



Canadian
Water & Wastewater
Technologies

PHENOLS & LEACHATE DESTRUCTION

Refinery Wastes • Leachates

Advanced Oxidation Process

Meet your wastewater disposal targets with a highly effective Advanced Oxidation Process. The proprietary chemical mixture of **BIPERLIMITATE™** easily destroys refinery wastes, leachates, chemical residues, and a wide range of pollutants, converting them into harmless carbon dioxide, vinegar and carboxylic acids, and water.

This process is treating refractory wastewaters at an operating cost 5-20 times lower than existing AOPs and other environmentally unsound methods, such as incineration. AOPs such as UV+peroxide or Ozone are not as safe or easy to handle. Neither are they as selective to polluting organic compounds as Biperliminate™. Our oxidant leaves behind much of the mud and background organics, going after the large polluting molecules it prefers to "eat". With selectivity, Biperliminate™ can treat more volume with less oxidant, making it the cheapest AOP known.

Biperliminate™ can also replace your hydrogen sulfide or odour control chemicals, destroying other polluting chemicals at the same time, even at low temperatures.

There's no need to haul away wastes for disposal with an on-site wastewater treatment system. A Biperliminate™ system's footprint is scaleable, depending on the volume of wastewater. A larger system treating refinery waste of about 250-350 m3/day would be delivered to site in a 20ft container. The system is even portable to other sites.

Biperliminate™ is successfully used on refractory wastes with aromatic functionality and many other difficult-to-treat organic chemical contaminants, such as phenol from refineries and chemical synthesis, polychlorinated biphenyls, creosotes, naphthenic acids from oil/gas extraction, and a wide range of difficult to treat industrial wastewaters.

Start with a chemical and process analysis today.



BIPERLIMITATE™



bipurewater.com

BIPERLIMINATE™



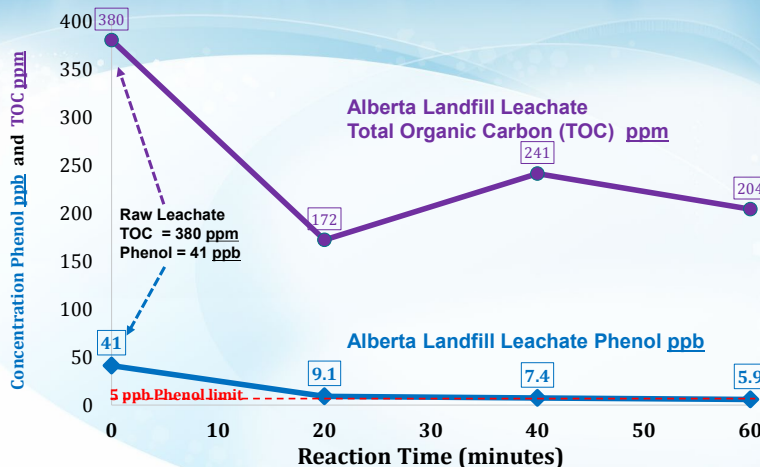
BEFORE:
Brownfield
contaminated with PAH
(Naphthalene)
1100 micron/L

**AFTER
TREATMENT**
>99% destruction
in 10 minutes

- Lowest cost AOP known
- Safer than ozone
- Poly Aromatic Hydrocarbons (PAHs), Phenol, Petroleum Hydrocarbons, BTEX are easily destroyed
- Custom systems are optimized with system and chemistry adjustments
- Selectivity for target toxins against background mud and organics
- Using simple hardware, BIPERLIMINATE™ easily destroys refractory and back-ground organics at a lower cost than competing methods, including GAC

Alberta Landfill Leachate Outside temperature 2°C

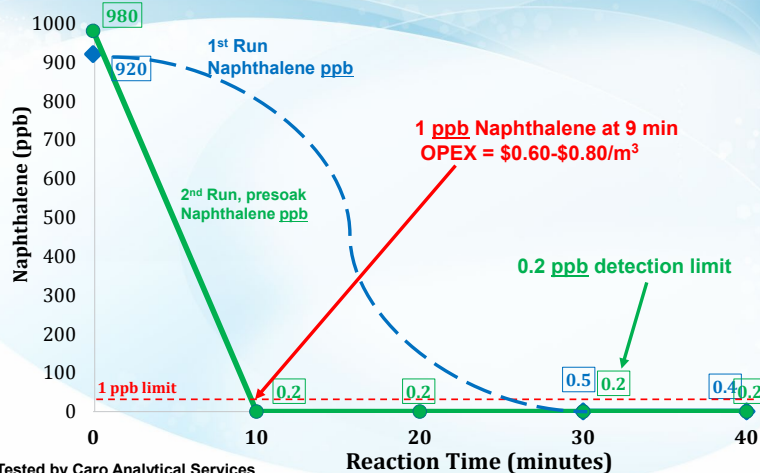
Biperliminate™ Small oxidant dose (\$1.70/m³) lowers Phenol* by >85%



*Tested by Caro Analytical Services

Napthalene in Vancouver brownfield

Napthalene rapidly destroyed, >99.95%, with 20 min pre-soak



* Tested by Caro Analytical Services

See our CASE STUDIES:

<http://bipurewater.com/advanced-oxidation-process/>



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