

## Fenton Oxidation – Fundamentals, Optimization and Applications

### Investigator:

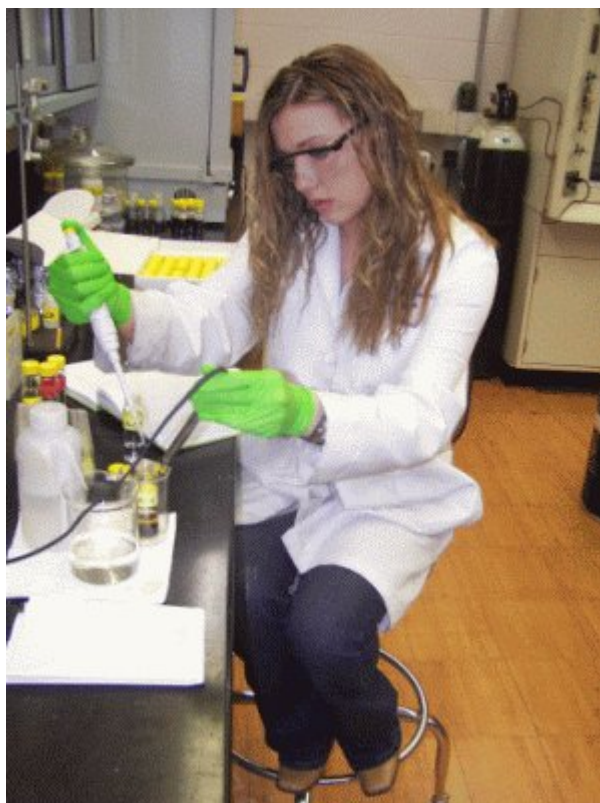
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### Project Overview/Results:

Fenton oxidation research is underway to identify and manipulate environmental conditions to minimize undesirable reactions contributing to process inefficiency, and to facilitate favorable transformation reactions. This information is critically needed to improve and optimize in-situ Fenton oxidation and to develop new techniques that enhance Fenton oxidation. The project includes the investigation of fundamental mechanisms involved in oxidation and reduction transformations, an assessment of contaminant volatilization during Fenton oxidation, contaminant mass balances, identification of reaction intermediates and important initiation and termination reactions, and an assessment of the role of pH, Fe, H<sub>2</sub>O<sub>2</sub>, and contaminant-specific oxidation reactions.



*Laboratory research investigating fundamental mechanisms needed to identify and understand site conditions and treatment process variables that contribute to effective and efficient treatment methods*