First Phase of Northeast Plume Field Work Complete

Seven monitoring wells and two piezometers were installed during the first phase of the northeast plume optimization project in September. All seven transect wells are equally spaced ~400 ft from the east side of C-400. The wells will be monitored initially for two quarters to establish baseline concentrations of trichloroethene (TCE) and technetium-99 (TC-99). The data will be used to monitor any changes in groundwater concentrations or flow direction once the new extraction wells are operational. The two piezometers were located in strategic locations that will inform the overall well design and construction of each extraction well.
Groundwater Investigations

Monitoring well sampling events are conducted to evaluate and substantiate the Department of Energy’s (DOE) sampling procedures and to verify the quality of their laboratory analysis. There were 94 monitoring wells sampled in 114 sampling events in 2015. Each sampling event was located either within the known trichloroethene (TCE) plume footprint or in close proximity to a plume. The concentrations detected by DOE for TCE and technetium-99 (Tc-99) at various monitoring well locations are used to determine the extent of contaminant plumes at the Paducah site, as interpreted in DOE site plume maps.

AIP staff split samples with DOE on 11 of the 114 sampling events. Split sampling activities demonstrated a general similarity between those samples collected and analyzed by Kentucky and those collected and analyzed by DOE. During the split sampling events, Kentucky also monitored DOE’s sampling procedures to verify this work was performed in compliance with Environmental Protection Agency (EPA) Standard Operating Procedures for field measurements and sampling methods.

Six seeps in Little Bayou Creek (LBC) were added to Kentucky’s sampling program in 2002; a seventh seep was discovered and added in June 2007. These seeps are located where groundwater is upwelling in a channelized portion of LBC, along a Porter’s Creek Clay exposure. The locations of the seeps can change by several feet after major storm events, when high flow causes changes in depositional features (sand bar shifting) and in the banks of the creek (sloughing). The base flow in LBC is comprised primarily of discharges from plant outfalls. These seeps are located downstream of the Paducah site, 2 miles from the plant and 2 miles upstream from the confluence of LBC and the Ohio River. The locations can be seen on the 2015 AIP Monitoring Well and Seep Sampling Locations map.

The June 2015 sampling event showed 32 ug/L TCE in Seep 5 and 11 ug/L TCE in Seep 7. The December 2015 showed 23 ug/L TCE in Seep 5. The May 2016 sampling event showed 1.7 ug/L TCE and Tc-99 was not detected in Seep 5.
Chris Jung Joins the Paducah Site Section

Chris Jung joined the Paducah Gaseous Diffusion Plant Section on November 16.

Chris graduated from Auburn University with a BS in Geology. He started with the Cabinet in 2003 in the HWB Corrective Action Section and earned his Professional Geologist License in 2006. He will be working on all remediation projects, especially ones focused on cleaning up the groundwater.

Chris resides in Lexington with his wife, Lee Ann, and their two children, Spencer (17) and Maisie (15). He enjoys the outdoors and spending time with his family.