

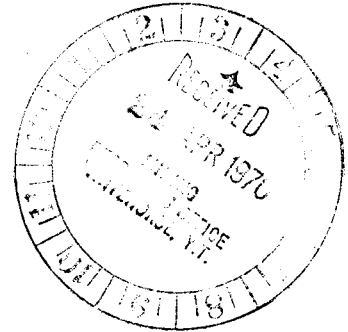
ARCHER, OATHERO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

Box 1708, WHITEHORSE, Y.T. 667-4113

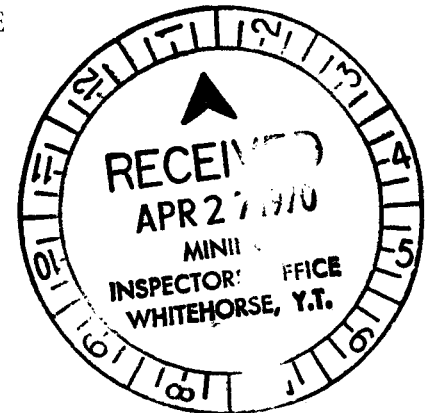
BENTALL CENTRE, VANCOUVER, B.C. 663-2365

1475 TWO BENTALL CENTRE
855 BARRARD ST.
VANCOUVER 1, B.C.

GEOCHEMICAL SAMPLING
and
PRELIMINARY GEOLOGY



DP CLAIMS
HAYES CREEK AREA, DAWSON RANGE
WHITEHORSE MINING DISTRICT
CLAIM SHEET 115-J-9



AUGUST 1 - 26, 1969
DAWSON RANGE JOINT VENTURE

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$8500

D.B. Craig
Resident Geologist of
~~Resident Mining Engineer~~

R.J. Cathro, P. Eng.

April 15, 1970

Considered as representation work under Section 55 (4) Yukon Quartz Mining Act

[Signature]
Commissioner of Yukon Territory

INTRODUCTION

The DP claims were staked on Hayes Creek by Archer, Cathro & Associates Ltd. on behalf of the Dawson Range Joint Venture (DRJV), comprised of Straus Exploration, Trojan Consolidated Mines, Great Plains Development Co. of Canada, and Molybdenum Corp. of America. The first claims were recorded on April 14, 1969 over old claims staked in 1966 by Coranex Syndicate. A camp was installed on the claims between July 24 and August 1, a crew of up to six men conducted sampling and mapping duties until August 26. The claims, which are all registered in the name of Archer, Cathro & Associates Ltd., are:

<u>Claim Name</u>	<u>Grant No.</u>	<u>Recording Date</u>
DP 1 - 24	Y31094-Y31117	April 14, 1969

HISTORY, LOCATION, ACCESS

Recent checking of old records in the Dawson City Recording Office has disclosed that five lode claims, Psyche Reef 1-5, were staked here on October 18, 1902 by Fred Envoldsen of Dawson City, and were recorded at Stewart. H.S. Bostock of the Geological Survey of Canada has reported finding evidence that gold placer mining was underway as early as 1898. Both Klines and Senora Gulches produced a small amount of gold and were worked intermittently until the Second War. The first modern lode exploration of the

property was by the Coranex Syndicate but only very preliminary work was done. The present work was prompted by the outlining of a copper-molybdenum porphyry deposit at the Casino property. To date, there has been no physical work on the Hayes Creek property for lode exploration. Old physical work in connection with placer operations consists of a flume ditch, several pits and shafts and one short adit.

The property is situated on the west side of Hayes Creek at $62^{\circ}38'N$, $138^{\circ}02'W$, in claim sheet 115-J-9. Access was originally by horse trails up Selwyn River and Hayes Creek from the Yukon River, and along Wolverine Creek and Selkirk Creek from Fort Selkirk. Present access is by helicopter.

1969 EXPLORATION

Geochemical sampling of both soil and stream silt was used to outline a large zone which contains anomalous levels of copper and molybdenum. This zone is centered on a low hill at the head of Klines and Senora Gulches, which reaches a height of about 1200 feet above the Creek elevation (2200 feet). Figures 2 and 3 show the geochemical results for copper and molybdenum respectively. Soil samples collected at 500 foot intervals on lines 1000 feet apart indicate a distinct copper anomaly 7500 feet long and 3500 feet wide.

A weak molybdenum anomaly only 1200 feet wide is roughly coincident with the long axis of the copper anomaly.

Like Casino, the Hayes Creek property is mainly unglaciated. The only glacial effect seen was scouring of the valley bottom by a tongue of ice from the main glacial sheet.

Because of this, outcrop is almost absent and geological mapping is of a preliminary nature (Figure 1). The mapping is based on bedrock float found both in soil and in the creeks and on interpretation of published aeromagnetic data. To summarize, the claims cover the east end of a small intrusive stock, which has been emplaced in early Paleozoic, Yukon Group metasediments about 3000 feet from the northeast edge of the Klotassin Batholith. The Batholith, which has a composition of quartz monzonite or granodiorite, has been dated at Casino at 95-99 m.y., or upper Cretaceous. The Hayes Stock is composed of quartz and feldspar porphyry, granite and related felsitic and sub-volcanic rocks. These are hydrothermally altered and quite pyritic and are probably related to the later intrusive phase, of which Casino is an example, which has been dated by C.I. Godwin at U.B.C. as 70 m.y., or earliest Tertiary. Of particular interest is the presence of a zone of intense bleaching and argillic/sericite alteration in the Yukon Group schists on the north edge of the Hayes Stock. The resulting rock is composed

mainly of quartz, sericite and clay. Molybdenite was found in two pieces of creek float, in quartz veins cutting both intrusive rock and the bleached schist. The geochemical anomaly shows a close spatial relationship to the Hayes Stock and bleached zone. The only copper mineralization seen to date is in weak disseminated form in fresh outcrops near the mouth of Klines Gulch. The absence of copper sulfides at higher elevations is believed due to surface leaching.

CONCLUSIONS AND RECOMMENDATIONS

The close geological similarity between the Hayes Creek property and Casino, and the encouraging geochemical response in an area of favourable geology, warrant an expanded program during 1970. Future work should be directed towards:

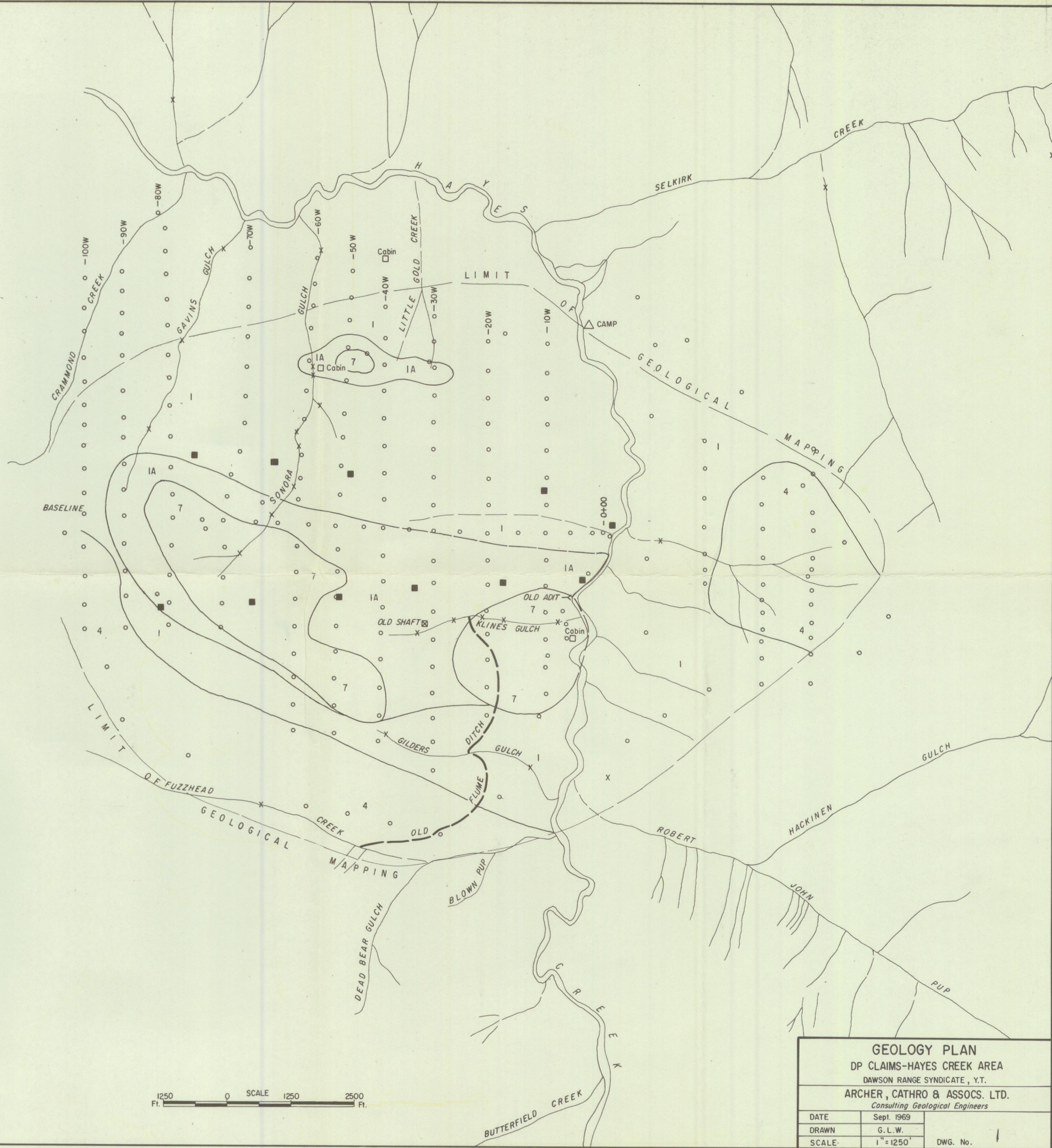
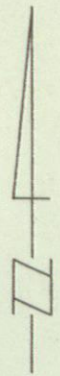
- A - more closely defining the size of the mineralized area, using more closely spaced geochemical sampling, and geophysical surveys.
- B - gaining a better understanding of the local geology, and determining if a leached capping (and, by inference, a zone of secondary enrichment) is present, using bulldozing and drilling.

A minimum budget of \$100,000 is recommended for 1970.

Respectfully submitted,
ARCHER, CATHRO & ASSOCIATES LTD.

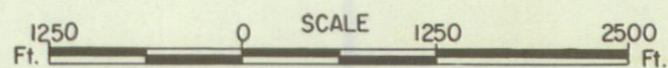


R. J. Cathro, B.A.Sc., P.Eng.

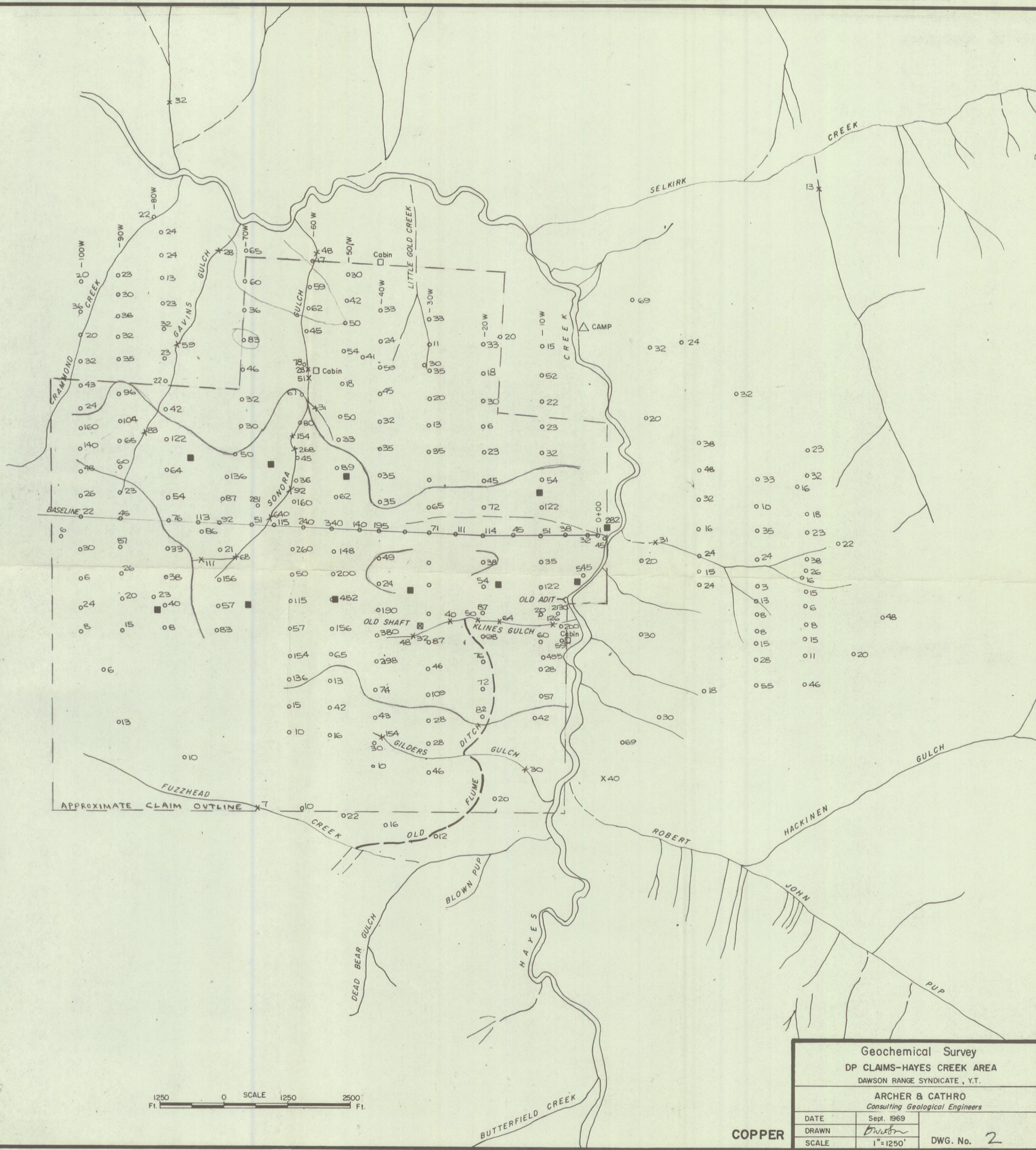


LEGEND

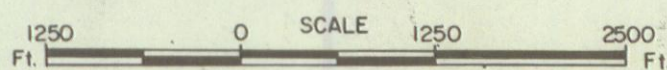
- I YUKON GROUP
- IA BLEACHED CONTACT ZONE
- 4 COAST INTRUSIONS, QUARTZ MONZONITE
- 7 GRANITE, GRANITE PORPHYRY
- CONTACT Defined, Assumed
- CLAIM POSTS
- X SILT
- o SOIL



GEOLOGY PLAN		
DP CLAIMS-HAYES CREEK AREA		
DAWSON RANGE SYNDICATE, Y.T.		
ARCHER, CATHRO & ASSOCS. LTD.		
<i>Consulting Geological Engineers</i>		
DATE	Sept. 1969	DWG. No. 1
DRAWN	G. L. W.	
SCALE	1" = 1250'	

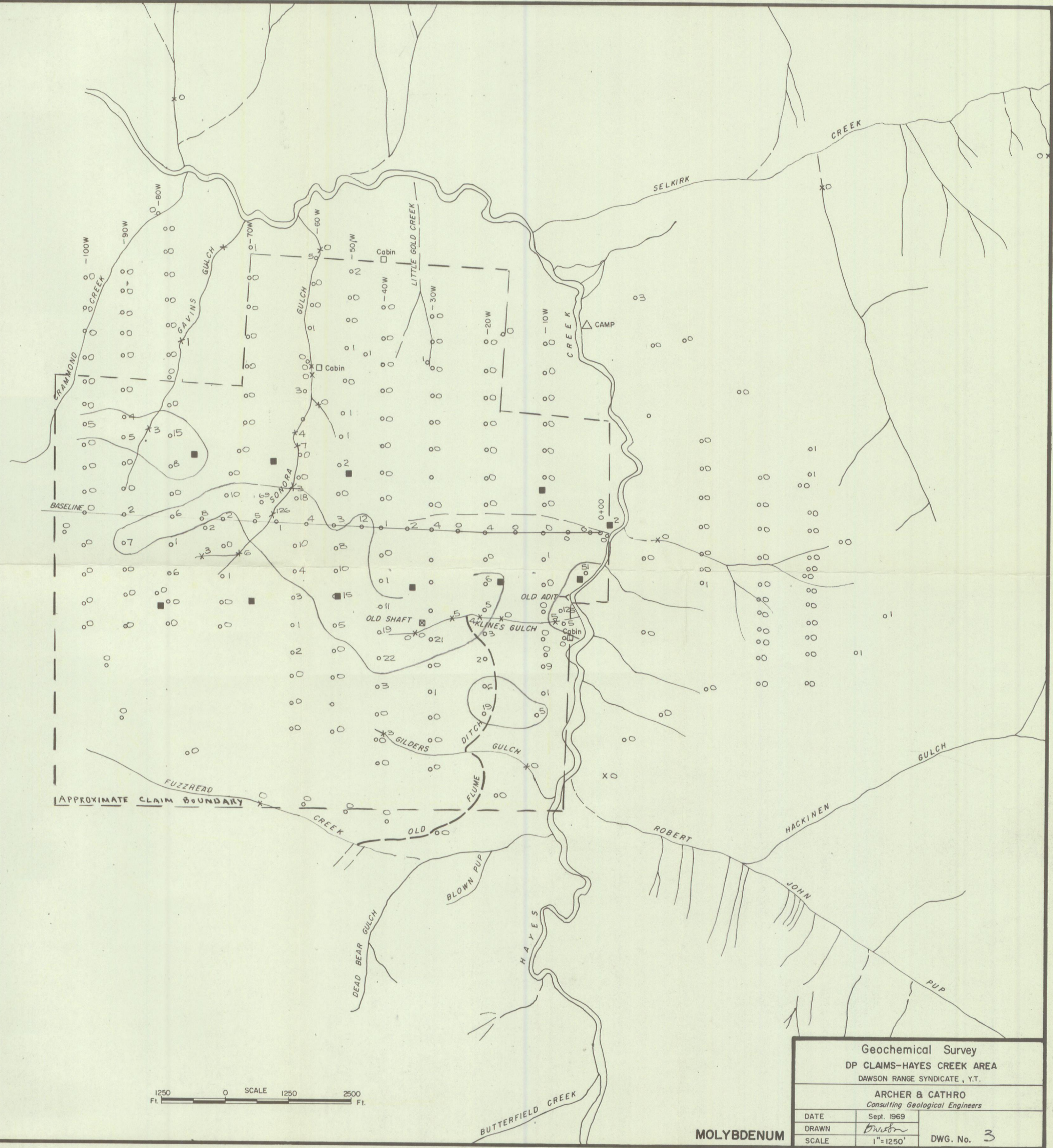
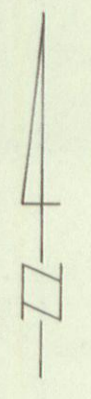


- CLAIM POSTS
- X SILT
- SOIL

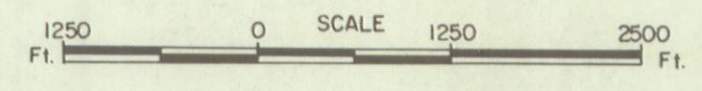


Geochemical Survey	
DP CLAIMS-HAYES CREEK AREA	
DAWSON RANGE SYNDICATE, Y.T.	
ARCHER & CATHRO	
Consulting Geological Engineers	
DATE	Sept. 1969
DRAWN	<i>D. Cathro</i>
SCALE	1"=1250'
DWG. No. 2	

COPPER



- CLAIM POSTS
- x SILT
- SOIL



Geochemical Survey
DP CLAIMS-HAYES CREEK AREA
 DAWSON RANGE SYNDICATE, Y.T.

ARCHER & CATHRO
 Consulting Geological Engineers

DATE	Sept. 1969	DWG. No. 3
DRAWN	<i>W. J. ...</i>	
SCALE	1"=1250'	

MOLYBDENUM