

## Significant Deposits of Gold, Silver, Copper, Lead, and Zinc in the United States

KEITH R. LONG,

*U.S. Geological Survey, 520 North Park Ave., Suite 355, Tucson, Arizona 85719*

JOHN H. DEYOUNG, JR.,

*U.S. Geological Survey, 988 National Center, Reston, Virginia 20192*

AND STEVE LUDINGTON

*U.S. Geological Survey, 345 Middlefield Road, MS 901, Menlo Park, California 94025*

### Abstract

Approximately 99 percent of past production and remaining identified resources of gold, silver, copper, lead, and zinc in the United States are accounted for by deposits that originally contained at least 2 metric tonnes (t) gold, 85 t silver, 50,000 t copper, 30,000 t lead, or 50,000 t zinc. The U.S. Geological Survey, beginning with the 1996 National Mineral Resource Assessment, is systematically compiling data on these deposits, collectively known as "significant" deposits. As of December 31, 1996, the significant deposits database contained 1,118 entries corresponding to individual deposits or mining districts. Maintaining, updating, and analyzing a database of this size is much easier than managing the more than 100,000 records in the Mineral Resource Data System and Minerals Availability System/Minerals Industry Location System, yet the significant deposits database accounts for almost all past production and remaining identified resources of these metals in the United States.

About 33 percent of gold, 22 percent of silver, 42 percent of copper, 39 percent of lead, and 46 percent of zinc are contained in or were produced from deposits discovered after World War II. Even within a database of significant deposits, a disproportionate share of past production and remaining resources is accounted for by a very small number of deposits. The largest 10 producers for each metal account for one third of the gold, 60 percent of the silver, 68 percent of the copper, 85 percent of the lead, and 75 percent of the zinc produced in the United States. The 10 largest deposits in terms of identified remaining resources of each of the five metals contain 43 percent of the gold, 56 percent of the silver, 48 percent of the copper, 94 percent of the lead, and 72 percent of the zinc.

Identified resources in significant deposits for each metal are less than the mean estimates of resources in undiscovered deposits from the 1996 U.S. National Mineral Resource Assessment. Identified resources are roughly the same magnitude as cumulative past production. Assuming that roughly the same proportion of resources in undiscovered deposits will occur in significant deposits, a substantial number of significant deposits remain to be discovered.