HIGHLIGHTS

National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the week of February 17, 2014

TECHNICAL ASSISTANCE

Technical Assistance Region I: On February 4, 2014, Mr. Steven Acree (GWERD) and Dr. Robert Ford (LRPCD) provided technical review comments to RPM Carol Keating on the "Revised Hydraulic Gradient Analysis of Pump and Treat System Performance" for the Fort Devens Site, Shepley's Hill Landfill, Devens, Massachusetts. At this site, it appears that three lines of evidence will be the most useful in the evaluation of the capture zone produced by the pump and treat system. These lines of evidence are the evaluation of hydraulic gradients surrounding the extraction wells, projections of groundwater flow derived from a well calibrated and validated flow model, and longer term assessments of chemical concentration trends in wells that are downgradient of the capture zone. The installation of additional piezometers and monitoring of groundwater elevations using pressure transducers/data loggers greatly enhanced the evaluation of hydraulic gradients and the hydraulic effects of the groundwater extraction system. It is recommended that consideration be given to the monitoring of groundwater chemistry in additional wells located northwest of the capture zone,
(14-R01-003) (S. Acree (GWERD) 580-436-8609) (R. Ford (LRPCD) 513-569-7501)

Technical Assistance Region IX: On February 4, 2014, Dr. Scott Huling (GWERD) provided technical review comments to RPM Martin Zeleznik on the "2013 Revised Treatment Technology Evaluation - TI Zone Technical Memorandum," Tucson International Airport Superfund Site, Tucson, Arizona. This survey was prepared to determine whether new technologies have been developed that can enhance remediation within the TI Zone at the Site. One technology that was not discussed in the report is the potential use of horizontal drilling wells. It is recommended that this technology be included in the screening process to assess whether it could be used to potentially enhance remediation. The clay layer(s) found in the three subunits of Unit 4 represent significant contaminant and oxidant mass transfer and transport limitations. It is recommended that future remedial strategies be developed that specifically address the remedial contingencies presented by these layers. It was reported that a second new ISCO technology includes $KMnO_4$ candles. Overall, it appears that the permanganate candles offer limited utility or advantages, and it is recommended that they not be further considered unless additional, more convincing information can be provided warranting their use.
(14-R09-003) (S. Huling (GWERD) 580-436-8610)

Technical Assistance Region II: On February 7, 2014, Dr. Bruce Pivetz and Dr. Daniel Pope (Dynamac Corp.), under the direction of Mr. Steven Acree (GWERD), provided technical review comments to RPM Clifford Ng on the "EISB Pilot Study Status Reports #4, #5, and #6" for DuPont Pompton Lakes Works, Pompton Lakes, New Jersey. In general, the data provided in the monthly reports indicate that certain aspects of the enhanced in-situ bioremediation (EISB) and recirculation system may not have been as effective as originally projected. It is recommended that the final report include a frank and critical examination of these issues, as well as any system enhancements that would be required in the design of a full-scale implementation of this or similar technology. An important outcome of the Study will be the assessment of whether or not the EISB treatment could be successfully implemented on a full scale. The final report should include a thorough examination and interpretation of all collected information including a critical evaluation of any problematic issues. In addition, the final report should provide recommendations as to how a full-scale system could be designed and operated to overcome these problematic issues.
(14RC02-001) (S. Acree (GWERD) 580-436-8609)

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