671099

GEOLOGICAL EXPLANATION with BACKGROUND ECONOMIC DATA for MINERALS FOUND on LEASES 7567 and 1835 BOULDER CREEK, near MANSON CREEK, B.C.

NTS 93N/9W

LATITUDE 55° 35½' LONGITUDE 124° 21½'

owned by

MOUNT GILLES MINING & EXPLORATION LTD.

W.R. Bulmer

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CONTENTS

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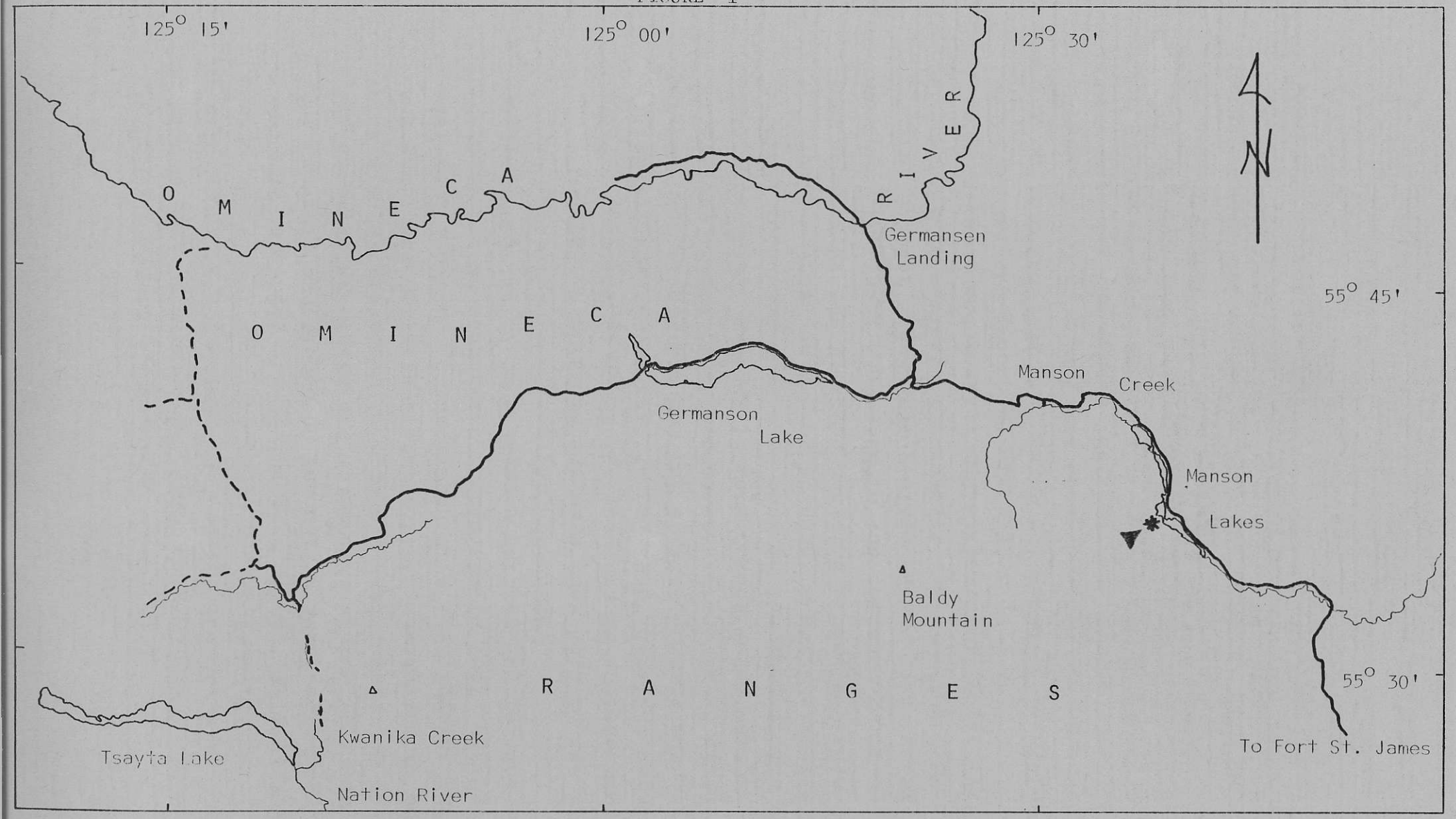
Summary

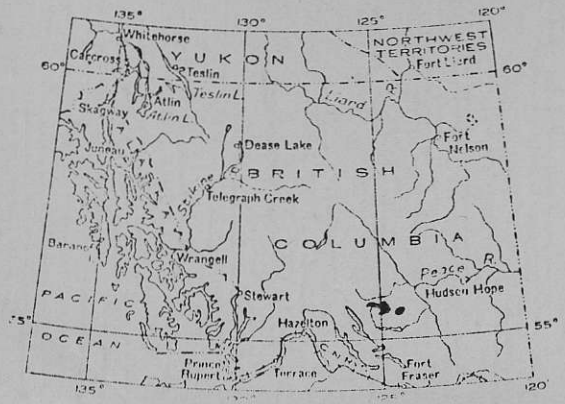
The property, located in north-central B.C., consists of two placer leases, and one lease under application. The two leases are each one kilometre by one half kilometre and contain gold-tin-tungsten bearing gravels. A small portion of the property was worked successfully for its gold content in the late 1960's and early 1970's. In addition, portions of the ground was worked by a few individuals and families during the Great Depression. Tungsten recovery was attempted in the early 1970's, however mechanical difficulties and a weak financial position of the operating company precluded further work. It was at this stage that Geologists from the Geological Survey of Canada discovered unusually high tin content. Unfortunately, the discovery was too late for recovery attempts.

Location and Access

The leases are located near the mouth of Boulder Creek, on the west side of the lover Manson Lake. The Manson Lakes in turn can be reached via Highway 27, a gravel road, about 100 miles north of Fort St. James, B.C. . The site, 1½ miles west of Highway 27, can be reached by four wheel drive road. Fixed wing aircraft are able to land in the lower Manson Lake, or alternatively, helicopters may land at the site.

FIGURE 1





MANSON RIVER

BRITISH COLUMBIA

CASSIAR LAND DISTRICT

93 N

Miles 5 0 5 10 15 20 Miles

Scale of Kilometre

5 0 5 10 15 20 25 30

Magnetic Declination at approximately 26°59' East at centre of sheet, 1969.
Decreasing approximately 4'05" annually

Previous Work and History

The Boulder Creek area, although not worked until the early 1930's, may be considered part of the old Germanson-Manson gold camp, the placer gold first being discovered in 1870. Between 1870 and the early 1890's the area was actively worked. However the emphasis was placed on recovering the placer gold found within the existing creeks and not on the extensive areas of the gold rich glacial gravels. It is likely that toward the end of the 1880's and early 1890's, many placer miners, having worked out areas of easy gold recovery in the Manson area left for the Yukon, where the Klondike appeared more promising. In fact, migration from the Manson area started considerably earlier, during the mid 1870's to the Cassiar gold fields farther north.

A renewed interest in the area took hold in the early 1900's, where hydraulicing, under the auspices of various mining companies achieved large scale proportions. Today derelict machinery, miles of hand dug flumes and rotting sluices dot the country side. Individual operators with machinery are able to claim a profit today, but they continue to work ground which was part of the original gold camp that date back to the turn of the century.

Boulder Creek on the other hand is still essentially untouched, and because of its location contains minerals within its gravels not normally found elsewhere in the region.

The Boulder Creek area yielded enough gold during the Great Depression to sufficiently support the late Joe Michaud, Pete Peterson, Frank Robinson and family, Ernie Floyd and George Eys, all of which worked the ground by hand.

In 1960 and 1981, Mr. Bater succeeded in acquiring all the ground in the Boulder Creek area that has proven potential. Test pits were dug throughout the area, and in the late 1960's a total of 93 ounces were recovered in less than two months work. In the fall of 1970, four days of mechanised work produced six and one half ounces of coarse gold, the remaining fine gold and black sand concentrate, 100 pounds in all, was sent to Delta Smelting at Richmond B.C. for final milling. The throughput for the above approximated 368 yards of paystreak.

It wasn't until 1965 when abundant quantities of Scheelite granules were discovered in the concentrate. Soon afterward, Mr. Bater incorporated Northern Tungsten Mines Ltd. to carry out exploration of properties in the immediate area. During the 1972 field season, Mr. Bob Mulligan of the Geological Survey of Canada visited the property to investigate the scheelite occurance and appraise the property's tungsten potential. Samples of the concentrate were removed for analysis. The following year, Mr. Mulligan returned for further samples and at that time remarked on the extraordinarily high cassiterite content, the existance of which had hitherto been unknown in the Boulder-Manson Creek area.

Geology

General

The placer leases lie within the Omineca tectonic belt which is characterised by an interfingering of sediments derived from the east and volcanics from the west. Areas of high regional metamorphic grade occur as well as numerous plutons.

The property is more specifically situated at the eastern edge of an intermediate to felsic pluton reported to be of Cretaceous age. The pluton has intruded a series of sediments considered to be of Mississippian age that were deposited along the western edge of an accreting continent. The Manson Fault Zone, a significant crustal break, passes just west of Manson Lake. Glacial deposits of boulder clay and accompanying gravels, sands and silts overlie much of the bedrock at lower elevations. Thickness of the overlying glacial deposit varies in accordance with the underlying ancient topography. High banks of the boulder clay occur on Germanson and Manson Creeks, and in both cases are underlain by fluvio-glacial gravels which are often gold bearing.

Property Geology

The property is situated at the foot of the north-east flank of Mount Gilles, and at the foot of the south-east flank of Blackjack Mountain. Both mountains are believed to be intrusives of felsic composition which have intruded regionally metamorphosed argillaceous cherts, siltstones and limestones. Metamorphism of the sediments is moderate to high grade, the majority of the sediments being biotite and sericite schists with minor paragneiss.

The more gneissic components are generally near the granite contact, which is higher on the Mount Gilles flank, and suggests that granitisation has taken place.

Glacial deposits of boulder clay, and accompanying gravels, sands and silts cover the property, most of which lie between the 3100 and 3000 ft. level. The Manson Lake level is ± 2840 ft. The distribution of the glacial debris is such that the largest boulders, many of which weigh from 10 to 30 tons, occupy what once may have been the centre of a torrential sub-glacial waterway. This waterway flowed from the highlands northwest of the property, and carried with it gold which may have originally been part of the Manson Creek placer deposits. In addition, abundant scheelite and cassiterite is found, betraying a probable source to the northwest. Moving laterally away from the centre of the ancient channelway, the boulders reduce in size, although a build up occus on the east flank of Mount Gilles. Several raised beaches may be found up slope, and ultimately, at the 3600 ft. level, fan out into a deposit of fine sand and silt.

Mineralisation

Mineralisation within the grav els which occupy the centre of the ancient channelway, (also the site of the coarsest fraction), is heaviest when confined to an iron-rich, partially cemented section known as the paystreak. The paystreak varies in thickness from two to six feet, and is thickest where the bottom of the ancient channelway deepened, or the inside curve of a bend where the water flowed slowest.

Minerals found within the paystreak include gold, scheelite, cassiterite, magnetite, pyrite various lead and zinc sulphides, numerous rock forming minerals such as quartz, mica, feldspars, and associated minerals such as garnet and zircon. A bulk sample of the concentrate will undergo petrographic analysis to identify economic minerals in addition to gold, scheelite and cassiterite. Lateral movement away from the waterway's centre, results in a thinning of the paystreak thereby reducing the size and quantity of gold. Due to the lighter specific gravity of cassiterite and scheelite, these minerals would tend to concentrate towards the edge of the paystreak or where the fine gold would predominate.

Gold

Gold occurs as coarse nuggets, flattened grains and scales. The nuggets are generally rounded or of irregular shape and often weigh up to several pennyweight in size. The colour is of a good gold colour suggesting little substitution for copper. Silver is likely to be present in small amounts.

Scheelite

Granules of scheelite ranging in size from 1/16 to 1/2 inch in size are found in abundance within the concentrate. The colour ranges from white to cream-brown and fluoresces a bright bluish-white suggesting little if any molybdenite contamination.

Cassiterite

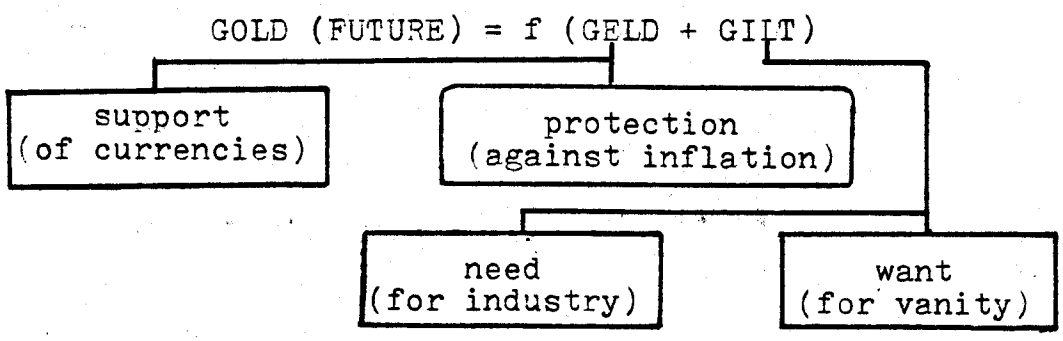
Crystals and nodules of cassiterite have been found in abundance by the Geological Survey of Canada, some crystals of which were reported to be over one inch in length.

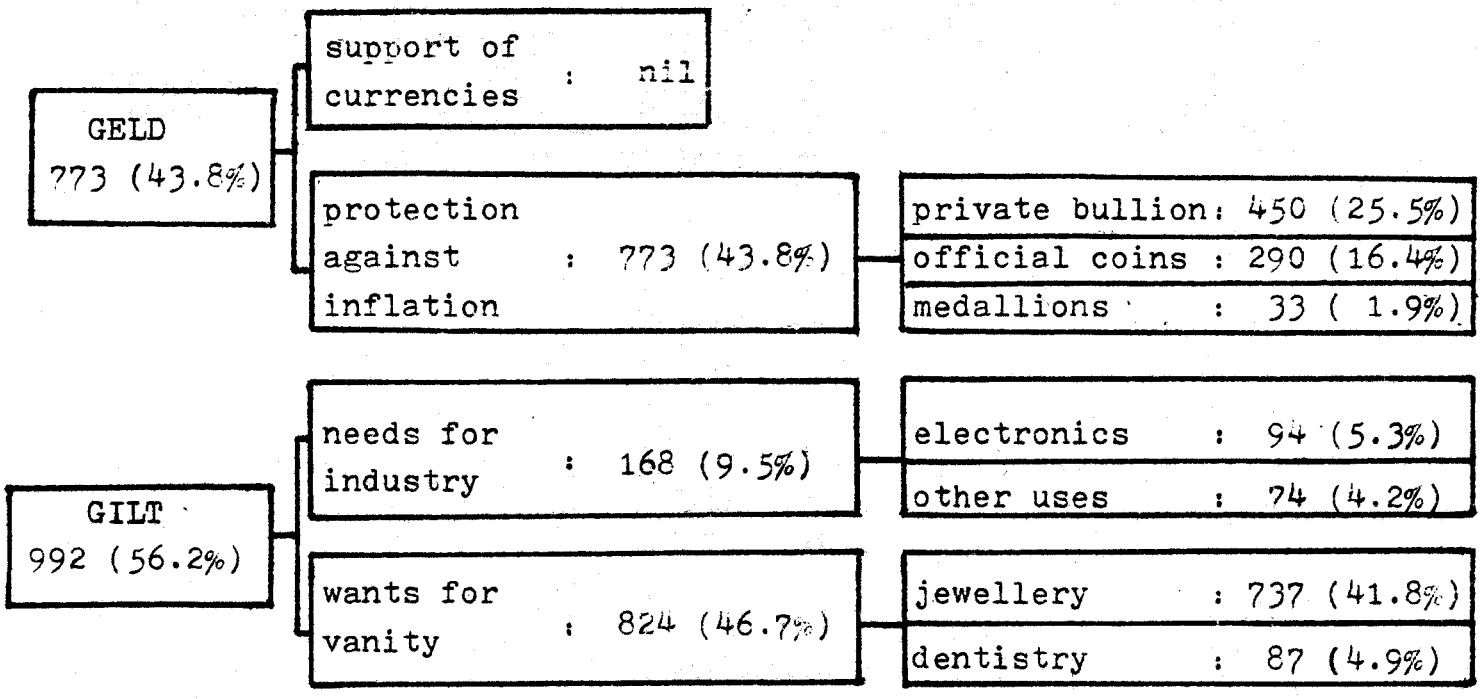
Units of Measurement, Prices and Metal Statistics

Gold

While much of the former, and some of the current production is from alluvial (placer) deposits, the primary source of gold production and reserves are from underground (hardrock) mines. Of this approximately 20% of current gold production is in the form of a by-product from the production of base metals, notably copper. Gold is purchased by government mints in the form of bullion-bars or bricks consisting of gold with more or less silver and minor amounts of impurities. Nuggets and "dust' collected from placer deposits by washing, are readily marketable.

The end uses of gold purchased in 1979 is shown in the diagramme below. It is to be noted that world production amounted to 1,380.6 metric tons, 385 metric tons less than was actually sold. This demand over supply is projected to continue until the end of the century.





Gold is measured in grams or ounces, and quoted in U.S. dollars.

One ounce (Troy) = 31.1 grams = 20 pennyweight
One pennyweight (dwt) = 1.55 gms = .05 oz.
One gram (gm) = .03 oz.
One part per million (1ppm) = .9 gms per ton

Pure gold = 24 karat, 50% gold = 12 karat

White gold = gold + nickel + copper + zinc
Green gold = gold + silver + copper + zinc
Pink gold = gold + copper
Gold gold = gold + copper + silver

World production 1982 = 41,000,000 oz.
Canada's production = 1,800,000 oz.
South Africa's production = 21,324,367 oz.

Canada's %age of world production = 4.4%
S.A.'s %age of world production = 52%

Price range 1982 varied from about $300.00US to about $500.00US

Closing price 1983 was $385.00US

Tungsten

Although this metal tends to be associated with tin in natural occurance, the dominant production is not from the two most important tin producing areas in the world. The largest production is in southeast China. In North America, the Cantung Mine owned by Canada Tungsten Mining Corp. Ltd., situated on the Yukon-NWT border, supplied almost 5% of the world production in 1978. The commercial

The commercial ores are scheelite ($CaWO_3$) and wolframite (Fe,Mn) WO_3. Tungsten is sold by the mine in a form of concentrate. The standard grades are 65% for pure wolframite and 60% for scheelite. Tungsten ores are concentrated by gravity methods, but with relatively low recovery, 65 - 80%.

Tungsten prices are quoted in short ton units of contained WO_3, and in British countries in long ton (tonne) units.

One ton = 2000 pounds
One ton unit = 20 pounds

One tonne (long ton) = 2,240 pounds
One tonne unit = 22.4 pounds

World production 1982 = about 92,000 tons
Canada's production = 3,365 tons
China's production = 23,000 tons

Canada's percentage of world production = 3.6%
China's percentage of world production = 25%

Closing price 1983 was $ 74.00US per tonne unit
or $ 3.30US per pound

Tin

Tin is the most selective, geographically of the base metals. Over 55% of the known world reserves are from the area that includes Thailand, Malaysia, western Indonesia and southwestern China.

The mineralisation is associated with granite formed between 300 and 48 million years ago, or from alluvial (placer) deposits derived from the mineralisation. The principle ore mineral is cassiterite (SnO_2). Because of its high specific gravity it yields a high grade concentrate by gravity methods, recoveries however are low. Bolivian ores have a recovery of about 60%, which is considered good.

Tin is quoted in cents per pound of contained metal. London prices are in Pounds Sterling per long ton of metal.

World production for 1982 = 114,675 tons
Canada's production = 169 tons
Malaysia's production = 53,432 tons

Canada's percentage of world production = .1%
Malaysia's percentage of world production= 47%

Closing Price 1983 was $7.95US per pound

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** Available to Shareholders upon request.