

**Work Group to Study the Mining of Gold in the Commonwealth**  
**June 25, 2021**

Gold mining in the Commonwealth of Virginia was a significant activity in the 1800s, with lode and placer operations concentrated in the gold-pyrite belt of the Piedmont Province. Mining of gold in Virginia decreased precipitously when the California Gold Rush began, with almost no production by the 1930s. Due to recently renewed interest in gold mining operations, [HB2213](#) directs the Secretary of Natural Resources, the Secretary of Health and Human Resources, and the Secretary of Commerce and Trade to establish a work group to study the mining of gold in the Commonwealth. The bill requires that the work group shall include the Virginia Council on Environmental Justice and appropriate stakeholders, including experts in mining, hydrology, toxicology, and other fields; environmental organizations; representatives of potentially affected communities in localities with significant deposits of gold; and residents of Native American communities in such localities.

The bill provides that the work group shall evaluate the impacts of gold mining on public health, safety, and welfare; evaluate whether existing air and water quality regulations are sufficient to protect air and water quality from the mining and processing of gold, including evaluation of the impacts of different leaching and tailings management techniques on downstream communities; evaluate whether existing bonding, reclamation, closure, and long-term monitoring of sites for such mining or processing are sufficient; and report its findings to the General Assembly by December 1, 2022.

The work group will consist of two components – 1) a committee selected by the National Academies of Sciences, Engineering, and Medicine (NASEM) to evaluate the technical aspects of impacts of gold mining in Virginia and 2) a committee formed by the Department of Mines, Minerals and Energy, the Department of Environmental Quality, and the Virginia Department of Health (“state agency committee”) that will focus on local equity and environmental justice issues, and environmental and human health concerns of the local community. The NASEM committee’s final product will be an independent, peer-reviewed consensus report. This report will be delivered to the state agency committee, who will write a companion document that responds to, expands upon, or discusses specific topics in the NASEM consensus report. The NASEM consensus report and the document written by the state agency committee will comprise the “report” to which the bill refers.

**NASEM Committee and Study Process**

**Statement of Task**

An ad hoc committee of the National Academies of Sciences, Engineering, and Medicine will evaluate the impacts of gold mining in Virginia, with an emphasis on potential impacts of gold mining on public health, safety, and welfare. The committee’s final report will include conclusions and recommendations based on the study. The study will:

- 1) Briefly describe the geologic and mineralogical characteristics of the main gold deposits in Virginia, and the types of modern gold mining operations used with comparable deposits in other domestic or international locations.

- 2) Summarize the Commonwealth of Virginia's existing regulatory framework for gold mining and processing sites (for example, bonding, reclamation, closure, and long-term monitoring) and compare to other states with current or recently closed gold mining operations. This summary will include a discussion of relevant air and water quality regulations, as well as Chesapeake Bay watershed protections.
- 3) Evaluate the impacts of potential gold mining and processing operations on public health, safety, and welfare in the Commonwealth of Virginia. This evaluation will include:
  - a. Discussion of current gold mining operations at sites with comparable geologic, mineralogical, hydrologic, and climatic characteristics to those found in the Commonwealth,
  - b. Potential impacts of different leaching and tailings management techniques on downstream communities in the Commonwealth, and
  - c. Whether existing air and water quality regulations in the Commonwealth are sufficient to protect air and water quality.
  - d. Whether existing bonding, reclamation, closure, and long-term monitoring of sites for potential gold mining are sufficient to protect air and water quality.

#### **NASEM Committee Composition**

The 10-12 person NASEM committee will be composed of experts in fields such as economic geology, mineralogy, mining engineering, aqueous geochemistry, hydrology, air quality, public and environmental health, epidemiology/toxicology, regulatory practice, and/or environmental and mining law and policy.

#### **NASEM Committee Selection Process**

The National Academies follows this process in bringing together a committee of experts:

- Once the study is initiated, the National Academies sends out a broad, public solicitation for nominations. Anyone is welcome to provide nominations of potential committee members. The National Academies will solicit nominations from the Virginia Council on Environmental Justice, local Native American communities, and other stakeholders.
- The committee includes volunteers with the specific expertise and experience needed to address the study's statement of task. The National Academies values diversity and strives for a culture of inclusion in all of our work and activities, including in our study process. National Academies staff identifies potential committee members from the list of submitted nominees and based on their area of expertise and professional experience, while also balancing different perspectives and viewpoints and ensuring diversity in all dimensions.
- Nominees are reviewed and approved at several levels within the Academies; a provisional list of committee members is then approved by the president of the National Academy of Sciences.
- The provisional committee list is posted for a 20-day public comment period on the Academies' website.
- The provisional committee members complete background information and conflict-of-interest disclosure forms. The committee balance and conflict-of-interest discussion is held at the first committee meeting, including discussion of comments that may have been received during the public comment period. Any conflicts of interest or issues of committee balance and expertise are examined and discussed.

- Committee members continue to be screened for conflict of interest throughout the life of the committee.

### **Study Process**

NASEM study committees typically gather information through: 1) meetings that are open to the public and that are announced in advance through the Academies' website; 2) the submission of information by outside parties; 3) reviews of the scientific literature; and 4) the investigations of the committee members and staff. In all cases, efforts are made to solicit input from individuals who have been directly involved in, or who have special knowledge of, the problem under consideration.

In accordance with federal law and with few exceptions, information-gathering meetings of the committee are open to the public, and any written materials provided to the committee by individuals who are not officials, agents, or employees of the Academies are maintained in a public access file that is available for examination. The committee deliberates in meetings closed to the public in order to develop draft findings and recommendations free from outside influences. The public is provided with brief summaries of these meetings that include the list of committee members present. All analyses and drafts of the report remain confidential.

As a final check on the quality and objectivity of the study, all Academies reports — whether products of studies, summaries of workshop proceedings, or other documents — must undergo a rigorous, independent external review by experts whose comments are provided anonymously to the committee members. The Academies recruit independent experts with a range of views and perspectives to review and comment on the draft report prepared by the committee. The review process is structured to ensure that each report addresses its approved study charge and does not go beyond it, that the findings are supported by the scientific evidence and arguments presented, that the exposition and organization are effective, and that the report is impartial and objective. Each committee must respond to, but does not need to agree with, reviewer comments in a detailed response-to-review document that is examined by one or two independent report review monitors responsible for ensuring that the report review criteria have been satisfied. After all committee members and appropriate Academies officials have signed off on the final report, it is transmitted to the sponsor of the study and is released to the public. Sponsors are not given an opportunity to suggest changes in reports.

Additional information on the study process and committee composition can be found here:

<https://www.nationalacademies.org/about/our-study-process>

### **Stakeholder Consultation**

The NASEM committee will solicit substantive input from stakeholders in two main ways:

- Public Comment - The National Academies will accept feedback from members of the public at any time during the course of the study. These comments are collected as part of the study's public access file and are made available to the NASEM committee members, NASEM staff, and any members of the public, including state agency committee members, who wish to see them.
- State Agency Committee - The state agency committee will engage with the NASEM committee to provide information on local equity and environmental justice issues and concerns of local communities about the potential impacts of gold mining. For example, the state agency

committee could write white papers on topics of interest (such as the location of past gold mining sites in Virginia, specific issues regarding environmental justice, or known sites of tribal significance), to be identified by the state agency committee and/or the NASEM committee. These white papers would be submitted to the NASEM committee in advance of public sessions, at which they would be discussed.

### **NASEM Work Plan**

The NASEM consensus study would commence on/about July 2021, with a prepublication final report released to the Virginia Department of Mines, Minerals and Energy (DMME) by November 1, 2022. Please note that even though the state agency committee will release a companion document, the NASEM report will be considered final upon its release and will not be changed (except for any minor typographical errors or factual corrections).

The period of performance would be for a total of 20 months – 17 months for committee formation, deliberations, report drafting, review, and release; and 3 additional months for final report printing and report dissemination. The committee would hold 4 meetings over the course of the study, likely in Washington DC and Virginia. Depending on the course of the COVID-19 pandemic, some of these meetings might be held virtually.

The cost for the NASEM consensus study will exceed \$500,000, the amount appropriated by the Virginia General Assembly. NASEM anticipates additional funds will be necessary to complete the study as scoped. It is possible that NASEM will be able to provide the additional funds to make up the difference. If these are unavailable, NASEM and DMME will need to descope one or more of the study tasks to fit in the lower budget (\$500,000).

## **State Agency Committee and Process**

### **State Agency Composition**

The state agency committee will be formed by DMME, the Department of Environmental Quality and the Virginia Department of Health. The committee will be composed of representatives from environmental organizations, representatives of potentially affected communities in localities with significant deposits of gold, and residents of Native American communities in such localities. This committee will focus heavily on local equity, environmental justice, and public health issues.

### **Stakeholder Consultation**

The state agency committee will solicit substantive input from stakeholders in several ways:

- **Public Comment** - The state agency committee will accept feedback from members of the public at any time and in a variety of formats during the course of the study. These comments will be made available to the state agency committee members, NASEM committee members, NASEM staff, and any members of the public who wish to see them.
- **Public Meetings** – The state agency committee will hold meetings in conjunction with the NASEM committee’s public sessions, when possible or as feasible. The state agency committee also anticipates holding additional public meetings in Buckingham County.

**Work Plan**

The state agency committee will be selected in the Summer of 2021, after the NASEM selects its members, to ensure participation requirements of HB2213 are met. They will convene and collect input from stakeholders and will provide input to and engage with the NASEM committee through white paper submissions and public discussion periods. After the NASEM consensus report is released, the state agency committee will have one month to provide a companion document that responds to, expands upon, or discusses specific topics in the NASEM consensus report. This document will be presented along with the NASEM consensus study to the General Assembly by December 1, 2022.