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 almost 30% of the world's demand for refined borates. While boron is present everywhere in the environment, substantial deposits of borates are relatively rare.

Our history of innovation

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.

- **1927:** Boron Operations began as an underground mine
- **1934:** New anhydrous form of borax developed on site
- **1957:** The mine was transformed into an open pit mine
- **1961:** World's largest borate ore conveyor started running
- **1967:** U.S. Borax acquired by Rio Tinto
- **1972:** Fire retardant products developed on site
- **1980:** World's largest boric acid plant came online
- **2013:** Safety award-winning Modified Direct Dissolving of Kernite (MDDK) process facility opened
- **2023:** Became the first open pit mine in the world to transition its heavy machinery from fossil diesel to renewable diesel

Our operational excellence

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 900 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 product
- 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 around $5 million and can carry 240 tons of material

Our future

U.S. Borax is on the forefront of borate technology, research, and development. 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 our ability to meet or exceed expectations. Today, we're finding better ways to provide the borates the world needs. And, our operations are designed to create high-quality products to meet this demand.