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ALASKA
DEPARTMENT OF MINES

WALTERS SILVER-LEAD PROSPECT NEAR DOT LAKE

MT HAYES QUADRANGLE

by

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March 1959

Jimmie Walters silver-lead prospect is in the east-central part of the Mt Hayes Quadrangle at 63° 40' N latitude and 144° 05' W longitude. It is on the south side of the Alaska Highway on the northeast end of the land mass called Knob Ridge; it is south and west of Dot Lake. The prospect was examined on July 26 and 27, 1958; this report is written from notes that were made during the examination.

All of the samples that were taken during the examination were below mineable grade. The best sample came from an eight-inch-wide vein in a hand-dug pit one-half mile south of the west end of Dot Lake on a spur that extends in a northwesterly direction from the main ridge.

At Dot Lake there is a small Indian Village, a church, and a road house. From Dot Lake by road it is 61 miles to Big Delta and 48 miles to Tok. Before the Alaska Highway was built, most travel to and from this region was by way of Tanana River, and the few white people who entered the region in those days were mostly prospectors, trappers, or traders.

The geology of the region in which the prospect lies has been described in U. S. Geological Survey Bulletin 989-D, GEOLOGY OF THE EASTERN PART OF THE ALASKA RANGE AND ADJACENT AREA, by Fred H. Moffit. Most of the country rock in the vicinity of the prospect is a granitic intrusive, a part of a batholith of varied composition but dominantly intermediate between granite and diorite. The batholith underlies more than 550 square miles; its western boundary lies west of Johnson River, and its eastern boundary lies north of Tanana River.

At the road-cut west of Dot Lake, the wallrock of the veins is schist. This is either a part of the Birch Creek schist formation or a pre-Cambrian or Paleozoic schist similar to the Birch Creek schist. A few hundred feet west of the veins along the road-cut, the granitic intrusive crops out. The schist probably is a small lobe that extends only a short distance into the intrusive.

Three veins are exposed in the road-cut; one is four to five feet wide; one is two feet wide; and the third is about six inches wide. Samples taken from these three veins during the examination indicate that the veins at this exposure are essentially barren. On the ridge south of Dot Lake, the only exposures are in small hand-dug pits. All the pits could be on the same narrow vein, but an abundance of quartz float on the ridge suggests the presence of

either a large vein or a lode comprising several veins. The vein quartz is coarsely crystalline, and, besides galena, it contains small amounts of spahlerite and chalcopyrite; a few malachite stains were noted. A black mineral that is abundant in some of the quartz was identified at the Assay Office as a manganese oxide replacing sphalerite and galena. The vein or lode strikes N 30° W and dips vertically or nearly so.

On the knoll between the road-cut and the ridge south of Dot Lake, four small holes have been dug. The dumps around the holes consist largely of quartz; a grab sample (number 7) was taken from the dumps.

Eight samples were taken during the examination, and they were assayed at the Department of Mines Assay Office at College. The locations of Samples 1 through 7 are shown on the accompanying map. Sample 8 was taken from a talus slope on the left limit of Dot Lake Creek about one mile from the road. The results of the assays are shown in Table I. All the samples and several additional rock specimens were tested for radioactivity; none was detected.

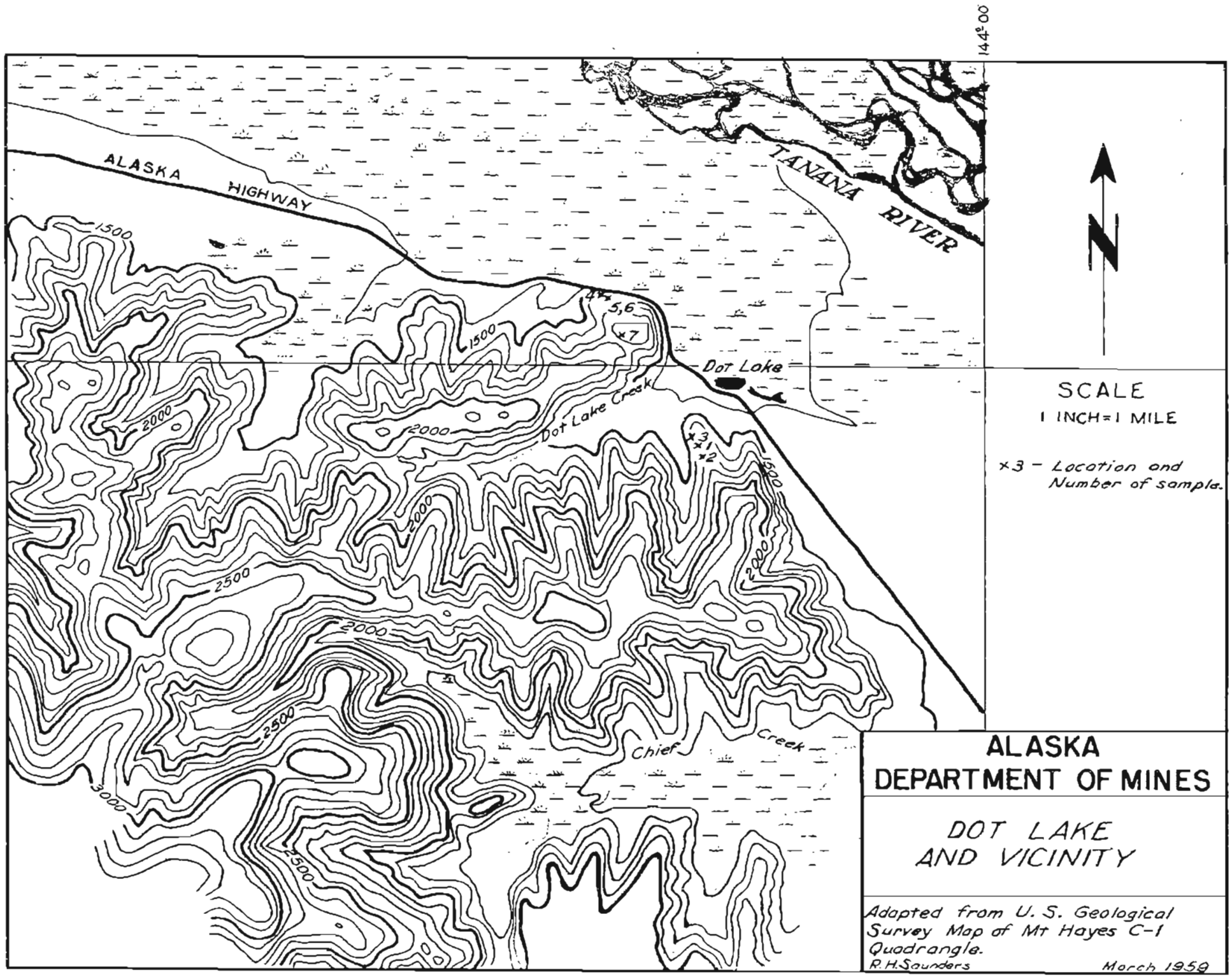
The hand-dug pits and the exposures in the road-cut are alined, and the strike of the veins is parallel to the alinement. It thus appears that the exposures are on one mineralized zone or lode that extends at least one-and-one-half miles. The low assay results of the samples indicate that nothing has been found that approaches mineable grade, however, the prospecting has shown that there has been mineralization along a persistent structure. There is a possibility that the vein or lode contains ore-shoots, and, for that reason, some additional surface prospecting may be justified along the southeastern extension of the mineralized zone.

Jimmie Walters has also discovered some asbestos on the north side of Tanana River a few miles northeast of Dot Lake. In his specimens from this deposit, the maximum width of the asbestos seam was three-quarters of an inch. An examination of this occurrence would require chartering a riverboat for a trip of two or three days duration. A boat was not readily available for charter in July, 1958, and, furthermore, the asbestos seam was considered to be too narrow to justify the expense of such a trip.

TABLE I

ASSAYS OF EIGHT SAMPLES

Sample No.	Width	Ounces per Ton Gold	Ounces per Ton Silver	Per Cent Lead	Remarks
1	8 inches	Tr	5.16	7.66	From pit 15' long and 5' deep
2	Grab	Nil	Tr	Not Run	Very little galena visible in sample
3	Grab	Tr	Tr	Not Run	No visible galena
4	2 feet	0.02	0.12	Not Run	No visible galena
5	4 feet	Nil	Nil	Not Run	No visible galena
6	6 inches	Tr	0.24	Not Run	No visible galena
7	Grab	Tr	0.10	Not Run	No visible galena
8	Grab	Nil	Tr	Not Run	From talus slope on left limit Dot Lake Creek; no visible galena


144°00'
63°40'
ALASKA HIGHWAY
TANANA RIVER
Dot Lake
Dot Lake Creek
Chief Creek
1500
2000
2500
3000
×4
5,6
×7
×3
×1
×2
SCALE
1 INCH = 1 MILE
×3 – Location and Number of sample.
ALASKA
DEPARTMENT OF MINES
DOT LAKE
AND VICINITY
Adapted from U. S. Geological Survey Map of Mt Hayes C-1 Quadrangle.
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