

until the pass is crossed, when a belt having a north-westerly trend is met with almost paralleling the porphyrites and diorites. The highest mountains are apparently all granite judging from the slides, while the lower ones surrounding the summit of the pass are composed of porphyrite, and sometimes diorite.

The writer concluded, after visiting the Blackwater Camp later, that the Chilcoten Pass was really an extension of that mineralised zone, having a very decided northwesterly trend, and that this paralleled the Upper Lillooet, probably being crosscut by the North Fork or some of its tributaries. The lower



How we Provisioned the Camp on Bridge River.

mountains on the pass show very significant signs of mineralisation, and samples brought from the outcrops of some of the bodies all yielded traces of gold by assay, but no copper. That portion of the district has never been prospected by white men; in fact, from the best information obtainable only two other expeditions besides the writer's have reached the summit of the Divide from the Lillooet side, and no one from the Bridge River side has succeeded. One party went through the Chilcoten Pass, the other left the river at Stickine Johnny Creek, and followed that to the summit, but neither of these crossed to Bridge River. Indeed, although the writer made an effort later to traverse the entire distance, but from the Bridge River side, he found the work of cutting a pack trail, because of dense growth of timber, would occupy more time and require a greater outlay than he was prepared to make. For the reason that such a trail would cross the formations the trip would undoubtedly prove a very interesting one, and possibly very profitable. But the snow remains on the pass quite late, and on June 12th it lay on the level ground about three feet deep, although the mountain sides were all bare.

(To be Continued.)

## SOUTHERN BRITISH COLUMBIA.

By J. D. KENDALL.

(Continued from last month.)

**SILVER Copper Ores**—Only one mine, to date, is working these ores, that is the Silver King, on Toad Mountain, near Nelson. The principal silver-bearing minerals in that ore are bornite and chalcopryrite with some tetrahedrite and a little stibnite. They occur in association with quartz, and some other accessory minerals, in a more or less reticulated man-

ner in the country rock, and, like the gold-copper ores of Rossland, are more concentrated in some parts than in others. As with all similar ores, the metallic percentages of the ore shipped depends upon the tenor aimed at in dressing, but the ratio of silver and copper appears to be about one ounce of silver to 3.5 lbs. of copper. The following are assay results of ore shipped from the Silver King, to the smelter at Nelson:

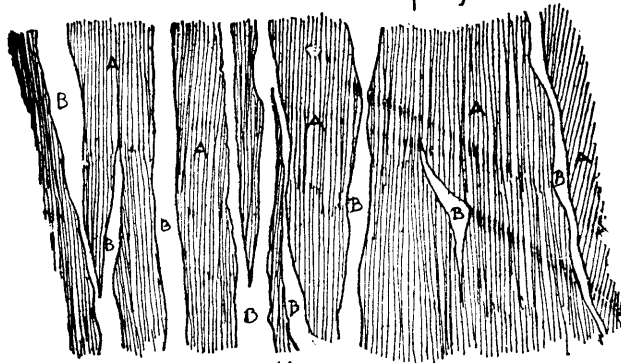
	1.	2.	3.	4.
Silver, ozs. per ton.....	35.05	30.00	22.08	32.00
Copper, per cent.....	5.06	5.59	4.40	4.30

An idea of the general composition of this ore may be formed from the following results of a partial analysis of a piece of it:

Silica.....	35.4 per cent.
Alumina.....	15.4 " "
Manganous oxide....	9.1 " "
Lime.....	8.5 " "
Magnesia.....	4.9 " "
Copper.....	5.1 " "
Iron.....	9.8 " "
Sulphur.....	3.7 " "

**Silver lead ores**—These ores are of wide occurrence. They consist mainly of argentiferous galena, with more or less argentiferous blende. Associated with these minerals is frequently found, in varying

### PAYNE MINE Section in No. 3 Tunnel, 960 feet from Mouth.



A Argillite (Clay Slate) **Fig 7.**  
B Galena  
Scale 7 feet to an In.

quantities, highly argentiferous tetrahedrite. Sometimes metallic silver, or some of the ores of silver—as hyrargyrite and stephanite—occur in easily noticeable quantities. The average metallic percentages of some of these ores, as shipped in large quantities, are given in the following table, which also shows the ratio of silver to lead:

SILVER.	Silver. Ozs. per ton.	Lead. per cent.	Silver. Lead oz. lbs.
Payne Mine.....	107	51	1 to 9.9
Whitewater Mine.....	113	33	1 " 5.8
Ruth.....	105	65	1 " 12.5
Idaho.....	146	42	1 " 5.7
Alamo.....	122	40	1 " 6.5
Enterprise.....	177	22	1 " 2.4
Reco.....	309	43	1 " 2.78

In the Cœur d' Alene mines, Idaho, U. S. A. the