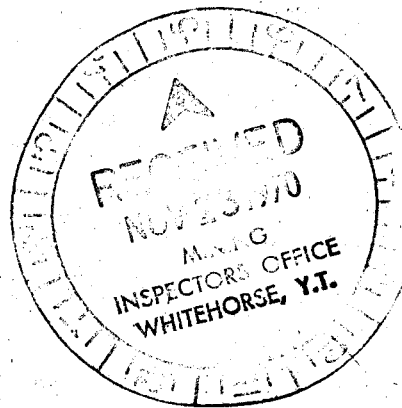


REPORT
 on the
 CROWN CLAIMS
 and
 KING, PRINCE & DUKE CLAIMS
 DAWSON RANGE, YUKON TERRITORY
 for
 ROCKLAND MINING LTD.



This report has been examined by the Geological Evaluation Unit and is recommended to the Commission to be considered as a preliminary estimate of value of

\$8000

J.B. Craig
 Director of Geology

Considered as reconnaissance work under Section 53 (4) Yukon Quartz Mining Act.

[Signature]
 Commissioner of Yukon Territory

by
 M.F. COWAN, M.Sc., P.Eng.

Vancouver, B.C.

August 4th, 1970.

56 45' 57 30' 58 15' 59 139° 00' 61 45' 62 30'



Universal Transverse Mercator Projection

All Elevations in Feet above Mean Sea Level
Contour interval 500 Feet

SNAG YUKON TERRITORY

Scale 1:250,000
1 Inch to 4 Miles Approximately



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PART I - CROWN CLAIMSSUMMARY AND CONCLUSIONS

The Crown claim group, comprising 46 claims situated some 17 miles west of Casino in the Dawson Range, Yukon Territory, is underlain dominantly by Precambrian metasediments. These include quartz-mica schist, gneissoid quartzite, and hornblende paragneiss. Klotassin granodiorite underlies the southern portion of the property, its contact with the metasediments having a generally west-northwesterly trend.

No mineralization of potentially economic significance was found in the intrusive rocks or adjoining metasediments and this is confirmed by negative results from the soil sampling.

RECOMMENDATIONS

In view of the negative results from both the geological mapping and soil sampling, no further work on the claims is recommended. It is recommended, however, that assessment work be filed and that the claims be held in anticipation of possible favourable developments in the area.

INTRODUCTION

The Crown group, situated some 18 air miles west of Casino, comprises 46 contiguous claims underlain by Precambrian meta-sediments and minor granodiorite of upper Cretaceous age.

The claims were examined by the writer during the period July 1st to 10th, 1970. Geological mapping and soil and silt sampling form the basis for this report. Base control was provided by chain and compass survey.

LOCATION AND ACCESS

The Crown group is in the Dawson Range, 200 air miles northwest of Whitehorse. The claims are located near the headwaters of Coffee Creek approximately 17 miles west of Casino.

Access is by charter fixed-wing aircraft from Whitehorse to the Casino airstrip and from there via charter helicopter. Several good helicopter landing sites exist along Coffee Creek where it crosses the southern portion of the claim property.

CLAIM SITUATION

The Crown group comprises 46 contiguous claims situated in the Whitehorse Mining District and named as follows:

Crown	90, 92, 94
	121-128 inclusive
	193-202 "
	267-276 "
	341-350 "
Gap	1-5

Crown claims 193, 195, 197, 199 and 201 overlap almost completely Crown claims 120, 122, 124, 126 and 128.

Title to the Crown claims listed above was searched and confirmed in the mining recorder's office in Whitehorse. The Gap claims were staked during the property examination to cover an open fraction in the claim group.

HISTORY

The Crown claims lie to the west of the area mapped by D.D. Cairnes and shown on G.S.C. map sheet entitled "Klotassin", published in 1916.

Published aeromagnetic maps are available for the area at a scale of 1 inch = 1 mile.

GENERAL FEATURES

The claims are in the Dawson Range, a topographically subdued, northwesterly trending mountain belt within the Yukon Plateau. The local terrain is unglaciated and valleys are characteristically V-shaped.

Elevations on the property range from 2500' to 4200' above sea level.

The entire claim group is below timberline. Forest cover is fairly dense in the valleys and side slopes. The extreme northern portion of the property is very sparsely treed with the dominant vegetation being thick buckbrush. Spruce is the dominant species of tree.

Black poplar, aspen, and white birch are found in the stream valleys, and aspen is abundant on the steeper dry slopes near the valley floor of Coffee Creek. Scrub birch is found at higher elevations where drainage is good. Willow and alder are thick in places along valley slopes.

North-facing slopes are invariably underlain by permafrost and covered by sparse, stunted spruce and thick moss.

Outcrop comprises less than one per cent of the terrain. Geological mapping is based essentially upon examination of residual bedrock fragments.

GEOLOGY (See Fig. 1)

Most of the property is underlain by northwesterly-striking metasediments of probable Precambrian age. These include mainly quartz-mica schist and gneiss, gneissoid quartzite and hornblende paragneiss. The regional trend of the metasediments correlates with the aeromagnetic trend for the area.

Quartz-mica schist is the dominant metasedimentary rock underlying the property. Its lithology is locally variable, ranging from quartz-sericite to quartz-biotite schist with some minor quartz-mica-chlorite schist. The schist is strongly contorted on a small and local scale. Regionally, it has a persistent northwesterly strike and steep to vertical dips.

Along the southern portion of the property the metasediments are in contact with the Klotassin granodiorite. It is a

medium to coarse-grained intrusive rock characterized by large euhedral hornblende crystals and abundant biotite.

MINERALIZATION

No mineralization of potentially economic significance was found in either the metasedimentary or intrusive rocks. The only sulfide observed during the property examination was minor pyrite in a few isolated occurrences within the metasediments. There is no apparent alteration of the intrusive rocks, which suggests that hydrothermal mineralizing solutions were never active in the rocks underlying the property.

GEOCHEMICAL SURVEY

Soil samples were taken over most of the property at 400' intervals along east-west lines spaced approximately 800' apart. They were analyzed for copper and molybdenum and results are plotted on the accompanying geological-geochemical map at a scale of 1" = 400'. No anomalous copper or molybdenum concentrations are apparent in the soil.

Twenty silt samples were taken from Coffee Creek and a number of side drainages but these failed to show any anomalous copper or molybdenum, both of which are considered to be excellent regional indicators in stream sediments at Casino.

PART II - KING, PRINCE & DUKE CLAIMS

SUMMARY AND CONCLUSIONS

The King, Prince & Duke claims, comprising 58 contiguous claims, situated some 9 miles west of Casino in the Dawson Range, Yukon Territory, are underlain by Precambrian metasediments, Klotassin granodiorite, and late-stage quartz-feldspar porphyry. The porphyry intrudes both the metasediments and granodiorite along their contact near the centre of the property.

Although results of soil sampling over the porphyry intrusive were negative, and no sulfides were discovered in it, the abundant hematite- and goethite-filled, small disseminated pits in many of the surface fragments indicate the former presence of disseminated sulfides that have been leached out of the near-surface rocks. It is possible that the soil samples were taken over a barren pyrite zone within the porphyry.

RECOMMENDATIONS

Because the ground is close to the Casino deposit, and the porphyry intrusives in the area are potential hosts for ore, it is recommended that the outlined porphyry be further examined in detail. More detailed soil sampling should be carried out and it is recommended that a reputable geochemical consulting firm be engaged to advise on a detailed geochemical survey.

INTRODUCTION

The King, Prince & Duke claims are situated some 9 miles west of Casino and comprise 58 contiguous claims, underlain by Precambrian metasediments, Klotassin granodiorite, and quartz-feldspar porphyry.

The property was examined by the writer during the period July 11th to July 21st, 1970. Geological mapping and soil and silt sampling formed the basis for this report. Base control was provided by chain and compass survey.

LOCATION AND ACCESS

The property is in the Dawson Range, 190 air miles northwest of Whitehorse. The claims are located along and to the east of the main south branch of Coffee Creek, approximately 9 miles westerly from Casino.

Access is by charter fixed-wing aircraft from Whitehorse to the Casino airstrip and from there via charter helicopter. Helicopter landings can be made at several locations in the two main stream valleys cutting the property. A bulldozer trail which leads west from Casino passes within about 3 miles to the east of the property. A bulldozer could easily be walked into the property from this trail.

CLAIM SITUATION

The property comprises 58 contiguous claims situated in the Whitehorse Mining District and named as follows:

King	17-32 inclusive	
Prince	1-16	"
Duke	1-16	"
Tie	1-10	"

The Queen claims numbered 1 to 16 inclusive almost completely overlap the Hole claims which were staked prior, and therefore the Queen claims are invalid except for a small portion of ground on the southwest edge of the Hole group. Title to the King, Queen, Prince and Duke claims was searched and confirmed in the mining recorder's office in Whitehorse. The Tie claims were staked during the examination to cover open fractions in the claim group.

HISTORY

The area was mapped at a scale of 1 inch = 2 miles by D.D. Cairnes of the G.S.C. and is shown on the Klotassin map sheet, published in 1916. The sheet indicates the main contact between the Klotassin granodiorite and the metasediments.

Published aeromagnetic maps are available for the area at a scale of 1 inch = 1 mile.

GENERAL FEATURES

The claims are in the Dawson Range, a topographically subdued, northwesterly-trending mountain belt within the Yukon Plateau. The local terrain is unglaciated and valleys are characteristically V-shaped.

Elevations on the property range from 2500' to 3500' above sea level.

The entire claim group is below timberline, and approximately three-quarters of the area is covered by both recent and old burns. The Prince claims, to the north of their location line, are covered by a recent burn and traversing the area is difficult due to thick down timber. Portions of the Duke and King claims cover older burns where vegetation consists of sparse to thick aspen saplings and willow. The area underlain by the porphyry is for the most part covered with this type of vegetation. A few stream gullies on the King claims contain fairly mature stands of spruce, birch, and poplar.

The north-facing slopes are covered with generally sparse scrub spruce and thick moss and are underlain by permafrost.

Outcrop comprises less than one per cent of the terrain. Geological mapping is facilitated, however, by the scattered but fairly abundant residual bedrock fragments over most of the area.

GEOLOGY
(See Fig. 2)

The property is underlain by westerly-striking metasediments of probable Precambrian age, and by granodiorite and quartz-feldspar porphyry.

The metasediments, the regional trend of which correlates approximately with the aeromagnetic trend in the area, exhibit considerable lithologic variety and no attempt was made to break them down into mappable units. The most prominent types are banded quartzite, gneissoid quartzite, quartz-mica schist, and hornblende paragneiss. Minor amphibolite was noted also.

The metasediments are in contact with Klotassin granodiorite along the centre of the property. The contact trends in a general east-west direction. The granodiorite is lithologically identical with that found on the Crown claim group 8 miles to the west, and is characterized by large euhedral hornblende crystals and abundant biotite in places.

Both the metasediments and the granodiorite are intruded along their contact by a late stage quartz-feldspar porphyry. Dimensions of the porphyry, as inferred from mapping of surface fragments, are 4000' x 800', as shown on the accompanying map (Fig. 2). The porphyry is characterized by abundant rounded quartz "eyes" and euhedral orthoclase crystals up to an inch in length. Most, but not all, of the larger orthoclase crystals have been weathered out of the surface fragments, leaving hollow casts of the original crystal form. The smaller feldspar crystals of the groundmass are completely altered to clay in most of the rock.

MINERALIZATION

No sulfides were seen in the porphyry but their former existence is indicated by small disseminated pits filled with hematite or goethite, and by hematite-stained surface fragments. Examination of surface fragments does not indicate a pervasive gossan, but the pitting of the rock is fairly widespread.

No alteration of the adjacent granodiorite or metasediments was noted, but outcrop in the vicinity of the inferred contact is non-existent, and rock fragments there are not particularly abundant. With traverses spaced at 800' intervals, a narrower zone of alteration could have been missed.

Much of the quartzite and quartz-mica schist is slightly rust stained but no sulfides were seen in these rocks.

GEOCHEMICAL SURVEY

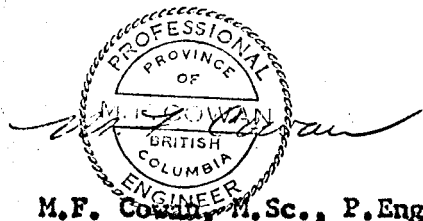
Soil samples were taken over most of the property at 400' intervals along lines spaced approximately 800' apart. Results of analyses for copper and molybdenum are shown on the accompanying geological-geochemical map at a scale of 1" = 400'. No significantly anomalous copper or molybdenum concentrations are apparent.

The negative results over the porphyry intrusive are both disappointing and intriguing. The evidence for the former presence of sulfides in the porphyry suggests that the soil might contain at least a different copper background value from that over the adjacent

granodiorite, but this is not apparent. The effect, if any, of the burn on the soil profile in the area is not known. Soil samples were taken from very shallow depths in the area, usually about 6", and it is difficult to explain a leached upper soil profile. Since the geological and geochemical evidence are not entirely in accord, further geochemical investigation may help to assess more definitely the economic potential of the porphyry.

Respectfully submitted,

BACON & CROWHURST LTD.



M.F. Cowan, M.Sc., P.Eng.

APPENDIX ALIST OF CLAIMSCLAIM SHEET 115-J-4

<u>Crown No.</u>	<u>Recorded Claim No.</u>	<u>Registration Date</u>
90	Y43418	16 April 70
92	Y43420	"
94	Y43422	"
121	Y43449	"
122	50	"
123	51	"
124	52	"
125	53	"
126	54	"
127	55	"
128	56	"
193	Y43521	"
194	22	"
195	23	"
196	24	"
197	25	"
198	26	"
199	27	"
200	28	"
201	29	"
202	30	"
267	Y43595	"
268	96	"
269	97	"
270	98	"
271	99	"
272	Y43600	"
273	01	"
274	02	"
275	03	"
276	04	"
341	Y43669	"
342	70	"
343	71	"
344	72	"
345	73	"
346	74	"
347	75	"
348	76	"
349	77	"
350	78	"

<u>King No.</u>	<u>Recorded Claim No.</u>	<u>Registration Date</u>
17	Y41482	
to	to	16 April 70
32	Y41497	

<u>Queen No.</u>	<u>Recorded Claim No.</u>	<u>Registration Date</u>
1	Y43209	"
to	to	
16	Y43224	

<u>Prince No.</u>	<u>Recorded Claim No.</u>	<u>Registration Date</u>
1	Y43193	"
to	to	
16	Y43208	

<u>Duke No.</u>	<u>Recorded Claim No.</u>	<u>Registration Date</u>
1	Y43225	"
to	to	
16	Y43240	

APPENDIX B

TABLE OF GEOLOGICAL FORMATIONS

Jurassic or later - Klotassin granodiorite.

Precambrian (?) - Yukon Group metasediments, quartz-mica schist
and gneiss, gneissoid quartzite, hornblende
paragneiss.

APPENDIX C

NAMES AND ADDRESSES OF ALL PEOPLE EMPLOYED IN PERFORMING THE WORK

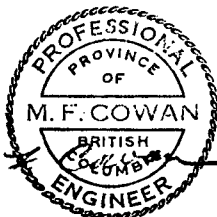
1. M.F. Cowan, M.Sc., P.Eng.
1720 - 1055 W. Hastings Street,
Vancouver, 1, B.C.

2. S.I. MacKay,
2676 Oliver Crescent,
Vancouver, 8, B.C.

CERTIFICATION

I, Michael F. Cowan, of the City of Vancouver
in the Province of British Columbia, DO HEREBY CERTIFY THAT

1. I am a registered Professional Engineer in the Province of British Columbia.
2. I am a graduate of Michigan Technological University, Houghton, Michigan, with a Bachelor of Science degree (1963) in Geological Engineering.
3. I am a graduate of Queen's University, Kingston, Ontario, with a Master of Science degree (1966) in Geology.
4. I have been practising my profession as a geological engineer since 1963 in Ontario, British Columbia, Northwest Territories, Yukon Territory, Alaska, and Montana.
5. I have no interest directly or indirectly in the mineral claims of Rockland Mining Ltd., nor do I expect to receive any.
6. The information contained herein was compiled during examination of the ground between July 1st and July 21st, 1970.


M.F. Cowan, M.Sc., P.Eng.

The seal is circular with a double-line border. The outer ring contains the text 'PROFESSIONAL ENGINEER' at the top and 'BRITISH COLUMBIA' at the bottom. The inner circle contains 'PROVINCE OF' at the top, 'M. F. COWAN' in the center, and 'BRITISH COLUMBIA' at the bottom. A signature 'M.F.' is written across the seal.

Vancouver, Canada,
August 4th, 1970.

STATEMENT OF EXPENDITURES

The following expenditures are submitted as being applicable to the filing of assessment work on the Crown claims, and the King, Prince, Duke, and Tie claims of Rockland Mining Ltd.:

Invoices to Rockland Mining Ltd.

June 30, 1970	\$1676.67*	
July 31, 1970	5096.76*	
Sept. 21, 1970	801.16*	
Nov. 20, 1970	<u>771.77*</u>	
	8346.36	\$8346.36

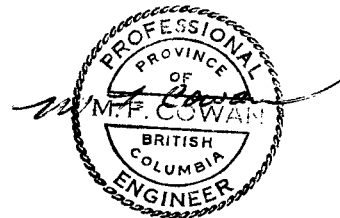
* Applicable amounts only, taken from invoices as attached.

Incurred expenses paid directly by Rockland Mining Ltd., and not shown on above invoices:

Trans North Turbo Air invoice No. 340-70	\$256.31	
Yukon Airways Ltd. charter ticket No. 1371	85.05	
Arrow Tent & Awning Co. Ltd. invoice No. 1973	<u>24.95</u>	
	366.31	<u>366.31</u>

Total amount claimed for assessment work \$8712.67

It is requested that \$8000.00 of this amount be applied as assessment work as shown under "Disbursement of Assessment Work".

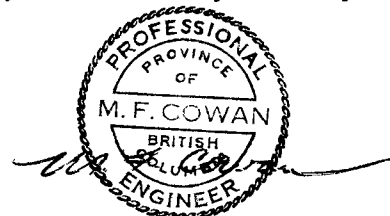


DISBURSEMENT OF ASSESSMENT WORK

CROWN CLAIMS, AND KING, PRINCE, DUKE AND TIE CLAIMS
of
ROCKLAND MINING LTD.

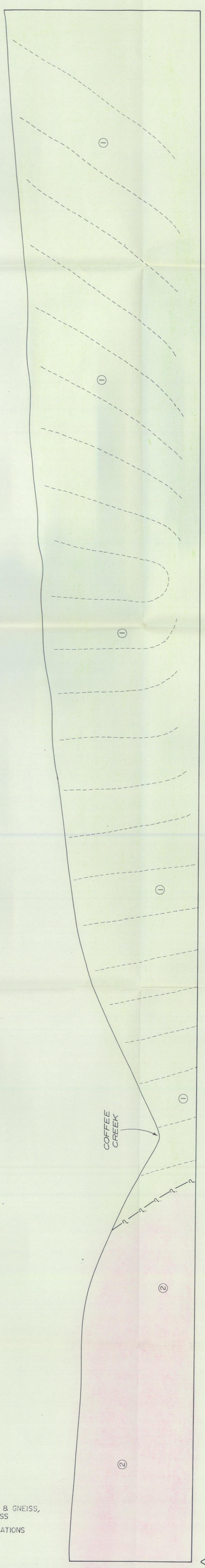
<u>Group*</u>	<u>Geological-Geochemical Survey Dollar Equivalents</u>
1	3000
2	2400
3	<u>2600</u>
Total	8000

In applying the above breakdown of costs to assessment work on the two properties (Crown claims and King, Prince, Duke and Tie claims), I am noting the fact that costs were proportionately higher for the examination of the latter property due to a larger quantity of soil samples being taken and a statistical study of assay results being made. The major portion of my post-field time was spent in appraising the potential of the latter property, and so the dollar equivalents are roughly proportional to the actual costs of the geological-geochemical surveys on the respective properties.

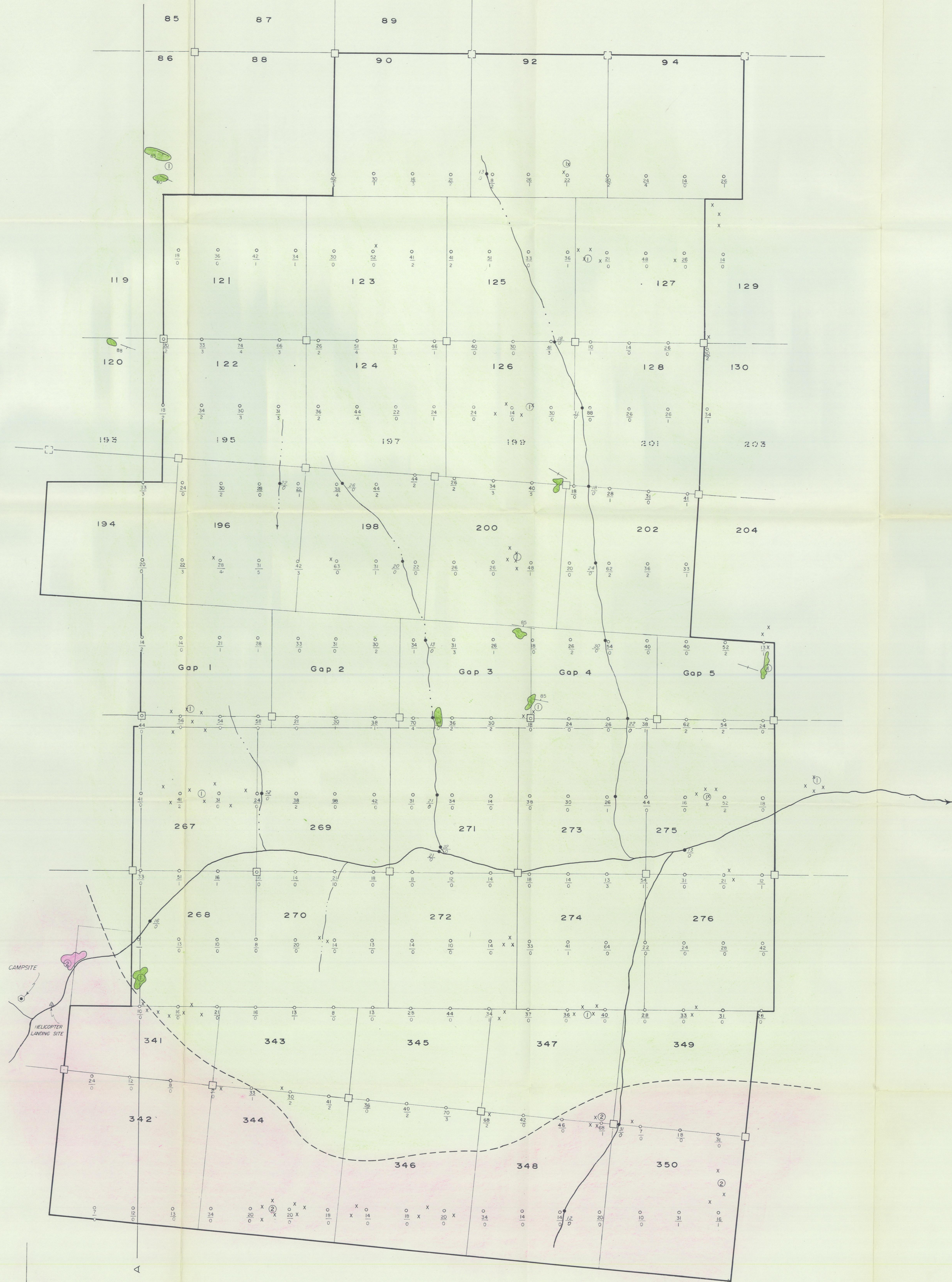


M.F. Cowan

* Number penciled in upper left corner of Grouping Certificates, and "C" forms.



VERTICAL CROSS SECTION AA' LOOKING WEST

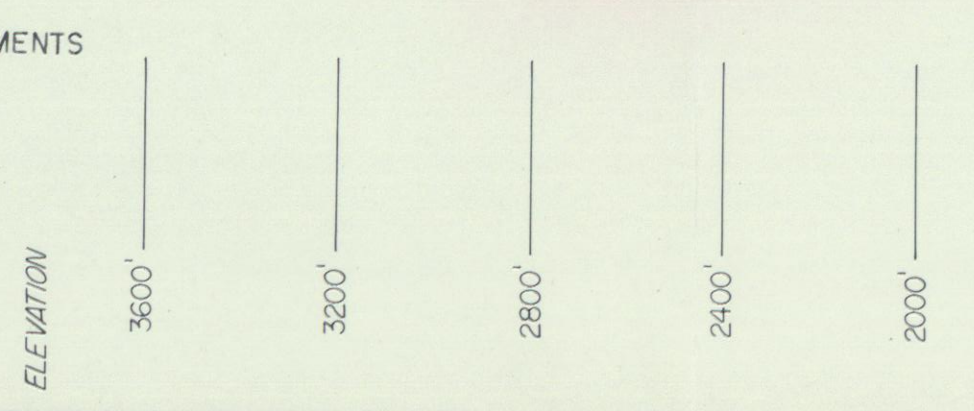


62° 46' 2"

139° 23'

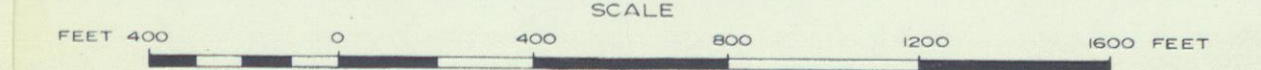
LEGEND

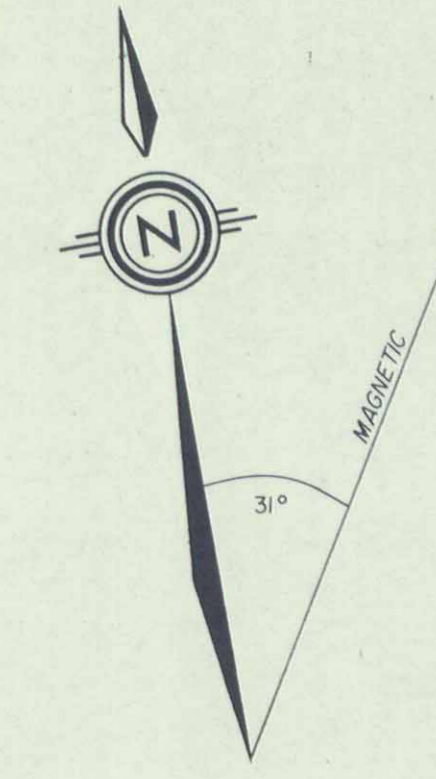
- KLOTASSIN GRANODIORITE
- METASEDIMENTS: QUARTZ-MICA SCHIST & GNEISS, HORNBLende PARAGNEISS
- CLAIM POSTS; OBSERVED, INFERRED LOCATIONS
- GEOLOGICAL CONTACT
- SOIL, SILT SAMPLE LOCATION
- ppm COPPER
- ppm MOLYBDENUM
- STRIKE & DIP OF METASEDIMENTS
- PROPERTY OUTLINE
- OUTCROP
- ROCK FRAGMENTS



WORK DONE BY M.F. COWAN, M.Sc. P.Eng

BACON & CROWHURST LTD.
VANCOUVER, BRITISH COLUMBIA
ROCKLAND MINING LTD.
GEOLOGICAL AND GEOCHEMICAL MAP
CROWN CLAIMS
DAWSON RANGE
YUKON, TERRITORY



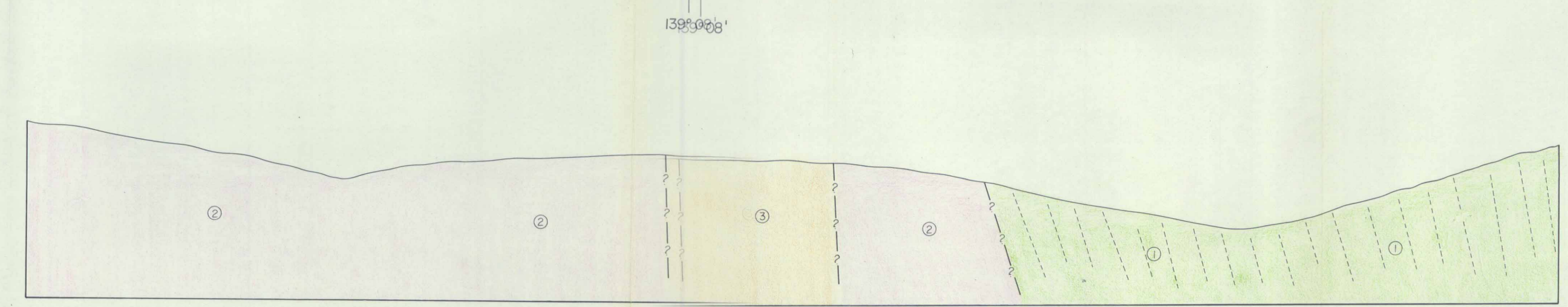


62°45'

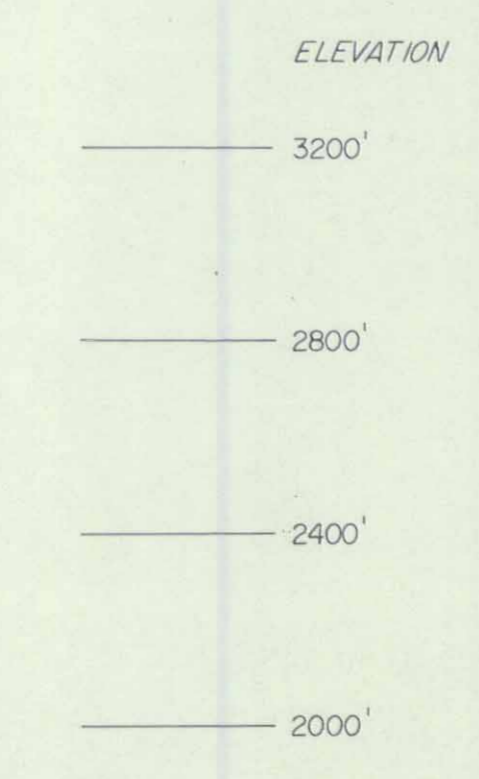


LEGEND

- QUARTZ FELDSPAR PORPHYRY
- KLOTASSIN GRANODIORITE
- METASEDIMENTS: QUARTZ MICA SCHIST & GNEISS, GNEISSOID QUARTZITE, BANDED QUARTZITE, HORNBLENDE PARAGNEISS, MINOR AMPHIBOLITE
- CLAIM POSTS, OBSERVED
- GEOLOGICAL CONTACT, INFERRED
- SOIL, SILT SAMPLE LOCATION
- 24 ppm COPPER
- 2 ppm MOLYBDENUM
- STRIKE & DIP OF METASEDIMENTS
- SWAMP
- OUTCROP
- ROCK FRAGMENTS



VERTICAL CROSS SECTION AA' LOOKING WEST
WORKING DONE BY M.F. COWAN, M.S., P.E.T.



BACON & CROWHURST LTD
VANCOUVER, BRITISH COLUMBIA
ROCKLAND MINING LTD.
GEOLOGICAL AND GEOCHEMICAL MAP
PRINCE, DUKE, KING CLAIMS
DAWSON RANGE
YUKON TERRITORY
SCALE
FEET 400 0 400 800 1200 1600 FEET

