

December 16, 2016

XCG File No. 1-898-15-02

Mr. Ben Doornekamp
1213427 Ontario Corporation and Picton Terminals Ltd.
Scotland Road, R.R. #1
Odessa, ON K0H 2H0

Re: Revised Environmental Site Assessment Work Plan for Picton Terminals Property, 62 White Chapel Road, Picton, Ontario

Dear Mr. Doornekamp:

1. INTRODUCTION

On November 1, 2016, the Ministry of the Environment and Climate Change (MOECC) issued Provincial Officer's Order Number 7515-AEFQN5 (the "Order") to 1213427 Ontario Corporation, the owner of the Picton Terminals facility at 62 White Chapel Road, Picton (the "subject property" or "subject site"). Subsequently, on November 21, 2016, the MOECC issued an amendment to the original Order bearing Order Number 7515-AEFQN5-1 (the "Order Amendment").

The Order and the Order Amendment require compliance with a number of listed items. This Environmental Site Assessment Work Plan has been prepared to address Item No. 12 of the Order Amendment, which is quoted below:

On or before November 28, 2016, submit to the undersigned Provincial Officer an Environmental Site Assessment Work Plan prepared by the Qualified Consultant identified in Item No. 9 for review and acceptance. The Environmental Site Assessment Work Plan shall include but not necessarily be limited to the following:

- An assessment of the nature and extent of any soil, surface and/or groundwater impacts from contaminants originating at the Site on the neighbouring property located adjacent to the northeast of the Site;*
- An itemized schedule and timelines for the implementation of the Environmental Site Assessment Work Plan; and*
- Timelines for reporting to the ministry on the findings of the Environmental Site Assessment Work Plan.*

This Environmental Site Assessment Work Plan has been revised to address comments received from the MOECC in an email from Shannon Kelly dated December 14, 2016.

2. PROPERTY DESCRIPTION

The Picton Terminals property is a port and materials handling facility that receives, stores and ships a number of products including road salt, aggregate, bauxite and petcoke. The subject property is located on the south side of White Chapel Road along the shore of Picton Bay, approximately 2 kilometres north of the Town of Picton. There are several rural residential properties to the northeast, northwest, and southwest of the subject property.



XCG completed a preliminary review of MOECC well records available for the subject site and the immediate area surrounding the subject site. Based on the well record observations, the geology of the area is characterized by overburden made up of a variety of materials including sand, clay, shale, silt, limestone, and gravel. The overburden reported on the well records ranged in depth from 0 to 4.88 metres. The bedrock in the area consists of limestone and was encountered at depths ranging from 1 to 4.88 metres. On eight of the well records reviewed, the depth of the water source within the bedrock (or in the overburden in one case) was 7 metres below ground surface (bgs) or less. The greatest depth at which water was found was 26.21 metres bgs.

Some features of the neighbouring property to the northeast of the subject property are shown on Figure 1 attached. The ditch carrying discharge from the stormwater ponds on the subject property passes through this neighbouring property, which is the site that is to be investigated under Item No. 12 of the Order Amendment. It is XCG's understanding that the ditch crossing the northeast neighbouring property at one time passed through the pond on that property, but was diverted to pass south of the pond several years ago.

On November 21, 2016, XCG submitted a Monitoring Work Plan to the MOECC. The locations of proposed Monitoring Work Plan monitoring wells and surface water sampling sites on and near the northeast neighbouring property are shown with grey symbols on Figure 1. The analytical data collected during the implementation of the Monitoring Work Plan will contribute to the understanding of environmental conditions on the northeast neighbouring property. However, additional investigations are needed on the northeast neighbouring property to adequately characterize environmental impacts on that property, and it is these additional investigations that are the subject of this Environmental Site Assessment Work Plan.

3. ENVIRONMENTAL SITE ASSESSMENT SCOPE OF WORK

The scope of work for the Environmental Site Assessment on the northeast neighbouring property will include the following:

- Three boreholes extending about 1 to 2 metres into the upper fractured portion of the limestone bedrock will be completed on the northeast neighbouring property in the locations shown on Figure 1 attached (see MW16-9 to MW16-11). The borehole locations have been selected to assess groundwater conditions in the following locations:
 - MW16-9: Immediately to the south and downgradient of both the stormwater discharge ditch and the neighbour's pond,
 - MW16-10: Beside the stormwater discharge ditch, further downgradient in the direction of Picton Bay,
 - MW16-11: In an open area to the north of the neighbour's pond and the stormwater discharge ditch, intended to represent background conditions upgradient from the areas potentially affected by the stormwater discharge.

As discussed in Section 2, based on a preliminary review of well records for the area (see Table 1), the depth to bedrock in the area is anticipated to be about 3 to 5 metres bgs. Therefore, the boreholes are expected to be about 4 to 7 metres deep. Monitoring wells will be installed in all three boreholes.

- One surface water sample will be collected as follows (see Figure 1 for location):



- SW9: In the pond on the northeast neighbouring property.
- Approximately 12 shallow test pits, each about 1 to 2 metres deep, will be excavated beside and within the stormwater discharge ditch, approximately in the locations shown on Figure 1. The intent of these test pits is to evaluate the impact on shallow soil quality in the vicinity of the stormwater discharge ditch and the pond. One or more representative or worst-case (based on on-site observations) soil samples will be set aside for analyses from each test pit.
- The monitoring wells will be developed using dedicated polyethylene tubing equipped with an inertial pump (i.e. foot valve). During development activities, the quantity of groundwater in each monitoring well will be determined by measuring the depth to the water table using a water level meter and measuring the depth to the bottom of the monitoring well. To develop the monitoring well, approximately 10 well volumes of groundwater will be removed from each monitoring well.
- The three monitoring wells will be purged and sampled, and a grab sample will be collected from the surface water sampling location. The groundwater samples will be analyzed for the following parameters:
 - Anions (chloride, sulphate, fluoride, nitrite, nitrate)
 - Calcium, magnesium, sodium, potassium, iron, aluminum, boron, strontium
 - Hardness as CaCO₃
 - Total cyanide and free cyanide
 - Ontario Regulation 153 metals
 - pH, electrical conductivity, alkalinity
 - Petroleum hydrocarbons (PHCs) F1 to F4,
 - Volatile organic compounds (VOCs)
 - Polycyclic aromatic hydrocarbons (PAHs)

The surface water sample will be analyzed for the following parameters:

- Anions (chloride, sulphate, fluoride, nitrite, nitrate)
- General metals including calcium, magnesium, sodium, potassium, iron, aluminum, boron, strontium
- Hardness as CaCO₃
- Total cyanide and free cyanide
- Alkalinity, total suspended solids (TSS)
- PHCs
- VOCs
- PAHs
- Approximately 12 soil samples collected from the test pits will be analyzed for the following parameters:
 - Electrical conductivity
 - Sodium adsorption ratio (SAR)



- Cyanide
 - pH
 - Sodium, chloride, calcium, magnesium, potassium and cation exchange capacity (CEC)
- For quality assurance/quality control (QA/QC) purposes, two blind duplicate samples will be collected, one of groundwater and one of soil. In addition, one trip blank will be analyzed. The water duplicate and trip blank will be analyzed for the same water sample parameters listed above. The soil sample duplicate will be analyzed for the same soil sample parameters listed above.
 - Following completion of the investigations a report will be prepared. The report will include a description of the methodology, presentation and discussion of the results, recommendations for further assessment work and/or remediation, tabulated analytical results, figures, borehole and test pit logs, and other relevant information. The report will include a discussion of the deep well investigation findings (and other findings) arising from the Monitoring Work Plan (submitted under separate cover to the MOECC, dated December 16, 2016), and will provide recommendations (if needed) for any deep well investigations (or other investigations) considered to be warranted on the northeast neighbouring property.

4. SCHEDULE

The proposed schedule for the Environmental Site Assessment is outlined below:

Task	Expected to be Complete by end of:
Completion of Environmental Site Assessment Field Work	January 16, 2016
Completion of Draft Report	January 30, 2017
Completion of Final Report Following Receipt of Client Comments	February 13, 2017
Provision of Final Report to MOECC	February 20, 2017
Notes:	
1. The above schedule is based on the assumption that the go-ahead to begin the Environmental Site Assessment will be received by December 5, 2016, and that the draft report will be reviewed by the client within one week.	

5. LIMITATIONS

This work plan was prepared to address Item No. 12 in MOECC Provincial Officer's Order Number 7515-AEFQN5-1. Information provided in this work plan about the subject property was obtained from cursory observations made on-site, past reports prepared by others and MOECC well records. XCG has not attempted to independently verify the findings presented in the documents reviewed. As such, XCG cannot be held responsible for environmental conditions at the property that were not apparent from the available information.



The scope of this work plan is limited to the matters expressly covered. This work plan was prepared for, and may be relied upon by, 1213427 Ontario Corporation and Picton Terminals Ltd. and may not be relied upon by any other person or entity without the written authorization of XCG Consulting Limited. Any use or reuse of this document (or the findings and conclusions represented herein), by parties other than those listed above, is at the sole risk of those parties.

Yours very truly,

XCG CONSULTING LIMITED

A handwritten signature in blue ink, appearing to read 'K. Shipley'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Kevin Shipley, M.A.Sc., P.Eng., EP(CEA), EP, QP_{RA}
Partner

Attachments: Figure 1 – Sampling Locations for Environmental Site Assessment Work Plan

FIGURE 1
SAMPLING LOCATIONS FOR
ENVIRONMENTAL SITE ASSESSMENT WORK PLAN

