

# Oversight News

Spring 2017



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Two sampling events from seven transect monitoring wells were evaluated by the project team in early February. The data included on Figure 1 was found to be consistent with anticipated concentrations (TCE <600ug/L, Tc-99 <200pCi/L), so the northeast plume extraction wells can be installed at the planned locations. The seven transect wells were monitored for two quarters to establish baseline contaminant concentrations. They will now be used to assess changes in groundwater flow direction from the main source area at C-400 once the extraction wells are relocated, closer to the plant. Field work to install the new extraction wells and new monitoring wells began the first week in March.

Newsletter of the Commonwealth's Environmental Oversight Section for the Dept. of Energy's Paducah Site

Kentucky Department for Environmental Protection  
Division of Waste Management  
Hazardous Waste Branch  
Paducah Site Section

## Northeast Plume Optimization Transect Well Data Plots Path Forward

### NORTHEAST PLUME OPTIMIZATION TRANSECT WELLS – 1<sup>ST</sup> AND 2<sup>ND</sup> QUARTER SAMPLING (OCTOBER 2016 AND JANUARY 2017)

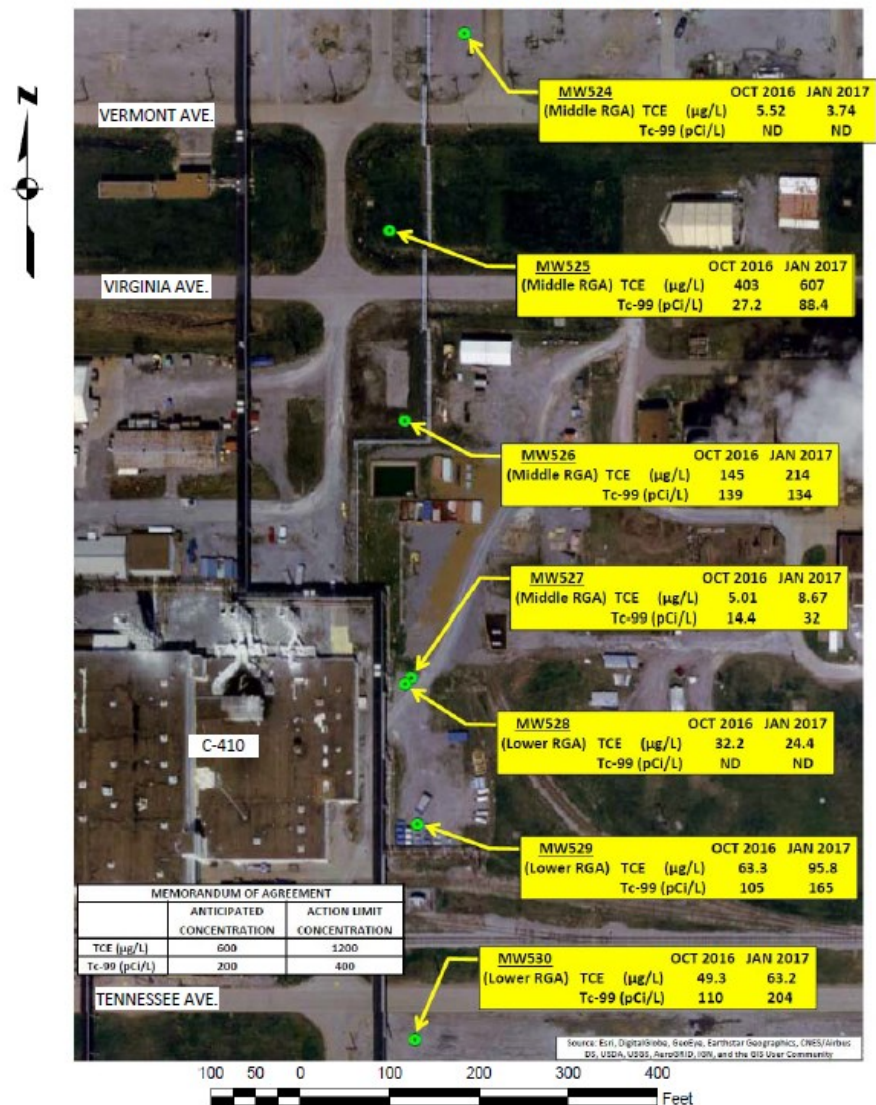


Figure 1. Groundwater Sampling Results (TCE and Tc-99) at Seven Transect Wells. Photo and Data Courtesy of DOE.

## Radiation Health Branch (RHB) Groundwater Monitoring Program

The Radiation Health Branch (RHB) has a robust environmental monitoring program designed to ensure that there is no danger to public health from PGDP's historic radionuclide releases to groundwater, surface water, or air. In 2016, RHB collected 1,594 samples and performed 1015 analyses on those samples. In addition to analyzing samples collected by RHB AIP, an additional 389 analyses were performed on 146 samples collected by EEC AIP.

### Groundwater

RHB monitors residential groundwater quality (specifically for radionuclides) by collecting quarterly samples at 10 wells surrounding the site (Figure 2). Gross alpha/beta analysis is performed on all the samples, at a minimum. Additional isotope specific analyses may be performed based on the results of the initial gross alpha/beta measurement.

The majority of the locations sampled are private drinking water wells that have potential to be impacted by the TCE/Tc-99 plume. The wells are no longer used for drinking water. RHB routinely evaluates the results, along

with results from other activities at the site, to determine the need for additional monitoring locations or if changes in current locations need to occur.

In 2016, there were no abnormal measurements from RHB groundwater monitoring efforts.

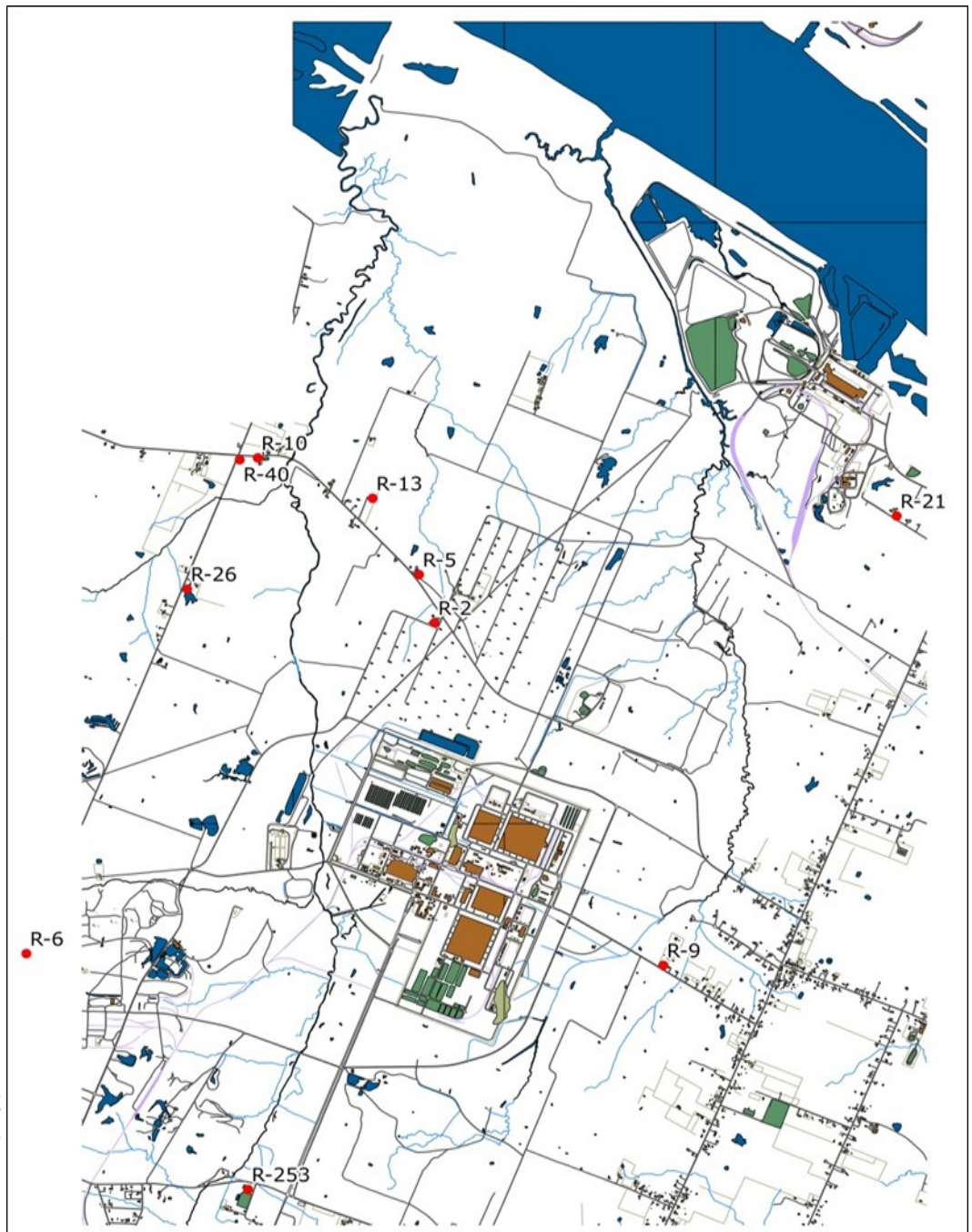


Figure 2. Radiation Health Branch Residential Groundwater Monitoring Sites

## Depleted Uranium Hexafluoride (DUF<sub>6</sub>) Conversion Facility Restarts

The DOE awarded a new five-year contract to Mid-America Conversion Services on October 2, 2016. They take over from BMXT Conversion Services, who was the previous operator of the DUF<sub>6</sub> Conversion Facility. The Facility has not been operational since December 2015 because of issues at the Portsmouth sister facility.

The DUF<sub>6</sub> Facility at Paducah consists of four conversion lines arranged in parallel, each of which can convert approximately one cylinder per day. Line #2 was returned to service on December 17 and Line #4 on December 25, 2016. As of the end of 2016, Lines #1 and #3 were not yet back in service; however, DOE anticipates all four lines operational by the end of April 2017.

The Paducah Site has approximately 53,000 cylinders of DUF<sub>6</sub> and each cylinder weighs approximately 11 to 14 tons. Completing conversion of all the cylinders at the Paducah Site is expected to take over 30 years.

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**The mission of the Kentucky Division of Waste Management is to protect human health and the environment by minimizing adverse impacts on all citizens of the Commonwealth through the development of fair, equitable, and effective waste management programs.**



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