OXY TEKNOLOGIES INC.

OxyTek™ Case Study 100093: TEDCO Corus Building, Toronto, Ontario

The Challenge:

- An industrial site with subsurface soils containing fill materials that were contaminated with PHCs (F2 and F3 fractions) and PAH (benzo(a)pyrene).
- Soils across the entire property required excavation to 3.6 m.
- Three month deadline for treatment of 20,000 tonnes of impacted soil.
- Working through sub-zero Canadian winter conditions to meet the stakeholders' time schedules and budget

The OxyTek Solution:

- OxyTek-L™ and OxyTek-S™ were applied to the contaminated soils, a less expensive process than conventional landfilling.
- OxyTek-L™ and OxyTek-S™ treated the impairment in sub-zero temperatures, meeting all stake holders' criteria.

View of site with soils being loaded. The close proximity of Lake Ontario (foreground) necessitated that a dewatering program be implemented during the soils excavation.

Background:

The Toronto Economic Development Corporation (TEDCO) property is re-developing this property with the new $130 million dollar Corus Entertainment Building. The proposed facility and the remediation technology implemented qualify the site for Gold Certification under the Leadership in Energy & Environmental Design (LEED) program.

Subsurface soils consisted of a mixture of historical fill material including deletereous building materials, brick and concrete rubble, wood and fly ash. The project was completed during the harsh conditions of the winter of 2008, when the average temperature was -10°C and flash freezing occurred within 3 to 4 hours.

Excavated soils were stockpiled in 500 metric tonne windrows and were treated using OxyTek-L™ and OxyTek-S™ using an ex-situ application. The majority of excavated materials were supersaturated with the OxyTek solutions, Approximately 17,000 tonnes of soil were processed using this technology.

Composite soil samples were obtained from each windrow for concentrations of the PAH, PHC, VOC and selected heavy metals parameters. Additional space for temporary stockpiling of soils was available on additional TEDCO lands nearby.

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OxyTek-L™ and OxyTek-S™ treated the impairment during sub-zero temperatures

Process:

OxyTek-L™ and OxyTek-S™ were applied using conventional excavators and backhoes.

Treated soils had 72 hours of residence time prior to final confirmatory sampling and testing. Test results have confirmed that 100% of the treated soils meet Ontario Ministry of the Environment (MOE) Regulation 153, Table 3 criteria for industrial / commercial land use criteria. The treated soils were transferred to the clean fill site.

TEDCO saved several millions of dollars by utilizing ex situ chemical oxidation versus standard dig and dump. This project demonstrated that chemical oxidation of contaminated soils can be successfully completed in sub-zero winter conditions, when the technology is adjusted to meet the climatic conditions. TEDCO qualifies for additional LEED points for the total recycling of the contaminated soils.

Soil Concentrations Pre and Post-Treatment using OxyTek-L™ and OxyTek-S™

SOIL (reported in parts per million (ppm)):			
Depth	**Parameter**	**Pre-Treatment**	**Post-Treatment**
0.0 to 3.6 m	F2 PHC	860	150
	F3 PHC	6,500	1,200
	F4 PHC	7,700	150
	benzo(a)pyrene	7.9	1.9

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