HIGHLIGHTS

National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the week of March 24, 2014

TECHNICAL ASSISTANCE

Technical Assistance Region III: On February 27, 2014, Dr. Daniel Pope (Dynamac Corp.), under the direction of Dr. David Burden (GWERD), provided technical review comments to RPM Rashmi Mathur on numerous documents detailing results of a two-phase pilot study (Pilot Study Phase I and Phase II) of enhanced bioremediation at the Butz Landfill Site (Site) located in Jackson Township, Monroe County, Pennsylvania. A two-phase (Phase I and Phase II) pilot-scale treatability study (Study) was conducted at the Site to evaluate in-situ bioremediation (ISB) to supplement or replace the existing pump and treat (P&T) system in order to reduce the restoration time for Site groundwater. ISB via reductive dechlorination could be an effective part of the Site remedial approach, in combination with the P&T system. It is recommended that the focus be placed on enhancing reductive dechlorination, while also including use of reagents designed to increase abiotic degradation. The major limiting factor in the success of ISB at the Site will be developing and maintaining geochemical and biological conditions suitable for reductive dechlorination throughout the bedrock fractures where contaminated groundwater moves. Therefore, a strong emphasis should be placed on uniform (in space and time) distribution of reagents throughout the bedrock fractures. The P&T system can be used for plume capture as needed, and potentially modified to serve as part of a hydraulic control system to help distribute reagents.
(14-R03-001) (D. Burden (GWERD) 580-436-8606)

Technical Assistance Region IX: On March 4, 2014, Dr. Eva Davis (GWERD) provided technical review comments to RPM Carolyn D'Almeida on the "Draft Final Remedial Design and Remedial Action Work Plan (RAWP) for Operable Unit 2, Revised Groundwater Remedy, Site ST012, Former Williams Air Force Base, Mesa, Arizona." The review focused on the criteria for transitioning from Steam Enhanced Extraction (SEE) to Enhanced Bioremediation (EBR) and on the monitoring to support the transition criteria. For this project, which will transition from SEE to EBR with the objective of reaching cleanup goals for benzene in 20 years, additional specific criteria may be appropriate to support this objective, such as the criteria included for dissolved benzene concentrations in the Target Treatment Zone (TTZ). In order to meet the overall objectives of the remediation, the benzene concentrations remaining in the TTZ should be the most important criteria for evaluating the progress of the SEE remediation and when to transition to EBR, as this is directly tied to the time frame for meeting the remedial goals. It is understood that this RAWP is also the sampling and analysis plan for performance and compliance monitoring, while process monitoring will be detailed in the SEE Operation, Maintenance, and Monitoring (OM&M) manual. In light of this fact, the RAWP must clearly state what compliance and performance monitoring will be done. The document itself must also be consistent with the Quality Assurance Project Plan; therefore, additional information should be provided.
(14-R09-002) (E. Davis (GWERD) 580-436-8548)

Technical Assistance Region III: On March 19, 2014, Dr. Scott Huling (GWERD) provided technical review comments to RPMs Laura Mohollen and Darius Ostrauskas on the "Fike/Artel Superfund Site, Limited Scale Pilot Test Workplan," Nitro, West Virginia. Overall, this was a comprehensive pilot study that provided significant data and information to assess the feasibility of in-situ persulfate oxidation at the site. There are several technical issues raised in the review comments regarding the overall feasibility of In-Situ Chemical Oxidation (ISCO) at the site. It is recommended that additional monitoring well data be included in the report. It is also recommended that additional calculations providing insight regarding the general feasibility of ISCO at the Site, and the projected costs associated with ISCO at the Site.
(14-RC03-002) (S. Huling (GWERD) 580-436-8610)

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