0220 0012

See Also:

Unpublished report on the

CARSON SINK AREA, NEVADA

By

F. C. Schrader, U. S. Geological Survey

(Field work 1911-1920)

1947

OFR 47-17
(0020029)

Manuscript copied by Nevada Bureau of Mines with
permission of U. S. Geological Survey

In SEM ROOM 311 USGS OFR

1947

I. H. X. mine--The I. H. X. mine, known also as the Solomon mine, is in Antimony Canyon, about a mile and a half downstream from the Antimony King mine and a mile from the mill, at an elevation of about 5,100 feet.

The Chapman Smelting Co., of San Francisco, is said to have produced 50 tons of 50 percent antimony ore here in 1915, and that it was expecting to produce 200 tons in 1916.

The country rock is the brown indurated calcareous shale or slate of the Star Peak formation which here and in the vicinity is intruded by dikes of light-gray nearly dense sodic (plagioclase) aplite, with which the ore is associated.

The vein dips 60° to the west. As seen by the writer in 1920, it consists chiefly of alternately banded quartz and stibnite. It ranges up to 3½ feet in maximum width and contains good shoots of relatively pure stibnite.

The principal workings are in the bluff standing about 40 feet above the floor of the canyon. They comprise several hundred feet of drift and stopes extending mostly from the face of a lower adit crosscut tunnel. The upper part of the workings show that an 8-foot wide dike of the aplite in part at least forms the hanging wall. They also show a gouge parting of crushed country rock, aplite, and quartz on the vein walls. The dike contains sparingly disseminated minute cubes of primary pyrite and specks of stibnite. Parts of it show also beautiful trachytic and acicular replacement by stibnite. Many prospect openings have been made along the dike on the opposite side of the canyon.

Lofthouse mine--The Lofthouse antimony mine, owned by Ralph Lofthouse, of Fallon, is about 5 miles south of Bernice, in Dyer Canyon, the second large canyon south of Antimony Canyon. It is credited with a small production of antimony during the World War. The deposit occurs in the same black slate section of the Star Peak rocks as the Bernice deposits afore described. The vein is a fissure with quartz filling and dips 50° to the west like the Antimony King vein. The limestone stratum associated with it is the only one in great thickness of enclosing slate, and is another good example of the genetic relation of the limestone and the ore bodies characteristic in the district. The ore is less massive than that in the Antimony King mine. It occurs mostly in fibrous and acicular forms. 7/

7/ Mallery, Willard, op. cit.

Alpine district

Location and topography

The Alpine district is near Alpine in the eastern part of Churchill County in the lower east slope of the Augusta Range, at an altitude of about 6,000 feet. It is on the opposite side of the range from the

Wonder district, from which it is 20 miles E. NE. It is 50 miles direct and about 80 miles by road east of Fallon, the nearest railroad station on the Southern Pacific Railway. It is about 3 miles northwest of Alpine, a Post Office and stock ranch settlement on the Lincoln Highway in the open part of Edwards Valley, from which it is easy of access. The topography, which is not rough, is mostly of the type produced by weathering and erosion in gently tilted volcanic rocks, figure 103 (photo 47-1688), and figure 104 (photo 49-1689).

The area is drained southeastward by three drainage ways spaced about a mile and a half apart, and which beginning on the north are Clan Alpine, Star, and Florence canyons, which in turn flow eastward into Cherry Creek which flows 8 miles northeastward into Dry Lake of Edwards Creek Valley. Alpine is about a mile south of the south margin of the 40th Parallel Survey map. Its altitude is about 5,250 feet.

History

Mineral was discovered in the district in the early 60's or earlier, and the Silver Lode Mining Co. was organized to operate here. The district was organized as the Clan Alpine district in 1864 and a 10-stamp mill was built in Clan Alpine Canyon in 1866,8/ but the mill was run only a short time and the camp was abandoned soon afterwards and has been more or less dormant since9/ that time excepting a small activity reported

---

8/ Brown, J. Ross, Report upon the mineral resources of the States and Territories west of the Rocky Mountains for 1866, Washington G.P.O., 1867, p. 128.

9/ Lincoln, Francis C., Mining districts and mineral resources of Nevada, p. 1., Reno, 1923.

---

in 1915.

Production

The production, which was silver and gold, was small. Some ore from the Williams and the Nevada Lincoln mines was treated in the Clan Alpine mill, some was hauled to Austin more than 60 miles to the east, and some was shipped by way of Old Wadsworth to Virginia City.

Deposits

The so-called Alpine zone of mineralization having a width of about 4 miles is said to extend from near Alpine 15 miles northeastward to Granite Point. But the deposits so far as learned and here treated are nearly all contained in a north-south rectangular area about 4 miles long by 3 miles wide near Alpine between altitudes of 6,000 and 6,500 feet. They are silver- and gold-bearing deposits, predominantly silver-bearing.

The country rock is the Tertiary volcanics, which in the eastern part of the area are mostly rhyolite or rhyolitic while toward the west they are andesitic in character, figure 103 (photo 47).

In practically all of this part of the range the rocks have been mapped as rhyolite by the Fortieth Parallel Survey. In the Alpine area the rocks are considerably altered by weathering, locally silicified by hydrothermal action, tilted, faulted and sliced by several sets of jointing, example given at the mouth of Florence Canyon a set of joint planes cutting the rocks into medium to heavy slices dips 60° toward the northwest, a closer spaced set dips about 60° to the southeast, and a still closer spaced set standing about vertical strikes northwest.

The deposits are contained in veins and mineralized shear zones in these rocks. The gangue is mostly quartz and altered mineralized rock, with the quartz-adularia type dominant in places.

The deposits are best exposed and opened mostly in or near the canyons, which for the most part are open drainage ways and facilitate access to the deposits.

Mines and prospects

Of the several so-called mines or prospects in the district the most important seen in the present work are the Williams and the Windlass mines.

Williams mine

The Williams mine, better known as the Old Williams or Senator Williams mine, owned by former Senator John Williams of Fallon, is located about 2 miles northwest of Alpine and 3/4 of a mile south of the mouth of Florence Canyon, figure 103. It is one of the early discoveries, was worked mostly in the middle 60's and made a moderate production, most of the ore being treated in the Clan Alpine mill, and some 40 tons of $40 ore was hauled to the Manhattan Mining Co. at Austin. The mine is in the southern part of the district at an elevation of about 6,000 feet and 80 feet above the gulch adjoining it on the southeast, which is a south-side tributary of Florence Canyon.

The country rock is rhyolite. It is light gray with a reddish hue, medium- to fine-grained, moderately tufaceous and brecciated. It is traversed horizontally or parallel with the flowage by irregular yellowish brown bands or streaks of limonite stain. The bands are about 1/4 inch in width and are spaced about 1 to 2 inches apart. Their stain was derived from pyrite contained in the rock along those lines. Quartz phenocrysts in or near the bands are more of the reddish wine-colored type than those found elsewhere in the rock. The microscope shows the rock to be a normal hyalo rhyolite, with a glassy to microcrystalline base and flow structure. The phenocrysts which are quartz, orthoclase, and oligoclase, are relatively fresh or well preserved.

Deposits--The deposits are contained in a lode or mineralized shear zone in the rhyolite. As the mine was not enterable they were studied mainly in shallow openings and dumps. The lode strikes N. 60° E. and dips steeply (70°) to the N. NW. into the mountains. It is longitudinally sheeted and in part banded with quartz lenses and stringers in part replacing rhyolite, and its strike and dip accord with the dominant sheeting in the rocks, noted later on its alignment 1/2 mile to the west farther up in the front of the range. The lode is about 60 feet wide and judging from the openings has a known extent of more than 1/4 mile. It consists principally of quartz and altered silicified and replaced rock and is in part stained yellowish brown with limonite. The quartz often shows replacement after an earlier spar gangue, and with it is frequently associated much vein orthoclase or adularia.

The ore minerals, chiefly cerargyrite, argentite, and gold are associated mainly with the quartz and the quartz-adularia part of the gangue, Portions of the vein or bunches of the ore mined were very rich.

The croppings which are not prominent consist essentially of the vein material just described and include some hard gray flinty quartz. They are in part limonite stained and show pseudomorphic replacement after spar.

The principal opening is a 5- by 7-foot shaft said to be 200 feet deep, with drifts and laterals mostly extending 50 or more feet to the northwest. It is sunk near the middle, slightly toward the hanging-wall side of the lode, where the more silicified portion of the deposit occurs, which has a width of about 2 feet and probably carries good values.

Windlass mine

The Windlass mine is about 3/4 of a mile northwest of the Williams mine on the upper northerly slope of the hill at an altitude of about 6,450 feet. The property comprises a group of 5 claims known as the Grand Prize group and is owned by J. P. Williams, Jr., of Fallon. It was discovered in 1912. It is on a nearly east-west vein in purplish rhyolite on or near its contact with quartz latite, which outcrops near-by, and, is opened to the depth of 50 feet, mainly by a 65° incline shaft.

The vein consists of 2 to 5 feet or more of crushed quartz and adularia and altered and silicified rhyolite all more or less banded. Much of the quartz-adularia part of the gangue is closely and distinctly banded, or crustified, the bands in places numbering 18 to 20 to an inch. The margins of the bands are generally crenulate or serrate and are interlocking with those of the adjacent bands, figure 105. The microscope shows the quartz-adularia to contain pseudomorphic replacements and other features similar to those shown in figure 36 (spec. 194).

The vein is said to average about $6 to the ton in precious metal of which value about two-thirds is gold and one-third is silver. Five hundred tons of this class of ore lies on the dump. Both the ore and the waste are stained yellowish brown with limonite.

In the bottom of the shaft the vein is said to be 5 feet wide and to contain a 28-inch wide ore shoot which averages about $22 to the ton. Assays of the surface ores averaged about $9 to the ton.

At about 400 feet to the southwest of the mine is another similarly good looking vein which strikes northwest and stands about vertical. It is opened at intervals by pits extending through a distance of several hundred feet.

Healy prospect

The Healy prospect, owned by Dave Healy, W. E. Hoover, and E. R. Bermond of Fallon, is in Florence Canyon 1/2 mile above its mouth and 3 miles northwest of Alpine. It was located about 1910. The floor of the canyon at this point has an elevation of about 6,050 feet. The deposit is in a mineralized shear zone in rhyolite which here is closely sheeted and crushed, with the sheeting in general dipping 60° or more to the northwest, and it locally contains bands and lenticular bodies from 1/2 foot to 2 feet wide or more, which look well and probably carry fair values in gold.

The deposit is opened mainly by two short adit drifts or tunnels driven in the northeast side of the canyon, respectively at 20 and 60 feet above its floor. The upper tunnel follows a fairly well-defined siliceous vein about 1 1/2 feet wide, which contains a seam of rich gold ore, but which was not found in the lower tunnel. From the surface or bench workings, however, just above the lower tunnel good ore was obtained. Here much of the vein consists of clayey or talc-like material, nearly all of which showed or panned free gold.

From the nature of the deposit it is inferred that the pay ore found probably is due to concentration by surface leaching and redeposition and does not continue in depth.

Nevada Lincoln mine

The Nevada Lincoln mine, formerly the Kinney mine, is in the northern part of the district about 6 miles north-northeast of Alpine. It is in the upper part of Clan Alpine Canyon 4 miles from its mouth, near the site of the Clan Alpine mill, in rugged mountainous country at an altitude of about 6,300 feet. It was not visited in the present work.

The mine was formerly owned by Charles Kinney of Fallon who worked it in the middle seventies and thereafter intermittently until 1915, including a 5-months' period in 1911. In 1915 it was acquired by the Nevada Lincoln Mining Company of Reno, who capitalized it at $1,250,000.10/

10/ Weed, W. H., The mines handbook, vol. 13, 1918, p. 1060.

In 1918 it was transferred to the Nevada Wilson Mining Co., and later in

1921 to a new company, the present owner whose name has not yet been announced, but which is controlled by Gilbert S. Johnson of Fort Worth, Texas.11/ At one time an option was held on the mine for $135,000.12/

11/ Weed, W. H., The mines handbook, vol. 16, 1925, p. 1427.

12/ Mining and Scientific Press, May 21, 1921, p. 725.

Production--The production, which was not learned, was probably not large. The most of it seems to have been treated in the Clan Alpine mill on the ground. In 1878-79 Kinney shipped to Virginia City by way of Old Wadsworth, 6 tons of ore which netted $80 to the ton. This ore was mostly mined from a 60-foot shaft.

The country rock has been mapped rhyolite by the Fortieth Parallel Survey in that part of the Augusta Range.13/

13/ Fortieth Parallel Survey, Map 5, east half.

The deposits are among the early discoveries of the district and seem to have been an important factor in determining the location of the Clan Alpine mill at this point.

The property comprises a group of 5 or more claims covering an extent of 3,000 feet on the strike of the veins. It is developed mainly by a 600-foot crosscut tunnel to depths of more than 150 feet. There are also several shafts.

The deposits are contained in 3 veins which are traceable for more than 400 feet on the surface with their croppings extending through a vertical range of several hundred feet and showing ore or indications of ore throughout this extent.

The veins are said to lie about 200 feet apart, to each be about 4 feet in width, and to dip steeply to the N. NE. in rhyolite and quartzite. The rock here called quartzite may be intrusive aplite similar to that described in the Wonder-Westgate part of the range, which is difficult to differentiate from quartzite without microscopic examination.

The ore is gold-silver ore including free gold often associated with manganese. It occurs mostly in bands and seams in shattered quartz-talcose gouge gangue. The largest ore shoot or band of pay quartz is about 1 1/2 to 2 feet wide. The values are said to occur largely in hard bluish quartz as at the Jack Pot mine in the Wonder district. The ore varies in value from $5 to $60 to the ton.

In the (1st or) east vein the silver values which are important near the surface decrease to almost nil at the depth of 40 or 50 feet, but the gold values continue steady in depth.

In the (2nd or) middle vein the gangue is mainly barren-looking quartz, which however quite uniformly carries about $7 in gold to the ton.

Williams prospect

The Williams prospect is in the head of Clan Alpine Canyon, 1 1/2 miles in a north-westerly direction above the Nevada Lincoln mine and about 5 1/2 miles from the mouth of the canyon. A small quantity of ore from it is said to have been treated by the owner, Senator Williams, each in the Clan Alpine mill and in the Bernice mill.

Scott prospect

The Scott prospect, owned by G. Scott of Fallon, is in the northern end of the Alpine mineral belt. It is 14 miles north-northeast of Alpine, 4 miles north of Byer ranch, and about 1 mile west of the Shoshone Pass-Byer ranch-Alpine road. It is in the foot of the Range at Granite Point and the mouth of Granite Point Canyon. It is said to be on a shale-granite contact, with the granite lying in a trough or syncline formed by the shale. The shale is the Star Peak formation of Triassic age, of the Fortieth Parallel Survey, and the deposit probably belongs to the pre-Tertiary class of deposits. The deposit is said to have produced and to be producing good values in gold and to contain molybdenite with which most of the gold is associated.

As the rocks here in the northern end of the Alpine mineral belt include, besides andesite and rhyolite, also granite and hornblende porphyry, seemingly intruded into the Star Peak formation, the geological conditions are regarded as favorable for the occurrence of ore.