

Large scale *in-situ* bioremediation of mineral oils - biobarrier

Problems:

- Former underground tankfarm
- 30 cm floating phase, mainly mineral oils
- 15 000 µg mineral oil/litre
- Hot spot area 18 000 tons of soil affected
- Subsurface: fill material of chaotic composition 5 m deep , below bedrock
- River as sensitive target at boundary

Our Responses:

- Bioremediation feasibility study undertaken proving that the diffuse mineral oil contamination can be degraded within the boundaries of the site after removing hot-spots with high ecotoxicity.
- Underground tanks removed.
- Floating phase removed with groundwater slurping and phase recovery
- Biobarrier system installed

Location: Sao Paulo, Brazil

Initial cost estimates using standard technologies: 5 600 – 8 500 k US\$

Actual costs using *in-situ* bioremediation: 1 540 k US\$

Time for active *in-situ* remediation : 1 years