

“Development Cap” at Coal Ash Landfill: Village South at Waugh Chapel, Gambrills, Maryland

by Lenny Siegel
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I support brownfields programs because they create an opportunity to draw from the future value of property to conduct the environmental cleanup necessary to protect human health and the environment. In Gambrills, Maryland, however, homes and stores are being built above a former coal combustion waste disposal site, covering up the problem and possibly preventing the cleanup necessary to protect the area’s groundwater resources. To a large degree, the root of the issue lies in a regulatory loophole literally large enough to drive thousands of ash-laded trucks through.



Turner Pit Construction Site—May, 2011

Coal Ash

Coal ash, containing heavy metals, sulfates, and other toxic substances is the second largest industrial waste stream in the U.S., after mining wastes, totaling about 131 million tons of waste per year. Called “coal combustion byproducts” by the state of Maryland, these wastes are what is left over after coal is burned to generate electrical power. It includes fly ash, bottom ash, boiler slag, flue gas desulfurization wastes, and

fluidized combustion wastes.¹ Ironically, as air pollution controls are tightened at coal-burning plants, the concentration of toxic substances in combustion wastes increases.

At least since the 1950s, coal ash—primarily fine, powdery fly ash—has been used in roadbuilding and construction materials such as “mortars, grouts, stucco, cultured stone, masonry blocks, wallboard, ceiling tiles and concrete foundations.” The Association of General Contractors touts U.S. EPA findings that the recycling of ash conserves resources and reduces greenhouse gas emissions.²

Historically, EPA has exempted coal combustion waste from regulation under the nation’s hazardous waste rules—Subtitle C of the Resource Conservation and Recovery Act (RCRA). However, in the wake of the Christmas-time 2008 collapse of a Kingston, Tennessee coal ash slurry surface impoundment that released a billion gallons of wastes, EPA is considering applying Subtitle C to coal combustion residuals.³ Even if this controversial proposal is enacted, it will be too late to make a difference in Gambrills. To its credit, the Maryland Department of Environment (MDE) adopted its own rules in late 2008,⁴ but even that was too late to make a difference at the Gambrills disposal sites. And critics, such as the head of the Anne Arundel County (where Gambrills is located) Health Department, said that the regulations are not protective enough.

The Pits

Since the 1950s, BBSS, Inc. has supplied sand and gravel from the Turner and Waugh Chapel pits in Gambrills, extending 115 acres and 78 acres, respectively. BBSS President Rob Scrivener explained the company’s strategy for filling in the holes:

In 1994, the Anne Arundel County legislature passed bill 60-94 encouraging coal ash as a beneficial use in sand and gravel pit reclamation and we felt ash held the greatest potential for further beneficial re-use of the property. Beginning in 1995 our partner company, Constellation Power Source Generation, adhering to permit requirements and strict state and county guidelines for safe handling and disposal of these materials, began using coal ash to reclaim these gravel pits.⁵

About 4.6 million tons of coal ash—primarily fly ash—from Baltimore Gas and Electric (BGE, now Constellation) power plants were deposited at the two sites.

¹ See *Coal Ash: The Toxic Threat to our Health and Environment*, Physicians for Social Responsibility and Earthjustice, September, 2010. http://earthjustice.org/sites/default/files/files/CoalAsh_Earthjustice.pdf

² “EPA Considers Rules for Coal Combustion Waste; AGC Looks at Impact to Construction,” *Environmental Observer*, Association of General Contractors, September 30, 2009. <http://newsletters.agc.org/environment/2009/09/30/epa-considers-rules-for-coal-combustion-waste-agc-looks-at-impact-to-construction/>

³ See “Coal Combustion Residuals—Proposed Rule,” U.S. EPA, June 21, 2010 <http://www.epa.gov/wastes/nonhaz/industrial/special/fossil/ccr-rule/index.htm>

⁴ “Maryland Department Of Environment Announces First-Ever State Regulations For Coal Combustion Byproducts,” Maryland Department of the Environment press release, November 25, 2008. <http://www.mde.maryland.gov/programs/pressroom/pages/pressreleases/1157.aspx>

⁵ “Remarks from Rob Scrivener, BBSS, Inc.” 2007. <http://www.croftonfirst.org/docs/flyash/Crofton%20First%20statement.pdf>

Because the ash was not regulated as hazardous waste, the pits were “reclaimed” with no liner, no leachate collection system, and insufficient compaction of the bottom layer. Left uncovered for months at a time, they released fly ash dust throughout the area. At a September 2007 public meeting, “people who live and work at the Village at Waugh Chapel said that their homes, businesses and cars are often coated with a dark film, possibly fly ash.” Sampling data confirmed that as much as 5% of local airborne dust consisted of fly ash soot.⁶



Sand and Gravel Mining Continues at a Portion of the Waugh Chapel Pit Groundwater

As early as July 1998 BGE found elevated sulfate levels beyond the edge of the Turner Pit. However, based upon the company’s since-proven-wrong projections, MDE issues a series of permits for expanded dumping at the Turner Pit and later the nearby Waugh Chapel Pit. Later cadmium, arsenic, and above drinking water standards, thallium, were found in local groundwater. MDE regulated the site under its Clean Water Act authorities.

In May 2004, in an attempt to remove the contaminants from the groundwater, BGE and Reliable installed the groundwater remediation system. From 2004 until 2006 the groundwater remediation efforts resulted in decreasing sulfate concentrations in the areas close to the pits, but could not reduce the contamination that extended beyond the pits to at least Summerville Road. In fact, the sulfate concentrations were increasing at the more distant locations, in proximity to the homeowner wells. In October 2006, BGE notified MDE that the

⁶ Joshua Stewart, “Airborne fly ash concerns residents,” *Annapolis Capital*, September 26, 2007. Reprinted in http://www.croftonfirst.org/docs/Airborne_fly_ash_concerns_residents.pdf; “Coal Ash Found In Dust at Homes Near Gambrills Dump,” news release, Environmental America, January 3, 2008. <http://www.environmentamerica.org/news-releases/clean-air/clean-air2/coal-ash-found-in-dust-at-homes-near-gambrills-dump>

contaminated groundwater had reached the homeowners' wells. At that point, the Anne Arundel County Health Department notified the nearby homeowners of the contaminants in their drinking water.⁷

In October 2007 MDE reached a settlement with BBSS and Constellation in which the companies agreed to pay a \$1 million penalty, expand groundwater remediation, and supply public water to 40 homes where private wells were impacted, or were likely to be impacted, by site contamination. Notably, the agreement did not prohibit future dumping, but Constellation ended disposal operations there nevertheless.



Crofton Meadows Well Site Development

Constellation agreed to install a multi-layer cap and take other measures to limit the infiltration of water at the Waugh Chapel pit. At the Turner Pit, BBSS's Scrivener explained:

With current groundwater issues in mind, commercial development continues to be the best option for this site. Storm water controls, buildings, and impervious surfaces encapsulate the site and protect against further water infiltration. Our development plan for the site, to be known as Waugh Chapel South, consists of a mixed-use commercial project including popular stores such as Wegman's Food Market and a 14-screen movie theater, as well as a neighborhood of 55+ age-qualified condominiums.⁸

⁷ Comments on the U.S. Environmental Protection Agency's *Coal Combustion Waste Damage Case Assessment* (July 2007), Earthjustice Clean Air Task Force, February 11, 2008.

<http://www.environmentalintegrity.org/pdf/newsreports/2009-01-07-CASE.pdf>

⁸ Scrivener

So today the Village South at Waugh Chapel is under construction at the Turner Pit. Over 500,000 square feet of retail, 427,000 square feet of residential, and 130,000 square feet of office space are planned. Spurred by the growth of nearby Ft. Meade, it should bring its developers quick and significant returns. Scheduled for completion in 2012, its buildings, roadways, and parking lots are design to prevent additional water from infiltrating into the ash and further spreading its toxic constituents. Without the legal strictures of RCRA Subtitle C, a lawsuit failed to block construction.

Public Groundwater

But many local residents remain dissatisfied. They are concerned that toxic substances from the ash will eventually migrate to the Crofton Meadows public drinking water wellfield, over two miles downgradient to the south. Tufts University hydrogeologist Grant Garven reinforced that concern when he studied the area's complex layers of aquifers. He concluded that contamination is migrating downward at a rate five to ten feet per year. It is likely to reach the Lower Patapsco formation that supplies the Crofton wells around 2045.⁹

Also in December 2010, Ed Bouwer, Chair of the Geography and Environmental Engineering Department at Johns Hopkins University, concluded:

groundwater contamination in the Magothy Aquifer has moved downgradient from the recovery wells. The existing monitoring well network is insufficient to define the southeastern border of the plume. Consequently, the present monitoring plan and compliance points are not adequate to characterize the full extent of contaminant migration downgradient from the site.... From an environmental engineering perspective, the construction of the proposed development above the Turner Pit is not recommended until the remediation system is modified to better capture the contaminant plume and a more effective monitoring plan is implemented. Appropriate cleanup for the groundwater may involve excavation of "hot spots" of contamination in the Turner Pit. Development of the site now and the planned construction will make it more difficult to access the site in the likelihood that future remediation efforts are required.¹⁰

If coal ash were not laden with metals and compounds toxic to humans by both ingestion and inhalation, then it would make sense to dump it into sand and gravel pits and then build new homes and stores on top. But the development of the Waugh Chapel pit is at the very least premature. Protecting the people who live, work, and shop there will require careful long-term management to prevent exposures, and allowing development to occur before the migration of groundwater contamination is under control means that the operators of the downgradient Crofton Meadows wellfields may end up

⁹ Grant Garven, "A Hydrogeologic Analysis of Fly-Ash Contamination of Regional Aquifers in the Gambrills-Waugh Chapel Area, Anne Arundel County, Maryland," December 10, 2010.

<http://www.croftonfirst.org/documents/Garven-report-Dec6-2010.pdf>

¹⁰ Edward Bouwer, "Assessment of Contamination and Remediation at the Fly Ash Disposal Site, Gambrills, MD," December 10, 2010.

http://www.aacounty.org/News/Resources/20101010_Bouwer_Report_Gambrills.pdf

facing a long-term requirement for additional water treatment if they are to continue supplying the public with safe drinking water.

There are about 2,000 coal combustion waste dumpsites in this country, and as long as coal burning remains the top supplier of domestic electricity, more disposal sites will be created. As EPA and state regulatory agencies tighten restrictions on toxic air emissions from power plants, coal ash will become even more toxic and challenging to handle. EPA should regulate ash as a hazardous waste to protect public health, limit the construction of homes and other buildings on toxic ash landfills, and force utilities, the coal industry, and the owners of disposal sites to internalize the environmental costs of their operations. Opponents of pollution controls argue that environmental regulations, such as EPA's decision to reduce mercury from power-plant emissions, are too costly. In fact, the cost already exists. It's simply a question of who is forced to bear it. Properly allocating the enormous environmental costs of dirty energy production can only accelerate our country's transition to a clean energy economy and make the U.S. stronger and more sustainable.