A “Green Oxidant” for In-Situ Chemical Oxidation for the Treatment of Contaminated Soils and Application at a Fractured Bedrock Site

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Platform Presentation

Environmental sustainability considerations are now increasingly main-stream in many parts of the world with words such as “green”, “sustainable and “renewable” becoming widespread within industry, government and popular press. The applicability of such phrases without a common basis is relatively meaningless and invites public-relations ‘green-washing’ of a variety of products, services and technologies which may have varying degrees of true green standing.

The USEPA and American Chemical Societies’ definitions of “Green Chemistry” provide a basis on which the green-standing of reagents employed for remediation may be evaluated. This presentation explores the application and relevance of twelve EPA green chemistry principles to a proprietary *in situ* chemical oxidation (ISCO) product called RegenOx™ that has been applied to treat a range of contaminants on over 600 sites in the USA and Europe to date.

From a local perspective, this presentation will examine the recent application of the green oxidant RegenOx at a site in Ontario, Canada. Specifically this site involved a heating oil release into a fractured rock aquifer which threatened nearby drinking water wells, a quick and aggressive solution was needed to prevent well contamination. After review of several technologies and remediation approaches RegenOx was selected as the most appropriate, non-disruptive technology to rapidly treat the site and ultimately remediate contaminated bedrock as well as remove free product without further impacting groundwater quality.

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