

Wednesday, January 21, 2009

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## Green News

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### **Whitman Gets New Jersey State Approval for New Remediation Technology at Passaic Site**

By Betsy Kraat

PASSAIC, NJ--Whitman has received approval from the New Jersey Department of Environmental Protection to proceed with a remediation project that is believed to be among the first full-scale projects ever to use nano-scale zero-valent iron for site remediation, a new technology pioneered by Whitman professionals.

Nano-scale zero-valent iron is a promising remediation technique that has largely been used on pilot or bench scale demonstrations of less than 1,000 square feet. Whitman conducted a successful pilot study using zero-valent iron technology at the Passaic site in 2006 and has since been given the go-ahead to complete the remediation on the entire site – an area of about 3 acres. While the effects of zero-valent iron have been known for some time, the smaller nano particles used by Whitman have helped make the clean up process more efficient by creating more surface area for the particles to react with the contaminant.

This iron will be combined with other materials and injected into the ground to promote the chemical reduction and bioremediation of a chlorinated solvent that has contaminated soil and ground water at the former manufacturing facility. The contaminating solvent, known as TCE, is often used for cleaning oil from metal machine parts.

Nano-scale zero-valent iron works in two ways. First, it destroys contaminant molecules by chemical reduction reactions, vastly reducing the amount of TCE on site. The zero-valent iron also helps create the right conditions for bioremediation, whereby microorganisms further reduce contaminant levels.

**Whitman**

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