PE-112-16

PRELIMINARY REPORT OF THE LUCY TUNNEL, LUCY CLAIM, NOWELL PROPERTY, DOUGLAS ISLAND, ALASKA
November 29, 1939.

Location and Accessibility:

The Lucy tunnel is located on the Lucy claim of the Nowell patented property on Douglas Island, directly opposite Gastineau Channel from Juneau. The tunnel is reached via trail 400 feet southwest of the Douglas-Juneau Highway at a point a quarter of a mile southeast of the Douglas bridge.

Geology of Tunnel:

Data concerning the history of the Lucy tunnel is lacking. It was supposed to have been driven by the Nowell Mining Company during the early activities in the Juneau district. The object of this tunnel was no doubt to prospect the greenstone dike which indicates possibilities on the surface and for actual development in the course of obtaining a patent on the ground. The tunnel, situated at an elevation of 250 feet, has a length of 315 feet, cutting the formation at an oblique angle with a bearing of S. 16° W. At a point 167 feet from the portal an incline raise extends upward on the footwall of the greenstone dike and connects with a shaft on the surface, a vertical distance measured by aneroid of 70 feet. The tunnel is partly filled with mud, but is accessible to the face. The raise is apparently open, but lacks the necessary timber and ladders, and was not examined. From the portal in 90 feet the tunnel cuts folded and schistose black slates. Small blebs, veinlets, and small bunches of quartz were noted, which showed a slight mineralization. From the slate, and extending for a distance of 80 feet southwest, the tunnel cuts the massive greenstone dike. This dike conforms with the schistosity of the slates, striking N. 20° W. and dipping 65° E., and has an estimated width of 50 feet. The hanging wall of the dike is fractured with the main fractures paralleling the strike. These are quartz filled and slightly mineralized. The central portion of the dike is mineralized and in places silicified. The footwall has been more severely fractured and contains a zone 6 to 8 feet in width of mixed dike and slate pieces giving the appearance of a coarse breccia. Quartz and gou ge make up considerable of the filling and this zone is termed a breccia vein. The dike is crystalline, medium to fine grained, and contains a green ferromagnesium mineral, quartz and feldspar. The texture and appearance resemble a diorite. Due to the fine-grained ground mass the dike is classified as an andesite.

At a point 88 feet back from the face a small 12-inch breccia vein strikes and dips parallel to the former vein. This vein contains a greater portion of quartz and pyrite with mixed dike material. Sixty-four feet back from the face a 4-foot greenstone dike cuts across the tunnel paralleling the slates. This dike is fractured, with the fractures quartz filled.

A shear zone striking N. 30° W. and dipping 72° E., and 6 feet in width, is located 13 feet back from the face. This zone consists of highly schistose slate which is mineralized and contains small quartz stringers.

Channel samples were taken, as shown on the accompanying sketch, of most of the mineralized areas and dikes with results ranging from nil to 0.02 ounces per ton in gold and nil to 0.5 ounces of silver per ton. On the surface two old cuts expose the large breccia vein south of the shaft, elevation 320 feet. Grab samples of quartz from both cuts gave results of 0.02 ounces of gold and nil in silver.

A more complete sampling and further development was not recommended.