

**Department of Energy  
HB2213 Gold Mining Study  
Meeting of State Agency Component of Work Group  
September 26, 2022  
Buckingham, VA**

**AGENDA**

9:00-9:15	Welcome and Introductions	Skiffington/Work Group
9:15-9:30	Background information/Refresher	Skiffington
9:30-10:15 Counties	Presentation on local land use/zoning requirements	Joe Lerch, Va Association of
10:15-11:15	Discussion of EJ Section of Draft Report	Workgroup
11:15-11:30	Discussion of Next Steps	Workgroup
11:30-12:00	Public Comment	
12:00	Adjourn	

## **Outline of State Agency Committee Report**

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Current state of gold mining in VA, description of potential future gold mining

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## **Introduction/Executive Summary**

To be drafted by Virginia Energy

### **Environmental justice concerns of potentially impacted (including downstream) communities**

#### **I. Environmental Justice Statutory Framework**

The Virginia Environmental Justice Act (“VEJA”) established that “[i]t is the policy of the Commonwealth to promote environmental justice and ensure that it is carried out throughout the Commonwealth, with a focus on environmental justice communities (“EJ communities”) and fenceline communities.”<sup>1</sup> The VEJA defines environmental justice as “the fair treatment and meaningful involvement of every person . . . regarding the development, implementation, or enforcement of any environmental law, regulation, or policy.”<sup>2</sup> The VEJA goes on to define fair treatment as “the equitable consideration of all people whereby no group of people bears a disproportionate share of any negative environmental consequence resulting from an industrial, governmental, or commercial operation, program, or policy.”<sup>3</sup> The VEJA defines an EJ community as “any low-income community or community of color.”<sup>4</sup> The VEJA further defines a low-income community as one in which at least 30 percent of the population is classified as low income.<sup>5</sup> In addition to the VEJA, the Virginia Department of Environmental Quality’s (“DEQ”) policy statement includes a commitment to furthering environmental justice “in the regulatory and permitting process.”<sup>6</sup>

Beyond the VEJA and DEQ’s policy statement, the Gold Study Legislation also requires the work group to consider whether existing air and water quality regulations are sufficient to protect air and water quality from gold mining and processing. This component of the study also has environmental justice implications. Air and water quality regulations are promulgated to protect human health and the environment and while these regulations are generally meant to protect all populations from pollution, we know there are certain pollutants for which no level of exposure is safe and that certain communities, including many EJ communities, have existing health concerns that may necessitate more stringent pollution controls. Courts evaluating environmental justice considerations and the protectiveness of National Ambient Air Quality Standards (“NAAQS”) have determined that simply relying on NAAQS to conclude there are no disproportionate impacts where a proposed air pollution source will affect an EJ Community is insufficient.<sup>7</sup> Rather, an assessment of potential impacts to surrounding communities must consider the risks of pollutant exposure faced by the community in question.<sup>8</sup> As the work group considers this aspect of the Gold Study Legislation, it

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<sup>1</sup> Va. Code § 2.2-235.

<sup>2</sup> Va. Code § 2.2-234.

<sup>3</sup> *Id.*

<sup>4</sup> Va. Code § 2.2-234.

<sup>5</sup> *Id.*

<sup>6</sup> Va. Code § 10.1-1183 (B)(4).

<sup>7</sup> *Friends of Buckingham v. State Air Pollution Control Board*, 947 F.3d 68, 92 (2020) (“The Board rejected the idea of disproportionate impact on the basis that air quality standards were met. But environmental justice is not merely a box to be checked, and the Board’s failure to consider the disproportionate impact on those closest to the Compressor Station resulted in a flawed analysis.”)

<sup>8</sup> *Id.*

must ensure that granular analyses are undertaken to determine the on the ground impacts of proposed extraction activities.

## **II. Virginia Lacks an Environmental Justice Regulatory Framework**

While Virginia is fortunate to have the policy guidance and definitions provided by the VEJA, there is currently no regulatory framework to implement the requirements of the Act in any agency relevant to potential gold mining in the Commonwealth. In December 2021, the Virginia Attorney General issued an opinion stating that the VEJA is self-executing and noting that, under it, agencies are required to consider environmental justice in permitting actions.<sup>9</sup> Without a systematic process for agencies to incorporate meaningful involvement of EJ communities in decision making processes, and without clear guidance for evaluating whether pollution authorized under a permit will cause disproportionate impacts, the VEJA alone does not provide sufficient protection to EJ communities. The current regulatory void is a clear area that must be address if Virginia were to choose to allow gold mining and processing to occur.

While some state agencies, including DEQ, have stated goals of incorporating the requirements of the VEJA into their regulatory programs, no state agency that may regulate potential gold mining operations and processing has a currently formal structure for implementing the VEJA. To be sure, DEQ has considered environmental justice in certain specific permitting contexts, but it still lacks any regulatory framework for considering environmental justice for each of its regulatory and permitting programs. DEQ has created an Office of Environmental Justice tasked with ensuring “the fair and meaningful involvement of all people into the development, implementation and enforcement of environmental laws, regulations and policies across all DEQ programs.”<sup>10</sup> DEQ’s EJ Office has also recently hired outreach staff for its regional offices, although the Office Director recently resigned and it is unclear whether, and when, a new Director will be in place. DEQ’s effort in creating and staffing its Office of Environmental Justice is a step in the right direction, but it still falls short of imposing any concrete protections for vulnerable communities. There are currently no state regulations that provide specific and concrete protections for EJ communities.

## **III. EJ Considerations in Buckingham County**

Current gold prospecting is occurring in Buckingham County, an area that is home to several EJ communities. EPA’s EJScreen tool shows that no portion of Buckingham County falls outside of the low-income classification.<sup>11</sup> In fact, some portions of Buckingham County are classified in the 93<sup>rd</sup> percentile of low-income for Virginia.<sup>12</sup> Given that ongoing gold prospecting is already happening in an EJ community, Virginia must recognize that the need to evaluate public health protections and the sufficiency of Virginia’s air and water regulations is more than just a hypothetical exercise. Any open-pit gold mining project would pose a serious threat to the Buckingham community and other localities in the state. Science has proven time and time again that an open-pit mine pollutes nearby rivers even when there is no accidental release of toxic mine waste. This should be extremely alarming because the James River is only two miles away from the site where gold prospecting is currently occurring and

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<sup>9</sup> Applicability of Va. Code §§ 2.2-234–235, Op. Att’ys Gen. 20-064 (2021).

<sup>10</sup> *Environmental Justice*, DEQ, <https://www.deq.virginia.gov/get-involved/environmental-justice> (last visited September 16, 2022).

<sup>11</sup> *EPA’s Environmental Justice Screening and Mapping Tool (Version 2.0)*, EPA, <https://ejscreen.epa.gov/mapper/> (last visited September 16, 2022).

<sup>12</sup> *Id.*

serves nearly 2.7 million Virginians.<sup>13</sup> There is an imminent threat to the public health of those living in Buckingham County as well as those residents living in other geographical regions in the state if mining were to occur and the protection systems fail. This could release poisonous chemicals and by-products from mining activities into the James River.

With modern technology, gold mining involves drilling deep into the Earth, producing massive amounts of waste rock, tainted with dozens of compounds that, when exposed to the elements, can easily leach into the water table, streams and rivers. The waste may contain as many as three dozen toxins including mercury, arsenic, cyanide, lead, acids and petroleum by-products. Introduction of these chemicals into the environment may force EJ communities to consider relocation, which they cannot afford, and would endanger livestock, harm drinking water supplies, and continue the encroachment of further injustice on black and brown communities that threaten the enjoyment and ownership of their land. Further potential impacts and concerns relating to an open-pit mine on EJ communities include:

- Air pollution
- Continuous contamination and destruction of water, and the food chain
- Depletion of well water
- Toxic leaching into water sources, including streams, rivers and lakes
- Community exposure to heavy metals like lead, mercury and cyanide (Virginia currently has no regulations on waste caused by the use of cyanide in mining activities)
- Climate instability increasing potential hazards
- Destruction of hundreds of acres of land including farmlands that could be better utilized for food sovereignty
- Unequal share of the burden on impacted communities: EJ communities bear the brunt of negative environmental consequence including loss of life, while reaping very little benefits either financial or increase in quality of life. There is a forever burden due to forever toxics caused by metallic mining. Virginia communities must be protected from toxic trespass.

While gold prospecting is currently occurring in Buckingham County, the Gold-Pyrite belt has a Broad geographic range in Virginia, including crossing or being upstream from many Virginia EJ communities. Therefore, there is a potential for gold mining and processing sites to intersect with and potentially affect many EJ communities throughout the Commonwealth. In order to meet their statutory obligations under the VEJA, state agencies must incorporate EJ considerations into their regulatory programs to regulate gold mining. The current regulatory framework for all state agencies is insufficient to guarantee EJ communities like Buckingham County meaningful involvement and protection from disproportionate impacts of pollution from gold mining and processing. If the Commonwealth were to allow gold mining and processing to occur, a robust regulatory framework to implement the VEJA would be a necessary prerequisite.

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<sup>13</sup> <https://www.friendsofbuckinghamva.org/friends/press-release-gold-mining-pollution-threatens-buckingham-county/>

## **Existing State Permitting Processes Relating to the Mining and Processing of Gold**

### **The Virginia Department of Energy (Virginia Energy)**

Virginia Energy's Mineral Mining program's goal is to provide for the safe and environmentally sound production of Virginia's non-fuel minerals.

The General Assembly enacted the first mine safety and reclamation laws in 1969. In 1985, the Department of Mines, Minerals and Energy (DMME) was formed as the result of a state government reorganization. The Division of Mineral Mining was located within DMME until the agency changed its name in 2021. The Mineral Mining program within Virginia Energy currently administers and enforces the [Mineral Mine Safety Act](#) and the [Mineral Mine Reclamation Law](#) under [Title 45.2](#) of the Code of Virginia. As discussed in the introduction, large scale gold mining has not taken place since the 1940s. As such, existing mineral mine regulations were not drafted with gold mining in mind.

Some of the other state and federal regulatory agencies that oversee the development and operation of mineral mines are the Department of Environmental Quality (discussed below), the Virginia Department of Transportation, the Virginia Marine Resources Commission, the United States Army Corps of Engineers and the federal Mine Safety and Health Administration.

Statewide, there are currently 427 mineral mines covering about 76,000 acres. These include mines producing construction materials, industrial minerals, and other products. A large portion of the minerals mined in Virginia are extracted for the construction of roads and commercial and residential buildings. However, other minerals are produced for use in manufacturing, agriculture, industrial applications, food production, landscaping and jewelry. In 2021, over 72 million tons of non-fuel minerals in Virginia and contributed approximately \$1.6 billion to the economy while providing over 6,600 direct jobs in the Commonwealth.<sup>14</sup>

The Mineral Mining program issues mining licenses and permits, and conducts regular environmental and safety inspections. If complaints or serious accidents occur at a mineral mine, Virginia Energy inspectors will conduct investigations to determine what happened and what can be done to prevent a reoccurrence of the problem. The agency also provides safety training and other assistance to mine operators, contractors, and stakeholders.

Before a mine license and permit are issued, applicants must provide suitable operations plans, drainage and sediment control plans, groundwater impact assessments, and reclamation plans for the proposed mine operation.

Operations plans must describe how the mineral will be mined and processed, and how waste will be disposed of while minimizing the effect on the surrounding environment. Regulations require the operations plan to facilitate integration of reclamation with mining operations according to the special requirements of individual mineral types. Operators are required to conduct mining such that the

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<sup>14</sup> <https://energy.virginia.gov/geology/MineralResources.shtml>

amount of disturbed acres are minimized, and reclamation is to be conducted simultaneously with mining to the extent feasible. Regulations further require that mining activities must minimize the impact on water quality and quantity.

The operations plan shall include a description of the proposed method of mining and processing; the location of top soil storage areas; overburden, refuse, and waste disposal areas; stockpiles, equipment storage, and maintenance areas; cut and fill slopes; and roadways. The operation plan shall address plans for the storage and disposal of scrap metal, scrap tires, used lubricants, coolants, and other equipment service products, batteries, process chemicals, trash, debris, and other hazardous materials. The operation plan shall also include all related design and construction data.

The drainage plan shall consist of a description of the drainage system to be constructed before, during, and after mining; a map or overlay showing the natural drainage system; and all sediment and drainage control structures to be installed along with all related design and construction data.

The reclamation plan shall include a statement of the planned land use to which the disturbed land will be returned through reclamation, the proposed actions to assure suitable reclamation, and a time schedule for reclamation. The method of grading; removal of metal, lumber, and debris, including processing equipment; buildings; and other equipment relative to the mining operation and revegetation of the disturbed area shall be specified. Reclamation plans for underground mines shall include plans for closing or securing all entrances to underground workings.

In addition to these plans, a permit application must also contain a map. The map must show required features on the mine site, and sensitive features within 500 feet of the permit boundary. Sensitive features include state waters, cemeteries, oil and gas wells, underground mine workings, public utilities and utility lines, buildings, roads, schools, churches, and occupied dwellings.

The initial permit application requires that all property owners within 1,000 feet of the permit boundary be notified that a mine license has been requested. Those persons may request a public hearing as part of the permit review process.

Adjacent property owners often ask about screening and set-backs. Screening is required to improve the appearance of the mine site from public roads, public buildings, and occupied dwellings. Screening also helps to reduce the effects of noise and dust. Screening may be provided by earthen berms, walls, fences, planted barriers, or undisturbed forest. In addition, no cut or fill slopes are allowed within 25 feet of an adjacent property boundary without the written permission of the property owner and no disturbance of any kind is allowed within 5 feet of an adjacent property owner.

Upon review and approval of the mine operations plan, a performance bond must be furnished by the permittee to insure final reclamation of the mine site. The required bond is \$3000 per disturbed acre. Bond must be posted before acreage is disturbed and will not be refunded until reclamation meets the approved post mining land use.

Drainage and sediment controls must be installed before any other land disturbing activities. Internal roads and yards must be maintained to control dust and prevent tracking onto state roads. Blasting must be designed to prevent dangerous off-site effects, supervised by certified persons, and monitored with seismographs.

After permitting, the site is inspected for compliance with the approved mine operations plan and the mineral mining laws and regulations. In most cases, two inspections are made each year for safety and health and environmental compliance.

The Mineral Mining program has:

- the right to access a mine for unannounced inspections,
- the ability to take enforcement actions to require compliance with the law and regulations, and
- the authority to revoke a permit and forfeit bond, if necessary.

Mine employees and stakeholders have the right to contact the Mineral Mining program with safety or environmental complaints. Complaints must be kept confidential to protect the individuals making them. All complaints require an investigation by mine inspectors.

State laws and regulations allow Virginia Energy to oversee most of what takes place on a mine site, but they do not address things such as:

- Land use or zoning.
- Hours of operation.
- Offsite noise levels.
- Traffic on public roads.

These topics are generally regulated by the locality in which the mine is located.

#### Department of Environmental Quality (DEQ)

DEQ administers many of Virginia's environmental permitting programs. This includes programs under the Clean Air Act (CAA), Clean Water Act (CWA) and the Resource Conservation and Recovery Act (RCRA) which have been delegated to DEQ by the Environmental Protection Agency (EPA) and include essentially the same environmental requirements for regulated activities. These major delegated programs would address any regulated air emissions, point source (wastewater/stormwater) discharges to state waters, and solid and hazardous waste management, storage and disposal requirements. In addition to the federally delegated programs, DEQ also administers several state only permitting programs including the Virginia Water Protection Program (wetlands), Groundwater Withdrawal, and Virginia Pollution Abatement (VPA).

A specific gold mining project proposal and permit applications would be needed to accurately identify all required permits. Some likely permit programs that could apply to mining activity includes:

- Virginia Pollutant Discharge Elimination Program (VPDES) permit for any process or stormwater point source discharges to state waters. This permit process includes evaluation of proposed effluent pollutant concentrations, discharge volumes and treatment systems, and the proposed receiving stream conditions to develop protective permit limitations. These limitations can include technology based, industrial sector, best management practices and water quality based requirements to ensure protection of state waters.



- New Source Review (NSR) permit for any stationary sources emitting regulated air pollutants in quantities requiring permit coverage. This permit may contain requirements to control criteria, hazardous or toxic air pollutants as well as best management practices and operational controls. All NSR permits require stationary sources to utilize the best available control technology (BACT) for any regulated air pollutants.
- Virginia Water Protection Program (VWP) permit may be required depending on the location of a proposed operation and water use needs. If wetland areas are impacted, a permit is required to avoid and minimize impacts to the extent practicable and provide compensation for any wetland impacts. A permit may also be required if the operation proposes to withdraw surface water in volumes large enough to require regulation.
- Groundwater Withdrawal permit may be needed if an operation is located in the Groundwater Management Area (basically east I95) and proposes to withdraw groundwater in sufficient quantity to be regulated.
- RCRA requirements (subtitle I) may apply for petroleum products stored in sufficient quantities in tanks above or below ground. Additionally, any hazardous or solid wastes, depending on the use or management of the materials may require regulation under subtitle C or D).
- Virginia Pollution Abatement (VPA) permits may be utilized to authorize pollutant management activities including, but not limited to, animal feeding operations, storage or land application of sewage, sludge, biosolids, industrial waste or other waste; or the complete reuse or recycle of wastewater. These permits do not authorize any point source discharge of pollutants to state waters.

DEQ regulatory requirements for any proposed mining operation are at least as stringent as federal requirements and would include the applicability of any additional state environmental program requirements.

### The Virginia Department of Health (VDH)

#### **Waterworks**

VDH's Office of Drinking Water (ODW) implements the federal Safe Drinking Water Act (SDWA), 42 U.S.C. Section 300f et. seq, through the Virginia Waterworks Regulations (12VAC5-590). ODW provides regulatory oversight for public water systems (waterworks), which are defined as serving water to at least 25 persons 60 days out of the year. When this threshold determination is met, there are sampling, monitoring, and reporting requirements for certain drinking water contaminants.

The State Health Commissioner has authority to issue an emergency order to protect public health from imminent dangers. In most cases, emergency responses are left up to the waterworks owners and operators most familiar with the waterworks' design and operation, condition of infrastructure, system capabilities, and governing resources. ODW typically provides a supporting role by providing technical assistance, information to various entities and waterworks, and other compliance assistance as needed. Most incidents involve water main breaks, equipment failures, pressure loss, or boil water notices.

## Private Wells, Springs, and Cisterns

Private water supplies serve a single user or occasionally a small group of users that do not qualify as a waterworks, and can be for either potable or non-potable uses. Private water supplies include residential water wells, agricultural wells, industrial wells, and geothermal wells. Developed springs and cisterns are also private water supplies but are not used as frequently in the Commonwealth.

The Office of Environmental Health Services (OEHS) and local health departments regulate private water wells under the provision of the Private Well Regulations (12 VAC 5-630-10 et seq.). Prior to 1982 there were no regulations for construction or location of private wells. From 1982 to 1990 VDH regulated the construction and location of private wells when installed in conjunction with an onsite sewage system. In 1990, the Board of Health promulgated the Private Well Regulations in response to amendments to 32.1-176.2 and 32.1-176.4 of the Code of Virginia. These regulations set minimum construction standards and horizontal setbacks from potential sources of contamination for all private water wells. Additionally, they require bacteriological testing of the water at the time of initial construction or rework for all private residential drinking water wells (Class III wells). Revisions adopted in 2012 include minimum storage capacity and yield requirements for residential drinking water wells.

VDH estimates there to be more than 700,000 private wells in the Commonwealth. VDH does not have a reliable inventory of all private water supplies because the construction of many private water wells predated the Board of Health's regulatory program.

The Private Well Regulations do not address the chemical or radiological quality of the water from private water wells or mandate periodic on-going testing of the water from private wells. The only water quality standard for private water wells in Virginia is the requirement that private drinking water wells are free of bacteriological contamination at the time they are approved for use. Bacteriological requirements do not apply to non-potable private wells such as agricultural wells. VDH does not have the authority to implement additional water quality standards for private water supplies.

Developed springs and cisterns should only be considered when no other source of potable water is feasible. The VDH Sewage Handling and Disposal Regulations provide minimum separation distances between onsite sewage disposal systems and developed springs or cisterns. Minimum construction standards are meant to mitigate the risk of pollution in developed springs and cisterns. However, VDH does not have the authority to implement water quality standards, including bacteriological contamination, for developed springs and cisterns.