



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 2, 2015**

TECHNICAL ASSISTANCE

Technical Assistance Region II: On February 5, 2015, Dr. John Wilson and Dr. Daniel Pope (CSS-Dynamac Corporation), under the direction of Dr. David Burden (GWERD), provided technical review comments to RPM Brian Quinn, on the “Bio-Injection Pilot Study Conducted for Groundwater Operable Unit 1 (OU-1) at the Radiation Technology Inc. (RTI) Superfund Site in Rockaway Township, New Jersey.” At the Site, perchlorate contamination occurs in groundwater in granite bed rock and the overlying weathered granite (sapolite). Comments were incorporated into letters provided by EPA, the New Jersey Department of Environmental Protection (NJDEP), Alliant Techsystems Inc. (ATK), and contractor Conestoga-Rovers & Associates. EPA and NJDEP believe that the results from the pilot test do not provide sufficient evidence to confirm that emulsified soy lactate can be effectively injected into the groundwater system. It is the Agencies’ decision that the pilot test be rerun as specified in the previously approved work plan or a new work plan needs to be submitted for approval. Conestoga-Rovers respectfully disagree with the EPA and NJDEP general comment. The bench scale study and the pilot study have shown that the injection of vegetable oil into the groundwater system was accomplished and has biodegraded perchlorate. It is acknowledged that adjustments are needed to optimize the delivery of vegetable oil into the aquifer. CSS-Dynamac addressed concerns whether it would be possible to deliver the vegetable oil to mix with perchlorate contamination in the groundwater, in particular to perchlorate contamination in the fractured granitic bedrock. The Conestoga-Rovers response acknowledges that the conditions used in the pilot test were not adequate to deliver the vegetable oil to the fractured granitic bedrock, and offers one alternative approach. Whether the Pilot Test is considered a success or failure, the next reasonable step to selecting a remedy is to identify and validate approaches that will successfully deliver vegetable oil to the contaminated groundwater in the fractured granitic bedrock, or to consider other approaches to manage the risk associated with the perchlorate contamination at the site.

(15-R02-003)

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Technical Assistance Region IX: On February 12, 2015, Mr. Steven Acree (GWERD) and Dr. Robert Ford (LRPCD) provided technical review comments to RPM David Seter, on the “Groundwater Geochemical Characterization Data Summary Report (DSR),” Yerington Mine Site, Yerington, Nevada. The report presents the results of groundwater sampling performed in August 2014, including data from wells recently installed east of West Campbell Ditch. Results for several of the constituents useful in understanding contaminant distribution and transport were plotted on depth-specific site maps. The report also contained analyses of the correlation between various parameters. Although this information will be useful in the assessment of geochemical conditions and contaminant mobility, the DSR did not fully address the content envisioned in the remedial investigation work plan, as noted in the cover letter submitted with the report. The cover letter requests that additional technical discussions regarding the thermodynamic database take place prior to completing the evaluation of contaminant mobilization/attenuation processes. It is recommended that these discussions take place as expeditiously as possible to mitigate further delays. In addition, specific suggestions for data presentation and evaluations to support the assessment of geochemical mobilization/attenuation processes were provided for consideration.

(15-R09-002)

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SCIENTIFIC AND TECHNICAL PUBLICATIONS

Kim, Jihyun R. (Dept. of Molecular Bioscience and Bioengineering, Univ. of Hawaii at Manoa, Honolulu, HI), Scott G. Huling (GWERD), Eunsung Kan (Dept. of Molecular Bioscience and Bioengineering, Univ. of Hawaii at Manoa, Honolulu, HI). 2015. “Effects of temperature on adsorption and oxidative degradation of bisphenol A in an acid-treated iron-amended granular activated carbon.” *Chemical Engineering Journal* 262 (2015) 1260-1267. <http://dx.doi.org/10.1016/j.cej.2014.10.065>.

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