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REPORT ON PHASE I
IN THE EXPLORATION

of

"HAWK" MINERAL CLAIMS

Merritt, B.C.

(Nicola M.C.)

by

H. E. Madeisky, Geologist

for

Rodstrom Yellowknife Mines Ltd. (N.P.L.)

Vancouver, B.C.

November 26, 1970

INTRODUCTION:

In accordance with the recommendations of H. Cohen, P.Eng., phase I in the exploration of the Hawk M.C.'s has been completed under the supervision of the writer. This initial programme involved trenching, geological mapping, E.M. and Magnetometer surveys and two short (BQ wireline) diamond drill holes.

This report is a supplement to the writers earlier report on the Hawk M.C.'s (Nov. 4, 1970), and its purpose is to summarize the work done to date, outline some of its findings and provide a guideline for further exploration.

SUMMARY OF EXPLORATION WORK:

Trenching, using a D-8 Cat and a D-7 Cat with powershift and ripper, was done at the site of the Taylor Pit and in its vicinity (Hawk #4 M.C.). An access road to the DDH#1 and #2 sites was bulldozed and repairs made to the access road to the property.

The trenching involved the opening up of some of the old trenches in the area, as well as opening up new trenches (Taylor Pit area). In many cases the overburden depth exceeded 25 feet and the trenches were abandoned.

The trenches at and near the Taylor Pit (DDH#1) are in bedrock and yielded considerable mineralization. A grid 2,800' x 2,000' was cut and picketed (200' & 400' linespacing, 100' (hor) stations, bearing of baseline 360°_T , crosslines 270°_T)

This grid covers the area of the new trenching. Geological mapping with

emphasis on structure was carried out along this grid, all mineralized areas sampled by means of channel sampling. A suite of the rocks in the area was collected, and is being submitted for thinsection examination. (Due to the intense alteration in all of the rocks, the descriptions used must be considered approximate).

An E.M. Survey, using a RONKA-15 instrument, and a magnetometer survey, using a SHARPE-MF1 instrument, has been completed over the above grid.

Two diamond drill holes (BQ wireline) are presently being drilled. D.D.H. #1 has been completed, the recovered core is split and currently being assayed. (Core log will be submitted after thinsection examination, along with the assay results).

D.D.H.#1 - depth: 201 feet, angle: -50° , direction: 270°_T

D.D.H.#2 is currently being drilled

D.D.H.#2 depth (to date): 215 ft, angle: -45° , direction: 270°_T

Due to the presence of cobalt in the area (2 1/2" shear, N-S direction, vertical dip - Channel sample across 6" = 10.8% cobalt) Spot samples from the DDH#1 core were checked for cobalt - approximate cobalt content 100 - 150 parts per million (.01% Co).

DISCUSSION OF RESULTS:

As mentioned in the writers earlier report, trenching in the vicinity of the Taylor Pit yielded considerable mineralization.

This mineralization, in form of chalcopyrite, secondary chalcocite and

malachite, occurs in bands (or shears) of siliceous actinolitic breccia and chloritic marble skarn. All mineralization found to date is hydrothermal fracture filling and minor amounts of replacement in the marble. The mineralization is situated in the nose of one or several dragfolds. The grades, ranging from 3.5% to .3%, are directly proportional to the intensity of the folding and the subsequent shearing and brecciation; also, the limy rocks tend to contain more chalcopyrite than the siliceous rocks.

This fold (s) is a direct result of thrust-faulting along a N-S fault. The fault line probably delineates the axis of an anticlinal flexure. This flexure is S shaped, 2,500' long by 1,000' wide with its long axis striking N-S. The southern curvature of this flexure is faulted off by an E-W lateral fault, with eastern displacement of the S side.

It is believed that this folding and faulting occurred during the emplacement of the Guichon batholith and the Coyle stock. Based on structural observation, the limestones, limy faults and altered greywackies (siliceous breccia) are the oldest rocks in the area.

To date, the drilling completed, failed to intersect the mineralization seen on the surface.

This is due to an altered diorite occupying the core of the fold, in which the mineralization occurred. It is quite possible that this diorite (?) is the source of the mineralization on the surface, although this cannot be established with any certainty until the thinsection examination has been completed.

The E.M. Survey outlined a conductor of approximately 1,400 feet in length and 400 feet in width, following the axis of the anticlinal flexure. A

finely disseminated, non-magnetic iron sulphide, belonging to the pyrrhotite group, found in the diorite, is probably the source of this anomaly.

The magnetometer survey along the same grid, did not locate the E.M. anomaly, thus placing the conductor in the non-magnetic range. Presently the grid is too small to see any pattern in the magnetometer results.

The presence of pyrite, as well as chalcopyrite in some of the rocks confirms the validity of an old I.P. Survey.

CONCLUSION AND RECOMMENDATION:

The trenching done to date opened up areas of mineralization, that were outlined by an old I.P. Survey and the newly completed E.M. Survey.

The combination of E.M. and Magnetometer has proven to be very useful in, outlining conductors and establishing their magnetic properties.

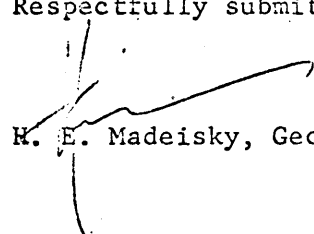
The geological mapping has provided a clear structural picture of the (more geological mapping will be required).

Based on the present findings, it is the opinion of this writer, that further exploration of the Hawk M.C.'s should be carried out in the following manner:

- 1) extending the present grid (400' x 100') to cover the entire Hawk M.C.'s.
- 2) E.M. and Magnetometer Survey along this grid.
- 3) pending E.M. and Magnetometer findings, detailed I.P. Survey to check out anomalies.
- 4) pending I.P. results, diamond drilling (BQ wireline) to follow up anomalies - total footage ~~not~~ exceed 5,000 feet.

- 5) conversion of key claims Hawk # 2, 3, 4, 5, 6; & 7 to mineral leases, to avoid property dispute due to overstaking, etc. (this should be undertaken before December 9, 1970 when the assesment work on the Hawk M.C.'s in due, as it will change the assesment requirements.
- 6) Evaluation of all results and appraisal of property in form of Engineers report.

Respectfully submitted,



H. E. Madeisky, Geologist.

Vancouver, B.C.
November 26, 1970.

APPENDIX TO REPORT ON

HAWK MINERAL CLAIMS

by

H. E. MADEISKY

(dated November 26, 1970)

SUMMARY

The trenching completed to date, located the following areas of mineralization:

Taylor Pit No. 1 Trench -

The bands of actinolitic siliceous chert and chloritized marble, bearing some disseminated pyrite, secondary chalcocite, malachite grade over a 6-foot channel sample in the chloritic marble 3.32% copper and in two 6-foot parallel bands in the actinolite siliceous chert 1.46% copper. These mineralized areas are heavily sheared and brecciated. The mineralization found on this location appears to occupy the nose of a dragfold.

Taylor Pit No. 2 Trench -

One 2-3" wide shear is filled with pyrrhotite, cobaltite, erytherite, secondary chalcocite and malachite. The channel sampled across six inches assayed 10.8% cobalt, .05 nickel and .20 copper. The mineralization in this shear is hydrothermal; the origin of the cobalt is unknown.

South-trenches

One approximately 60-foot wide north-south band ore shear pannel of mixed actinolitic siliceous chert and chloritized marble lenses bears chalcopyrite secondary chalcocite and malachite. A channel sample over 60 feet assayed .64% copper. This band or zone is traced through the middle and lower south trenches. It assays .7% copper and .39% copper respectively over a width of

60 feet. A second band of mineralization in the lower south trench composed of a five-foot band of siliceous chert and a three and one-half foot shear zone was uncovered by further trenching. These assay .11% copper and .50% copper respectively. In the middle south trench a 15-foot wide oxidized shear zone was sampled, assaying .17% copper over 15 feet.

In the Taylor Pit west trench a five-foot section of actinolitic chert with some malachite staining was sampled, assaying .04% copper.

All the copper mineralization found to date is hydrothermal fracture filling, and it occurs in the nose of one or several large dragfolds.

A previous I. P. survey (September, 1962) outlines the mineralization found to date (see attached I. P. map) This survey shows an anomalous zone of high chargeabilities (5 to 19 ms) approximately 7200 feet long by 2400 feet wide, trending north-east. This zone conforms to the overall structure of this area and probably represents the core of a large anticlinal fold. This also leads to the conclusion, that mineralization in this area is confined to structural zones, i. e. folds, brecciated zones in the cores of folds and associated shearing and faulting. On the basis of this survey eleven diamond drill holes were recommended to follow up some of these anomalies (see attached I; P. recommendations). To date these recommendations have not been carried out.

Two short diamond drill holes were drilled at the Taylor Pit No. 1 trench and the east end of the Upper South trench. Both holes intersected approximately one hundred feet of sparsely mineralized siliceous rock and then intersected an altered diorite. This diorite carries a well disseminated non-magnetic iron sulphide of the pyrrhotite group. Spot checks for cobalt in this diorite assayed .01% cobalt, which is unusually high for this rock type.

A grid 2000 feet by 2800 feet with 200 foot line spacing was cut over the mineralized area to provide control for geological mapping and geophysical surveys.

An E-M survey along this grid, using a Ronka-16 instrument, outlined a conductor 1400 feet long and 400 feet wide. This conductor conforms to the geological structure. A magnetometer survey, using a Sharp MF-1 instrument, was carried out along the same grid in order to establish the magnetic properties of this conductor. The results clearly indicate that this conductor is non-magnetic, and is probably the semi-continuous iron sulphide in the diorite.

The combination of E-M and magnetometer surveys and the drilling completed to date lead to the conclusion that the mineralized dragfold, seen on the surface, has been completely intruded by the diorite which is either the cause for the surface mineralization, or destroyed the sulphides that were present in the dragfold before the intrusion. The access of this intrusive is north-south, parallel to major north-south thrust fault. This intrusive is believed to be post-mineral. Other folds in this area do not show evidence of strong north-south faulting, and there is reason to believe that these folds are not intruded by this diorite.

In conclusion, it has been established that the geophysical methods used in the exploration of this property are extremely useful in locating areas of sulphide mineralization and in establishing the relationship of this mineralization to the geological structure.

RECOMMENDATIONS

Based on the work done on this property by Rodstrom Yellowknife Mines Ltd (NPL) and others before them, it is the recommendation of this writer, that the following programme be carried out in order to locate areas of sulphide mineralization and pin-point drill targets recommended in the previous I. P. report.

1.	Extension of the present grid to 1500 feet east and 5500 feet west of the present base line and south to 40+00 South on the base line, comprising a total grid of 7000 x 4000 feet with 400-foot line spacing and 100-foot stations. 12 1/2 line miles at \$100.00/mile	\$ 1,250.00
2.	E-M survey along this grid using a Ronka 16 instrument, to extend the present survey and locate further conductors as well as aid, in the compilation of structural information of this area, and to pin-point drill targets 12 1/2 miles at \$50.00/mile	\$ 625.00
3.	Magnetometer survey using a Sharp MF-1 instrument along same grid in order to establish the magnetic properties of the E-M conductors and the IP anomalies. 12 1/2 miles at \$50.00/mile	\$ 625.00
4.	Continuation of geological mapping and assaying	\$ 3,000.00
5.	BQ wireline drilling to follow up anomalies after interpretation of IP, E-M and magnetometer surveys. Maximum 5000 feet at \$10/ft	\$50,000.00
		<hr/> \$55,500.00
	Contingencies	<hr/> 5,555.00
		<hr/> <hr/> \$61,055.00

Respectfully submitted,

H. E. Madeisky



November 30, 1970

Vancouver, B. C.

INTRODUCTION:

From Oct. 8, 1970 to Oct. 14, 1970. The writer examined the trenching that was in progress on the Hawk Mineral Claims. This trenching consisted of opening up old trenches that had been put in a number of years ago in order to establish the geological structure of the area and to locate possible mineralization.

LOCATION & ACCESS

The Hawk No. 7 to Hawk No. 35 Mineral claims are located on the SW slope of Promontory Mtn, near Merritt, B.C. These claims are easily accessible by a forestry service Road. A number of old logging roads allow easy access to all parts of the property.

GENERAL GEOLOGY

The property is underlain by a series of interbedded limestones, limey tuffs and feldspathic tuffs of the Nicola Series.

On the SE side the property bounds in the vicinity of the contract between these tuff and limestone beds and the Guichon Batholith. On the NW side the property bounds in the vicinity of the contract between the Nicola Limestones Series and tuffs and the Spences Bridge Group volcanics and lavas. Throughout the property there are bands and lenses of chloritic andesite. A thrustfault runs N 20° W through the middle of the property at the old "Taylor Pit". The alteration in the vicinity of this fault is moderate on the NW side and intense on the SE side.

THE TRENCHES

The majority of the old reopened trenches, clearly outlines the structure of this area, ^{cut} ~~that~~ failed to yield any mineralization. However on the basis of the information gained from these trenches, the writer recommended the opening of new trenches at the old " Taylor Pit." directly

SE of the Fault line. These trenches were put in perpendicular to the bedding and the fault zone. These trenches yielded a considerable amount of mineralization.

The results of the trenching are as follows:

No. 1 Taylor Pit Trench (See Fig. 2)

The trench is 200' long bearing approx. 330° NW. The rocks exposed are interbedded limestones, limey tuffs and feldspathic tuffs. These beds are heavily sheared and fractured and for the most part chloritically altered. Minor Hematite alteration is also present in the form of specular Hematite. Interbedded with these altered tuffs and limestones are 3 bands of chloritic marble skarn each approx. 6' thick. These skarn bands are well mineralized with chalcopyrite and bornite and some specular hematite. Malachite and limonite are the oxidation products, although no metal sulphides have been observed. The wall rocks on both sides of the skarn bands are heavily oxidized with malachite. Samples representing the approximate grade of these skarn banks have been submitted for assays with the following results

Cu 3.32 % , Zn .01 % and Cu 1.46 % , Zn trace.

The rocks exposed in this trench are heavily oxidized and leached and therefore the Cu and Zn content of fresh rock may well be somewhat higher.

THE S-TRENCHES

3 Trenches were put in approx. 300' S of the Taylor Pit No. 1 Trench. These trenches show a similar interbedded sequence as the Taylor Pit No. 1 Trench, with 2 Chloritic Marble skarn bands, one approx. 60' wide and one approx. 3' wide. The Mineralization is identical to the one found in the Taylor Pit No. 1 Trench.

Although in the instance the Mineralization is more uniformly distributed through the skarn zone and some sulphides were found in the wall rock. Samples were taken from the upper, middle and lower trench, representative of the 60' skarn zone. These samples were submitted for assays with the following results:

upper S-Trench	Cu .64%	Zn .02%
middle S-Trench	Cu .70%	Zn .01%
lower S-Trench	Cu .32%	Zn .02%

Field observation leads to the conclusion that the zone lies parallel to the one described in the "Taylor Pit" No. 1 Trench. This outlines a zone of skarn banks approx. 350' wide bounded by the fault to the NW and open in length to the SW and NE as well as, in width to the SE.

It is interesting to note that the strike of these bands is in line with Craigmont Mines Ltd. Like Craigmont this Mineralization is of the Hydro thermal replacement type.

CONCLUSION AND RECOMMENDATION

A previously unknown zone of Chloritic marble skarns bearing sulphides of copper has been located on the Hawk Claims. This zone is in the Nicola Series Rocks which, as in the case of Craigmont Mines, are a favourable host rock for mineralization of that type.

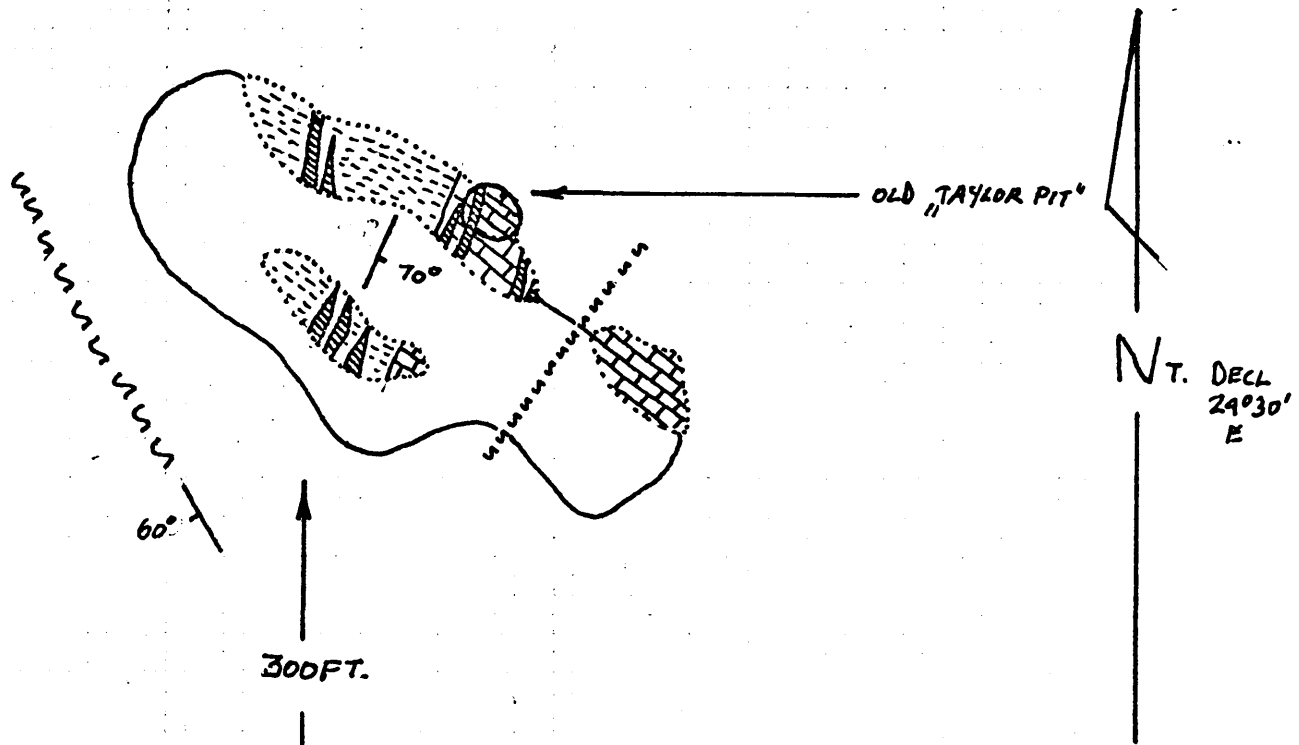
Although previous exploration work on this property did not disclose the presence of this zone, it would be wise, in view of the new find, to re-evaluate the results of this work area.

Pending this evaluation, further trenching, follow-up geochem and some short hole drilling would yield the necessary information to give direction to further exploration and aid in the appraisal of future potential of this property.




Respectfully Submitted

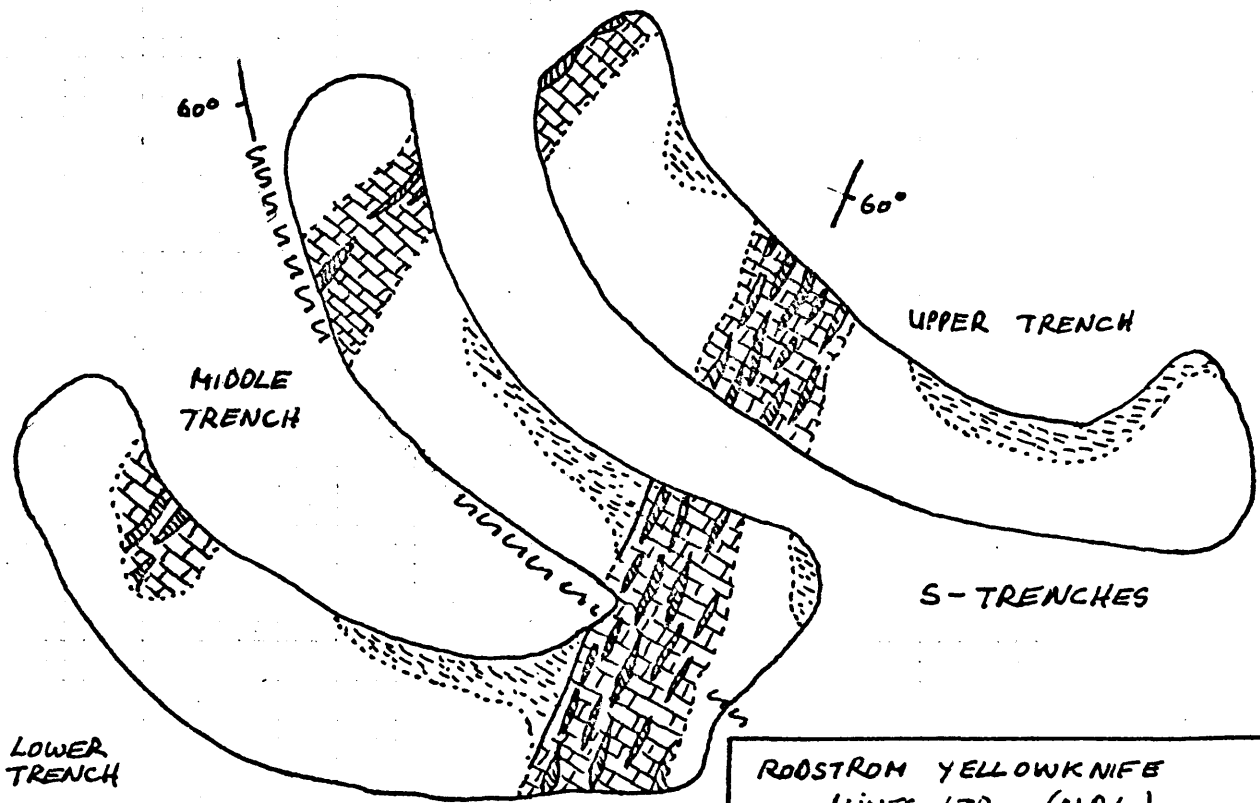
H.E. Madeisky, Geologist

"TAYLOR PIT" NO. 1 TRENCH



LEGEND:

-  LIMESTONE
-  LINEY TUFFS
-  SKARN ZONE



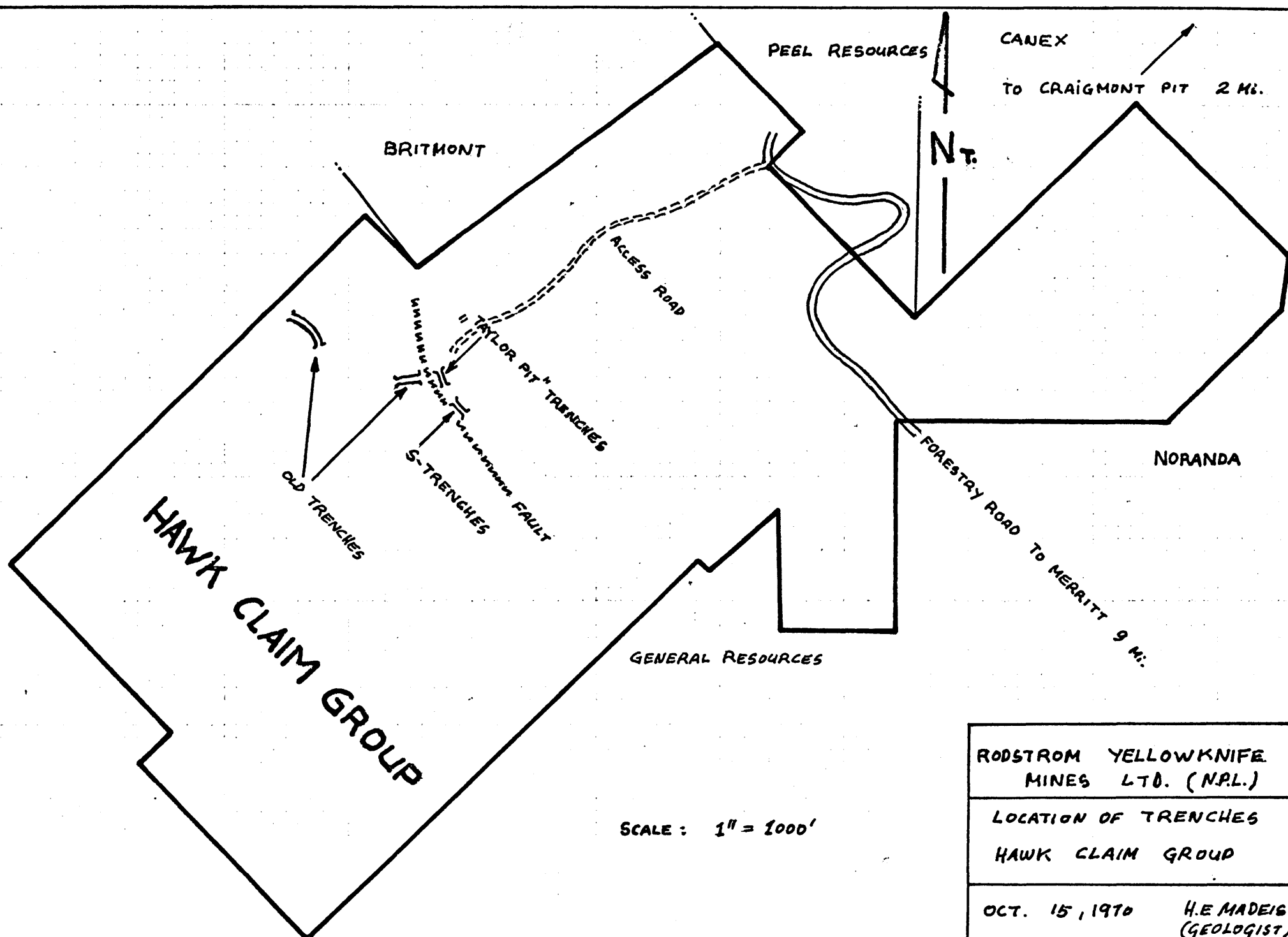
SCALE 1" = 50' approx.

ROOSTROM YELLOWKNIFE
MINES LTD. (N.P.L.)

GEOLOGICAL SKETCH OF
TRENCHES (FIG. 2)

OCT. 15, 1970

H.E. MADEISKY
(GEOLOGIST)



HAWK CLAIM GROUP

SCALE : 1" = 1000'

RODSTROM YELLOWKNIFE MINES LTD. (N.P.L.)	
LOCATION OF TRENCHES HAWK CLAIM GROUP	
OCT. 15, 1970	H.E. MADEISKY (GEOLOGIST)