



Digging Deeper



ORES

As You Read...

Think about:

1. How is the ore near the Earth's surface removed?
2. How is ore deep beneath the Earth's surface removed?
3. What limits the depth of a mine?
4. What are tailings?
5. What properties can be used to separate minerals from ores?

Ores that are near the Earth's surface can be obtained by scraping away the soil, blasting the ore into small pieces, and removing it with heavy equipment to smelting plants. That kind of mining is called surface mining. Ores that are located deep in the Earth must be mined from tunnels in deep rock. That kind of mining is called deep mining. The deepest mines in the world are the gold mines in South Africa. Some of those mines extend down to 3 km below the Earth's surface. As you might guess, the maximum depth of mining is limited partly by the strength of the tunnel walls against the great weight of rock overhead. An even more important factor, however, is temperature. Temperature increases downward in the Earth, and at a depth of about 3 km the temperature is so high that working conditions are difficult, even with ventilation. A few important ores, especially ores of iron and aluminum, occur in very large

