Iron mining and you

It's not hard to understand the importance of mining if your income depends on it. But what about the rest of us?

The fact is, we're all dependent on mining. Mining is the foundation for all other industry. Even agriculture depends on mining for machinery, fuel, and fertilizer.

We depend heavily on iron because it is abundant and it is useful. Converted to steel, iron can be given an endless variety of special characteristics, like extra strength for tools, corrosion resistance, pliability, and moldability. It is good for watch springs as well as auto springs, guitar strings or bridge cables, razor blades or plow blades, tin plate or boiler plate.

A nation's standard of living corresponds to its skill in developing the earth's resources, and conditions in the iron and steel industry are a measure of the quality and variety of goods and services available to our society.

Security, self-sufficiency

Our defense and economic security rely on mining. Currently, most iron ore needed in North America is produced in North America, but competitive ore producers overseas and excessive steel imports both challenge our self-sufficiency. We have seen the consequences of becoming overly dependent on foreign oil. It is vital to apply this lesson to other basic commodities.

Environment

To have goods made from iron and steel, we must have mines. And hundreds of millions of tons of material can't be removed from the earth without altering the landscape. Yet iron mining has disturbed less than 300 square miles of North American land, an area smaller than a city like Dallas.

The same technology that enables the iron mining industry to provide high-quality iron ore pellets to its customers is also working to provide environmental safeguards. Water clarification and recirculation, dust collection, tailings impoundment and other environmental programs are standard design for iron ore processing plants and mines.

Sandy tailings become grassy plantations covering large acreages adjacent to ore processing facilities.

Iron mining and the good life

The forces of nature that shaped the land and created mineral deposits were violent forces. That's why mines are often found in rugged scenic areas with wilderness values. In iron mining regions, mining families benefit by having jobs close to clear lakes for fishing and water sports, rugged hills for hiking or skiing, green forests for camping and hunting.

In our oldest iron mining areas of the Lake Superior region, mining and recreation have been good neighbors for a century or more. Outdoor pleasures are an important part of a mining family's life, and people of the ranges make an extra effort to enjoy and protect the good life that goes hand-in-hand with iron mining.

The American Iron Ore Association represents iron ore producers and consumers in the United States and Canada. The Association monitors the administration of existing legislation and proposed changes that could affect the iron ore industry, and takes appropriate action. Another of its principal activities is compiling statistical data on shipments, consumption, and inventories of iron ore for use by member companies, legislative bodies and the public.

The Association also works to build a better understanding of the relationship of iron mining to your life.

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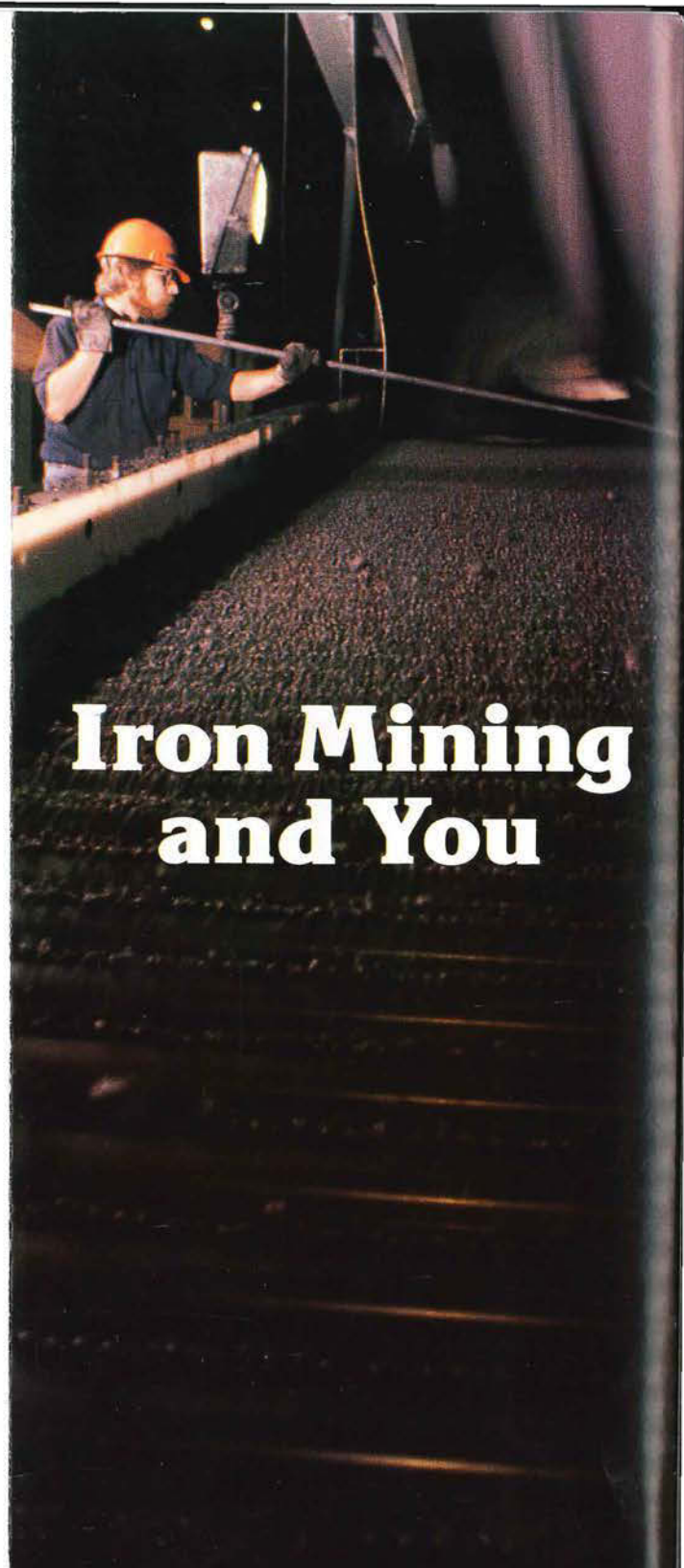
Litho in USA



Iron Mining and You

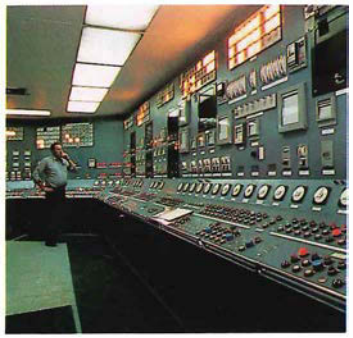
The **people** of **iron mining today**

Mining is no longer a pick-and-shovel business. Men and women in iron mining today require highly developed proficiencies. Most are specialists. A progressive, competitive industry requires people with inventive minds and ability to apply today's technology to the business of mining.

North America's highly technical iron ore industry employs a surprising variety of skills: geologists, accountants, computer programmers, safety engineers, surveyors, laboratory analysts, personnel managers, government and legal experts, environmental scientists and technicians, mining and metallurgical engineers, clerical personnel and about 20 trades and crafts, such as electricians, millwrights, welders and mechanics.

Today, many steps in iron ore mining and processing are computer designed and controlled. Graphic on screen helps plan contours of open pit iron ore mine.

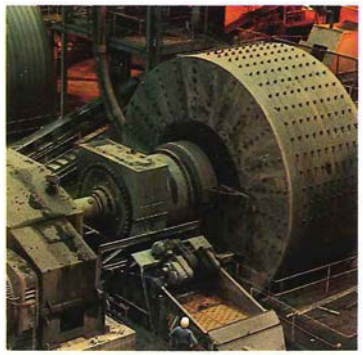
Modern mining jobs are more interesting and rewarding than the pick-and-shovel jobs of the past. Safer, too. Today's iron miner is safer on the job than off, with a safety record much better than the average for all industries.



Control room of a modern processing plant. Watchful eyes and steady hands monitor the flow of materials, coordinating the many steps needed to transform crude ore to pellets. Precise tuning of process helps ensure competitive cost and quality.

The **process** of **iron mining today**

Today, getting the crude iron-bearing rock out of the ground is just the first step in an elaborate process that makes great demands on the ingenuity of people and the stamina of machines.



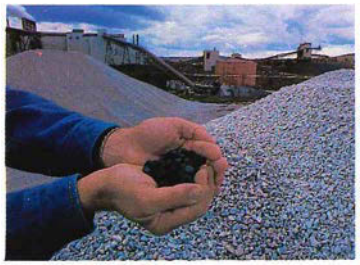
Huge mills, left, grind iron-bearing rock into fine grains so the particles richest in iron can be freed and rolled into pellets containing 60-65 percent iron.

New technology enables miners to unlock iron from large, but lean mineral formations like those found in the Lake Superior region, eastern Canada and many other areas of the world. This technology has stretched the life of traditional mining areas and opened new areas previously uneconomic to mine. Technical advances, especially throughout the mining, concentrating and pelletizing process, have further increased quality and efficiency.

Fluxed pellets

Today, pellet chemistry is being refined to provide steelmakers with new cost advantages in the operation of their blast furnaces and production of steel.

A major technological advancement is the development of fluxed pellets. By adding dolomite, limestone or olivine to the pellets, iron ore producers reduce or eliminate the need for fluxstone addition at the blast furnace. Fluxed pellets have become increasingly attractive because they reduce steelmaking costs while improving blast furnace productivity.



Fluxed pellets look the same, but are spiced with limestone to make them a better blast furnace feed. Cover photo shows freshly formed pellets being screened prior to heat-hardening.

The **challenges** of **iron mining today**

The iron and steel partnership

The iron mining industry has only one customer—the steel industry—so mining is directly affected by steel industry conditions. Many factors influence the health of mining and steelmaking:

- **North America's need for steel**
- **Price and quality competition from offshore mines and steelmakers**
- **Competition from steel substitutes and steel made from scrap**
- **Transportation cost**

While working to be competitive and to control costs, both of these industries face special problems in North America:

- **Government regulations significantly more restrictive here than abroad**
- **Shortage of capital for adopting advanced steel technology**
- **Competition from imported steel "dumped" at prices lower than the cost to produce it**
- **Government-owned iron ore**

The world iron ore market

Iron ore moves freely in world trade, unimpaired by tariffs. North American iron ore must compete with ores from Australia, South America, India and Africa, which are higher in iron content and cost less to produce. Many foreign steel plants receive ore at deep-water ports accommodating ships carrying four times as much as Great Lakes vessels. These oceangoing supercarriers greatly reduce transportation costs.

Some overseas mines also benefit from low-cost hydropower, tax breaks, government-subsidized rail transportation, lower employment costs, and less-stringent environmental policies.

Mining is a capital intensive business, especially in North America where low-grade ores take extensive processing. Mining equipment is expensive to purchase and maintain.

Our North American iron mining industry is working to cut expenses by conserving energy, resisting discriminatory taxes, controlling employment costs, and adopting new technical efficiencies, as well as improving productivity. Reaching these goals takes the cooperative commitment of industry, employees and government.

Clearly, the ability of the North American iron ore industry to compete with overseas sources, and the stability of the domestic steel industry are critical factors in iron mining's fight for survival.