

PORTER - IDAHO PROJECT

831213



TECK EXPLORATIONS LIMITED

PORTER - IDAHO PROJECT

831213

March, 1985

MT. RAINY 6200'

HONEST JOHN

PROSPERITY

BLIND VEIN

'D' VEIN

WAKE VEIN

'D' EXTENSION

301 PORTAL
5085'

CAMP

TRAM

ASSAY

BUNKHOUSE

PROSPERITY, PORTER IDAHO MINESITE (Looking Northwest)



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SUMMARY

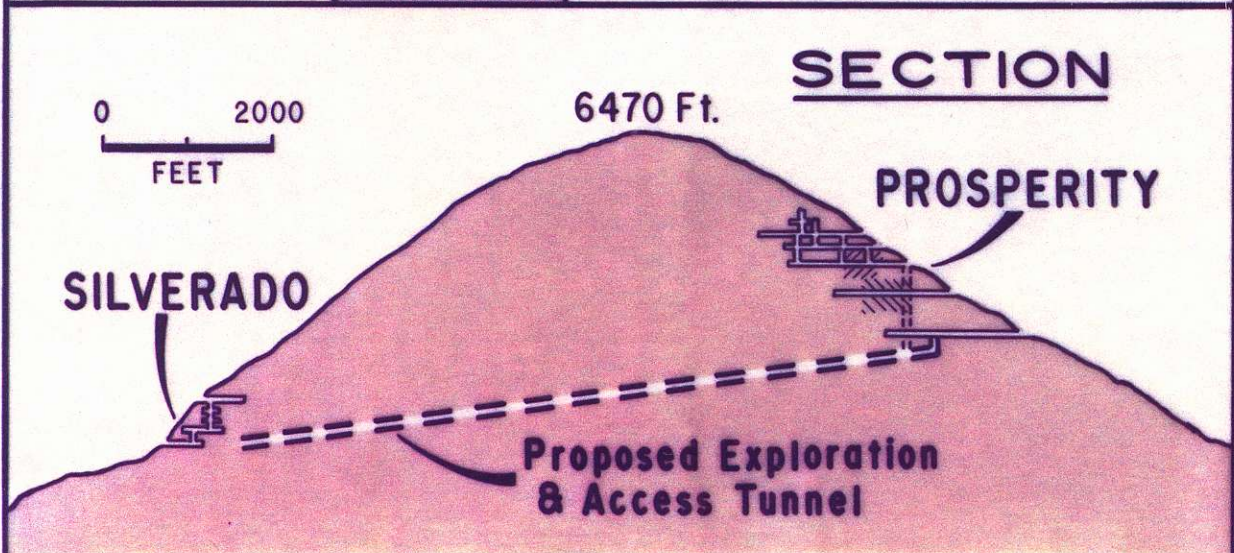
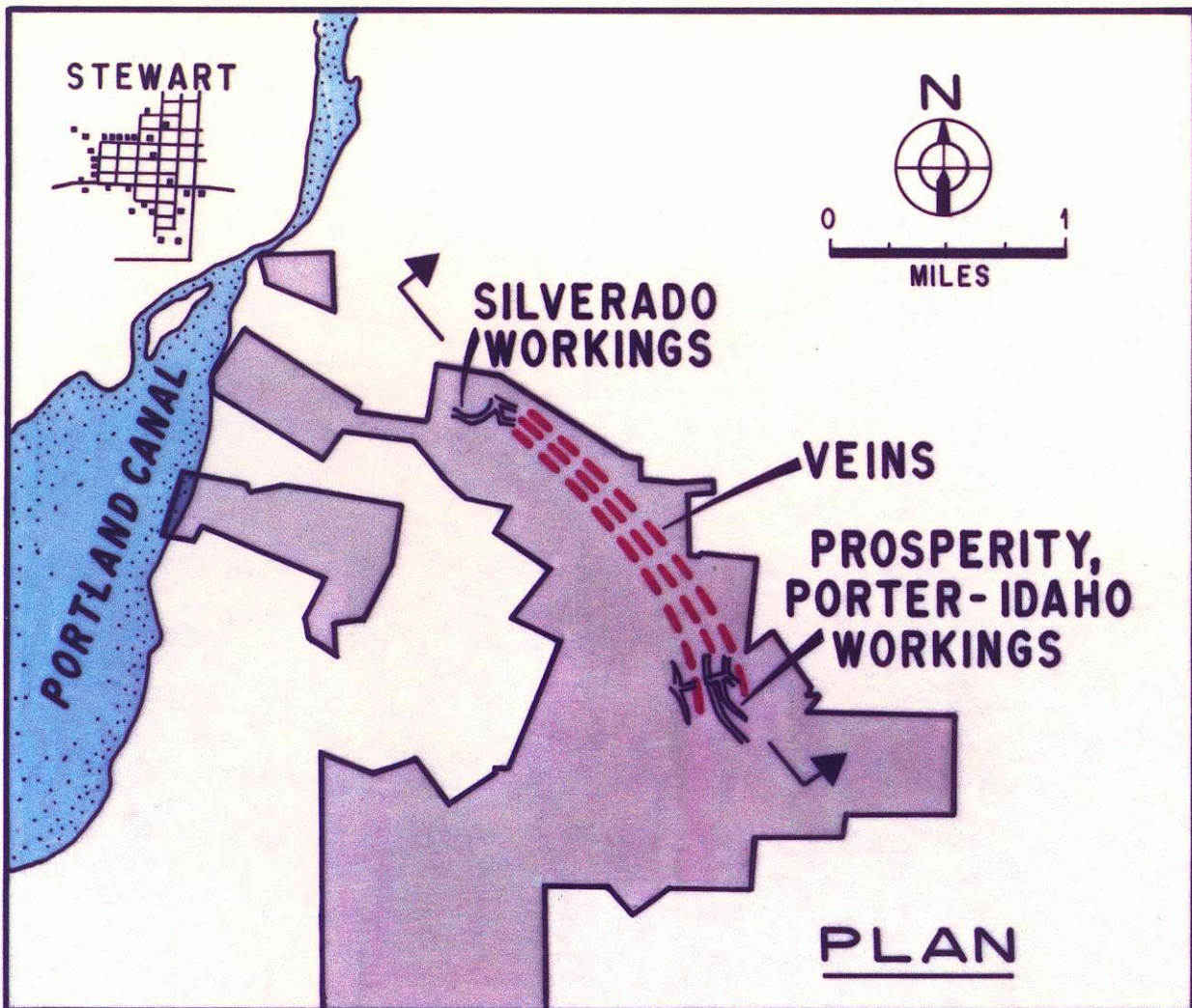
In December 1984, Teck Corporation entered into a joint venture agreement with Pacific Cassiar Limited for continuation of exploration and development of Pacific Cassiar's Prosperity, Porter-Idaho and Silverado silver properties at Stewart, B.C. Teck can earn a 50% interest in the properties by the expenditure of \$5,000,000.

The property consists of 59 claims which straddle Mt. Rainey at the head of Portland Canal in the Skeena Mining Division, British Columbia (Figure 1a). These claims cover high-grade silver veins which saw limited production during the period 1929 to 1931.

The vein system strikes north-northwesterly, and appears to extend from the Porter-Idaho workings on the east side of Mt. Rainey to the Silverado workings on the west side, a distance of approximately 7,000 feet. The Silverado workings are near tide-water, a short distance by road from the town of Stewart.

During the past five field seasons, Pacific Cassiar established a permanent camp on the property, rehabilitated the Prosperity-Porter Idaho workings, and conducted percussion and diamond drilling on 3 of the 6 major vein structures. This work indicated a reserve of approximately 910,000 tons grading 19.5 oz/ton silver.

Commencing in 1985, a combination of underground and surface diamond drilling will confirm the indicated reserves and evaluate other target areas within and beyond previous mining limits. If this program is successful and an economically viable reserve is indicated, it is proposed to drive an adit from the Silverado mine to extend beneath two Porter-Idaho workings. This will open up the entire length of the vein system for exploration and offer potential for increasing reserves several fold.



PACIFIC CASSIAR - TECK CORPORATION
PORTER - IDAHO PROJECT

Fig. 1a

INTRODUCTION

The town of Stewart owes its existence to past and present mining operations including the Silbak-Premier Mine, Big Missouri Mine, Granduc Mine, Scotty Gold Mine, The Dunwell Mine and the Prosperity, Porter-Idaho Mine. Stewart is Canada's most northerly, ice-free salt water port and serves as the shipping centre for supplies and mineral products, with port accommodation for both shallow barge and deep sea vessels.

Mount Rainey overlooks Stewart on its east side. It rises from sea level to a height of 6,200 feet, and hosts the silver veins of the Silverado, Prosperity and Porter-Idaho Mines. The Silverado Mine is at an elevation of 3,200 feet and is visible from the main street of Stewart. The Prosperity, Porter-Idaho Mine is on the opposite flank of the mountain at an elevation of 5,000 feet. Receding glaciers cover the mountain summit and the area between the two locations. It is believed that both mines are developed on the same structure separated by 7,000 feet of untested ground.

PROPERTY

The property consists of 46 crown-grant mineral claims and 9 staked claims (Figure 1b) covering an area of approximately 2,500 acres. All claims are wholly owned by Pacific Cassiar. Crown granted claims require no assessment work and are kept in good standing through an annual property tax aggregating \$300 per year. All staked claims are currently in good standing until 1992.

CLIMATE AND PHYSIOGRAPHY

Due to the moderating effects of the Pacific Ocean, the Stewart area enjoys a temperate climate despite its northerly location. However, the area has a high level of precipitation with light rain and fog during the summer months and heavy snow in winter.

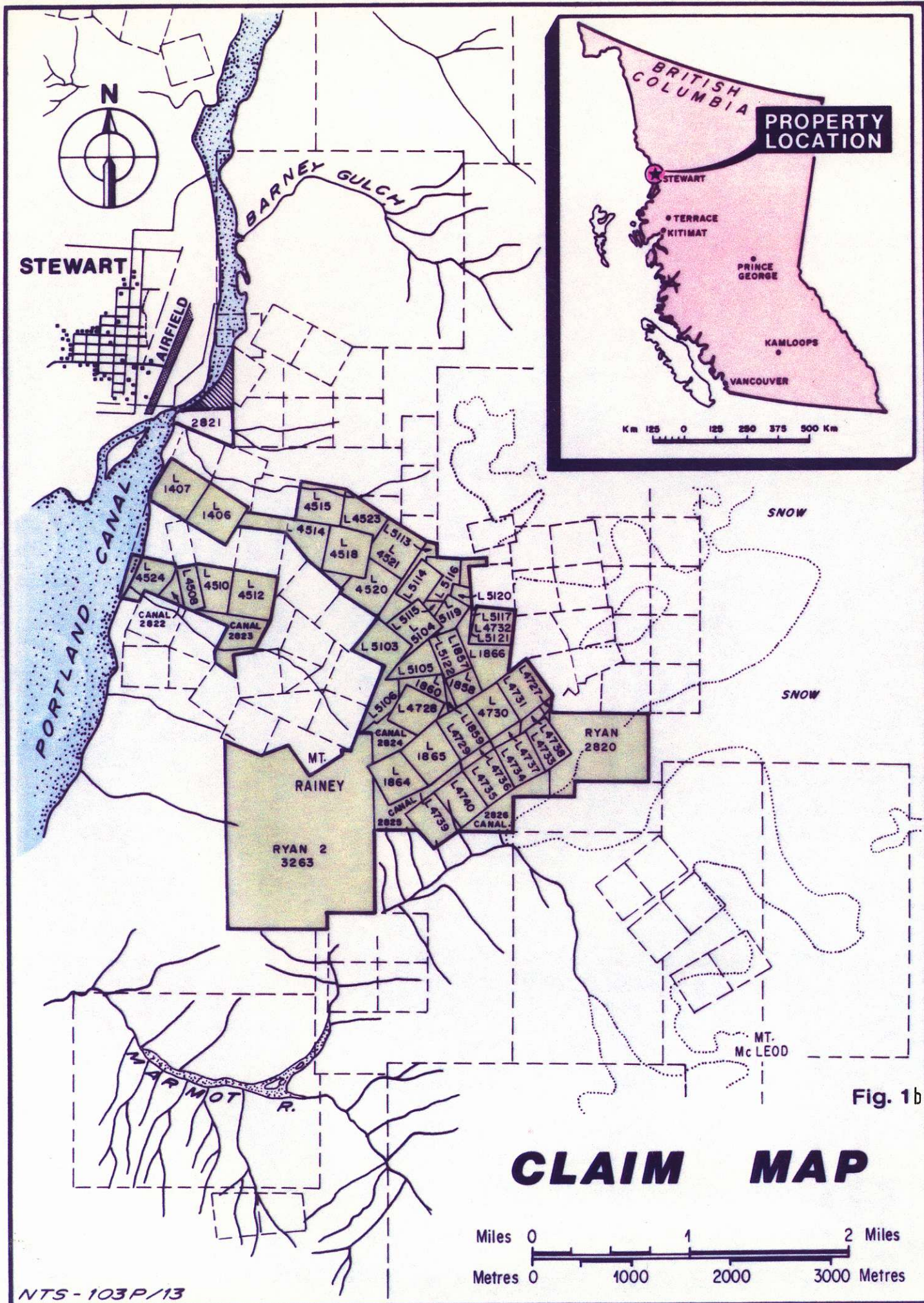


Fig. 1b

Although the Prosperity, Porter-Idaho mine is only 3 miles from Stewart, it is not accessible by road. Total relief on the property is 6,600 feet with all the old workings above treeline. The property location and physiography present no unusual problem with respect to exploration and development.

PROPERTY HISTORY

Prosperity
Silver mineralization was discovered on both the Silverado and Prosperity, Porter-Idaho properties in 1921. At the Silverado, work concentrated on a series of flat-lying quartz-tetrahedrite veins with mined material grading up to 300 oz/ton silver. In 1927 a new set of south-trending, steeply-dipping veins were discovered which were little explored before Premier Gold Mines optioned the claims in 1928. Small scale mining on the Silverado property produced 154 tons yielding 31,137 ounces of silver and associated lead, zinc and copper. Most of this material came from pits, trenches and small development headings.

Production on the Prosperity, Porter-Idaho claims commenced in 1922 as a seasonal high-grading operation on several surface vein exposures. Pack horses were used for transport. Premier Gold Mines optioned this ground in 1928 to consolidate the known silver prospects on Mt. Rainey and constructed a 5-mile aerial tram line from the property to connect with the Marmot River and shipping facilities at tidewater. High grade direct-shipping ore was produced from 3 veins at an average production rate of 50 tons per day in the period 1929-31.

In late 1929 silver was valued at 65 cents per ounce but by the spring of 1931 it had declined to 26 cents per ounce. This low price forced closure of the mine in April of 1931. In this 18 month operating period the mine produced 30,000 tons grading 77 oz/ton silver, 5% lead, 0.026 oz/ton gold and 0.97% copper. Zinc production was probably equal to lead but production records are incomplete, since zinc constituted a smelter penalty at the time. Mine production was on a selective basis using a 40 oz/ton silver cut-off grade.

Upon mine closure, all equipment was left on site on stand-by for the next eleven years in anticipation of a resumption of operations. Eventually, in 1946, Premier Gold Mines sold the property to Big Four Mines Ltd. The property was acquired by Pacific Cassiar's predecessor company in 1952.

RECENT EXPLORATION

After only intermittent and ineffectual examinations between 1952 and 1975, Pacific Cassiar took charge of the property in 1980 and began consistent, systematic evaluation and rehabilitation each year up to the present time.

Approximately 6,000 feet of old drifts and cross-cuts were opened up and short-hole percussion drilling in 200 holes tested the major portion of the walls of these workings. A comprehensive program of geological mapping and sampling on surface encountered new mineralized exposures. This work has shown that the veins are major structures of considerable horizontal and vertical extent, with widths up to 40 feet.

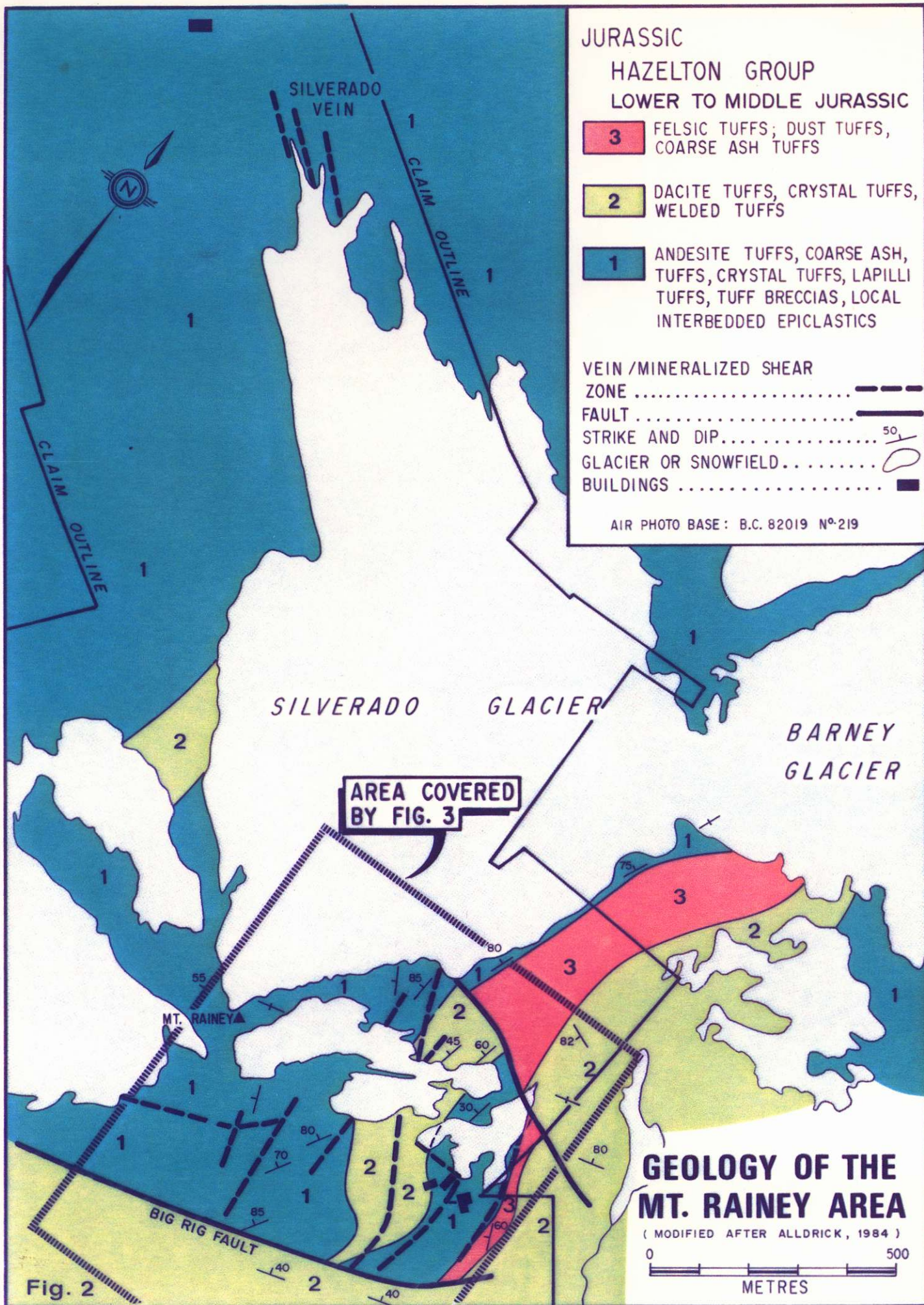
GENERAL GEOLOGY

The Stewart district lies on the eastern margin of the Coast Plutonic Complex, and comprises a complex belt of deformed volcanic, sedimentary and metamorphic rocks bounded by the Coast Range Intrusives on the west and by the marine sedimentary rocks of the Bowser Basin on the east. The oldest members of the belt are the predominantly volcanic rocks of the Hazelton assemblage of Early to Middle Jurassic age and the sedimentary rocks of the Middle Jurassic Bowser assemblage. Younger rocks are largely plutonic stocks, plugs and dyke swarms emplaced during the Tertiary period.

PROPERTY GEOLOGY AND MINERAL DEPOSITS

The silver deposits of Mt. Rainey are contained within a sequence of intermediate to felsic volcanic rocks which correlate with lithologies that host the major precious metals deposits to the north (Alldrick, 1984). These rocks are largely coarse pyroclastics, tuffs of various types, and minor volcanic sediments, believed to have been deposited in a marine environment. Stratigraphy trends north-south and dips moderately to steeply to the west (Figure 2).

Due to the nature of faulting on the property, it is probable that the silver veins are hosted within a collapsed caldera marked by numerous small and large scale horst and graben systems similar to other major hydrothermal precious metal districts of the Cordillera.



**JURASSIC
HAZELTON GROUP
LOWER TO MIDDLE JURASSIC**

- 3** FELSIC TUFFS; DUST TUFFS, COARSE ASH TUFFS
- 2** DACITE TUFFS, CRYSTAL TUFFS, WELDED TUFFS
- 1** ANDESITE TUFFS, COARSE ASH, TUFFS, CRYSTAL TUFFS, LAPILLI TUFFS, TUFF BRECCIAS, LOCAL INTERBEDDED EPICLASTICS

- VEIN /MINERALIZED SHEAR ZONE - - - - -
- FAULT ————
- STRIKE AND DIP..... 50°
- GLACIER OR SNOWFIELD..... ○
- BUILDINGS ■

AIR PHOTO BASE : B.C. 82019 N^o219

SILVERADO GLACIER
BARNEY GLACIER

AREA COVERED BY FIG. 3

**GEOLOGY OF THE
MT. RAINEY AREA**

(MODIFIED AFTER ALLDRICK, 1984)



Fig. 2

MT. RAINEY ▲

BIG RIG FAULT



The silver mineralization is contained within largely brittle shear zones on the Prosperity, Porter-Idaho side of Mt. Rainey and within more ductile shears on the Silverado side. The difference between the two areas is probably a function of pressure resulting from the 2,000-foot vertical difference in elevation of the two sites.

On the Prosperity, Porter-Idaho ground, the shear-vein widths range between 4 and 40 feet and are mineralized with a suite of silver-bearing minerals including galena, tetrahedrite, argentite, polybasite and pyrargyrite. Pyrite, chalcopyrite and sphalerite occur in varying amounts. Native silver has been noted protruding from samples of coarse sphalerite.

The veins are roughly parallel, cross-cut stratigraphy, trend in a general north-south direction and dip moderately to steeply to the west. Some minor east-west vein structures cross-cut this trend and may both predate and postdate the major north-south veins (Figures 3 and 4).

Economic mineralization occurs in veins in shear zones as lenses or shoots. High-grade bands frequently occur both in the footwall and hanging wall, occasionally converging to form a thicker single vein within the shear zone. Stringer and fracture mineralization radiates from the high-grade bands.

Vein material includes fractured, sheared and altered host volcanics, minor quartz, varying amounts of buff coloured carbonate and abundant black manganese oxide. This material is easily eroded by weathering and only intermittent vein outcrops are exposed on surface.

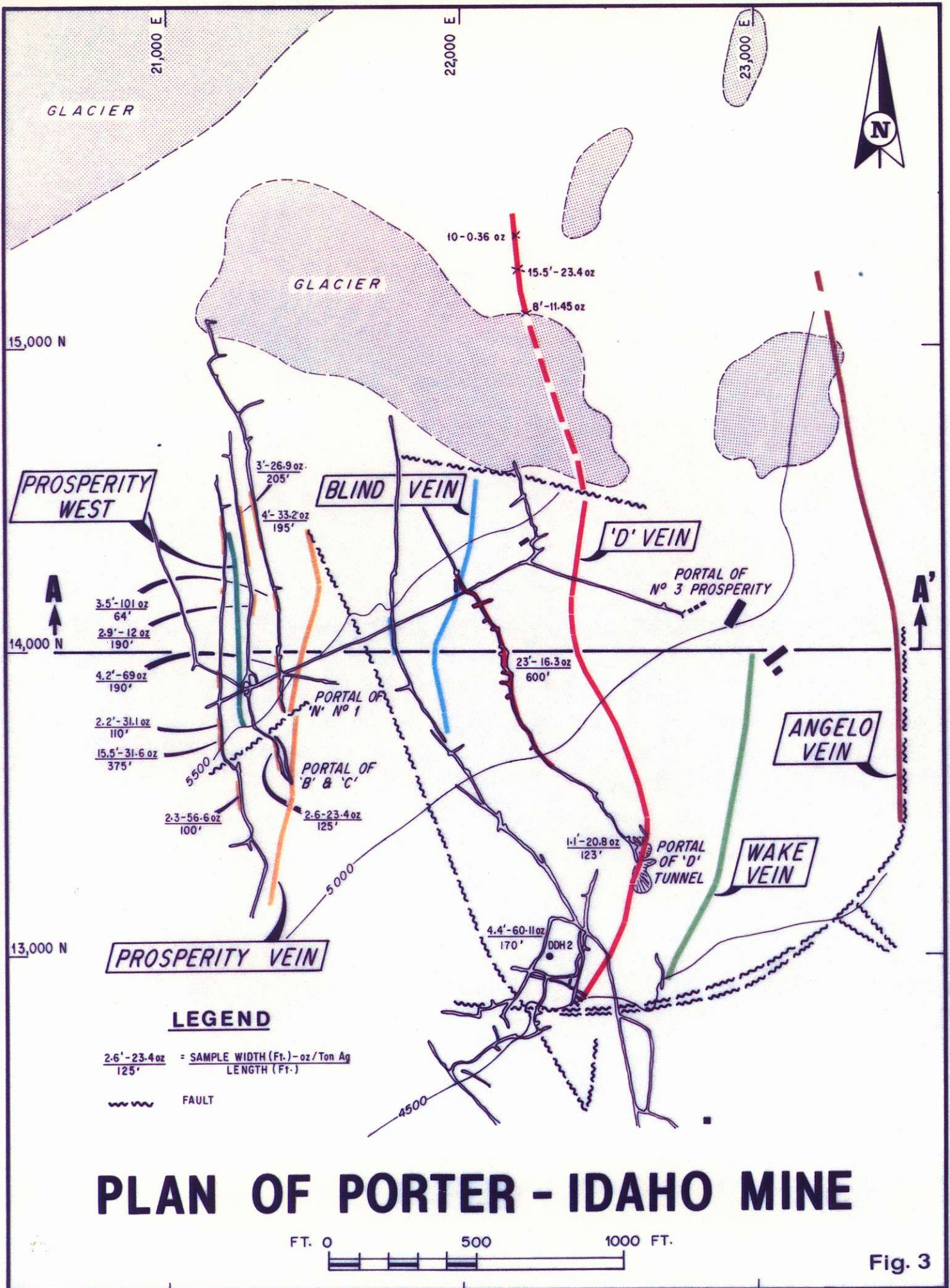
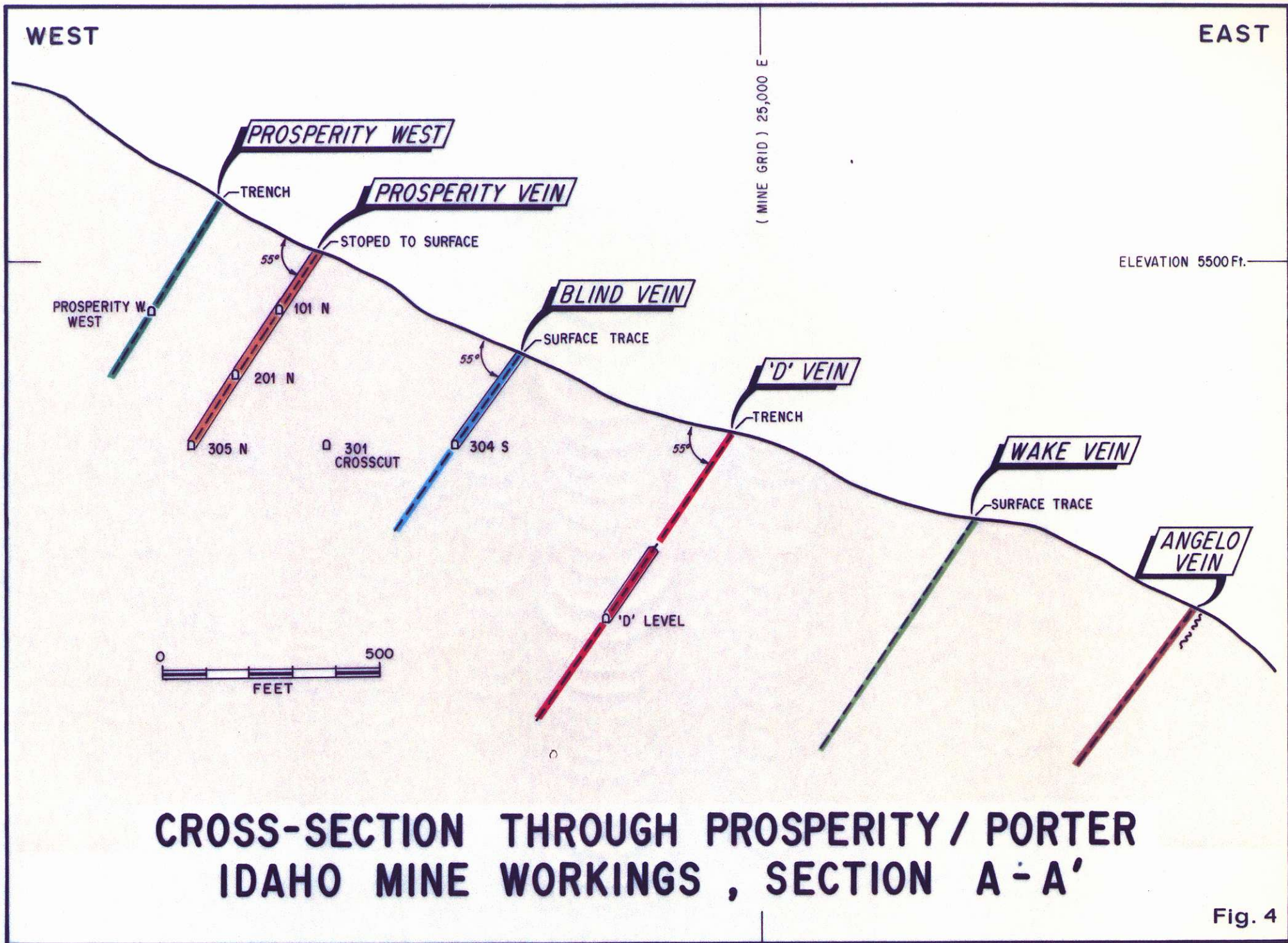


Fig. 3



**CROSS-SECTION THROUGH PROSPERITY / PORTER
IDAHO MINE WORKINGS , SECTION A - A'**

Fig. 4

MINERAL RESERVES

The known reserves of the Prosperity, Porter-Idaho mine are limited to those vein areas which are accessible through rehabilitation of the old workings. These workings cover only a portion of the known strike length of the veins and only a small area of their known vertical extent. Pacific Cassiar has shown that most of the vein material was left behind by Premier Gold Mines because it did not meet the minimum cutoff grade.

Currently estimated reserves are:

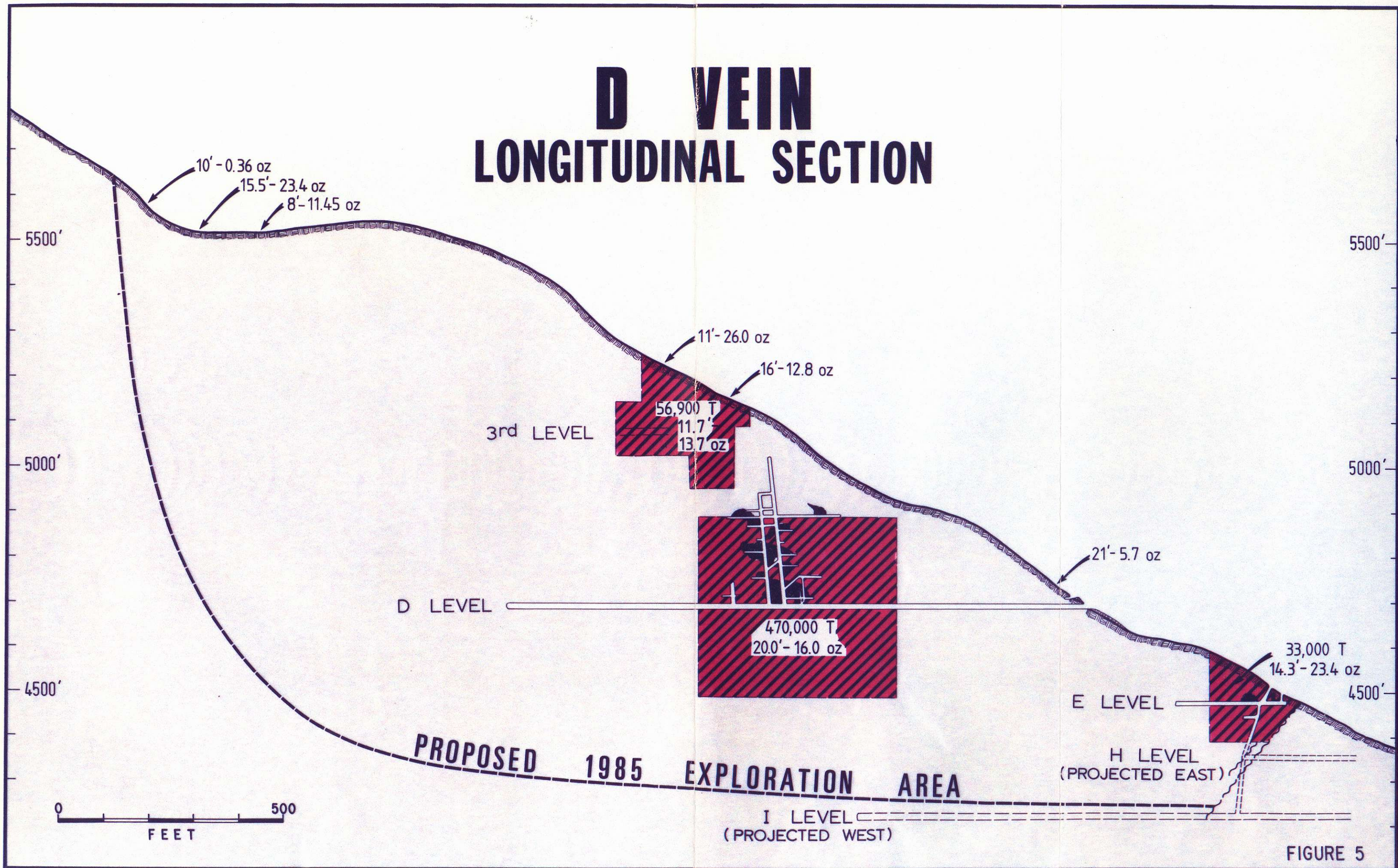
<u>Vein</u>	<u>Tons</u>	<u>Grade oz/t Ag</u>
'D'	629,600	16.6
Prosperity	263,250	26.4
Blind	<u>18,660</u>	<u>21.6</u>
Total	911,510	19.5

PROPOSED EXPLORATION

In 1985, a surface and underground drilling program estimated to cost \$1,000,000 will be undertaken to explore the Prosperity and D Veins. Underground development will include rehabilitation of portions of the old workings to provide diamond drill stations.

One surface drill and one underground drill will complete 15,000 to 20,000 feet of drilling in 50 or more holes. These holes will be spotted to test an area of the D Vein approximately 2,100 feet long over a vertical interval of 900 feet (Figure 5) and on the Prosperity Vein, an area approximately 1,000 feet long over a vertical interval of about 700 feet (Figure 6). The drilling will firm up and attempt to increase the reserves on these two veins. Surface drilling is planned for the Angelo Vein.

D VEIN LONGITUDINAL SECTION



PROSPERITY VEIN LONGITUDINAL SECTION

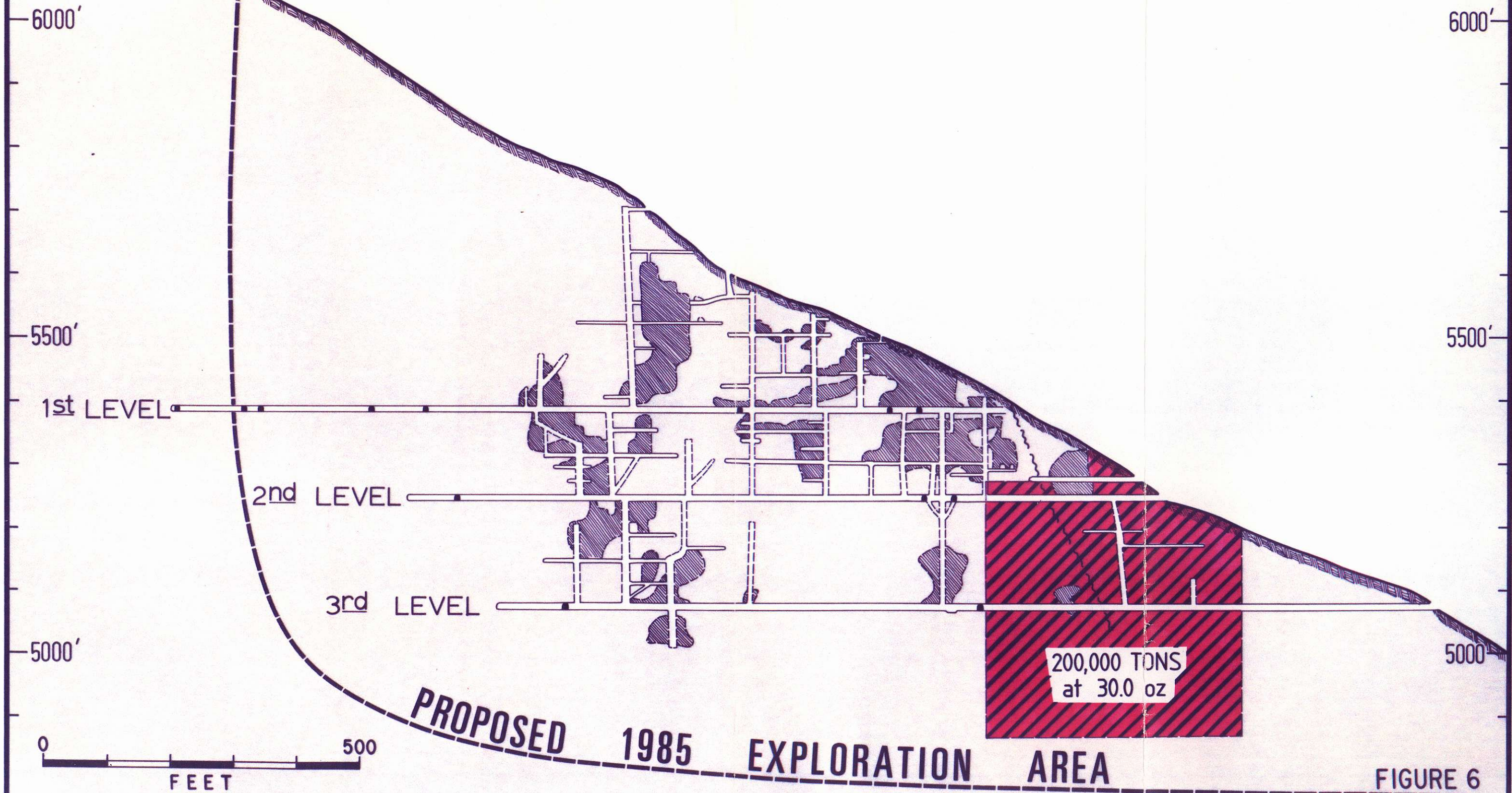


FIGURE 6

FUTURE DEVELOPMENT

If sufficient reserves are proven to justify development, a tunnel will be driven from the Silverado Mine to extend beneath the Porter-Idaho workings (Figure 1a). This will open up over 7,000 ft. of the vein system for exploration. In addition, access to the property will be vastly improved, since the mine opening will be at tidewater near Stewart, with year-round operations possible. Stewart, which owes its existence to mining, will serve ideally as the townsite for the mining crew when the property is placed into production.

References:

Alldrick, D.J. and Kenyon, J.M. (1984): The Prosperity/Porter Idaho Silver Deposits, B.C. Ministry of Energy, Mines and Pet. Res., Geological Fieldwork, 1983, Paper 1984-1, pp 165-172.