

The Challenge:

- This site is an established industrial property which could not be sold until remediation was completed.
- Two previous environmental remediations were unsuccessful, delaying site closure.
- Soil and groundwater on-site was impacted with VOCs and PHC associated with former industrial operations.
- Native soils are tight clay with a permeability of 10^{-9} cm/sec.

The OxyTek Solution:

- Injection wells were installed in the area of impairment, both inside the building and in the parking lot area.
- OxyTek-L™ and OxyTek-PS™ were injection to reduce VOC levels to Regulatory criteria and project closure was achieved to meet stakeholders' real estate deadlines.



Free phase product was present below building

Background:

This industrial property had an extensive history and two previous environmental remediation programs were undertaken by the property owners. Both remediation attempts were unsuccessful and VOC impairment persisted below the building and parking lot areas. In 2008, Oxy Teknologies Inc. was awarded the contract to remediate the site, to meet the stakeholders' plans.



OxyTek-L™ was injected into wells in the office area of the building

Process:

Sixty injection wells were installed in the area of impairment. Multiple injections of OxyTek-L™ and OxyTek-S™ were required due to the dense clay soils on-site.

The site remediation was completed to meet Ontario Ministry of the Environment (MOE) Regulation 153, Table 3 criteria for commercial / property use criteria.



OxyTek™ Case Study 1000155: Industrial Property, Burlington, Ontario

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

| PARAMETER | Regulatory Criteria | Pre-Treatment | Post-Treatment |
|--------------------------|---------------------|---------------|----------------|
| Acetone | 3.8 | 12.0 | <0.002 |
| Cis-1,2-Dichloroethylene | 2.3 | 6.4 | <0.002 |
| Methyl Ethyl Ketone | 170 | 38 | <0.002 |
| Vinyl chloride | 0.0075 | 0.057 | <0.002 |
| Trichloroethylene | 3.9 | 19 | <0.002 |

All values in ug/g – ppm – parts per million MDL – method detection limit

< – below detection limit **Parameter exceedence**

*MOE O.Reg. 153/04 – Table 3 – Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Commercial / Industrial Property Use.