PE-117-7

11.8 8.0

PRELIMINARY REPORT OF PETERSON PROPERTY, PETERSON CREEK, KX 112-43
JUNEAU GOLD BELT, ALASKA,
June 3, 1937.

Location and Accessibility:

The Peterson group of nine claims and two mill sites is located on the northeast side of Peterson Creek, a distance of 4 miles east and south of Mile 26 on the Glacier Highway. A combined trail and tram road extends from the highway to the major showings of this group. The tramway is in an obsolete condition and is now used as a trail only. The trail follows the valley of Peterson Creek from nearly sea level to the highest elevation of 900 feet. Other small trails lead off this tramway trail to various showings on this group.

History and Development:

The original discovery was made on the Prairie claim by Geo. Rudd in 1897. This led to other staking by Messrs. Stephens, Galhager, Harris and Peterson. The following year Peterson acquired and bought the following claims, which retain their original names and boundaries: Prairie, Jessie, You & I, Blank, Pilgrim, Lost Soldier, Cannon Ball, and Entrance Nos. 1, 2 and 3. (Entrance claim No. 2 has been dropped since).

Mr. J. G. Peterson started development work on these claims, and during the year 1903 the property was optioned to T. G. Drew. A road was made from the beach to the Prairie claim. Considerable opencutting and tunnel development was started on the Prairie claim. Development was suspended in 1904.[1] Peterson continued prospecting and developing on these claims, and a report of these activities and of the property is given in U. S. G. S. Bull. 287, "The Juneau Gold Belt, Alaska," by A. C. Spencer, p. 126.

In 1905 Peterson erected a 2-stamp mill, which operated intermittently and was reported to have defrayed mining expenses.[2]

In 1909 the property was optioned to J. G. Milligan, who formed the Southern Alaska Consolidated Mines Company. Considerable development work was done by this company, and the following year the 4-mile planked horse tramway was built from Pearl Harbor to the Prairie claim. Bunk houses were erected and the tunnel on the Entrance No. 1 claim was driven.[3] A diamond drill was acquired and six 500-foot holes were proposed. (Whether or not any of these proposed holes were drilled is not known).

[1]U. S. G. S. Bull. 259, "Mineral Resources of Alaska, 1904," p. 54.

[2]U. S. G. S. Bull. 314, "Mineral Resources of Alaska, 1906," p. 56.

[3]U. S. G. S. Bull. 480, "Mineral Resources of Alaska, 1910," p. 97.

1911-1912 B. Thane and H. T. Tripp optioned the property and formed a company known as the Alaska Southern Mines. Some open-cutting was done and the incline shaft was sunk 100 feet, measured on the incline, on the Prairie claim.

Peterson again operated the property intermittently and in 1914 work was done on the Cannon Ball claim.[4]

In later years, the present small stamp mill was purchased and the mill was moved from the mill site on Peterson Creek to the Prairie claim. This mill was operated only a short while. The property became known as the Pearl Harbor mine. Since, the property has remained idle with only an occasional investigation.

In 1935 the property was optioned to J. C. Holland. The incline shaft was pumped out and considerable sampling was done.

Most of the development work has been confined to the Prairie claim. Nearly all of the tunneling is caved and not accessible. Many of the cuts are filled and the surface showings are badly oxidized.

The total development work on the Prairie claim consists of three shafts, five tunnels, and several opencuts. All of these tunnels are caved and represent approximately 300 feet. The three parallel tunnels on Plate No. 1 were used to stope the ore, following the flat apex of the orebody. The total shaft footage is less than 200 feet.

On the Cannon Ball claim (Plate No. 2) three short tunnels were driven representing a total of 160 feet. Some opencutting and stripping was also done.

On the Entrance No. 1 claim a cross-tunnel was driven, cutting the formation and schisted zone a distance of 320 feet.

On the Jessie claim a short crosscut tunnel was driven on a flat vein, a distance of 20 feet. Also a large opencut on the east side from the portal of this tunnel was dug.

On the Blank claim several opencuts were made showing parallel quartz veins.

A 20-foot tunnel was driven on the You and I claim near the east contact of the slate and melaphyre on a small quartz vein.

[4]U. S. G. S. Bull. 642, "Mineral Resources of Alaska, 1915," by A. H. Brooks, p. 77.

Geology and Showings:

The general formations found on this group consist of clay slates, altered diorites, and augite melaphyre lavas and breccias. These represent an extension of the same series that are associated north of Auke Bay, which include the Gold Knob and Treasury Hill prospects. These formations can be traced between the two properties and numerous quartz showings occur near the contacts. These formations are described in U. S. G. S. Bull. 502, "Eagle River Region," by Adolph Knopf, p. 54, as follows: (Reference to Prairie claim)

> "The prevailing country rock is a clay slate dipping at a low angle to the northeast. Four distinct kinds of greenstone are present in the vicinity. A dike of chloritized diorite lies in the footwall of the lode. The base of this dike is well exposed and shows that the dike was injected parallel to the stratification of the enclosing slates. The top is not exposed, but some contact-altered slate, impregnated with extremely fine pyrrhotite and pyrite, is found. The dike is estimated to be 80 to 100 feet thick. It outcrops intermittently for a mile toward the northwest. In its footwall there is exposed some augite lamprophyre--a rock consisting of augite phenocrysts in a green, finely granular matrix--but because of the few outcrops, not much is known concerning it. On the middle slope of the ridge to the northeast is a dike of dark colored augite diorite carrying large, prominent tabular feldspars. The breccias and lavas of the augite melaphyre series form the summit of the ridge."

The slates and dikes have a general strike of N. 30° W., with a variable dip to the northeast. The quartz showings are mainly confined to a narrow ridge of slate located on the east side of the altered diorite dike shown on Plate 1. Here the slates show intense folding and an anticlinal structure in the opencut with the large quartz outcrop, occupying the crest and limbs of the anticline, ~~which~~ is nearly a closed fold. This structure appears to plunge at a very low angle to the southeast. Definite evidence of this folding can be seen north of the showings on the Prairie claim along the west bank of the small creek that leads to the old dam. Continued evidence is found in the tunnels on the Entrance No. 1, Cannon ball and Jessie claims. The showings of the Prairie claim represent the extension of this closed fold with the surface. The three parallel tunnels on Plate No. 1 were driven on this crest of the fold which has filled with silica and ore-bearing solutions. The highest grade ore was reported from the very crest and considerable of the ore mined came from these tunnels and the opencut directly south. Whether this structure is general for this portion of the slates and the fold plunges southeast for any great distance on its low plunging angle, and whether or not it contains its width of quartz with economic gold values, or whether it is more or less local due to convergent points of pressure, remains to be determined.

The main quartz showing on the Prairie claim is exposed over a length of 300 feet, appears to conform to the schistosity of the slates, and has a thickness from 8 to 10 feet. It appears as a compound vein in which at least a part of the pressure in the folding has been after the vein formation. The quartz of the vein is highly shattered. Due to the very limited amount of work and the inaccessibility of the workings, definite statements regarding the type of structure and its possible continuance cannot be made. It has a banded nature and contains numerous pieces of slate wall rock.

The showings on the Entrance No. 1 claim tunnel, located 1200 feet northwest of the Prairie claim showing, consist of a few narrow quartz veins and veinlets contained in the schistosity of the folded slates. Twenty-five feet in from the portal a 2-foot quartz vein strikes N. 30° W. and dips 85° W. One hundred feet back from the face, 220 feet from the portal, a 4-inch vein parallels the schistosity, with a strike N. 28° W. and dips 35° NE. This vein consists of crushed quartz and slate gouge. A crushed zone 4 feet in width occurs at the face, This contains quartz stringers and crushed slate and is mineralized. Channel samples taken across the crushed zone and the two above veins gave results from a trace to .04 ounces gold per ton.

Three tunnels and several opencuts represent the development on the Cannon Ball claim. Plate No. 2 shows the tunnels. No. 1 tunnel has a length of 20 feet with two short crosscuts on each side following a banded quartz vein enclosed in the folded slates. Formation and vein strike N. 35° W. and dip 32° NE. This vein has a width of 12 to 18 inches and is traceable along its strike over 20 feet. A channel across 2 feet on this vein assayed .02 ounces of gold per ton and a trace of silver. Tunnel No. 2 has a length of 80 feet and cuts across a stringer zone containing numerous parallel quartz stringers infoliated with the slates near the crest of a small anticlinal fold. Both quartz and folded slates are mineralized. The entire tunnel was channel sampled at 10-foot intervals and values in gold per ton ranged from a trace to .02 ounces. The tunnel alongside No. 2 was caved, but no doubt contains the same zone and stringers as No. 2 tunnel.

The Jessie tunnel, located on the Jessie claim, north of the Cannon Ball claim has a length of 20 feet with a 12-foot approach. This tunnel follows a flat vein which is exposed along the face of a bluff for 400 feet. This quartz vein varies from 12 inches to 2 feet in width. Three channel samples taken across its width at 10-foot intervals along the east wall of the tunnel, gave results of .34, .06 and .12 ounces of gold per ton, with traces of silver. This quartz vein is banded and well mineralized with pyrite and arsenopyrite. This vein strikes N. 30° W. and

has a slight dip to the southwest. It cuts the schistosity of the slates in dip, which strikes N. 30° W. and dips 46° NE. Considerable evidence of folding was noted along the bluff to the north of this tunnel.

Located on the Blank claim, approximately 1,000 feet southeast of the Prairie claim showings, two parallel quartz veins outcrop in a long cut near the foot of the east ridge at an elevation of 900 feet. The distance between these veins is 4 feet. The upper vein has a width of 18 inches. The lower vein has a width of nearly 3 feet. Both veins strike N. 28° W. and dip 25° NE. and are contained in the slate formation. The quartz of these veins is highly sheared and fractured, contains numerous pieces of slate, contains a banded nature and is well mineralized with pyrite and arsenopyrite. Samples were not taken from these veins due to the filled and oxidized condition of the outcrop.

Located on the You and I claim, the adjoining claim south of the Blank claim, a short tunnel is located on the south side of a small creek at an elevation of 940 feet. This tunnel has a length of 20 feet and cuts an 18-inch quartz vein that strikes N. 30° W. and dips 45° SW. In the bed of the creek above the tunnel four quartz veins are exposed over a distance of 30 feet. They vary in width from 12 to 18 inches and are contained in slate formation. They were reported to pan coarse gold.

Located 200 feet above this tunnel in the creek bed at an elevation of 1,000 feet, is the contact of the slate and greenstone. This contact with the greenstone resting on the slate is a quartz filled brecciated zone. Both quartz and brecciated pieces are mineralized with pyrite and arsenopyrite. The slate and contact strike N. 30° W. and dip 28° NE. No samples were taken.

Mineralization:

The mineralization and the quartz showing is described by Knopf in U. S. G. S. Bull. 502 as follows:

> "On the Prairie claim large masses of quartz, in places up to 30 feet in surface width, have been exposed over a length of 350 feet, with a general trend of N. 30° W. As shown in one of the tunnels, which is driven under the overburden of glacial drift, some of the masses of quartz form flat bodies of irregular shape, from which stringers penetrate the surrounding slate, crosscutting the stratification. Arsenopyrite is the only sulp hide in the ore; occasionally free gold is detected. Fragments and filaments of slate are embedded in the quartz, and the arsenopyrite is commonly localized in and around them. Several hundred tons of ore has accumulated on the dumps and is said to average $6 (old price) a ton."

Arsenopyrite appears to be the general mineralization in all of the showings investigated, however, pyrite is common also in most of them.

The gangue minerals consist of a white quartz, calcite, chlorite, graphite and pieces of slate. The quartz shows a highly fractured nature and is contained in bands in most of the vein formations.

Assays:

Descriptions of samples with assay results are contained on the following plates. On other showings, the assay results have been given. This amount of sampling does not give an average for all the showings, nor does it represent any continuous orebody. It does, however, show gold values in certain showings and values range in gold from a trace to .50 ounces per ton.

It was reported that the ore milled by Peterson averaged from 6 to 8 dollars per ton (old price).

Timber and Water Power:

Peterson Lake, located at the head of Peterson Creek at an elevation of 800 feet, could be used with the small series of falls on Peterson Creek below its source for a small water power project. In fact the old stamp mill was operated by water power on the Lost Soldier mill site. Prairie mill site is also located on a favorable site for a small plant.

Plenty of large spruce timber is available on the property and along the tramway.