# MAYO AREA PLACER ACTIVITY MAP

Scale 1: 250 000

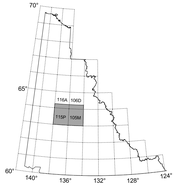
## LEGEND

### PLACER ACTIVITY:

- Major gold-bearing streams with significant mechanized placer mining operations
- Proven or potential gold-bearing streams with some prospecting or exploration history, but no significant mechanized placer mining operations.

### GLACIAL LIMITS: (Duk-Rodkin, 1999b; and Bond, 1999)

- Established
- Estimated
- Interpolated




### GLACIAL DEPOSITS: (Duk-Rodkin, 1999b; and Bond, 1999)

- McConnell (ca. 22 Ka)
- Reid (ca. 200 Ka)
- Pre-Reid (from ca. 3 Ma)
- Unglaciated

### OTHER GLACIAL FEATURES:

- Major ice flow direction (Bond, 1999)

### BASEMAP FEATURES:

- Seaplane Base
- Heritage Sites
- Seaplane Base
- Tower
- Building
- Built-Up Area
- Campground
- UTM Grid Marks (10 km Spacing)
- Highway
- 2 Wheel Drive
- 4 Wheel Drive
- Trail
- Winter Trail
- Other
- Mining District Boundary
- Special Management Area Boundary

5 0 5 10 15 20 Miles

5 0 5 10 15 20 25 30 Kilometres

CONTOUR INTERVAL 500 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1983
Transverse Mercator Projection
Ten Thousand Metre Universal Transverse Mercator Grid
ZONE 8

Magnetic declination 1970 for 105 M varies from 33°15' easterly at centre of west edge to 34°03' easterly at centre of east edge. Mean annual change decreasing 4.2'.

Magnetic declination 1990 for 115 P varies from 30°20' easterly at centre of west edge to 30°50' easterly at centre of east edge. Mean annual change decreasing 12.2'.

## PLACER GOLD AND GLACIATION IN THE MAYO AREA (by J.D. Bond):

Placer gold deposits in the Mayo area are located within the limits of the last two Yukon Quaternary Cordilleran glaciations: the McConnell glaciation (22,000 years ago) and the Reid glaciation (200,000 years ago). Both of these glaciations terminated in the Mayo area. The climatic cycles associated with glacials and interglacials have played an important role in modifying the geologic settings of placer deposits. Unlike non-glaciated placer settings, like those found in the Dawson area, glaciated settings have more complex stratigraphic associations.

Drastic changes in climatic regimes invoke extreme erosional and depositional periods. Placer deposit settings have been documented from three different climatic environments in the Mayo area: interglacial settings (includes the modern Holocene settings and past interglacial deposits); glacial settings (includes both Cordilleran and local alpine glaciation); and periglacial settings (areas left physically unglaciated yet altered due to their proximity to the glaciers and the harsh climate).

The degree of preservation and accessibility of placer deposits that have formed in these complex settings is determined by three important characteristics:

1) Proximity of the Mayo area to the Cordilleran glacial limits where glacial deposition was more dominant than erosion.
2) Orientation of placer-bearing drainages perpendicular to paleo-ice flow, which also limited glacial erosion.
3) Accessibility or exposure of paleo-placer deposits as a result of natural fluvial erosion during post-glacial and interglacial periods.

Modern mining in the Mayo area is still largely focused on traditional streams. While the most accessible deposits were exploited in the early part of the 20th century, current mining is finding economical grades deeper in the stratigraphy and along the margins of valleys where surficial sediments overlie paleo-placers.

## DATA SOURCES AND ACKNOWLEDGEMENTS:


Placer activity was compiled using the local knowledge of Yukon Geology Program surficial geologist, J. Bond, and placer geologist, W. LeBarge; placer occurrence locations from 1: 250 000 scale Yukon MINFILE 2001 maps; gold-bearing streams reported on Gilbert's (1979) "treasure map"; placer operation locations from the Indian and Northern Affairs Canada Placer MINFILE Database; and maps and reports from Kreft's (1993) placer mining and exploration compilation.

Glacial limits and deposits were modified from Duk-Rodkin's 1:250 000 scale compilation (1999b), based on work by Bond (1999), Bond and Duk-Rodkin (1996), and Hughes (1968).

Topographic base provided by Natural Resources Canada in conjunction with Yukon Land Information Management System (LIMS). Roads and trails were modified by Department of Renewable Resources, Yukon Government.


## REFERENCES:


Bond, J.D. and Duk-Rodkin, A., 1996. Surficial geology, McQuesten, Yukon Territory. Geological Survey of Canada, (1:250 000 scale).

Bond, J.D., 1999. Glacial limits and ice-flow map, Mayo area, central Yukon (1:250 000 scale). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-13.

Duk-Rodkin, A., 1999a. Glacial limits map of Yukon Territory. Geological Survey of Canada, Open File 3694, Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Geoscience Map 1999-2, 1:1 000 000 scale.

Duk-Rodkin, A., 1999b. In Yukon Digital Geology, Gordey, S.P. and Makepeace, A.J. (comp.) Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 1999-1(D) (1:250 000 scale).

Gilbert, G.W., 1979. Yukon Placer 1979 "Treasure Map." Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.

Hughes, O.L., 1968. Glacial map of Yukon Territory (1:1 000 000 scale). Geological Survey of Canada Map 6-1968, Paper 68-34.

Kreft, B., 1993. Placer Mining and Exploration Compilation (NTS 105 M and 115 P). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open Files1993-10(G).

Yukon MINFILE - Mineral Occurrence Maps (1:250 000 scale), 2001; Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.

Yukon Placer MINFILE Database. Unpublished database; Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada.


## RECOMMENDED CITATION:

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Compilation, digital cartography and drafting by P.S. Lipovsky, Yukon Geology Program.

Any revisions or additional information known to the user would be welcomed by the Yukon Geology Program.

Copies of this map may be purchased from Geoscience Information and Sales, c/o the Whitehorse Mining Recorder, Indian and Northern Affairs Canada, Room 102 - 300 Main St., Whitehorse, Yukon, Y1A 2B5, Ph: (867) 667-3266; Fax: (867) 667-3267; geosales@inac.gc.ca. This and other YGP publications can be downloaded free of charge at our website: www.geology.gov.yk.ca


Indian and Northern Affairs Canada
Exploration and Geological Services Division
Yukon Region

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# MAYO AREA PLACER ACTIVITY MAP
## PORTIONS OF NTS SHEETS 105 M, 106 D, 115 P AND 116 A


By P. Lipovsky, J. Bond, & W. LeBarge



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