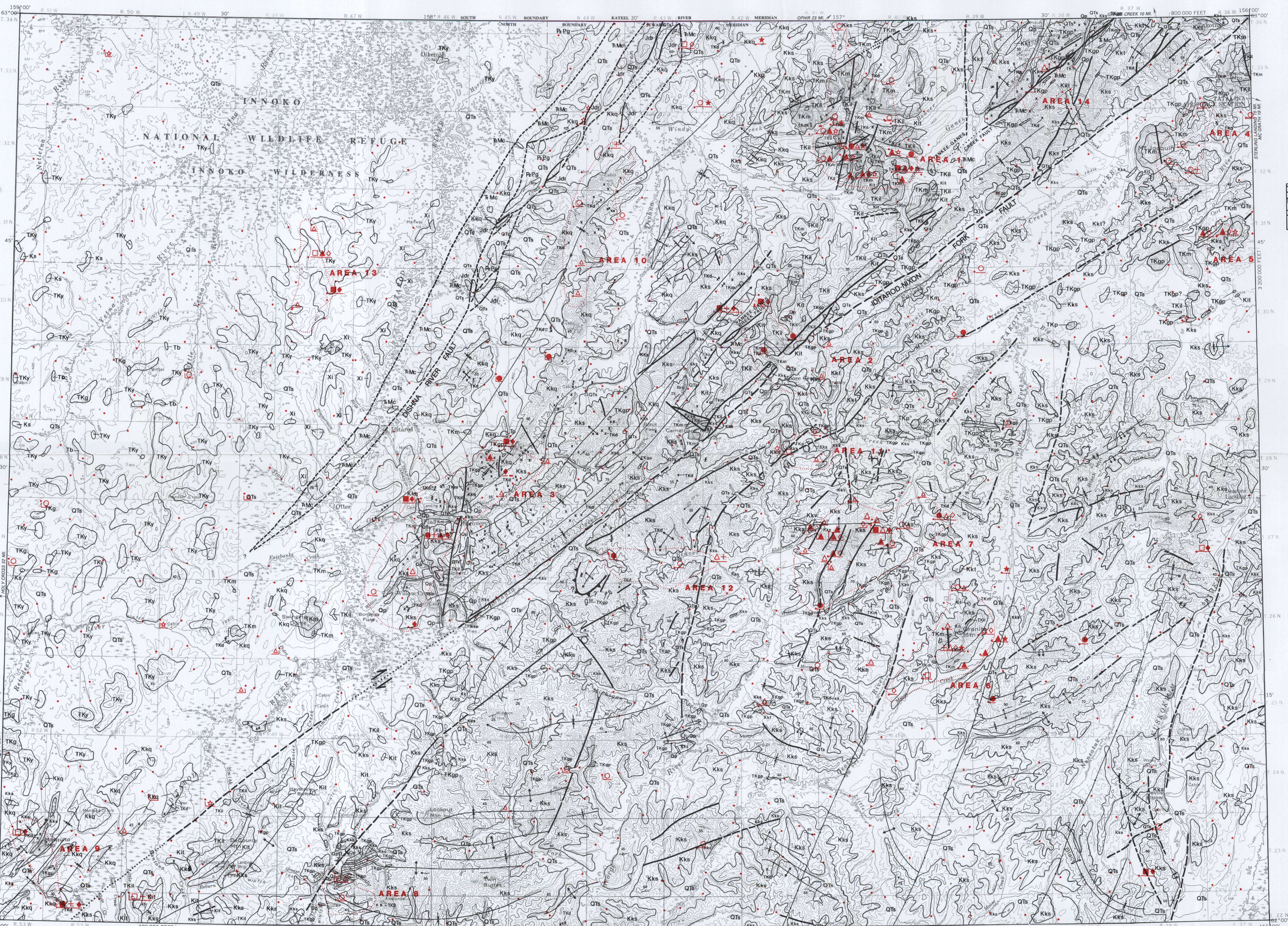
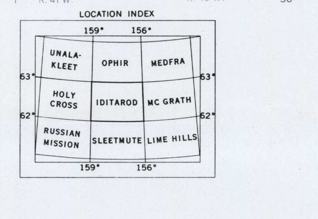


Base from U.S. Geological Survey, 1956
Geologic base from Miller and Bundtzen, 1994

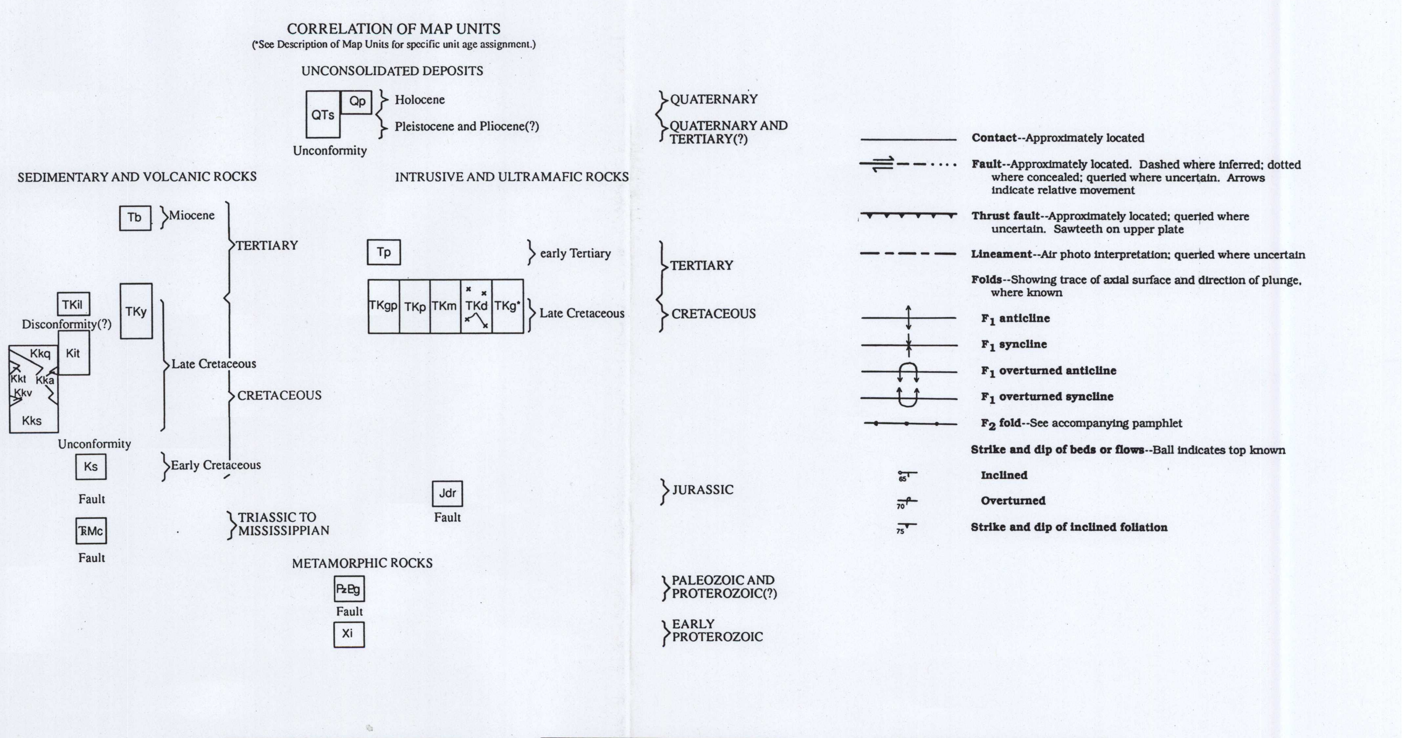
SCALE 1:250 000

CONTOUR INTERVAL 200 FEET

Manuscript approved for publication, July 22, 1997



CORRELATION OF MAP UNITS



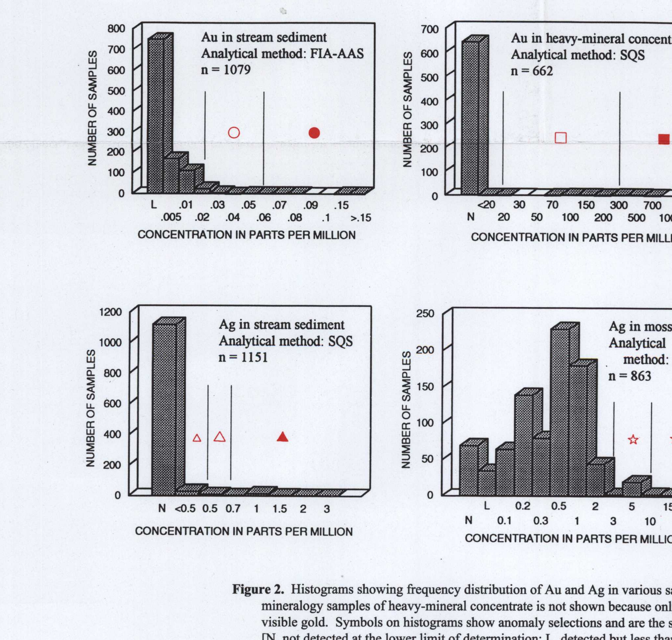


Figure 2. Histograms showing frequency distribution of Au and Ag in various sample media. Gold in the mineralogy samples of heavy-mineral concentrate is not shown because only 9 samples contained visible gold. Symbols on histograms show anomaly selections and are the same as those on the map. [N, not detected at the lower limit of determination; L, detected but less than the lower limit of determination; n, number of samples analyzed; SQS, semiquantitative spectrography; FIA-AAS, flow injection analysis-atomic absorption spectrophotometry.]

EXPLANATION OF GEOCHEMICAL MAP SYMBOLS

- Sample locality

Gold

- 0.01 - 0.05 ppm Au in stream sediment
- > 0.05 ppm Au in stream sediment
- 20 - 200 ppm Au in heavy-mineral concentrate
- > 200 ppm Au in heavy-mineral concentrate
- visible gold in heavy-mineral concentrate

Silver

- < 0.5 ppm Ag in stream sediment[1]
- 0.5 ppm Ag in stream sediment
- 0.7 - 2 ppm Ag in stream sediment
- 1 - 15 ppm Ag in heavy-mineral concentrate
- 20 - 500 ppm Ag in heavy-mineral concentrate
- 3 - 5 ppm Ag in aquatic moss
- ≥ 7 ppm Ag in aquatic moss

[1]0.5 ppm Ag in stream-sediment samples determined by SQS that were confirmed to contain 0.1 - 0.5 ppm by AAS.

Table 1. Summary of data used for Au-Ag anomaly map

[All values shown are parts per million (ppm), except detection ratio, *N, L, G*, and mineralogy results (based on visual percentage estimates of gold using a binocular microscope). Detection ratio is the number of unqualified values divided by the total number of samples analyzed. *N* is the number of samples in which concentrations were not detected at the lower limit of determination. *L* is the number of samples in which concentrations were reported as observable but were less than the lower limit of determination. *G* is the number of samples in which concentrations were detected, but were greater than the upper limit of determination. N, not detected at the concentration shown; L, detected but less than the concentration shown; G, greater than the concentration shown; n.d., no gold identified; --, not applicable; SQS, semiquantitative spectrography; FIA-AAS, flow injection analysis-atomic absorption spectrophotometry]

Element	Sample type	Detection ratio	*N*	*L*	*G*	Minimum	Percentiles 50th	90th	95th	98th	Maximum	Selected anomalous concentration
Au	Stream sediment (FIA-AAS)	0.30	0	758	0	0.005L	0.005L	0.006	0.01	0.05	1.55	0.01
	Heavy-mineral concentrate (SQS)	0.02	645	1	3	20N	20N	20N	20N	70	1000G	20
	Mineralogy (gold)	0.01	790	--	--	n.d.	n.d.	n.d.	n.d.	n.d.	1%	any visible gold
Ag	Stream sediment (SQS)	0.03	1084	30	0	0.5N	0.5N	0.5N	0.5L	0.5	3	0.5L[1]
	Heavy-mineral concentrate (SQS)	0.05	629	1	0	1N	1N	1N	1N	20	500	1
	Moss (SQS)	0.88	68	32	0	0.1N	0.5	1.5	2	3	20	3

[1]Only stream-sediment samples that contain less than 0.5 ppm Ag as determined by SQS and that were confirmed to contain 0.1-0.5 ppm Ag as determined by atomic absorption analysis were used in this report.

DESCRIPTION OF MAP UNITS

STUDIES RELATED TO AMRAP

INTRODUCTION

GENERAL GEOLOGY

MINERAL DEPOSITS

METHODS

RESULTS

Area 6 surrounds Granite Mountain. No mines or prospects are known in this area, but altered ...ite, vein breccias, and sedimentary rock hornfels collected in the Granite Mountain area contain as ... 0.05 ppm Au, 7 ppm Ag, 390 ppm Sb, 850 ppm As, 700 ppm Cu, 500 ppm Pb, 450 ppm Zn, 300 ..., 54 ppm Bi, 1.2 ppm Cd, and greater than 10 ppm Hg and 2,000 ppm B (McGimsey and others, ... The area 6 anomaly consists of 7 stream-sediment samples containing as much as 1 ppm Ag, 1 ...sediment sample containing 0.030 ppm Au, 2 moss samples containing 7 ppm Ag, 1 heavy-mineral-...rate sample containing 100 ppm Au, and 3 other heavy-mineral-concentrate samples containing 2-5 ..., 1 of which contains microscopically visible gold. Smaller areas on the south side of Granite ...

CONCLUSIONS

REFERENCES

———1983, Geologic map of the Iditarod D-1 quadrangle, Alaska: Alaska Division of Geological and Geophysical Surveys Professional Report 78, 1 plate, scale 1:63,360.
Bundtzen, T.K., Laird, G.M., and Lockwood, M.S., 1988, Geologic map of the Iditarod C-3 quadrangle, Alaska: Alaska Division of Geological and Geophysical Surveys Professional Report 96, 13 p., 1 plate, scale 1:63,360.
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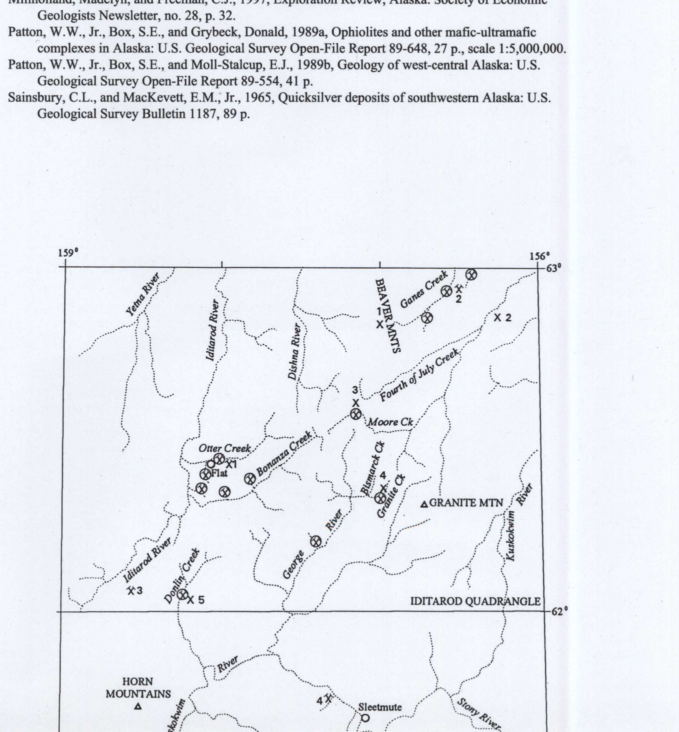

Figure 1. Index map of Alaska showing the Iditarod and Sleetmute quadrangles in southwestern Alaska. Lode mines and prospects shown are discussed in the text.

36,000 flasks) was recovered from the Red Devil mine in the Sleetmute quadrangle (Miller and others, 1989; Gray and others, 1997). The DeCourcy Mountain mine (T. 23 N., R. 50 W.; fig. 1) is the most

MAP SHOWING THE DISTRIBUTION OF ANOMALOUS CONCENTRATIONS OF GOLD AND SILVER IN STREAM SEDIMENT, HEAVY-MINERAL CONCENTRATE, AND AQUATIC MOSS IN THE IDITAROD QUADRANGLE, ALASKA

By

John E. Gray, J.M. Motooka, and R.M. O'Leary

1997