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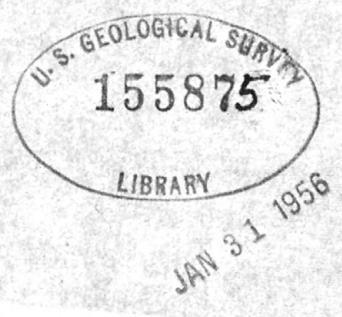


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Quicksilver deposit near  
Aleknagik, Nushagak district,  
southwestern Alaska

by *artiv*  
Wallace H. Cady, 1912-

U. S. Geological Survey

This report is preliminary and has not  
been edited or reviewed for conformity  
with U. S. Geological Survey standards  
and nomenclature.



Quicksilver deposit near Aleknagik, Nushagak district,

southwestern Alaska

by

Wallace M. Cady

U. S. Geological Survey

The deposit here described is on Marsh Mountain, three miles due east of the village of Aleknagik (Mosquito Point), near the foot of Wood River Lakes (see fig. 1). Marsh Mountain 1/ is comprised of a group of peaks

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1/ Mertie, J. B. Jr., The Nushagak district, Alaska: U. S. Geol. Survey Bull. 903, pl. 2, 1938.

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arranged in a horseshoe pattern around the basin of Arcana Creek, which flows southeastward and then westward joining Wood River about six miles downstream from the lakes (see fig. 2). Wood River is a navigable stream which flows south into Nushagak Bay near the small seaport of Billingham. The principal industry in the vicinity is fishing. Mining has been of little or no importance in the past. Cinnabar float was recognized in the Arcana Creek by Frank Waskey in 1941, and he uncovered the lode in September 1942. He and his two partners, Clarence Wren and Charles Wolfe have operated the claim since that time. The U. S. Geological Survey first investigated the geology of this part of the Nushagak district in 1935 2/. The field investigation reported here was conducted during the first week of October 1942.

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2/ op. cit. (Bull. 903)

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Figure 1. Index map of Alaska showing location of Aleknagik

Figure 2

SKETCH MAP

of

ARCANA CREEK BASIN

Showing Location  
of

RED CAP LODE CLAIM

APPROXIMATE MEAN  
DECLINATION 1935

Scale  
1000 0 1000 2000 3000ft.

Contour Interval 200 feet

U.S. Geological Survey

Note

Dip and strike symbols  
show orientation of beds  
of Cretaceous graphitic  
and shale.



Topography and Geology by  
W.M. Cadby and S.F. Johnson  
Surveyed in October 1942

The lode-ore is localized in joints and breccia zones which parallel the bedding of Cretaceous graywackes and shales. The cinnabar lies stratigraphically below flat nodular masses of vein calcite a few inches thick and a foot or two in diameter distributed roughly parallel to the bedding along certain horizons. The nearest known igneous rocks are granites exposed in the Muklung Hills about seven miles to the northeast.

The Red Cap lode is on the hillside southwest of Arcana Creek at an elevation of about 1,000 feet above sea level, a little below the crest of the ridge between Arcana Creek and Wood River. The lode has been exposed by hand-trenching at intervals across the strike of the bedrock. The frost-weathered overburden, about four feet thick, contains cinnabar float. This float extends down the hill about half a mile to the flood plain deposits of Arcana Creek, from which considerable cinnabar has been recovered by panning. Here the creek flows at an altitude of about 600 feet.

Very little ore in place has been proven at the Red Cap lode. The prospectors have trenched through a bedding vein one to four inches thick that strikes N.  $84^{\circ}$  W. parallel to the hillside and dips 38 degrees south into the hill (see fig. 3). About 10 cubic feet of ore were removed from this vein. Three pounds of the ore were treated by the author in an amalgam retort and yielded one pound of quicksilver. It is believed another pound was lost in the retorting process. Preliminary inspection indicated a grade of about 60 percent of quicksilver for the vein material. In the course of the examination by the Geological Survey another cut was made in strata about 10 feet stratigraphically below the above mentioned vein, and another vein containing ore of comparable grade was exposed. These veins are in a fractured zone about 100 feet wide which is iron stained and which contains much calcite. This zone appears to extend about a claim length south to a point

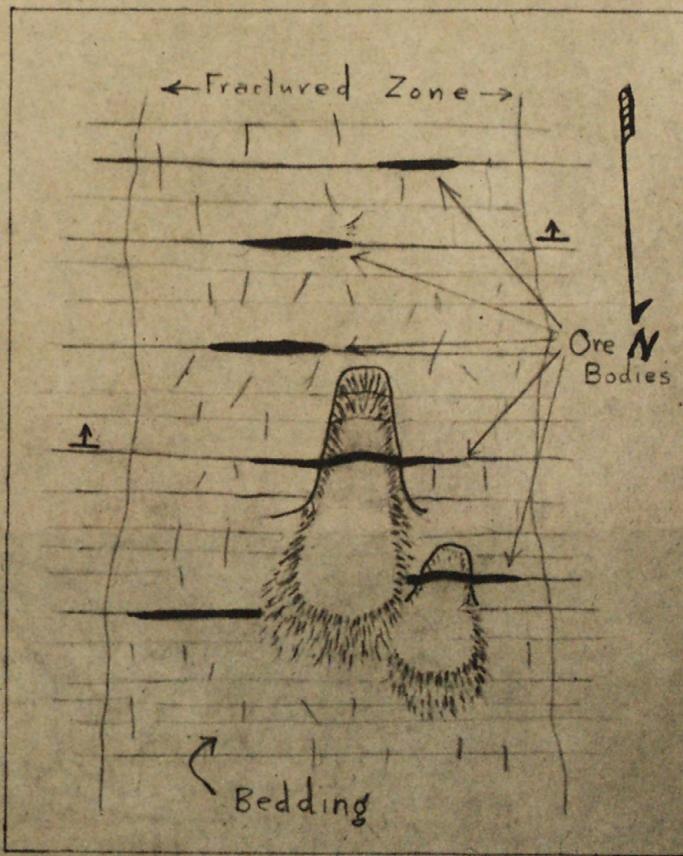


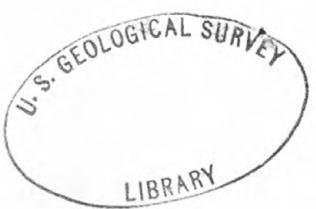
Figure 3. Diagrammatic sketch of fractured zone on Red Cap lode claim showing distribution of ore bodies in the zone and their relation to bedding.

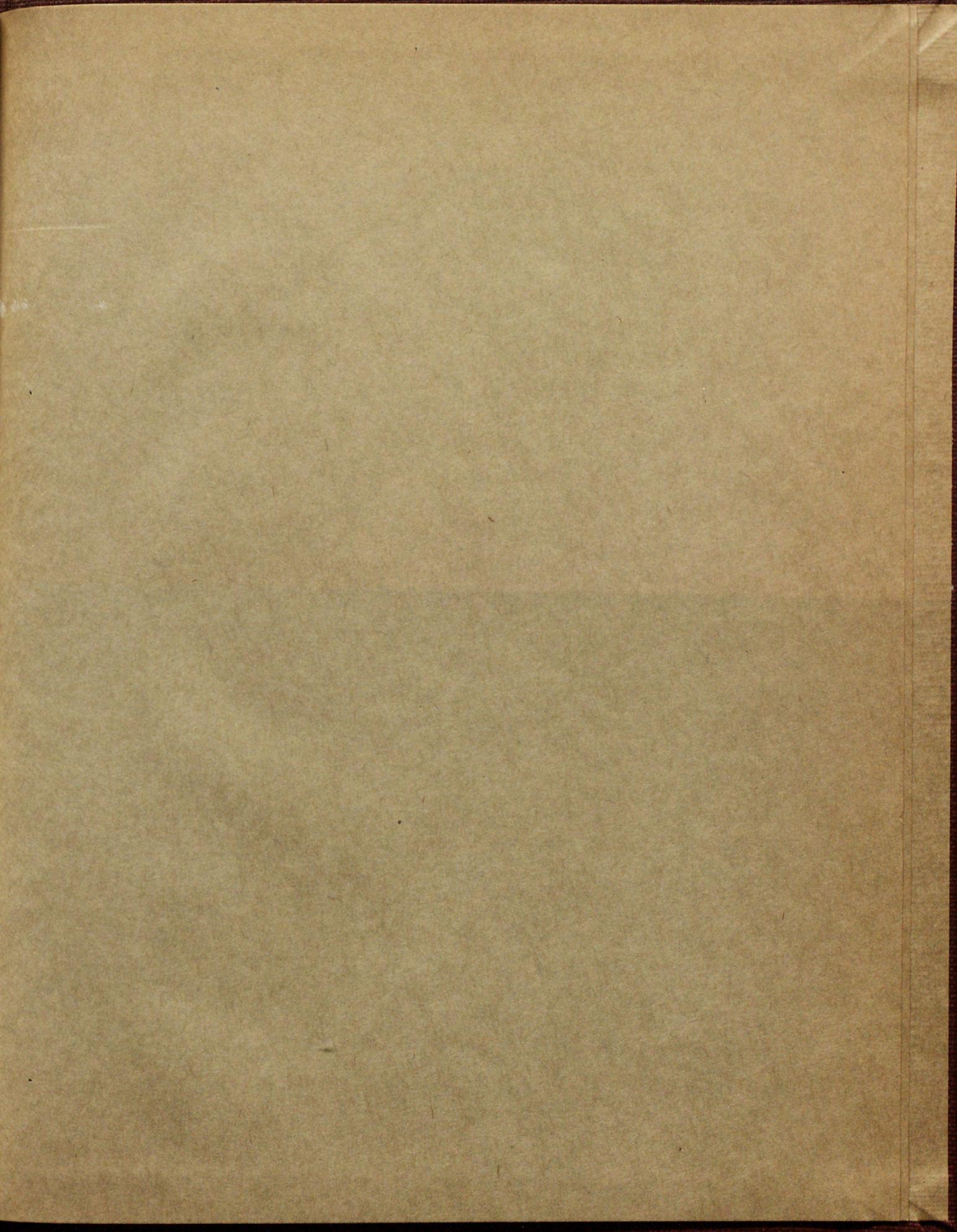
Scale

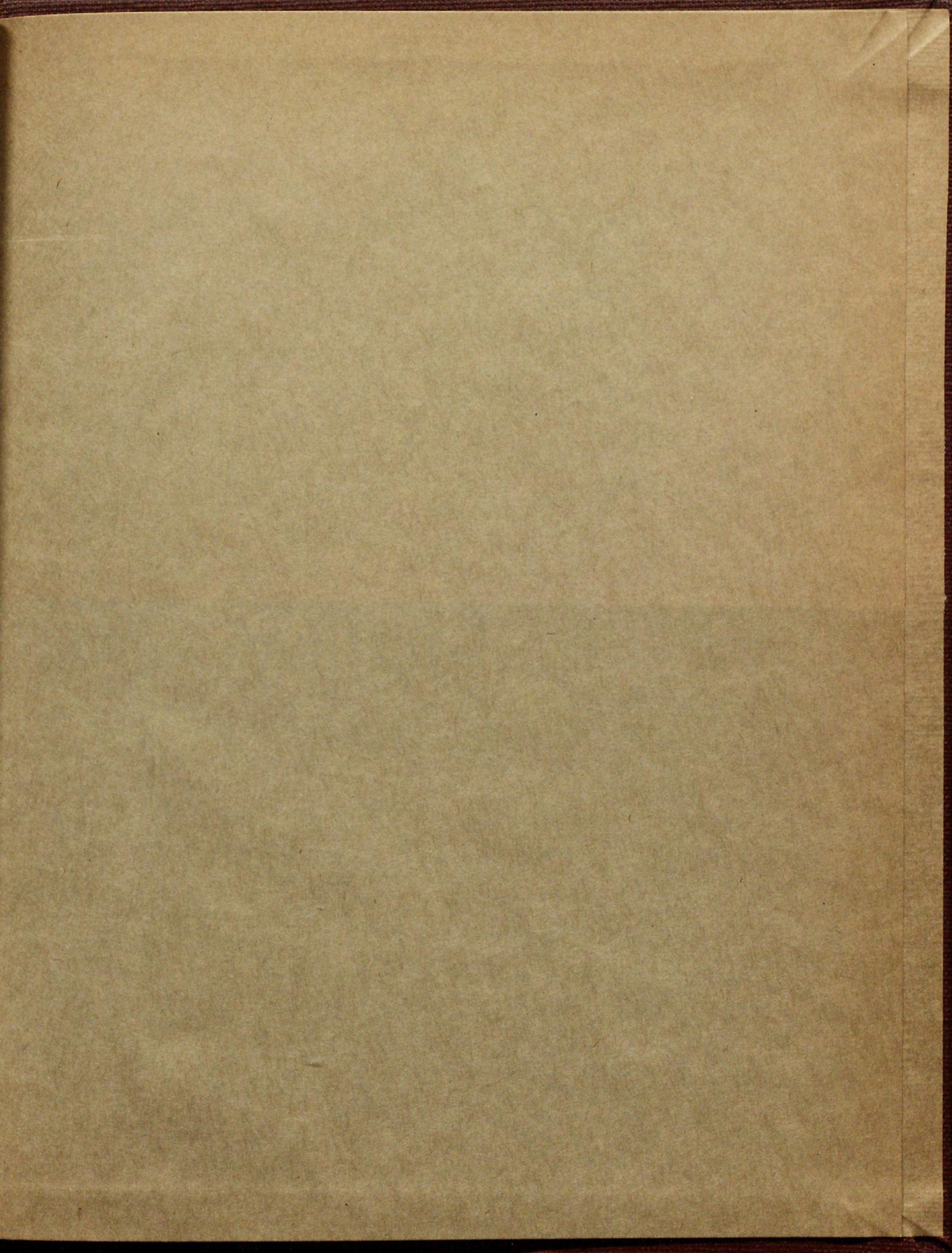
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beyond the crest of the ridge and trends roughly perpendicular to the strike of the sedimentary rocks. Most of the very abundant float cinnabar comes from slopes intersecting this fractured zone.











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