



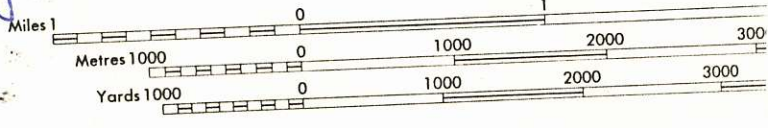
Approx. location  
of pine  
claims  
(work was done  
on N end)

Pine Showing  
824210  
SBS Project  
82m/4w

**ADAMS PLATEAU**  
KAMLOOPS LAND DISTRICT  
BRITISH COLUMBIA  
WEST OF SIXTH MERIDIAN - OUEST DU SIXIÈME M  
Scale 1:50,000 Échelle

Routes:	2 lanes or more 2 voies ou plus	less than 2 lanes moins de 2 voies
graded surface, all weather	gravier, aggloméré, toute saison	
dry weather	de gravier, temps sec	
streets	rues hors classe	
	de terre	
or portage	sentier, percée ou portage	

COMPLETE REFERENCE SEE REVERSE SIDE    POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO



PINE

Area "G" was one of the areas covered under the North Thompson Project in 1971. During the reconnaissance work done on this part of the project, located about 20 miles east of Barriere and several miles southeast of Squam Bay on Adams Lake, copper mineralization was noted in several places, and the PINE claim group was staked in the last part of October 1971 to include the mineralized areas and possible extensions along strike. Preliminary exploration work on the PINE claims in 1972 led to the staking of 7 additional claims in July, 1972 increasing the number of claims in the PINE group from 49 to 56. As the north part of the PINE group was found to contain the best copper mineralization, a programme of detailed exploration work was conducted over this part of the group. The work done and its results are described in the present report.

Location, Property, Access

The PINE claim group is about 35 miles northeast of Kamloops, in Kamloops Mining Division. The group consists of 56 claims which extend for 17 claim-lengths, or about 5 miles along a bearing of N 40°W, and is 2 to 4 claim-lengths in width.

The southeast corner of the claim group is about 5 miles south of Squaam Bay and about 3/4 miles west of Adams Lake, at a elevation of 3300 feet above sea level; the northeast corner is 1½ miles almost due west of the west end of Squaam Bay at an elevation of 3600 feet.

The property consists of PINE claims No. 1 to 21, and 25 to 52 which were located on 29, 30 and 31 October 1971, and also of PINE No. 53 to 59 located on 26 July, 1972, adjoining the north end of the original claim group.

Access to the property from Barriere, which is 39 miles north of Kamloops on Highway No. 5, is provided by a gravel road which branches to the east from the highway at Louis Creek, 3 miles south of Barriere and leads to Squaam Bay. This gravel road is followed for 10 miles to the east end of Forrest Lake, where a bush road branches to the south. The bush road is followed for about 8 miles to the north end of the PINE claim group. Another road, following the west shore of Adams Lake, passes within one-half mile of the property 6.5 miles south of Squaam Bay.

#### Topography

The PINE claims lie partly along the height of land west of Adams Lake, and occupy an area in which elevations range between 3300 and 5400 feet above sea level.

The north part of the property is uneven, with many rocky hills rising to heights of as much as 200 feet, but generally the main change in elevation is a fairly gradual ascent towards the south (Figure 4). At the extreme north and south ends of the claims the ground slopes steeply down towards Adams Lake.

Most of the area is heavily timbered, but a forest fire in 1956 swept over the northern part. Where the soil is well-developed, the regrowth of small trees makes the bush difficult to traverse, but where soil-development is poor, as on most of claims Nos. 53-59 regrowth is very slow and this area is still denuded of forest cover.

#### History of Previous Work

As far as known, no details of exploration work which may have been done on the PINE claims or immediate vicinity has ever been published. Claim posts show that the ground has been staked several times in the last few years but no evidence of past work has been found other than that of silt and soil sampling. However, the old Homestake Mine, now owned by Kamad Silver Mines, located about two miles north of the PINE group, was found in the early 1890's, and prospecting must have spread out into the surrounding area at this time.

Prospectors at this time and later must have noted the occurrence of minerals of copper, lead and zinc on the area now making up the PINE claim group as nearby residents are aware of the occurrence. One of these residents reports that drilling has been done to check these occurrences but no sign of such work was found on the property.

Current Work

Field work began on the PINE group on 15 June and continued to 15 August, 1972. The first work to be done was a thorough prospecting of the property, and, from this work, it soon became apparent that the northermost claims were the most favorable area for sulphide mineralization. Reconnaissance soil-sampling, on lines 1500 feet apart, and 3000 feet long, on a bearing of magnetic north (N23°E), was then done across the most favorable area. Following this soil-sampling was extended for four claim-lengths to the south on lines 1500 feet apart, crossing the claims on a bearing of N50°E.

Immediately following the acquisition of the new claims in July, a programme of detailed exploration work was begun over the new property. Seven miles of picket lines were run over the entire area of PINE claims No. 54-to 59, the lines being spaced at 400-foot intervals.

A total of 350 soil-samples were taken at 100-foot intervals along the picket lines. Samples were analysed for copper and zinc, and in some cases, also for lead. A total of 505 reconnaissance and detailed soil-samples were collected for analyses.

A magnetometer, was made over the picket-line grid, taking readings at 50-foot intervals.

The geology of the underlying rocks was checked by traverses over most of the property. Detailed geological mapping was done only over the grid area. A topographic survey was made at the same time as the mapping was done.

The data resulting from the above work was drafted on maps having a scale of one inch to two hundred feet (Figures 4 to 10) and these maps were studied to assess the mineral potential of the property and to enable a decision to be made regarding the future course of exploration work on the property.

#### Results of Work Done

Prospecting: Prospecting was thorough on the northermost claims, less so elsewhere where rock exposures were much less abundant. Weak copper and zinc mineralization was found to be widespread but efforts to extend showings of these minerals were unsuccessful.

The best showing consisted of malachite and chalcopyrite in a pocket about two feet wide and several feet long which was thought at first to follow a bed in the sedimentary rocks but was later found to follow a fracture making an acute angle of about  $20^{\circ}$  with the strike of these rocks. Elsewhere malachite and chalcopyrite occurred as isolated seams, up to two feet wide and several feet long. Sphalerite was most common in fine seams in quartzitic rocks south of the large quartz vein mapped on the property (Figure 5). Galena was sometimes found associated with sphalerite. As well as occurring along fractures, chalcopyrite, sphalerite and galena occurred in the large quartz vein and in some of the small quartz veinlets which are so common on the north part of the claims.

Only a small amount of prospecting was done on the south part of the property, where outcrops were rare and were found to contain only trace amounts of sulphides other than pyrite.

Magnetometer Survey: Magnetic relief on the grid area, as revealed by the magnetometer survey is very low, having a maximum of 390 gammas (Figure 6). Readings ranged between 50 and 440 gammas, but only two readings were above 300 gammas, and 90% of the readings were in the range of 100 to 200 gammas.

Because of the very low relief the magnetic data obtained was of little assistance in interpreting the geology. The magnetic intensity is, however, slightly above normal over areas underlain by the volcanic flow rocks at the southwest ends of picket lines 12N, 16N and 20N.

Geochemical Survey: The results of the reconnaissance and detailed soil survey are shown on Figures 7 to 10. Background values for copper and zinc ranged from 4 to 60 ppm and 22 to 150 ppm respectively. Anomalous values varied from 100 to 410 ppm for copper and 200 to 975 ppm for zinc.

No strong continuous copper anomalies were discovered. Numerous small one-or two-samples anomalies are scattered across the northwestern end of the property (Figures 7,9). Several of these are associated with the minor occurrences mentioned above, and the general distribution suggests that the anomalies are related to various small lenses and fracture zones of weak copper mineralization.

The zinc anomalies are generally larger and more continuous than the copper anomalies, and can more readily be correlated with various occurrences of lead-zinc-copper mineralization (Figure 8,10).



However, neither the zinc or the copper results suggests the presence of economic deposits of either high or low-grade lead-zinc or copper mineralization.

Geological Mapping: The PINE claim group is in an area underlain by the Eagle Bay formation, a sequence of volcanic and metasedimentary rocks which have been divided into the Upper and Lower Eagle Bay members according to their positions above or below the Tshinakin member, a sequence of thick lenses of white limestone, calcareous greenstones and graphitic phyllite. In the area west of the south end of Adams Lake, Eagle Bay rocks strike northwesterly and dip to the northeast. The Tshinakin formation is about four miles southwest of the PINE property, suggesting that the claims may be underlain by Upper Eagle Bay rocks.

On the northermost PINE claims the sequence of the members is apparently much disturbed by faulting. The rocks strike at angles of 90 to 140 degrees, and dip 19 to 47 degrees north. From southwest to northeast the sequence appears to be as follows: andesitic volcanic flows, quartz-feldspar-chlorite rocks with volcanic inclusions, quartz-chlorite schists with some feldspar, lapilli tuffs, and another series quartz-feldspar-chlorite and quartz-chlorite schists as before.

An irregular mass of only slightly altered rock on Line 12N, between 600E and 1000 E is thought to be a dioritic intrusion. A quartz vein 20 feet or more in width apparently extends across the claims and is conformable to the surrounding sedimentary rocks; it may occupy a strike fault zone. Smaller, irregular quartz veins are widespread in the different types of rocks.

The volcanic flows are dark-green, fine-grained, chloritized andesites. In places the rocks are highly epidotized, and rusty due to oxidation of pyrite and pyrrhotite. Some rusty patches contain a little chalcopyrite.

The quartz-feldspar-chlorite rocks are pale green to white weathering, poorly fissile and almost massive in appearance. The proportions of the three minerals in the rocks is variable so that it may be quartzitic, arkosic, or chloritic. A distinctive feature of these rocks are the presence of volcanic inclusions as narrow, short layers or irregularly-shaped fragments up to about a foot in diameter. These inclusions were probably scattered by volcanic activity associated with the extrusion of the volcanic flows, indicating volcanism was continuous during the deposition of the sediments.

A greenish, highly chloritized layered formation is 50 feet or more in width. Some layers contain pale-colored, very fine-grained, pebble-sized particles which appear to be lapilli, so the formation is called a lapilli tuff. Some layers contain quartz grains up to one-quarter inch in diameter, but most of this formation is a highly-chloritic schist. The lapilli-tuffs owe their origin to former nearby volcanism.

Above the lapilli-tuffs is a quartzitic member of the quartz-feldspar-chlorite rocks, followed by the type described above.

In an uncertain relationship to the other rocks in the area are highly schistose rocks consisting of quartz and chlorite or quartz, chlorite and sericite, each of which may also have a little feldspar. No volcanic inclusions were noted in these rocks.

The rock mapped as a dioritic intrusion is dark-gray, massive and, near its centre alteration becomes more intense and its margins are difficult to distinguish.

The large quartz vein crossing the property consists of milky-white quartz which is separated into bands a foot or so thick by thin partings of chloritic material. Galena, chalcopyrite, and sphalerite are found in parts of this quartz vein.

The rocks south of the grid area were examined briefly. The volcanic rocks at the southwest end of the grid continue for at least another 1000 feet. A large outcrop on claims No. 27,28,29 and 30 appears to also consist of banded volcanic flows, which are highly contorted, carbonatized and rust-colored. This rock is similar to the copper-bearing skarn-type rocks on the CAIN property, in the road-cut along Adams Lake about 3 miles to the southeast, but most of rusty staining is due to pyrite and trace amounts of chalcopyrite. Near the east-central boundary large outcrops consist of quartzitic and arkosic rocks. A large area in the central and southwestern part of the property is covered with overburden and has few if any outcrops.

Economic Geology: Copper, lead and zinc sulphides, and some malachite, occur on the PINE claims. The form in which these minerals occur has already been described under the heading prospecting. The minerals are associated with faults and fractures and the quartz veins which frequently fill them. The mineralization is thus epigenetic and is typical of mineral deposits found in upper Eagle Bay rocks.

On the PINE claims there are no surface indications of the presence of economic mineral deposits.

However, concealed deposits may exist on the property. The short sections of the wide quartz vein which are exposed contain small amounts of sulphides, but sulphide-bearing quartz, found as float, indicate that concealed deposits may exist on the property. The short sections of the wide quartz vein which are exposed contain small amounts of sulphides, but sulphide-bearing quartz, found as float, indicate that concealed sections of the quartz vein may be much more highly mineralized.

On the geological map several faults have been postulated as they seem necessary to explain the distribution of rock types. Two of these, shown on Figure 5 to strike NW & NE between units A and B,C, are probably sharp facies changes rather than faults. Sulphides occur in fractures which appear to be localized near such faults, and these faults may themselves contain important amounts of copper, lead and zinc sulphides; these faults are not exposed. Geochemical anomalies of copper and zinc, are partly clustered around the large quartz vein and the faults. This quartz vein and these faults appear to offer the greatest potential on the property for the existence of economic mineral deposits.

Further exploration is not warranted at this time, and the claims have been allowed to lapse.