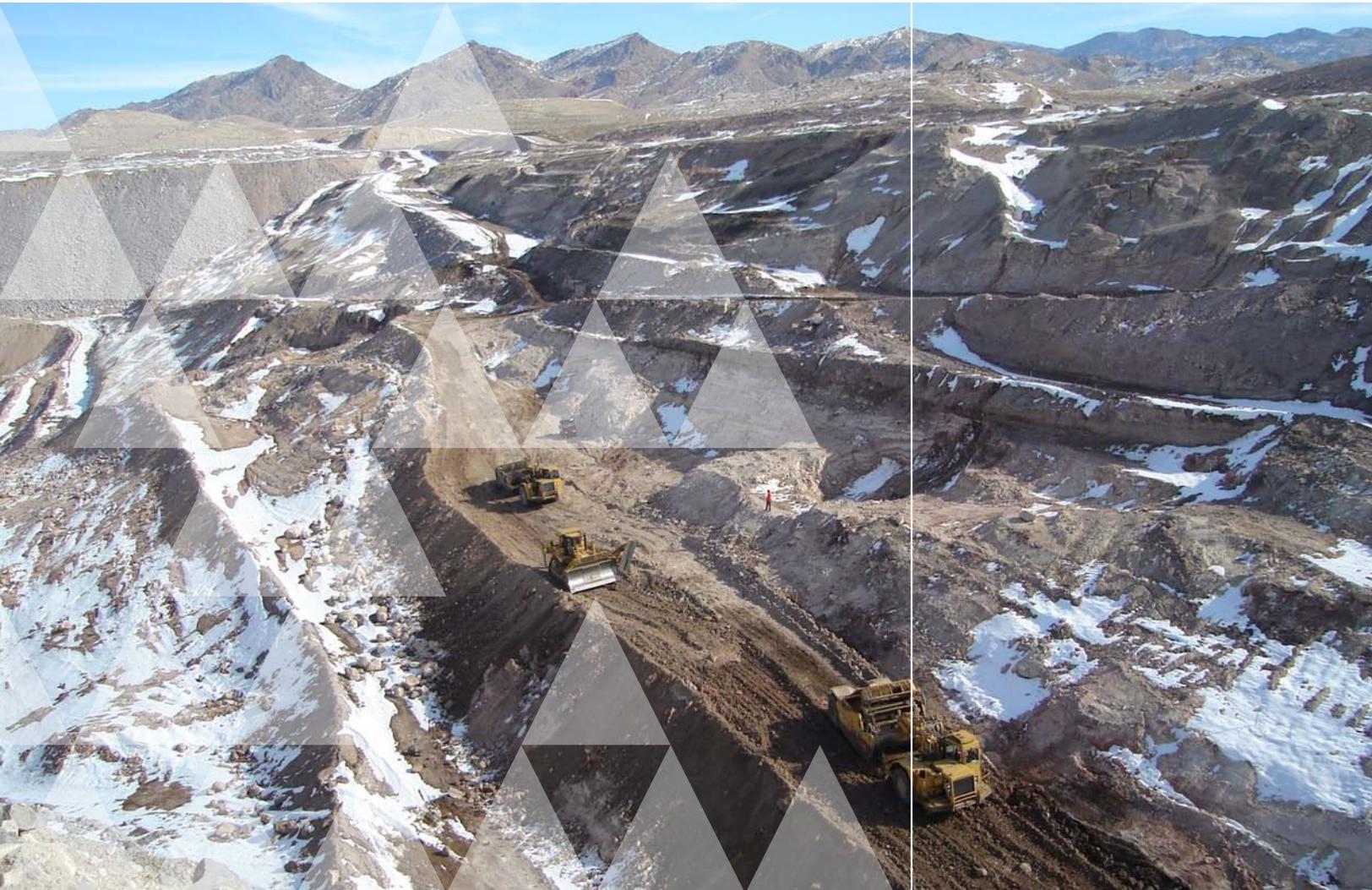




**MATERION**



**NATURAL  
RESOURCES**

# SOLUTIONS DELIVERED



**MATERION** is the new name for Brush Engineered Materials Inc., Brush Resources Inc., and all of the company's businesses. As the world's primary source of commercially viable beryllium ore, **MATERION NATURAL RESOURCES** provides a timely and dependable supply of efficiently produced, high-quality feedstock to support Materion's beryllium-based businesses. The future growth of the global beryllium industry and its thousands of downstream users depends on this unique resource.



# THE METAL THAT MATTERS

Lighter than aluminum and stronger than steel, beryllium brings unrivaled advantages to its end-use applications. In many instances, no other material can deliver the same performance and reliability demanded of today's high-tech products and systems. Here are some facts about beryllium:

**4 THE FOURTH ELEMENT**  
Beryllium is a naturally occurring chemical element with the symbol Be and atomic number 4.

**1/3 LIGHTER THAN ALUMINUM** No stable metal is lighter than beryllium.

**6 TIMES THE SPECIFIC STIFFNESS OF STEEL**  
Beryllium is ideal for applications such as aerospace, where minimal structural weight is required.

**2<sup>ND</sup> ONLY TO DIAMONDS**  
Among electrical insulating materials only diamond is superior to beryllia in its ceramic form.

**NO. 1 GLOBAL SOURCE**  
Materion is the No. 1 reliable commercial global source of beryllium.

## MINING THE WORLD'S LARGEST KNOWN BERTRANDITE ORE RESERVE

Materion Natural Resources' bertrandite ore mine was developed in 1968 in the Topaz-Spor Mountain area of the western Utah desert. Here, the company pioneered the innovative exploration, development and mining technologies that for decades have made it possible and economical to produce beryllium materials. Beryllium ore, which cannot be detected with the naked eye, is often covered by rock layers hundreds of feet thick. Even after it is identified, it must be separated from the high volume of rock.

## TECHNOLOGY REVOLUTIONIZES BERYLLIUM EXPLORATION AND MINING

Mine surveying has been revolutionized by GPS, enabling one technician to collect data that once required a survey crew. Survey and drill data are compiled into specialized modeling software that produces the means to more accurately pinpoint deposits, map and design ore bodies, develop new projects and optimize mining activities. A handheld field device known as a beryllometer, and detailed maps, are used to provide Materion the necessary quality control required for lifting and stockpiling exposed ore.

## THE INNOVATOR IN THE SCIENCE OF BERYLLIUM PROCESSING

Since 1969, Materion's mill in Delta, Utah, has processed two types of ore to extract beryllium – the locally mined bertrandite ore and beryl ore imported from various suppliers. For more than 40 years, Materion and its predecessor companies have been leading suppliers of the beryllium industry's primary feedstock, high-quality beryllium hydroxide. Solutions of bertrandite and beryl are combined and processed through solvent extraction to concentrate the beryllium and remove impurities. Beryllium is then precipitated through heating, producing a beryllium carbonate that is further heated to high temperatures and converted to beryllium hydroxide. From the mill, the product is shipped to the Materion Brush Beryllium & Composites facility in Elmore, Ohio, to produce metallic beryllium, beryllium alloys and the beryllia ceramic feedstock for the Materion Ceramics business.

## ENVIRONMENTAL RESPONSIBILITY PRESERVES LOCAL HABITATS

Materion Natural Resources' approved life-of-mine mining and reclamation plan is providing habitat for the wildlife populations in the Topaz-Spor Mountain region. Antelope are frequently seen at the mine sites while native plants in reclaimed and reseeded areas are reintroduced in the western Utah desert.

## NO MATTER WHERE YOU LOOK, BERYLLIUM IMPROVES THE WAY WE LIVE

- Laser Eye Surgery
- Electron Microscopes
- Medical Imaging
- Automotive Electronics
- Electric Vehicle Batteries
- Automatic Fire Sprinklers
- Weather Satellites
- Space Telescopes
- Nuclear Research
- Solar Energy
- Oil & Gas Drilling
- Undersea Fiber Optics
- Commercial Aerospace
- Fighter Jets
- Unmanned Aerial Vehicles
- Smart Phones
- Computer Servers & Routers
- Semiconductor Manufacturing



# MATERION

## **NATURAL RESOURCES LOCATION**

Delta, Utah

## **ABOUT MATERION**

Materion is the new name for Brush Engineered Materials Inc., its Brush Resources Inc. subsidiary and all of the company's businesses. Materion is among the world's premier providers of advanced materials solutions and services. Now under the one Materion brand, we are better aligned to deliver a broader scope of products, services and expertise needed to drive our customers' growth and profitability and become their first choice in a partner. Materion Corporation stock trades on the New York Stock Exchange under the symbol MTRN.

## **MATERION BUSINESSES**

Advanced Chemicals	Electrofusion
Barr Precision Optics & Thin Film Coatings	Large Area Coatings
Brush Beryllium & Composites	Microelectronics & Services
Brush Performance Alloys	Natural Resources
Ceramics	Technical Materials

## **NATURAL RESOURCES**

P.O. Box 815  
Delta, UT 84624  
Phone: +1 435.864.2701  
[www.materion.com/naturalresources](http://www.materion.com/naturalresources)