National, Nevada

By H. C. Cutler

National, the latest camp to attain prominence in Nevada, is in the northern part of Humboldt county. It is about 8 miles south of old Fort McDermitt and the Oregon line, and 75 miles north of Winnemucca, on the Southern Pacific and Western Pacific railroads. It lies well up in the mountains bordering the eastern edge of Quinn River valley and, unlike the majority of camps in Nevada, is rather pleasantly situated. Water and grass are plentiful and sagebrush and green shrubbery cover the mountain sides. Cottonwood and other trees are found in the gulches near the water, but not in sufficient quantities to furnish fuel for any length of time.

At present, the population of the town and vicinity is about 750. A daily stage brings the mail from Winnemucca over a road which is excellent for the larger part of the year. Freight and express are delivered in town for 1½c. per lb. A few wooden buildings have been erected, but the town is still largely composed of tents. The camp was established in June, 1907, by Jesse L. Workman, a prospector who used an automobile for transportation and who during the past six years had been over a large part of Nevada. He was attracted to this section by stories of high-grade float found at different times by sheep-herders or cattlemen who had neither the time nor the inclination, nor yet the knowledge, to follow up and discover the source from which it came. Workman located forty claims in the vicinity, but was not fortunate enough to find the high-grade deposit. Credit for this belongs to lessees who were attracted to the camp by the reports sent out by Workman. Among these were George and Frank Stall, who had mined in California and prospected in Nevada. They took a lease on the West Virginia claim on Charleston hill and, although often discouraged, out of money, and ready to give up, stuck to it and finally found the bonanza deposit in February 1909. Meantime, four of the claims located on Charleston hill had been incorporated under title of the National Mining Company, and control of the company secured by S. W. Gundaker, who kept the lessees hopeful and working until they were rewarded by finding the highest grade ore ever found in place. Later, a change in ownership of the control caused a dispute as to the rights of the lease, and litigation ensued which tied up the property during a part of 1909 and 1910. The suits were finally compromised and on April 9, 1910, work on the lease was resumed with a year and twenty days to run. In August 1910 the lease was sold back to the parent company for a large sum, although it is generally supposed that the best of the rich ore-shoot had been extracted. From April until August 1, 1910, the production of high-grade ore alone exceeded $650,000. This ore was worked in a small pan-arrastre mill and the tailing shipped to the smelter. The ore averaged $25 per pound, assaying in the ratio of about an ounce of gold to an ounce of silver.

General View of National, Nevada.

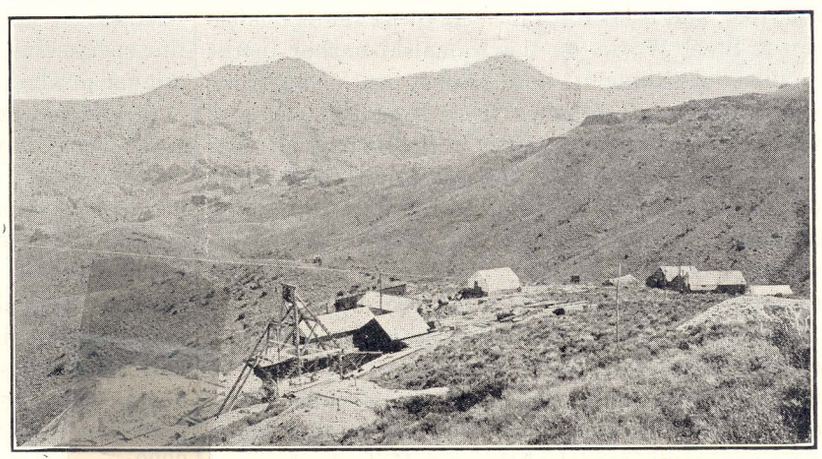
The geology of the country, both in the mine and its vicinity, is complicated. The camp lies near the southern edge of the Idaho lava flow. To the north and east, the mountains are capped with heavy flows of basalt and the gold-bearing Tertiary eruptives do not come to the surface. Beginning at Eight-Mile creek, about two miles north of National, the rhyolite and andesite appear and can be traced for a number of miles to the south. Buckskin peak, about three miles south of camp, is nearly all rhyolite. Farther south, the more ancient rocks, such as limestone, schist, slate, and granite, appear. All of this range is being closely prospected at the present time, but so far nothing of commercial value has been found outside of Charleston hill, where the Stall lease was situated. Scarcely enough work has been done in the mine to determine the actual geological conditions with certainty. A north-south break traverses the property its entire length and has been traced for several miles in the adjacent claims. This break has every indication of being a faulting plane —heavy gouge, crushed quartz, and country rock, smooth boulders embedded in the clay, and striations on the wall. All of the Stall lease workings are in this fault plane, and all of the high-grade ore extracted up to the present time, with the exceptions noted later, has been in the form of smooth boulders and pebbles or in crushed quartz. The rocks vary in size, from a pin-head to pieces weighing 150 lb. When small they are scattered throughout the gouge and crushed quartz near the wall or fault plane and make from a foot to 18 inches of mill ore assaying from ten dollars to several thousand per ton. This mill ore is, however, confined strictly to the high-grade shoot, and is necessarily limited in amount. The fault plane, starting with a dip of 49° at the surface, gradually straightens until at the 400-ft. level the dip is 80°. The east side of this break is a highly silicified rhyolite and the west side, where the ore occurs, is andesite. There is every indication that the west side has been raised, but just how far it is impossible at present to tell on account of the limited amount of development. The andesite belt is apparently not over 300 ft. wide, and directly west of it is a diorite dike, not more than 100 ft. thick. Farther west, the rhyolite appears again lying over the diorite. Basalt dikes cut through both the andesite and the rhyolite, with a general north-south trend, but I do not believe they have any relation to the ore

deposition. It was originally believed that this main break was a contact fissure in which the ore was formed and afterward broken and displaced by a general faulting movement, and still later slighly re-cemented in places by a later solution. Development has tended to disprove this theory and the present indications are that the ore was derived from a vein in the andesite striking S. 20° E. This vein is one of a series of parallel veins cut and displaced by the fault. All of these veins do not carry ore of commercial value, although it is possible that high-grade ore will be found in some of the others. If this contention of a general faulting plane is true, and now it appears to be the only reasonable explanation, then all the ore mined up to the present time is simple 'drag' from this main vein and the fault has broken through and displaced the ore from a phenomenally rich ore-shoot. No ore has been cut by the fault, although a drift was run several hundred feet south. It is quite possible that there are parallel veins carrying ore of value farther south, and a number of lessees are working in that vicinity with this idea in mind.

Some work was done on this main vein, and a few pounds of ore of the same phenomenal richness taken out, but on account of the limited hoisting facilities and the appearance of so much high-grade ore in the faulting plane lower down, work was discontinued later. Several thousand feet of work has been done by the National Mining Co. on this fault plane north of the Stall lease, but up to the present time no ore of any kind has been found beyond a point 50 ft. north of the lease boundary. Quite recently on the Hyde lease, in a block of ground about 1500 ft. north of the Stall lease some of the high-grade was found in one of the parallel veins in the andesite. This may lead to another bonanza deposit. At the Stall lease, while operating, 75 men were employed. It was equipped with a 25-hp. Fairbanks gasoline hoist, a 1600-lb. skip, a No. 4 Buffalo exhaust fan, and a complete high-grade plant. A change-room, with lockers and wash-rooms, was provided for the miners, and a complete change of outside garments required.

The high-grade ore, assaying over $20 per lb., was taken out in sacks to the mill, crushed in a small Blake crusher to ½-in. mesh, then re-crushed in a small laboratory crusher to ¼-in. mesh. From this crusher it passed to a No. 2 cone-grinder and finally to a Braun disc-grinder, where it was pulverized to pass a 60-mesh screen. The pulp was then put into a 4-ft. pan-arrastre with the proper amount of quicksilver and water and amalgamated for six hours. About 150 lb. of ore was run to a charge and four charges in 24 hours. An extraction of 98 to 99.5% was made by the process and the tailing shipped to the smelter. About $650,000 in bullion was turned out of this little mill in less than three months. Besides the high-grade ore, three other grades were made: seconds, assaying from $2 to $6 per lb., high-grade mill ore, $100 to $1000 per ton, and low-grade mill ore, anything assaying over $8 per ton and too low grade for other classes. The last three grades were placed in bins or on dumps until such time as other means of reduction could be obtained.

At the present time, the centre of activity in the district is on Charleston hill, and a number of lessees are working on the National Mining Co.'s property and on adjacent claims both north and south. Among the more prominent properties being developed in this way are the National Consolidated, the First National, the Charleston Hill Mining Co., and the Mayflower. A mile from Charleston hill, in the suburbs of town, the Radiator group is being developed under bond by Seattle capitalists. All of these different places will be watched with interest, as a discovery in a new place will mean much to the camp and possibly may cause another of Nevada's booms.



Stall Lease, National, Nevada.