

Lightning Peak Area

Summary and Conclusions

The Lightning Peak Area is difficultly accessible. Twenty miles of rough road, five miles with steep grades and the remainder over flat, swampy country, connect the area to the Monashee Highway twenty-four miles west of Edgewood. The highway itself is not kept open in winter months because of heavy snow, about fifteen feet.

Mineralization in the area includes east-west veins locally rich in silver, north-south veins locally rich in silver as well as gold, and replacement zones with base metals and low silver. The high-grade shoots appear too small, few, and far between to make any of the lodes more than marginal in grade on the average.

The best of the known showings are controlled by Paycheck Mining and Development Company, which is completing a mill on the Waterloo. Permission has been obtained to conduct a more detailed examination and sampling of the Paycheck holdings if desired, but the information acquired to date is not overly encouraging.

Forenote

Most of the mining property in the Lightning Peak area is controlled by Paycheck Mining and Development Co., of 302 Baker St., Nelson B.C. H.A. McKen is president and general manager. Mr. McKen was not at the property during the examination, and the property maps are kept at the office in Nelson, so the examination could not be as thorough as desired. The foreman accepted us as visitors, and no notes or samples were taken in his presence. Mr. Gus Quist (Kvist) is foreman and millwright. He was most hospitable, and supplied the following information.

Paycheck has been working in the area for at least five years, but have done little underground development on any of the properties. It controls other properties in British Columbia, including a gold property in the Lardeau also called Paycheck. The company has about twenty shareholders, all or almost all Nelson business men. McKen maintains control, though perhaps with increasing difficulty because of impatience among the shareholders. The company may resort to public financing in the next year.

Progress has been slow because of insufficient capital. Equipment for a fifty ton mill was taken into the Waterloo in 1951, but the mill will not be completed until at least a few weeks. Machinery is all second-hand, requiring overhaul before installation. The company intends to operate the mill for a couple of months on 'ore' from the Waterloo dumps, and then close it down during the winter. Winter months will be spent diamond drilling on the Waterloo. The crew of about ten men are now improving the road and cutting wood.

A Geological Survey party of ten or twelve men spent the summer months in the area. Drs. Simpson and Little were in charge.

Location and Accessibility

The area lies in the Monashee Range, near the headwaters of the Kettle River. The upland near the properties is surprisingly level; the low ridges and shallow swales range from about 5700 to 6100 feet in elevation, except where incised by the few large streams. Outcrops are few, practically limited to ridge tops and the canyons of the large streams. The remaining country is covered with glacial material. It supports a moderate forest of small timber, mostly jack-pine and balsam. The poor drainage caused by lack of relief, and the heavy winter snow (about fifteen feet) make much of the area swampy. However, one can traverse most of the country on foot fairly easily.

The access road leaves the Monashee Pass road at Wauchope, about twenty-four miles west of Edgewood, and rapidly climbs the several thousand feet up to the upland. After the first five miles there is an overall gradual rise to the properties, which are about twenty miles southwest of Wauchope. The access road is passable by car, but more suited to trucks, especially during wet weather. Roads to the various properties are sketched on an accompanying map.

General Geology

The geology of the area has been mapped by Cairnes (G.S.C. Summ. Rept. 1930, Part A). The lack of outcrop renders conclusive geological mapping difficult. All the more important properties, with the exception of the Dictator, lie in a belt of westerly to northwesterly trending volcanics and sediments, intruded by granitoid rocks. A limey zone several hundred feet wide follows the southern border of the belt. The northern part of the belt is chiefly andesitic volcanics, including some tuffs.

About a dozen properties have been worked on in the belt, which is about a mile wide and four miles long. The more important properties are the Waterloo, Dictator, Payday, Lightning Peak, Killarney, and Rampalo-Silver Lump. The former three properties are controlled by the Paycheck company.

Three types of mineralization were noted in the area:

1. East-west trending shear zones, in places associated with but later than quartz porphyry dykes. The zones are mineralized with pyrite, sphalerite, galena, chalcopyrite, and silver minerals in a quartz and carbonate gangue. Locally, they carry high silver values but little or no gold. Examples are the Waterloo, Lightning Peak, and Killarney.

2. North-south trending quartz-pyrite veins, with small shoots of high-grade silver-gold mineralization where galena, sphalerite, and chalcopyrite are present. These veins are more commonly associated with quartz porphyry dykes than type 1. Examples are the Dictator and Rampalo-Silver Lump.

3. A contact metasomatic zone carrying magnetite, pyrite, chalcopyrite, sphalerite, and low silver values. The Payday is the only known example.

Individual Mines

Waterloo

The Waterloo is the only property receiving any work at present, but this work is only on road and mill construction. The foreman would not allow a trip underground in the absence of Mr. McKen, the manager, as the workings were not considered safe. No maps are kept at the property. When Mr. McKen was later visited at his office in Nelson, he produced only very generalized maps, explaining that a young engineer he had employed absconded with all the detailed maps. However, permission was obtained to conduct a complete examination and sampling if desired.

The main showing on the Waterloo is a strong sheared zone from three to four feet wide, striking easterly and dipping steeply north. The zone carries sphalerite, galena, pyrite, and silver minerals in stringers, breccia-like fragments and dissemination in carbonate and quartz gangue. It is explored on surface for about 700 feet, in which distance the walls are principally limestone.

Four tunnels explore the zone over a vertical range of 166 feet. A shoot of high grade silver ore found in the upper two tunnels provided about 150 T. of shipped ore carrying from 250 to 528 oz. Ag. per ton. The lowest, No 4, tunnel was driven 1780 feet along the strike of the zone. Two shoots of high-grade were encountered, from 408 to 456, and 501 to 567 feet, a total of 114 feet. In addition to this, a total of 414 feet is described as possible mill feed, all in the first 920 feet of drifting. Mr. McKen reports that the zone from 920 feet to the face is very lean. The backs on the first 920 feet will average about 150 feet. The total ~~de~~ indicated high-grade and mill-feed is thus in the neighborhood of 25,000 tons. Mr. McKen says it averages 85 oz. silver per ton, and about ten percent combined lead and zinc.

Three samples and one specimen were taken from the showing.

	Values per ton				<i>cd.</i>
	Au. oz.	Ag. oz.	Pb%	Zn%	
1. 'High-grade' from pit above No. 4 portal, containing sphalerite, galena, pyrite	Tr.	49.0	Nil	1.4	6.11
	<i>U.S. MILLING</i>		5.2	16.2	
2. 'Milling-ore' from north side No. 4 dump, apparently mined from near the portal	Nil	28.7	Nil	Nil	
3. As above from south side dump, probably mined from further underground	Nil	1.3	Nil	0.1	
4. Specimen representative of ore from shallow shaft at most easterly surface workings	0.12	4.48	0.7	1.1	
Reported average over three foot width, fifty foot length, west of high-grade shoot on No.2 Level	---	4.0	3.0	4.2	

These assays indicate that the average grade is considerably below that stated by Mr. McKen.

A northerly striking quartzose vein, from five to ten feet wide, outcrops at and north of the campsite. Sulfides constitute only a fraction of one percent of the vein. This vein should intersect the main Waterloo vein about six hundred feet east of No. 4 portal, but is not mentioned in the reports.

A second northerly striking quartzose vein about eighteen hundred feet east of No. 4 portal has been explored by two shafts, both flooded at present. Some shipping is reported from this vein. A sample, containing about ten percent pyrite with minor sphalerite and galena contained 0.12 oz. per ton in gold and 304.4 in silver. The possible intersection of this vein with the main Waterloo vein was the object of the long No. 4 tunnel, but the intersection was either not reached or not recognized.

Although more complete information is desirable, that obtained at present indicates that the 'ore' is of only marginal grade on the average. The tonnage indicated hardly warrants the erection of the Paycheck mill. The expense of transportation, particularly in winter, would hazard economic operation.

Dictator

A northerly trending quartz vein with associated stringers in granitic rock has been explored for at least 250 feet along strike by pits, a shaft, and a short adit. The main vein, about three feet wide, is quartz, in places comb and amethystine, mineralized with several percent of sphalerite, galena, and pyrite. A company formed in 1944 sank 200 feet of shaft, and is reported to have found from 0.25 to 6.6 oz. gold per ton over from 10 inches to 4 feet of width in 112 feet of drifting on the 100 foot level. However, the vein faulted off a few feet below the 100 foot level, and was not found in the 100 feet of crosscutting on the 200 foot level.

Four samples were taken:	Au.	Ag.
1. South cut, three feet wide, 5% py. in quartz.	nil	2.0
2. Tunnel north of shaft, three feet wide, qtz., py., gal., sphal	0.04	0.6
3. North end ore dump	nil	1.0
4. South end ore dump	0.06	2.7

Payday

The Payday is a replacement zone of magnetite, pyrite, sphalerite, chalcopryite, and silver minerals exposed by surface cuts for about 250 feet. None of the surface cuts are more than four or five feet wide, and may not expose the full width of mineralization. Further stripping may expose more width and length to the zone. The short crosscut exposes about twenty feet of sulfide between fault walls. On surface, the andesitic country rock is more shattered than sheared; the structure does not appear strong. Two samples were taken

	Au. oz.	Ag. oz.	Pb.%	Cu.%	Zn.%
1. Random sample of sulfide piled on dump	nil	3.2 7.2	0.5	Tr. 0.35	1.6 with pyrite
2. Channel over 4 ft. in southernmost open cut	0.02	9.4 9.6	0.1	0.4 1.25	0.3 with pyrite

Killarney (including Thunder Hill and Lucky Jim Fractions)

Exposures are on the steep slope south of a branch of Rampalo Creek. A cabin is maintained in usable condition, but there was no sign of recent work on the property. Several hundred feet of underground workings have explored a westerly to northwesterly trending vein dipping steeply north-easterly. The vein is up to ten inches wide, with minor stringers in the sheared walls. The zone contains galena, sphalerite, pyrite, chalcopyrite, and silver minerals, reported to carry from 20 to 180 oz. per ton in silver, but one sample cut across the well mineralized vein six inches wide returned only 5.2 oz. The zone is repeatedly offset in the highly shattered and faulted ground. Tonnage and grade are insufficient to merit further exploration by a larger company.

Lightning Peak Group (Thunder Hill, West Fork, First Chance, Jim Hill)

An east-west trending shear zone has been explored by surface and underground workings for a length of 800 feet and over a vertical range of 200 feet. Most of the zone consists of a few inches of sheared rock containing one or two stringers of quartz sparsely mineralized with galena, sphalerite, pyrite, chalcopyrite, and silver minerals. In a few places, notably near the shaft close to the eastern end of the workings, shearing and mineralization were about three feet wide, and of sufficient grade to constitute shipping ore after sorting. Altogether, the property is credited with shipments of about 200 tons of silver and silver-lead ore, averaging on the whole about 150 oz. in silver to the ton and 35% pb. Two samples were taken:

	Au. oz. per T.	Ag. oz. per T.
1. Channel one foot wide of sheared greenstone with quartz, galena, chalcopyrite stringers.	nil	54.00
2. As above but lower grade from pillar near shaft.	nil	14.88

The shearing and mineralization are later than, but parallel to a system of quartz porphyry dykes. The lowest (No 4) adit found very little continuous ore, and the shear zone itself is much disrupted by cross faults. The ore shoots in the shear zone are too small, few, and far between to be economic to other than leasers.

Rampalo-Silver Lump

A north-south trending quartzose vein is sparsely mineralized with pyrite, galena, and silver minerals. This vein, where exposed in the upper (No. 3) drift, is a lens about thirty feet long averaging ten inches wide. The lens is offset a few feet by a fault near the portal of the drift. No. 2 adit, a drift about fifty feet below No. 3, is reported to have found the same vein, containing similar values and of similar size. A third adit, a cross-cut, driven to intersect the vein a few feet below No. 3 drift, is reported to have cut only a few inches of quartz. The vein exposed is far too small to be of interest economically. Two samples were taken

	AU. oz. per T.	Ag. oz. per T.
1. Sacked 'high-grade' stored in old cabin	0.44	85.60
2. Channel of quartz with sparse sulfide from lens at portal No. 3 drift	0.04	9.44