

October 16, 2017

Tennessee Valley Authority  
1101 Market Street  
Chattanooga, Tennessee 37402

**Groundwater Monitoring System  
Ash Disposal Area 4  
TVA Colbert Fossil Plant  
Tuscumbia, Alabama**

**1.0 Introduction**

This letter documents AECOM's certification of the groundwater monitoring system for the Tennessee Valley Authority (TVA) Colbert Fossil Plant Ash Disposal Area 4. Based on the information evaluated by AECOM, the groundwater monitoring system, first year baseline monitoring phase of TVA's Coal Combustion Residuals (CCR)-Rule Groundwater Quality Monitoring Program, meets the performance standard specified in the Final CCR Rule at 40 CFR § 257.91.

**2.0 Summary of Findings**

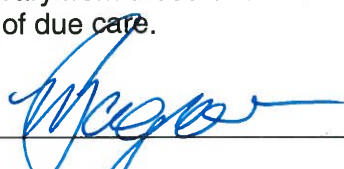
In establishing the groundwater monitoring system for Ash Disposal Area 4 at the Colbert Fossil Plant in Tuscumbia, Alabama, AECOM developed a hydrogeologic characterization of the site, designed and reviewed the installation of the monitoring wells, and evaluated available groundwater data. Based upon review of the available information, the groundwater monitoring system well network at Ash Disposal Area 4 meets the performance standard specified in 40 CFR § 257.91, based on the following criteria:

- There are a sufficient number of wells installed at appropriate locations and depths to yield groundwater samples that accurately represent the quality of background groundwater unaffected by CCR and the quality of groundwater at the downgradient waste boundary (257.91(a)(1) and (2)).
- The wells provide samples from the uppermost aquifer (257.91(a) and 257.53).
- The groundwater monitoring system contains five wells, including at least one background well; thus, the number of wells exceeds the minimum specified in 257.91(c)(1).
- The system contains one background well (CA5) representing conditions unaffected by CCR (257.91(a)(1) and (c)(1)).
- The system contains four downgradient wells (COF-102, COF-104, COF-105, COF-106) monitoring groundwater near the waste boundary (257.91(a)(2) and (c)(1)).
- Wells are constructed appropriately (257.91(e)).

### 3.0 Qualified Professional Engineer Certification

I, Nicole Pagano, being a Registered Professional Engineer in good standing in the State of Alabama, do hereby certify to the best of my knowledge, information, and belief that the information contained in this certification is prepared in accordance with the accepted practice of engineering; that the information contained herein is accurate as of the date of my signature below; and that the design and construction of the groundwater monitoring system as described above meets the requirements of 40 CFR § 257.91. Opinions relating to environmental, geologic, and hydrogeologic conditions or other estimates are based on available data; actual conditions may vary from those encountered at the times and locations where data are obtained, despite the use of due care.

SIGNATURE: \_\_\_\_\_



DATE: \_\_\_\_\_

10/16/2017

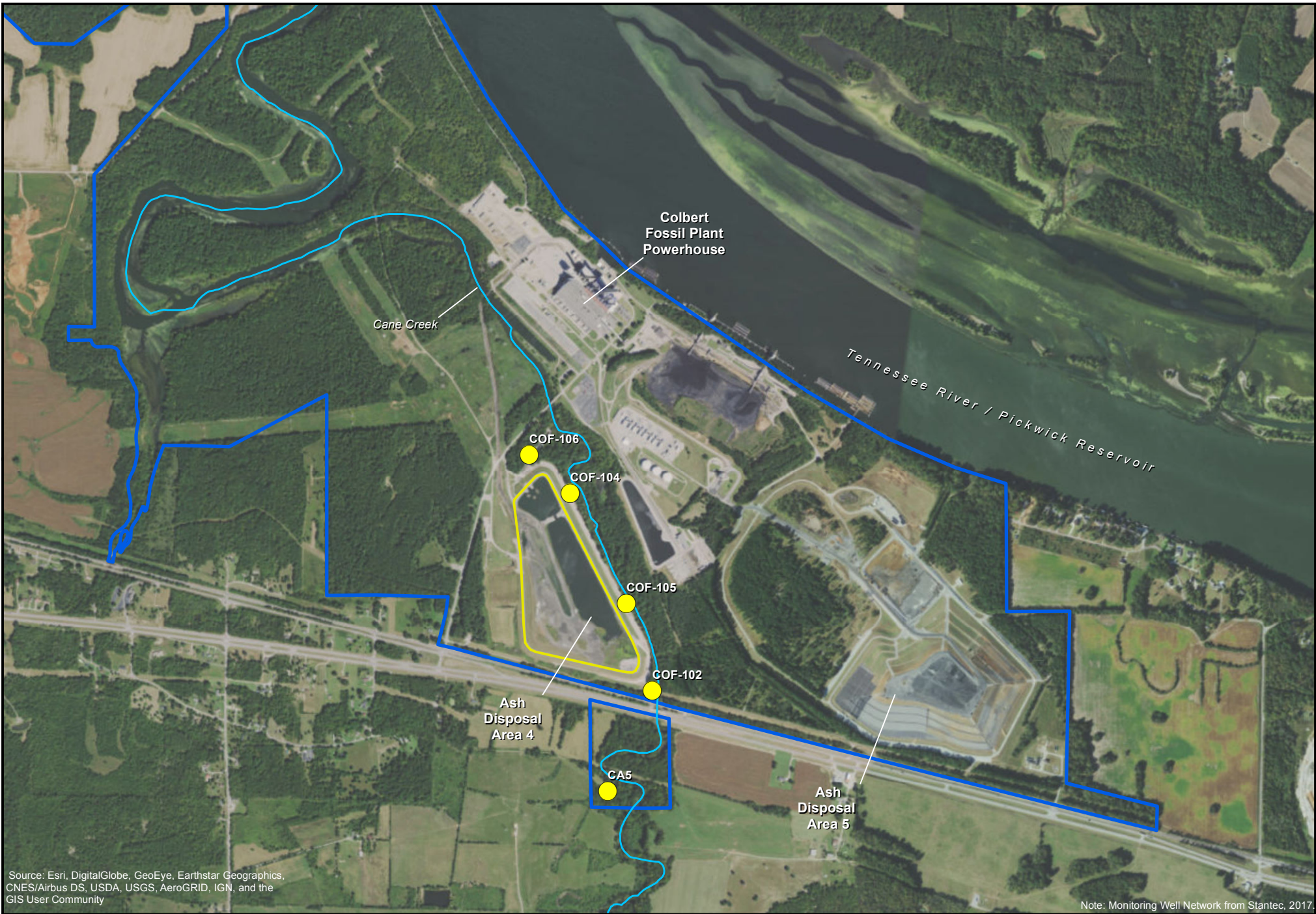
PRINTED NAME: Nicole Pagano

ADDRESS: AECOM  
4840 Cox Road  
Glen Allen, VA 23060

TELEPHONE: (423) 308-7279

Attachments:  
CCR Rule Monitoring System Plan  
Table 1 – Well Construction Information





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Note: Monitoring Well Network from Stantec, 2017.

<b>FIGURE:</b>  <b>1</b>	<b>CCR Rule Monitoring System Plan Colbert Fossil Plant Tennessee Valley Authority</b>			 	<ul style="list-style-type: none"> <li><span style="color: yellow;">●</span> CCR Rule Monitoring System Wells</li> <li><span style="color: blue;">—</span> Stream</li> <li><span style="border: 1px solid yellow; display: inline-block; width: 10px; height: 10px;"></span> Ash Disposal Area 4</li> <li><span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> TVA Property Boundary</li> </ul>	AECOM POWER AND INDUSTRIAL 200 WEST MARTIN LUTHER KING BOULEVARD SUITE 300 CHATTANOOGA, TN 37402 PHONE: (423) 546-8000 WEB: WWW.AECOM.COM
	DATE:	DRAWN BY:	PROJECT NUMBER:			
	10/13/2017	MBE				

Table 1  
WELL CONSTRUCTION INFORMATION  
CCR RULE GROUNDWATER MONITORING SYSTEM  
ASH DISPOSAL AREA 4  
TVA COLBERT FOSSIL PLANT

Well ID	UNID #	Position Relative to CCR Unit	Top of Casing Elevation (ft)	Ground Elevation (ft)	Screened Interval (ft btoc)	Screened Formation	Total Well Depth (ft btoc)	Pump Intake Depth (ft btoc)	Well Diameter (inch) / Material	Well Coordinates	
										AL West State Plane NAD27 Northing (ft)	AL West State Plane NAD27 Easting (ft)
CA5	COF-00-GW-43-001	Background	428.56	425.6	8.9 - 14.5	Alluvial Sand and Gravel	14.5	9	4-in PVC	1719645.70	395337.82
COF-102	COF-00-GW-43-021	Downgradient	426.27	421.9	10.4 - 15.2	Alluvial Sand and Gravel	15.3	14	4-in PVC	1720928.58	395910.79
COF-104	COF-00-GW-43-023	Downgradient	423.74	419.4	11.0 - 15.9	Alluvial Sand and Gravel	15.9	14	4-in PVC	1723455.51	394857.57
COF-105	COF-00-GW-43-024	Downgradient	426.83	422.7	12.9 - 17.9	Alluvial Sand and Gravel	17.9	16	4-in PVC	1722042.89	395580.43
COF-106	COF-00-GW-43-025	Downgradient	429.28	425.5	10.5 - 20.2	Alluvial Sand and Gravel	20.3	16	4-in PVC	1723950.50	394334.93

Well construction and survey information based on data provided by TVA Well Inventory, October 1, 2017.

Elevation in National Geodetic Vertical Datum 1929.

ft btoc - feet below top of casing