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REPORT ON EXPLORATION ON QUIGLEY RIDGE, KANTISHNA DISTRICT,
BY MONETA PORCUPINE MINES, LTD., 1962

During August 14 to 17, 1962, James A. Williams, Director of the Division of Mines and Minerals, and Robert H. Saunders, State Mining Engineer, visited the Kantishna District, where Moneta Porcupine Mines, Ltd., was exploring for lead-silver deposits on Quigley Ridge. The trip to the Kantishna District was made from Fairbanks by auto via the Richardson, Denali, and McKinley Park highways.

The exploration conducted on Quigley Ridge by Moneta Porcupine began in 1960. The work through the 1961 season was described in a Division of Mines and Minerals report entitled REPORT ON MINING AND PROSPECTING ACTIVITIES IN THE KANTISHNA DISTRICT, 1961.

During 1962, geochemical surveys and trenching continued. Besides Dr. Robert H. Seraphim, who is in charge of the project, and Leo Mark Anthony, who is in direct charge of field work, three men were employed on Quigley Ridge, and a fourth employee was performing assessment work on claims owned by Moneta Porcupine in another part of the Kantishna District. Arlie Taylor, Kantishna District placer miner, was employed as tractor operator.

When the exploration program began on Quigley Ridge, an attempt was made to trace veins with electromagnetic equipment, but, probably because of large amounts of graphitic schist in the area, this method was not successful. After electromagnetic methods failed to produce the desired results, geochemical testing for heavy-metal content of soils was tried. Geochemical anomalies were found in the soil down-slope from known veins, and, from this beginning, the exploration

was conducted in five stages, the last four stages progressing simultaneously.

Stage 1. Extensions of known veins were traced by soil sampling, and the results were checked by trenching. When trenching proved a close association of geochemical anomalies and veins, stage 2 was begun.

Stage 2. Systematic soil sampling on a grid network was conducted over all of Quigley Ridge. Detailed information about sampling methods, chemical tests used, and anomalies detected is given in the 1961 report.

Stage 3. Trenches were dug on the anomalies detected by stage 2, and geochemical tests were made in the trenches to guide the digging. Trenches were extended up-slope from the upper ends of anomalies until the vein causing each anomaly was found. Through 1961, all of the trenching was done by hand; hand trenching progressed slower than the geochemical surveying, and, at the end of the 1961 season, several anomalies had been found that had not been checked by trenching. In 1962, a D-6 tractor with bulldozer blade was acquired, and use of the tractor accelerated the trenching so that by the end of the 1962 season all of the anomalies had been checked.

Stage 4. Excavations were dug by hand on the veins found in stage 3, exposing the veins sufficiently to permit channel sampling of them.

Stage 5. Channel samples were cut and prepared for assay. A small jaw-crusher powered by a gasoline engine was used for crushing the samples, and crushed samples were split by use of a Jones riffle sampler. Two splits of each sample were saved; one split was sent to the Division of Mines and Minerals Assay Office at College, and the other was retained by the company for possible check assay and future study. Primarily, the crushing and splitting were done to make transportation and mailing of samples cheaper and easier.

Work on the exploration program continued two to three weeks after our visit. In November, 1962, Dr. Seraphim notified the Division of Mines and Minerals that the veins that had been uncovered were too small, and that he was not recommending any further work on them.

College, Alaska
March, 1963

Robert H. Saunders
State Mining Engineer