May 9, 2008
File: 110217729

Northeast Capital Industrial Association
#204, 9902 - 102 Street
Fort Saskatchewan, AB
T8L 2C3

Attention: Mr. Laurie Danielson

Dear Mr. Danielson:

Reference: Fall, 2007 Groundwater Monitoring Field Program

Stantec Consulting Ltd. is pleased to present the analytical results of the fall, 2007 field program as an ongoing part of the Regional Groundwater Quality Study of the Beverly Channel. The following sections detail our field program and the analytical results for the 13 NCIA groundwater monitoring wells.

FIELD PROGRAM

Groundwater monitoring and sample collection was completed on December 18 and 19, 2007. Prior to sampling, water level measurements were obtained and all of the monitoring wells were purged to remove stagnant water. A minimum of 3 well volumes was purged from each monitoring well using a Rediflo stainless steel submersible pump. The Rediflo pump was subsequently used to obtain water samples for analysis. Field measurements of temperature, pH and electrical conductivity (EC) were taken at the time of sampling using handheld pH and EC meters. Both meters were calibrated daily, prior to sampling. A field blank was prepared in the field using distilled water, and a duplicate sample was taken from MW-12 during the sampling event for quality control purposes. The duplicate sample was prepared by rinsing a clean 4 L plastic container with formation water, collecting the required sample volume, and splitting the sample into two aliquots.

All groundwater samples were submitted to Maxxam Analytics Inc. in Edmonton for analysis on the day of collection. Groundwater samples from the December, 2007 sampling event were analyzed for routine water quality parameters, major ions, hydrocarbon parameters and dissolved metals. At the time of collection, all of the sample bottles were labeled with the site number, date of collection, and the analyses required. Because of the cold weather at the time of sampling, the metals samples were filtered and preserved by the laboratory upon receipt, rather than in the field. Sample bottles were placed into a cooler with ice packs and delivered to Maxxam Analytics Inc. in Edmonton at the end of each sampling day.

ANALYTICAL RESULTS

Analytical results from the fall, 2007 groundwater monitoring program have been received from Maxxam Analytics Inc. Table 1 (attached) presents a summary of the analytical results for the 13

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monitoring wells sampled during the fall, 2007 sampling event. The *Canadian Environmental Quality Guidelines – Freshwater Aquatic Life* (CCME, 1999) and the *Guidelines for Canadian Drinking Water Quality* (GCDWQ) (Health Canada, 2007) are included in the table for comparative purposes. Copies of the laboratory reports are also appended to this letter for your reference.

The reproducibility of the data was assessed by calculating the relative percent difference (RPD) between the sample and duplicate results. Duplicate results are considered acceptable when the RPD is below 20% or, when at least one of the duplicate results is less than or equal to five times the parameter detection limit, the absolute difference (AD) between the results is less than or equal to the detection limit. All of the duplicate results met these criteria for this sampling event.

Based on the analytical results presented in Table 1, several exceedances of the CCME (1999) and/or Health Canada (2007) guideline criteria were noted. Exceedances were similar to previous sampling events with total dissolved solids and manganese concentrations above guideline levels in most of the monitoring wells. Historically, iron concentrations have also been above guidelines, but were below the laboratory detection limit during this monitoring event. During previous monitoring events, groundwater samples had been field filtered and preserved, however due to cold weather, samples were transported to the laboratory and filtered and preserved upon receipt. This may have caused the iron to precipitate resulting in anomalously low iron concentrations. Samples will be filtered and preserved in the field during future sampling events to ensure that the dissolved metals concentrations are representative of groundwater quality in the aquifer.

Sodium concentrations were above the GCDWQ *Guideline* at monitors MW-07 and MW-09, which had been observed during previous sampling events. The sulphate concentration at monitor MW-07 also remained above the GCDWQ *Guideline*. Sulphate concentration increased above the GCDWQ *Guideline* in monitor MW-06, which had not been observed historically. Chloride concentrations continue to increase at MW-04, from 137.0 mg/L in Spring, 2005 to 200.0 mg/L in December, 2007. The historical average chloride concentration in all of the monitoring wells, excluding MW-04, is 11 mg/L. An investigation should be undertaken to determine the reason for increasing chloride concentrations in the vicinity of monitor MW-04.

All samples analyzed reported concentrations of dissolved metals lower than respective method detection limits or within the above noted *Guidelines*.

Petroleum hydrocarbon compounds were not detected in any of the monitoring wells. All other parameter concentrations were similar to previous sampling events.

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CLOSURE

We trust that this summary of the fieldwork and analytical results meets your needs. If you have any questions or comments regarding this summary, please do not hesitate to contact us.

Best regards,

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