



Treatment and Disposal of Petroleum Refinery Hazardous Waste



TYPE OF CLIENT:

Petroleum Company

COST (\$CAN):

- < 500 K
- 0.5 – 1 M
- 1 – 5 M
- 5 – 10 M
- > 10 M

BACKGROUND

The objective of this ongoing project is to treat 21,600 tons of oily waste from a 4,560 m² retention pond. The waste consists mainly of tank bottom residue, wastewater treatment sludge (biological sludge and froth), contaminated soil from accidental spills, as well as debris (metal, plastic and wood). This waste is highly contaminated, reaching up to 420,000 ppm of total petroleum hydrocarbons, 3,160 ppm of monocyclic aromatic hydrocarbons and 5,120 ppm of polycyclic aromatic hydrocarbons.

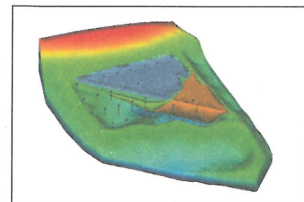
SOLUTION

Following an evaluation of thermal, physical (centrifugation, solidification) and biological solutions, Biogénie proposed a fixed-price remedial solution based on the on-site biological treatment of the waste followed, by disposal of the treated material in a sanitary landfill. The selected solution has proven to be the most economical and provides substantial cost savings when compared to the more traditional solution of disposal in a security landfill.

Following removal from the pond, nutrients and a bulking agent will be added to the contaminated material that will then be treated utilizing an *ex situ* Biopile process. The resulting material will be non-hazardous, as such, can then be disposed of in a sanitary landfill. Overall, 21,600 tons of highly contaminated material, ranging in consistency from liquid to solid, will be treated in five consecutive batches over the course of five years.

SERVICES

- Characterization of the retention pond and contaminated material;
- 3D visualization of the contaminated material in the pond, allowing for a more accurate estimate of the total volume;
- Feasibility study to evaluate various treatment options, including a treatability study to confirm the viability of a biological treatment solution;
- Securing all required permits and design of a site-specific Health and Safety Program;
- Environmental impact assessment of the proposed remedial solution;
- Community outreach: presentation of the remedial solution at public hearings.



This project is an example of Biogénie's ability to provide our clients with customized, cost-efficient and totally guaranteed remedial solutions.