

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

Rick McGregor, Bruce Tunnicliffe, Todd Herrington

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.

Rick McGregor and Bruce Tunnicliffe

Vertex Environmental Inc., 239 Montrose Street North, Unit 1, Cambridge, ON N3H 2J3, Canada, ph. 519-653-8444, f. 519-653-8494, rickm@vertexenvironmental.ca or brucet@vertexenvironmental.ca

Todd Herrington, PE

Regenesis, 2937 Emporia Street, Denver, Colorado, 80238, USA, ph. 303-399-1622, f. 303-320-3094, therrington@regenesis.com

Presenting Author: Todd Herrington