October 23, 1956

Roscoe M. Smith
Mineral Deposits Branch, Menlo Park, California

Lavilla Morris
506 Federal Bldg., Salt Lake City 1, Utah

Aladdin mine, Bullion district, Elko County, Nevada (DMA-872)
and Elko County report, Nevada

Reference is made to your memo of October 22, requesting the tracing of the Davis Tunnel. The only map in DMA-872 docket pertaining to the Davis Tunnel is a section of the Bullion mining district, showing the location of the tunnel. This map was drawn by W. W. Mason, July, 1914.

Under separate cover, I have mailed two tracings (sheets 1 and 2) of the Davis Tunnel, Railroad mining district, Elko County, Nevada, by G. C. Simmons and D. C. Arnold, August, 1951. These tracings were a part of the Elko County report. I assume these are the tracings you have reference to in your memo.

Room 307, 320 South Main
Salt Lake City 1, Utah
18 October 1951

Memorandum

To: A. C. Johnson, Mining Division, U. S. Bureau of Mines

From: Ralph J. Roberts, Acting District Supervisor

Subject: Geologic report, Docket DMA-872, Lead and Copper Mines, Inc., Bullion Mining District, Elko County, Nevada

Enclosed are six copies of a geologic report on property controlled by the Lead and Copper Mines, Inc., in the Bullion Mining District. The property was examined and the report prepared by G. C. Simmons and D. C. Arnold in response to the request made by the Field Team, Region III.

Docket DMA-872 is a request for a development loan. The applicant proposes to raise 780 feet inclined distance from the Davis Tunnel to the 700 level of the Standing Elk Mine. This raise would be used as a chute to drop the ore from the Standing Elk Mine to the Davis Tunnel level. The Standing Elk Mine contains approximately 1,500 tons of measured and indicated ore; these reserves which are inadequate to support a development loan, occur mainly in the walls of old stopes, and were too low grade to mine profitably in early day operations.

I concur with the examining geologist that the request for a development loan be denied.

Further exploratory work in the Standing Elk Mine may be justified, but the limited amount of geologic work done in the district does not permit the examining geologist to suggest a detailed exploration project. It is suggested that the applicant employ a consulting geologist to conduct a geologic study of the area, and then submit a specific exploration program to the Defense Minerals Administration.

cc: Bailey

(To be included in combined report)

Docket DMA-672, Lead and Copper Mines, Inc.

Bullion Mining District, Elko County, Nevada

CONCLUSIONS AND RECOMMENDATIONS

The principal ore bodies discovered in the Standing Elk Mine occur along mineralized faults and at fault intersection in limestone.

The applicant proposes to raise 780 feet inclined distance from the Davis Tunnel to the 700 level of the Standing Elk Mine. This raise would be used as a chute to drop the ore from the Standing Elk Mine to the Davis Tunnel level. The Standing Elk Mine contains approximately 1,500 tons of proven and indicated ore; these reserves, which are inadequate to support a development loan, occur mainly in the walls of old stopes and were too low grade to mine profitably in early day operations. In view of the foregoing facts it is recommended that a development loan be denied.

Further exploration may be justified, but the limited amount of geologic work done in the district does not permit a detailed exploration project to be proposed at this time. It is suggested that the applicant employ a consulting geologist to conduct a geologic study of the area and prepare an exploration program.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

Docket DMA-872, Lead and Copper Mines, Inc.

Bullion Mining District, Elko County, Nevada

(Lead and Copper)

C. C. Simmons and D. C. Arnold, Geologists
U. S. Geological Survey

October 8, 1951

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ILLUSTRATIONS

Figure 1. Index map showing location of Bullion Mining District, Elko County, Nevada.

Figure 2. Geologic map of 500 level of the Standing Elk Mine.

Figure 3. Section of Bullion Mining District showing location of Davis Tunnel.

Docket DEJ-672, Lead and Copper Mines, Inc.

Bullion Mining District, Elko County, Nevada

GEOLOGY

The rocks of the district are light gray to black massive limestones, probably Ordovician in age. The limestone, which is intruded by granodiorite and fine-grained granite porphyry dikes, is cut by many faults of undetermined displacement.

Adjacent to the granodiorite, contact metamorphism has locally formed zones of garnet, tremolite, actinolite, calcite, and sericite in the limestone; in places along the contact sulfides are present as sphalerite, chalcopyrite, and pyrite.

In the vicinity of the producing mines, garnet zones are associated with many of the ore bodies; these zones, however, are not in contact with intrusive rocks but appear to follow some of the channelways that carried the ore bearing solutions.

The workings of the Standing Elk mine are in gray to black limestone, which has been intruded by irregularly shaped granite porphyry dikes. The dikes have undergone moderate to extreme argillic alteration. Much of the limestone is stained by red and brown iron oxides; in places it has been moderately silicified and locally recrystallized to a coarse marble.

ORE DEPOSITS

The principal ore bodies in the Standing Elk mine occur as pipes and veins along faults and at fault intersection in limestone. Some copper ore has also been mined from the granite porphyry dikes, but production from the igneous

rocks has been small compared to the production from the limestone.

The principal ore minerals are of secondary origin. Malachite, chrysocolla, and cerusite are the main ore minerals; minor amounts of azurite, galena, and ferruginous smithsonite are also present. Most of the ore contains silver, but no silver minerals were identified. The gangue minerals are calcite, limonite, hematite, garnet, quartz, and in places a little manganese oxide.

PROPOSED DEVELOPMENT

The development program outlined by the applicant is vague. The applicant wishes to raise 780 feet inclined distance from the Davis Tunnel to the 700 level of the Standing Elk mine. This raise would be used to drop the ore in the Standing Elk mine to the Davis Tunnel; however, the mine does not contain sufficient ore reserves to justify a development program. Approximately 1,500 tons of proven and indicated ore occur mainly in the walls of old stopes.

CONCLUSIONS AND RECOMMENDATIONS

The Standing Elk mine workings are in faulted Paleozoic limestone that has been intruded by granite porphyry dikes. The principal ore bodies occur along faults and at fault intersections.

The ore reserves, which are inadequate to support a development loan, are mainly the walls of old stopes that were too low grade to mine profitably in early day operations. It is therefore recommended that a development loan be denied.

Further exploration may be justified, but the limited amount of geologic work done in the area does not permit a detailed exploration project to be proposed at this time. A suggested program is outlined in the attached memorandum

MEMORANDUM

SUBJECT: DMA Docket 872. Suggested geologic program.

DMA Docket 872 is a request for a production loan. In a conversation between J. H. Uhalde, Vice President and the examining geologists, it was stated that the applicant would like to change part of the request to an exploration loan.

Portal entrance?

Successor [illegible]?

The portal of the Davis Tunnel extends approximately 5,000 feet southeast from the mining camp. The face of the tunnel is 600 feet below and 100 feet north of the workings of the Standing Elk Mine. (See fig. 3.) The tunnel is in good condition; additional work consisting of drifting and raising from the face of the tunnel would be the most logical way to explore the ground below the old surface workings in the district in a search for commercial ore bodies at depth. Two metallized faults were cut by the tunnel near the face, but were not explored. Geologic conditions indicate that the possibility of commercial ore bodies occurring below the old workings is favorable.

The field examination in connection with the development loan entailed mapping approximately 10,000 feet of mine workings, which showed that the property does not have sufficient ore reserves to qualify for a development loan. To justly evaluate the property as to an exploration program would require an additional three weeks of field work and would entail a mapping job of the surface geology and additional underground workings. A program of this extent is beyond the scope of a Defense Minerals Administration examination, but it would be advisable to notify the applicant that such a program is warranted. He should employ a consulting geologist to conduct a geologic study of the area and prepare an exploration program.

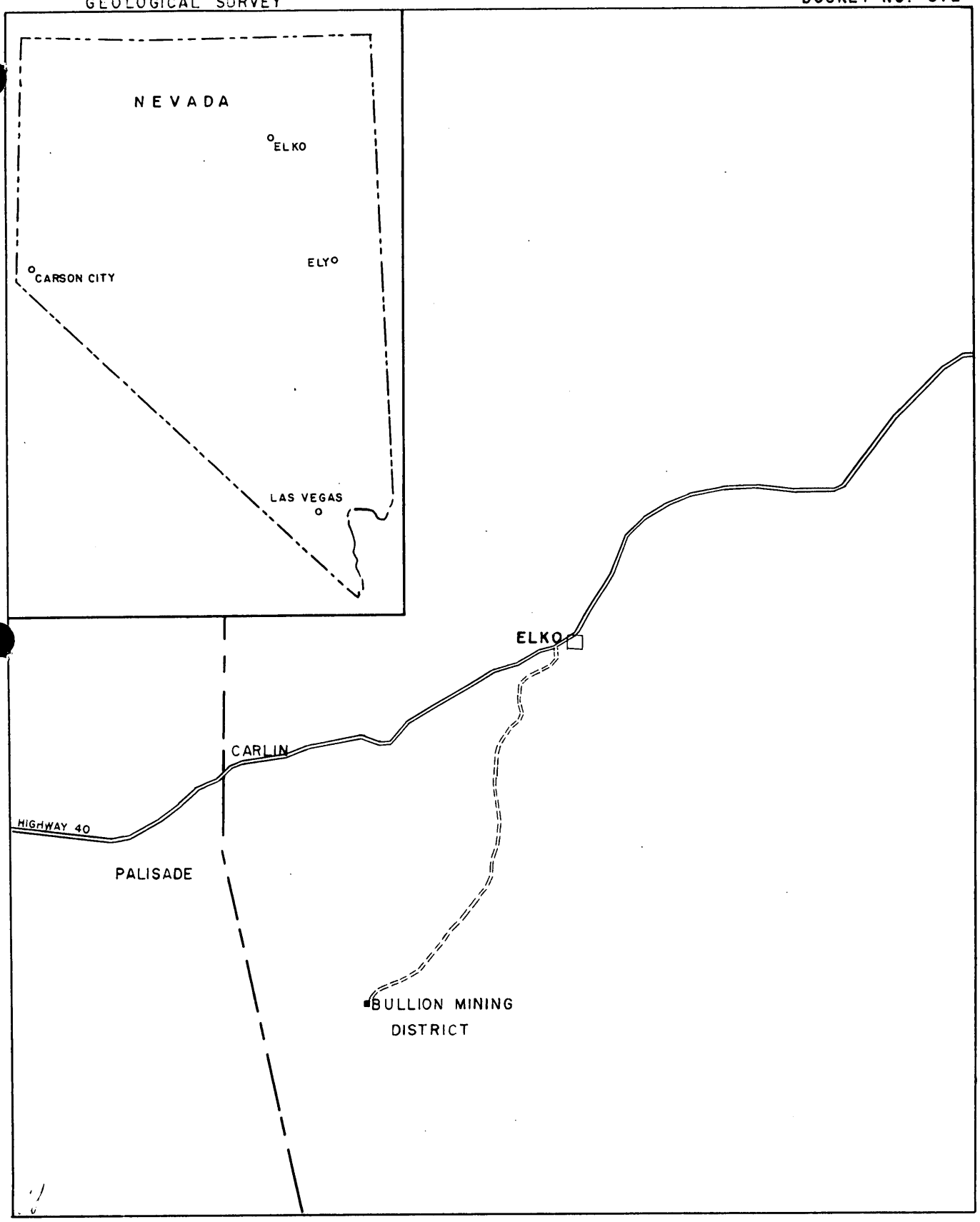

FIG. 1

INDEX MAP OF NEVADA

0 10 20 MILES
Scale

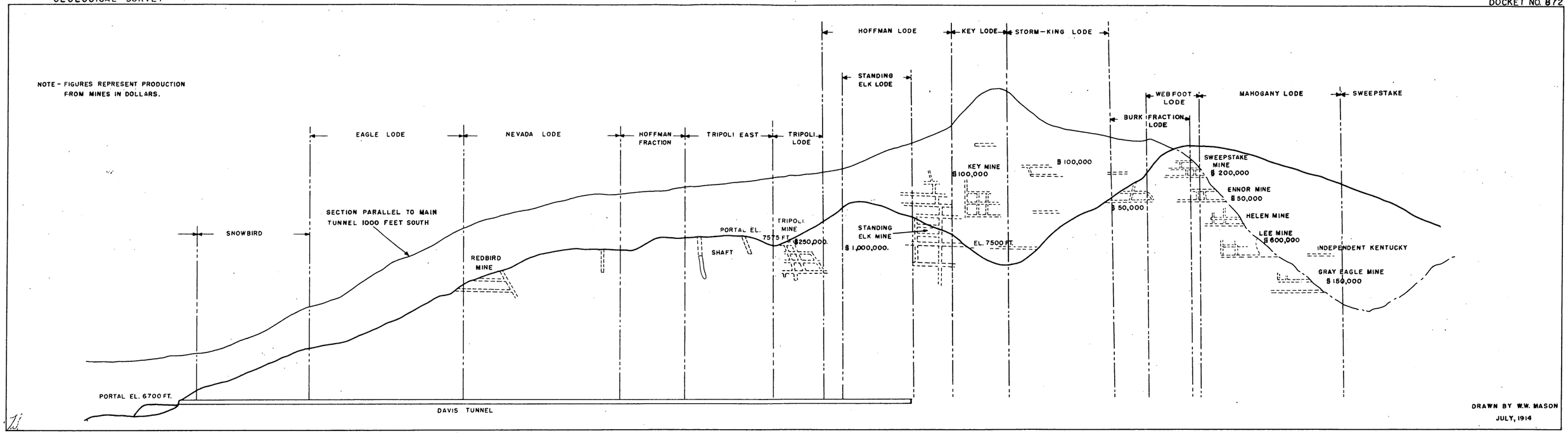

FIG. 3

SECTION OF BULLION MINING DISTRICT

ELKO COUNTY, NEVADA

0 400 800 FEET
Scale

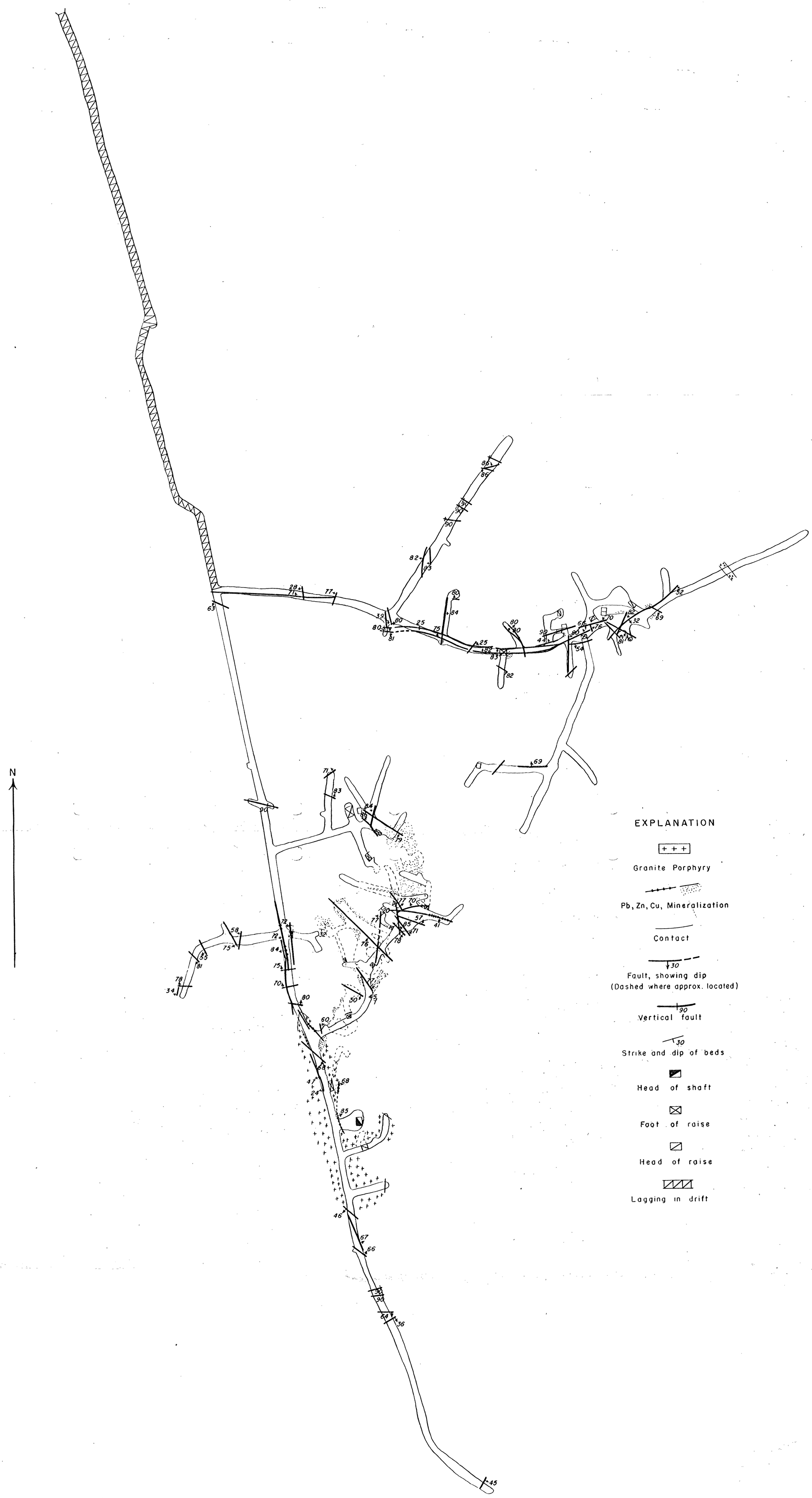

FIG. 2

MAP OF 500 LEVEL STANDING ELK MINE
BULLION MINING DISTRICT, ELKO COUNTY, NEVADA

0 40 80 FEET
Scale

Mapped by G. C. Simmons
and D. C. Arnold