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Write-up : 1½ days (John Bradford)
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Silver Tip Crown Grant

LOCATION AND ACCESS

The Silver Tip claim group is about 34 kilometres north of Stewart, B.C. in the Skeena Mining Division, map area 104 B 01 E. The group lies between 56° 07.4′ and 56° 08.1′ ~~North~~ latitude and 130° 00.4′ and 130° 01.2′ ~~West~~ longitude. The property comprises the following six Crown-granted claims:

Lot 4036 Bella Coola
Lot 4037 Good Hope
Lot 4038 May P.J.
Lot 4039 Silver Leaf
Lot 4040 Ladybird No. 2
Lot 4163 September Fraction.

The claims occupy a gently rolling upland between 975 and 1280 metres elevation on the southeast slope of Mount Dillworth. The area is between Big Missouri Ridge to the west and Long Lake to the east, near the head of Silver Creek. The underground workings on the property are accessible by four-wheel drive from Stewart via the Big Missouri road.

HISTORY

Exploration and development in the area began in 1915 when C. Williams shipped a small amount of ore from open cuts near the east bank of Silver Creek. In 1919 three claims, the Silver Leaf, Bella Coola, and May P.J. were owned and under development by J.V. Clegg, of Hyder, Alaska. The Silver Tip Mining Syndicate, Ltd., was formed in 1920, and development on the three claim groups proceeded under the supervision of P.W. Racey.

The area immediately northeast of the Silver Tip group was examined by Racey in 1919. ~~and~~ In that year Silver Crest Mines, Ltd. was incorporated to assume ownership of ~~an eleven cl~~ the Silver Hill ~~claim~~ group of eleven claims, ~~which~~ which included the September Fraction, ~~just north~~ north of the May P.J. claim boundary. Development work on the Silver Hill group consisted of open cuts on the September Fraction ~~claim~~ and Development.

The Silver Tip Mining Co. Ltd. was incorporated in 1925 and acquired an expanded Silver Tip group of five claims, including The Good Hope and Ladybird No. 2. Surface and underground development proceeded on several claims until 1929, when operations ceased.

Underground work on the Silver Hill group began in 1924 and proceeded for two years. In 1925 about 36 tonnes of ore from surface cuts ~~was~~ were shipped, but amounts of recovered metals ~~was~~ were not reported.

In 1946 the Silver Tip Mining and Development Co became Silver Tip Gold Mines Ltd., and surface and underground development on the Silver Tip group ~~continued~~ proceeded intermittently until 1957. In 1950 10 tonnes of ore were shipped from the May P.J. vein, from which 124.4 grams of gold, 21,552 grams of silver, 1395 kilograms of lead and 1967 kilograms of zinc were recovered. A further

155.5 grams of gold, 30,975 grams of silver, 1851 kilograms of lead, and 2432 kilograms of zinc were recovered from a 14.5 tonne shipment in 1951. A total of 732 metres of underground work and 183 metres of surface diamond drilling has been completed to date.

PRODUCTION AND RESERVES

1. Total production reported, Silver Tip and Silver Hill claim groups: 60.5 tonnes

2. Reported metals recovered, Silver Tip:

   Au - 279.9 grams
   Ag - 52527 grams
   Pb - 3246 kilograms
   Zn - 4399 kilograms

3. Reserves, May P.J vein, Silver Tip claim group:

   7485 tonnes grading 34.3 grams/tonne Ag, 1.2 % Pb, 1.5 % Zn, and

   3810 tonnes grading 371.7 grams/tonne Ag, 3.2 % Pb, 2.5 % Zn, 1.7 grams/tonne Au.

GEOLOGY AND MINERALIZATION

The Silver Tip property is underlain by volcanic and sedimentary rocks of ~~Lower~~ Jurassic age, which lie in a north-northwesterly trending belt. The sequence is folded into a syncline whose axial ~~trace~~ surface trace strikes north-northwest along the west side of Long Lake. The folded sequence is cut by the east-southeast to southeast trending Portland Canal dyke swarm, of ~~probable~~ Eocene age. North-trending faults appear to post-date the dykes.

The oldest rocks in the claim area are andesitic tuffs with intercalated argillaceous epiclastics (Alldrick's (1985) unit 1c, Grove's (1971) unit H1). To the east and overlying this unit is a north-trending belt of ~~fragmental~~ epiclastic sedimentary rocks which ~~probably~~ thicken to the ~~south~~ toward Slate Mountain ~~Mount Dilworth~~ (Alldrick's (1985) unit 2b, Grove's (1971) unit M1; Plumb's (1957) "Bear River tuffs"). These purple, subaerially deposited rocks have been variously described as "~~conglomerate~~ sediments" (Alldrick (1985)), "cataclasites" (Grove (1971)), and "argillaceous tuffs (Plumb (1957)).

Overlying the fragmental unit on the east side of Silver Creek is a felsic tuff sequence dominated by a thick unit of carbonaceous crystal and lithic lapilli tuffs with local argillaceous siltstone lenses. (Alldrick's (1985) ~~unit 3f~~, "Black tuff", unit 3f, Grove's (1971) unit B1, Plumb's (1957) "black slates" and "black porphyr

This unit is the dominant host rock for mineralization in the claim area. It is overlain disconformably by dark grey to black grits and ash-rich argillaceous siltstones, which are separated from the underlying tuffs by a regional bedding plane fault. The sediments continue to the west side of Long Lake.

~~Almost perpendicular to~~

The Portland Canal dyke swarm trends almost perpendicularly to the volcanic-sedimentary sequence. The most southerly dyke in the claim area outcrops just north of the main showings at "Porphyry Creek". Dykes of three lithologies are present. The oldest are biotite or biotite-hornblende granodiorites, which may be up to 60 metres in width. These are ~~so~~ crosscut by aphanitic microdiorite or "andesite" dykes which in turn are cut by thin lamprophyre dykes. Aplitic lenses also occur, often associated with quartz veins in mineralized zones.

The Porphyry Creek dyke is cut by a north trending fault along Silver Creek which displaces the west end ~~the~~ of the dyke about 75 metres north. East-west striking, southerly dipping "tension faults" were believed by Plumb (1957) to be associated with the Silver Creek fault and genetically related to mineralization at the main showing. One of these faults, the May PJ Fault, dips south at a steeper angle than the Porphyry Creek dyke to the north, and

crosscuts the dyke underground. The intrusive rocks are brecciated where cut by the dyke. Fault movement in the Silver Creek area is believed to be rotational (Plumb (1957)).

The main area of mineralization, east of Silver Creek and south of Porphyry Creek, consists of two veins, The May P.J. and Blind Veins, which have been explored by ~~an~~ the ~~a~~ Main adit, ~~and~~ two ~~crosscuts~~ drifts, and ~~a raise~~ the smaller Armstrong adit

The May P.J. vein is continuously exposed underground for about 98 metres, of which 41 metres is mineralized. ~~It strikes~~ The eastern 43 metres of underground exposure consists of barren vein-breccia. ~~It~~ The vein is ~~irregular and~~ lenticular with quartz, calcite, and sulphides cementing "black tuff" fragments in vein-breccias. Widths vary up to about 0.6 metres, with irregular streaks of ~~soft~~ sulphides up to 0.3 metres across. Sulphides consist of pyrite, galena, chalcopyrite, sphalerite, and ~~tetrahedrite~~ freibergite. Native silver is common. The general attitude of the mineralized zone is 120/35 southwest.

In the Armstrong adit the vein appears to follow the hangingwall ~~or~~ contact of the Porphyry Creek dyke. In the May P.J. drift the hangingwall contact of the dyke is faulted, with the mineralized zone apparently crosscutting the dyke in places (Plumb (1957), p. 9). This relationship would ~~establish~~ make the age of

mineralization Eocene or later. However, according to Aldrich (1955) (p. 338), quartz breccia mineralization in the black tuff unit is Mid-Jurassic in age, related to the waning stages of felsic volcanism. If so, it may be that fault movement following the emplacement of Eocene dykes crosscut both the mineralized zone and the dykes, and resulted in the local remobilization of sulphides along fault planes crossing the Porphyry Creek dyke hangingwall.

Surface exposures of the May P.J. vein are limited to two outcrops on the north side of Porphyry Creek, known as the East and West Shoots. The West Shoot may be a continuation of mineralization in the Armstrong adit, while the East Shoot may be an extension of the zone stoped out in the May P.J. drift. Postulating continuity between these exposures and projecting down dip a further 61 metres, Plumb (1957) calculated ~~reserves of 7485 tonnes grading 343 grams/tonne silver~~ the following reserves:

West Shoot: 7485 tonnes grading 34.3 grams/tonne silver, 1.2% lead, 1.5% zinc.

East Shoot: 3810 tonnes grading 371.7 grams/tonne silver, 3.2% lead, 2.5% zinc, 1.7 grams/tonne gold.

(Grades are based on an average for 11 channel samples from the West Shoot and 9 from the East Shoot. Grades have been diluted over a width of 0.9 metres).

The Blind Vein is south of the May P.J. Vein on the east side of Silver Creek. It strikes east-west and dips 40° south in the black tuff unit, and is faulted along both the hangingwall and footwall. The associated fault zone trends generally northeasterly, cressecutting the mineralized zone. Mineralization occurs irregularly in lenticular zones up to 1.8 metres in width, consisting of black tuff fragments, fault gouge, quartz, aplitic lenses, graphite, and sulphides. This vein-breccia is exposed for 35 metres underground of which 30.5 metres is mineralized. Thirteen channel samples across an average width of 0.8 metres averaged 255.8 grams/tonne silver, 0.3% lead, 0.2% zinc, and 1.37 grams/tonne gold.

Several other veins occur on the Silver Tip claims. Two veins outcrop in Silver Creek. The ~~[illegible]~~ north vein may be a continuation of the May P.J. vein, while the south vein may be a continuation of the Blind Vein, which swings south, ~~[illegible]~~ west of the Main adit under the waste dumps. The south vein is reported to return high, but erratic silver values.

About 45 metres south of the Main adit, just east of Silver Creek two open cuts have been made on the McGillivray Vein, which trends roughly ~~[illegible]~~ northeasterly, paralleling the Blind Vein fault zone.

On the west bank of Silver Creek, about 90 metres north of the Armstrong adit an adit has been driven about 15 metres along the hangingwall of a granitic dyke. Two northeasterly-trending faults are associated with a mineralized zone up to 0.25 metres wide, with quartz and sulphides. ~~[illegible]~~

At least seven trenches are found on the west bank of Silver Creek ~~west~~ west and ~~north~~ northwest of the main showing. These trenches cut faults and ~~zones~~ quartz-sulphide breccia zones which have been explored since the 1920's. High-grade silver assays have been reported in BCDM Annual Reports, but ~~mineralization~~ values are erratic.

Early development ~~work~~ work also occurred on mineralized zones near the north end of the Bella Coola claim ~~and on the Ladyfield Horn claims~~. The Bella Coola showings ~~were~~ were reported to occur in granitic dykes, in veinlets up to 5 centimetres wide. Erratic, high-grade silver assays were encountered. ~~One on the Ladyfield claims, a mineralized zone adjacent to the [illegible]~~ To the ~~west~~ east, on the September Fraction, similar mineralization was encountered ~~Trenching in this area was~~ and explored in the early 1920's by trenching and underground work.

References

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Mineral Dressing and Process Metallurgy Division (1956): Investigation No. MD 3152; Concentration tests on a sample of lead-zinc-silver ore from Silver Tip Gold Mines Ltd., Victoria, B.C.; Mines Branch, Ottawa.

EMR Mineral Resources Division; Corporation Files: Silver Crest Mines Ltd., Silver Tip Gold Mines Ltd.

GSC Map 307A, Portland Canal Area, B.C.

GSC Map 104B, Iskut River, B.C.

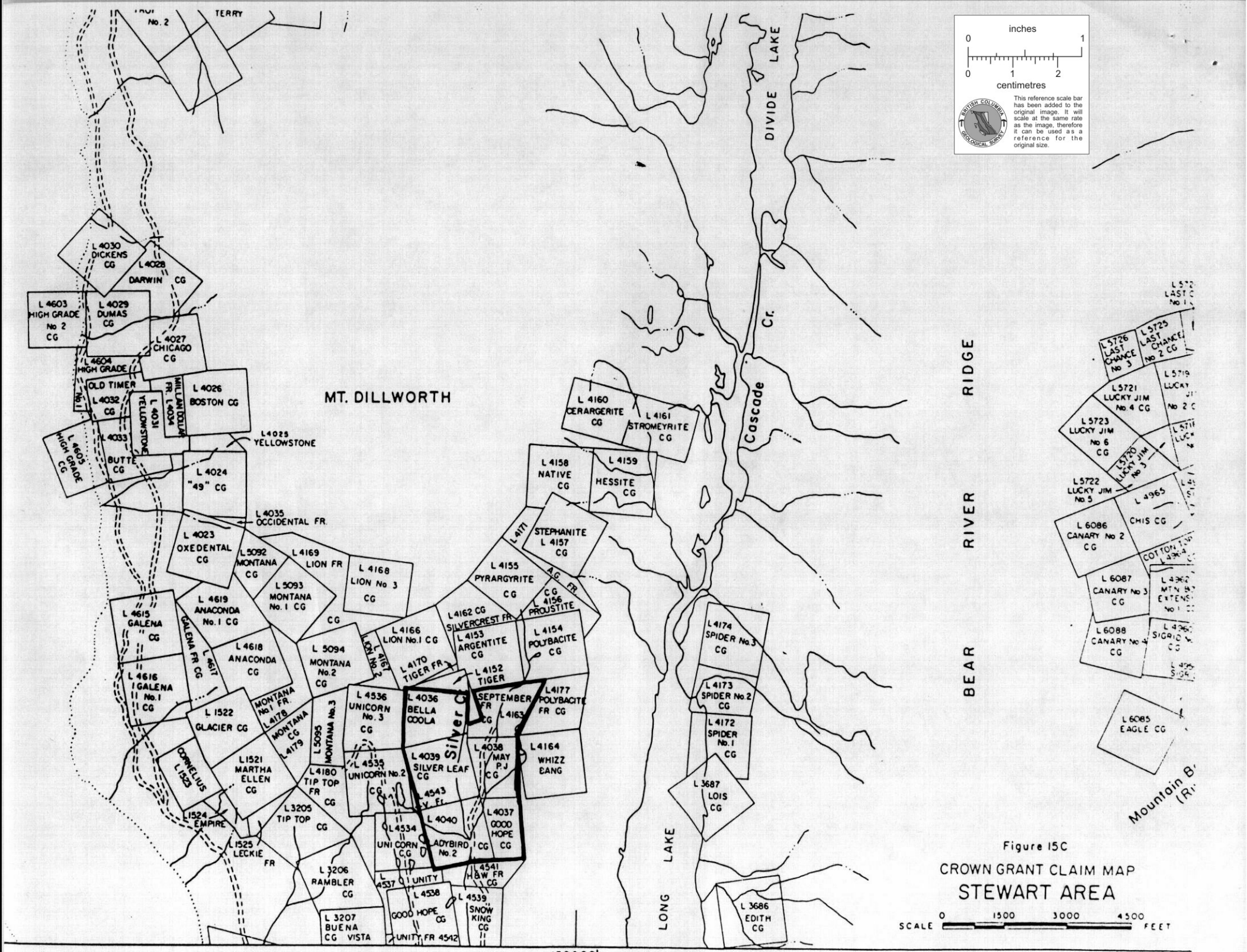

Figure 15C

CROWN GRANT CLAIM MAP

STEWART AREA