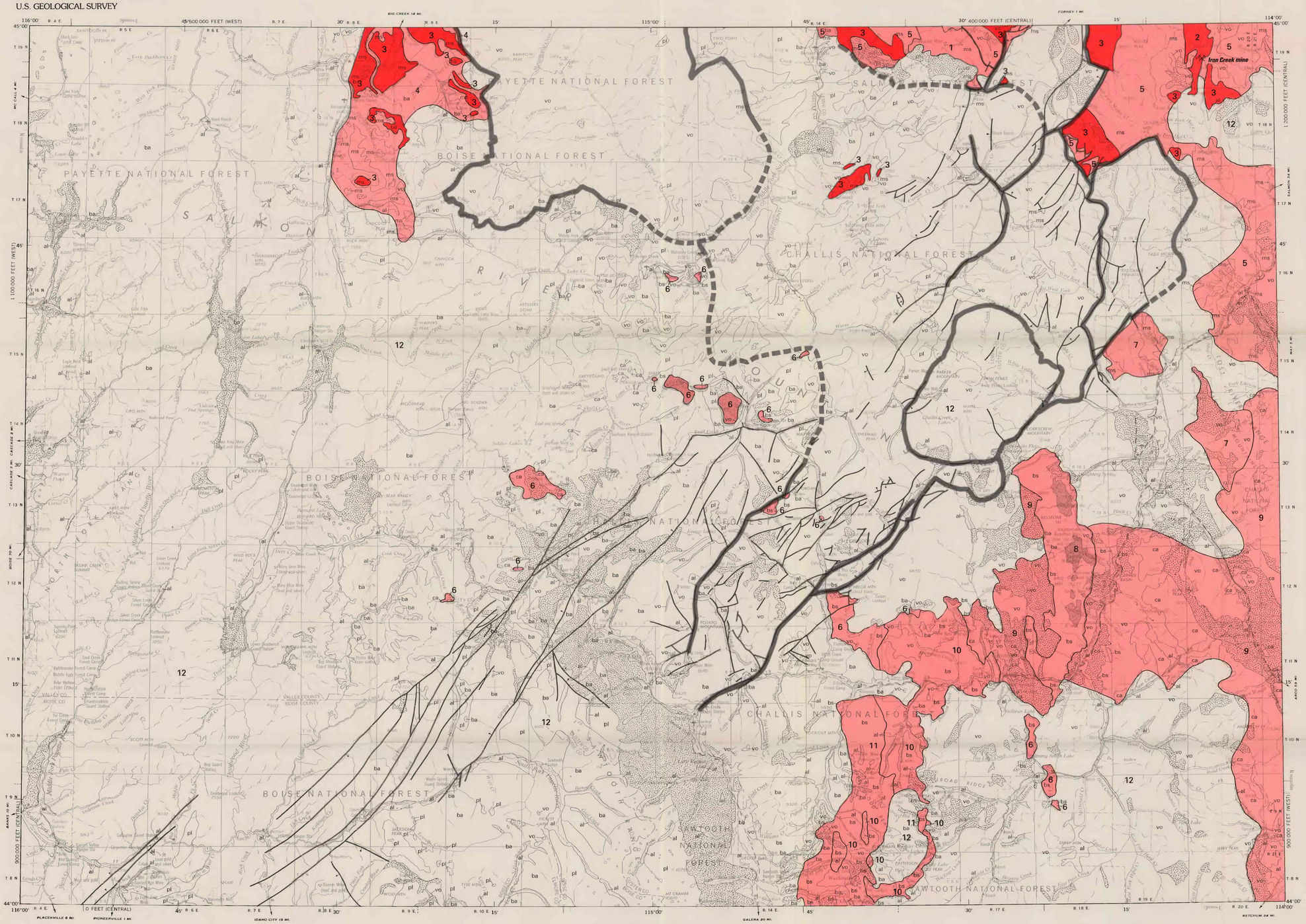
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

PROFESSIONAL PAPER 1525
PLATE 21



Base modified from U.S. Geological Survey, 1957
Limited revision 1963
100,000-foot grids based on Idaho coordinate system, central and west zones

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS

NATIONAL GEODETIC VERTICAL DATUM OF 1929

1995 MAGNETIC DECLINATION VARIES FOR THIS SHEET FROM 16°30' EASTERLY FOR THE CENTER OF THE WEST EDGE TO 16°00' FOR THE CENTER OF THE EAST EDGE. MEAN ANNUAL CHANGE IS 5' WESTERLY

EXPLANATION OF RESOURCE POTENTIAL

- 3 — **Area having resource potential for stratabound, syngenetic cobalt-copper deposits**—See table 38 for scoring of recognition criteria. **Moderate potential**—Areas 2, 3
- 4 — **Low potential**—Areas 1, 4–11
- 12 — **Area having no potential for stratabound, syngenetic cobalt-copper deposits**—Area 12
- ⚒ — **Iron Creek mine**

LIST OF GEOLOGIC TERRANES

- al — **Alluvial terrane**
- pl — **Eocene Plutonic terrane**
- vo — **Challis volcanic terrane**
- ba — **Idaho batholith terrane**
- bs — **Black shale terrane**
- ca — **Carbonate terrane**
- ms — **Proterozoic terrane**

Trans-Challis fault system terrane

Regions of overlap between carbonate terrane and black shale terrane

Mostly rock glaciers; alluvial fans; landslide debris; talus; and terminal, end, and lateral moraines. Also includes Miocene volcanic and sedimentary rocks and noncarbonate roof pendants in the Idaho batholith of undivided (Paleozoic? or Proterozoic?) age

Terrane boundary

Boundaries of calderas and other volcano-tectonic structures—Dashed where approximately located

DEFINITIONS OF RESOURCE POTENTIAL

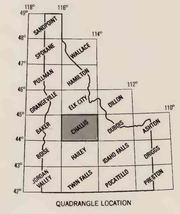
High mineral resource potential exists in areas where geologic, geochemical, and geophysical characteristics favorable for resource accumulation are known to be present, or where enough of these characteristics are present to give strong support to genetic models favorable for resource accumulation and where evidence shows that mineral concentration—mineralization in the broad sense—has taken place (Taylor and Steven, 1983, p. 1269).

Moderate mineral resource potential exists in areas where geologic, geochemical, and geophysical characteristics favorable for resource accumulation are known or can reasonably be inferred to be present but where evidence for mineralization is less clear or has not yet been found (Taylor and Steven, 1983, p. 1269).

Low mineral resource potential exists in areas where geologic, geochemical, and geophysical characteristics are unfavorable, where evidence indicates that mineral concentrations are unlikely, or where requirements for genetic models cannot be supported (Taylor and Steven, 1983, p. 1269).

Unknown mineral resource potential exists where the level of knowledge, at an appropriate scale, is so inadequate that to classify potential as high, moderate, or low would be misleading (Taylor and Steven, 1983, p. 1269).

In some instances an assignment of **no mineral resource potential** for a particular ore deposit type or types has been given to specific areas within the Challis quadrangle. In these cases the occurrence of the particular ore deposit type is dependent on the presence of a specific lithology. Known absence of the required rock type precludes the occurrence of the ore deposit.



QUADRANGLE LOCATION

RESOURCE POTENTIAL FOR STRATABOUND, SYNGENETIC COBALT-COPPER DEPOSITS IN THE CHALLIS 1°× 2° QUADRANGLE, IDAHO

By
Frederick S. Fisher and Kathleen M. Johnson

1995