

**POSTGRADUATE RESEARCH PROGRAM
NATIONAL EXPOSURE RESEARCH LABORATORY
U.S. ENVIRONMENTAL PROTECTION AGENCY
Cincinnati, Ohio**

**MOBILITY OF ARSENIC CONTAINING IRON OXIDES IN ENVIRONMENTAL
SYSTEMS**

PROJECT # NERL 2003-01

The Arsenic Research Plan outlines treatment research activities which would minimize the risk and increase the reliability of arsenic removal systems and ultimately minimize exposure to arsenic from drinking water ingestion. One of the issues within this chapter is the minimization of residuals and stabilization of residuals so that they comply with existing environmental regulations. The stability and mobility of these wastes is not fully understood. One of the goals of this project would be an improved understanding of the factors which contribute to the mobility of these wastes and predict conditions which minimize their mobility.

A second research area (which is related to the stability/mobility issue) is the mobility of arsenic containing scale within the drinking water distribution pipes. Over time, arsenic can deposit on the inside of drinking water distribution pipes. This becomes an exposure issue because the new arsenic regulations are going to require drinking water plants to modify their process in order to meet the new MCL. If this modification changes the water chemistry in such a way as to solubilize the arsenic containing scale, then the scale would become a source of arsenic exposure. These exposures could be minimized if the mobility of this scale could be predicted based on water chemistry. Therefore, a secondary goal of this research is to predict the mobility of the arsenic containing scale within the distribution systems.

The applicant should have a master's or doctoral degree in analytical chemistry with some experience in ion chromatography and solid phase extractions.

The participant will be selected based upon academic records, recommendations, research interests, compatibility of background and interests with research programs and projects at NERL, and the availability of funds, staff, programs, and equipment.

The appointment is for one year and may be renewed upon recommendation of NERL and subject to availability of funds. The participant will receive a stipend based upon educational level and prior experience. The participant must show proof of health insurance. Participants do not become employees of EPA.

The EPA Research Participation Program is administered by the Oak Ridge Institute for Science and Education (ORISE). For information and application material (**reference NERL 2003-01**) contact Betty Bowling at ORISE: e-mail: bowlingb@orau.gov. Phone: (865) 576-8503 Fax: (865) 241-5219

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It is strongly suggested that a résumé with subject line NERL 2003-01 be sent to Ms. Bowling.