



31M13NW0106 83A.310 CATHARINE

010

Some drifting was done on a wide (24 foot) quartz vein, 200 ft south of the shaft. With the exception of a small high grade pocket, gold values were low.

TOPOGRAPHY:

The relief on this property is relatively low; with large areas covered by alder swamps. Some open bog occurs along the south boundary.

The mantle of overburden in the outcrop areas is relatively light; and consists principally of boulder clays and gravels.

The forest cover is principally poplar and birch with occasional patches of spruce and tamarack.

GENERAL GEOLOGY:

The claims are entirely underlain by Precambrian formations. The earliest formations are of Keewatin age, and consist of basaltic lavas (for the most part pillowed), diabase sills, and finely banded tuffs.

These are cut by feldspar porphyry and aplite dikes of the Algomian period.

One narrow Keweenawan quartz diabase dike (4" - 8" in width) was found cutting the basaltic pillow lava.

TABLE OF FORMATIONS

QUATERNARY

Glacial and Recent: Boulder Clay, Gravel.

PRE-CAMBRIAN

Keweenawan: Quartz Diabase.

Algomian: Feldspar Porphyry, Aplite Dikes.

Keewatin: Basalt (Ellipsoidal), Diabase, Tuff.

The Keweenawan diabase is a fine grained quartz-diabase rock. It is much fresher in appearance than the Keewatin diabase sills, and cuts across the strike of the formations.

The Algomian feldspar porphyry dike is a light-weathering rock with a grey-green matrix and abundant albite feldspar phenocrysts.

The aplite dikes are pink, fine-grained and contain quartz, orthoclase feldspar and minor amounts of muscovite. Both of the above formations intrude the Keewatin basalts and diabase.

The basaltic pillow lavas are the predominant Keewatin formations. These lavas, amygdaloidal and spherulitic in some places, are principally dark green and chloritic, although widespread carbonization was noted on Claim L.58806. Coarse amphibolitic basalt occurs on Claim L.58803.

The Keewatin diabase sills are, for the most part, coarse grained and extensively altered to chlorite. Considerable gradation is noted along the contact of this diabase with the basaltic flows; and the contacts are obscure at many points.

A narrow band of finely bedded siliceous tuffs, striking S.10°E. was observed on Claims L.58805 and L.58808.

Quartz veins of Algomian age intrude all formations except the Keweenawian diabase. These veins are largely of the quartz-albite-tourmaline variety with varying amounts of carbonate (ankerite).

For the most part, the country rock is lightly sheared and the vein contacts are tight with little alteration extending into the wall rock.

While many of the smaller fissures show no sulphide mineralization, some of the larger veins are heavily mineralized with pyrite, chalcopyrite, specularite; and show minor amounts of pyrrhotite.

Traces of visible gold were noted in specimens on the dump. Some quartz-breccia zones were noted, but these appeared to lack continuity.

STRUCTURAL AND ECONOMIC GEOLOGY:

In general, the Keewatin basalts, diabase sills and banded tuffs have a northwest-southeasterly trend.

Well developed pillows were observed on several outcrops, and these indicated that the flows faced northeast to east. Dips were indeterminate. A considerable variety of strike was noted in the feldspar-porphry and aplite dikes.

No prominent faults were noted; and the formations are lightly sheared. For this reason, the fissure margins show little fracturing and little replacement of the wall rocks.

As indicated above, the quartz-albite-tourmaline veins are predominantly of the fissure-filling type.

Although a great variety of strikes and dips was noted in these veins, the majority had east-west or southeast-northwest strikes.

Twenty-eight quartz or quartz-breccia veins were examined; and these were traced along strike for distances varying from 15 feet to 1400 feet. Width on surface varied from a few inches to 8 feet. These veins have been designated on the accompanying map by the Roman numerals I, II,XXVIII. In addition, a number of lesser narrow (1 in. - 3 in.) stringers were observed.

In order to sample the quartz veins, water was pumped from the old trenches and debris removed. The veins were then carefully channel sampled with particular attention paid to the veins with the better sulphide mineralization, greater widths and extent.

The veins with their approximate dimensions, strikes, dips and sample distribution are tabulated below:

VEIN	STRIKE (MAG.)	APPROX. DIP	LENGTH TRACED (FEET)	WIDTH	NO. OF SAMPLES
I	S.75°E.	80°S.	1400	3 ft. - 8 ft.	5
II	E-W	Vertical	50	4 ft.	1
III	S.55°E.	Vertical	600	3 ft. - 4 ft.	3
IV	N.70°E.	70°S.	175	1 ft. - 3 ft.	2
V	S.E.-N.W.	Vertical	25	6 inches	-
VI	E-W	Vertical	15	18 inches	2
VII	S.30°E.	Vertical	450	3 ins.- 6 ins.	2
VIII	S.30°E.	Vertical	150	6 inches	1
IX	S.35°E.	75° S.W.	350	1 ft. - 4 ft.	3
X	N.80°E.	Vertical	25	6 inches	2
XI	S.25°E.	Vertical	250	3 ft. - 8 ft.	5
XII	N.65°E.	65°S.	250	4 ft. - 8 ft.	11
XIII	N.W.-S.E.	Vertical	75	6 ft.	1
XIV	N.35°E.	Vertical	30	3 ft.	1
XV	S.35°E.	60°S.W.	125	2 ft. - 3 ft.	-
XVI	N.70°E.	Vertical	225	4 ft. - 6 ft.	5
XVII	N-S	Vertical	15	24 inches	2
XVIII	N-S	Vertical	35	12 inches	-
XIX	S.65°E.	Vertical	280	4 ft.	6
XX	E-W	Vertical	60	4 inches	1
XXI	S.70°E.	80°S.	90	2 ft.	1
XXII	S.40°E.	Vertical	35	3 ft.	1
XXIII	S.70°E	Vertical	250	2 ft. - 3 ft.	1
XXIV	S.65°E.	Vertical	25	8 inches	1
XXV	S.20°E	Vertical	25	4 inches	-
XXVI	S.35°E	Vertical	15	1 ins. - 3 ins.	-
XXVII	S.40°E	Vertical	20	12 inches	-
XXVIII	N.E.-S.W.	Vertical	40	6 inches	-
Total					57

It will be noted from the geological plan and the above tabulation that Veins No. 1,3,9,11,12,16 and 19 are strong lenses of good width and extent. Considerable trenching has been done on these veins, and good pyrite mineralization was noted. Nos. 12 and 16 may be the same fissure.

The 57 samples taken on the quartz veins were assayed for gold and silver; but only two of these gave gold values and none, silver.

Sample C14 from No. 11 Vein gave 0.21 ozs. of gold.
Sample C32 from No. 3 Vein gave 0.01 ozs. of gold.

Summary and Conclusion

The property examined is underlain by Precambrian formations which are predominantly basalts, diabases and tuffs of Keewatin age. These are cut by Algonian quartz veins, feldspar porphyries,

aplite dikes and a Keweenaw diabase dike. The rocks are
largely sheared and display little faulting.

Many quartz veins of the fissure-filling type were observed
on the property, and several of these (notably, Nos. 1, 3, 9,
11, 12, 16 and 19) are of considerable width and extent.

Samples from these veins gave, with one exception, poor gold
and silver values, despite the fact that small specks of
visible gold were noted in samples on the dump, and a high
grade gold pocket was reported in the 500-level underground
workings.

The failure to find widespread distribution of the gold min-
eralization may be attributable to the lack of major struct-
ural features such as shears, faults or folds which could
provide structural control for ore deposition.

Respectfully submitted,



H. A. Pearson, B.A.

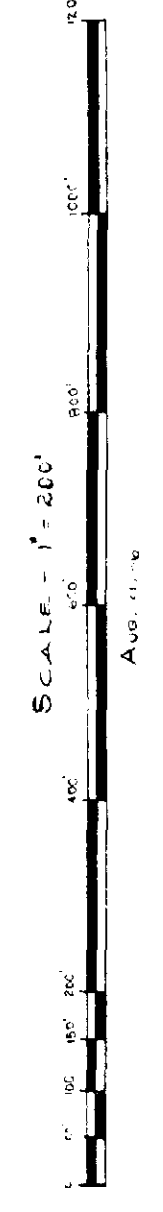
HAP/vt

GEOLOGICAL PLAN
OF
G.H. CLARE CLAIM GROUP

CLAIMS 58803-58810 INCLUSIVE

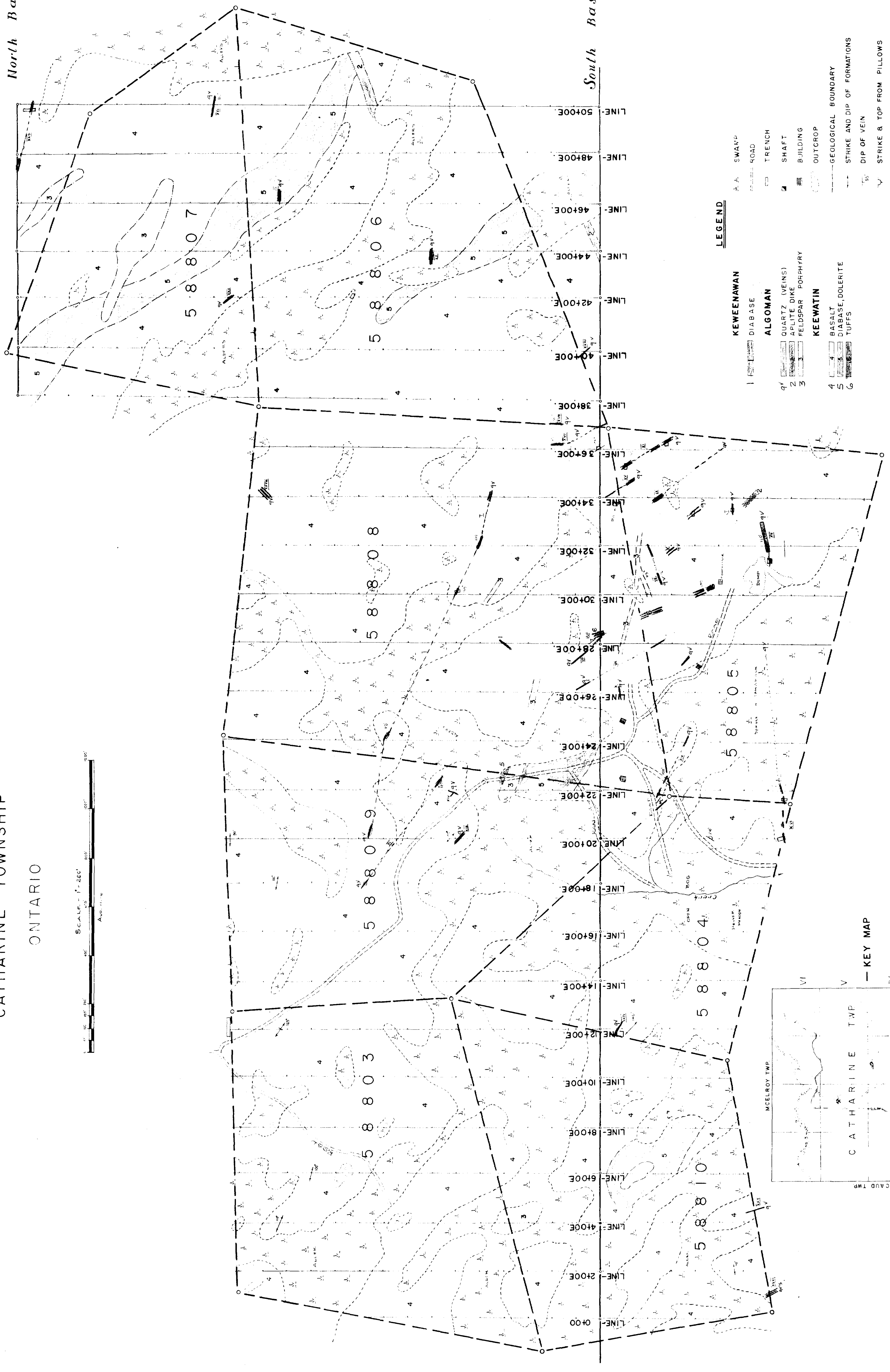
CATHARINE TOWNSHIP

ONTARIO



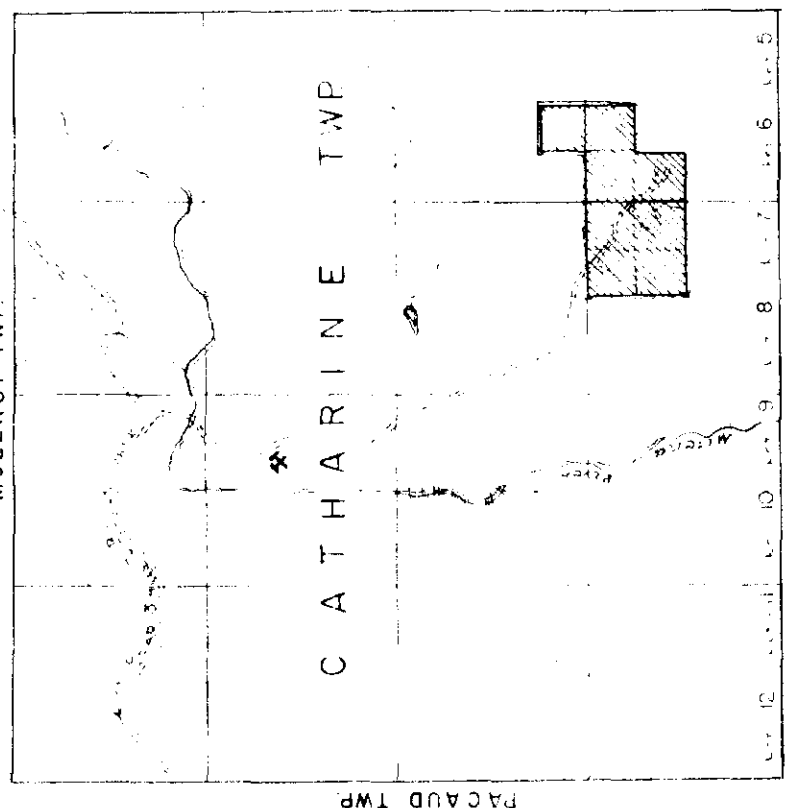
North Base Line

South Base Line

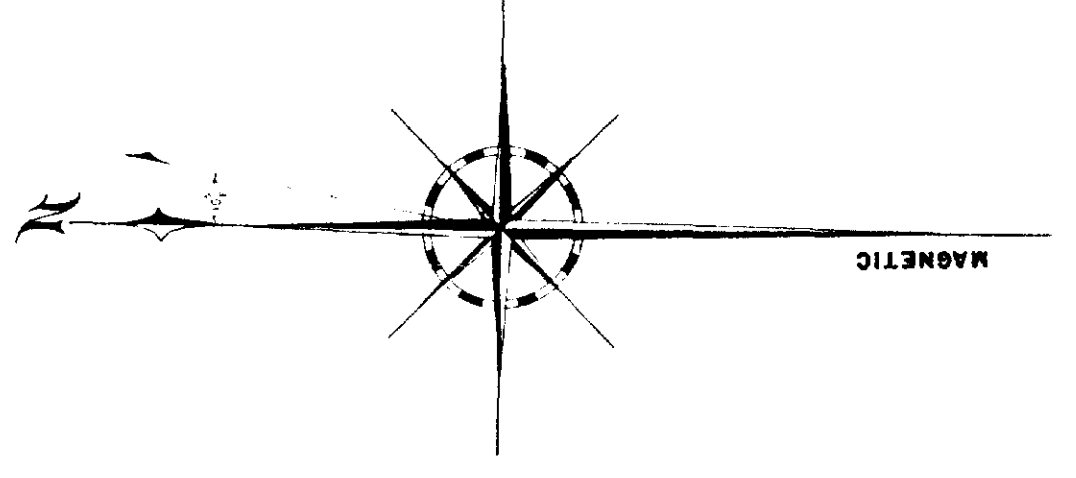


LEGEND

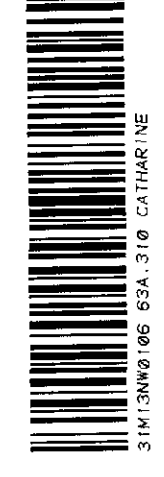
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|--------|---------------|-------------------|-------------------|---------------------|------------------------------|
| SWAMPS | DIABASE | TRENCH | SHAFT | BUILDING | OUTCROP |
| ROAD | QUARTZ (VENS) | APLITE DIKE | FELDSPAR PORPHYRY | GEOLOGICAL BOUNDARY | STRIKE AND DIP OF FORMATIONS |
| FAULT | BASALT | DIABASE, DOLERITE | TUFFS | DIP OF VEN | STRIKE & TOP FROM PILLOWS |



— KEY MAP



GEOLOGY BY *W. A. G. ...*
DATE OF SURVEY JULY 23 - AUG 7, '56



200