

DISCUSSION OF GEOCHEMISTRY

THIS REPORT SHOWS THE GEOCHEMICALLY DETERMINED DISTRIBUTION AND ABUNDANCE OF GOLD AND PLATINUM IN THE VICINITY OF PLATINUM, GOODNEWS AND HAGEMEISTER ISLAND QUADRANGLES, SOUTHWESTERN ALASKA. DATA PRESENTED HAVE BEEN COMPILED FROM ANALYSES AND LOCATIONS REPORTED BY BARNES AND OTHERS (1978); BERRYHILL (1963); CLARK, GRYBECK, GREENWOOD, AND OTHERS (1978); CLARK, GRYBECK, HESSIN, AND OTHERS (1978); COONRAD, HOARE, TAUFEN, AND HESSIN (1978); AND OVERSTREET AND OTHERS (1973). DATA DERIVED FROM ANALYSES OF ROCKS COMPRISING THE RED MOUNTAIN ULTRAMAFIC BODY (RM) AND ADJACENT RED MOUNTAIN CONTACT ZONE (RMC), INCLUDED IN TABLES IN CLARK, GRYBECK, GREENWOOD, AND OTHERS (1978), ARE TOO ABUNDANT FOR PRESENTATION AT THIS MAP SCALE. RESULTS OF MICROPROBE ANALYSES OF CHROMITES AND THE OCCURRENCE OF PLATINUM IN SOME OF THE RM SAMPLES ARE REPORTED BY BIRD AND CLARK (1976).

THE LIMITS OF THE SYMBOLIZED CONCENTRATION VALUES WERE ARBITRARILY SELECTED. HISTOGRAMS HAVE NOT BEEN CONSTRUCTED BECAUSE OF THE LIMITED NUMBER OF SAMPLES CONTAINING DETECTABLE AMOUNTS OF GOLD OR PLATINUM. ROCK SAMPLES IN WHICH GOLD OR PLATINUM WERE DETECTED HAVE CONCENTRATION VALUES SHOWN IN PARTS PER MILLION (EXCEPT THE EXCLUDED RM AND RMC SAMPLES).

IN EVALUATING THE SOURCE AND POSSIBLE SIGNIFICANCE OF THE GEOCHEMICALLY DETECTED GOLD AND PLATINUM SHOWN ON THIS MAP, THE CITED DATA SOURCES SHOULD BE CONSULTED. IN ADDITION, THE REGIONAL DISTRIBUTION RELATIVE TO GENERALIZED GEOLOGY (HESSIN, TAUFEN, AND OTHERS, 1978), THE MORE DETAILED GEOLOGIC MAP (HOARE AND COONRAD, 1978), THE AEROMAGNETIC MAP INTERPRETATION (GRISCOM, 1978), REPORTS ON PLATINUM (MERTIE, 1940, 1969, 1976), AND REPORT ON GLACIATION (PORTER, 1967) SHOULD ALSO BE THOROUGHLY CONSIDERED.

ABUNDANCE

NUMBER WITH SOLID ROCK SAMPLE-SITE SYMBOL REPRESENTS GEOCHEMICAL CONCENTRATION IN PARTS PER MILLION (PPM), LETTERS Pt. AND Pd. REPRESENT PLATINUM AND PALLADIUM CONCENTRATIONS RESPECTIVELY.

□ REPRESENTS CONCENTRATION OF GOLD DETECTED BY ATOMIC ABSORPTION METHODS ($\geq .01$ PPM)

◇ REPRESENTS CONCENTRATIONS OF PLATINUM DETECTED IN THE THOUSANDTHS PARTS PER MILLION (.00X PPM)

◇ REPRESENTS CONCENTRATIONS OF PLATINUM DETECTED IN THE HUNDREDTHS PARTS PER MILLION (.0X PPM)

EXPLANATION OF SYMBOLS

RM RED MOUNTAIN ULTRAMAFIC BODY

RMC RED MOUNTAIN CONTACT ZONE

MINED PLACER DEPOSITS

BURIED CHANNEL

GEOCHEMICAL SAMPLE SITES

★ CONCENTRATE (OVERSTREET AND OTHERS, 1973)

○ BEACH AND STREAM SEDIMENTS (BERRYHILL, 1963)

● OFFSHORE AND ONSHORE SEDIMENTS (BARNES AND OTHERS, 1978)

▽ ROCK (CLARK, GRYBECK, GREENWOOD, AND OTHERS, 1978)

• STREAM DRAINAGE SEDIMENT (CLARK, GRYBECK, HESSIN, AND OTHERS, 1978)

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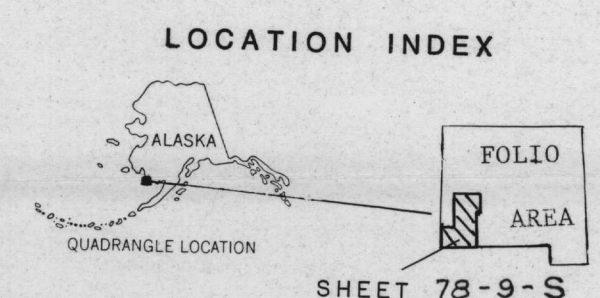
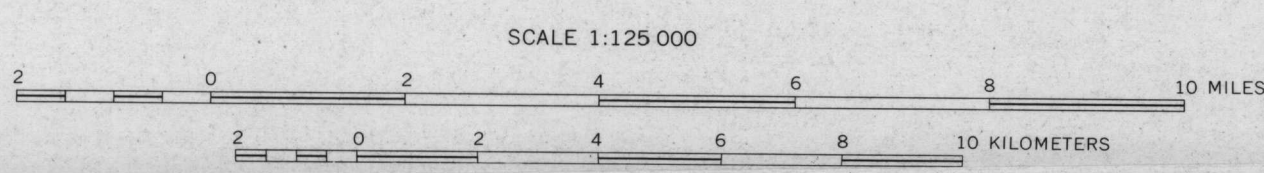
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BASE MAP FROM REDUCED MOSAIC OF U.S. GEOLOGICAL SURVEY MILE-TO-THE-INCH QUADRANGLES: GOODNEWS A-7 (1954), A-8 (1954); HAGEMEISTER ISLAND C-5 (1948), C-6 (1948), C-7 (1947), D-5 (1954), AND D-6 (1950).



GEOCHEMICAL MAP SHOWING DISTRIBUTION AND ABUNDANCE OF
GOLD AND PLATINUM
IN THE VICINITY OF PLATINUM

GOODNEWS AND HAGEMEISTER ISLAND QUADRANGLES REGION, SOUTHWESTERN ALASKA