

Gallatin Fossil Plant



GALLATIN, TENNESSEE



QUICK FACTS



EPA CCR Rule Groundwater Monitoring for 2019

This fact sheet summarizes groundwater monitoring conducted by TVA for the Gallatin Fossil Plant, as required by the U.S. Environmental Protection Agency (EPA) Coal Combustion Residuals (CCR) Rule for the 2019 calendar year. The EPA published the CCR Rule on April 17, 2015. It requires companies operating coal-fired power plants to study whether constituents in CCR have been released to groundwater from active, inactive and new CCR impoundments, as well as active and new CCR landfills.

The CCR Rule establishes multiple phases of protective groundwater monitoring including baseline sampling, Detection Monitoring and Assessment Monitoring. Corrective action may be necessary at the completion of this process. For more information on the CCR Rule Groundwater Monitoring requirements, refer to the Executive Summary that can be found by clicking on the following hyperlink www.tva.com/ccr.

Gallatin Plant CCR Rule Groundwater Monitoring Network

In addition to ongoing groundwater monitoring required under State regulations, TVA established monitoring well networks for the Ash Pond Complex (which includes Ash Pond A, Ash Pond E, Middle Pond A, and the Bottom Ash Pond) and for the North Rail Loop Landfill, consisting of “background,” or upgradient, wells in locations that were not expected to be affected by the management of CCR and wells around the edge of the areas where CCR is managed. These wells are sometimes referred to as “downgradient wells” and are placed in locations to monitor for releases to groundwater. These CCR Rule groundwater monitoring well networks are monitored in accordance with the CCR Rule during the baseline, Detection Monitoring, and Assessment Monitoring phases. The locations of the wells are shown on the figure on the next page.

Commissioning Date: 1956-1959

Output: 976 Megawatts (coal & combustion turbines)

Number of homes powered: 565,000

Plans for updating/expansion: Additional air pollution controls (selective reduction system and scrubbers) were installed in 2016.

Wet to Dry / Dewatered Conversion Program: Complete for fly ash and scrubber waste.

CCR Units Closed: 70 acres

TVA Wide CCR Conversion Program Total Spend: Approximately \$1.3 Billion

2019 CCR Rule Detection Monitoring Results for North Rail Loop Landfill

Since the initial groundwater monitoring results identified statistically significant increases (SSIs) over background levels, TVA conducted an alternate source demonstration to determine if the exceedances were the result of another source or the result of an error in the sampling or analytical method, or natural variability in groundwater quality. As a result of the successful demonstration, the North Rail Loop Landfill remains in Detection Monitoring. The Detection Monitoring results are contained in the **2019 Annual Groundwater Monitoring Report for the North Rail Loop Landfill***. The report can be found on the CCR Rule website at www.tva.com/ccr.

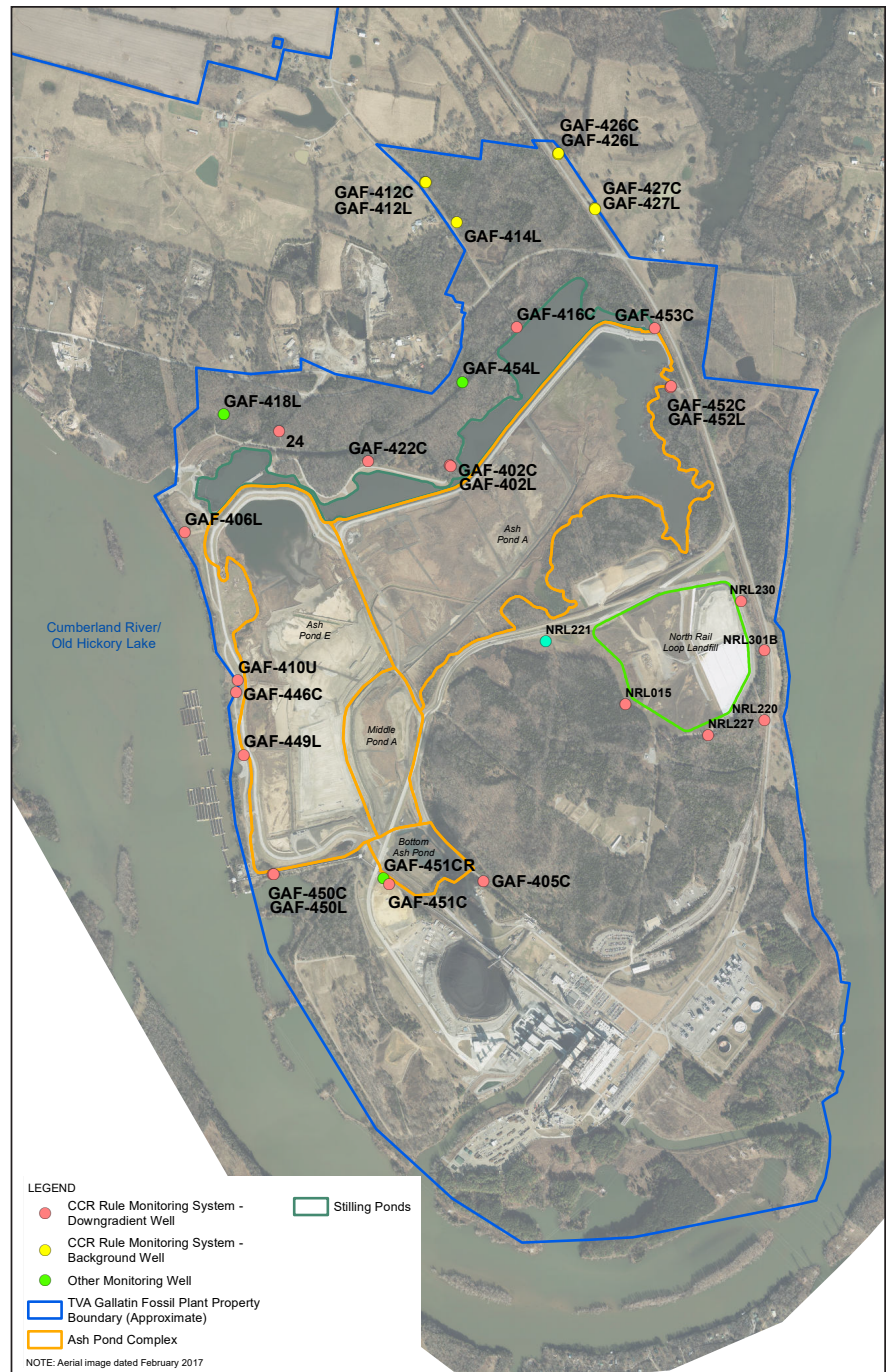
2019 CCR Rule Assessment Monitoring for Ash Pond Complex

The Assessment Monitoring results for the Ash Pond Complex (consisting of Ash Pond A, Ash Pond E, Middle Pond A, and the Bottom Ash Pond) are contained in the **2019 Annual Groundwater Monitoring and Corrective Action Report***. The report can be found on the CCR Rule website at www.tva.com/ccr.

The statistically significant levels (SSLs) above groundwater protection standards (GWPS) identified in 2019 assessment monitoring are the same as those identified in 2018 assessment monitoring; there have been no changes in 2019. An alternate source demonstration was successfully completed to show that the Ash Pond Complex is not the source of the SSLs for cobalt and lithium in wells GAF-450L and GAF-452C, respectively. There is only one SSL for arsenic in well GAF-410U.

The following tables show the reported statistical exceedances of GWPS, as reflected by the red dot. Out of the 23 wells sampled, three wells contain SSLs for a single constituent (arsenic, cobalt or lithium). However, the Ash Pond Complex is not the source of two of the SSLs, leaving only one SSL (arsenic in well GAF-410U) to be addressed in Assessment of Corrective Measures under the CCR Rule.

*The results in this report reflect quality of groundwater beneath the CCR units and are not necessarily an indication of impacts beyond TVA property. Local utilities are required to test public drinking supplies to ensure that they are safe for consumption. Monitoring data consistently shows that surface water quality is not being adversely impacted by TVA's operations of its coal plants, including ash management practices.



2019

GROUNDWATER QUALITY MONITORING WELL LOCATIONS FOR ASH POND COMPLEX

Constituent	GWPS mg/L	Background Wells							Downgradient Wells						
		GAF-412C	GAF-412L	GAF-414L	GAF-426C	GAF-426L	GAF-427C	GAF-427L	24	GAF-422C	GAF-402C	GAF-402L	GAF-416C	GAF-453C	
Antimony	0.006	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Arsenic	0.01	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Barium	2	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Beryllium	0.004	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cadmium	0.005	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Chromium	0.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cobalt	0.006	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Fluoride	4	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Lead	0.015	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Lithium	0.04	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Mercury	0.002	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Molybdenum	0.1	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Rad226+228	5 pCi/L	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Selenium	0.05	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Thallium	0.002	●	●	●	●	●	●	●	●	●	●	●	●	●	●

2019

GROUNDWATER QUALITY MONITORING WELL LOCATIONS FOR ASH POND COMPLEX

Constituent	GWPS mg/L	Downgradient Wells									
		GAF-452C	GAF-452L	GAF-406L	GAF-410U	GAF-446C	GAF-449L	GAF-450C	GAF-450L	GAF-451C	GAF-405C
Antimony	0.006	●	●	●	●	●	●	●	●	●	●
Arsenic	0.01	●	●	●	●	●	●	●	●	●	●
Barium	2	●	●	●	●	●	●	●	●	●	●
Beryllium	0.004	●	●	●	●	●	●	●	●	●	●
Cadmium	0.005	●	●	●	●	●	●	●	●	●	●
Chromium	0.1	●	●	●	●	●	●	●	●	●	●
Cobalt	0.006	●	●	●	●	●	●	●	●	●	●
Fluoride	4	●	●	●	●	●	●	●	●	●	●
Lead	0.015	●	●	●	●	●	●	●	●	●	●
Lithium	0.04	●	●	●	●	●	●	●	●	●	●
Mercury	0.002	●	●	●	●	●	●	●	●	●	●
Molybdenum	0.1	●	●	●	●	●	●	●	●	●	●
Rad226+228	5 pCi/L	●	●	●	●	●	●	●	●	●	●
Selenium	0.05	●	●	●	●	●	●	●	●	●	●
Thallium	0.002	●	●	●	●	●	●	●	●	●	●

Color Coding Key

- Monitoring data results are below groundwater protection standard (GWPS)
- Monitoring data results are below GWPS, but results are 65% or more of the GWPS
- Monitoring data results exceed GWPS (TVA has initiated and completed assessment of corrective measures report)
- Successfully completed alternate source demonstration shows that the Ash Pond Complex is not the source of the SSLs

Next Steps for Gallatin Fossil Plant CCR Rule Groundwater Monitoring

TVA will continue to monitor and evaluate the groundwater at the Gallatin Fossil Plant site. TVA has completed an Assessment of Corrective Measures Report to analyze the potential effectiveness of potential corrective measures. This report was posted to the CCR website on August 14, 2019. As a final groundwater remedy has not been selected for the arsenic at well GAF-410U, a semiannual report describing the progress in selecting and designing the final remedy was prepared and posted on the CCR Rule website on February 14, 2020.