



Sustainable Development

Environmental Stewardship Division
Environmental Approvals Branch
1007 Century Street, Winnipeg, Manitoba R3H 0W4
T 204-945-8231 F 204-948-2338
www.manitoba.ca

August 9, 2017

North West Smelting and Refining Ltd
c/o Sheryl Rosenberg
Thompson Dorfman Sweatman LLP
2200-201 Portage Avenue
Winnipeg, MB R3B 3L3

Dear Ms. Rosenberg:

Re: Remediation Plan for North West Smelting and Refining Ltd, 2185 Logan Avenue, Winnipeg, Manitoba; Approval under the Contaminated Sites Remediation Act

This will acknowledge receipt of the Remediation Plan for the above noted property (the site) dated July 28, 2017 and prepared by Dillon Consulting Limited.

The Remediation Plan states:

Area of Environmental Concern (AEC) 1 – North End of Site – Historical Disposal Area

- The remediation plan for the north end of the site includes the construction of a compacted granular cap. The granular cap allows for the impacts in AEC 1 to be managed in place. The cap blocks surface receptors from exposure to the underlying impacts, but does not provide for the further protection of groundwater.
- The north area of the site will be re-graded removing local depressions and surface irregularities. The surface will be prepared by placing a lightweight indicator or colored geotextile to delineate non-impacted cap material from the underlying impacted material, and 0.5 m of granular material will be placed and compacted at surface. This compacted granular cap will provide a staging area for the outdoor storage of materials or equipment.
- Since the impacts will be left in place, a risk assessment will be conducted to evaluate risk acceptably. Additionally, a surface drainage plan will be implemented to ensure that surface water is directed away from the cap. The land drainage will be designed to meet the City of Winnipeg requirements.

AEC 2 – South Portion of the Site – Surface Soil Impacts

- The remediation plan for the south portion of the site is to excavate and relocate the metal impacts material exceeding Tier II criteria from AEC 2 to the north end of the site, AEC 1. The excavated material from AEC 2 will be spread across the AEC 1 prior to the placement of the selected capping option. Approximately 3,240 m³ (exceeding Tier II criteria) requires relocation to AEC 1. This will result in the increase of the ground surface in the northern portion of the site by approximately 1.5 m. The areas of AEC 2 excavated to remove impacted fill will be backfilled with imported, non-impacted fill.
- In the case that not all the soil from AEC 2 can be placed in AEC 1, the soil will be disposed of off-site at a suitable disposal facility pending waste classification as non-hazardous material.

Off-Site Impacts – (West of the Site)

- Metal impacted soil west of the site will be handled similar to the on-site impacts in soil on the southern portion of the site (AEC 1). Soils exceeding Tier II Criteria will be relocated to the northern portion of the site. The off-site area excavated to remove impacted fill will be backfilled with imported, non-impacted fill.

Foundations

- Foundations and floor slabs including those constructed on platforms above surrounding grade were left in place on-site following demolition of the site structures. Limited or no metal-impacted soil is expected below the foundations. The foundations will remain on-site. A borehole program will be conducted to analyze soils for metals beneath the foundations to ensure that they meet the selected soil criteria.

Lead Containing Metal Pieces

- Two large pieces of molten metal covered with refractory brick were identified as remaining on-site. This material does not meet the standard requirements (via a TCLP test) for acceptance at a landfill that is not licensed to accept hazardous waste. The preferred disposal location will be General Scrap in Winnipeg, Manitoba.

Collection and Disposal of Hazardous Soils

- Material that is disposed of off-site must be tested for leachable metals (lead), and if found exceeding criteria in Manitoba regulation 195/2015, the material must be transported, and disposed of as hazardous waste. Hazardous classified soils will be disposed of off-site, as necessary, at a disposal facility such as Miller Environmental Corporation.

Site Grading

- The entire site will be graded with clean granular fill to allow for site redevelopment. The north end of the site will be capped and graded in accordance with the surface drainage plan and design.

Construction Monitoring During Remediation Activities

- Dillon will perform construction observation services during the consolidation of waste in AEC 1 and during cap construction and grading.
- Dillon will perform post-excavation confirmation sampling and analysis, which include appropriate floor and sidewall samples for metal analysis.
- Dillon will collect and verify waste manifests for impacted material that is transported off-site to a licensed disposal facility, if any.
- Dillon will verify the quantities of backfill hauled to site.
- Dillon will verify that compaction testing is performed for backfill material and the material placed in the northern end of the site.
- The remedial design package will require that the remedial contractor carries out hazardous materials and abatement in accordance with the specification, which will include verification of shipments (e.g., lead-containing metal pieces and soils exceeding Man. Reg. 195/2015) including waste manifests and quantities of materials transported off-site.

Post Remediation Long Term Monitoring

- Long-term monitoring of any newly engineered caps should be undertaken and include visual inspections. The visual inspections will look for any settling, ponding, erosion or frost action that may have occurred.
- If there are signs of instability at these locations such that buried material becomes exposed or otherwise affects the constructed cap's effectiveness, then cap system maintenance may be required. Visual monitoring should be conducted seasonally for a period of 10 years. A full review of data should be completed in the third year to assess whether further monitoring is warranted.

This letter constitutes written authorization as specified under The Contaminated Sites Remediation Act, C.C.S.M, c. C205, s. 17.1 (1) for North West Smelting and Refining Ltd to

proceed with the remediation of the site as described in the Remediation Plan. Any change to the Remediation Plan must be approved by the undersigned prior to initiating the change.

The site remains designated as a contaminated site pursuant to The Contaminated Sites Remediation Act, C.C.S.M, c. C205 and will remain on the impacted site registry until such time the contaminants are not at a level which may pose a threat to human health or safety or to the environment.

It is requested that a Summary Report documenting the remediation is submitted to this office for review at the completion of the Remediation Plan.

It should be noted that the position of Manitoba Sustainable Development as stated in this letter is based on the information provided to this office by Dillon Consulting Limited and relates only to the matters within the scope of the investigation conducted by Dillon Consulting Limited.

If you have any questions regarding this letter, please contact Warren Rospad, Contaminated Sites Program Specialist at 204-330-2685 or warren.rosypad@gov.mb.ca. Please note that electronic submissions are preferred for documents and correspondence.

Sincerely,

A handwritten signature in cursive script that reads "Tracey Braun".

Tracey Braun
Director

- c. File: 20164
Heather Fisher (Dillon Consulting Limited)
Environmental Compliance and Enforcement