

AMAX  **INC.**

**MOUNT
EMMONS** 

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AMAX Inc., the company that is conducting exploration drilling for molybdenum on Mt. Emmons in Gunnison County, Colo., is a natural resources and mineral development company with widely diversified interests. Those interests include molybdenum, tungsten, nickel, cobalt, aluminum, copper, lead, zinc, cadmium, iron ore, metal powders, precious metals, coal, agricultural chemicals, natural gas, petroleum, forest products and other natural resources.

Its operations are worldwide in scope.

The parent company was The American Metal Company, Limited, which was incorporated in 1887. In 1957 it merged with Climax Molybdenum Company and became American Metal Climax Inc. AMAX Inc. was adopted as the corporation's legal name in 1974.

The Climax Molybdenum Company was formed in 1916 to develop a molybdenite deposit in central Colorado near Leadville. Construction at the Climax Mine began in May, 1917, and one year later Climax Molybdenum was mining and milling 250 tons of ore daily. The Armistice happened about six months later, and the molybdenum boom ended with it. The Climax Mine closed in March, 1919.

Climax Launches Research Program

Climax Molybdenum Company then launched a research program to find peacetime uses for molybdenum and a marketing program to sell it. The Climax Mine re-opened in 1924, and it has been in continuous operation ever since – sort of a flagship of the U.S. molybdenum industry. It produces 48,000 tons of ore a day.

Since the merger of The American Metal Company and Climax Molybdenum Company in 1957, two other major molybdenite ore bodies have been developed – both of them in Colorado.

In 1963 AMAX Inc. acquired the Urad Mine on Red Mountain, west of Idaho Springs, and for 11 years it produced significant quantities of molybdenite. Urad was a comparatively small ore body, but the geology of the area suggested that more molybdenum might be found.

Discovery of the Henderson Ore Body

A core drilling program proved that a large ore body, comparable to that at Climax, resided in the depths of the mountain.

In 1967 AMAX Inc. decided to go ahead with a development program. The \$500-million Henderson Mine/Mill Complex, as it was named, is the largest investor-financed project in Colorado history.

In part because of environmental concerns, it was decided to take the ore, which is mined on the East Slope of the Continental Divide, through a railroad tunnel 9.6 miles long to the Williams Fork Valley on the West Slope.

By shipping the ore underground to Williams Fork, AMAX engineers were able to design a mill which has minimal environmental impacts. The valley affords total management of the substantial tailing material which results from milling operations. Stream pollution is totally eliminated, and aesthetic impacts are kept to a minimum.

The Henderson Mine—An Engineering Showcase

The Henderson Mine is an engineering achievement in many ways. The main shaft, which provides a portal for both men and materials, is 3,100 feet deep and 28 feet in diameter, by far the largest on the continent. More than 200 miners can be moved up or down at one time.

After a development period of nearly 10 years, the Henderson Mine is producing about 15,000 tons of ore per day, and by 1980 will produce 30,000 tons per day.

Although known reserves will sustain this level of production at Henderson for at least 30 years, the exact limits of the ore body have not been determined.

Processing the Molybdenum Concentrate

Molybdenum concentrates produced by the mills at Climax and Henderson aren't the end of the AMAX Inc. molybdenum story, however.

The concentrate produced at the mills is shipped to AMAX Inc. conversion plants in Fort Madison, Iowa; Langeloth, Pa.; Rotterdam, The Netherlands; Stowmarket, England; and Spigno Monferrato, Italy, for purification and delivery to metallurgical industries.

Some of the concentrate also finds its way into the lubricant industry. Moly sulfide – which is molybdenite concentrate before the sulfides are roasted out to produce molybdenic oxide – is a trademarked lubricant which can be used in combination with other lubricants or by itself.

AMAX research and market development specialists are continuing to find new and important uses for molybdenum. Research activities are conducted at company laboratories located in Ann Arbor, Mich.