

SUPPLEMENTAL MATERIAL FOR GAO-20-461R: Data on Solid Mineral Operations on Federal Lands

GAO-20-520SP, May 2020

This product is a supplement to Mining on Federal Lands: More Than 800 Operations Authorized to Mine and Total Mineral Production Is Unknown ([GAO-20-461R](#)).

Background

This supplemental material presents data on the number of operations authorized to produce solid minerals (such as gold, phosphate, and coal) on federal lands as of September 30, 2018, and selected characteristics of those operations. The term mine operation refers to everything associated with extraction or production of a mineral, which can include a mill site, processing facility, and any associated infrastructure, according to agency officials. Different statutes and systems govern the management of solid minerals on public domain and acquired lands. In general, acquired lands are those granted or sold to the United States by a state or citizen; public domain lands usually were never in state or private ownership. About 90 percent of all federal lands are public domain lands, while the remaining 10 percent are acquired lands, according to a government report. For the purposes of this supplement, we group these minerals and their associated mine operations into four categories:

- **Locatable hardrock minerals.** Hardrock minerals authorized under the location system include minerals such as gold, silver, and copper that are subject to the General Mining Act of 1872. This act allows individuals to locate minerals on public domain lands and stake a claim to obtain the exclusive right to extract those minerals without paying a federal royalty. The Department of the Interior's (Interior) Bureau of Land Management (BLM) and the Department of Agriculture's Forest Service each maintain separate programs to evaluate and approve the locatable hardrock operations on the lands they manage.
- **Leasable hardrock minerals.** Hardrock minerals authorized under a leasing system include minerals such as gold, silver, and copper that are generally found on lands acquired by the Forest Service under the Weeks Act. BLM administers a leasing system for these minerals. In general, leasing systems allow the federal government to maintain title to the land and establish terms for use of the land, including for the duration of use, acreage limitations, and royalty terms.
- **Non-energy solid minerals.** Non-energy solid minerals include minerals such as phosphate and sodium found on federal lands that are subject to the Mineral Leasing Act of 1920 and the Mineral Leasing Act for Acquired Lands of 1947. Individuals may extract these minerals using a leasing system administered by BLM.

- **Coal.** Coal may be extracted from federal lands under the Mineral Leasing Act of 1920 and the Mineral Leasing Act for Acquired Lands of 1947 using a leasing system administered by BLM. Interior's Office of Surface Mining Reclamation and Enforcement or an approved state agency regulates coal mine operations.

To determine the number of operations authorized to produce solid minerals on federal lands and their selected characteristics, we reviewed and analyzed information from agency data systems including BLM's Legacy Rehost 2000 (LR2000) and Alaska Case Retrieval and Enterprise System and the Forest Service's Natural Resource Manager. Specifically, we collected and analyzed information on mine operations that agencies had authorized to produce minerals from the federal mineral estate as of September 30, 2018, the most recent data available at the time of our review. We excluded from our review mine operations that had not yet been authorized to produce minerals (e.g., operations authorized for exploration only) and mine operations that had previously been authorized to produce minerals but that were closed as of the end of fiscal year 2018.

We also collected and analyzed information on selected characteristics of these mine operations, including the U.S. state in which the operation was located, the mineral category, the system (leasing or location) under which the operation was authorized and managed, the primary commodity being extracted by the mine operation, associated surface acres, and the federal lands on which the operation is located.

Regarding primary commodities, due to the large number of different commodities in agency data, we consolidated commodity names into groups of similar commodities where possible. In a few instances, the agencies were unable to determine the primary commodity being extracted, and indicated this in the data as unknown.

Regarding the associated surface acres, for locatable hardrock operations, agency officials provided the total surface acres the operations are authorized to disturb over the life of the mine. Operators do not always disturb the number of acres they are authorized to disturb, according to agency officials. Most locatable hardrock operations authorized to produce gold on BLM managed lands in Alaska progressively disturb areas along the stream beds where deposits occur. For these operations, we report acreage authorized for disturbance in fiscal year 2018. For all leasable operations, agency officials provided the total number of acres under lease. According to agency officials, aside from instances where the leasable mineral is developed by surface mining methods (such as coal mines in eastern Wyoming and phosphate mines in southeast Idaho) operations generally disturb a fraction of the leased acreage.

Regarding the federal lands on which each mine operation was located, we indicate whether the operation was located on BLM, Forest Service, or both BLM and Forest Service lands; other federal lands (such as those managed by the Department of Defense); or split estate lands (lands where the surface is privately owned). Where a mine operation was located on a

combination of these lands, we indicated the operations as occurring on the lands where most of the operation occurred.

We interviewed BLM and Forest Service officials and reviewed agency documents, such as handbooks and manuals, to understand the agencies' data systems and processes. To assess the reliability of the data we collected, we tested agency datasets for reliability and completeness and interviewed officials about any discrepancies we identified. We also requested that BLM and Forest Service officials verify their systems' data with field office officials to confirm the accuracy of certain fields and reconcile data inconsistencies and gaps. We determined the data were sufficiently reliable for the purposes of reporting the number of mine operations on federal lands and information about their selected characteristics.

- [Click here to download these data as a comma-separated values \(.csv\) file.](#)

We conducted the work upon which this supplement is based from June 2019 to May 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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