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Non-Hazardous Waste Landfill Operations and Maintenance Plan

CAM-E Environmental Remediation

Keith Bay, Nunavut

Presented to

Public Services and Procurement Canada

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1.1 INTRODUCTION

The purpose of this document is to present the Non-Hazardous Waste Landfill Operations and Maintenance Plan elaborated for the environmental remediation of the CAM-E former DEW Line site located approximately 75 km east of Kugaaruk, part of the Keith Bay area in Nunavut.

The remediation project was awarded to Kudlik Construction Ltd. in May 2016. In September 2016, heavy equipment, camp facilities, materials and all consumables were delivered by sealift to Kugaaruk. All equipment, materials and consumables required to achieve the remediation project were transported by CAT train during the winter 2017, from Kugaaruk to CAM-E.

This document is covering the procedures for the operations and the maintenance of the facility until the final site closure. The plan will be effective from June 2018 and may be updated according to the site conditions.

Figure 1: Site location

1.2 WASTE PLACEMENT

Before any placement of non-hazardous waste into the facility, background monitoring will have been installed. The berms will be constructed in order to fully contain any waste to be placed inside the facility. One section of facility will be assigned for the placement of the containerized asbestos. All other non-hazardous waste will be placed as follow:

- Place non-hazardous material in the designated area(s) in uniform, horizontal lifts between and against the berm as shown on the Drawings. The thickness of each waste lift shall be such that all voids within the waste can be filled with intermediate cover. The maximum thickness of each waste lift shall not exceed 0.5 metre.
- Cut all demolition material and debris as required to minimize displacement and lifting of landfilled materials resulting from landfill compaction operations so that the maximum depth of any one material component within the landfill does not exceed 0.5 metre; and to satisfy the overall landfill dimension requirements
- Compact the waste with the excavator's tracks and bucket in order to reduce as much as possible the waste volume and to leave minimum voids.
- Cut structural steel materials into separate members prior to placement in landfills. Place large materials including structural steel members timbers, communication dishes, etc. on the base of the landfill or on the base of an intermediate cover layer so that the materials lay on a compacted, flat surface.
- Crush, cut or shred barrels to be landfilled on site to reduce the total original barrel volume by a minimum of 75 percent.
- Place Type A PHC and Tier I contaminated soil or Type 3 granular fill as intermediate cover to a maximum loose thickness of 150 mm over each layer of non-hazardous material or as required to infill voids within the waste layer, and compact with the random action of tracked equipment. Make sufficient passes with the tracked equipment to subject every point on the surface to a minimum of three separate passes.

Asbestos waste will be place as follow:

- Segregate all asbestos material from other material, and consolidate in one single location within the landfill and record the specific location and depth of this material on the Project Record Drawings.

- Hand place double bagged asbestos in the landfill. Provide daily intermediate cover of minimum 150 mm Type 3 granular fill on asbestos waste. Do not operate equipment directly on asbestos waste containers. Replace ripped or torn asbestos waste bags.

1.3 WATER MANAGEMENT

At the beginning of the season, make sure there is no stranding water before starting placing the waste inside the facility. Standing water must be tested, discharged or treated, according if the results meet or not the waste water discharge criteria specified within the water licence.

1.4 LANDFILL CLOSING

Before placing the final cover on the landfill, make sure all the non-hazardous waste from the site have been placed in the facility. For a scheduling purpose, the cover construction might be started earlier in the season. In this case, a section would be kept open in order to be able to place non-hazardous waste close to the end of the project. The final cover on this section shall be completed while outside temperature is still above zero. Any non-hazardous waste found or generated after the closing of the facility will have to be transported out of site for disposal into a licenced facility.