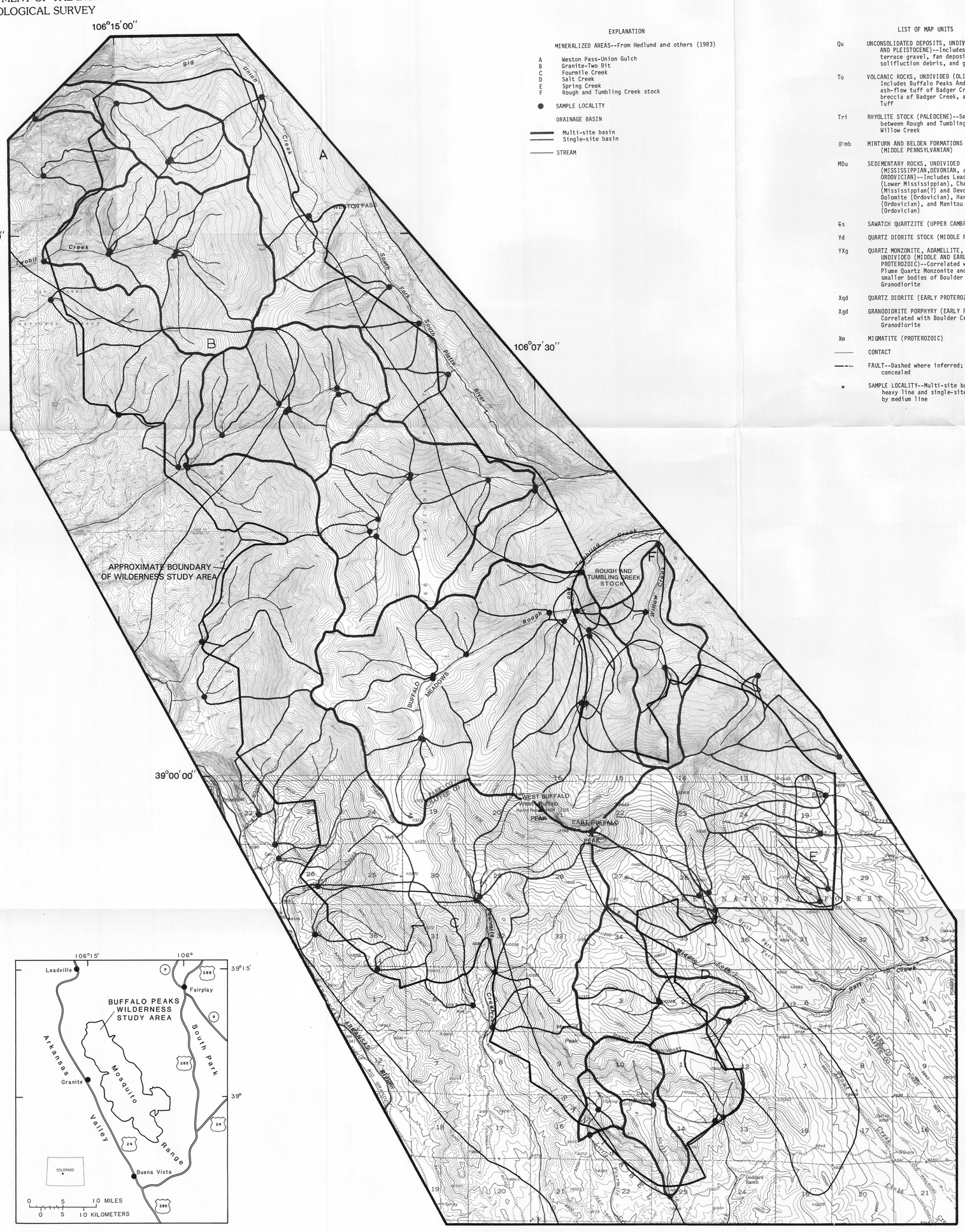


INDEX MAP SHOWING BUFFALO PEAKS WILDERNESS STUDY AREA, COLORADO

Base from U.S. Geological Survey, Granite, 1967, Jones Hill, 1960, Leadville South, 1969, Mount Sherman, 1961, South Peak, 1961, 1:24,000; and Buena Vista, 1955, 1:62,500

SCALE 1:50 000

1 ½ 0 1 2 3 MILES

1 .5 0 1 2 3 KILOMETERS

Map A.–Drainage basins, mineralized areas, and sample localities

EXPLANATION

MINERALIZED AREAS--From Hedlund and others (1983)

- A Weston Pass-Union Gulch
- B Granite-Two Bit
- C Fourmile Creek
- D Salt Creek
- E Spring Creek
- F Rough and Tumbling Creek stock

● SAMPLE LOCALITY

DRAINAGE BASIN

- Multi-site basin
- Single-site basin

STREAM

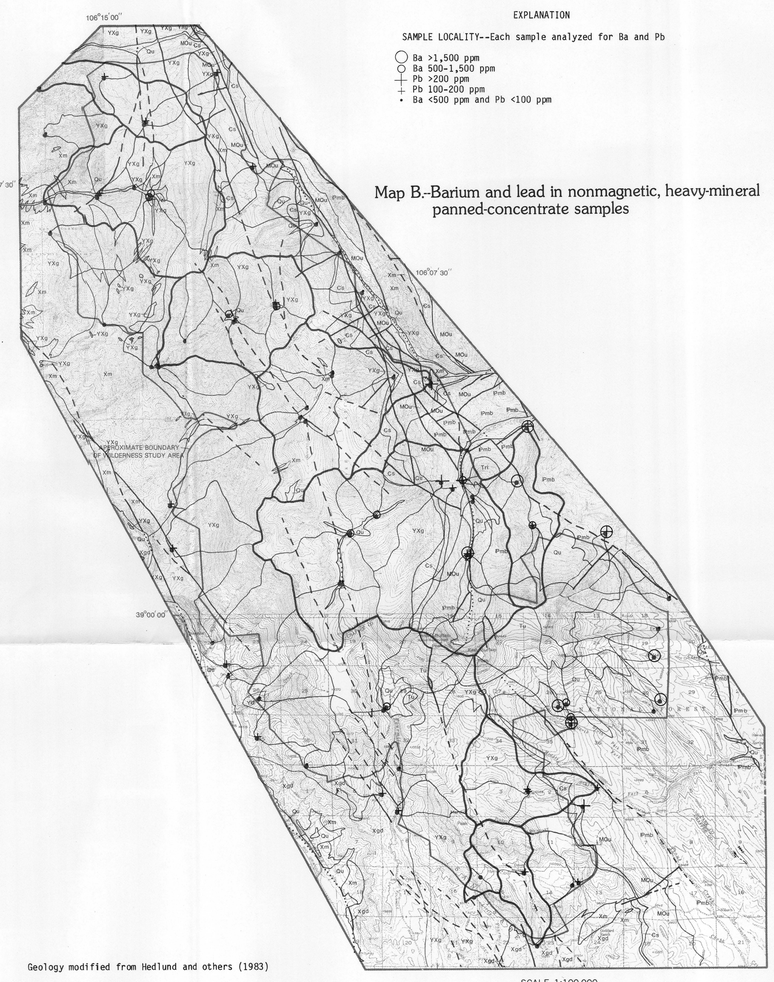
LIST OF MAP UNITS

Qu	UNCONSOLIDATED DEPOSITS, UNDIVIDED (HOLOCENE AND PLEISTOCENE)--Includes alluvium and terrace gravel, fan deposits, talus, solifluction debris, and glacial deposits
Tu	VOLCANIC ROCKS, UNDIVIDED (OLIGOCENE)--Includes Buffalo Peaks Andesite, upper ash-flow tuff of Badger Creek, laharic breccia of Badger Creek, and Badger Creek Tuff
Tri	RHYOLITE STOCK (PALEOCENE)--Small stock between Rough and Tumbling Creek and Willow Creek
IPmb	MINTURN AND BELDEN FORMATIONS UNDIVIDED (MIDDLE PENNSYLVANIAN)
MDu	SEDIMENTARY ROCKS, UNDIVIDED (MISSISSIPPIAN, DEVONIAN, and ORDOVICIAN)--Includes Leadville Limestone (Lower Mississippian), Chaffee Group (Mississippian(?) and Devonian), Fremont Dolomite (Ordovician), Harding Sandstone (Ordovician), and Manitou Dolomite (Ordovician)
Ꞓs	SAWATCH QUARTZITE (UPPER CAMBRIAN)
Yd	QUARTZ DIORITE STOCK (MIDDLE PROTEROZOIC)
YXg	QUARTZ MONZONITE, ADAMELLITE, AND GRANITE, UNDIVIDED (MIDDLE AND EARLY PROTEROZOIC)--Correlated with Silver Plume Quartz Monzonite and includes smaller bodies of Boulder Creek Granodiorite
Xqd	QUARTZ DIORITE (EARLY PROTEROZOIC)
Xgd	GRANODIORITE PORPHYRY (EARLY PROTEROZOIC)--Correlated with Boulder Creek Granodiorite
Xm	MIGMATITE (PROTEROZOIC)

CONTACT

FAULT--Dashed where inferred; dotted where concealed

● SAMPLE LOCALITY--Multi-site basin outlined by heavy line and single-site basin outlined by medium line



Map B.–Barium and lead in nonmagnetic, heavy-mineral panned-concentrate samples

EXPLANATION

SAMPLE LOCALITY--Each sample analyzed for Ba and Pb

- ◯ Ba >1,500 ppm
- ○ Ba 500-1,500 ppm
- ┼ Pb >200 ppm
- + Pb 100-200 ppm
- • Ba <500 ppm and Pb <100 ppm

Geology modified from Hedlund and others (1983)

SCALE 1:100 000

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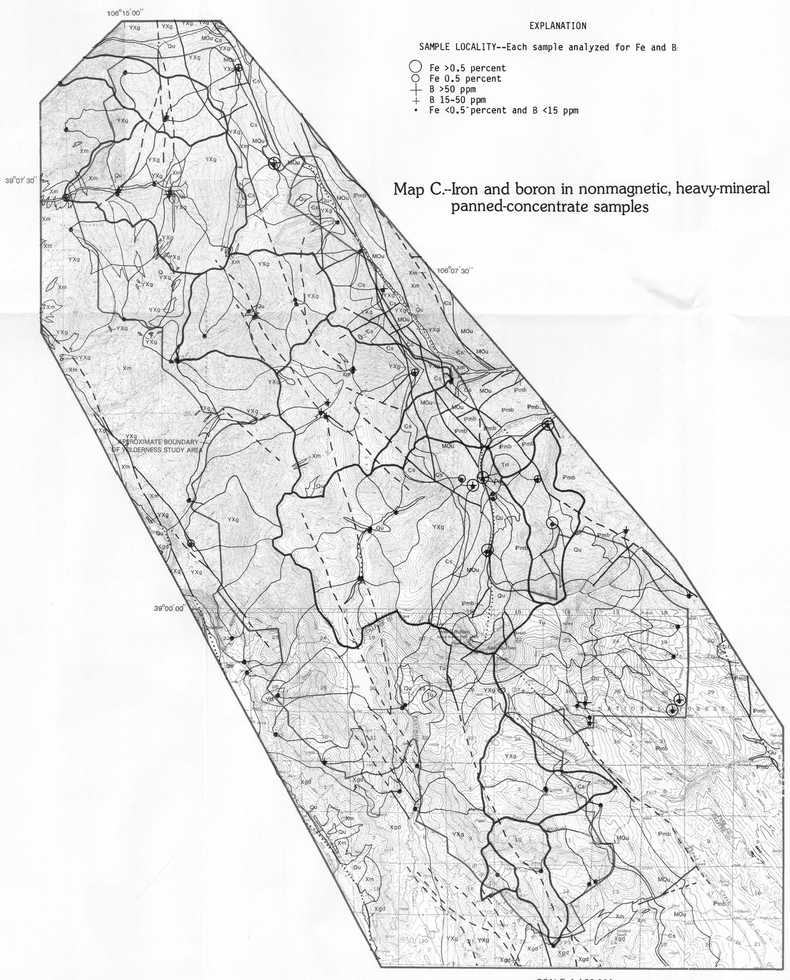
1 .5 0 1 2 3 4 5 KILOMETERS



Map C.–Iron and boron in nonmagnetic, heavy-mineral panned-concentrate samples

EXPLANATION

SAMPLE LOCALITY--Each sample analyzed for Fe and B

- ◯ Fe >0.5 percent
- ○ Fe 0.5 percent
- ┼ B >50 ppm
- + B 15-50 ppm
- • Fe <0.5 percent and B <15 ppm

SCALE 1:100 000

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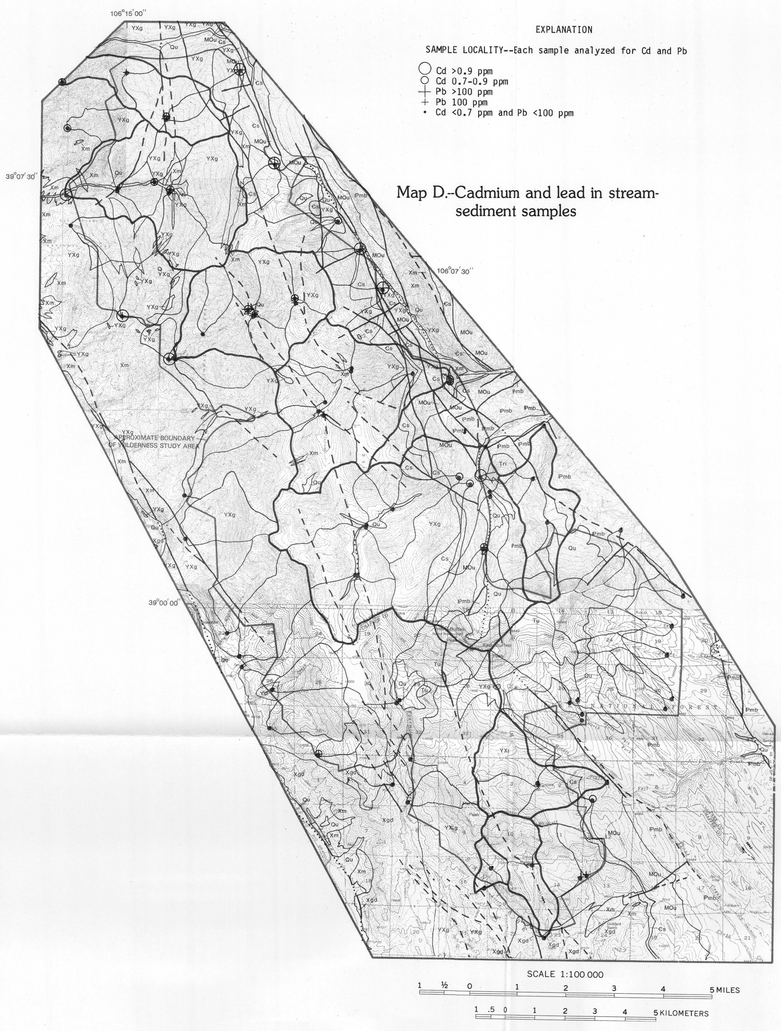

Map D.–Cadmium and lead in stream-sediment samples

EXPLANATION

SAMPLE LOCALITY--Each sample analyzed for Cd and Pb

- ◯ Cd >0.9 ppm
- ○ Cd 0.7-0.9 ppm
- ┼ Pb >100 ppm
- + Pb 100 ppm
- • Cd <0.7 ppm and Pb <100 ppm

SCALE 1:100 000

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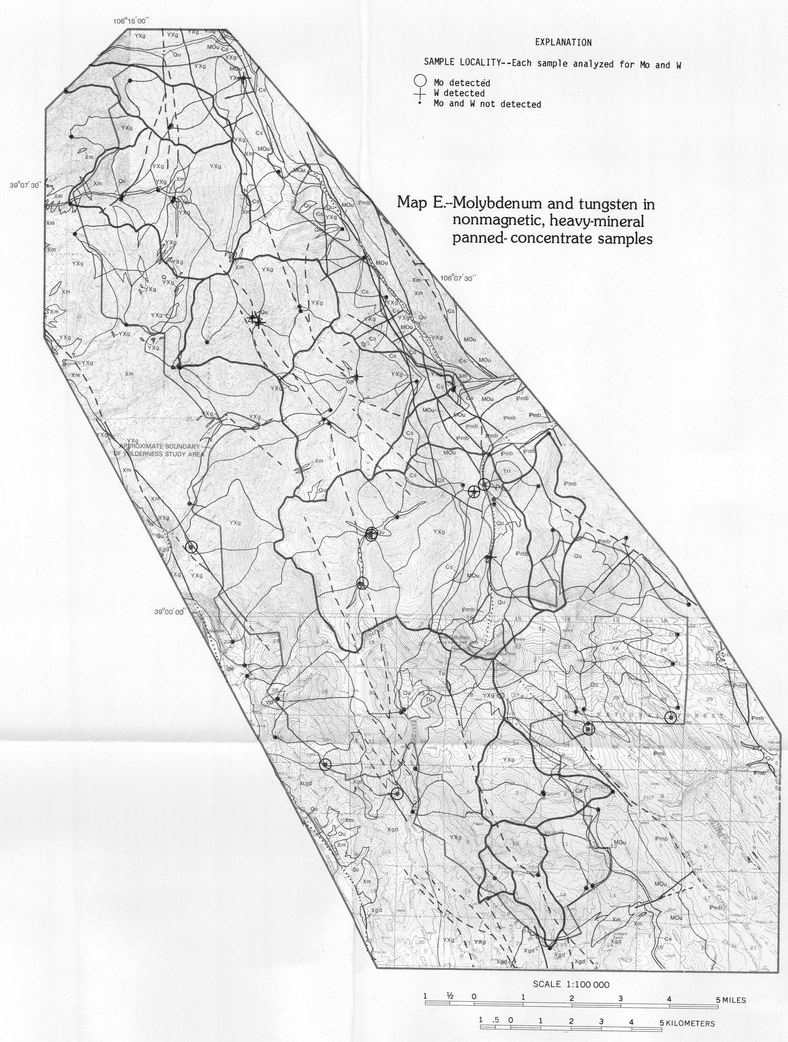

Map E.–Molybdenum and tungsten in nonmagnetic, heavy-mineral panned-concentrate samples

EXPLANATION

SAMPLE LOCALITY--Each sample analyzed for Mo and W

- ◯ Mo detected
- ┼ W detected
- • Mo and W not detected

SCALE 1:100 000

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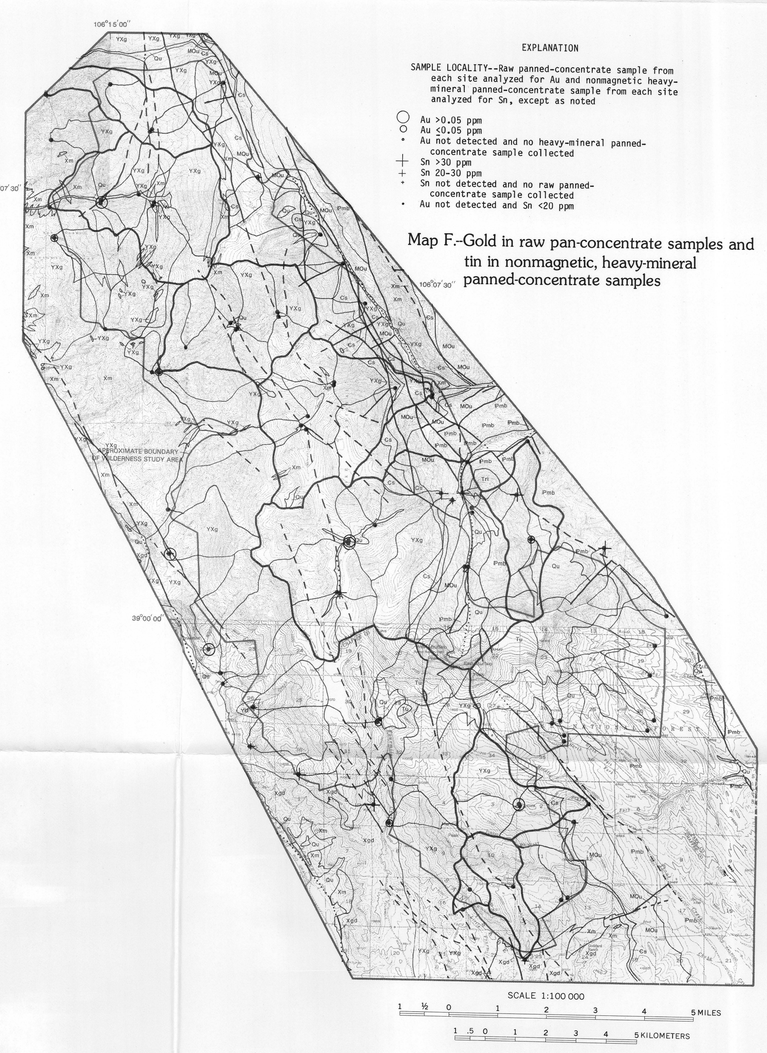
1 .5 0 1 2 3 4 5 KILOMETERS



Map F.–Gold in raw pan-concentrate samples and tin in nonmagnetic, heavy-mineral panned-concentrate samples

EXPLANATION

SAMPLE LOCALITY--Raw panned-concentrate sample from each site analyzed for Au and nonmagnetic heavy-mineral panned-concentrate sample from each site analyzed for Sn, except as noted

- ◯ Au >0.05 ppm
- ○ Au ≤0.05 ppm
- • Au not detected and no heavy-mineral panned-concentrate sample collected
- ┼ Sn >30 ppm
- + Sn 20-30 ppm
- • Sn not detected and no raw panned-concentrate sample collected
- • Au not detected and Sn <20 ppm

SCALE 1:100 000

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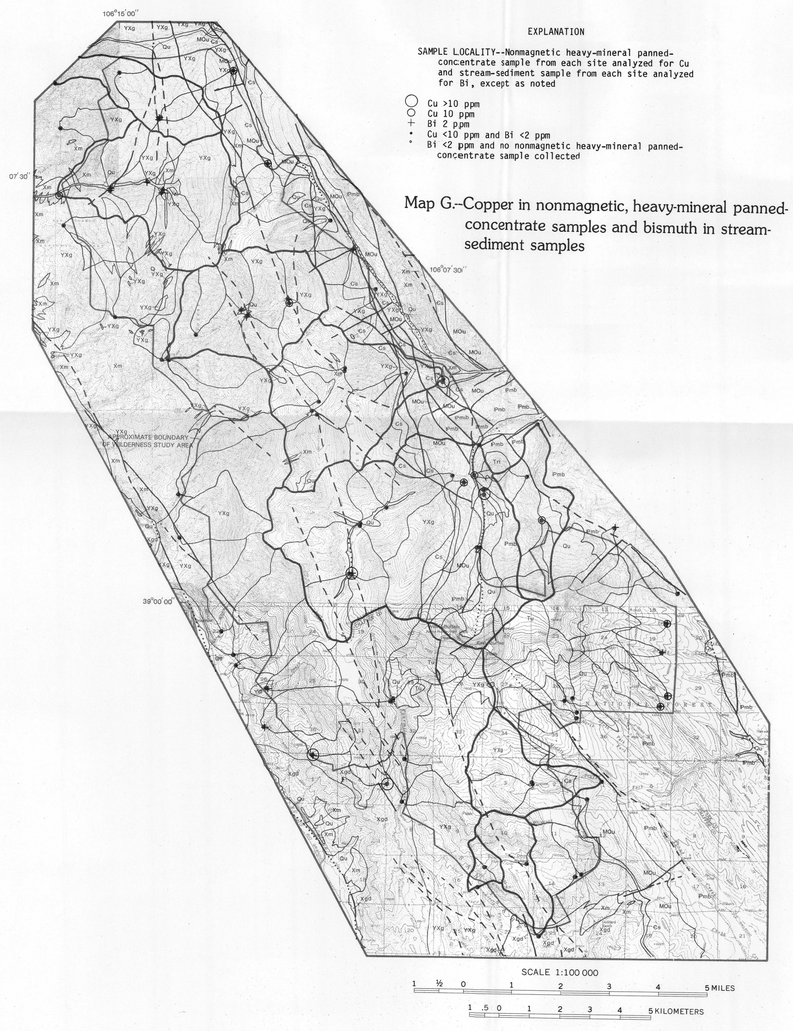


Map G.–Copper in nonmagnetic, heavy-mineral panned-concentrate samples and bismuth in stream-sediment samples

EXPLANATION

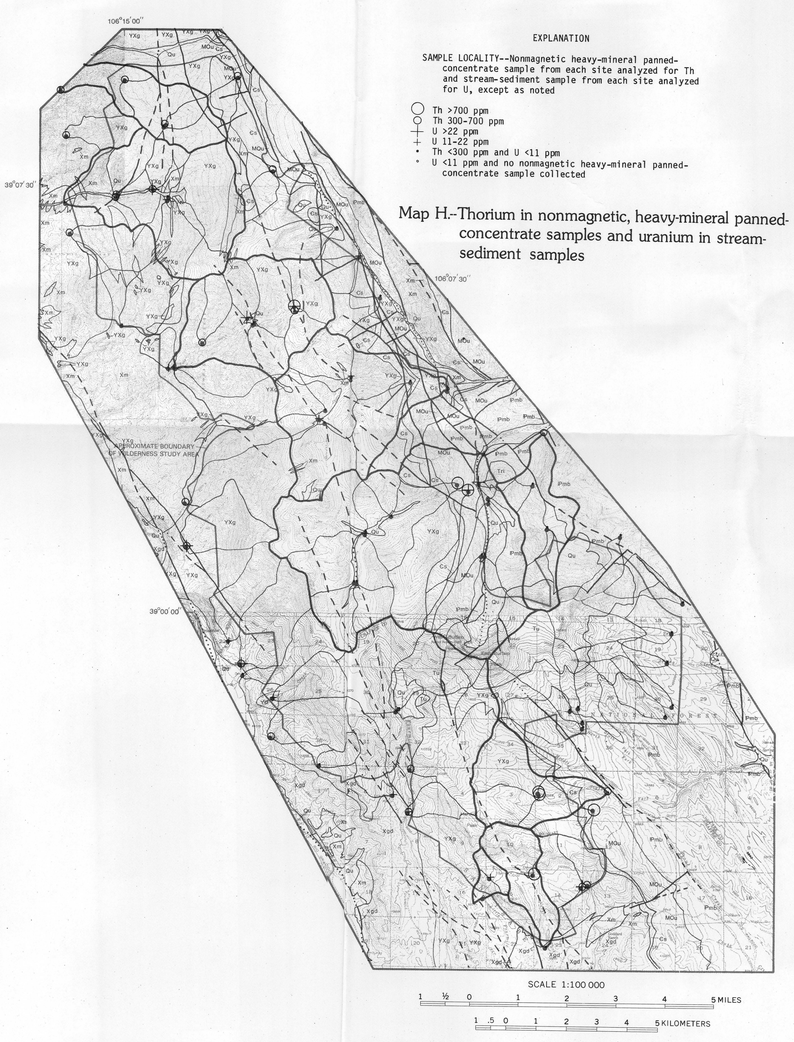
SAMPLE LOCALITY--Nonmagnetic heavy-mineral panned-concentrate sample from each site analyzed for Cu and stream-sediment sample from each site analyzed for Bi, except as noted

- ◯ Cu >10 ppm
- ○ Cu 10 ppm
- + Bi 2 ppm
- • Cu <10 ppm and Bi <2 ppm
- • Bi <2 ppm and no nonmagnetic heavy-mineral panned-concentrate sample collected

SCALE 1:100 000

1 ½ 0 1 2 3 4 5 MILES

1 .5 0 1 2 3 4 5 KILOMETERS



Map H.–Thorium in nonmagnetic, heavy-mineral panned-concentrate samples and uranium in stream-sediment samples

EXPLANATION

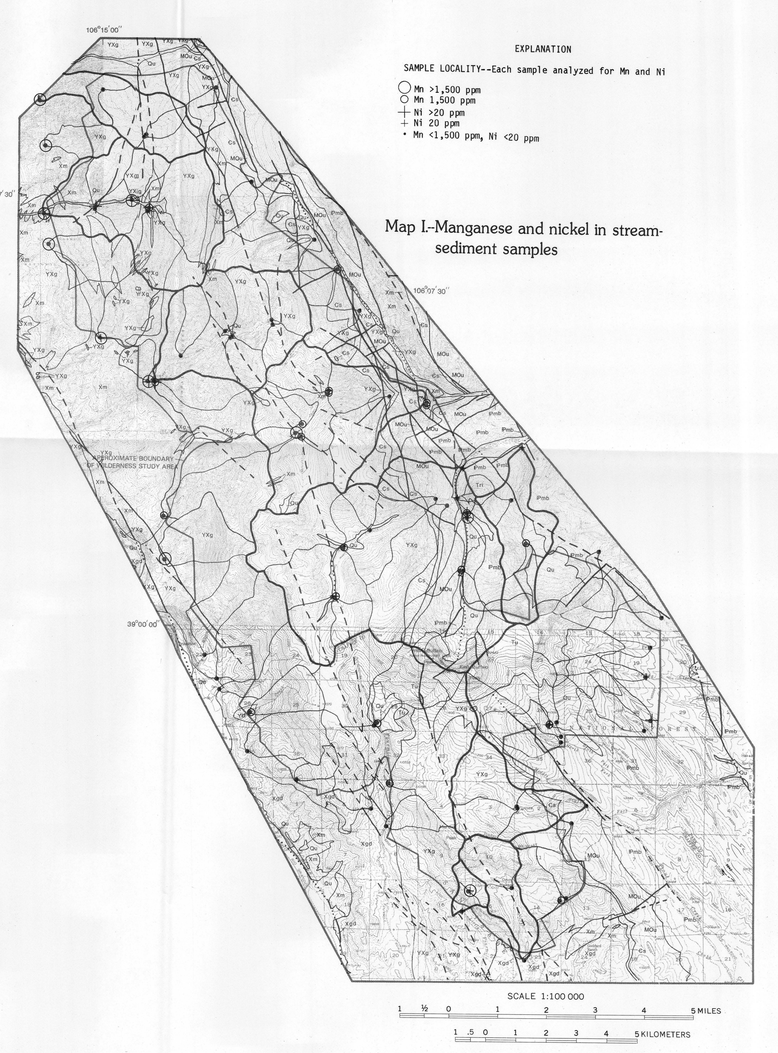
SAMPLE LOCALITY--Nonmagnetic heavy-mineral panned-concentrate sample from each site analyzed for Th and stream-sediment sample from each site analyzed for U, except as noted

- ◯ Th >700 ppm
- ○ Th 300-700 ppm
- ┼ U >22 ppm
- + U 11-22 ppm
- • Th <300 ppm and U <11 ppm
- • U <11 ppm and no nonmagnetic heavy-mineral panned-concentrate sample collected

SCALE 1:100 000

1 ½ 0 1 2 3 4 5 MILES

1 .5 0 1 2 3 4 5 KILOMETERS



Map I.–Manganese and nickel in stream-sediment samples

EXPLANATION

SAMPLE LOCALITY--Each sample analyzed for Mn and Ni

- ◯ Mn >1,500 ppm
- ○ Mn 1,500 ppm
- ┼ Ni >20 ppm
- + Ni 20 ppm
- • Mn <1,500 ppm, Ni <20 ppm

SCALE 1:100 000

1 ½ 0 1 2 3 4 5 MILES

1 .5 0 1 2 3 4 5 KILOMETERS

STREAM-SEDIMENT AND PANNED-CONCENTRATE GEOCHEMICAL MAPS OF THE BUFFALO PEAKS WILDERNESS STUDY AREA, LAKE, PARK, AND CHAFFEE COUNTIES, COLORADO

By
Gary A. Nowlan and Wendy J. Gerstel

1985

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