

July 26<sup>th</sup>, 2011  
Project Number W-B9640-00

Mr. Jeremy Vink  
Senior Planner  
Township of Woolwich  
24 Church Street West  
PO Box 158  
Elmira, ON N3B 2Z6

**Re: Kuntz Aggregate  
125 Peel Street  
Former Landfilling Activities  
Technical Review**

Dear Mr. Vink:

WESA Inc. (WESA) was retained by the Township of Woolwich to review the Conestoga- Rovers & Associates (CRA) letter report entitled "Environmental Site Assessment, Kuntz Topsoil" dated February 8, 2011. The CRA report, prepared for Kuntz Topsoil, summarizes an environmental site assessment of former landfilling activities at the proposed Kuntz aggregate operations. WESA's review is summarized in this letter.

## **DISPOSAL ACTIVITIES**

A pit was excavated in the northwest corner of the property sometime after 1967 with the sand and gravel used for local road projects. The former property owner used the pit for the disposal of farm debris from his property; however, it was reportedly used by local residents for their waste as well. Wood and brush were disposed in the pit and fires were set as various times to reduce this volume. Around 1990, the former property owner accepted debris from a house demolition and then covered the pit with topsoil. Farming activities have been practiced in this area of the property since that time.

## CRA SITE INVESTIGATION

A 1985 air photograph was used to determine the assumed location of the disposal pit. In January 2011, five trenches were excavated in the area using a backhoe to delineate the areal and vertical extent of the landfilling area as well as the nature of the material disposed. The investigation concluded the following:

- The landfilled area is approximately 10 m X 30 m in size and does not extend beyond the disturbed area identified in the 1985 aerial photograph.
- The maximum depth of fill material is 3.2 m below ground surface.
- The fill material consists of bricks, concrete and stone rubble mixed with soil. Lesser amounts of pieces of metal, plastic, gypsum and glass were also encountered. Little wood was encountered due to the historical burning.
- A photoionization detector was used to monitor any organic vapours that may have originated from the fill material. No vapours were detected. No putrescible (foul smell from the decay of organic matter) were observed with the exception of a slight oily aroma in one test pit that was noticeable when close to the fill/soil.

Samples were collected from two of the test pits including the area where the oily smell was noticed. The samples were analyzed for volatile organic compounds (VOCs), semi-VOCS, metals, petroleum hydrocarbons and PCBs. With the exception of metals, none of the parameters were detected. Twenty metals were analyzed with the concentration of nine metals below detection limit in both samples. The other metal concentrations were below background concentrations established by the MOE (*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, MOE, 2009).

## DISCUSSION OF ASSESSMENT

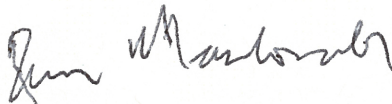
Using personal recall and the historical air photographs appears to have been adequate to identify the location of the former landfilled area. The trenches that were excavated were also adequate to delineate the boundaries of this area. The methodologies employed to collect and analyze soil samples were consistent with Ministry of the Environment and industry standard protocol. The analytical parameters analyzed in the soil samples were quite extensive and appropriate to characterize potential contaminants from domestic landfilling activities. The reported historical burning of brush might also have burnt organic material that may have been present and this would have reduced the potential to produce odourous material.

The investigation undertaken is consisted with the Township's Official Plan, Chapter 13 – Environmental Stewardship.

WESA is in agreement that landfilled material has not resulted in any detrimental soil impacts and poses no threat to human health or continued use of the site for agricultural or aggregate extraction purposes. Leaving the material in place at this time is acceptable as long as groundwater levels remain below the material and the area remains in the buffer zone of the proposed aggregate operations (minimum separation distance of approximately 10 m). No further investigation is warranted at this time. Groundwater monitoring associated with proposed aggregate operations should be used to confirm that the material remains above the water table.

Respectfully submitted,

WESA Inc.



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Principal / Senior Hydrogeologist

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