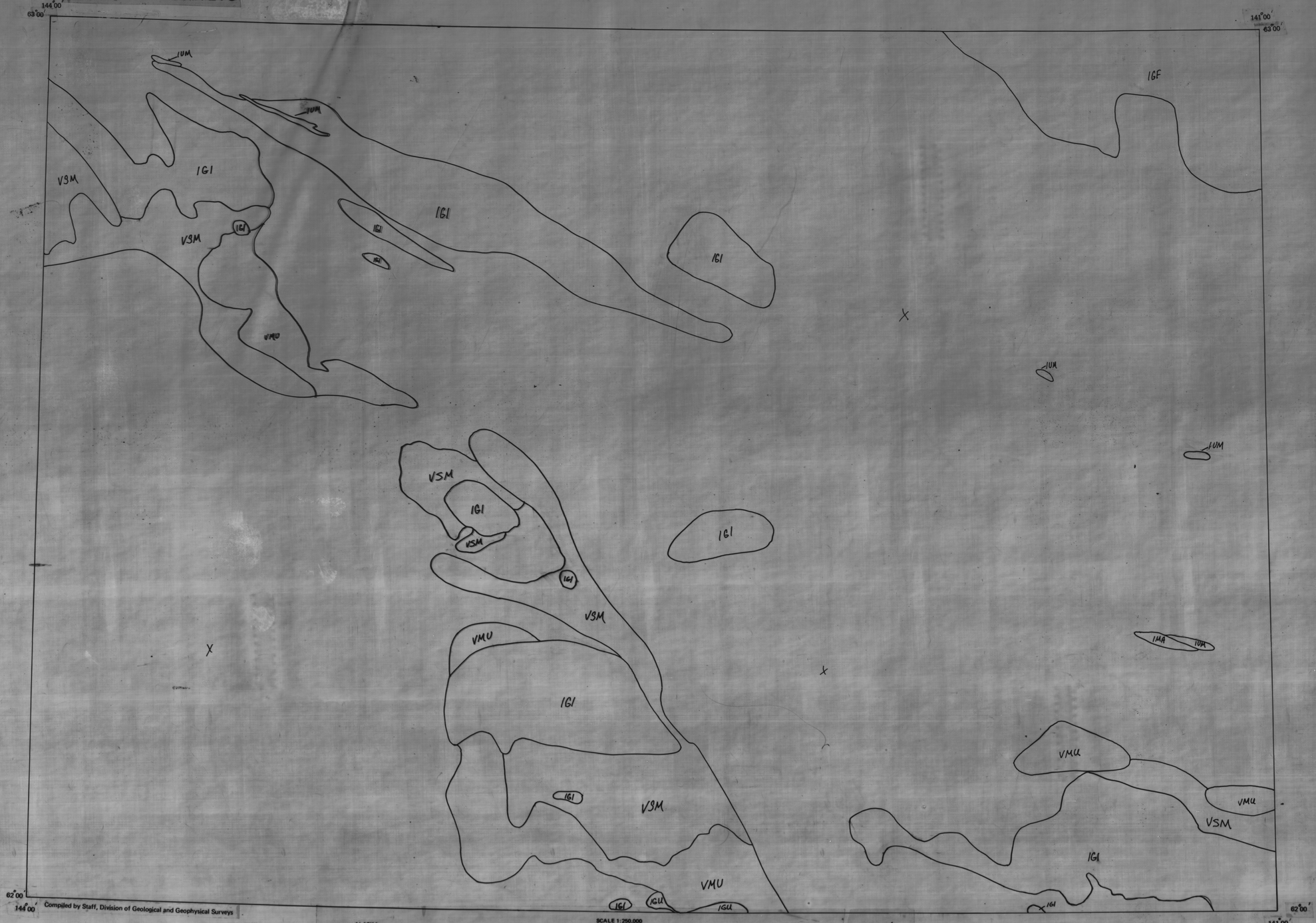

Compiled by Staff, Division of Geological and Geophysical Surveys

ALASKA

QUADRANGLE LOCATION

SCALE 1:250,000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS

CONTOUR INTERVAL 200 FEET

DATUM MEAN SEA LEVEL

TRUE NORTH

29-30°

MAGNETIC N

APPROXIMATE MEAN DECLINATION, 1960

MINERAL TERRANES, NABESNA QUADRANGLE, ALASKA

MINERAL TERRANES

Terrane units are meant to be only a general guide to areas where certain deposits could occur. Each rock type below is followed by a listing of commodities that maybe found in each terrane. The listing does not indicate known or commercial concentrations actually occur. Site-specific information will require on-site examination. A comparison of the Mineral and Energy Resources Map and this map will show most mineral deposits lying within the designated terrane units but there are exceptions as well as exceptions to the listed commodities expected and those actually reported. Terrane classification was developed by C.C. Hawley and Associates for the Arctic Environmental Information and Data Center (AEIDC, 1982). Terrane unit boundaries for this map were adapted from the AEIDC map (1982) and from the 1:250,000 scale geologic map of this quadrangle by Richter (1976).

Terranes favorable for mineral deposits that formed contemporaneously with their enclosing rocks.

INTRUSIVE TERRANES AND FAVORABLE COMMODITIES

Granitic Rocks

- IGU Undivided granitic rocks (includes the three groups below)
- IGA Alkalic granitic rocks - uranium and rare earths
- IGF Felsic granitic rocks - tin, tungsten, molybdenum, uranium, thorium
- IGI Intermediate granitic rocks - copper, gold, molybdenum

Mafic-ultramafic Rocks

- IMA Mafic intrusive rocks - copper, nickel, byproduct platinum and cobalt
- IUM Ultramafic rocks - chromium, nickel, platinum metals, byproduct cobalt

VOLCANIC-SEDIMENTARY TERRANES AND FAVORABLE COMMODITIES

Felsic Volcanic Rocks

- VFU Undivided felsic volcanic rocks - copper, lead, zinc, gold, silver
- VFA Alkalic felsic volcanic rocks - uranium, thorium
- VSF Undivided sedimentary and felsic volcanic rocks - copper, lead, zinc, gold, silver

Mafic Volcanic Rocks

- VMU Undivided mafic volcanic rocks - copper, zinc, byproduct gold and silver
- VSM Undivided sedimentary and mafic volcanic rocks - copper, zinc, byproduct gold and silver

SEDIMENTARY TERRANES AND FAVORABLE COMMODITIES

Marine Rocks

- SLS Limestone and shale - copper, lead, zinc
- SBS Black carbonaceous shale and limestone - zinc, lead, barium, byproduct silver
- SPS Phosphatic shale - phosphate, byproduct uranium and vanadium
- SCH Chert - may be favorable for deposits like those of volcanic, or black shale terranes

Continental Rocks

- SCG Conglomerate - gold or deposits like those of black shale terrane
- SCB Coal-bearing sandstone and shale

Terranes favorable for mineral deposits that are introduced by metamorphic or igneous-hydrothermal processes after deposition of their enclosing rock.

SEDIMENTARY TERRANES AND FAVORABLE COMMODITIES

- SGS Graywacke and shale - gold or deposits like those of intrusive terranes
- SLU Limestone - copper or deposits like those of intrusive terranes

TERRANES NOT IDENTIFIED AS FAVORABLE FOR MINERAL DEPOSITS

- X

References

Arctic Environmental Information and Data Center, 1982, Mineral terranes of Alaska; 1982: Research and display by C.C. Hawley and Associates, prepared and published by Arctic Environmental Information and Data Center, University of Alaska, 707 A Street, Anchorage, Alaska 99501.

Richter, D.H., 1976, Geologic map of the Nabesna Quadrangle, Alaska: U.S. Geological Survey Miscellaneous Investigations Map I-932.