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PE 58-1

TERRITORY OF ALASKA

DEPARTMENT OF MINES

SUPPLEMENTARY REPORT ON THE VUYOVICH PROSPECT, ESTER, ALASKA

by

Robert H. Saunders

Associate Mining Engineer

January

1957

The Vuyovich prospect was examined in 1953, and a report on that examination written in February, 1954, is on file in the Department of Mines offices at Juneau and College. During the summers of 1954, 1955, and 1956, additional prospecting work was done on the property, and another examination was made on September 5, 1956, to bring the description of the prospect up-to-date.

Most of the prospecting work has consisted of excavating by bulldozer. The open-cut over the adit at 760 feet elevation has been enlarged and deepened so that the portal to the adit has been removed. The narrow, high-grade vein from which the shipment was made in 1953 is exposed in the bottom of this cut, and samples 43, 44, 45, and 46 were taken from this vein.

A large open-cut that has been excavated near the adit at 890 feet elevation is shown in pencil on the map accompanying this report. The bottom of this open-cut is about even with the bottom of the old adit. The winze is exposed in the bottom of the cut, and it is possible to get into the underground workings from the sides of the cut. Samples 47, 48, and 49 were taken from this cut; the locations from which the samples were taken are shown on the accompanying map.

Free gold may be panned from some of the quartz exposed near the old winze, but the ground has been so disturbed by faulting in this area that it is impossible to recognize any definite structure. The seven samples that were taken during

this examination were assayed at the Territorial Department of Mines Assay Office at College by Donald Stein, Engineer-Assayer; the results of the assays are shown in Table I.

TABLE I

SAMPLES TAKEN SEPTEMBER 5, 1956 , VUYOVICH PROSPECT

Sample No.	Location	Width Sampled	Ounces per Ton		Value Per Ton
			Gold	Silver	
43	20 ft north of former location of portal at 760 elevation.	1.75 inches	8.58	6.06	$305.75
44	40 ft north of Sample 43.	1.0	12.26	6.02	434.52
45	Hanging wall beside Sample 44.	2.5	0.02	0.24	0.92
46	20 feet north of Sample 44.	8.0	0.98	0.50	34.75
47	Shown on map.	2.0	3.38	2.62	120.66
48	Shown on map.	12.0	0.34	0.18	12.06
49	Float picked up in cut at 890 elevation.	---	1.04	4.22	40.20

TERRITORY OF ALASKA

DEPARTMENT OF MINES

COLLEGE, ALASKA

WORK DONE IN 1957 ON THE VUYOVICH GOLD-QUARTZ PROSPECT, FAIRBANKS QUADRANGLE

There are two Territorial Department of Mines reports on the Vuyovich prospect; they are: REPORT ON THE VUYOVICH GOLD-QUARTZ PROSPECT, ESTER, ALASKA, February, 1954, and SUPPLEMENTARY REPORT ON THE VUYOVICH PROSPECT, ESTER, ALASKA, January, 1957. The property, which is still owned by William Vuicich, was leased to Walter Wilson and O. C. Drake during the summer of 1957. A small mill was built on the property, and a test-run was made on ore mined from the narrow vein near the cabin. This is the vein from which William Vuicich mined and shipped to the Tacoma smelter 3,021 pounds of ore in 1953. Some geochemical prospecting was done during the summer, but apparently nothing of much importance was found.

Mining was carried on by drilling and blasting a narrow trench along the vein. The broken rock was excavated partly by hand and partly by use of a back-hoe. Wallrock material was separated from the quartz by hand-sorting, and the ore was carried to the mill in 5-gallon cans.

Water for milling was pumped from a well that was drilled early in the summer. The mill was powered by a 7½ horsepower, single cylinder, Fairbanks-Morse, gasoline engine. The milling equipment consisted of a jaw crusher, feeder, ball mill, amalgamation plate, launder with mercury traps, Plat-o concentrating table, and corduroy table. All of the milling equipment was of labor-

atory size. The ball mill was run without a classifier. All of the ball mill discharge went over the amalgamation plate, through the launder, and onto the Plat-o table. Middling and tailing from the Plat-o table went over a corduroy table and then to the tailing pile. The milling equipment was housed in a frame building.

The lease expired on September 30, and, rather than make a cash payment for renewal, Wilson and Drake decided to move off the property. Accordingly, the mill was dismantled, and all the machinery was moved away.

While working on the prospect, the operators noted that high readings could be obtained on a Scintillator in the area around the cabin, mill, and open-cut. No rocks were found that would give a high reading when removed from that area.

November, 1957

Robert. H. Saunders
Territorial Mining Engineer

REPORT ON THE EXAMINATION OF A BULLDOZER TRENCH AT THE VUYOVICH PROSPECT, FAIRBANKS QUADRANGLE

On November 1, 1960, I examined a bulldozer trench on the Vuyovich prospect at the request of, and accompanied by, William Vuicich, the owner. During 1959 and 1960, Vuicich dug several bulldozer trenches on the prospect, and his last trench exposed a zone that he thought might carry gold and silver. He requested the examination in order to determine whether or not to explore the zone further with underground workings.

I have written three reports on this prospect; they are:

(1) REPORT ON THE VUYOVICH GOLD-QUARTZ PROSPECT, ESTER, ALASKA, 1954,

(2) SUPPLEMENTARY REPORT ON THE VUYOVICH PROSPECT, ESTER, ALASKA, 1957, and

(3) WORK DONE IN 1957 ON THE VUYOVICH GOLD-QUARTZ PROSPECT, FAIRBANKS QUADRANGLE.

Included with the 1954 report is a map of the prospect (PlateI) showing an adit at 810 feet altitude. A bulldozer trench has been dug below the adit (to the south) and several have been dug up the hill (to the north). The vein is well-exposed in the trench below the adit, and the trenches to the north expose it in several places over a distance of a few hundred feet. Farther up the hill in line with these exposures a line of very old, hand-dug pits extends for several hundred feet. Where the extension of this line of pits and trenches crosses the top of the ridge, a large bulldozer trench was dug at right angles to the indicated trend of the vein. The distance from the uppermost hand-dug pit to the top of the ridge is roughly 1000 feet.

The trench at the top of the ridge exposes a fifteen-feet-wide shear zone striking almost parallel to the trench. Lenticular bands of quartz scattered throughout the zone, together with variations in staining caused by oxidation and variations in brecciation caused by fracturing, make the appearance of the zone differ from place to place. Four samples were taken across different parts of the zone to check for the presence of gold and silver. The assay results were as follows:

Sample No.	Ounces per Ton	
	Gold	Silver
3	Tr	Nil
4	Tr	0.1
5	Tr	Nil
6	0.02	Tr.

No further work on the shear zone is justified.

College, Alaska
January, 1961

Robert H. Saunders
State Mining Engineer

J 2-3

WORK AT THE VUYOVICH PROSPECT, FAIRBANKS QUADRANGLE, IN 1963

The Vuyovich prospect is in the Fairbanks quadrangle on the left limit of Ester Creek between Ready Bullion Creek and the settlement of Ester. The property consists of five lode claims; four quartz veins within the claims have been exposed in open-cuts and underground workings. Four reports that I have written previously on the prospect are dated February, 1954; January, 1957; November, 1957; and January, 1961. Plate I in the report dated February, 1954, shows an adit at 760 feet altitude about 300 feet from the Ester Road. Most of the work on the prospect in 1963 was done in or over this adit.

The adit is 150 feet long; it was driven by John Vuyovich, original owner of the prospect. In 1953 William Vuicich, present owner of the prospect, dug an open-cut above the adit and exposed a narrow, high-grade, gold-quartz vein. He shipped one-and-one-half tons of ore from this vein to the Tacoma smelter, and, according to the smelter returns, it carried $419 per ton in gold and silver. Since 1953 the open-cut has been deepened from time to time by bulldozing and digging by hand, and a small amount of ore has been mined (or "sniped") from the vein. In 1956 the portal to the adit was buried under a dump of material bulldozed from the open-cut. During 1957 the property was leased to two men who built a small mill, using equipment of laboratory size, between the open-cut and the road. When their lease expired in the fall of 1957, they removed the milling equipment but left a frame building they had built to house it. A two-stamp mill has been loaned to William Vuicich recently by the University of Alaska; it has been hauled to the mill building but has not been assembled.

In 1963 further deepening of the open-cut uncovered the buried portal, making the adit accessible once more. While re-exploring the adit, the owner found that a fall of rock about 80 feet in from the portal was covering the top of a winze, which he previously had not known to be there. He uncovered the winze and found it to be 15 feet deep with a drift at the bottom extending 40 feet to the north and 20 feet to the south. Along the sides of the winze, parts of the vein had been mined, apparently by breaking the quartz with a bar, leaving a narrow slot where the vein had been. Samples were taken at various places in the newly uncovered workings to determine if any high-grade ore had been left. Assays of six samples from the lower drift and the lower part of the winze ranged from a trace to 0.74 ounces of gold per ton. One sample from the top of the winze assayed 7.44 ounces of gold per ton.

In the open-cut above the adit, four samples were taken from a 25-ft section of vein approximately above the winze; their assay results were:

Width Sampled	Ounces per Ton Gold	Ounces per Ton Silver	Distance Between Samples
1.5 inches	14.40	4.88	
			4 feet
1.5 "	17.42	4.82	
			16 "
3.0 "	0.12	0.60	
			5 "
1.0 "	13.50	7.74.	

The vein continues in the floor of the cut 60 feet to the north beyond this 25-ft section. Four more samples were taken along this northward extension; these samples ranged from 0.02 to 0.08 ounces of gold per ton.

The samples that were taken in 1963 and other samples that were

taken in 1956, when the floor of the cut was higher than it is now, indicate that the high-grade shoot is confined to a short section of vein at the south end of the cut. The shoot apparently bottomed at or above the bottom of the winze, and apparently only a small part of the shoot between the floor of the cut and the back of the adit remains.

Fairbanks, Alaska
May, 1964

Robert H. Saunders, Mining Engr.
State Division of Mines and Minerals

TERRITORY OF ALASKA

DEPARTMENT OF MINES

PE 58-7

REPORT ON THE VUYOVICH GOLD-QUARTZ PROSPECT, ESTER, ALASKA

KX 58.111

by

Robert H. Saunders

Associate Mining Engineer

February

1954

TABLE OF CONTENTS

ABSTRACT

The Vuyovich Prospect, which is owned by Mr. William Vuicich, is in the Fairbanks District, Alaska, 13 miles by road from Fairbanks. In surface trenches and prospect adits on the property, two gold-bearing quartz veins are exposed. One vein averages one inch in width, and a shipment of ore from that vein averaged $419 per ton. The other vein varies in width from 6 to 18 inches, and a mill run of ore believed to have been mined from that vein averaged $40 per ton. There are indications of other veins on the property.

INTRODUCTION

As part of its program to aid prospectors in Alaska, the Department of Mines regularly employs mining engineers to examine mines and prospects. Examinations are made at the request of property owners. Mr. William Vuicich requested that an examination be made of the Vuyovich Prospect. In response to his request, the property was examined by Robert H. Saunders, Associate Mining Engineer, on May 6, May 8, June 19, September 3, and September 4, 1953.

Much of the information in this report has been gained from the prospecting that was carried on by Mr. Vuicich during the summer of 1953. As the prospecting continues, supplements to this report will be written to describe new work and any new features that are uncovered.

GENERAL INFORMATION

The Vuyovich Prospect lies at 64° 51' N latitude and 148° 01' W longitude in the Fairbanks District, Yukon River Region. It is on the southeast side of Ester Dome on the ridge between Ready Bullion Creek and Eva Creek. Fairbanks is 13 miles from the prospect by road; eight miles of this is improved gravel road, and five miles of it is asphalt-surfaced road.

The prospect is covered by five lode claims which were staked by John Vuyovich, who held the claims until his death in 1950. After his death the claims were purchased from the Vuyovich estate by William Vuicich.

GEOLOGY

The geology of Ester Dome and the surrounding area has been described in three publications by the U. S. Geological Survey; they are: Bulletin 525, A GEOLOGICAL RECONNAISANCE OF THE FAIRBANKS QUADRANGLE, ALASKA by L. M. Prindle, F. J. Katz, and Philip S. Smith; Bulletin 849-B, LODE DEPOSITS OF THE FAIRBANKS DISTRICT, ALASKA by James M. Hill; and Bulletin 872, THE YUKON-TANANA REGION, ALASKA by J. B. Mertie, Jr. On page 128 in Bulletin 849-B, there is a description of the Vuyovich Prospect as it was in 1931. The gold-bearing quartz veins of the district were described in 1927 by John George McCombe in a thesis entitled A STUDY OF THE GOLD-BEARING QUARTZ VEINS OF ESTER DOME. This thesis is in the library at the University of Alaska.

The bedrock underlying Ester Dome is a pre-Cambrian formation called the Birch Creek Schist; it consists of the meta-

morphic derivatives of a variety of sedimentary and igneous rocks. Mesozoic quartz diorite intrusions have been found in several places in the Fairbanks District, and the gold-bearing quartz veins are considered to be related genetically to those intrusions. There is a small quartz diorite intrusion about one mile east of the prospect, and there may be closer intrusions that have not been discovered. There has been much folding in the Birch Creek Schist, and faulting has occurred before, during, and after the formation of the veins.

On the ground covered by the claims, there are several long ridges, 15 to 25 feet high, that lie with their long axes up and down the slope of the hill. In 1953 one of the ridges was cut through by a bulldozer trench; the trench showed that the ridge was composed of fine-grained silt and there was no relation between the ridge and the structure of the underlying bedrock.

EXCAVATIONS AND UNDERGROUND WORKINGS

There are four prospect adits on the claims as shown on plate I. There are also a number of old hand-dug pits that have become partly filled.

The adit at 815 ft elevation beside the road that goes up Ready Bullion Creek has been driven into the hill about 50 feet; its direction is N 80° E. The adit appears to have been driven without timbering, and caving has made it almost inaccessible. There is no geological feature now visible to explain why the adit was driven.

The adit at 810 ft elevation is caved 40 feet in from the portal. Its direction appears to be N 30° E. Mr.

Vuicich has retimbered part of the adit, but he stopped work on it because of the caving ground. Specimens of quartz containing metallic sulfides are abundant on the dump; many of them have been stained greenish-yellow by the oxidation of antimony and arsenic minerals.

The adit at 760 ft elevation has been reopened by Mr. Vuicich. It goes into the hill at N 10° E; 125 ft in from the portal it turns to N 15° W and continues for 25 ft to the face. There was another adit fifty feet higher and directly above this one, but it was destroyed by bulldozer trenching during the summer of 1953. Both of these adits apparently followed a narrow, high-grade vein that now is exposed in the bulldozer trench over the adit. The average width of the vein is about one inch. During the summer of 1953, Mr. Vuicich mined 3,021 pounds of quartz from this vein and shipped it to the Tacoma Smelter.

Details of the adit at 890 ft elevation are shown on plate II. John Vuyovich had 30 tons of ore milled at the St Paul Mill in 1950, when an interest in the mill was owned by E. H. Beistline, Dean of the School of Mines at the University of Alaska. Dean Beistline says that the ore averaged $40 per ton. The winze and the short drift near the bottom of the winze are the only accessible workings on the property that appear to have produced 30 tons of vein quartz. The vein exposed in the winze probably is cut off by the wide shear zone that the adit has intersected in two places. The slope of the hillside is so gentle that all the workings of this adit are quite near the surface. There are several old prospect pits uphill and downhill from the portal.

High-grade specimens that pan free gold may be found near some of the pits, but the pits are partly filled and it is impossible to tell which pits yielded the high-grade specimens.

The bulldozer trenches shown on plate I were dug during the summer of 1953.

SAMPLES AND ASSAYS

Table I shows the assay results of five samples taken from the adit at 890 ft elevation. The samples were assayed at the Territorial Department of Mines Assay Office at College, Alaska. Sample No. 4 was taken from the south side of the shear zone intersected by the adit; the other samples were taken from the vein exposed in the winze and the lower drift.

A grab sample of greenish-yellow quartz from the dump near the adit at 810 ft elevation assayed 0.84 ounces of gold per ton and a trace of silver, or $29.40 per ton.

The smelter settlement sheet for the shipment of ore that Mr. Vuicich sent to the Tacoma Smelter in 1953 shows that the smelter sample assayed 12.76 ounces of gold and 6.10 ounces of silver per ton. The gross value of the shipment was $633.40, about $419 per ton. Charges for treatment, sampling, wharfage, and trucking were $58.67. The freight from Fairbanks to Seattle was prepaid by Mr. Vuicich.

TABLE I

SAMPLES FROM THE ADIT AT 890 FEET ELEVATION

Sample No.	Width Sampled	Ounces Per Ton Gold	Ounces Per Ton Silver	Value Per Ton
4	7.0 feet	0.02	Nil	$0.70
5	1.5	0.06	Tr	2.10
6	0.5	0.06	0.26	2.33
7	0.5	0.22	0.22	7.90
8	0.5	0.40	0.44	14.40

SUMMARY

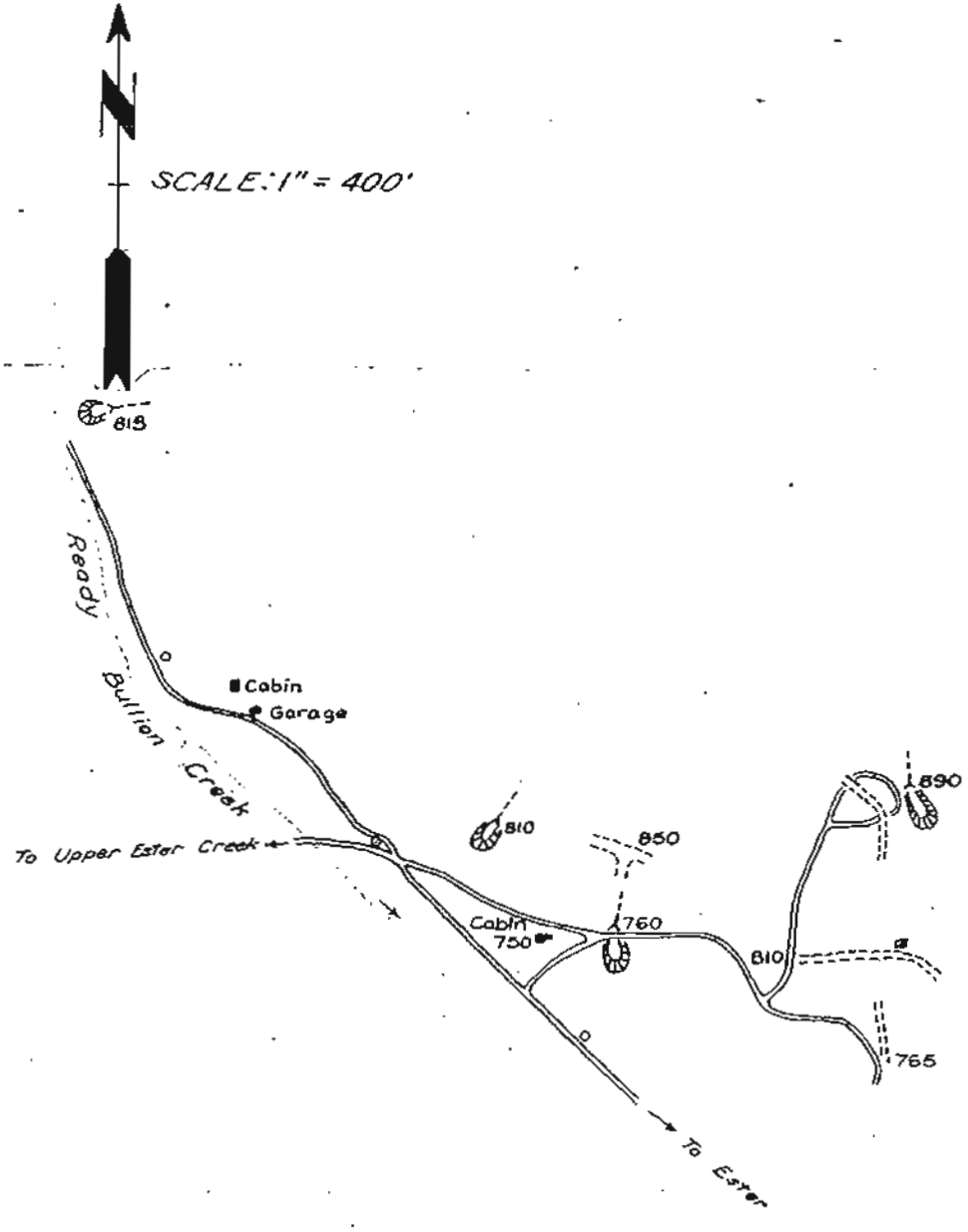
In the adit at 890 ft elevation, the vein appears to be cut off by the shear zone a few feet north of the winze. The samples taken in the winze ran less than the reported tenor of the ore milled by John Vuyovich in 1950. The report comes from a reliable source, and the results of the mill run are probably more reliable than the results of the few channel samples taken during this examination. There is a possibility, however, that the ore milled in 1950 came from some workings that are now inaccessible. Before any more work is done on this vein, more samples should be taken, or another mill run of a few tons should be made, to check the tenor of the ore. If the winze is extended to follow the vein to a greater depth, it first should be extended up to the surface so that a hoist can be used for handling rock and materials.

The adit at 810 ft elevation will remain an unknown factor as long as the workings are inaccessible.

The vein from which the ore shipment was taken is exposed in the adit at 760 ft elevation and in the open-cut above it. This vein is probably too narrow to support a mining operation of any appreciable size, but, because of its high tenor, it might support a one- or two-man operation.

The number of known veins in the vicinity and the numerous specimens of gold-bearing quartz around the old prospect pits indicate that the ground covered by the Vuyovich claims is a favorable area for prospecting.

PLATE I



L E G E N D

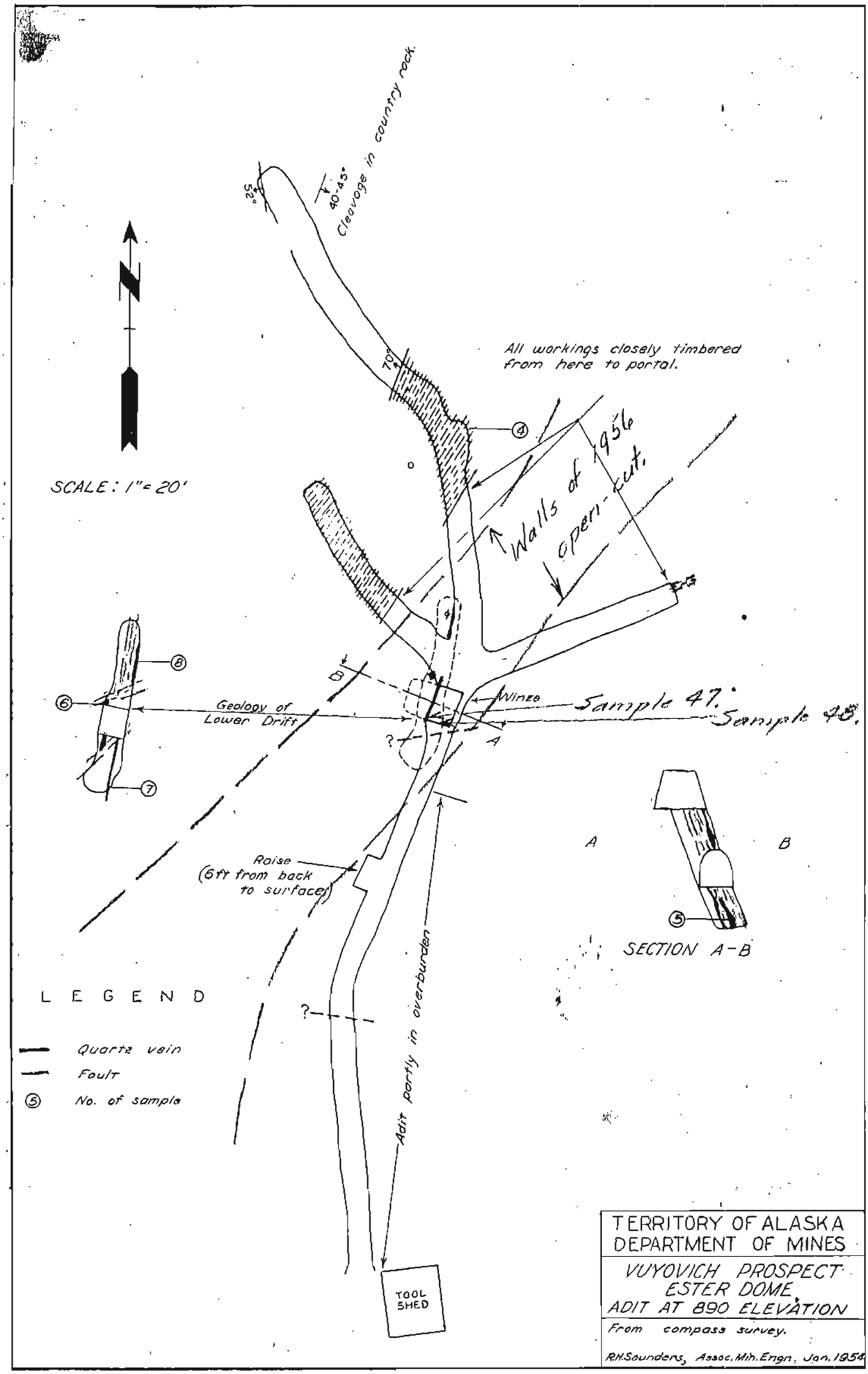
- Prospect adit & dump.
- Trench
- 810 Surface elevation
- ○ Claim Corner

TERRITORY OF ALASKA
DEPARTMENT OF MINES

VUYOVICH PROSPECT
ESTER DOME

From compass-aneroid survey.

RH Saunders, Assoc. Min. Engr. - Jan. 1954



TERRITORY OF ALASKA
DEPARTMENT OF MINES

VUYOVICH PROSPECT
ESTER DOME
ADIT AT 890 ELEVATION

From compass survey.

R.H. Saunders, Assoc. Min. Engn., Jan. 1954