Jamin-Huntington

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ITEM 47

-- ADIRONDAC MINE -- Veins.

The Adirondac Mine is situated in Ophir Canyon mining district, Nye County, Nevada, at an altitude of 10,000 feet above sea level, in the Toyabe Range of mountains, about 60 miles north of Tonopah, and 50 miles north of Millers Siding, which latter is a railroad ore shipping point to the smelter at Selbys' in California, or Salt Lake, Utah.

GENERAL DESCRIPTION OF PROPERTY

The Adirondac group of mines consist of the following five claims, one of which is patented, while the others are locations held by possessory right. They are:

The Adirondac - patented.
Horse Shoe
Valley View
East Adirondac
West Adirondac;

comprising 90 acres in all.

The Adirondac, which is in the center of the group and on which the enriched high grade ore has been developed, was patented in the year 1870. It is 2000 feet in length by 200 feet in width and is opened by two tunnels, an upper and a lower, both driven in on the vein. The upper is 170 feet long and all in high grade gold, silver and lead ore, and the lower tunnel, 150 feet perpendicular below, is driven on the vein for a distance of 35 feet in the same high grade ore. In the upper tunnel, approximately 70 feet in, is an upraise of 30 feet, all in the same character of ore as in the tunnel. This is also the case in the 50 foot winze, about 60 feet in from the mouth of the tunnel. The present development work in these two tunnels shows an available ore reserve of 5000 tons, which after having been carefully sampled at regular intervals along

the vein, shows an average value of $31.-- per ton in gold, silver and lead, just as it is broken down from the full width of the vein. From a careful estimate of values I find the present block of ore ready to be taken out of the upper 170 foot tunnel has a gross value of $155,000.00.

LIST OF ASSAYS

Various samples taken at different parts of the mine by the undersigned showed values as follows, figured on present prices of silver and lead, silver at 25¢ per oz. and lead at 3¢ per lb.

No. of Sample	Description	Gold	Silver oz.	Lead %	Total $
1	General sample of dump	4.00	35	18	$ 23.55
2	900 ft. from any workings	6.55	31		10.75
3	Fines out of ledge	5.00	35	17	23.24
4	Concentrates of residue after sorting out 50%	18.05	105	33	64.05
5	Sorted sample taking out 50% of quartz as broken in mine	8.10	82	49	58.00
6	Sample of ledge taken 18 ft. in lower tunnel, 20 ft. under ground	4.83	35	12.29	20.95
7	Sample taken across 6 ft. of ledge, 100 ft. in upper tunnel	8.10	25.75	5.62	17.80
8	Sample taken from upper tunnel across 4 ft. of ledge 80 ft. in	4.78	52.50	16.59	27.85
9	Sample taken across 3 ft. in upper tunnel 120 ft. in	8.62	86.70	34.35	50.90
10	Sample taken across 6 ft. of vein 140 ft. in	4.93	48.30	25.00	32.00

The following samples were taken along the upper tunnel 20 feet apart, from the mouth to face as follows:

Face of tunnel in vein	$18.41
Sample near face	16.82
Sample taken 8 ft. back from face	16.43
Other samples taken along the line of tunnel 20 ft. apart	49.00, 19.55, 75.96, 17.16, 24.65, 36.31, 61.65 and $21.43

FORMATION

The vein in the main Adirondac is incased in an altered andesite which alteration took place only in approximate contact with the vein itself, and in turn this altered formation, which extends back latterally only a few feet, is enclosed in the andesite formation extending possibly one mile in either direction from the main ore shoot. The ore enrichment came from below and from a great depth. The walls do not contain any values and have no rich stringers coming into the vein from the sides, which is further evidence that the mineralization came from depth and that all the values will be found between the two walls. These walls have the appearances of having been the vents of a great volcanic crater which heaved up hot mineral solutions containing gold, silver and lead, which were precipitated or deposited in the place of the silicates of Alumina and lime constituents of the andesite wall formation. The Alumina being possibly the precipitating agent, which accounts for the entire lack of this agent in the present walls close to the vein where the formation's alteration took place.

Assuming that this theory is correct it would naturally follow that where the heat was the greatest, as shown in the present workings of the upper Adirondac tunnel, there is found the richest ore, as close sampling hasprove. There is a great possibility that the hot rich mineral solutions from below have come up in other parts of the great volcanic vent which is over seven thousand feet in length. This large crater of andesite is in turn completely surrounded by and rests in a lime-stone formation from whence came the heat (which changed the lime formation in times when the earth's surface was hot), and which, upon coming in contact with water at another period,

perhaps ages later, gave off the heat which forced up the mineral solutions. From this it can be inferred that a very large body of primary rich ore can be reasnably expected at depth where the andesite rests on the lime-stone formation.

In the Toyable range of mountains nature has worked on a large scale; the power that has lifted those mountains 6000 feet up from the valley levels has been tremendous and it is natural to suppose that nature has also done its part in a great way in filling the vents or vein fractures correspondingly, possibly beyond the imagination of man.

By way of comparison, the Adirondac system of veins, of which there are four parrelling each other, compare almost identically with the vein system of the Comstock mines in Virginia City, Nevada, which has a production of 500 to 700 million dollars in gold and silver bullion to its credit. On the Constock mines the veins in the consolidated Virginia mine, which was the richest on the Comstock lode, all dipped at an angle toward what they termed the Black Dyke and upon reaching this so called Black Dyke the veins turned and followed the perpendicular dyke walls where they all assembled and united, following the dyke downwards and became very wide, some 250 feet, and were fabulously rich. On the west side of the Adirondac group we have a porphyry dyke standing perpendicular which carries low grade values in gold, silver and lead. Said porphyry dyke is one-half mile wide by 7 miles in length running through the country. Occasionally rich kidneys of silver lead ore have been found isolated throughout this porphry mass and wherever found are extremely rich in gold which leads to the theory that at depth where the Adirondac vein system turns against and follows down the porphyry dyke, this system will be enriched in gold from the porphyry.

It is my opinion that the Adirondac veins will be even richer against their porphyry dyke then were the famous Constock veins against their Black Dyke. Nature often parallels itself in its operations and as the Adirondac vein croppings can be traced on the surface for a distance of 2500 feet there is likely to be an ore body of enormous proportions developed at depth in this mine. We can confidently look for it.

RECOMMENDATIO S FOR FUTURE DEVELOPMENT.

I would recommend running a lower tunnel in on the Adirondac vein at a depth, 600 feet perpendicular below the upper Adirondac tunnel, where the present rich ore is exposed. Six hundred feet of tunnel would reach the present center of the enrichment zome and thereby developing a block of rich grade of ore from the new tunnel to top of the mountain containing over 500,000 tons of ore which would last 10 years at a milling capacity of 150 tons per day. The estimated cost of running this lower tunnel will be about $5000.00, or as may better be stated, the initial expense.

MILLING ANDREDUCTION OF ORES ON MINE.

I would recommend a Flotation milling or reduction works to be built on the mine with a 50 ton capacity to start with, after the 600 ft. tunnel is completed. This plant being the nucleus of a 150 ton plant later on; the 50 ton units being added on, one after the other.- The entire reduction plant complete on the mine will cost in the neighborhood of $80,000.00.

POWER TO DRIVE ENTIRE PLANT.

The power will be hydroelectric. The water power can be had in sufficient quantities and under a hydrostatic head of 500 feet perpendicular fall which will give somet ing like 300 H. P., sufficient for all purposes for such a plant. This power plant will be installed in Twin River canyon, three m les from the mine and

power will be transmitted over high tension power line. (Cost of power plant $30,000.00).

ESTIMATED PROFITS.

Five hundred thousand tons of ore at an average estimated value of $15.00 per ton (which is placing a very low valuation on the ore) will be a gross amount of $7,500,000.00. During thd ten years, which would be the life of the estimated ore reserves, the cost of mining, milling, shipping and smelting concentrates would amount to approximately $2,250,000.00. I estimate the net profits for the ten years after deducting cost of plant and improvements at $5,140,000.00, or a net profit for each year of $514,000.00. I believe greater profits can be expected as the ore is of a higher grade than $15.00 per ton.

Should the price of silver go up to 60¢ per ounce and lead to 5¢ per lb. the ores in the Adirondac would double in value.

SURROUNDING COUNTRY.

As evidence of the richness of the surrounding country we have the old mining camp of Austin which had aproduction of $60,000,000.00, lying to the north some few miles distant and in the same range of Toyable mountains. To the south in the same mineralized zone lies the well known camp of Tonopah with a production of $120,000,000.00 gold and silver to its credit, while Gold Fields, also in the same zone of mineralziation, has to its credit a production of over $100,000,000.00 in gold. The old Ophir Canyon mine only to miles distant from the Adirondac, produced $3,000,000.00 in the early days. Round Mountain a mining camp in the Taquima Range in that same vicinity produced $6,000,000.00 gold and is still producing gold in paying quantities, while the camp of Manhattan has contributed its substantial share of wealth to the world.

There is in my opinion no doubt but what the Adirondac mine, property of the Mines Exploration Co. will become with proper exploration and development one of the outstanding mining properties of the western states. Big things can be expected from the Adirondac and it would not surprise me if it became one of the famous mines of the world.

Respectfully,

GEORGE H. GRUSS,
Mining Engineer.