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Item 24

REPORT OF EXAMINATION
LINKA-CONQUEST TUNGSTEN PROPERTY
Lander County, Nevada

By: Joseph V. Tingley
July 13, 1978

The Linka property was presented to Utah International by M. J. Fitzgerald, Walt Kramer, and William Ruddock, who have leased the property from its owner, Mr. Gale Peer of Austin, Nevada. Fitzgerald, Kramer and Ruddock have a joint venture agreement, and Fitzgerald has been devising and managing exploration work on the property. Linka was examined on June 28 and 29. R. Thompson, Utah International Inc., and M. J. Fitzgerald were present during the examination.

Location:

The Linka property is located in the Spencer Hot Springs district in southeastern Lander County, Nevada. The district is on the northwest tip of the Toquima Range, and is about 20 miles east of Austin, the county seat. The property consists of 24 full mining claims and portions of three others, all located in Sections 7, 8 and 18, T.17N., R.46E.

History:

Tungsten mineralization was first detected at Linka in 1941, and records show shipments of 2,420 tons of 0.69% WO_3 between 1943 and 1944, and +4,000 tons of 0.98% WO_3 between 1951 and 1956. A mill was constructed on the property in late 1955, and an additional 60,000 tons of 0.4% WO_3 is reported to have been milled on the property between that time and late 1956 when operations ceased. This last figure is felt to be in error, since 1) the mine is reported, by other sources, to have operated until late 1957; 2) the stopes in the mine were essentially pulled clean; 3) the mill is reported to have been built on the basis of a 250,000 ton orebody, and was operated at a rate of 300 tons/day. Using this information, the property may have produced close to 150,000 tons of ore prior to a 1957 closure due to failure of the world tungsten market.

After closure of the mill, no further work was done in the Linka district; the original claim holder let his claims lapse, and Gale Peer re-staked the Linka in the early 1960's. In 1970 or 1971, Cache Creek Exploration (Robert L. Foster, Charles T. Weiler, then of Menlo Park, California) entered the district and conducted some geophysical and geological work. Cache Creek, enthused by the tungsten potential, prepared a short geologic report, and presented the property, on a bid basis, to several major companies. No one was attracted, mainly due to the Cache Creek terms, and no additional work was done. In the mid-1970's, Duval Corp. obtained the Linka from Peer, conducted a geologic mapping program, rearranged and straightened out Peer's claim boundaries, but did no drilling. Following Duval's departure, many other groups (including Union Carbide) have examined the property. The present group obtained their lease from Gale Peer in mid 1977.

The Linka, as now presented, consists of three contiguous, but distinctly separate, scheelite bearing tactite occurrences. The main Linka property, developed by a 210 foot vertical shaft and one working level at 150 feet, was the source of the recorded production. The Hillside section of the property, adjacent to and northeast of Linka, is developed by a 100 foot inclined shaft and has no recorded production. On the northeast, the Conquest portion of the property is developed by a 100 foot

vertical shaft with levels at 50 and 100 feet. Small tonnages of +1% WO₃ ore were mined and shipped from the Conquest.

Geology and Mineralization:

Scheelite mineralization at Linka-Conquest occurs in lenses and tabular masses of tactite which have formed along the contact of a composite intrusive mass and limestones of the Ordovician Antelope Valley formation. The Linka outcrops are along the eastern edge of a group of low hills which lie to the west of the main Toquima Range. These hills are mostly capped by flows and tuff layers of the Bates Mt. formation, and are surrounded to the northeast, north, northwest, west, and southwest by alluvium. The contact zone is poorly exposed, and is cut by dikes of igneous rock and by high angle faults. The granitic mass is to the west of the contact, and extends under volcanic cover and alluvium westward under the valley floor. Carbonate rocks of the Ordovician Antelope Valley formation (and possibly of the overlying Hansen Creek formation also) lie east of the contact and have provided the host rocks for the scheelite-bearing tactites. The exposed carbonate rocks are all in the lower plate of the Roberts Mountains thrust zone, and the thrust contact crops out a few hundred feet southeast of Linka. Above this thrust contact, thin-bedded shales and chert of the Vinini formation cover the slopes and top of the ridge overlooking Linka.

The three tactite segments exposed, Linka, Hilltop, and Conquest, each occur in separate structural blocks along the main northeast-striking contact zone. These blocks appear to be defined by cross-cutting dikes or prongs of the intrusive, by steep normal faults, and each can be viewed as separate embayments into the intrusive.

At the main Linka, between surface and the 150 foot level, the tactite mass is up to 40 feet thick, and is near vertical, paralleling the near vertical intrusive contact. Recent drilling indicates that this contact may flatten at depth to the east, then steepen again. On the 150 foot level of the mine, the structure of the tactite (and unreplaced limestone away from the contact) is unclear. Steeply dipping formations can be seen at the contact but a few feet away to the east both dip and strike abruptly change. This could be explained by faulting, which cannot really be seen, or by complex pre-intrusive folding. Which ever is the case, the lime section can be projected to follow the contact down to the east where additional tactite could exist.

Rocks exposed in the Hilltop (middle) tactite area are still mainly carbonates of the lower plate or eastern facies, but they are more thin bedded and contain more interbedded hornfels than do the rocks near the Linka shaft. These rocks have been tentatively mapped as Hansen Creek formation by Fitzgerald. There are several lenses of scheelite-bearing tactite present at surface in the Hillside area, and a well-mineralized lense of tactite in Antelope Valley lime is exposed in the Hillside incline. Since the Hansen Creek formation overlies the Antelope Valley, the presence of scheelite-bearing tactite at surface in the Hansen Creek could indicate the presence of tactite bodies at depth in the underlying Antelope Valley. The presence of a small patch of garnet tactite exposed in Antelope Valley lime on the Linka 150 foot level north of the dike forming the southern boundary of

the Hillside segment adds interest to this area, as does the high-grade exposed in the Hillside incline.

On to the northeast, at the Conquest, rocks exposed there are again quite different from those at Linka, and are somewhat different from the Hillside outcrops. Recent U.S.G.S. mapping, and mapping by Fitzgerald, show that the tactites at Conquest have formed in rocks of the upper plate Vinini formation, indicating that there is a fault between Conquest and Linka which has caused the Conquest rocks to be down faulted into their present position. This interpretation is open to question, as the Vinini formation does not normally contain limestone beds thick enough to have formed the tactite bodies at Conquest. The Conquest outcrops may be within the Hansen Creek formation, or the lower parts of the Roberts Mt. formation. Complex folding and silication imposed by the intrusive have made interpretations in this area open to considerable question. Again, whatever the case may be, the favorable Antelope Valley formation may be present along the contact beneath the surface croppings, and larger tactite bodies could await discovery there.

Tungsten occurs at Linka-Conquest in the form of scheelite, and forms as fine to medium grained crystals along bedding planes and fracture surfaces in tactite. At Linka, the mineral is more truly disseminated, with grains occurring both along bedding and scattered between garnet crystals in the tactite. At the Conquest, a considerable amount of scheelite appeared to have formed along fractures, providing some rather flashy shows which may be only "skin deep". The scheelite fluoresces yellow-creme, with some blue-white overgrowths. Only small amounts of molybdenite and chalcopyrite were noted.

Results of Min-Ex Exploration Program:

The present lease holders have completed a surface geologic map of the mine area. During the summer and fall of 1977, they drilled eight diamond drill holes (a total footage of 1183') and during the late spring of 1978, 47 rotary holes totaling 6651 feet were drilled.

The core holes were concentrated at the Linka (four holes, total footage 1000'), but the rotary drilling was spread over the three portions of the property.

The Linka diamond drilling gave information on the downward extension of the tactite zone, showing mineralized tactite to be present in some locations below the level of the old mine. The intrusive contact appears to be steepening, however, and the tactite cut is thinner than in the mine above.

The rotary drilling program was designed to provide some additional assay widths across ore zones at lower costs than would be possible using diamond drilling. Of the total rotary footage, 3506 feet were drilled at Linka to check results of the diamond drilling and to provide information on the tactite exposed in the cut near the Linka shaft. The remaining rotary drilling was split between the Hillside and Conquest areas, and was used to try to block out near-surface tonnages of ore at each property.

Information gained from the drilling was combined with that obtained during the geologic mapping program, and a set of geologic cross sections was prepared. Copies of these, as well as copies of the geologic maps, are on file in Reno.

The Min Ex work to date has enhanced the value of the Linka property. Geologic mapping has shown relationships of tactite to intrusive contacts, and indicated where ore extensions might exist. Diamond drilling at Linka was not entirely favorable, but the down-dip potential essentially remains to be tested. Shallow rotary drilling has shown the presence of a small (~ 20,000 tons) body of tactite at Conquest which may be mineable by open pit methods. While this small amount of ore would not enter into Utah's evaluation of the property, it is of considerable interest to Fitzgerald's group, as they may be able to sell this material to generate cash to enable them to continue deep exploration.

Exploration Potential

It is felt that the Linka-Conquest presents a much better than average tungsten exploration target. The contact zone between Linka and Conquest remains unexplored at depth. The Antelope Valley limestone, well mineralized where exposed at Linka, may exist under cover of other formations at Hillside and Conquest, and could form Linka-size orebodies at those locations.

In addition to prospects at Linka-Conquest, there is exploration potential to be considered both northeast and southwest of the old exposures. Linka-Conquest lies on the southeast margin of what may be a rather large, mostly hidden, intrusive body. The contact zone of this mass may extend northeast and southwest under alluvial and volcanic cover. Weak tactite was noted on a mine dump about one mile southwest of Linka giving encouragement to this premise.

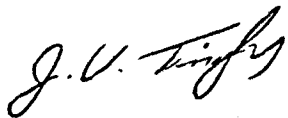
Recommendations:

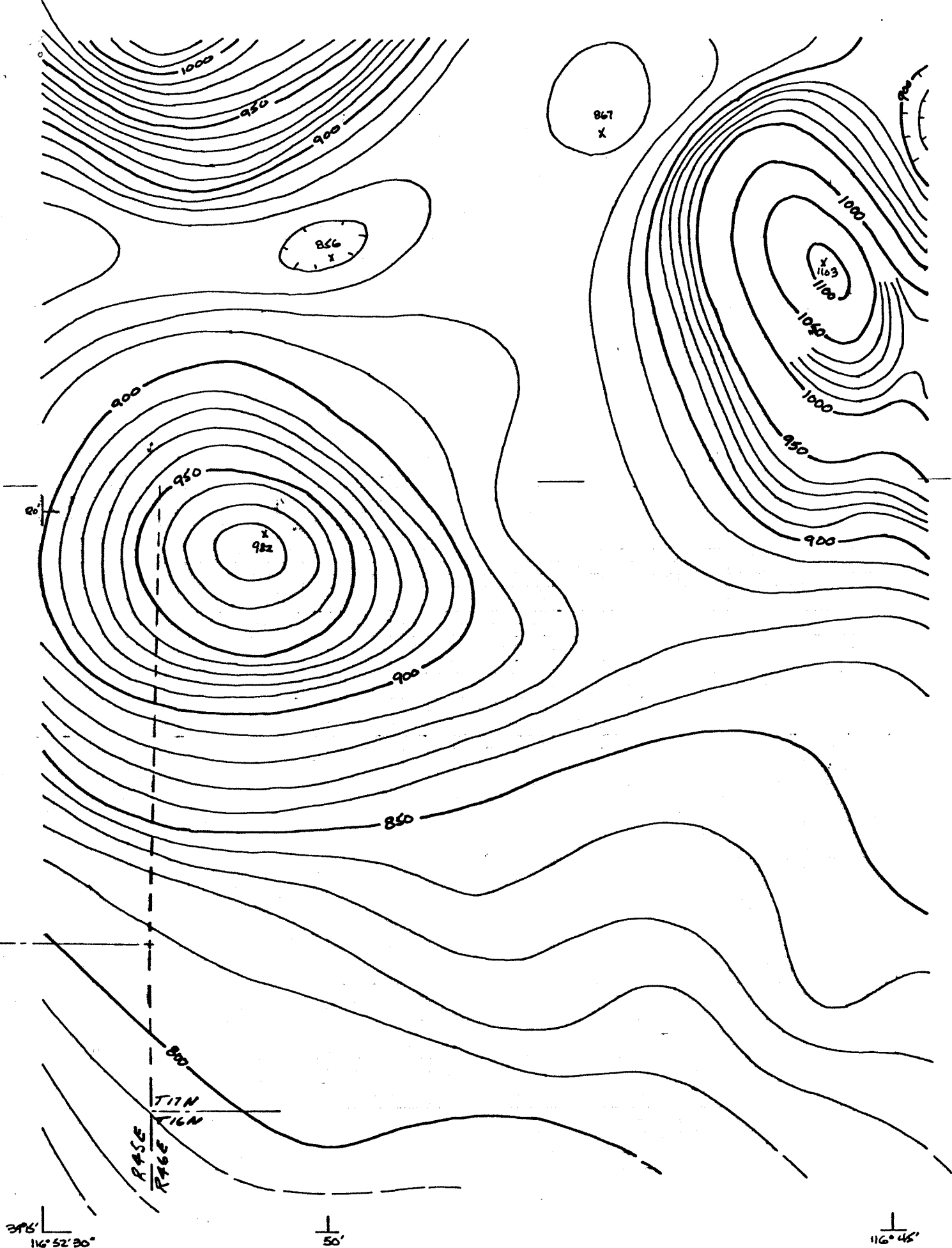
It is recommended that negotiations be commenced with Fitzgerald-Kramer-Ruddock and that, if the terms are suitable, the Linka-Conquest properties be acquired.

If acquisition is accomplished, a program of additional detailed geologic study, followed by diamond drilling should be started on the property.

Exploration in the district should include examination of the entire contact zone northeast and southwest of Linka-Conquest, and would include regional geophysical work to help define the trace of the obscured contact. With this point in mind, it may be necessary to acquire other land in the district.

JVT:sg





AEROMAGNETIC MAP

S.E. Corner, Spencer Hot Springs Quad
Lander Co., Nevada

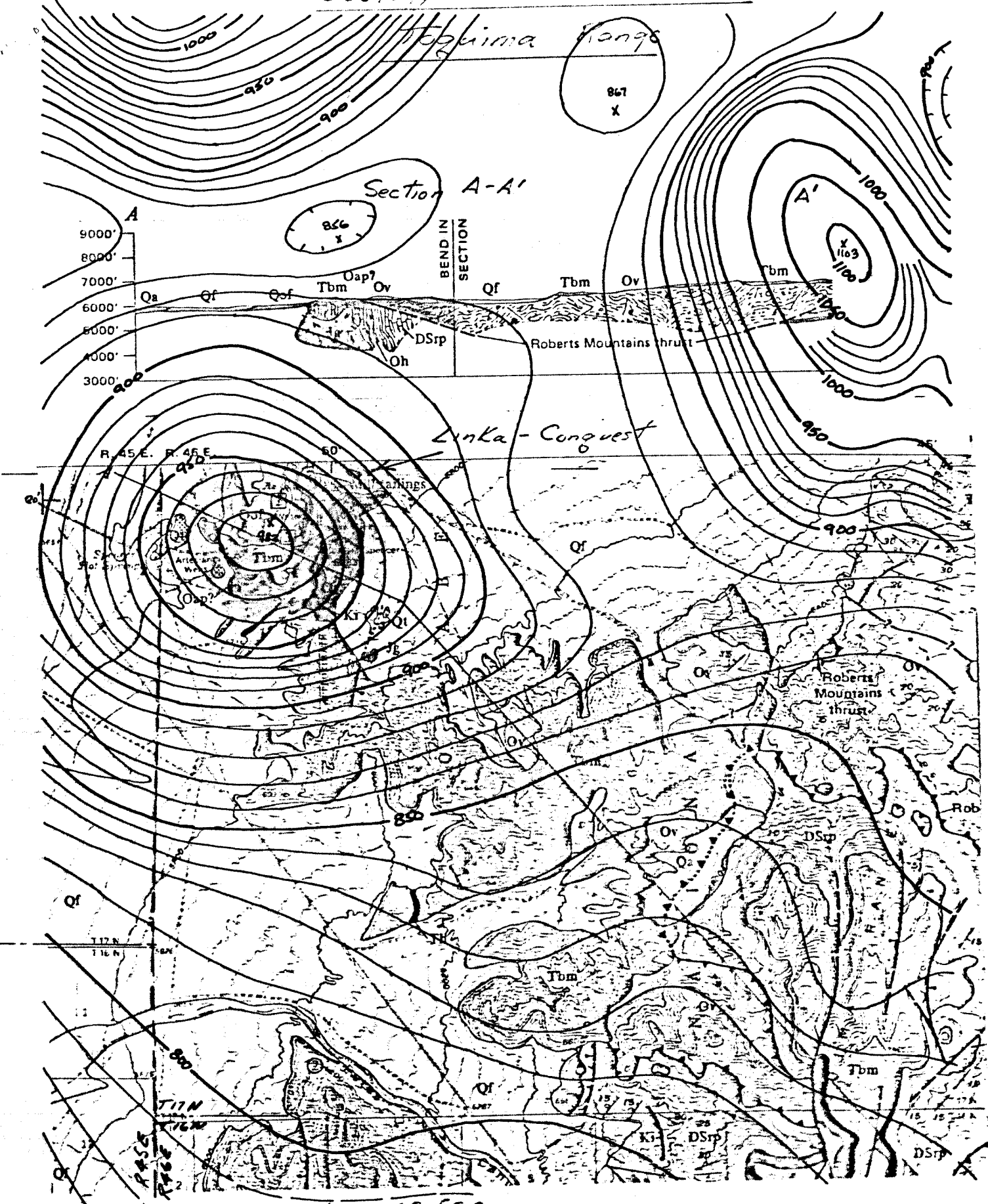
Geology of the Northern

Hopkins Range

Section A-A'

BEND IN SECTION

Linka - Conguest



Scale 1:62,500

39° 51' N
116° 52' 30" W

Antelope Valley Fm. - Cop

Hansen Creek Fm. - Oh

Virgini Fm. -

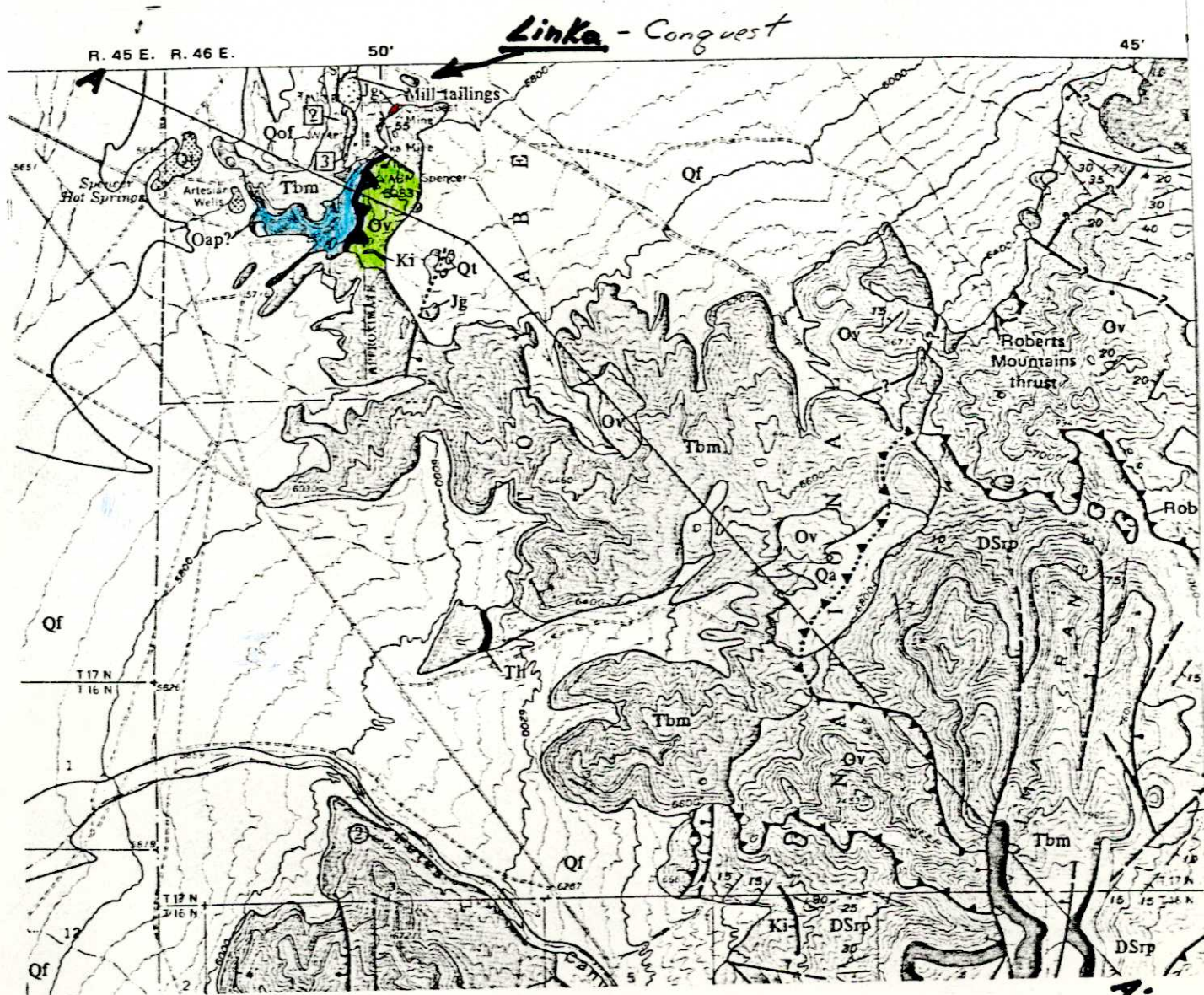
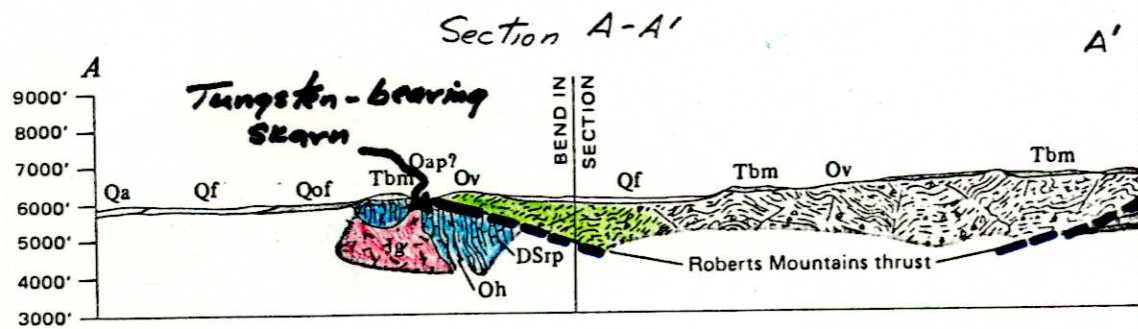
Intrusive AEROMAGNETIC MAP U.S.G.S Prof Paper 921

Volcanic S.E. corner, Spencer Hot Springs Quad
Lander Co., Nevada

Alluvium -

1976

Geology of the Northern Toquima Range



Antelope Valley fm. - Oap
Hansen Creek fm. - Oh
Virini fm. - Ov

Intrusive - Jg
Volcanic - Tbm
Alluvium - Q

Geology from
U.S.G.S. Prof. Paper 931

1976