

alternative
environmental
solutions

REMEDICATION GASOLINE CONTAMINATED PROPERTY

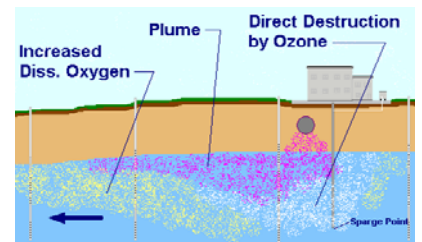
Overview

When AES' client experienced potential delays in the construction of its new facility due to on-site environmental issues, AES went to work to address a release of approximately 5,000 gallons of gasoline at a retail refueling station that occurred as a result of a faulty dispenser fitting.

Construction contractors were on stand-by awaiting AES' efforts to mitigate site conditions sufficient for construction to proceed. AES was given two months to effect soil cleanup, with groundwater remediation to follow, but not impede construction of the new facility. Complicating the situation was the prevention of adverse impact to a nearby public water supply well for the community; entry of gasoline and gasoline vapors into the adjacent sanitary sewer system; the underlying complex limestone bedrock.



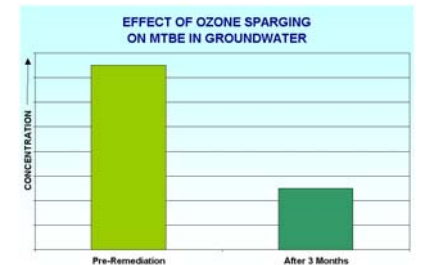
Contaminated Soil Remediation



Groundwater Remediation

Remedial System

AES implemented an aggressive site characterization and concurrent remediation effort whereby source soils were excavated, treated by an on-site soil incinerator, and re-used on-site as backfill. Groundwater was removed/treated by a pump and treatment system followed by an AES-designed, installed, and operated sparging system to inject ozone gas into the aquifer for ~5 months to oxidize dissolved gasoline in the aquifer. A fate and transport study/risk assessment was completed validating the conclusion of no exposure risks.



Results using Ozone after 3 months.

Results

- Over 4,000 tons of on-site source soils were remediated in less than 2 months; reclaimed soil was re-used on-site as clean fill instead of purchasing fill for construction—cost savings.
- Construction proceeded while over 1,000,000 gallons of groundwater was remediated during the life of the project.
- Ozone gas sparging into groundwater reduced residual MTBE levels and enabled site closure goals to be achieved.
- AES obtained site closure and a PADEP Act 2 Release of Liability.

Work Tasks

- Routine Maintenance ✓
- Equipment Repair ✓
- General Housekeeping ✓
- 24/7 Alarm Condition Response ✓

AES O&M Statistics:

- Continuous Operation*, Groundwater System: 95+%
- No major period (>2 days) where system was down

* includes carbon change outs, equipment upgrades, repairs, etc.