

GEOLOGY AND GEOCHEMICAL REPORT
ON THE SOURDOUGH CLAIMS

N.T.S. 106-D-14

Lat. $64^{\circ}50'N$ Long. $135^{\circ}7'W$

CYPRUS ANVIL MINING CORPORATION
By: W. Roberts, November, 1975

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GEOLOGY AND GEOCHEMICAL REPORT ON

* THE SOURDOUGH CLAIMS

Mayo Mining District

N.T.S. 106-D-14

Longitude: 135° 7' W

Latitude: 64° 50' N

CYPRUS ANVIL MINING CORPORATION

W. Roberts

November, 1975

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GEOLOGICAL AND GEOCHEMICAL REPORT ON
THE SOURDOUGH CLAIMS

INTRODUCTION

The Sourdough claims were staked in the fall of 1974 to cover anomalous copper geochemical results in streams, as well as two small chalcopyrite - malachite showings. During the 1975 field season, the showings were evaluated and contour soil lines were established in the showing area. The claims are located on a north-flowing tributary of Royal Creek, centered on latitude $64^{\circ}50'$ N and longitude $135^{\circ}7'$ W.

GEOLOGY

Rocks comprising recessive black shale, argillite and chert with interbedded marble, tan quartzite and green tuffaceous shales that underlie the Sourdough claims were mapped by the G.S.C. as Unit 1 of Helikian age. A sample section through the central portion of the claim group contains black, silty shale, overlain by a thin band (approximately 50') of grey marble, in turn overlain by over 500 feet of interbedded grey quartzite and green tuffaceous shales. Overlying this is a 100 - 200 foot section of marble, on which rests a thick pile of black shales. Discordant, dark greenstone to greenish porphyry dykes with associated quartz-actinolite-chlorite pods and cross cutting veins, appear to be the source of copper mineralization.

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ECONOMIC GEOLOGY

Two major showings of chalcopyrite mineralization and many malachite-stained fractures and joints were discovered during a three-day examination. Chalcopyrite mineralization noted in Showing No. 1 occurs in fractures, joints, quartz boudins, and fold noses, in green tuffaceous shale accompanied by actinolite, chlorite, hematite and quartz. The most prominent set of fractures trending northeast and dipping steeply to the northwest contain less than 6-inch widths of chalcopyrite in a quartz gangue. All fractures and joints within this limited area contain malachite stains. No economic grades of copper mineralization in bedding or structures were noted.

Showing No. 2 consists of pyrite and chalcopyrite mineralization in fractures and breccia zones adjacent to and cross cutting a 10 to 30-foot thick amphibolite to gabbro dyke. The two main northeasterly trending fault zones, shown on the Geology Map, contain erratic pyrite and chalcopyrite in a gangue of quartz, chlorite, euhedral actinolite, calcite, and orthoclase. Oxidation of pyrite has caused extensive limonite coatings and a noticeable gossan. A channel sample across the best mineralization yielded only 1.1 percent copper over 3 feet. The two fracture zones were traced for a distance of 250 feet before they began to horse-tail into the surrounding sediments.

GEOCHEMICAL SURVEY

Geochemical soil and seep samples taken along four contour lines outline copper mineralization noted in both showings. The highest sample, running 2,350 ppm copper, was taken from a seep emerging from talus just

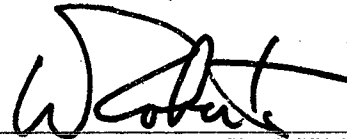
below Showing No. 2. Anomalous samples to the north on the same line appear to be caused by fracture fillings of chalcopyrite and/or malachite in and near the greenstone dyke.

Although copper mineralization was not noted within the anomalous zone on the east side of the main creek, it is expected to be similar to that found in Showing No. 1 which is a few hundred feet to the south.

CONCLUSIONS AND RECOMMENDATIONS

Due to the lack of significant potentially economic copper mineralization on the Sourdough claims, it is recommended that they be allowed to lapse.

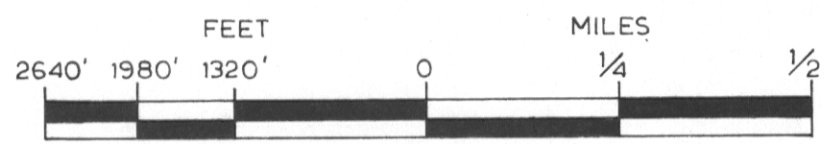
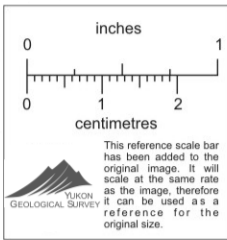
Respectfully submitted,

A handwritten signature in black ink, appearing to read 'W. Roberts', written over a horizontal line.

W. ROBERTS

CYPRUS ANVIL MINING CORP.
REEF PROJECT
SOURDOUGH GRP.
GEOLOGY

SCALE: 1"=1320'
N.T.S.: 106D-14
DATE: NOV. 1975
C.I. = 500'



LEGEND

Unit 8: Thick bedded, grey weathering, "sugary", porous dolomite; minor thin bedded, fine grained, grey weathering limestone.
—disconformity—

Unit 6: Dark grey weathering limestone, med. to thick bedded; minor, silty, buff weathering, thin bedded dolomite; thick bedded, orange weathering dolomite.

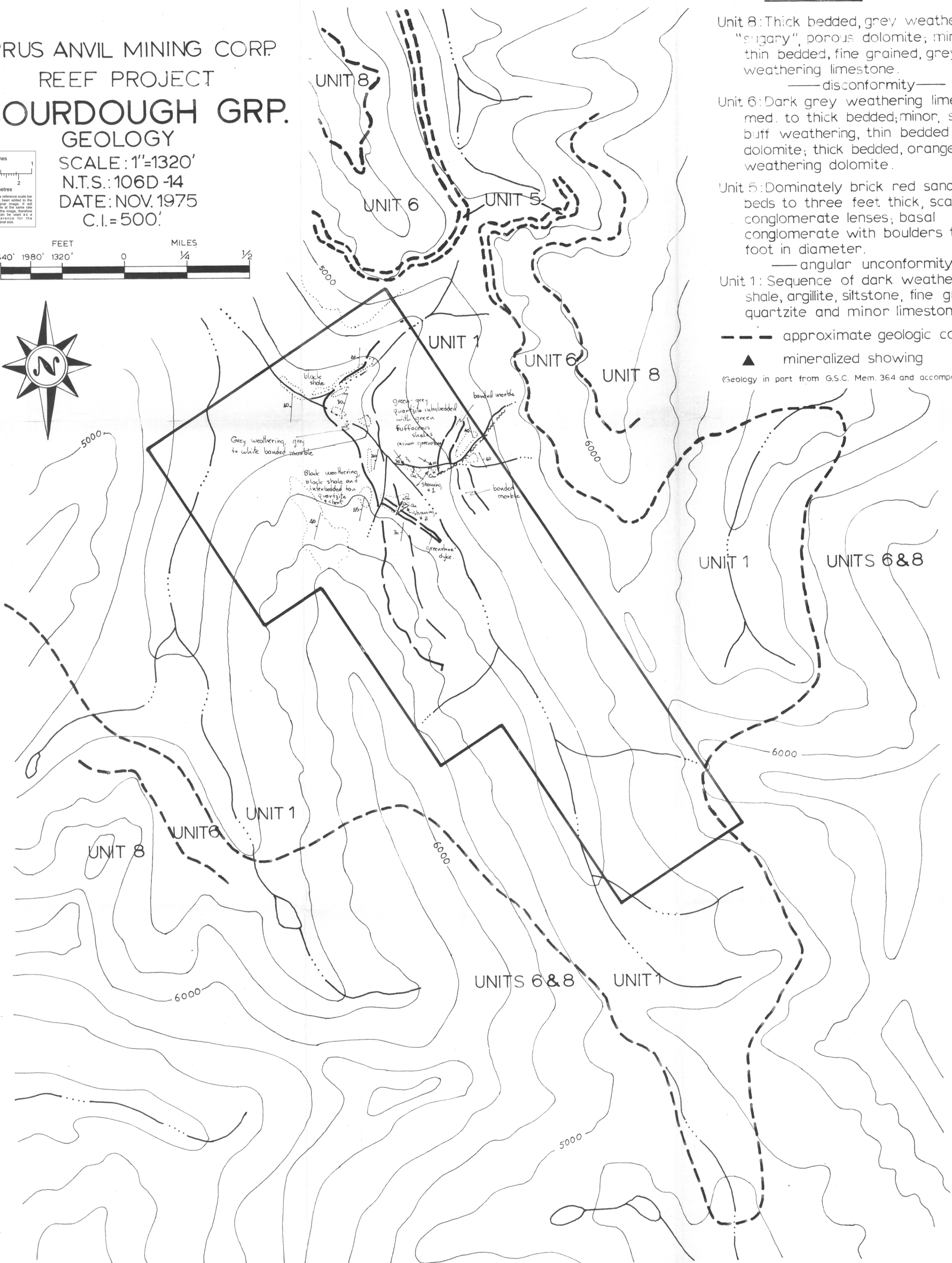
Unit 5: Dominately brick red sandstone, beds to three feet thick, scattered conglomerate lenses; basal conglomerate with boulders to one foot in diameter.
—angular unconformity—

Unit 1: Sequence of dark weathering shale, argillite, siltstone, fine grained quartzite and minor limestone.

--- approximate geologic contact

▲ mineralized showing

(Geology in part from G.S.C. Mem. 364 and accompanying map)



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REEF PROJECT

SOURDOUGH GRP.
GEOCHEMISTRY

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