

Boron Operations Fact Sheet



U.S. Borax operates California's largest open pit mine in Boron, California. The mine contains one of the richest borate deposits on the planet and supplies nearly half of the world's demand for refined borates. While boron is present everywhere in the environment, substantial deposits of borates are relatively rare. These minerals are essential to life and modern living.

Our history

U.S. Borax's roots stretch back to 1872 when company founders began mining borates in Nevada. These pioneers discovered borates in Death Valley in 1881 and used teams of 20 mules and giant wagons to haul them 165 miles to the nearest railroad in Mojave, California. Boron Operations began as an underground mine in 1927 and was transformed into an open pit mine in 1957.

- Company founders donated original land holdings and lobbied to have Death Valley protected as a National Park
- *20 Mule Team*® Borax has been sold as a consumer product for more than 100 years—it was once proclaimed to be a magical crystal used to aid digestion, keep milk sweet, and even cure epilepsy
- Twenty mule teams hauled borates for only five years, but *20 Mule Team* Borax, a natural laundry and household cleaning product, lives on as one of the most recognized brands in the United States



Our minerals

Borates are minerals that contain boron, the fifth element on the periodic table. Borates are basically salts and are essential to life—plants need borates to grow and they are part of a healthy diet. Borates can also be found in a wide variety of products including:

- Fiberglass, wood preservatives, and ceramics used to make homes safer and more energy efficient
- Heat-resistant glass used in flat-screen televisions, laptop computers, and smart phones
- Textile fiberglass used in sporting equipment and wind energy systems
- Fertilizers that help farmers increase crop quality and yield

Did you know?

- The first historically verifiable use of borates was by Arabian gold- and silver-smiths, who used them as refining and soldering agents in the 8th century AD
- Borates were used in ceramic glazes in China by the 11th century AD
- Because boron is naturally present in plants, people in a wide range of cultures consume about two milligrams of boron per day as part of a healthy diet



Our operations

The mining process starts with sample drilling to determine ore purity and type. This information is then used to develop the mine's long-term plans. Boron Operations is recognized as one of the safest mining operations in the United States.

- The Boron Operations' team is made up of nearly 800 people
- The mine measures 2 miles (3.2 kilometers) long, 1.75 miles (2.8 kilometers) wide, and 755 feet (230 meters) deep
- The operation mines about 3 million tons of ore per year to produce about 1 million tons of refined products
- Processing plants produce borax pentahydrate, borax decahydrate, and boric acid from tincal and kernite ore feedstocks; fusing plants also produce anhydrous borate products
- Products are shipped to customers in more than 100 countries via truck, rail, barge, and ocean-going vessels
- Each haul truck costs more than \$1 million and can carry 240 tons of material

Our future

U.S. Borax is recognized as a world leader in borate supply and science. Most of the operational processes that set the standard for borate production were developed or first adopted at Boron Operations.

The company's success spans three centuries—an achievement that rests on its ability to meet or exceed expectations. Our employees expect a safe workplace and competitive compensation; our customers expect excellent products and services; our neighbors expect us to operate responsibly; and our shareholders expect a return on their investment.

We began our Sustainable Development program in 2001 to guide how it measures, improves and reports on social, environmental, and economic performance. The operation is continuously working to reduce water, energy, and greenhouse gas emissions. Boron Operations has been partnering with local communities for nearly 90 years and contributes more than \$150 million to the local economy annually.

Our global reach

Boron, California, USA

Primary mine, refineries, and laboratory

Changshu, Jiangsu, China

Shipping facility

Chicago, Illinois, USA

Americas headquarters

Coudekerque, France

Refineries and shipping facility

Frankfurt, Germany

European headquarters

Jadar, Serbia

Lithium-borate development project

Nules, Spain

Shipping facility

Owens Lake, California, USA

Trona mine

Port Klang, Malaysia

Shipping facility

Rotterdam, Netherlands

Shipping facility

Singapore

Asia-Pacific headquarters

Wilmington, California, USA

Refineries and shipping facility

