DEPARTMENT OF THE INTERIOR

U. S. Geological Survey

THE REED TALC MINE, ESMERALDA COUNTY, NEVADA.

By Ben M. Page,

November 1942

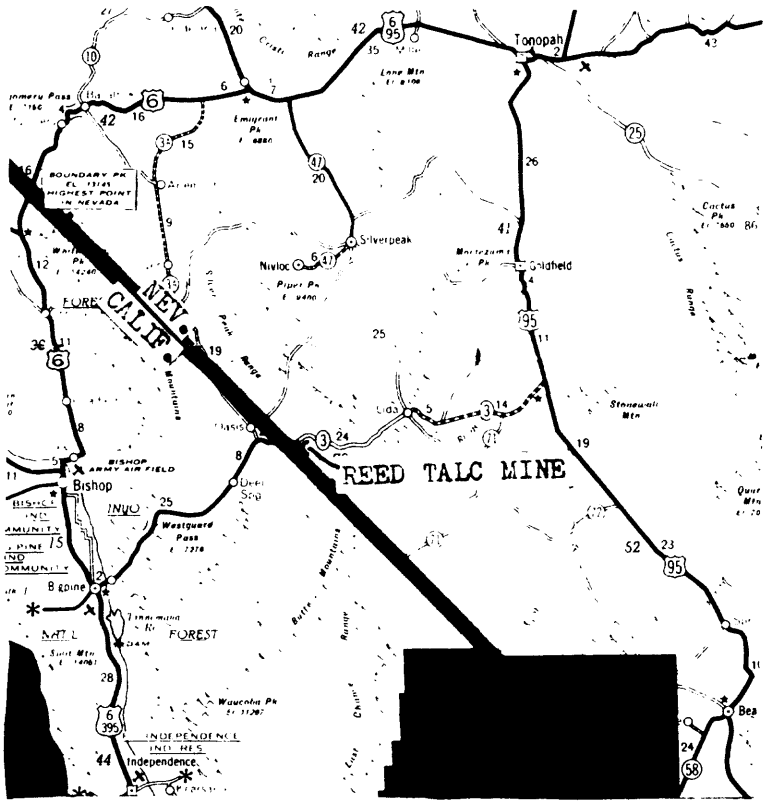

Figure 1.--Index map of part of Nevada and California showing the location of the Reed talc mine.

The Reed Talc Mine*, Esmeralda County, Nevada.

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Location, history, and production

The Reed talc mine is in the Palmetto-Oasis area, Esmeralda County, Nevada, about 10 miles east of Oasis, California (see fig. 1).

Francis Bovard discovered the Reed talc deposit about 1928. Mrs. Maude C. Reed financed certain development work for Bovard and subsequently took over the claims. Shortly thereafter Mrs. Reed leased the mine to Clarence Cobb, who operated the property unsuccessfully for several years. Upon the death of Mrs. Reed the management of the estate fell to the Bank of America, which has courteously provided these historical notes. The bank as executor leased the mine to Richardson Bros. for 2 years. Since 1938 Mr. Roy Coulon has been the lessee and arranged with Southern California Minerals Co. for the development and mining and did the hauling. Southern California Minerals Co. terminated the agreement about November 1942, but still buys the talc. Mr. Coulon now does the mining.

According to Mr. P. E. Thomas of Southern California Minerals Co., most of the talc has gone into cotton finishing and some into cosmetics. Reportedly a little has been used in the manufacture of electrical ceramics.

The amount produced by early operators is unknown, but for the last 2 years the mine has procuced about 3,000 tons annually. The total output of the mine is estimated to be about 15,000 tons.

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*The mine is known generally but incorrectly as "the Coulon property."

Mine workings and operation

Workings.--As shown on the accompanying map, figure 15, there are several open cuts and a glory hole on the surface. These, however, are now inactive.

The main workings as of November 1942 are shown in figure 16. They consist of an adit level 1,100 feet long with four winzes from 12 to 70 feet deep and with several connections leading to or from the surface. Most of these connections are obsolete, but a 100-foot timbered shaft in good repair intersects the adit 700 feet from the portal. It is planned to abandon most of the adit beyond this shaft, as the ground is heavy and maintenance is costly.

Above the western part of the main adit there evidently are independent higher levels, now caved, but formerly reaching from another shaft and from at least one adit.

East of the middle part of the main adit stopes extend upward as much as 40 feet, and one reaches the surface.

Operation.--The Southern California Minerals Co. mainly mined upward from the main adit level. The chamber east of the middle of this level was also the site of mining, but was insufficiently supported and caved. It is said that beneath it a winze was sunk, with another chamber in talc at the bottom. This, too, was lost through lack of support.

The present operator, Roy Coulon, is mining from a winze at the edge of the caved section, the winze being inclined so that it may pass beneath the disturbed ground. Talc is trammed out the adit and taken by truck to Big Pine, Calif., without being sorted. At the time of the examination the talc bin contained chunks of country rock mingled with the talc, which possibly were removed at the mill. Only four or five men were employed at the mine at the time of the investigation and were producing about 250 tons a month.

Geology and talc deposits

General geology.--The surface geology at the Reed talc deposit is shown in figure 15. The north-dipping Palmetto-Oasis thrust fault is the major geologic feature, with altered granitic porphyry on the hanging wall and dolomitic marble on the footwall. The talc occurs between or near these two walls, next to the marble or extending into it, and giving way along the strike to greenish-gray gouge.

The marble and fault zone contain a few mashed, altered dark-brown dikes tentatively called diabase by the writer. They may have once resembled the fresh basic dikes which are to be seen in the granitic rock on the surface of the ground. Although the miners consider the dikes as indicators of talc, the local association of dikes and talc appears to be fortuitous.

Tertiary (?) volcanic tuff is faulted against the porphyry east of the adit portal, but this has no effect upon the talc occurrence.

Talc bodies.—In figure 15 the surface exposures of talc are shown. Most of the surface workings are in extensions of the principal talc body discussed in greater detail below. However, there evidently was more talc west of the shafts at shallow levels than at the adit level, although it occurred along the same zone.

Another talc deposit existed a third of a mile east of this main talc body, beyond the map area of figure 15. Mr. Coulin reports that this body comprised a few hundred tons of talc and that he worked it out completely. The adits are now caved.

No doubt other talc occurrences are yet to be found; many possibilities exist for future discoveries.

The principal talc body now exposed underground is the site of most of the eastern surface workings as well as the accessible stopes and winzes from the adit below. This body at the adit level is a crudely shaped pair of unequal, ragged lenses, end-to-end, with at least one important branch. (See figs. 16 and 17. Note: the talc at the west end of the workings in figure 16 is disregarded for the moment). The principal talc occurrence begins as a number of stringers, which unite toward the east, becoming integrated into a single mass near the shaft; still farther east the talc is again distributed in stringers. These unite once more, forming the largest part of the deposit. The eastern end is not exposed, but the extent is insufficient to permit the appearance of the talc in the first part of the adit, which crosses its projected path.

The talc body, together with a footwall branch, leaves the Palmetto-Oasis fault and enters the dolomitic marble of the footwall. It differs from the talc deposits at the Oasis and Roseamelia mines in that it is fairly thick even where steeply dipping. The dimensions of the talc body are: length, over 500 feet on the adit level; thickness, 1 to 12 feet; extent down the dip, over 130 feet.

In figure 16 the existence of talc near the west end of the underground workings is shown. The map gives the impression of more talc than is actually present, however, as the talc is flat-lying and only ½ to 3 feet thick. Its attitude, together with its thinness and the extreme instability of enclosing sheared materials, would preclude profitable mining. However, if possible, further prospecting should be continued westward.

In the talc bodies there are a few inclusions of incompletely altered marble ("boulders"), but on the whole they are not very abundant and can readily be sorted out.

The talc for the most part is very highly fractured, and consists largely of talc lumps embedded in a pulverized talc matrix.

Quality of the talc.—The talc of the Reed mine is classed as "white," but is actually a trifle darker and tinged with gray-green more than the talc of the Oasis and Roseamelia mines. Nonetheless, analyses are promising.

U. S. Geological Survey sample No. 44, weighing over 200 pounds, was hand selected from talc in the loading bin. The Bureau of Mines tested it and reported as follows:

Iron oxide, 1.26 percent; lime, 0.14 percent; alumina, 2.20 percent; color fired, 2300°, cream; mineral impurities, low; abrasion, soft; Tuscaloosa lab. rating, O. K.

Thus the select talc is within steatite specifications on the basis of low iron, lime, and mineral impurities. The above sample was superior to "run of the mine" talc, but such material probably could be hand sorted readily.

It is reported that a little of the talc actually has been used in electrical ceramics. The content of alumina and lime in the talc varies considerably, and the productive capacity of the mine is uncertain.

UNITED STATES DEPARTMENT OF THE INTERIOR
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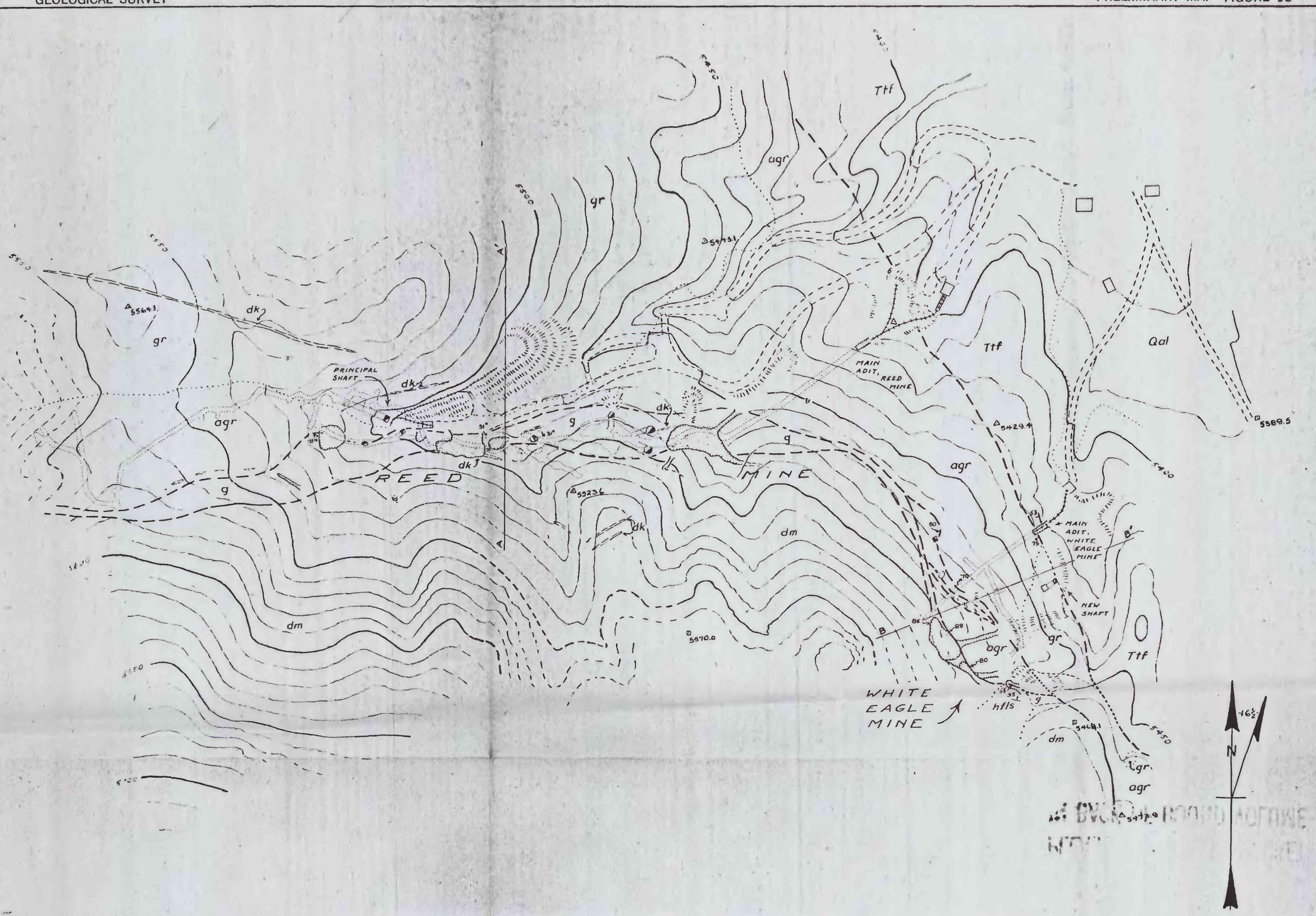
STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAP FIGURE 15



SURFACE GEOLOGY OF THE REED TALC MINE

ESMERALDA COUNTY, NEVADA

Topography and Geology by B.M. Page and L.A. Wright — Scale: 1 inch = 100 feet
U.S. Geological Survey — Contour Interval: 10 feet
November - 1942 — Elevations based on assumed datum

ALSO SHOWN: WHITE EAGLE TALC MINE

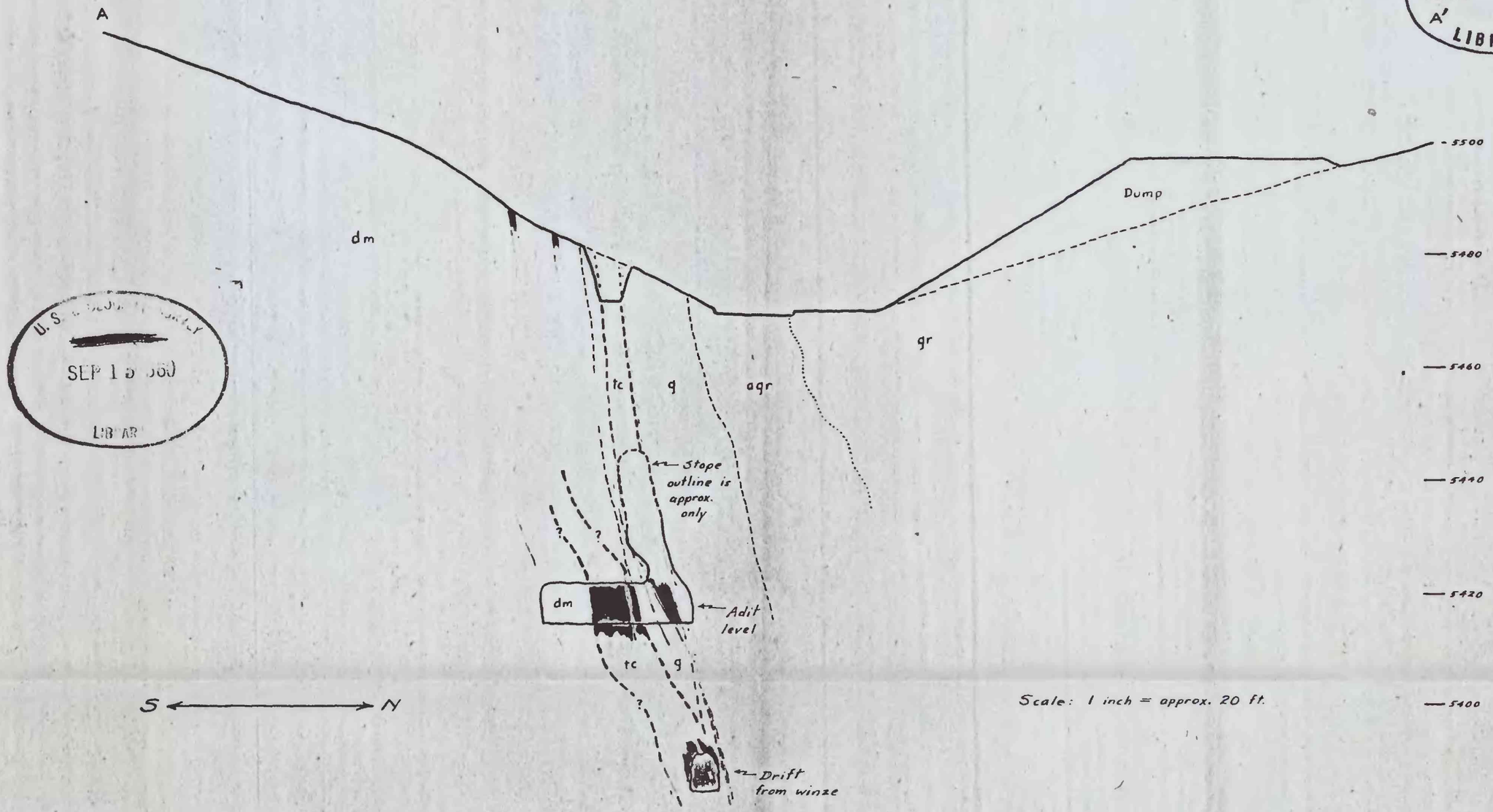
- Road and building
- Open excavation
- Claim post
- Shaft, or raise to surface
- Track and dump
- Underground workings
- Contact
- Fault
- Qal — Quaternary alluvium
- Ttf — Tertiary (?) tuff
- tc — Talc, inferred
- Talc, observed
- g — Greenish-gray chloritic gouge
- agr — Altered granitic porphyry
- dk — Basic dike
- gr — Granitic porphyry
- dm — Dolomitic marble

UNDERGROUND GEOLOGY OF THE REED MINE, ESMERALDA COUNTY, NEVADA

BY B.M. PAGE AND L.A. WRIGHT, U.S. GEOLOGICAL SURVEY   NOVEMBER, 1942

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAPS FIGURE 17



Scale: 1 inch = approx. 20 ft.

CROSS SECTION, REED MINE

BMP

FOR EXPLANATION OF SYMBOLS SEE FIG. 16