

4736 0072

THEO WIGHTMAN
COPPER PROPERTY

(Edson Group)

Table Mtn. Mining District
Churchill Co., Nevada

AN UPDATING AND
GEOLOGICAL REAPPRAISAL

January 19, 1975

SUMMARY:

Studies by the writer, with details assembled in a report, dated May 15, 1963, concluded that good reserve possibilities existed in a large, circular area, characterized by intrusive granodiorite and its accompanying copper mineralization at Red Hill, (Edson Block) Table Mountain Mining District, Nevada.

Emphasized was a close relationship between mineralization and intrusives (granodiorite and diorite), the significance of a white kaolinized mass (accompanying mineralization) and the circular pattern, developed by the distribution of copper mineralization, kaolinization and silicification.

Guardedly suggested was "a circular area of weakness, an ideal center for the localization of later intrusives and the mineralization which would accompany them." No use was made of breccia-pipe philosophies, nor, throughout the report, does one find the magic words "porphyry copper".

In the last twelve years the Wightman property has been studied by a number of competent geologists. All have expressed interest but, with one exception, all have had reason for not recommending the occurrence.

Those who have adhered to the principle that a porphyry copper must be low-grade mineralization in acid porphyry have peristently placed the deposit in a non-porphyry-copper category and of no further interest.

Another, impressed with the wide-spread distribution of 'shows', nevertheless, turned down the property because of the mafic character of the intrusive mass and his prerequisite that intrusives had to be acid; his interest was further dampened by his reasoning that the chalcopyrite might be of secondary origin.

Others have been disturbed by the character of and types of mica, a recent criterion in the evaluation of copper-porphyry deposits.

One did support the 1963 report, agreed with the mapping, the possibilities of large tonnage and, by considering the Ice Box Canyon zone as, or more, important than the Red Hill trend, even enlarged in his conclusions the prospect's potential.

On the basis of details provided below and plan maps and sections, attached hereto, this up-date and reappraisal proposes that:

(1) copper mineralization, low in tenor, lying in early Jurassic volcanics, follows the contact of volcanics with later Jurassic, intrusive, gabbro plutons. Mineralization is closely related to the gabbro intrusive in, perhaps, a contact-metamorphic category.

(2) The Table Mountain area is characterized by considerable overthrust faulting. At, or close to, overthrust planes the volcanics may have been shattered, with low-grade mineralization emplaced in quantity.

(3) with reference to sections and plan maps, the unit

shown in light green, assuming full continuity, would provide 150,000,000 tons for its 6000 feet of strike length.

(4) should the shattering by thrusting not be a prerequisite, additional tonnage, away from the thrust and on the foot-wall side, would provide more reserves.

(5) considering the 0.69% Cu-grade suggested by 1958 sampling, the large target-tonnage, indicated open-cut mining, and today's copper economy, all would justify renewed and continued interest and activity.

PURPOSE OF ANALYSIS:

Purpose is not to repeat 1963 detail. A review of the report indicates that the study provides a reliable picture. There are however, a few exceptions, namely:

- (1) the use of diorite-granodiorite for the intrusive masses. Substituted is the 'Jg' unit, Jurassic Gabbro with local development of albitite and anorthosite (as shown by Ben Page in 1965 and Willden and Speed in 1974.)
- (2) a needed further development of overthrust structural controls and their significance (1963 report, page 8, paragraph 5) and this report's Plate V, showing Section B-B' and its theoretical approach to the old Boyer Mine.
- (3) a revision of conclusions and recommendations.

Attached, hereto, are five Plates which, it is hoped, will graphically summarize 1975 interpretations. They are listed, as follows on page 4:

<u>Plate</u>	<u>Title</u>
I	Index Map; Table Mountain District
II	Surface Geology; Wightman Property
III	1975 Sections; Wightman Property
IV	1975 Sections; Wightman Property
V	1975 Regional Cross Sections
	A-A' Wightman to Bradshaw
	B-B' Through Boyer Mine area.

UPDATING:

Bulletins and Maps

1965 and 1974 geological reports have provided a better understanding of the Stillwater Range and its Table Mountain mining district. Both post-date the 1963 analysis.

Ben M. Page in his "Preliminary Geologic Map of a Part of the Stillwater Range", Nevada Bureau of Mines Map 28, 1965, considered the intrusives in the Red Hill area as "gabbroic and dioritic rocks". Of the four major thrust faults, described for the Stillwater Range, Page's Boyer thrust would effect the Boyer and the Wightman areas. Our section B-B', an interpretation, is in line with the Boyer thrust fault.

Ben Page further (and significantly) reports that " R. C. Speed believes (as does the writer) that the igneous rocks (gabbroic and dioritic) were partly molten during the episode (ie: thrust faulting); in fact the intrusive may have propelled the quartzite thrust fault."

Ronald Wilden and Robert C. Speed in their "Geology and Mineral Deposits of Churchill County, Nevada" Nevada Bureau of Mines and Geology, Bulletin 83, 1974, classify the intrusive of the area as

gabbro. They state that the "gabbro and the extrusive rocks are widely intruded by fine and medium grained albitic rocks which are concentrated in the roof of the zone - - - ". Such must explain, our change of heart, in connection with the occurrence of kaolinization (alteration) in the 1963 report.

Regarding copper deposits, they report mineralization, occurring as disseminations and fracture fillings in the Jurassic volcanics, crossing over the contact into gabbro, but mostly in the volcanics.

Tectonic Thinking:

The last ten years have seen a resurgence in geological thinking. A new philosophy, Global Plate Tectonics, has become a battlefield. It has its adherents, as well as, its enemies. The writer believes that, as in the case of all new and far-out ideas, the philosophy, also known as "Sea Floor Spreading", has its good points, as well as bad.

The theory concerns itself with so-called "drifting continents", with an ocean-plate moving in and under a continental-plate, at the continental margin. The down-dipping ocean-plate, as it moves under the continent becomes a "zone of subduction". It is characterized by basic igneous rocks, including the very basic gabbro. The gabbro is only a part of a group, called an "ophiolitic assemblage" which includes other very basic components, including some pillow lavas, a basic dike complex, et cetera. The assemblage has been accepted by many as old ocean-floor, ie: the ocean-plate.

The theory is still in a formative and only partially-accepted stage. One would date its inception as about 1963.

GEOLOGICAL REAPPRAISAL:

GEOLOGICAL REAPPRAISAL

Reference is made to attached Plates I through V.

The position of better copper zones, adjacent to gabbro contacts, is self-evident; as is the relationship between copper zones and overthrust faulting, as mapped on the Wightman property and, as easily interpreted by Section B-B', crossing the old Boyer area.

Considering Section A-A', thickness of mineralized zone, averaging about 300 feet, would invite the drilling out of the gap between the Red Hill and Ice Box Canyon exposures, since interpretation indicates cover for about 2000 feet.

As worked out by sections, and for 6000 feet of strike length, and employing a factor of 12.5 cubic feet per ton, drilling success could establish 150,000,000 tons, plus, mineable by cheap surface operation.

The necessity of having a thrust fault to create a broken zone to host mineralization is open to question. Note on Section A-A' that the mineralized zone proceeds down slope, to the north, on the footwall side of the thrust. Such would open the doors to drilling for reserves on Sections X-X' and Y-Y', as shown by the dashed, light green band, marked by "?", on the underside of the thrust.

FINAL COMMENTS:

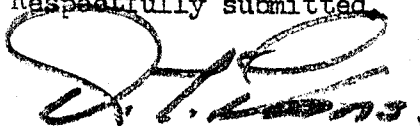
Constant reference to "gabbro" has been intentional. The replacement^{of} granitoid, granodiorite-diorite by gabbro offers and justifies a new type of reasoning.

The cautious inclusion of the new Global Plate Tectonic and Subduction Zone thinking invites argument. Such is not our intention.

In future regional thinking and exploration, the hypothesis may be of use in:

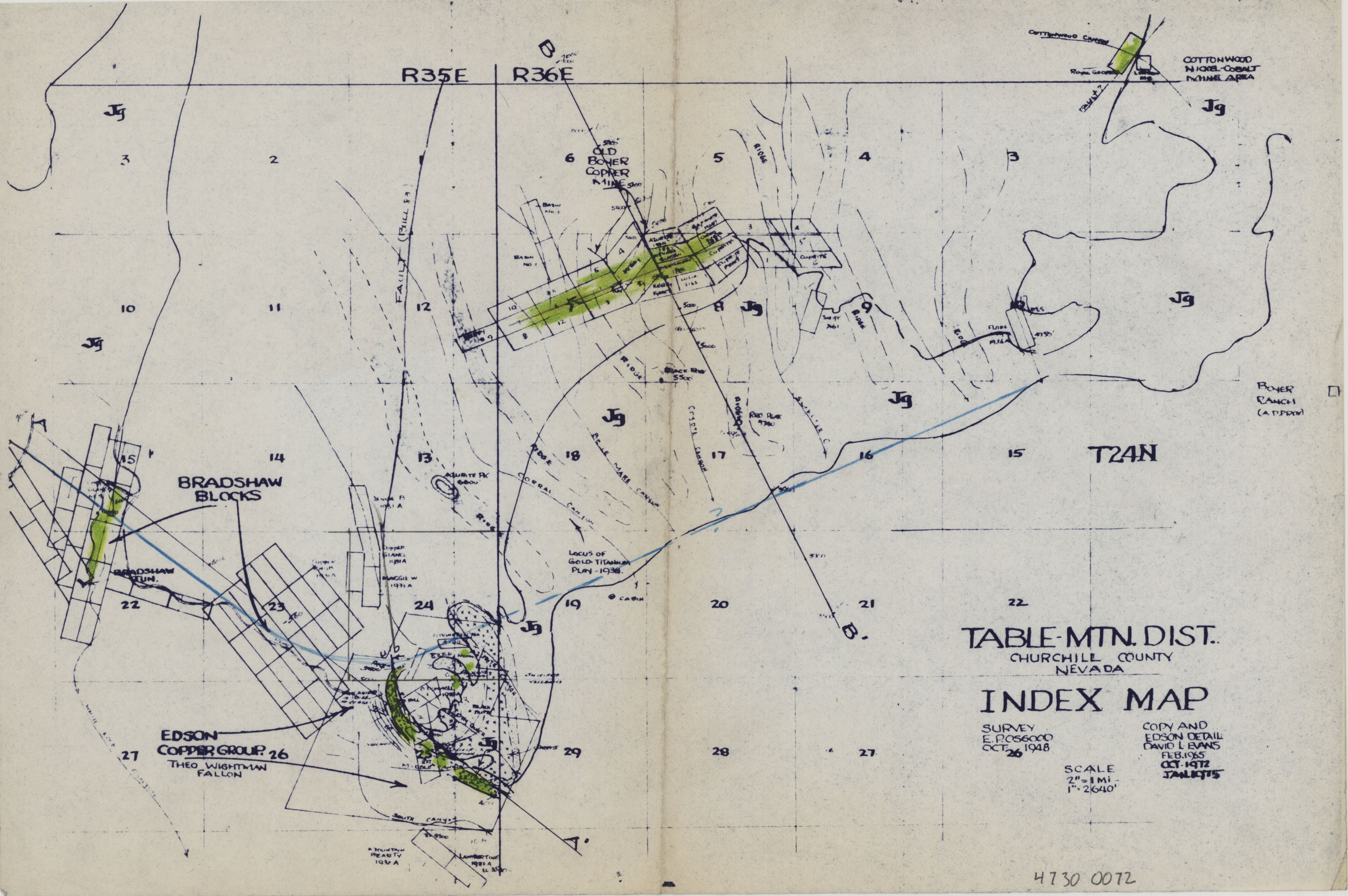
- (1) justifying a proliferation of thrust structures and considering their use in future exploration;
- (2) accepting the combination of nickel-cobalt, copper with mafic rocks, low grade quicksilver areas, and occasional mineable gold in geothermal settings (all of which characterize the area) as "par for the course" and not something unusual;
- (3) future exploration, since the writer believes that regional trends of mineralization, in some large areas, are paralleled by underlying-near-surface to surface zones of subduction.

Respectfully submitted,

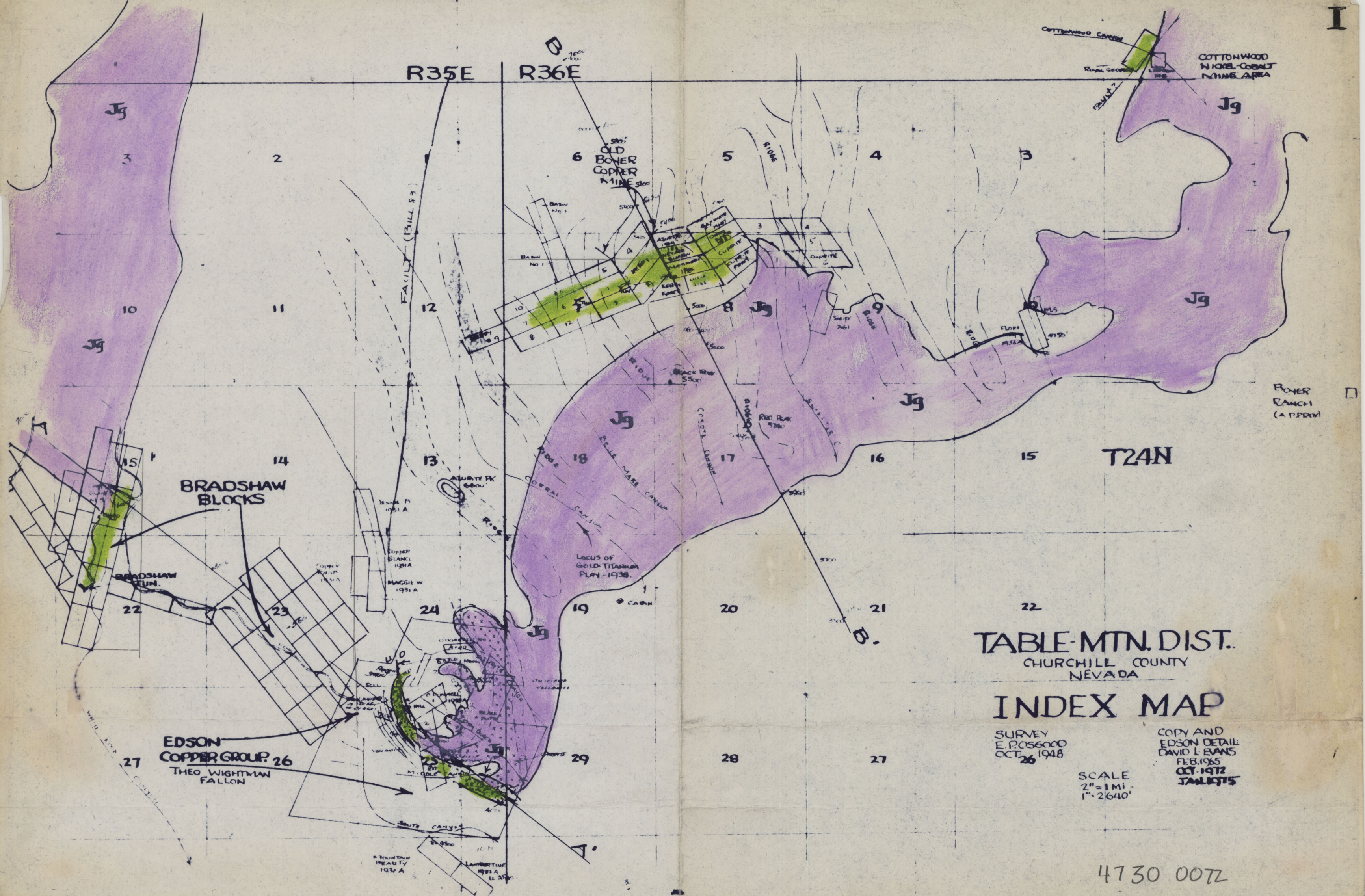


David LeCount Evans
Consulting Geologist.

Reno, Nevada
January 19, 1975



4730 0072



R35E

R36E

15

BRADSHAW
PROPERTY

II

23

T24N

24

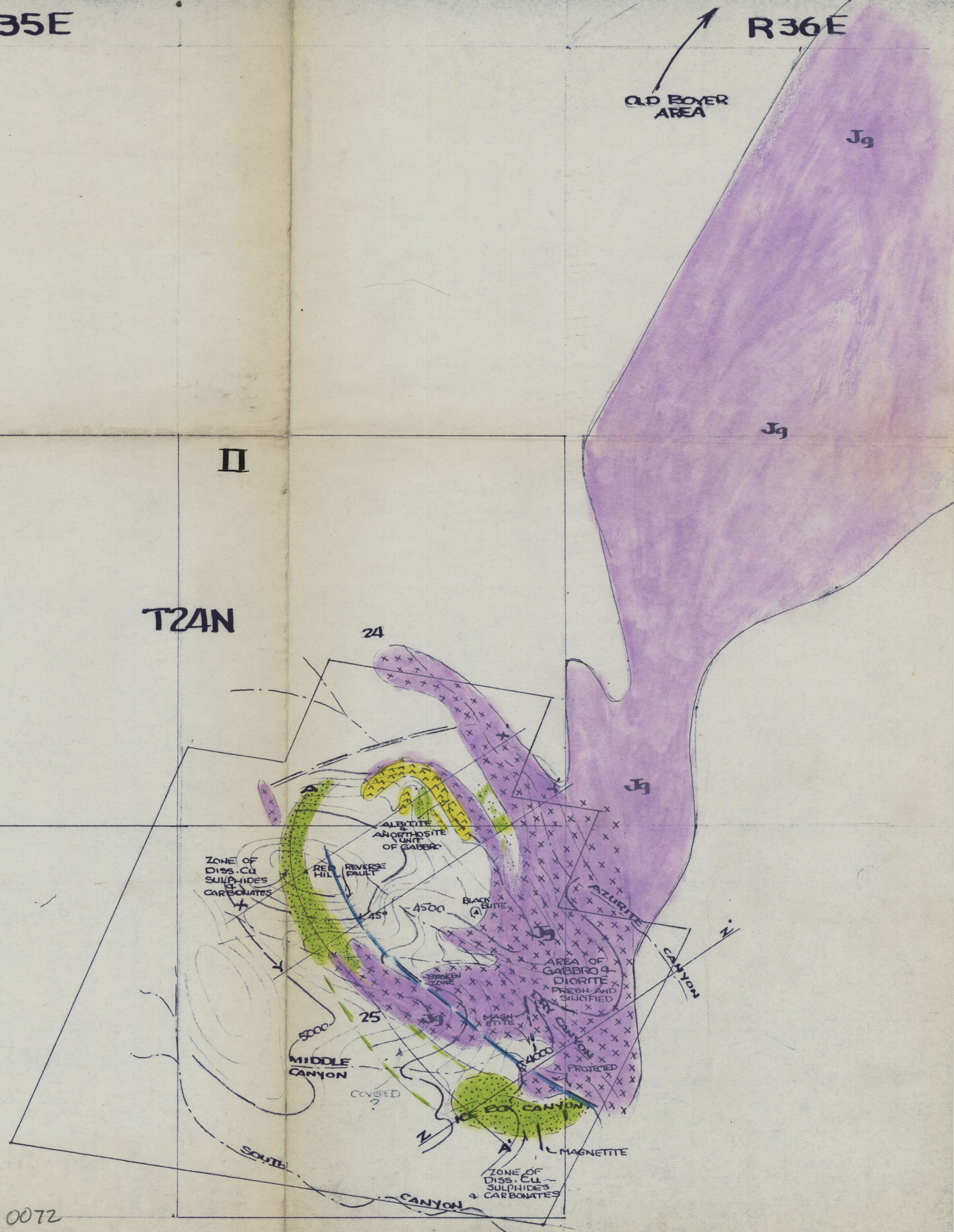
THEO WIGHTMAN
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SURFACE
GEOLOGY

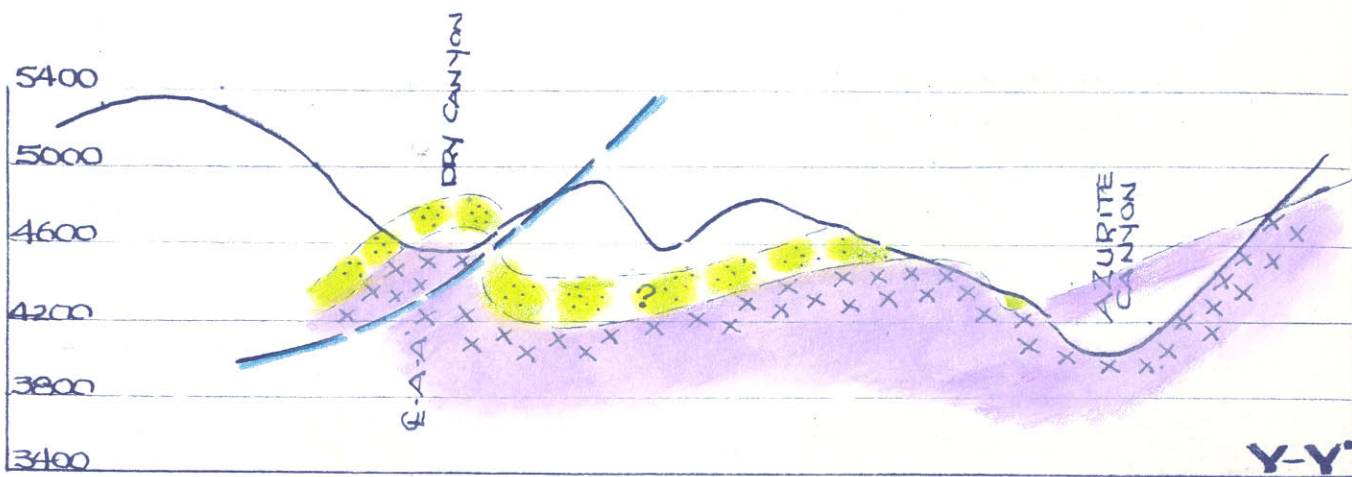
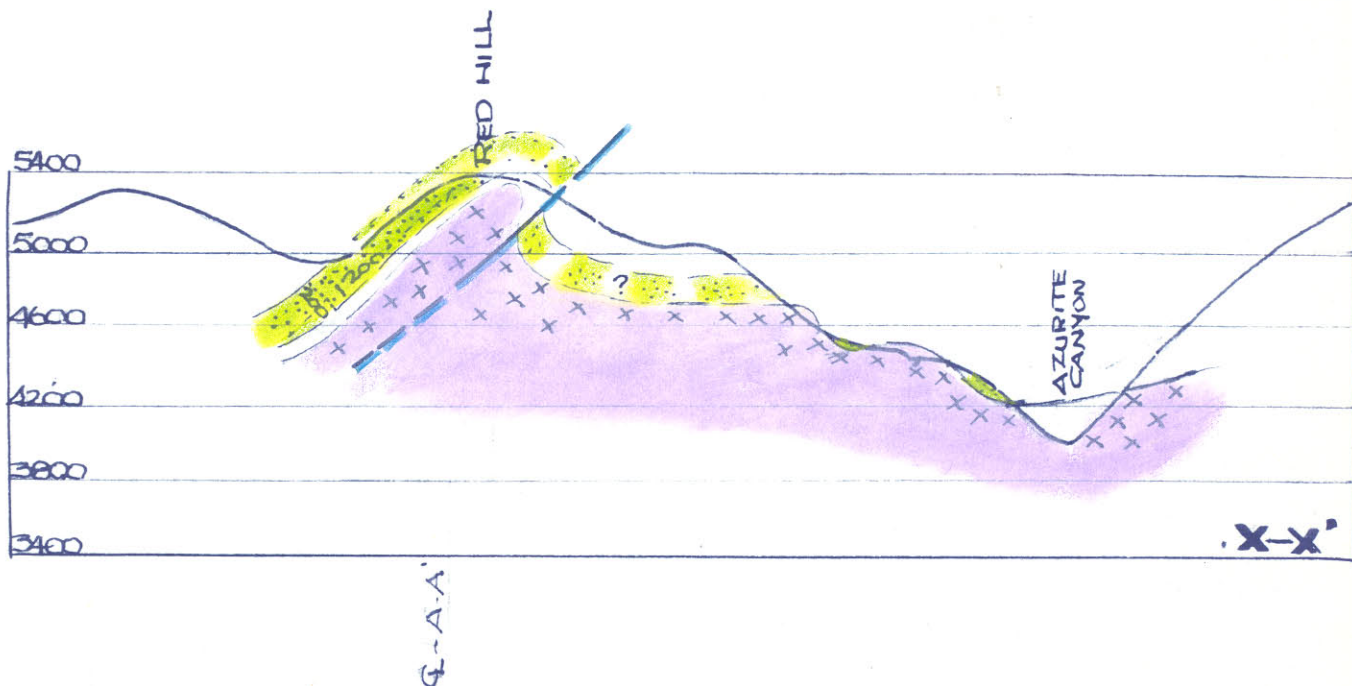
1" = 1000'

1963 MAPPING
1975 INTERPRETATION

DAVID LeCOURT EVANS, RENO, NEVADA
CONS. GEOLOGIST, JAN. 19, 1975



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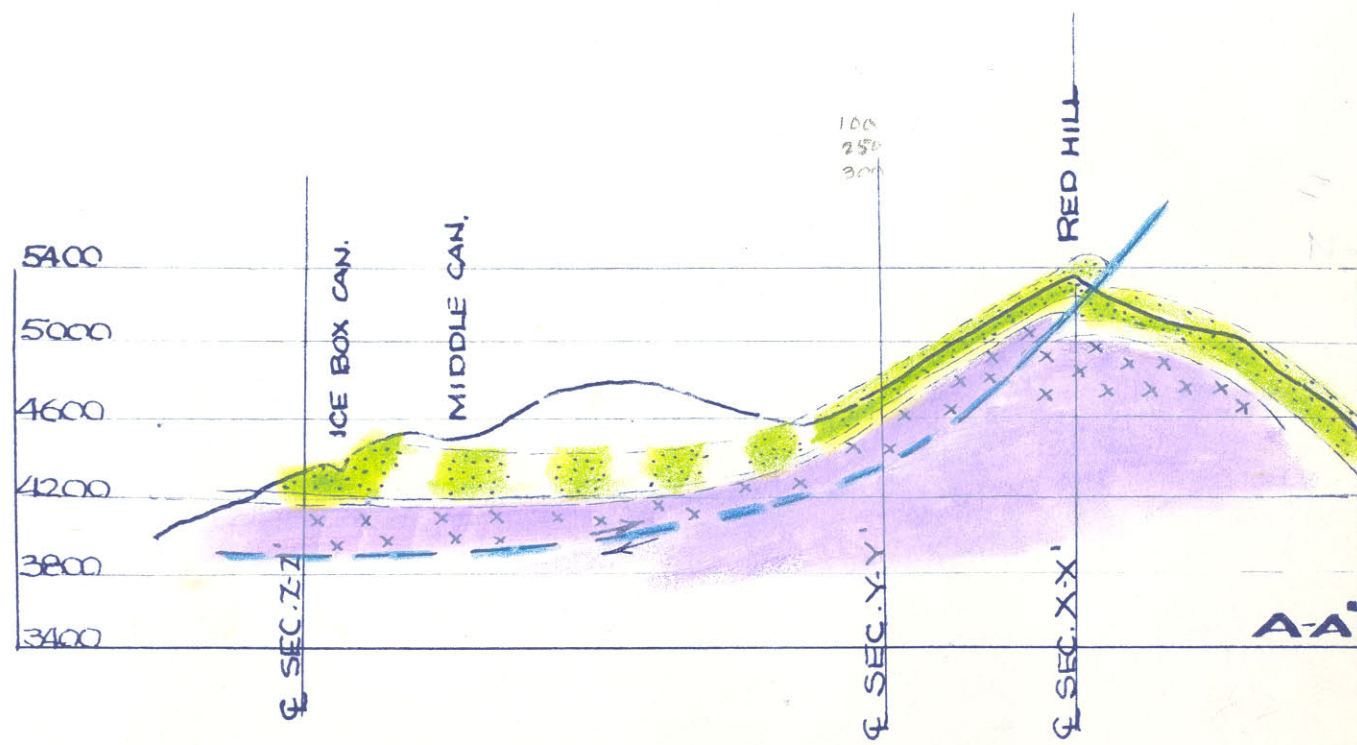
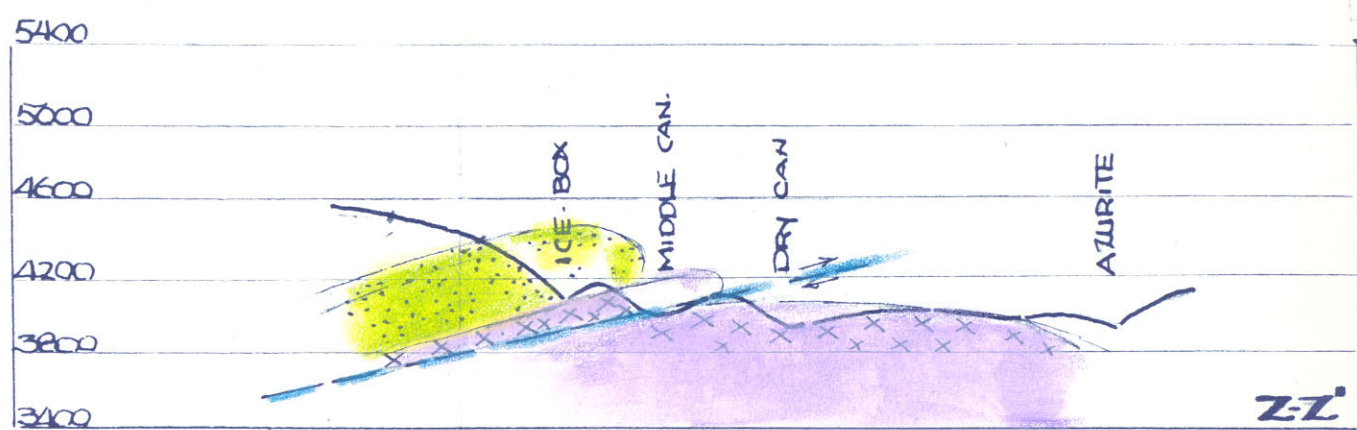


THEO WIGHTMAN
COPPER PROPERTY

RED HILL SECTIONS
1975
1" = 1000'

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CONS. GEOLOGIST

RENO, NEVADA
JANUARY 19, 1975.



THEO WIGHTMAN
COPPER PROPERTY
RED HILL SECTIONS
1975
1" = 1000'

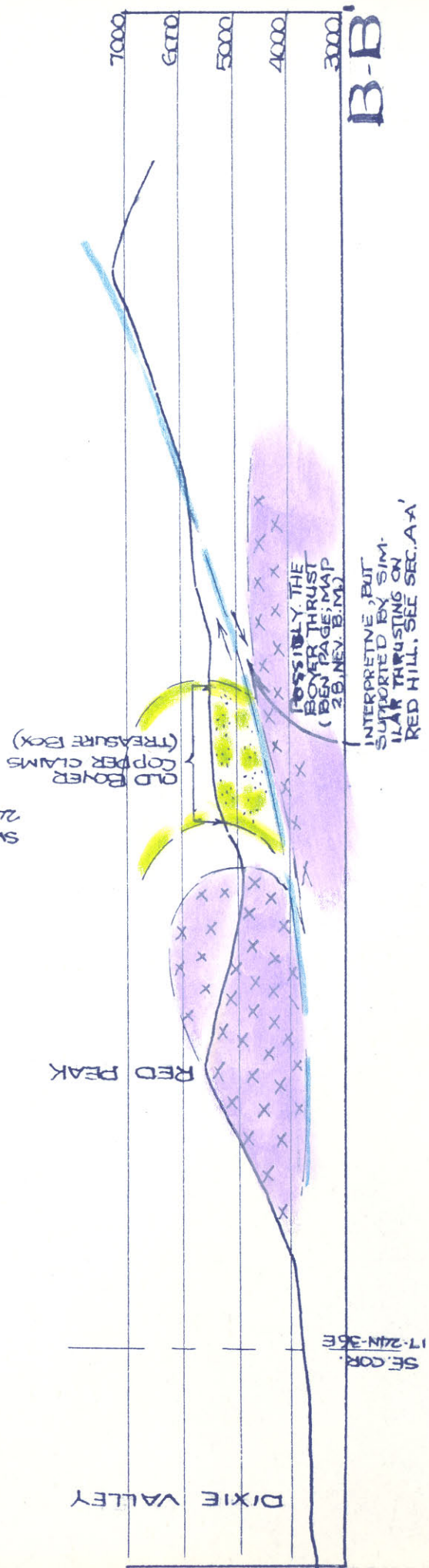
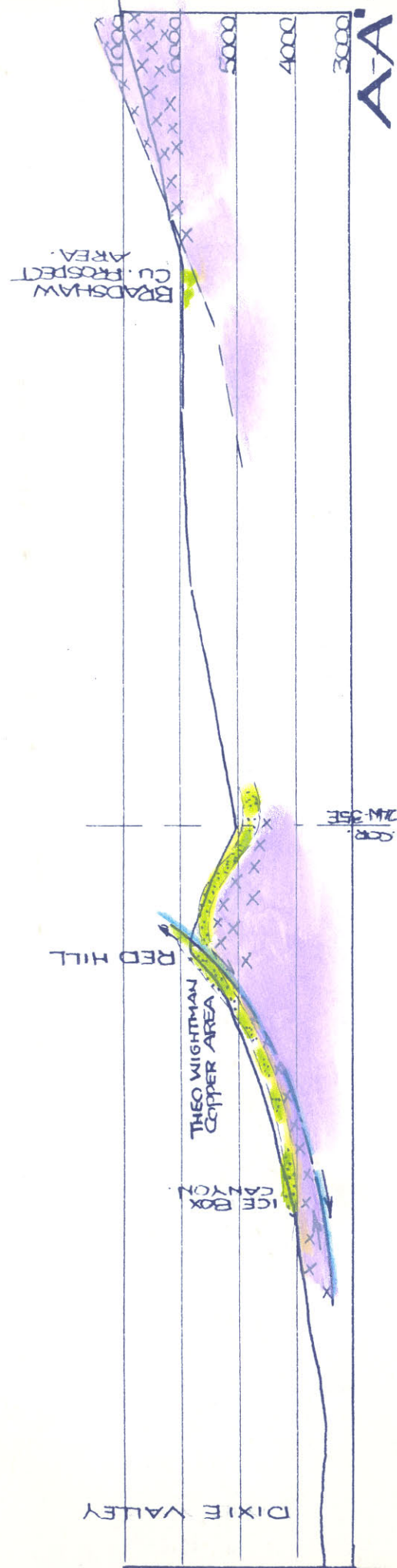
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THEO WIGHTMAN COPPER PROPERTY REGIONAL SECTIONS 1975 1" = 1970

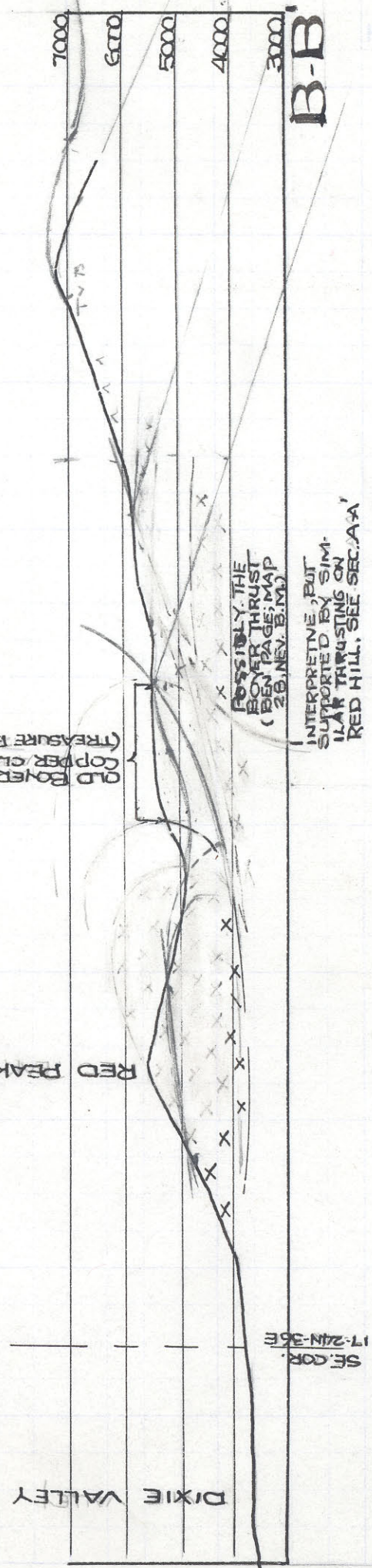
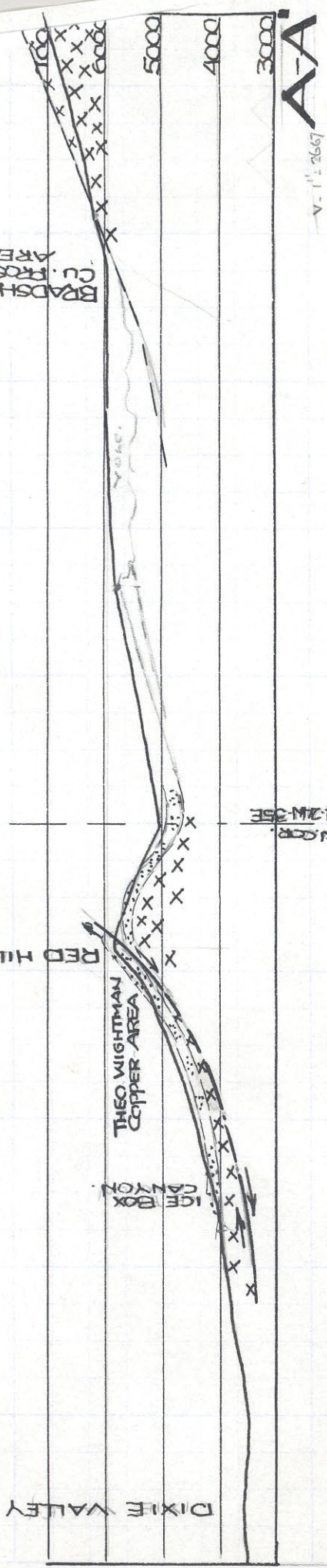
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JANUARY 19, 1975.

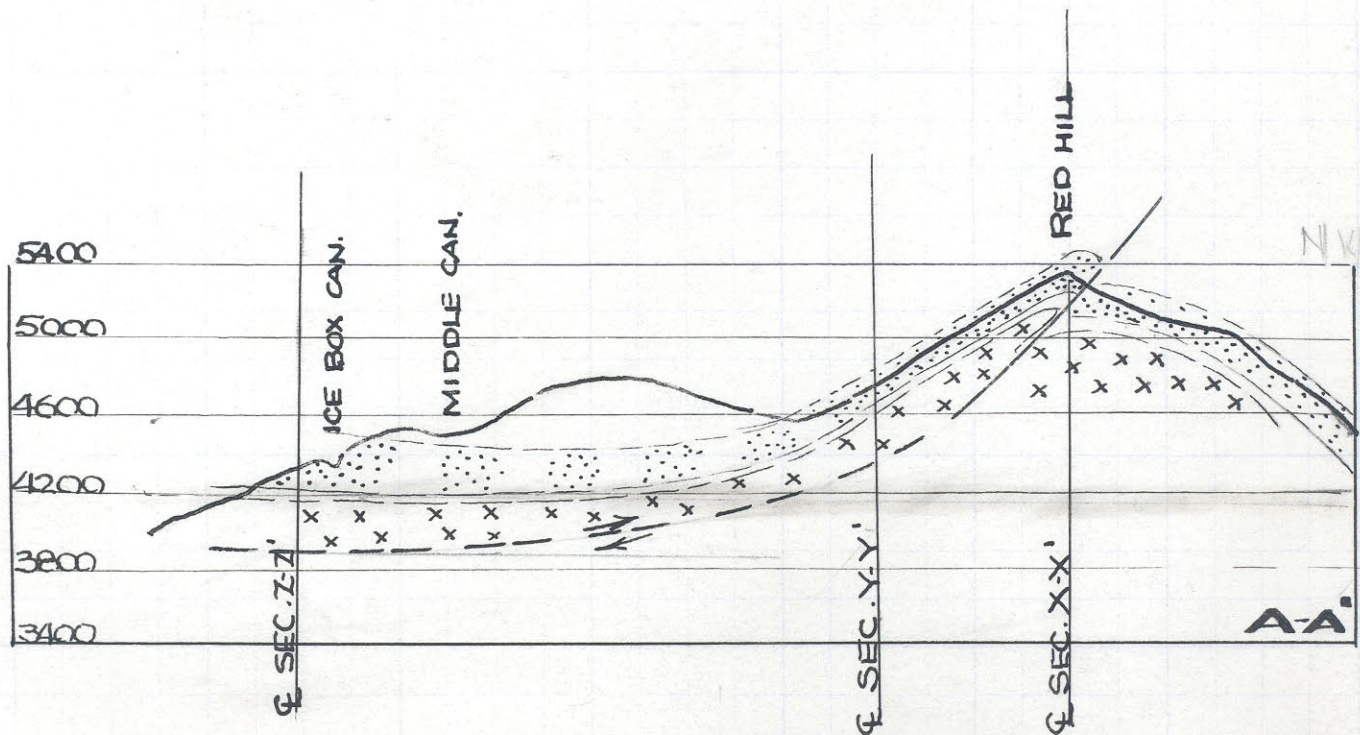
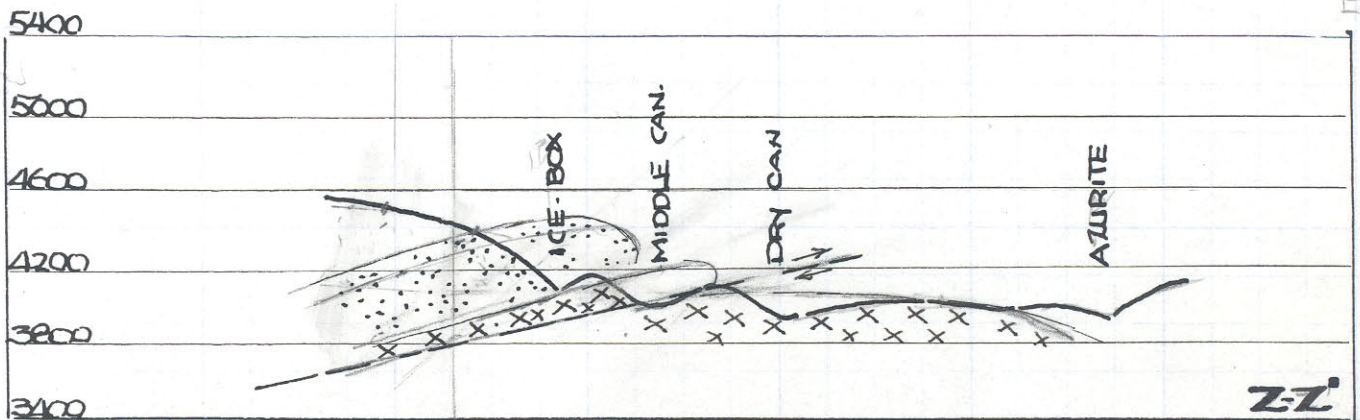


THEO WIGHTMAN COPPER PROPERTY REGIONAL SECTIONS 1975 1" = 2640'

DAVID LeQUINT EVANS
CONS. GEOLOGIST
RENO, NEVADA
JANUARY 19, 1975

Handwritten:
Copper Property
of 1800' x 1800'
1:2640





THEO WIGHTMAN
COPPER PROPERTY
RED HILL SECTIONS
1975
1" = 1000'

DAVID LeCOURT EVANS
CONS. GEOLOGIST

RENO, NEVADA
JANUARY 19, 1975.