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unlike the gray granites of the stream gravels. The remainder of the clasts of the stream gravels are described as slate and sandstone of local origin (Moffit, 1906), but a source in the Matanuska Valley or Talkeetna Mountains would have contributed rock types foreign to the Chugach terrane.

There is no immediate source for the granite south of Turnagain Arm. The nearest outcrop is near the Harding Icefield, immediately to the west of the Seward quadrangle, about 90 km south-southwest of Hope. Glaciers flowed north and west from the icefield during Naptowne time but, according to maps of Karlstrom (1964), did not expand into the drainage system of Turnagain Arm. In addition, the number of granitic clasts in the gravels decreases southward, opposite to what should be observed. No outcrop source exists to the east within the reaches of westward-flowing glaciers, and the increased number and size of the clasts are opposite to what would be expected.

Kenai River drainage system

In the eastern part of the Kenai River drainage system, a minor amount of placer gold was recovered from the flood plain of the lower part of Falls Creek, the benches along the lower segment of the stream, and at the mouth of the canyon (Martin and others, 1915). Several mines that produced abundant gold occur in the eastern part of the drainage system, but the streams are short and generally contain only a small amount of gravel that has undergone little reworking. Glaciers retreated from the area not long ago, and unreworked morainic material is present in some drainages (Johnson, 1912, p. 168).

In the northwestern part of the drainage system, some gold was produced from Quartz Creek, which flows across a bedrock floor. Lode mines that produced gold occur near Slate, Summit, and Colorado Creeks, which drain into Quartz Creek and probably supplied the gold. Bench gravels are thin, only 4 to 6 m thick, and the area had an extended period of time for reworking of the gravels.

Streams west of Kenai Lake yielded much of the gold recovered from the Kenai River drainage system, most of it from Stetson and Cooper Creeks, and a minor amount from the Kenai River (Moffit, 1906; Martin and others, 1915). No gold lode prospects or mines are known in the headwaters of Stetson and Cooper Creeks, but pan concentrates of stream sediments from several creeks in the general area gave gold values of 70 to more than 500 parts per million (Tripp and others, 1978), values commonly found in known lode gold districts of the Seward quadrangle.

Gravels along the lower 1 km of Cooper Creek and downstream along the Kenai River are deltaic deposits, as much as 60 m thick, formed at the margin of a glacial lake (Martin and others, 1915). These sediments were not reworked, except for the volume of them removed during downcutting by the present streams. Sediments along the upper reaches of Cooper Creek, upstream from the rock canyon cut by the creek, and along Stetson Creek are both morainal and glaciofluvial in origin. They are thinner, overlie bedrock, and are richer in gold (Johnson, 1912), but none was subjected to extensive reworking.

Resurrection River drainage system

The only record of placer gold production from the Resurrection River drainage system is a statement by Smith (1926, p. 12) that less than $5,000 worth of gold (gold valued at $20.67 per troy ounce) was recovered in 1924. Two lode gold prospects were located on the south side of the Resurrection River in 1900 (U.S. Bureau of Mines, 1973a, and KARDEX, 1976a), but no record of production is known. Gold values of 300 to more than 500 parts per million were detected in pan concentrates of stream sediments from the western part of the drainage system (Tripp and others, 1978), and in the Seward quadrangle, such values generally are restricted to districts of known lode gold deposits. The drainage system is considered to have only marginal interest for placer mining because the area is just emerging from beneath ice cover or was exposed only a relatively short time ago; the Resurrection River valley is clogged with glaciofluvial gravels, but the stream has not reworked gravels over an extended period of time, it does not flow across bedrock, and tributary streams generally do not contain much sedimentary debris.

Port Wells--Passage Canal drainage system

No significant amount of placer gold was produced from active stream or bench gravels in the Port Wells-Passage Canal drainage system even though gold-bearing quartz veins, as well as several lode gold mines, exist throughout the area. Gold-bearing stream gravels were discovered on Billings Creek north of Whittier in 1896 (Johnson, 1914), and semiquantitative spectrographic analyses of pan concentrates of stream sediments reveal gold in gravels throughout the district (Tripp and others, 1978). There is, however, no record of placer production or significant activity in the drainage basin, and only a few claims were recorded. Ice still covers part of the area, and the remainder of the drainage system was exhumed only recently from beneath ice. The streams are short, many of them contain little gravel and (or) drain into deep fiords, and the glaciofluvial material has not undergone extensive reworking to concentrate gold.

BEACH PLACER DEPOSITS

No productive beach placer deposits are known in the map area. The beach placer at Sniper's Point (A) near the mouth of Sixmile Creek has not been worked (Johnson, 1912, p. 161; Martin and others, 1915, p. 187). The placer deposits of Harris Bay (B) and Johnstone Bay (C) were listed as active claims in 1975 (U.S. Bureau of Mines, 1973b, and KARDEX, 1976b), but nothing is known about production.

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MAP SHOWING PLACER DEPOSITS OF THE SEWARD AND BLYING SOUND QUADRANGLES, ALASKA

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