

## Recommendations for Exploration and Future Study

### Recommendations for Exploration

There are several possible exploration targets for placer gold in various geomorphic settings. These are shown in Figure 73 and are described as follows:

- A) pre-Reid glacial till, high on valley sides, proximal to local bedrock sources of gold;
- B) McConnell to Holocene gulch gravels, high in tributary valleys proximal to local bedrock sources of gold;

C) in alluvial fan complexes, most favorably near the apexes of the alluvial fans;

D) in pre-Reid till, deep in the valleys of Nansen Creek and Victoria Creek;

E) in point and channel bars of Recent gravels in the main valleys of Nansen and Victoria creeks;

F) in pre-Reid glaciofluvial deposits, generally proximal to local bedrock sources of gold; and

G) in pre-Reid till beneath Reid-age remnant alluvial terraces, and possibly within the remnant terraces themselves.

The concentration of placer gold in all of these stratigraphic and geomorphic settings can be highly variable, and depends upon a number of factors including proximity to local bedrock gold sources, amount of fluvial reworking of the gravels, and the age of the deposits. The economics of mining the placer gold in these various settings depends on a number of physical factors including the depth of overburden, the amount of frozen ground, the amount of water available for mining, and the various physical properties of the sediments themselves.

### Recommendations for Future Study

#### A) Reid-age remnant alluvial terraces

The exact character and origin of these remnant alluvial terraces, both on tributary valleys such as Weber Creek and on the margins of the main valleys of Nansen and Victoria creeks, needs to be examined further. Exposure is typically poor as previous workers and placer miners have not generally worked these deposits.

Preliminary examinations of these deposits have shown them to have several unusual aspects including:

- i) the sand matrix is unusually well-sorted, lacking in heavy minerals and sand grains are unusually well-rounded and quartz-rich;
- ii) clasts within the deposits are unusually angular and are often ventifacts;
- iii) the terraces comprise an unusually large volume of sediments in a relatively small basin.

#### B) Ages of pre-Reid sediments

It is still not possible to discern between deposits of the two pre-Reid glacial advances, except possibly in the case of the lithologically different "older till" found on Nansen Creek section NAN I-1 and described in earlier chapters. Further work needs to be done in the Mt. Nansen area and areas adjacent to it if this distinction is to be possible.

#### C) Pre-Reid glacial limits - Carmacks and adjacent Aishihik and McQuesten map sheets

Due to the subdued nature of pre-Reid glacial features (Bostock, 1966), the exact limit of the pre-Reid ice advances is generally poorly-defined, in the Carmacks map area as well as in the adjacent Aishihik and McQuesten map areas. Further fieldwork must be done to identify pre-Reid deposits and map the limits of the pre-Reid glaciations.