

B - 3: History and Past Production

E. W. Grove has an excellent historical summary of mining in the area and the reader is referred to page 17 of B.C. Dept. of Mines Bulletin No. 58 for details.

The history of the Unicorn and other properties on the Big Missouri Ridge is intimately tied to the development of the Big Missouri Mine itself. Most of the details are recorded in various B.C. Minister of Mines reports, and a summary is presented below with the report year preceeding the extract.

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1911: "The Big Missouri group, situated at the head of Salmon River, is the oldest group on the river, having been located in the summer of 1904. A considerable amount of work has been done on the property, showing the existence of large ore bodies with values in gold and silver."

1913: --- "A short prospecting tunnel has been driven 40 feet and shows ore of the same value as the (open) cut ---. A sample taken over 10 feet of the best ore in the open cut, showing considerable galena and considerable pyrite, assayed; Gold 0.1 oz.; silver, 6 oz."

1917: "It has been examined by many of the best mining engineers on the continent, and it is generally conceded that it contains one of the largest surface showings of ore in the country." According to the report a "comfortable" camp was constructed on Joker Flats and a tunnel had been driven 80 feet

in to under ore exposed on the ridge. Diamond drilling was also started. The report continues, in reference to mill testing:

"When this is successful the Big Missouri will develop into one of the big producers of the continent, if surface showings can be taken as indicative of quality of ore."

1918: "The new work done this year on an entirely new ore-body has given the property a different standing altogether, for while the old workings exposed an immense body of low-grade complex ore, the new work referred to has disclosed extensive bodies of high-grade silver ore."

1919: "The development consists of a series of open-cuts paralleling the general trend of the ore-zone, and proves the ore to extend for a width of at least 1,000 feet on the Province claim. The average of hundreds of samples taken from all these cuts will run about as follows: Gold, 60 cents; silver, \$1.05; lead, 2.16 per cent; copper, 0.53 per cent; zinc, 5 per cent; iron, 14.3 per cent; silica, 75 per cent."\* The report continues:

"With the ore-bodies proven at depth by diamond-drilling, and a process devised for the separation and recovery of the different sulphides, this property will make one of the big producers of British Columbia."

1920: Diamond drilling was conducted and the tunnel driven a total

\* 1919 prices - Gold \$20.67/oz. and silver approx. \$1.00/oz.

of 360 feet. The option on the Big Missouri was terminated by the Pacific Exploration Company. "An idea of the extent of the surface may be gained from the report of a prominent mining engineer, who estimated that every 20 feet of depth obtained would yield 1,000,000 tons of ore."

"Similar conditions to those on the Big Missouri are found on the Hercules property, adjoining it on the north."

1922: "This property has been the subject of more geological discussions and less actual work for the extent of its surface showings than any property in the country." --- "The shaft was down 50 feet at the time of my examination --- ."

1924: "Underground work was carried on in the old tunnel and a considerable amount (exact footage not obtainable) of diamond drilling done."

1925: "Until the snow came the work was mainly surface prospecting open-cutting, sampling, etc., with apparently such satisfactory results that the Big Missouri Mining Company was formed to carry on the development. In September the property was examined by the company's consulting engineer, Harry Townsend, and other engineers." --- "The Big Missouri has been under option five or six times and has therefore had a considerable amount of work and a great deal of theorizing done on it, the great (and common) idea being of course to expose enough high-grade ore in a season to make it a mine."

1927: The Big Missouri Mining Company was reorganized into the Buena Vista Mining Company which was owned "by Consolidated Mining and Smelting Company of Canada, which is responsible for all further development of the property."

--- "The development of the Big Missouri will be followed with more interest than the development of any other property in the district, for it will mean a great deal to the whole Portland Canal camp if the Consolidated should be successful in making a mine out of this well-known property."

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1928: Considerable underground development and surface exploration work was conducted. The last paragraph of the 1928 report concludes:

"It may be said that the general appearance of the Big Missouri has been improved during the past year, but the property is far from being an assured mine of importance. Good surface indications have been found at points not yet explored by the Consolidated, so it is evident that much work is to be done before the possibilities of the Big Missouri will have been determined or clearly indicated."

1929: "During 1929, 2,017.5 feet of drifting, 371.5 feet of cross-cutting, and 7,572.5 feet of diamond-drilling was completed."

"The following statement regarding this property is taken from the Annual Report for 1929 of the Consolidated Company, included in the report of the president, J.J. Warren:-

1927: 'Exploratory work at the Big Missouri indicates the presence of considerable quantities of ore of commercial grade over minable widths. --- It is probable that a small concentrating plant will be installed this year in order to sample the ore-bodies accurately, as hand-sampling cannot be relied on because of the more or less erratic deposition of the metals.'

'This property is one of the most promising prospects now under development. Your company's position in regard to this property is that your treasury holds 53 per cent of the capital of the Buena Vista Company, Limited ---'."

1930: "Extensive diamond-drilling of the silicified zone has been continued with a view to delineating its dimensions and obtaining some criterion of the distribution of values in it. About midsummer the erection of a 100-ton concentrator was decided on. --- The main silicified zone which is being explored strikes generally north-south with an indicated length of about 900 feet, and an indicated width of over 175 feet at its southerly end, about 300 feet in the central section and about 300 feet at the northerly end. --- Apparently scattered through the silicified zone irregular and generally low-grade gold values occur; in places high assays are obtained and occasionally free gold is found."

1931: "During 1931 exploratory mining and test-milling was con-

tinued until about the middle of September at which time mill-sampling work was suspended to resume further diamond-drilling for the purpose of exploring for possible continuity of sections of possible commercial-grade ore indicated.

--- Although it is understood that no operation of definite commercial aspects is indicated as yet, it is encouraging to note that no possibility that may lead to the development of either a large-tonnage low-grade or a medium-tonnage medium-grade gold producer is being overlooked."

1932: No work was conducted on the Big Missouri.

1933: "A reorganization of this company was effected and exploratory operations were resumed with a crew of twenty-five men employed. Drifting off No. 306 and No. 343 tunnels is being continued and further diamond-drilling is planned.

Due to increasing depression complications on March 6, 1933, a U.S. president order closed all banks and effectively suspended the U.S. involvement in the gold standard. Privately held gold was called into the U.S. treasury and newly mined and imported gold was bought by the treasury at rising prices. In February, 1934, the Gold Reserve Act went into effect and the price of gold was fixed at \$35.00 an ounce, an increase of 69.3% in eleven months from the price of \$20.67 in effect previously for some 99 years. Undoubtedly this had a considerable economic impact on the Big Missouri situation.

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WASHINGTON, D. C.

1934: "During 1933 and 1934 active exploration was continued by drifting, raising, and further diamond-drilling. --- A crew of about sixty men is employed under the supervision of D.S. Campbell."

1935: "Present operations consist of drifting and crosscutting, --- diamond-drilling, --- raising, and sub-levelling. --- A crew of forty-five men was employed."

1936: "In the late summer it was announced that Big Missouri would be brought into production with a milling capacity of 750 tons daily. Construction work on necessary road and power plant requirements, together with excavation for the mill-site, which is to be underground, was commenced in August. Production from this property may be inaugurated about the autumn of 1937."

1937: "Development consisting of 952 feet of drifting, 245 feet of crosscutting, 2768 feet of raising, and 753 feet of side-swiping has been done. The 750-ton mill in course of construction will not be completed until about the end of February, 1938. It is located underground between the 2,100 and 2,300-foot levels on the Salmon River side of the ridge. Eighty thousand tons of rock was excavated for the mill-site which is approximately 200 feet long, 60 feet wide, and 40 feet high. All storage-bins for raw and fine crushed ore are cut out of solid rock."

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1938 - 1941: The years of continuous production on the Big Missouri.

1942: "The mine was worked for eighty-nine days at the beginning of the year and then was permanently abandoned. --- "

"All equipment, except the hydro-electric power plant, has been removed from the property."

Production Record (B. C. Dept. of Mines Records)

<u>Year(s)</u>	<u>Tons</u>	<u>Oz. Gold</u>	<u>Oz. Silver</u>	<u>Lead (lb)</u>	<u>Zinc(lbs)</u>
1927 - 42	847,615	58,384	52,677	2,712	3,920

After the closure of the Big Missouri Mine, there have been several attempts by various companies to reappraise the area in general, and this has included geological work by Falconbridge Nickel Mines in 1966, and geological and geochemical work by El Paso Mining and Milling in 1970 and 1971. Tournigan Mining purchased ten (10) crown granted mineral claims collectively known as the Unicorn Group, in the fall of 1973. Since that time there has been geological work by the author and Dr. J. H. Montgomery, and rock geochem work by Montgomery on behalf of Tournigan. The company has expended approximately \$50,000.00 on the Unicorn to date. (pers. comm. Mr. J. N. Hembling).

The most recent work was centered on the Good Hope, Unity, and Rambler claims and was conducted by Asarco Incorporated.



Geologic mapping, trenching, and rock sampling was completed under the direction of R. E. Gale, P. Eng. and D. H. Olson, P. Eng.

Many of the recent exploration programs were somewhat hampered by the complicated claim ownership situation which has now been rectified by recent additional property acquisition by Tournigan Mining Explorations Ltd.

APPENDIX II

BIG MISSOURI ROAD UPGRADING AND EXTENSION PROPOSAL.

Please See Figure 2

Numbers below coincide with Numbers on Fig. 2, and costs are estimated.

1.	Cooper Creek bridge Add one log (which in 1976 was near by) to bridge, and deck same .....	\$ 900.00
2.	Repair steep grade and creek area at 1975 washout .....	\$ 300.00
3.	Drill-blast steep rock section .....	\$ 550.00
4.	Repair bridge across Cascade Creek (crib has moved on north side) .....	\$ 900.00
5.	Repair wet-steep bank portion of road immediately north of main portal.....	\$ 600.00
6.	Extend road onto/or near drill skid trail leading onto ridge (south access).....	\$ 2,000.00
7.	Extend new road to Martha Ellen Zone and south to Hercules and North Star Zones (north access) .....	\$ 3,000.00
8.	General upgrading and ditching along entire length .....	\$ 2,500.00
9.	Contingencies @ 10% of Sub total of \$10,750.00 .....	\$ 1,075.00
	Total.....	\$11,825.00
	Say .....	\$12,000.00

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