



SUMMARY OF RESULTS

DATE: March 3, 2025

MEMO TO: Kerstin Vroom (Municipality of Magnetawan)

FROM: Tim McBride (Pinchin), Alana Valle (Pinchin), Olivia King (Pinchin)

RE: 2024 Annual Monitoring Report, Croft Waste Disposal Site, Magnetawan, Ontario

PINCHIN FILE: 225335.008

Pinchin Ltd. (Pinchin) was retained by the Corporation of the Municipality of Magnetawan (Client) to prepare the 2024 annual groundwater and surface water monitoring report for the Croft Waste Disposal Site (the Site) to assess the hydraulic media for contaminants of concern as a compliance requirement under the Site Certificate of Approval (CofA) Number **A7034002** and the applicable regulatory requirements.

The current groundwater monitoring well network at the Site consists of eight bedrock groundwater monitoring wells (BH1, BH8, BH9, BH10, BH11, BH12, BH13 and BH14) and three drive point monitors (DP7, DP8 and DP9). Based on the 2022 Pinchin Monitoring Report, all three of the drive point monitors have consistently been observed to have an insufficient volume of water at the time of sample collection and have since been retained as water level only monitoring locations to supplement the groundwater elevation monitoring for the Site. All wells were inspected in 2024 and found to be in good condition. No wells displayed evidence of a condition non-compliant with Ontario Regulation 903 with the exception of DP7 which requires a well cap and BH12, which was observed to have fallen over, with the polyvinyl chloride (PVC) riser broken at the ground surface. Monitoring well BH12 was subsequently repaired by Marathon Underground Constructors Corporation under Pinchin's supervision on November 28, 2024. Additionally, three surface water locations were monitored for the Site (SW-1, SW-2 and SW-3). Pinchin notes that SW-1 was observed to be dry during both of the 2024 sampling events.

As per previous annual monitoring events, groundwater and surface water was sampled twice annually by Pinchin during 2024 in the spring and fall.

Based on the results obtained from the existing groundwater monitoring wells and surface water monitoring locations, Pinchin has not identified any significant landfill related impacts at the Site. Elevated parameter concentrations within the groundwater samples analyzed at the furthest downgradient monitoring locations (i.e., BH8, BH9, BH12, BH13 and BH14) are likely attributed to either naturally occurring conditions within the shallow unconfined aquifer on-Site, or from temperate impacts from leachate sourced from the waste deposits at the Site. All exceedances of the Guideline B-7 RUC at the downgradient wells considered representative of the property boundary are related to operational guidelines and/or aesthetic objectives associated with drinking water systems set by the ODWQS and are not considered to be an immediate significant human health or environmental



concern originating from the Site. These concentrations are interpreted to attenuate with further distance from the Site. In summary, the current 2024 groundwater monitoring data indicates that the Site is continuing to effectively operate as designed; as a natural attenuation type facility with any landfill derived groundwater impacts attenuated to acceptable levels prior to the downgradient property boundaries.

Pinchin notes that increasing parameter concentrations have been observed at background monitoring well BH1 over the course of the most recent annual monitoring events. Furthermore, concentrations of landfill indicator parameters are elevated at BH1 when compared to monitoring wells located downgradient of the landfill. Therefore, it is possible that groundwater at BH1 is being impacted by landfill leachate due to its proximity to the landfill.

Based on a review of the existing dataset and regulatory requirements to date, Pinchin recommends the following:

- Continue with routine monitoring of all the available groundwater monitoring wells and surface water monitoring locations. Groundwater and surface water monitoring shall be completed with analyses for the parameters identified in the historical monitoring record. It is recommended that groundwater and surface water monitoring be completed during the spring and late fall to generate a baseline data set, to evaluate trends and to determine the need and scope of a long-term monitoring program for the Site;
- Should elevated concentrations of landfill related parameters continue to be observed at monitoring well BH1, it may be necessary to re-evaluate its use as a background monitoring location for this Site. Furthermore, should dry conditions persist at SW-1, a new background location for surface water quality evaluation may be necessary;
- A new PVC well slip cap should be installed at drive point DP7;
- Pinchin notes that monitoring well BH12 was repaired in November 2024. It is therefore recommended that the top of casing elevation be re-surveyed and tied into the existing survey network during the next annual monitoring event in the spring of 2025 in order to ensure accurate groundwater elevations can be calculated for this monitoring location; and
- The Client should continue to ensure that the requirements as specified in the CofA are complied with.