	12	0.50	4916785
Dissolved Nickel (Ni)	ug/L	**14**	2.8	6.7	4916785	1.8	1.0	4916785
Dissolved Selenium (Se)	ug/L	**5**	ND	ND	4916785	ND	2.0	4916785
Dissolved Silver (Ag)	ug/L	**0.3**	ND	ND	4916785	ND	0.10	4916785
Dissolved Sodium (Na)	ug/L	**490000**	160000	46000	4916785	180000	100	4916785
Dissolved Thallium (Tl)	ug/L	**0.5**	ND	ND	4916785	ND	0.050	4916785
Dissolved Uranium (U)	ug/L	**8.9**	ND	ND	4916785	ND	0.10	4916785
Dissolved Vanadium (V)	ug/L	**3.9**	1.2	0.86	4916785	ND	0.50	4916785
Dissolved Zinc (Zn)	ug/L	**160**	ND	ND	4916785	ND	5.0	4916785

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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Maxxam Job #: B759947
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

O.REG 153 METALS & INORGANICS PKG (WTR)

Maxxam ID			ECQ257		ECU716	ECU716		
Sampling Date			2017/03/26 13:30		2017/03/26 13:45	2017/03/26 13:45		
COC Number			601232-01-01		61766	61766		
	UNITS	Criteria	1611612-0326-MW3 Lab-Dup	QC Batch	1611612-0326-MW4	1611612-0326-MW4 Lab-Dup	RDL	QC Batch
Inorganics								
Free Cyanide	ug/L	**5**	ND	4916801	ND		1	4920423
Metals								
Chromium (VI)	ug/L	**25**		4916313	6.8		0.50	4919143
Mercury (Hg)	ug/L	**0.1**		4918555	ND		0.1	4918555
Dissolved Antimony (Sb)	ug/L	**1.5**		4916785	0.63	0.51	0.50	4920614
Dissolved Arsenic (As)	ug/L	**13**		4916785	ND	ND	1.0	4920614
Dissolved Barium (Ba)	ug/L	**610**		4916785	170	170	2.0	4920614
Dissolved Beryllium (Be)	ug/L	**0.5**		4916785	ND	ND	0.50	4920614
Dissolved Boron (B)	ug/L	**1700**		4916785	42	42	10	4920614
Dissolved Cadmium (Cd)	ug/L	**0.5**		4916785	ND	ND	0.10	4920614
Dissolved Chromium (Cr)	ug/L	**11**		4916785	5.7	5.7	5.0	4920614
Dissolved Cobalt (Co)	ug/L	**3.8**		4916785	1.6	1.6	0.50	4920614
Dissolved Copper (Cu)	ug/L	**5**		4916785	**15**	**15**	1.0	4920614
Dissolved Lead (Pb)	ug/L	**1.9**		4916785	ND	ND	0.50	4920614
Dissolved Molybdenum (Mo)	ug/L	**23**		4916785	14	13	0.50	4920614
Dissolved Nickel (Ni)	ug/L	**14**		4916785	3.1	3.1	1.0	4920614
Dissolved Selenium (Se)	ug/L	**5**		4916785	ND	ND	2.0	4920614
Dissolved Silver (Ag)	ug/L	**0.3**		4916785	ND	ND	0.10	4920614
Dissolved Sodium (Na)	ug/L	**490000**		4916785	150000	150000	100	4920614
Dissolved Thallium (Tl)	ug/L	**0.5**		4916785	ND	ND	0.050	4920614
Dissolved Uranium (U)	ug/L	**8.9**		4916785	ND	ND	0.10	4920614
Dissolved Vanadium (V)	ug/L	**3.9**		4916785	1.2	1.1	0.50	4920614
Dissolved Zinc (Zn)	ug/L	**160**		4916785	ND	ND	5.0	4920614

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
ND = Not detected

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Maxxam Job #: B759947
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

TEST SUMMARY

Maxxam ID: ECQ255
Sample ID: 1611612-0326-MW1
Matrix: Water

Collected: 2017/03/26
Shipped:
Received: 2017/03/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chromium (VI) in Water	IC	4916313	N/A	2017/03/28	Sally Coughlin
Free (WAD) Cyanide	SKAL/CN	4916801	N/A	2017/03/28	Lantian Jin
Mercury	CV/AA	4916976	2017/03/28	2017/03/29	Ron Morrison
Dissolved Metals by ICPMS	ICP/MS	4916785	N/A	2017/03/28	John Bowman

Maxxam ID: ECQ256
Sample ID: 1611612-0326-MW2
Matrix: Water

Collected: 2017/03/26
Shipped:
Received: 2017/03/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chromium (VI) in Water	IC	4916313	N/A	2017/03/28	Sally Coughlin
Free (WAD) Cyanide	SKAL/CN	4916801	N/A	2017/03/28	Lantian Jin
Mercury	CV/AA	4916976	2017/03/28	2017/03/29	Ron Morrison
Dissolved Metals by ICPMS	ICP/MS	4916785	N/A	2017/03/28	John Bowman

Maxxam ID: ECQ257
Sample ID: 1611612-0326-MW3
Matrix: Water

Collected: 2017/03/26
Shipped:
Received: 2017/03/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chromium (VI) in Water	IC	4916313	N/A	2017/03/28	Sally Coughlin
Free (WAD) Cyanide	SKAL/CN	4916801	N/A	2017/03/28	Lantian Jin
Mercury	CV/AA	4918555	2017/03/29	2017/03/30	Ron Morrison
Dissolved Metals by ICPMS	ICP/MS	4916785	N/A	2017/03/28	John Bowman

Maxxam ID: ECQ257 Dup
Sample ID: 1611612-0326-MW3
Matrix: Water

Collected: 2017/03/26
Shipped:
Received: 2017/03/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	SKAL/CN	4916801	N/A	2017/03/28	Lantian Jin

Maxxam ID: ECU716
Sample ID: 1611612-0326-MW4
Matrix: Water

Collected: 2017/03/26
Shipped:
Received: 2017/03/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chromium (VI) in Water	IC	4919143	N/A	2017/03/30	Lang Le
Free (WAD) Cyanide	SKAL/CN	4920423	N/A	2017/03/30	Lantian Jin
Mercury	CV/AA	4918555	2017/03/30	2017/03/30	Ron Morrison
Dissolved Metals by ICPMS	ICP/MS	4920614	N/A	2017/03/31	Thao Nguyen

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Maxxam Job #: B759947
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

TEST SUMMARY

Maxxam ID: ECU716 Dup
Sample ID: 1611612-0326-MW4
Matrix: Water

Collected: 2017/03/26
Shipped:
Received: 2017/03/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	4920614	N/A	2017/03/31	Thao Nguyen

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GENERAL COMMENTS

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

Package 1	5.7°C

Cooler custody seal was present and intact.

Sample ECQ255 [1611612-0326-MW1] : Hexavalent Chromium > Total/Dissolved Chromium: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample ECQ256 [1611612-0326-MW2] : Hexavalent Chromium > Total/Dissolved Chromium: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample ECQ257 [1611612-0326-MW3] : Hexavalent Chromium > Total/Dissolved Chromium: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Sample ECU716 [1611612-0326-MW4] : Hexavalent Chromium > Total/Dissolved Chromium: Both values fall within the method uncertainty for duplicates and are likely equivalent.

Results relate only to the items tested.

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Maxxam Job #: B759947
Report Date: 2017/03/31

QUALITY ASSURANCE REPORT

Haddad Geotechnical Inc
Client Project #: 11612

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4916313	Chromium (VI)	2017/03/28	98	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	NC	20
4916785	Dissolved Antimony (Sb)	2017/03/28	110	80 - 120	94	80 - 120	ND, RDL=0.50	ug/L	14	20
4916785	Dissolved Arsenic (As)	2017/03/28	103	80 - 120	90	80 - 120	ND, RDL=1.0	ug/L	1.6	20
4916785	Dissolved Barium (Ba)	2017/03/28	107	80 - 120	93	80 - 120	ND, RDL=2.0	ug/L	0.85	20
4916785	Dissolved Beryllium (Be)	2017/03/28	107	80 - 120	92	80 - 120	ND, RDL=0.50	ug/L	NC	20
4916785	Dissolved Boron (B)	2017/03/28	105	80 - 120	90	80 - 120	ND, RDL=10	ug/L	1.8	20
4916785	Dissolved Cadmium (Cd)	2017/03/28	102	80 - 120	93	80 - 120	ND, RDL=0.10	ug/L	NC	20
4916785	Dissolved Chromium (Cr)	2017/03/28	102	80 - 120	90	80 - 120	ND, RDL=5.0	ug/L	NC	20
4916785	Dissolved Cobalt (Co)	2017/03/28	99	80 - 120	90	80 - 120	ND, RDL=0.50	ug/L	5.6	20
4916785	Dissolved Copper (Cu)	2017/03/28	105	80 - 120	92	80 - 120	ND, RDL=1.0	ug/L	NC	20
4916785	Dissolved Lead (Pb)	2017/03/28	92	80 - 120	90	80 - 120	ND, RDL=0.50	ug/L	NC	20
4916785	Dissolved Molybdenum (Mo)	2017/03/28	113	80 - 120	94	80 - 120	ND, RDL=0.50	ug/L	1.7	20
4916785	Dissolved Nickel (Ni)	2017/03/28	96	80 - 120	91	80 - 120	ND, RDL=1.0	ug/L	5.6	20
4916785	Dissolved Selenium (Se)	2017/03/28	98	80 - 120	92	80 - 120	ND, RDL=2.0	ug/L	NC	20
4916785	Dissolved Silver (Ag)	2017/03/28	95	80 - 120	90	80 - 120	ND, RDL=0.10	ug/L	NC	20
4916785	Dissolved Sodium (Na)	2017/03/28	NC	80 - 120	92	80 - 120	ND, RDL=100	ug/L		
4916785	Dissolved Thallium (Tl)	2017/03/28	91	80 - 120	89	80 - 120	ND, RDL=0.050	ug/L	NC	20
4916785	Dissolved Uranium (U)	2017/03/28	96	80 - 120	89	80 - 120	ND, RDL=0.10	ug/L	1.5	20
4916785	Dissolved Vanadium (V)	2017/03/28	106	80 - 120	90	80 - 120	ND, RDL=0.50	ug/L	NC	20
4916785	Dissolved Zinc (Zn)	2017/03/28	93	80 - 120	90	80 - 120	ND, RDL=5.0	ug/L	NC	20
4916801	Free Cyanide	2017/03/28	102	80 - 120	102	80 - 120	ND,RDL=1	ug/L	NC	20
4916976	Mercury (Hg)	2017/03/29	116	75 - 125	108	80 - 120	ND, RDL=0.1	ug/L	NC	20
4918555	Mercury (Hg)	2017/03/30	107	75 - 125	104	80 - 120	ND, RDL=0.1	ug/L	NC	20
4919143	Chromium (VI)	2017/03/30	106	80 - 120	106	80 - 120	ND, RDL=0.50	ug/L	NC	20
4920423	Free Cyanide	2017/03/30	101	80 - 120	99	80 - 120	ND,RDL=1	ug/L	NC	20
4920614	Dissolved Antimony (Sb)	2017/03/31	112	80 - 120	100	80 - 120	ND, RDL=0.50	ug/L	NC	20
4920614	Dissolved Arsenic (As)	2017/03/31	105	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L	NC	20
4920614	Dissolved Barium (Ba)	2017/03/31	106	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L	0.35	20
4920614	Dissolved Beryllium (Be)	2017/03/31	108	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20
4920614	Dissolved Boron (B)	2017/03/31	108	80 - 120	99	80 - 120	ND, RDL=10	ug/L	0.54	20
4920614	Dissolved Cadmium (Cd)	2017/03/31	109	80 - 120	98	80 - 120	ND, RDL=0.10	ug/L	NC	20
4920614	Dissolved Chromium (Cr)	2017/03/31	105	80 - 120	97	80 - 120	ND, RDL=5.0	ug/L	0.47	20

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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
4920614	Dissolved Cobalt (Co)	2017/03/31	103	80 - 120	96	80 - 120	ND, RDL=0.50	ug/L	0.57	20
4920614	Dissolved Copper (Cu)	2017/03/31	109	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	2.1	20
4920614	Dissolved Lead (Pb)	2017/03/31	100	80 - 120	95	80 - 120	ND, RDL=0.50	ug/L	NC	20
4920614	Dissolved Molybdenum (Mo)	2017/03/31	112	80 - 120	100	80 - 120	ND, RDL=0.50	ug/L	1.8	20
4920614	Dissolved Nickel (Ni)	2017/03/31	102	80 - 120	96	80 - 120	ND, RDL=1.0	ug/L	1.8	20
4920614	Dissolved Selenium (Se)	2017/03/31	105	80 - 120	98	80 - 120	ND, RDL=2.0	ug/L	NC	20
4920614	Dissolved Silver (Ag)	2017/03/31	87	80 - 120	97	80 - 120	ND, RDL=0.10	ug/L	NC	20
4920614	Dissolved Sodium (Na)	2017/03/31	NC	80 - 120	100	80 - 120	ND, RDL=100	ug/L	1.5	20
4920614	Dissolved Thallium (Tl)	2017/03/31	100	80 - 120	94	80 - 120	ND, RDL=0.050	ug/L	NC	20
4920614	Dissolved Uranium (U)	2017/03/31	106	80 - 120	99	80 - 120	ND, RDL=0.10	ug/L	NC	20
4920614	Dissolved Vanadium (V)	2017/03/31	106	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	11	20
4920614	Dissolved Zinc (Zn)	2017/03/31	101	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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).

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Maxxam Job #: B759947
Report Date: 2017/03/31

Haddad Geotechnical Inc
Client Project #: 11612

VALIDATION SIGNATURE PAGE

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

Brad Newman, 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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Exceedence Summary Table – Reg153/04 T1-GW

Result Exceedences

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
1611612-0326-MW1	ECQ255-03	Dissolved Copper (Cu)	5	12	1.0	ug/L
1611612-0326-MW2	ECQ256-03	Dissolved Copper (Cu)	5	58	1.0	ug/L
1611612-0326-MW3	ECQ257-03	Dissolved Copper (Cu)	5	9.6	1.0	ug/L
1611612-0326-MW4	ECU716-02-Lab Dup	Dissolved Copper (Cu)	5	15	1.0	ug/L
1611612-0326-MW4	ECU716-02	Dissolved Copper (Cu)	5	15	1.0	ug/L

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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27-Mar-17 11:20
Antonella Brasil
B759947
J_L ENV-593

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#4807 Haddad Geotechnical Inc	Company Name:		Quotation #:	~~A78013~~
Attention:	Julie Newman	Attention:	Graham Fisher	P.O. #:	
Address:	151 Amber St Unit 17, 18	Address:		Project:	~~Toronto Sanitary & Storm Comp~~
	Markham ON L3R 3B3			Project Name:	
Tel:	(905) 475-0951 x227 Fax: (905) 475-8338 x	Tel:	(905) 475-0951 x223 Fax: (905) 475-8338 x	Site #:	
Email:	Accounts@haddadgeo.com	Email:	gfisher@haddadgeo.com;inbox@haddadgeo.com	Sampled By:	

Bottle Order #: 601232
COC #: C#601232-01-01
Project Manager: Antonella Brasil

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)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI (All Filtered)	Toronto Sanitary & Storm Sewer Package	Cyanide	Mercury	Chromium VI	Metals		# of Bottles	Comments
1		16-11612-0326-MW1	Mar.26/17	13:00	Water	Y		✓	✓	✓	✓		4	
2		16 11612-0326-MW2	"	13:15	"	Y		✓	✓	✓	✓		4	
3		16 11612-0326-MW3	"	13:30	"	Y		✓	✓	✓	✓		4	
4		~~trip blank~~											~~2~~	
5		161612-0326-MW4		13:45	Water	Y							4	
6														
7														
8														
9														
10														

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 #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Allegra Bert [signature]	17/03/27	11:20	[signature] MAUME	2017/03/27	11:20	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	6/5/6	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: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

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CAM FCD-01191/2

CHAIN OF CUSTODY RECORD 61766

Page ____ of ____

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name:	Company Name: Haddad Graham Fisher	Quotation #:	☐ Regular TAT (5-7 days) Most analyses
Contact Name:	Contact Name:	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	Address:	Project #:	Rush TAT (Surcharges will be applied)
Phone: Fax:	Phone: Fax:	Site Location:	☐ 1 Day ☐ 2 Days ☐ 3-4 Days
Email:	Email:	Site #:	Date Required:
		Sampled By:	Rush Confirmation #:

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

Regulation 153
☐ Table 1 ☐ Res/Park ☐ Med/ Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/ Other
☐ Table ____
FOR RSC (PLEASE CIRCLE) Y / N

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ MISA ☐ Storm Sewer Bylaw
☐ PWQO Region
☐ Other (Specify)
☐ REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Y / N

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

Analysis Requested (REFER TO BACK OF COC)

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1	PHCs F2 - F4	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	Cyanide	Mercury	Chromium VI	Metals	HOLD- DO NOT ANALYZE
1	1611612-0326- MW4	2017/03/27	13:45	Water	4								✓	✓	✓		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

27-Mar-17 11:20
Antonella Brasil
B759947
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LABORATORY USE ONLY

CUSTODY SEAL Y / N		COOLER TEMPERATURES
Present	Intact	
		5 | 4 | 2

COOLING MEDIA PRESENT: Y / N

COMMENTS

see previous cofc sent earlier today. to be include with - talk to Antonella.

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Allen Bertram	2017/03/27	20:40	[illegible]	2017/03/28	09:21	

COC-1004 (10/14) - ENV. ENG.

White: Maxxam ~ Yellow: Client