



# Terraprobe

Consulting Geotechnical & Environmental Engineering  
Construction Materials Inspection & Testing

November 15, 2011

File No. 31-11-7046

Brampton Office

Town of East Gwillimbury  
19000 Leslie Street  
Sharon, ON L0G 1V0

Attention: Mr. Chris Kalimootoo, P.Eng.

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**RE: REVIEW OF REPORT FILL CHARACTERIZATION  
MOUNT ALBERT PIT  
TOWN OF EAST GWILLIMBURY**

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Dear Sir:

This letter provides a summary of our review of the above report.

## 1.0 INTRODUCTION

Terraprobe Inc. was retained by the Town of East Gwillimbury to conduct a review of a subsurface investigation conducted at the Mount Albert Pit. The Mount Albert Pit is situated on the north side of Mount Albert Road between Hwy. 48 and McCowan Road. It is our understanding that the pit was a former aggregate extraction operation. The pit now operates as a commercial fill management site, typically receiving excess soil fill materials from construction projects.

The scope of our work consisted of a review of a document entitled, "*Fill Characterization - Mount Albert Pit, 4772 Mount Albert Road, East Gwillimbury, Ontario*", October 11, 2011, prepared by AME Materials Engineering.

## 2.0 OVERVIEW OF DOCUMENT

The document provides the results of a subsurface investigation conducted at the Mount Albert Pit. The investigation was conducted by AME Materials Engineering on September 29, 2011. The investigation consisted of excavation of 12 test pits in the fill placement areas of the Phase I portion of the Pit. The test pits were excavated to depths of up to 5.8 m below grade. A total of 22 soil samples were collected and tested for a range of parameters including metals and inorganics, pesticides, PCB and, hydrocarbons and volatile organic compounds. The results were compared to the Table 2 Standards of

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March 9, 2004 for Industrial/Commercial Community Land Use provided under the Soil Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act.

The report concludes that the samples tested met the Table 2 Standards of March 2004 with one exception. One sample tested had a minor exceedance for electrical conductivity.

### **3.0 REVIEW COMMENTS**

Based on our review of the document we provide the following comments:

- i. The results of the analysis were compared to the Table 2 Standards of March 2004. A rationale should be provided for the use of these standards. It appears that the site is located within or directly adjacent to a Natural Core Area as defined in the Oak Ridges Moraine Conservation Plan. If this is the case than the appropriate site conditions are the Table 1 Conditions. Further, it is unclear why the March 2004 Standards are utilized when there are more current standards (April 2011) available. We also acknowledge that the original agreement cited the Dredge Fill Guidelines for soil management control which are not applicable.
- ii. It is difficult to confirm the adequacy of the investigation. It appears that test pits have been dug across the Phase One area however the Phase One area is not clearly marked on the plans. The test pits were generally continued to depths of approximately 5 m. at this depth. Native soil was not encountered in all the test pits. Additional information should be provided regarding the expected thickness or depth of fill. Our cursory review of previous cross sections from Cole Engineering suggest that there is in the order of 3m to 5m of additional fill beneath half of twelve (12) test pits excavated.
- iii. The total volume of fill that has been placed in the Phase One area is not noted in the report. Information should be provided regarding the approximate total volume of fill. This should be compared to the sampling frequency (i.e., 22 samples) to determine if adequate sampling has been conducted.
- iv. A number of the test pit logs indicate the presence of non-soil materials including brick, decomposed wood, rootlets, and concrete. The relative percentage of these materials is not stated. There are no photographs of the test pits or excavated soil material. Therefore, it is difficult to conclude that the material consists entirely of clean soil.
- v. There is no information provided regarding ground water quality at the site. Testing of ground water quality is important to determine if there has been any leaching or impact to the local ground water quality.



## 4.0 CONCLUSIONS AND RECOMMENDATIONS

The sampling conducted at the site indicates that there are no significant exceedances of the March 2004 Table 2 Standards for Industrial/Commercial Land Uses. Based solely on the results of chemical analysis, there appear to be no significant issues with respect to fill quality at the site. However, this conclusion is based on the following significant assumptions:

- The soil samples collected and tested were representative of the remaining volume of soil at the site.
- The soil quality in the areas that were not investigated (i.e., the fill material which lies below the base of the test pits and above the top of the top of the native soil in areas where test pits have not extended the native soil) is of similar quality.
- The ground water quality at the site has not been impacted by the fill operations.

In order to further support the conclusions provided in the AME report, it is recommended the following additional information be provided:

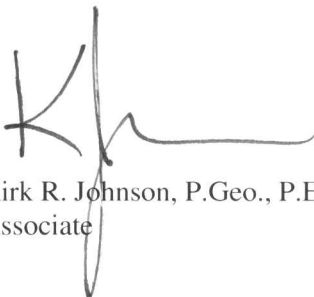
- A series of updated cross sections to build on the original Cole Engineering sections should be provided through the pit area. The cross sections indicate that test pit location and depth of fill.
- Further information should be provided regarding the total volume of fill which has been placed in the area which was explored. This should then be compared to the sampling frequency conducted (i.e., 22 samples for chemical analysis).
- Monitoring wells should be installed at the site to confirm ground water quality.
- A rationale should be provided regarding the selection of the use of Table 2 Standards for March 2004.
- A detailed site plan should be provided showing the boundaries of the property relative to the Oak Ridges Moraine Conservation Plan area and Natural Core Area.

We trust this information is sufficient for your present purposes. Should you have any questions concerning the above, please do not hesitate to contact the undersigned.

Yours truly,  
**Terraprobe Inc.**

Paul W. Bowen, P.Eng., P.Geo., QP<sub>RA</sub>,  
Principal

cc: Mr. Wayne Hunt



Kirk R. Johnson, P.Geo., P.Eng.,  
Associate

