

## The Importance of New Mexico's Mineral Industry—2020 Earth Science Week

Welcome to Earth Matters - celebrating Earth Science week, “Earth Materials in Our Lives”. I’m Dr. Virginia McLemore, Principal Senior Economic Geologist with the New Mexico Bureau of Geology and Mineral Resources at New Mexico Tech in Socorro.

As the Economic Geologist at the New Mexico Bureau of Geology, I work with scientists and bureau staff to convey the importance of economic and mining geology and the mining industry to students, educators, and the public. The focus for this year’s Earth Science Week is “Earth Materials in Our Lives”, which is fitting because everything we use in our lives has to be mined or is related to mining in some form.

A healthy energy and mineral industry is vitally important to the economy of New Mexico and to the maintenance of public education and services, but more important the extractive industries are necessary to maintain your way of life. Essentially, our present lifestyles are heavily dependent upon mining the various commodities that are used to manufacture everything we use. The extractive industries, including oil and gas and minerals, have shaped the course of civilization and still plays an important role in the economy of the world by providing raw materials to create our lifestyle. Minerals are essential to meeting

the needs of present society as well as contributing to a sustainable economic future. Society benefits from minerals use every day and more commodities than in the past are needed to maintain our lifestyle.

For example, petroleum, metals, and industrial minerals resources produced throughout New Mexico are used in every sector of construction and manufacturing. Copper mined near Silver City is used in wire for transmission of electricity, pipe, plumbing, motors, machinery, and computers; New Mexico is 3<sup>rd</sup> in the nation in terms of copper production. Carbon-free energy actually requires more copper than traditional energy sources, primarily in transmission and storage. Energy minerals and resources, such as oil, gas, coal, geothermal, and uranium, provide electricity and fuels, and are used in urban and industrial applications as well. The first commercial geothermal electricity facility in New Mexico opened south of Lordsburg in 2014, with a capacity of 4 megawatts of electricity. Agriculture depends upon numerous minerals for fertilizers and pesticides. Potash is mined near Carlsbad and is an essential ingredient in fertilizers required to grow crops. Perlite mined in Taos and Socorro Counties is used in building construction materials, as a soil amendment, and filter aid. Zeolites mined near Winston are used in water purification, animal feed, and sorbents. Gold and silver mined near Silver City are used in currency, jewelry, manufacture of electronics, and as coatings on glass to restrict transmission of UV light.

New Mexico's mineral wealth is among the richest endowments of any state in the U.S. The value of mineral production, excluding oil and gas, exceeded \$1.7 billion in 2019. However, oil and gas are the most important extractive industries in New Mexico in terms of production and New Mexico ranked 3<sup>rd</sup> in oil production and 9<sup>th</sup> in gas production in the U.S. during 2019. In 2018, New Mexico ranked 12<sup>th</sup> in coal production in the U.S., and ranked 28<sup>th</sup> in the U.S. in nonfuel minerals production. Most of New Mexico's mineral production comes from oil, gas, coal, copper, potash, industrial minerals and aggregates. Other commodities produced in the state include a variety of industrial minerals, sulfuric acid, molybdenum, gold, uranium, and silver. Furthermore, significant reserves of oil, gas, coal, uranium, copper, potash, molybdenum, other minerals and geothermal resources are identified in the state that could be produced in the future.

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