



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of January 23 2012**

TECHNICAL ASSISTANCE

Technical Assistance Region IV: On November 29, 2011, Mr. Rob Earle (Shaw Environmental & Infrastructure, Inc.), GWERD Center for Subsurface Modeling Support (CSMoS), under the direction of Dr. Ralph Ludwig (GWERD), provided technical review comments to RPM Craig Zellar on the report *Kingston Ash Recovery Project Groundwater Flow and Transport Report* dated July 25, 2011. This was a review of the Ground Water Model for the Tennessee Valley Authority (TVA) Kingston Ash Recovery Project, Harriman, TN. There are concerns that the ground water flow model was calibrated to only one water level collection event. It is recommended that at least two collection events, representing both high and low pool seasons, be used for calibration. It is understood that the transport model cannot be calibrated at this time. CSMoS recommends comparing model predictions for chemicals of concern (COC) concentrations to future sampling events and documenting the compared data. This will serve as both a calibration and auditing of the model.

(12-R04-004)

(R. Ludwig (GWERD) 580-436-8603)

Technical Assistance Region V: On January 10, 2012, Dr. Daniel Pope (Shaw Environmental & Infrastructure, Inc.), under the direction of Dr. David Burden (GWERD), provided technical review comments to RPM Syed Quadri on the *Field Sampling Plan for the Parson's Casket Site, Belvidere, Boone County, Illinois* (FSP), Parson's Casket Hardware Company Superfund Site. Ground water contamination resulted from activities connected with die casting and finishing metal parts for caskets. Some of the on-site and off-site contamination may also result from other commercial offsite activities. In general, the FSP seems technically sound in that sampling and analytical methods appear generally appropriate. However, the suitability of the FSP to achieving the overall purposes of the FSP is not clear. A discussion of how past and future data collection will be used in the pilot study design, and implementation, is recommended.

(12-R05-001)

(D. Burden (GWERD) 580-436-8606)

Technical Assistance Region IX: On January 13, 2012, Mr. Steven Acree (GWERD) and Dr. Robert Ford (LRPCD) provided continued technical support to RPM Jere Johnson in a technical review of the Background Ground Water Quality Assessment, Yerington Mine Site, Yerington, Nevada. The document provides a framework for estimating concentrations of constituents in ground water that has not been impacted by the site. The document was reviewed from the hydrogeologic and geochemical perspectives. In general, the framework appears to be appropriate for this evaluation. However, the specific wells used for estimating concentrations of constituents in ground water that has not been impacted by the site should not be finalized until all lines of hydrogeochemical evidence are evaluated.

(12-R09-002)

(S. Acree (GWERD) 580-436-8601)

(R. Ford (GWERD) 513-569-7501)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of January 30, 2012**

TECHNICAL ASSISTANCE

Technical Assistance Region IX: On January 18, 2012, Mr. Steven Acree (GWERD) continued to provide technical support to RPM Jere Johnson in a technical review of the Public Information for the Northern Portion of the Background Groundwater Study Area, Yerington Mine Site, Yerington, Nevada. The document provides a compilation of publicly available information regarding water diversion and usage within the study area. It will be an essential element in the understanding of groundwater flow in this portion of the valley and a key resource during the modeling efforts. It is recommended that effort be expended to determine the locations of points of return for irrigation water to drains and ditches within the area, and that this information be included in the upcoming remedial investigation work plan.

(12-R09-002)

(S. Acree (GWERD) 580-436-8601)

Technical Assistance Region IX: On January 20, 2012, Mr. Steven Acree (GWERD) continued to provide technical support to RPM Jere Johnson in a technical review of the Initial Bedrock Characterization Activities, Yerington Mine Site, Yerington, Nevada. In general, the proposed activities appear appropriate to enhance understanding of the hydrologic characteristics of bedrock and allow planning of more detailed investigations. However, it is recommended that the list of wells to be characterized under this phase be expanded, and that the suite of geophysical logs be expanded to include caliper logs to confirm construction information.

(12-R09-002)

(S. Acree (GWERD) 580-436-8601)

Technical Assistance Region II: On January 23, 2012, Dr. Richard Wilkin (GWERD) provided technical review comments to RPM Mark Austin on the report *Arsenic Natural Attenuation Evaluation at the Martin Aaron Superfund Site in Camden, New Jersey*. Overall, the effort described in the technical report meets the stated objectives of the investigation. The methodology, data, and data analysis are all of high quality. The primary conclusion that the upper clay layer of the Meadow Mat Complex (MMC) is a significant sink for arsenic is well founded and supported by the work. Improvements in understanding the long-term behavior of the MMC as a contaminant source would require additional testing to evaluate leaching potential with representative site groundwater at representative site geochemical conditions.

(12-R02-002)

(R. Wilkin (GWERD) 580-436-8874)

TECHNICAL SUPPORT

Technical Support Region I: On January 19, 2012, Steven Acree (GWERD) and Robert Ford (LRPCD) provided technical support to RPM Ginny Lombardo for the Fort Devens Superfund Site. They met with Region 1, the U.S. Army and their contractors to discuss groundwater and sediment-related issues at the Shepleys Hill Landfill at Fort Devens, MA. Issues that were discussed included sources for the arsenic observed in groundwater, performance of the groundwater extraction system, remedy modifications, and enhancement of the groundwater monitoring network.

(S. Acree (GWERD) 580-436-8601)

(R. Ford (GWERD) 513-569-7501)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of February 13, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region IX: On February 1, 2012, Dr. Ann Keeley (GWERD) provided technical review comments to RPM Penny Reddy on the *Draft, Technical Memorandum, In Situ Anaerobic Biotic/Abiotic Treatability Study, Installation Restoration Site 28, Former Naval Air Station Moffett Field, Moffett Field, California*, dated December 2011. The document provides the results of a treatability study for in situ anaerobic biotic and combined abiotic/biotic treatment of chlorinated ethenes in ground water at three locations on the Moffett NAS site. The information provided is well organized, well written, and straight forward. The discussions of biotic and abiotic degradation are thorough and concise, and all graphics are well prepared and informative. Recommendations for future remediation activities outlined in the document are appropriate.

(12-R09-003)

(A. Keeley (GWERD) 580-436-8890)

Technical Assistance Region I: On February 6, 2012, Dr. Scott Huling (GWERD) and Dr. Bruce Pivetz (Shaw Environmental & Infrastructure, Inc.) provided technical review comments to RPM Joseph LeMay on Responses to EPA's September 29, 2011 Response to Uni-First and W.R. Grace's "Assessment of Coordinated Groundwater Remedies Report," dated December 17, 2010, a/k/a Capture Report, Wells G&H Superfund Site, Woburn, Massachusetts, prepared by UniFirst Corp. It is clear that there is uncertainty with the data and information presented regarding proposed treatment technologies. It is agreed that ISCO deployment in the source area has a strong scientific basis and track record to accomplish treatment objectives. However, there are several technical issues that will need to be resolved during the development of a site specific workplan.

(12-R01-003)

(S. Huling (GWERD) 580-436-8610)

SCIENTIFIC PUBLICATION

Huling, Scott G. (GWERD), Eunsung Kan (MT State Univ., Bozeman, MT), Caleb Caldwell, Saehan Park (East Central Univ., Ada, OK). 2012. Fenton-driven chemical regeneration of MTBE-spent granular activated carbon – A pilot study. *Journal of Hazardous Materials* 205-206 (2012) 55-62.

(S. Huling (GWERD) 580-436-8610)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of February 20, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region II: On February 7, 2012, Dr. Milovan Beljin (Shaw Environmental & Infrastructure, Inc.), under the direction of Dr. David Burden (GWERD), provided technical review comments to RPM Trevor Anderson on the *Site Optimization Study* for the King of Prussia (KOP) Technical Corporation Site, Winslow Township, New Jersey (the Site), prepared by Roux Associates, Inc. After the latest five-year review, the U.S. EPA requested a Capture Zone Assessment (CZA) be conducted to confirm that the Groundwater Recovery and Treatment System (GWRTS) at the Site provide sufficient capture of the groundwater plume to meet the remediation goals. Although the theoretical capture zones were shown, the actual capture zone of the whole recovery system is not documented and thus there is no comparison of the target and the actual capture zones. The lines of evidence presented in the Report suggest that the system is recovering the contaminant mass from the aquifer; however, there is not sufficient evidence to conclude that the system is efficient in capturing the plume.

(12-R02-003)

(D. Burden (GWERD) 580-436-8606)

Technical Assistance Region I: On February 9, 2012, Dr. Eva Davis (GWERD) provided technical review comments to STL Steve Mangion on the *Data Gap Action Plan* (the Plan) for General Chemical Corporation (GCC), in Framingham, Massachusetts, prepared by Groundwater & Environmental Services, Inc. The Plan proposes to collect data that is needed to fully delineate and estimate the volume of the dense nonaqueous phase liquid (DNAPL) likely present at the GCC site, as required by the MassDEP in their December 16, 2011 letter. However, the Plan is lacking sufficient detail to determine the appropriateness of the quantity of investigation borings and monitoring wells to be installed and the methods proposed to install them. It is recommended that the starting point for developing the Plan be compiling and assessing the historical characterization data for the site. It is also recommended that additional data be collected to fill the data gaps and aid in creating a NAPL conceptual site model that can be used to determine the most cost effective remedial approach for the site.

(12-R01-004)

(E. Davis (GWERD) 580-436-8548)

Technical Assistance Region I: On February 10, 2012, Dr. Scott Huling (GWERD) and Dr. Bruce Pivetz (Shaw Environmental & Infrastructure, Inc.) provided technical review comments to STL Steve Mangion on the January 20, 2012 document entitled, "Data Gap Action Plan (DGAP)", prepared by Groundwater and Environmental Services, Inc., regarding the General Chemical Corporation Site, Framingham, Massachusetts. It is recommended that performance guidelines in the development of a conceptual site model (CSM) include locations of DNAPL. It is also recommended that all historical soil and ground water analytical results be compiled and presented in a variety of formats, and that additional deeper monitoring locations be selected. Further, it is recommended that the General Chemical site DNAPL conceptual model be developed based on collection and examination of the site-specific data.

(12-R01-004)

(S. Huling (GWERD) 580-436-8610)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of February 27, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region IV: On February 10, 2012, Dr. Daniel Pope (Shaw Environmental & Infrastructure, Inc.), under the direction of Dr. David Burden (GWERD), provided technical review comments to Ben Bentkowski on documents for the FCX Inc. (Washington Plant) Superfund Site (the Site) in Washington, NC. Comments address the development of an approach to evaluate a monitored natural attenuation (MNA) remedy for the contaminants of concern (COCs) in ground water. It is assumed that the necessary remedial activities, such as assessing/modeling ground water flow and COC disappearance rates, have been/will be conducted to provide appropriate understanding of Site processes. Given the limited knowledge about natural attenuation of the Site COCs, it appears that if an MNA remedy for the Site is pursued, the assessment/monitoring approach should be the first tier of the three-tiered "lines of evidence" approach. This decreasing mass/concentration approach could include COC transformation products if appropriate. Site activities should include continuing to analyze the "natural attenuation parameters".
(12-R04-005) (D. Burden (GWERD) 580-436-8606)

Technical Assistance Region II: On February 17, 2012, Mr. Steven Acree (GWERD) provided technical review comments to RPM Clifford Ng on the Scenarios Evaluating Hydraulic Surcharging Remedy (the Report), DuPont Pompton Lakes Works, Pompton Lakes, NJ. The report describes ground water flow modeling scenarios used to evaluate the potential increases in the shallow ground water flushing rates due to changes in locations and rates of treated water infiltration. Based on the analyses presented in this report, it appears that infiltration of water at locations west of the plant boundary will be needed to optimize ground water flow rates in some areas. It is also recommended that the monitoring system near the plant boundary be enhanced through installation of additional piezometers to provide hydraulic head data to better demonstrate hydraulic control of the plume.
(12RC02-001) (S. Acree (GWERD) 580-436-8609)

Technical Assistance Region IV: On February 17, 2012, Dr. Bruce Pivetz and Dr. Daniel Pope (Shaw Environmental & Infrastructure, Inc.), under the direction of Mr. Steven Acree (GWERD), provided technical review comments to RPM Clifford Ng on the Implementation Work Plan for Application of enhanced in situ bioremediation (EISB) to Intermediate Groundwater near Well 128, DuPont Pompton Lakes Works, Pompton Lakes, NJ. The work plan presents the proposed approach for conducting a field pilot-scale study of EISB technology in the intermediate aquifer in the off-site plume for the DuPont Pompton Lakes Works site. It is recommended that the analyses supporting the projected aquifer responses are provided for review and that the projected hydraulic responses be described in detail. The proposed frequency and locations for ground water level measurements should be clarified and expanded. It is also recommended that additional information such as the types, frequency, and monitoring locations for the system operating parameters be included in the work plan.
(12RC02-001) (S. Acree (GWERD) 580-436-8609)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of March 12, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region V: On February 17, 2012, Dr. Daniel Pope (Shaw Environmental & Infrastructure, Inc.), under the direction of Dr. David Burden (GWERD), provided technical review comments to RPM Donald Heller on the “Bench Scale and Pilot-Scale Treatability Study Work Plan for the Eli Lilly & Company site located at the Evonik Degussa Corporation, Lafayette, Indiana” (the Plan). The Plan discusses remediation efforts relating to the Evonik Degussa Corporation’s Tippecanoe Laboratories location. The proposed treatment train includes in-situ chemical oxidation (ISCO) in source areas, followed by enhanced bioremediation and finally monitored natural attenuation (MNA) in the source and plume areas. It is recommended that the Plan include additional discussion of the bench-scale treatability study, the bioenhancement process, and performance monitoring.
(12-R05-002) (D. Burden (GWERD) 580-436-8606)

Technical Assistance Region IX: On February 23, 2012, Dr. Michael Brooks (GWERD) provided technical review comments to RPM Penny Reddy on the revised *DRAFT Plume Cleanup Time Evaluation, Middlefield-Ellis-Whisman Regional Groundwater Remediation Program, Mountain View, California*. This review addressed original comments on the subject report, the revised report, and additional data files provided by Geosyntec Consultants, Inc. Responses to original comments include additional calculations which support the use of the Box model as a screening level model. However, concerns regarding the manner in which the Box model was used to simulate remedial alternatives remain.
(12-R09-004) (M. Brooks (GWERD) 580-436-8982)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Minitzer, Jeremy M. (School of Aerospace Medicine, Wright-Patterson AFB, OH), Mark N. Goltz, (AF Institute of Technology, Wright-Patterson AFB, OH), Avery H. Demond (Univ. of Michigan, Ann Arbor, MI), and Junqi Huang (GWERD). 2011. Diffusion in Clay Layers & Groundwater Remediation. *Air Force Civil Engineer*, Vol. 19(3): 22-23, 2011.
(J. Huang (GWERD) 580-436-8915)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of March 26, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region VII: On March 15, 2012, Dr. Scott Huling (GWERD) provided technical review comments to RPM Brad Vann on the document entitled, "Source Area Remedial Alternatives Evaluation", Lindsay Manufacturing, prepared by URS Corporation and transmitted to US EPA Region 7 (February 17, 2012). Generally, ISCO is implemented in source areas to target and to significantly reduce the mass of contaminant(s) that could be potentially transported downgradient. In general, steps have been taken and are being planned to meet the site characterization needs to address this requirement. The details will need to be integrated and used to develop an ISCO design and workplan. The reaction between the oxidant and target compound(s) must be significant to assure the destruction of the target contaminants. If the oxidant used is not an appropriate oxidizer of the compounds that represent a significant concentration in ground water, it is recommended that treatability testing be conducted to assess the extent of transformation that can be achieved of these contaminants during oxidative treatment. It is also recommended that a site specific evaluation of the potential impact of heavy metals mobilization be conducted to assess whether ground water monitoring and possible abatement for these metals is needed.

(12-R07-002)

(S. Huling (GWERD) 580-436-8610)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Harrison, Melanie D. (Univ. of MD, Baltimore County, MD), Peter M. Groffman (Cary Institute of Ecosystem Studies, Millbrook, NY), Paul M. Mayer (GWERD), and Sujay S. Kaushal (Univ. of MD, College Park, MD). 2012. Microbial Biomass and Activity in Geomorphic Features in Forested and Urban Restored and Degraded Streams. *Ecological Engineering* 38:1-10.

(P. Mayer (GWERD) 580-436-8637)

Doheny, Edward J., Jonathan J. A. Dillow (USGS, Baltimore, MD), Paul M. Mayer (GWERD), and Elise A. Striz (formerly of GWERD). 2012. Geomorphic responses to stream channel restoration at Minebank Run, Baltimore County, Maryland, 2002-08: U.S. Geological Survey Scientific Investigations Report. 2012-5012, 61 p. <http://pubs.usgs.gov/sir/2012/5012/>.

(P. Mayer (GWERD) 580-436-8637)

COMMUNITY OUTREACH

On March 9, 2012, the following individuals served as judges at the 2012 Oklahoma State Science and Engineering Fair at East Central University: Special Award Judge Dr. Ann Keeley (GWERD); Category Judges: Dr. John Wilson, Dr. Mary Gonsoulin, Mr. Joe Williams, Mr. Tim Canfield, Ms. Kelly Smith, Dr. Ken Forshay, Dr. Carl Miller, and Dr. Ann Keeley (GWERD), and Dr. Dennis Fine and Dr. Daniel Pope (Shaw Environmental & Infrastructure, Inc.).

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of April 2, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region II: On March 28, 2012, Dr. Scott Huling (GWERD) and Dr. Bruce Pivetz (Shaw Environmental & Infrastructure, Inc.) provided technical review comments to RPM Kevin Willis on the "*Operable Unit 1 Preliminary (30%) Remedial Design Report*", Fulton Avenue Superfund Site, 150 Fulton Avenue, Garden City Park, Nassau County, New York, February 2012, prepared by ERM. This technical review involved a critical analysis of issues relating to the fate and transport of ground-water contaminants, in-situ chemical oxidation (ISCO), ground-water pump-and-treat, and other possible remedial options/alternatives. Given the inability to specifically identify the location of possible source areas, it appears the deployment of ISCO would have limited benefit relative to other possible remedial options. However, assuming the locations of contaminant sources become better defined, it is recommended that ISCO be re-considered in light of new data and information.

(12-R02-004)

(S. Huling (GWERD) 580-436-8610)

Technical Assistance Region III: On March 29, 2012, Dr. Ann Keeley (GWERD) provided technical review comments to RPM Huu Ngo on the "Pilot Test Work Plan Enhanced Reductive Dechlorination Central Sprinkler Corporation Site OU3" at Tyco Safety Products in Nansdale, PA, North Penn Area 6. In general, the work plan appears reasonable in testing and assessing the viability of enhanced reductive dechlorination as a full-scale remedial strategy for chlorinated contaminants of concern in groundwater at the site. A major concern is continuity between the injection wells and nearest possible monitoring points due in large measure to the complexity of groundwater flow. It is recommended that ground water contour maps be developed at the site to demonstrate flow directions during different times of the year. It is also recommended that a conservative tracer be added to the injected fluid.

(12-R03-002)

(A. Keeley (GWERD) 580-436-8890)

Technical Assistance Region IX: On April 2, 2012, Dr. Eva Davis (GWERD) provided technical review comments to RPM Carolyn D'Almedia on the Revised DNAPL Feasibility Study, Montrose Superfund Site, Los Angeles, California, prepared by AECOM and dated December 7, 2011. In general, the Feasibility Study (FS) correctly identifies applicable remediation technologies for the DNAPL-contaminated zones of the Playa Deposits, Palos Verdes Sands, and saturated and unsaturated Upper Bellflower Aquitard (UBA). From a technical perspective either of the thermal technologies would be a suitable remedy for the DNAPL-contaminated saturated portion of the UBA. However, the FS is not totally accurate in the discussions of the advantages and disadvantages of the remedial technologies under consideration. An important decision that must be made is the area and volume of the DNAPL-contaminated subsurface that will be targeted by the remediation. Considerable effort has already been put into obtaining characterization data, and the data has been interpreted to try to define a focused area which contains the mobile DNAPL. However, the currently defined focus area does not contain all the mobile DNAPL.

(12-R09-005)

(E. Davis (GWERD) 580-436-8548)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of April 16, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region IV: On March 18, 2012, Dr. Richard Wilkin (GWERD) provided technical review comments to RPM Gary Cygan on the “Cap Model for Arsenic-Contaminated Sediments Adjacent to the Tyco Fire Products LP Facility in Marinette, Wisconsin”, provided by Reible et al. and the accompanying article published in *Soil and Sediment Contamination* by Lambert and Reible (2009, volume 18, pages 470-488). The calculator provides a numerical modeling tool to predict cap performance. This review indicates that it would be worthwhile to review the spreadsheet calculator in a form that is specific to the Tyco site. Unless all geochemical variability is captured, modeling efforts will fall short of reaching ideal design parameters. Secondly, it is recommended that any site data related to arsenic sequestration be pulled into a useable form for review.

(12RC05-002)

(R. Wilkin (GWERD) 580-436-8874)

Technical Assistance Region II: On April 7, 2012, Mr. Steven Acree (GWERD), Dr. Bruce Pivetz and Dr. Daniel Pope (Shaw Environmental & Infrastructure, Inc.) provided technical review comments to RPM Clifford Ng on the “Response to Comments Regarding EISB Implementation Plan and Hydraulic Surcharging”, DuPont Pompton Lakes Works, Pompton Lakes, NJ. The responses appear to satisfactorily address the comments on the EISB work plan and the hydraulic scenarios technical memorandum. It is recommended once hydraulic data and tracer data are obtained this data should be used to compare the actual flow field to the design predictions and evaluate the need for modification of the model. It is also recommended that initial data be used to prepare a qualitative breakthrough curve to provide an indication that the system is behaving approximately as initially assumed, or to provide an early warning if there is some major discrepancy.

(12RC02-001)

(S. Acree (GWERD) 580-436-8609)

Technical Assistance Region II: On April 9, 2012, Mr. Steven Acree (GWERD) provided technical review comments to RPM Clifford Ng on the “Horizontal Well Implementation Technical Memorandum”, DuPont Pompton Lakes Works, Pompton Lakes, NJ. The document describes the conceptual approach for evaluating and designing water infiltration using horizontal wells near the plant boundary. It is recommended that the first phase of this evaluation concentrate on increasing the flushing rate in the western portion of the plume to evaluate the performance of horizontal well injection. It is recommended that a series of horizontal wells (versus one horizontal well) be used to provide adequate injection control. It is also recommended that detailed data regarding hydraulic properties in the shallow zone be obtained to support the design of a site-wide injection system using horizontal wells.

(12RC02-001)

(S. Acree (GWERD) 580-436-8609)

MEMORANDUM

SUBJECT: Highlights of the Ground Water and Ecosystems Restoration Division (GWERD), Ada, OK, National Risk Management Research Laboratory, Office of Research and Development, for week of April 30, 2012.

FROM: Kelly Smith, Branch Chief
Applied Research and Technical Support Branch

TO: David Jewett, Acting Director
Ground Water and Ecosystems Restoration Division

TECHNICAL ASSISTANCE

Technical Assistance Region IV: On April 16, 2012, Dr. Eva Davis (GWERD) provided technical review comments to RPM Turpin Ballard on the Remedial Design Report, Certified for Construction Design Drawings and Technical Specifications Package, for the Groundwater Operable Unit for the Phase IIa Volatile Organic Compound Contamination at the C-400 Cleaning Building at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, dated March 2012. In general, this document does not contain sufficient detail to demonstrate the adequacy of the design, or to construct the system. A monitoring plan ensures that the data collected will demonstrate the effectiveness of the remediation system and aid in determining when the process has met its objectives. The review process would have been more efficient and effective if the O&M plan, which is to contain the monitoring plan, had been submitted for review at the same time as the Remedial Design Report. (12-R04-006) (E. Davis (GWERD) 580-436-8548)

Technical Assistance Region I: On April 25, 2012, Dr. Eva Davis (GWERD) provided technical review comments to RPM Kevin Heine on the Source Area Pre-Design Investigation Work Plan, Revision 1, for the South Municipal Water Supply Well Superfund Site, dated March 2012. The primary purpose of this Pre-Design Investigation is to delineate the source zone at the New Hampshire Ball Bearing facility to determine the area(s) that will be treated by in situ thermal remediation, and to obtain data to refine the estimate of the amount of contaminant mass within the treatment area(s), as this is needed to design the above ground vapor and liquid treatment systems that are a part of the thermal treatment system. The proposed investigation does not appear to be definitive in determining the area or volume that should undergo in situ thermal treatment due to the presence of dense nonaqueous phase liquid (DNAPL). As this is a pre-design investigation, data from screening techniques for characterization such as Membrane Interface Probe (MIP) are of limited usefulness, as MIP response cannot be directly correlated to DNAPL presence or absence. Ground water concentrations obtained from vertical profiling using a Waterloo profiler also only provides screening data because ground water concentrations do not correlate directly with the presence or absence of DNAPL. (12-R01-005) (E. Davis (GWERD) 580-436-8548)

COMMUNITY OUTREACH

2012 HydroDays participants gathered in south central Oklahoma to experience Arbuckle Simpson Aquifer during April 12 – 14th. As one of HydroDays co-sponsors, the RSKERC, welcomed 70 visitors including hydrogeology professors and students from Oklahoma State Univ., Univ. of Arkansas - Fayetteville, Illinois State, Univ. of Texas at Austin, Emporia State Univ., East Central Univ., as well as hydrologists from the USGS, Oklahoma Water Resource Board and the Edwards Aquifer Authority for a tour of the GWERD facility including lecturers, and laboratory and field project demonstrators on April 13th. The event was hosted by Dr. Randall Ross. (Misc.) (R. Ross (GWERD) 580-436-8611)