

“GREEN” REMEDIATION FOR COST-EFFECTIVE REMOVAL OF HYDROCARBON RELEASES

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New developments utilizing aggressive “green” remediation technologies allow for more cost effective remediation solutions that are capable of meeting regulatory guidelines in an expedited manner, even at the most challenging sites. This presentation will discuss in-situ chemical oxidation (using ozone and hydrogen peroxide) that has become one of the most widely used applications for rapid remediation.

Various case studies will be discussed, including a case study utilizing an aggressive chemical oxidation system at a site with over 90,000 gallons of free-phase diesel over 12 acres. A large ozone injection (80 lb/day) and fluid recovery system was designed to reach risk-based clean-up goals in a 4-acre redevelopment parcel within 16 months of system operation in order to allow for the development of a \$2 Billion resort on a Caribbean island. This case study will convey how the remediation system reduced hydrocarbons (in NAPL, soil, and groundwater) and reduced the LNAPL thickness to below clean-up goals within the allotted time-frame.

Lessons learned from more than 200 in-situ remediation applications will be discussed to provide detailed information on advancements in rapidly remediating soil, groundwater, and NAPL. These case studies involve both continuous-operation systems as well as mobile short-term events.

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