

Remediation of a Former Petroleum Terminal Site



TYPE OF CLIENT:
Petroleum Company

COST (\$CAN):

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

BACKGROUND

Leaks and accidental oil spills that occurred during the 50 years the petroleum terminal was in service, resulted in soil and groundwater contamination impacted with BTEX and petroleum hydrocarbons (diesel, gasoline and heavy oils) reaching levels of 15,000 ppm. The area of the site was 30,500 m² and bordered the St. Lawrence River. The property owner, a national railway company, demanded that the petroleum company restore the site in accordance with criteria established for industrial use.

SOLUTION

In order to cost-effectively remediate this site, Biogénie combined three treatment processes. An *ex situ* Biopile was utilized for the treatment of the highly contaminated soil which had been localized with our 3D visualization tool prior to its excavation. An *in situ* Biopile process was used to treat the less contaminated soil together with the groundwater. In addition, an *in situ* sparging process was added to treat the contamination located beneath a sewer line and a railway track. The remediation strategy took advantage of the economic benefit associated with the *in situ* technologies together with the greater treatment efficiency of the *ex situ* process.

SERVICES

- Characterization study of soil and groundwater to determine the extent and degree of contamination;
- Hydrogeological study and 3-dimensional visualization of the site;
- Design of a remedial solution;
- *Ex situ* Biopile treatment of 9,000 tons of soil;
- *In situ* Biopile treatment of 20,500 m³ of soil and groundwater;
- *In situ* sparging beneath existing structures;
- Environmental monitoring of groundwater located in fractured rock.