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CIM FIELD TRIP (Williams Lk.)

May 26/00

BULLION PIT

+ Marie Hampton

General

The Bullion Pit is located 97 kilometres east of Williams Lake and 5 kilometres west of Likely.

History

The Bullion Pit was one of the largest placer gold mines in the world, measuring 1500 by 450 by 125 metres. In 1895, John Hobson began mining the Bullion Pit. Estimations indicate that a total of 200 million tonnes of material were removed by hydraulic methods and 5.463 million grams (or 175,644 ounces) of gold were produced. Sporadic mining took place in the immediate area through to 1942; a small amount of work was done recently.

Geology

The gravels in the Bullion Pit are stratigraphically equivalent to those hosting the Wells-Barkerville Cariboo gold fields. These are Pleistocene gravels, predominantly from the last glacial event. The lowest gravels are fluvial and may represent a pre-Wisconsin (greater than 100,000 years before present) non-glacial event. Above these are glacio-fluvial gravels and till of the early Wisconsin stade. This segment is 33 to 100 metres thick and contain the highest gold values. Unconformably above that is a layer of consolidated lodgement till called the "boulder clay" by early placer miners. The unconformity represents the Olympia glacial interstade of the middle Wisconsin (60,000 to 30,000 years before present). This lodgement till is typically no more than several metres thick. The lodgement till represents the base of the Fraser glacial stade of the late Wisconsin (30,000-10,000 years before present). Above the till are well stratified gravels that form the balance of the upper 30 to 50 metres of section. The top of the section is capped by a thin veneer of Holocene debris (less than 10,000 years before present). The ancient channel of the Bullion pit represents an infill of a fluvial channel (greater than 100,000 years before present).

Gold recovered from the Pleistocene gravels was usually fine "coarse" gold with nuggets 0.9 to 7 grams in size. Gold is flattened, well worn and frequently coated in oxide. Provenance, in part, appears to be the metamorphic terrane to the east, the same as the provenance of placer gold in the Wells-Barkerville area. Some of the gold, along with large euhedral crystals of pyrite and arsenopyrite, is probably more proximal. The source is possibly from quartz veins with pyrite and arsenopyrite bearing alteration envelopes hosted by black phyllites of the basal Triassic assemblage, such as those on Spanish Mountain.

The lower gravels of the early Wisconsin glacial stade carry the higher grade gold values (0.203 grams per cubic metre). Calculated from all published sources, the average grade is 0.0711 gram per tonne and the best value was 0.0766 gram per tonne (Minister of Mines Annual Report 1935, page 16). In 1986, measured recoverable reserves of 16,200,000

tonnes of ore grading 0.7542 gram per tonne gold were reported (George Cross Newsletter #120, 986).

Production and Reserve Statistics

Production Year	Tonnes Mined	Commodity	Grams Recovered	Ounces Recovered
1895-1942	200,000,000	Gold	5,462,148	175,644

Ore Zone/Year	Tonnes/Category	Commodity	Grade	Reference/Comments
Bullion Pit 1986	162,00 kt Measured	Gold	0.75 g/t	George Cross Newsletter No. 120, 1986