

3600 0001

(205)
item 1

THE PILOT GROUP OF CLAIMS
MINERAL COUNTY, NEVADA

See map files (1 map)

The Pilot Group of Claims
Mineral County, Nevada

Introduction and Summary

The Pilot claims cover an area of about six square miles on the southeast end of the Pilot Mountains in Mineral County, Nevada. The claims^{were} initially visited in December of 1963 by E. N. Pennebaker, N. L. Archbold, and D. A. Hull; only two hours were spent on the claims at this time and consideration of the claims was discontinued. Reexamination and reconnaissance mapping have resulted in reinterpretation of the geology, and in my opinion, this property merits a geophysical exploration program that would cost an estimated \$9,000. The geophysical exploration is expected to yield one or more anomalies that when drilled will hopefully result in the discovery of a disseminated copper-molybdenum deposit at a depth of less than 500 feet.

Location

The Pilot claims are on the southeast end of the Pilot Mountains mainly in unsurveyed T.6N., R.36E. in Mineral County, Nevada (see attached index map). The claims are accessible by gravel road from Mina, Nevada or by a road that branches northward from U.S. Route 6 about 21 miles west of Tonopah, Nevada and then goes northerly and westerly around the Monte Cristo Range. The claims are normally accessible and work is possible throughout the year.

The claims lie within a seemingly east-west belt of disseminated copper-molybdenum prospects that passes to the north of Tonopah (see index map). Within this belt are located:



Index Map to Location of Pilot Claims and Other
Disseminated Copper-Molybdenum Prospects in the Belt North of Tonopah

(1) the Hall property on which Anaconda has been drilling a low grade molybdenum deposit for a number of years, (2) the Royston district where Anaconda has just initiated a new drilling project, (3) the Crow Spring area where Homestake drilled unsuccessfully during the summer of 1963, (4) the Rock Hill area where American Metal-Climax drilled a molybdenum-bearing intrusive in 1963. In addition, there are molybdenum-bearing intrusives at Gilbert, midway between Rock Hill and Crow Spring, and at the Pine Tree Mine, 6 miles west-northwest from the Pilot claims.

Property and Terms of Acquisition

The Pilot group consists of 182 unpatented claims owned by Robert Daniel of Tonopah, Nevada, Grant Huntley of Reno, Nevada and Earl Smith of Norman, Oklahoma. All claim corners have been surveyed, and annual labor has been performed through August 31, 1964.

Specific terms for lease-option have not been discussed; however, the owners have stated they would be willing to allow sufficient time for geophysical surveys and drilling before any payments would be asked.

General Geology

Three major groups of rocks crop out on the Pilot claims (see attached geologic map); in order, from oldest to youngest, they are; (1) the Excelsior formation of Triassic age, (2) Jurassic or Cretaceous quartz monzonite, and (3) a volcanic and hypabyssal complex of Tertiary age. The following descriptions of each unit are based upon cursory examination during three days of reconnaissance mapping and are subject

to modifications resulting from detailed mapping and petrographic study.

The Excelsior formation consists of fine-grained, dark-colored quartzite with sparse interbedded tuffaceous units. Quartzitic breccia and conglomerate occur in the alluvial material on the property and are probably derived from the Excelsior formation although they were not noted in any outcrops. The Excelsior formation dips generally 35° to 60° to the south, but near the northwestern corner of the property it appears to be nearly vertical, and still farther north, it dips to the north. This change in dip is probably caused by a major east-west fold or fault trending across the northern portion of the claim group.

Quartz monzonite intrudes the Excelsior formation, principally in the southwestern part of the claim group. Scattered outcrops tend to be aligned northwesterly giving the impression that the southwestern part of the claim group covers the very top of a northwesterly trending quartz monzonite stock. The quartz monzonite is strongly altered in most exposures and the alteration will be briefly discussed in the section on "alteration and mineralization."

The Tertiary volcanic and hypabyssal complex was divided into four main units during reconnaissance mapping in the southwestern part of the claim group but more units may be involved. In general, the volcanic rocks dip about 15° to the southwest and unconformably overlies both the Excelsior formation and the quartz monzonite. The basal unit of the volcanic rocks is a biotite latite distinguished in the field by its fresh biotite flakes and pink to reddish brown color

on weathered surfaces. Maximum thickness of the basal biotite latite, within the claim group, appears to be about 500 feet.

Overlying the biotite latite is a unit mapped as an "ignimbrite." In reality, the "ignimbrite unit" contains several lithologic types. At the base of the ignimbrite unit there is a light-colored, biotite-bearing tuffaceous unit similar to the underlying biotite latite. This basal tuffaceous unit is interpreted as the basal chill zone of the ignimbrite. Above the tuffaceous base, there is an interfingering complex assemblage containing vitrophyre, devitrified(?) vitrophyre, and pink to red felsite showing fluidal structure.

The biotite latite and ignimbrite units seem to be intruded by hornblende latite or dacite. This unit forms a conical hill on the south-central side of the claim group and can be distinguished by its light gray color and the presence of hornblende needles.

The fourth unit in the volcanic-hypabyssal complex consists of an andesitic(?) agglomerate that appears to be the youngest unit on the claim group. The only outcrop of this unit on the claims is in the extreme southwest on the Pilot 33 and 35 claims.

Alteration and Mineralization

Both the Excelsior formation and the quartz monzonite are altered and mineralized. The Excelsior quartzite is bleached, brecciated and stained with iron oxides in the southwestern part of the claims where it is intruded with quartz monzonite. Accompanying this alteration, one finds fractures coated with chrysocolla, copper oxides and turquoise; also general geo-

chemical anomalies in excess of 0.05 percent copper. A similar zone of alteration in the quartzite trends northeasterly across the eastern half of the claim group, but this zone does not show the traces of copper mineralization noted in the southwestern part of the claims.

The quartz monzonite is strongly altered to clay minerals where it is exposed on claim numbers 41, 42, 44, 45, 46, 47, 48, and 79. In this area of argillic alteration, the intrusive is broken by a stockworks of limonitic veinlets, and the original biotite has been converted to sericite. The nature of the leached outcrops of altered quartz monzonite compels one to the conclusion that a sulfide-bearing intrusive lies below. Unfortunately, the presence of copper-bearing minerals is not strongly indicated because the leached outcrops lack copper oxides or iron oxide boxworks derived from primary copper sulfides.

The owners report that they drilled three holes on the property, but the locations of these holes were not noted in the reconnaissance mapping. One hole was drilled to a depth of 32 feet using a small portable drill; this hole yielded no meaningful information. Another hole reached a depth of 75 feet and penetrated pyrite-bearing rocks. The third hole reached a depth of 210 feet and cuttings from the bottom ten feet assayed 0.2 percent copper. None of the holes extended into completely unoxidized rocks, and I conclude they neither prove nor disprove the presence of important copper-molybdenum mineralization.

Conclusions and Recommendations

The relative merits and shortcomings of the Pilot claims

as a porphyry copper-molybdenum prospect are compared in table 1. On the basis of this comparison, I believe the Pilot claims merit a geophysical survey to determine the extent of the sulfide-bearing intrusive under the volcanic rocks and where it is at shallow depth within the Excelsior formation. Targets, as determined by the geophysical survey, could be tested for the presence of copper and molybdenum using relatively inexpensive, non-core drilling methods.

The following steps should be taken:

- (1) Complete a detailed map of the claim group and its environs on a scale of 1"= 1000'.
- (2) Retain a competent geophysical consultant to advise on the most worthwhile geophysical surveys. (I presently envision about 30 line miles of combined I.P. and resistivity survey at a cost of about \$300 per mile).

Submitted by,

N. L. Archbold

N. L. Archbold

Reno, Nevada

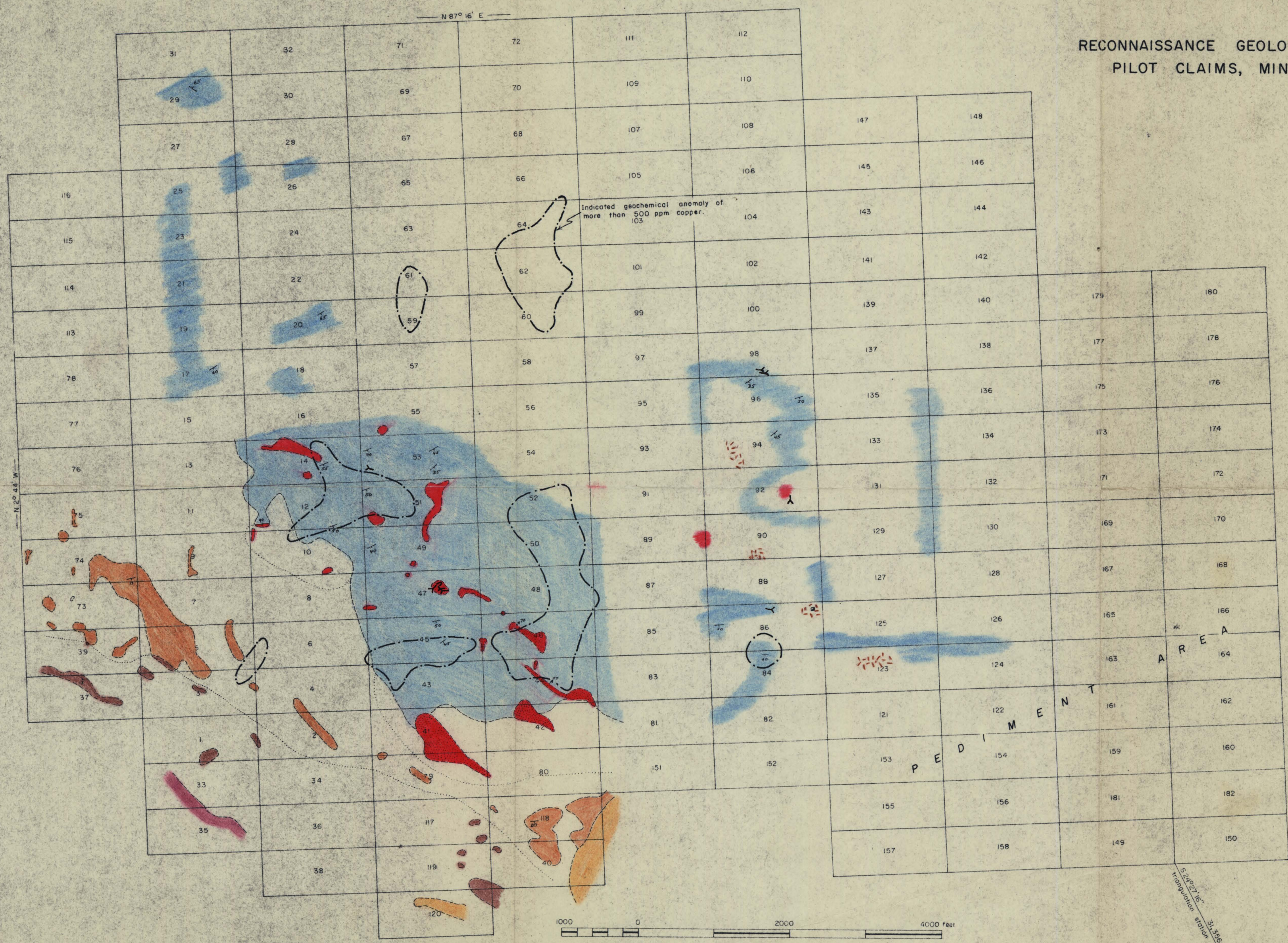
December 1, 1964

Table 1.-Relative merits and defects of the Pilot claims as a disseminated copper-molybdenum project

Defects	Merits
1) Exposed area of altered quartz monzonite is small.	1) Zone where altered, sulfidized quartz monzonite is at shallow depth appears to be at least 3000 feet square.
2) The exposed quartz monzonite lacks silicification and strong sericitization characteristic of many porphyry copper-molybdenum deposits.	2) Marginal portions of many porphyry coppers show mainly argillic alteration and ore is largely in the argillic zone of some.
3) Direct evidence of primary copper minerals are lacking in the exposed quartz monzonite.	3) A high ratio of pyrite in unreactive rocks can cause complete leaching and masking of primary copper minerals during weathering of the rock.
	4) The Pilot claims occur within a known zone of disseminated molybdenum occurrences.
	5) The initial geological and geophysical work can be accomplished for an estimated \$12,000 to \$15,000.

205
item 1

RECONNAISSANCE GEOLOGIC MAP OF PART OF THE PILOT CLAIMS, MINERAL COUNTY, NEVADA



- ### EXPLANATION
- Unmapped and covered areas
 - Undifferentiated volcanic and hypabyssal rocks
 - Intrusive hornblende latite
 - Andesitic(?) agglomerate
 - Ignimbrite unit
 - Biotite latite
 - Quartz monzonite
Stippled where strongly altered
 - Excelsior formation

Southwest portion by N. Archbold, November, 1964.
Features in northwest and southeast by D. Hull
and D. Seymour, December 5, 1963.
Geochemical data furnished by owners.

5202216-31356311 to USGS
transmission station MONTE 1952