

THIS REPORT COMPILED BY

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*Beaver Creek Group
Custrom Co., New Mexico*

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Beaver Creek Group

The Henry Pavlat and Clyde Cordner group of mining claims, consisting of ten claims in all, each claim 600 feet x 1500 feet, are located near Beaver Point in the State of New Mexico, about 210 miles from the city of Albuquerque. The elevation is about six thousand feet above sea level. At the time I was present on these claims, which was the last week in November, there was no snow, and working conditions were ideal. Apparently the climate is as ideal as can be expected at this altitude and no particular interference would be suffered under an all-year round operation. There is a very good highway leading to the property, which is the best road for an unpaved road it has been my experience to encounter in a district of this type. Heavy trucking can be carried on without difficulty, and at the time I drove to this property by automobile, it had been raining for a twenty-four hour period over the entire road. No difficulty whatsoever was encountered from mud.

In this report I shall dwell chiefly upon the Geology, Mineralogy, Metallurgy and the value of the property from the standpoint of its content of three particular metals; Tin, Aluminum, and Gold. Approaching this property from the north and south are horizontal laminations of granite. The property itself lies within a fault extending almost due east and west. This fault at this particular location disrupted at one time a vertical flow of friable granite of the type which contains Tin, Aluminum, Titanium, Columbium, and Iron. Vertical laminations of friable granite with seams that contain Ilmenite and Cassiterite extend to a height of 600 feet above the bed of Beaver Creek on the west side of the property. At this location Beaver

Creek has cut a channel 600 feet deep. The flow of this deposit centers near the northeast corner of Pavlat No. 4, and the southwest corner of Pavlat No. 3. the northwest corner of Cordner No. 4, and southwest corner of Cordner No. 3. Extending through this flow in an easterly and westerly direction at about the center of the flow are intrusions of Basalt, Rhyolite, and Diorite and a very definite concentration in all these ores of Cassiterite, Rutile, and Spar. At this particular location I excavated two holes 12 feet deep, but did not reach the surface of the underlying rock. These holes are located somewhat north of the center of this flow and slightly east. These excavations expose in excess of 12 feet of alluvial soil containing 1 1/2% Tin, 16% Aluminum and \$3.85 in gold. These values are based upon three 5 pound assays divided from 200 pounds of alluvial soil and rock taken from top to bottom of these holes. It is to be expected that considerable enrichment would be encountered near bedrock, at more depth. This alluvial soil extends across the entire center of this property and represents not less than an area 25 hundred feet by 24 hundred feet, or 6 millionsquare feet of surface with an average depth of 12 feet. In other words it contains not less than 2,500,000 cubic yards of of alluvial soil with a value of \$9,625,000.00 in Gold alone, 37,500 tons of tin, and 100,000 tons of Aluminum. A major portion of this is ideal for moving with either drag line or steam shovel. There is no question that it can be concentrated with but small loss. As to the condition of this Aluminum and Tin and Gold as it exists in this alluvial soil; enough Silicate of Alumina and Silicate of Tin are present, that a parting process should be used upon these ores before attempting concentration. The gold is very fine and is diffused throughout the rock and alluvial soil. It would be impossible to take a sample of rock or soil on this property that would contain no gold. What Wood Tin and Tin Stone I found present on this property contains a large percentage of Dolomite and Pearl Spar, Magnesite, Spodumene, Alunite and Rutile. The granite laminations extending vertically throughout this entire property and

tire property and in a good portion of the property covered by the placer above mentioned; are interspersed in several places with rhyolite, Basalt, and Diorite, which all contain a percentage of Tin not less in any one instance than .015% tin and not more than 54% tin. Samples taken from the Basalt and Rhyolite, about 100 pounds in all, assayed the following:

5 pounds of brown Basalt from the exposure on the west side of Pavlat No. 4, about 300 feet above the bed of Beaver Creek, 54% Tin, \$2.65 in gold per ton.

The Rhyolite as nearly as it could be segregated two pounds tested 24% Tin. 5 pound composite sample of the material taken at the location of these intrusions 36% Tin. The richest Tin content ore is concentrated in these intrusions of which there are several running through the property in an easterly direction through this point, and this concentration seems to extend over an area of 100 feet in width. I can safely say that one 4 foot Basalt and Rhyolite intrusion will average 15% Tin.

The friable granite in any one place carried not less than \$2.00 in Gold per ton, and contained in one assay taken a few feet north of the Basalt intrusion \$4.35 per ton in Gold. This granite throughout, which is exposed from the creek bottom the whole width from north to south on the property, to a height of 600 feet will actually average in gold content in excess of \$3.00 per ton. The granite in places contains as high as 54% Aluminum and some part of which is Bauxite. The tin content exists as finely disseminated grains of Cassiterite and Silicate of Tin. The minimum tonnage on friable granite and rhyolite bearing an average of not less than 1% Tin and 15% Aluminum is an approximate 100,000,000 cubic yards, from the level of Beaver Creek to the top of the granite exposure. All of this can be very easily mined on a large tonnage basis. Now it must be clearly understood that I have based all tonnage figures very conservatively and that I have performed 28 assays for tin, gold and aluminum on this property; that these tests were conducted upon not less than one pound samples actually run for recovery and several hundred pound samples run for

figures are very conservative. There are several other minerals, Titanium, Columbium, Tantalum that should be given some consideration. I can process all of the Tin, Aluminum and Gold without difficulty.

Now as to the Metallurgy connected with this type of ore. It can be treated the same as any other ore containing Silicate of Aluminum and Silicate of Tin, to-wit: (It should be calcined and the Silicates parted to Oxides before separation is attempted.) There are several methods for handling this ore which are well known to Tin smelting concerns. It is common knowledge, however, that assaying offices who have not made a specialty of handling Tin ores, stand a terrific loss in their analysis for Tin. There are any number of methods for handling these assays, but the best method I know, is to use 100 grams of sample to the assay using a clay crucible approximately 4x6 inches. and first covering the bottom of the clay crucible to a depth of one inch with Pottassium Cyanide, mixing 4 times the weight of sample used with Pottassium Cyanide and placing therein, and then covering this within $\frac{1}{2}$ inch of the top of the crucible with another layer of Pottassium Cyanide. The furnace heat should be very carefully controlled to avoid foaming until the entire mass is in a smooth fussion. All Tin contained in the sample should then be ready and in condition to be taken up in the Hydrochloric Acid. I personally use the "Harrison Chemical Method" for the reduction of this Tin and found a difference in excess of 50% in results, in several instances against check samples where the ore was not calcined properly before treatment. I shall here serve to illustrate this point.

On December 2, 1935 under the auspices and in the presence of Mr. Deerksen I weighed out three 45 gram samples of some of the ore from this property, that I had previously tested and found to contain $1\frac{1}{2}\%$ Tin. We placed in each of these 45 gram samples 26.65

