
Richmond Coalfield

Abandoned Mine Land Program



Virginia Department of Mines, Minerals and Energy
Division of Mined Land Reclamation
Abandoned Mine Land Program

History of Coal Mining in Richmond

In the 1600's, French Huguenots were sent inland from Jamestown in order to establish a settlement above the Fall Line. During that time, the settlers discovered coal outcroppings near the banks of the James River and began to use the coal as a domestic fuel source. When William Byrd visited the settlement of "Manakin Town" in 1701, he noted the presence of the coal and its use by the settlers. By 1748, eager entrepreneurs had converted the domestic mining into commercial production, and coal was being mined and shipped from the tidewater port of Richmond to destinations up and down the east coast; these shipments represent the first commercial production of coal in the United States. Over the



Grove Shaft boiler house circa 1928

next 180 years, hundreds of shafts, slopes, and open pit mines were developed throughout the Richmond Coalfield to produce coal for domestic use and for export. Initially, mining practices were haphazard and labor intensive, resulting in accidents and lost coal. However, modern mining methods such as ventilation, roof support and mechanized mining equipment had become standard by the time the last major operation closed in 1927. By that time, Richmond coal was not able to compete in quality and quantity with the newly available Appalachian Basin coal.

Abandoned Mine Land Program

The Abandoned Mine Land (AML) Program, which is administered by the federal Office of Surface Mining Reclamation and Enforcement (OSMRE), was established in 1977 with the passage of Title IV of the Surface Mining Control and Reclamation Act (SMCRA). The purpose of the AML program is to eliminate human health and safety hazards caused by coal mining practices that were in place before August 3, 1977, as well as to reclaim and restore land and water resources that have been adversely impacted by coal mining operations. Prior to SMCRA, there was no federal law requiring mining companies to secure dangerous mines or clean-up the environmental problems created by a mining operation, and laws at the state level were relatively ineffective, so many coal mine sites were simply abandoned, left deteriorating and polluting the surrounding landscape. In the case of the Richmond Coalfield, many mines were left open, creating falling and entrapment hazards throughout the coalfield.

In accord with the provisions set forth in SMCRA, fees are charged to active coal mining companies on every ton of coal that is produced, and these fees are deposited in the AML Program fund to be distributed to states and Native American tribes that need the money to reclaim abandoned mine sites. Each year, the states and tribes with historic coal production, and subsequent AML problems, are given a certain amount of the AML fund for reclamation. Virginia obtained primacy from the OSMRE to regulate its coal industry in 1981. The Department of Mines, Minerals and Energy's Division of Mined Land Reclamation (DMLR) administers the



A mine shaft in the Richmond Coalfield that was abandoned in the 1800's and left open, creating a serious hazard

state's coal surface mining reclamation program, which regulates current coal mining activities and administers the AML program. The agency oversees the reclamation of abandoned coal mine features located throughout the state, including Richmond.

As part of the AML program in Richmond, AML specialists conduct field work throughout the historic coal mining districts of the Richmond area in order to locate and document any type of coal mining related features. Using a global positioning system (GPS) device, the coordinates of the features are obtained and any special characteristics of the feature are noted. The data is then uploaded into a database that keeps track of all AML inventory features throughout the state, which is available to the public through an online mapping tool. In the Richmond area, some of the abandoned coal mining features include vertical openings (also called shafts), pits, spoil piles, relict structures, and remnants of coal rail lines. Each feature is given a priority ranking, and the AML features that pose the greatest threat to public health and

safety, typically the vertical openings, are given the highest priority for reclamation. So far, over 85 hazardous abandoned coal mine features have been reclaimed in the Richmond Coalfield as a result of AML inventory and AML funding.



*Inventory work being conducted
by AML specialists*

Reclamation Process

After an AML feature has been selected for reclamation, information about the feature and the property on which it is located is collected from numerous sources. First, a realty study is performed that will encompass any land to be disturbed during the access and reclamation of the feature. Deeds and plats are obtained from the county courthouse outlining property boundaries and property owners. Any affected property owners are then contacted and informed of the project and what the reclamation will entail. In order for the project to proceed, property owners must sign a form allowing DMLR and licensed contractors right of entry onto their property for construction and reclamation proposes. Once the right of entry is complete, an environmental study of the project

area must take place. This environmental process is part of the National Environmental Policy Act (NEPA), and must take into consideration any and all environmental affects that the project may produce, with input and approval from numerous state and federal agencies. An environmental assessment document is created and submitted to the OSMRE for approval. An engineer must also visit the site and develop prospective plans for reclamation and access.

If OSMRE finds the environmental document acceptable, the project is approved and funded, and the construction bidding process begins. Final plans and specifications from the engineer are drafted and advertised to local construction consultants. A pre-bid conference is held onsite so that consultants may see the scope of the project first hand. Bids from each interested contractor are submitted, and the

contractor with the lowest responsive bid will be selected to perform the reclamation construction. Once the contract is awarded, construction may begin in accordance with the property owner's and contractor's schedules.

Although each reclamation project is unique in some aspect, many of the reclamations in the Richmond Coalfield deal with filling and capping vertical openings. In projects involving vertical openings, the mine shaft is typically filled with quarry stone until the stone reaches a certain depth from the ground surface. The area around the vertical opening is then excavated to appropriate dimensions, and concrete, reinforced with rebar, is poured over the top. Four marker posts are installed to indicate the four corners of the concrete cap. After the concrete has set, the area is re-graded to the approximate original contour of the land, and the area re-vegetated with a non-invasive seed mix. The goal is to restore the land to its pre-mining condition.



The contractor is re-grading the reclaimed shaft to the approximate original contour of the land before mining. The area will then be seeded for re-vegetation. Metal posts demarcate the location of the reclaimed shaft.

During the reclamation construction phase, an inspector from DMLR regularly visits the site and remains onsite during critical phases of construction, in order to make sure the project is proceeding according to specifications. From the time the project is selected and realty work begins, the entire reclamation process typically takes about a year. This mostly includes time for the environmental studies and other necessary documentation. Actual construction times vary based on ground conditions, weather, and size of the project, but typically last approximately two to four weeks. All of the reclamation is funded by the AML Program and no cost is transferred to the property owner.

Examples of Richmond AML Reclamations

An emergency was called in by a citizen for a subsidence feature that opened up in her backyard. DMLR responded by quickly reclaiming the feature and restoring the yard to its original conditions, eliminating this serious AML hazard.



A vertical opening was discovered by DMLR during the inventory process. The property owners were contacted and informed of the AML feature on their property and agreed to have it reclaimed. The vertical opening was filled and capped, and typical marker posts were installed to indicate its location.



A vertical opening that once posed a serious hazard is restored to its pre-mining condition as part of AML's reclamation program.

Contact Information

Please do not hesitate to contact DMLR if you are concerned that you may have an AML feature on your property, or have general concerns about AML features that you may know of around your area! Also, if you have any questions about the AML program or the Richmond Coalfield, please feel free to call or email using the contact information below.

Charlottesville Office

Contact	Phone	Email
David Spears, State Geologist	(434) 951-6350	david.spears@dmme.virginia.gov
Sarah Smith, Mine Inspector	(276) 233-2475	sarah.smith@dmme.virginia.gov
Paul Saunders, Eastern Supervisor	(804) 717-5550	paul.saunders@dmme.virginia.gov

Big Stone Gap Office

Contact	Phone	Email
Lesia Baker, AML Project Coordinator	(276) 523-8216	lesia.baker@dmme.virginia.gov
Tarah Kesterson, Public Relations Manager	(276) 523-8146	tarah.kesterson@dmme.virginia.gov

Frequently Asked Questions

- **What right do you have to come on private property for inventory?**

The Code of Virginia, §45.1-263, gives DMLR employees the right to enter any property that may contain hazards from past coal mining activities in order to confirm the presence of these hazards and determine the feasibility of reclamation.

- **What does reclamation mean, and what will my property look like after reclamation?**

Reclamation is the process of restoring the landscape to pre-mining conditions. For a typical vertical opening reclamation, the shaft is filled with stone and covered with a reinforced concrete cap. Four metal posts with brass markers are installed at each of the four corners of the concrete cap, and a vent pipe is placed in the middle of the cap. The cap is then covered and the area re-vegetated. The markers and vent pipe may be omitted if the reclamation takes place in a yard or other frequently used space.

- **What if the reclamation fails?**

If one of the reclamation jobs performed by DMME is failing in some way, the agency will come back out to the reclamation project and conduct any maintenance work that may be necessary to make the reclamation safe and stable.

- **Where can I go to see examples of other reclamations?**

Just north of the Midlothian Mines Park in Chesterfield County is a small lake that is surrounded by a walking trail. On the southeast side of the lake, next to the walking trail is a reclaimed mine known as the Middle Shaft. This is what the typical reclamation for a vertical opening looks like. At this time, this is the only reclaimed mine on publicly accessible property.

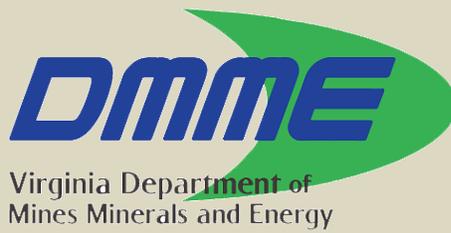
- **Where can I go to see a map of historic coal mining locations in Richmond?**

An online mapping tool is available on DMME's website that shows a current map of all AML features that have been inventoried in the Richmond area to date. The map is available at the following address:

<https://www.dmme.virginia.gov/webmaps/AML/>

Virginia Division of Geology and Mineral Resources' Publication 85, Mining History of the Richmond Coalfield by Gerald Wilkes also describes in detail the location and history of many of the coal mines around the Richmond area. This publication is available at the DGMR web store:

<https://www.dmme.virginia.gov/commerce/>



Front cover photo: Murphy Slope boiler house, machine shop, and tipple structure circa 1928