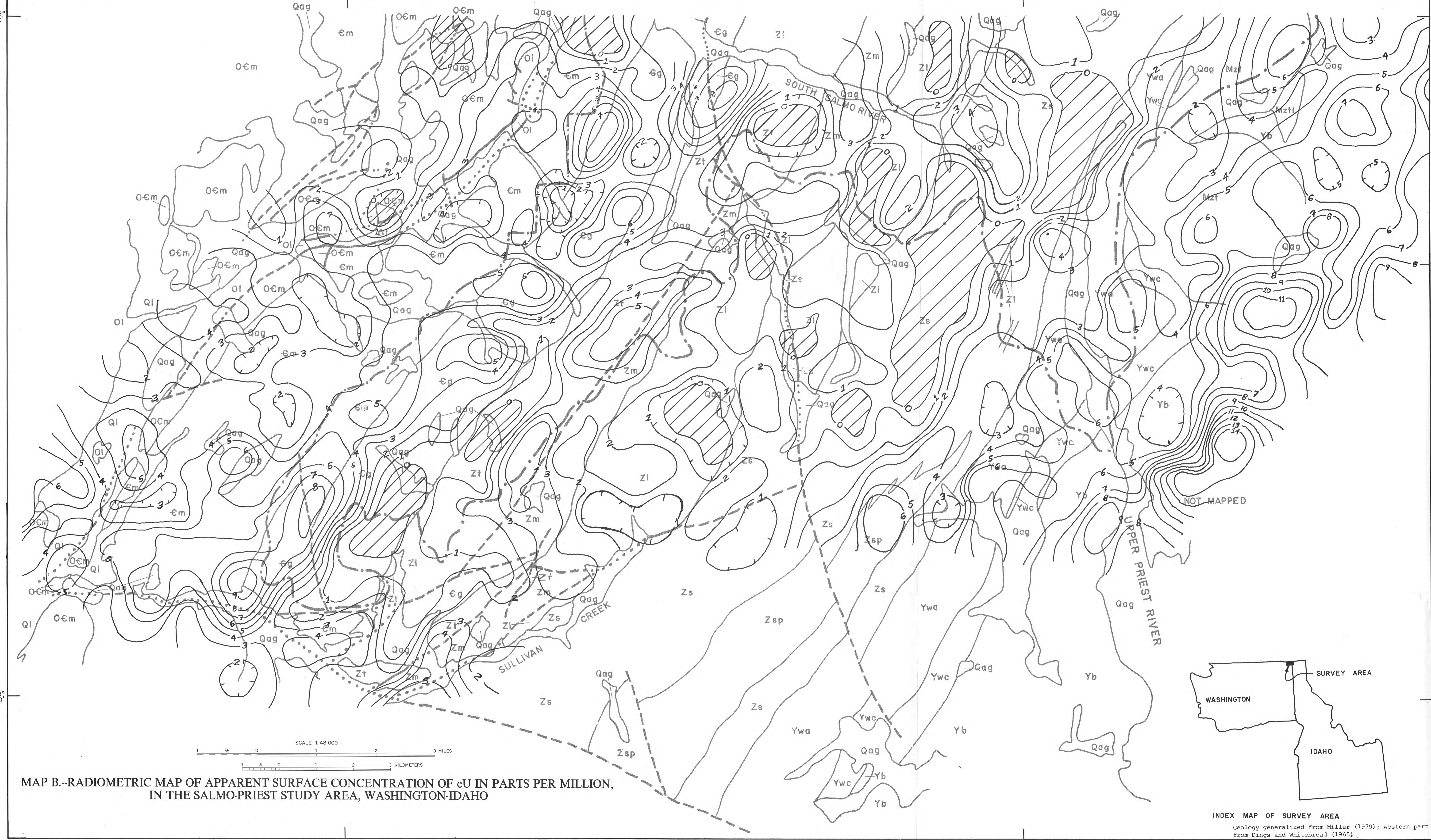


MAP A.-LOCATION OF FLIGHT LINES OF AERIAL RADIOMETRIC AND MAGNETIC SURVEY IN THE SALMO-PRIEST STUDY AREA, WASHINGTON-IDAHO



MAP B.-RADIOMETRIC MAP OF APPARENT SURFACE CONCENTRATION OF eU IN PARTS PER MILLION, IN THE SALMO-PRIEST STUDY AREA, WASHINGTON-IDAHO

INTERPRETATION OF AN AERIAL RADIOMETRIC AND MAGNETIC SURVEY OF THE SALMO-PRIEST STUDY AREA (RARE E6-981 A1-981), PEND OREILLE COUNTY, WASHINGTON AND BOUNDARY COUNTY, IDAHO

By
James A. Pitkin and Joseph S. Duval
1980

The radiometric data yield differing interpretations for the fault that extends southeast from South Salmo River. At the river, the data do not show an effect across the fault, while the eU and K data can be interpreted to show an effect. In fact, the eU data continue across the fault as a linear high that correlates with Opyy rocks and the northeast part of the Three Sisters Formation. However, in the center of the study area, all K data (primary plus both ratios) show a distinct east-west bend across the fault directly correlative with the faulted outcrop of the Leola Volcanics. This feature probably reflects the lithologic contrast of the volcanic composition of the Leola as compared with the nonvolcanic composition of the other Wilderness Group rocks. In summary, the radiometric data show two areas suggestive of possible mineralization. The one area within the Salmo-Priest study area is west of longitude 117°15'W, where an area of relatively higher eU includes a stream segment. The other area is east of longitude 117°15'W, where an area of relatively higher eU includes a stream segment. These areas have slight economic significance; the eU values are not unusual for the study area and the K values are relatively low and are possibly unique. Stream sediment samples from surrounding areas show no measurable K. A greater potential exists for the fault, outside of the Salmo-Priest study area. Should this area contain Precambrian metasedimentary rocks and granitic intrusive rocks, the higher eU shows the potential for U mineralization.

INTERPRETATION OF MAGNETIC DATA
The dominant feature on the magnetic map (Map B) is the northeast-trending high correlative with the Monk and Leola outcrop. The positive correlation continues across an offset to the southeast, south of South Salmo River, of more than 2 km due to a near vertical dip-slip fault. Geologic data infer about 2.7 km of movement for the fault with the southwest side relatively upthrown.

West of the Monk-Leola high, magnetic values decrease rapidly across the Three Sisters outcrop. The magnetic data show a west-dipping monocline. The magnetic data show a west-dipping monocline. The magnetic data show a west-dipping monocline.

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