

**The Challenge:**

- This property operated as a used car lot and garage for over thirty years and was being redeveloped as a fast food outlet.
- Previous environmental site assessments delineated 1,200 tonnes of petroleum impacted soils and groundwater. Initial TPH (F1 to F2 fractions) concentrations in the groundwater exceeded 14,000 ppb.
- Previous bioremediation programs were unsuccessful.

**The OxyTek Solution:**

- An in-situ remediation program was implemented. Forty injection wells were installed in the areas of impairment.
- OxyTek-L™ reduced PHC levels to meet MOE Table 2 Regulatory criteria for commercial / industrial land use.
- Regulatory compliance was achieved within 60 days of project start up meeting all stakeholders' timeframes.



In-situ remediation with OxyTek-L™ with product being injected

**Background:**

The subject property operated as a car lot and garage property for over thirty years and was being redeveloped as a fast food restaurant. The native soils on-site consisted of a silty sandy soil with low permeability and the depth of impairment extended from 1.5 to 4.2 m below grade level.



Chemical oxidation reaction of OxyTek-L™ in soil

**Process:**

Forty injection wells were installed and used in conjunction with existing wells installed by the previous consultant. OxyTek-L™ was injected into the wells over two injection events to achieve Regulatory criteria.

The site remediation was completed to meet Ontario Ministry of the Environment (MOE) Regulation 153, Table 2 criteria for commercial / industrial property use criteria.



**OxyTek™ Case Study 100059:  
Former Garage Property, Barrie, Ontario**

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

	PARAMETERS:					
	BTEX				TPH	
	Benzene	Toluene	Ethylbenzene	Xylene	F1	F2
<b>Regulations* :</b>	0.24	2.1	0.28	25	230	150
All values in ppm						
Pre Treatment	<0.03	<b>11.0</b>	<b>6.18</b>	<b>56.9</b>	<b>258</b>	<b>708</b>
Treatment	<0.03	<2.1	<0.28	<25	<230	<150

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

< – below detection limit **Parameter exceedence**

\*MOE O.Reg. 153/04 – Table 2 – Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Commercial / Industrial Property Use.

**Groundwater Concentrations Pre-Treatment and Post-Treatment using OxyTek-L™**

	PARAMETERS:					
	BTEX				TPH	
	Benzene	Toluene	Ethylbenzene	Xylene	F1 - F2	
<b>Regulations* :</b>	5.0	24	2.4	300	1,000	
All values in ppb						
Pre Treatment	<b>1,460</b>	<b>3,580</b>	<b>2,740</b>	<b>12,280</b>	<b>14,937</b>	
Treatment	<5.0	<24	<2.4	<300	<1000	

All values in ug/l – ppb – parts per billion MDL – method detection limit

< – below detection limit **Parameter exceedence**

\*MOE O.Reg. 153/04 – Table 2 – Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Commercial / Industrial Property Use.