

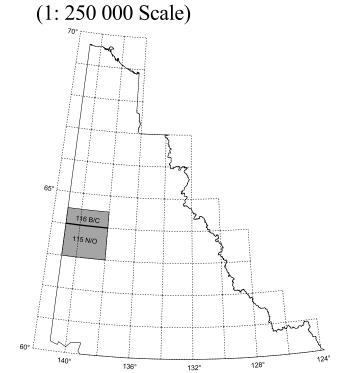
STEWART RIVER PLACER PROJECT

RESOURCE APPRAISAL MAP FOR PLACER GOLD IN THE STEWART RIVER (115 N/O) AND PART OF THE DAWSON (116 B/C) MAP AREAS, YUKON

2 Wheel Drive Heritage Sites - - - 4 Wheel Drive Seaplane Bas Winter Trail ··-··- Other Built-Up Area """ Territorial Boundary Campground

Mining District Boundary UTM Grid Marks (10 km Spacing)

Tombstone Territorial Park Boundary Topographic base provided by Natural Resources Canada in conjunction with Yukon Land Information Management System (LIMS). Roads and trails were



the pre-Reid (late Pliocene-early Pleistocene). Reid (Middle Pleistocene) and McConnell (Late Pleistocene) glaciations, whereas the area Prospect or occurrence of lode gold.

Generally, the area northeast of and including

unglaciated, with the exception of the pre-Reid

glaciation in the upper part of the Stewart River

particularly south of Tintina Fault. These deposits

Placer gold occurs throughout the map area,

are in the most important historic and present

Scroggie, Barker, Thistle and Kirkman creeks)

uplift of bedrock (i.e., isostatically compensated

of aggradation and incision) due to the repeated

Bench and creek placers are the primary type of

placer deposits in the map area. These deposits

to Holocene in age. Historically, they have been

are mainly fluvial in origin and range from Pliocene

classified into three levels of gravel with four main

units (Cairnes, 1917; Cockfield, 1921; McConnell,

1905, 1907): the low-level gravel is Pleistocene to

Holocene in age and occurs along valley bottoms;

forms low, irregular terraces; and the high-level

gravel is Pliocene in age and includes the White

Channel Gravel that form prominent terraces.

the intermediate-level gravel is Pleistocene in age and

Generally, the placers consist of framework supported,

poorly bedded, slightly muddy sandy pebble to cobble

gravel, and most of the gold is concentrated on or in

decomposed bedrock, or within the lower 1-2 m of

gravel above bedrock (McConnell, 1905, 1907).

Fist-size nuggets to flakes capable of floating on

water have been recovered, and the gold has a

fineness ranging from approximately 700-850.

Nearly 300,000 ounces (9330 kg) of gold were

produced from placers in the map area during

1896. However, reliable estimates on gold

1995-97 (approximately 85% of the Yukon's placer

since the discovery of placer gold in the Klondike in

resources are not commonly available. Generally,

\$300.00 U.S. per ounce in the years 2000 - 2002.

marginally economic with the price of gold at

most of the placers in the map area are considered

gold production), with over 300 metric tonnes produced

RESOURCE POTENTIAL

glaciation of the Yukon (Lowey, 2001a,b).

DEPOSIT CHARACTERISTICS

placer mining areas. The dominant mechanisms

controlling the formation of the placer deposits were

exhumation) and climate change (resulting in cycles

southwest of Tintina Trench was largely

Valley (Bostock, 1966).

Tintina Trench was glaciated several times during

placer-gold producing regions in the Yukon, such 21 - 1328 Stream Sediment Gold concentration (ppb), as the Klondike (i.e., Bonanza, Hunker and Regional Geochemical reconnisance map (100 - 1986). Dominion Creeks), Indian River, Sixty Mile River, Moosehorn Range, and lower Stewart River (i.e.,

PROBABILITY OF OCCURRENCE OF PLACER GOLD

(L) Slightly diagnostic (h) Highly suggestive (m) Moderately suggestive (I) Slightly suggestive (U) Unfavourable - including bedrock geology -3 - -1

+3 +0 +0 +2 Resource appraisal based on Rating Scale (values are

unknown (i.e., nd, no diagnostic characteristics available).

CONFIDENCE 4 3 2 1 0 - - - (m) + - -- - - -, - - - + - - - |- - - - | |---|---| | |---|--- |----|---|---| ---|---|---|---

EXPLANATION FOR RESOURCE APPRAISAI LODE GOLD (Yukon MINFILE map number)

♠ Lode deposit from which gold has been produced

GEOCHEM

Sum of Favourability Score

maximum for a stream or terrace and are listed in order of alluvial geology, geochemistry, placer occurrence (i.e., known resources) and lode occurence (i.e. probable

NOTE: The majority of streams are unranked because no data was available; hence, the probability of occurrence of placer gold is

NUMBER OF KINDS OF DIAGNOSTIC DATA

Confidence - Favourability diagram for placer gold.

PLACER MINERAL OCCURRENCES

RATING SCALE

ALLUVIAL GEOLOGY

Channel Gravel deposits.

deposits (including Klondike gravel)

veneer), and mass wasting deposits.

GEOCHEMICAL ANOMALIES

fans, pediments, etc.

mud, and/or coal.

+2 Gold produced from one or more placers in the drainage system (i.e., placer gold mine). +1 One or more gold placer prospects or occurrences in the drainage system.

0 No gold placer deposits known in the drainage system.

+3 Pleistocene - Holocene gravelly fluvial deposits commonly

mid- to high-level terraces.
+1 Pliocene (?) gravelly fluvial deposits other than the White

-1 Pliocene-Holocene deposits consisting primarily of sand,

-2 Pliocene-Pleistocene glaciofluvial, glaciolacustrine and till

-3 Bedrock outcrops (including thin colluvial blanket and

+2 Gold greater than or equal to 21 ppb in stream sediment

+1 Gold less than 21 ppb in stream sediment samples.

0 No gold detected in stream sediment samples.

0 Pliocene-Holocene gravelly deposits forming alluvial

forming narrow zones within stream valleys.

+2 Pliocene White Channel Gravel commonly forming

McConnell

All time Laurentide extent (ca. 30 ka)

Katherine Creek Phase Limit (ca. 22 ka)

Tutsieta Lake Phase Limit (ca. 13 ka Bp)

LODE GOLD MINERAL OCCURRENCES

+2 Gold produced from one or more lodes in the drainage system (i.e., lode gold mine). +1 One or more lode gold prospects, or occurrences in the drainage system

0 No gold-bearing veins known in the drainage system.

SCALE VALUES

diagnostic ("H") or moderately diagnostic ("M") for the occurrence of placer gold in the area. The highest appraisal given to any area is slightly diagnostic ("L") (see Confidence-Favourability diagram), which is in itself a strong indication for the occurrence of placer gold in a drainage so classified.

DISCUSSION

The streams with the highest placer gold potential (i.e., slightly diagnostic or 'L', with favourability scores of 8-9) have already been extensively mined (e.g., Bonanza, Sulphur and the upper part of Dominion creeks, the lower part of the Indian River, and the upper part of the Sixtymile River). Other streams with potential are those ranking 'highly suggestive' (i.e., 'h', with favourability scores of 6-7). This also includes streams that have been extensively mined (i.e., Hunker and Gold Run creeks, the lower part of the Klondike River, Allgold Creek, the upper part of the Indian River, the lower part of Montana Creek, tributaries to the upper part of the Sixty Mile River, the Fortymile River, Maisy May, Thistle, Kirkmam, and Ten Mile creeks, and the Moose Horn Range area), and streams that have not been mined (i.e., Fifty Mile, Rosebud, Rosebute, and Eighteen Mile creeks, and the upper part of the North Ladue River and its tributaries). The remaining streams ranked in the study area range from moderately suggestive (i.e., 'm', with favourability scores of 4-5) to slightly suggestive (i.e., favourability scores of 0-3, or 'l'). Several of these streams have also been extensively mined (i.e., the lower part of Dominion, Blackhills,

BEDROCK GEOLOGY - TERRANE UNIT

POST-TERRANE AMALGAMATION/ACCRETION UNITS:

Pp - Paleogene post-accretion plutons LKp - Late Cretaceous and Early Tertiary post-accretion plutons

mKp - mid-Cretaceous post-accretion plutons EJp - post-amalgamation plutons characteristic of Stikinia

Qs - Quaternary cover beneath which terrane boundaries cannot be extended with confidence

Stikinia (Tantalus)

SEDIMENTARY/VOLCANIC:

TQv - largely basalt (Tertiary(?) and Quaternary) Tvs - Tertiary felsic to mafic volcanic rocks and interbedded terrestrial sedimentary rocks

uKv - Upper Cretaceous mafic and lesser felsic volcanic rocks, mostly Carmacks Group JKs - Jurassic and Lower Cretaceous sedimentary rocks overlapping Wrangellia and Alexander terranes (Dezadeash);

minor contemporaneous fluvial sedimentary rocks above

NA - ANCESTRAL NORTH AMERICA: Lower Proterozoic to Carboniferous passive and offshelf continental margin sedimentary rocks, Devonian to Carboniferous clastic wedges and Pennsylvanian to Jurassic-Cretaceous continental margin prism

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RECOMMENDED CITATION:

Lowey, G.W., Deforest, S., and Lipovsky, P., 2002. Stewart River Placer Project Resource Appraisal Map (1:250 000 scale), Yukon. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Open File 2002 - 6. Compilation, digital cartography and drafting by P.S. Lipovsky and S. Deforest, Yukon Geology Program.

Any revisions or additional information known to the user would be welcome by the Yukon Gelogy Program. Copies may be purchased by Geoscience Information and Sales, c/o Whitehorse

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gold bearing streams reported on Gilbert's (1979) "treasure map", and the

geosales@inac.gc.ca. This and other sales can be downloaded free of charge from our website: www.geology.gov.yk.ca DATA SOURCES Lode mineral occurrences from 1:250 000 scale Yukon MINFILE 2001 maps;

Indian and Northern Affairs Canada Yukon Placer Database.

PERICRATONIC: rocks possess elements of passive margin sedimentation but differ in stratigraphic or structural characteristics from the ancestral North American margin

YTNA - NASINA SUBTERRANE: Metamorphosed early(?) to mid-Paleozoic continental margin with superposed Late Devonian and Early Mississippian arc volcanic (=Nasina assemblage) and (YTp) plutonic rocks

Scroggie and the upper part of Matson creeks).

YTKS - KLONDIKE SCHIST SUBTERRANE: Metamorphosed upper Paleozoic arc(?) volcanic (=Klondike Schist assemblage) and plutonic (YTp) rocks

YTa - AMPHIBOLITE SUBTERRANE: □ Amphibolite of uncertain subterrane affinity; may include Slide Mountain YTp - Plutonic rocks superposed on Nasina and Klondike Schist

ACCRETED, INTERMONTANE SUPERTERRANE:

SM - SLIDE MOUNTAIN: Oceanic and/or marginal basin volcanic and sedimentary rocks of Devonian to Late Triassic age including chert, argillite, sandstone, conglomerate, mafic intrusions, basalt, alpine-type ultramafic rocks, carbonate rocks and local blueschist and eclogite

> Indian and Northern Affairs Canada Exploration and Geological Services Division

> > Yukon Region Open File 2002 - 6

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> By G.W. Lowey, S. Deforest and P. Lipovsky This map was released in November, 2002

Note: This map is issued as a preliminary guide only and is not intended to be used for navigation or to define legal boundaries. The map was made by combining various sources, and no responsibility will be taken by the Yukon Geology Program for any errors, inaccuracies or ommissions whatsoever.

CONTOUR INTERVAL 200 METRES Mining Recorder, Indian and Northern Affairs Canada, Room 102 - 300 Main St., Elevations in Feet above Mean Sea Level North American Datum 1983 Transverse Mercator Projection Ten Thousand Metre Univeral Transverse Mercator Grid ZONE 7 Magnetic declination 1988 for 115O&N varies from 29°45' easterly at centre of west edge to 30°38' easterly at centre of east edge. Mean annual change decreasing 14.7' at centre of west edge to 31°15' easterly at centre of

Magnetic declination 1990 for 116B&C varies from 30°17' easterly east edge. Mean annual change decreasing 11.3'.