63A:310

GEOLOGICAL REPORT

ON THE

G. H. CLARE GROUP

(8 claims)

CATHARINE TOWNSHIP - ONTARIO

INTRODUCTION:

During the period July 23 - August 7 (inclusive) 1956, a geological program consisting of mapping, channel sampling, cleaning out trenches, was conducted on 8 claims of the G. H. Clare Group, Catharine Township, Ontario. To carry out the mapping, an east-west base-line was cut, and north-south picket lines cut at 200-foot intervals. These lines, and likewise the claim lines, were systematically traversed.

THE PROPERTY:

The group surveyed consists of 8 claims, L.58803-L.58810, inclusive; and is located in Lots 6 and 7, Concessions III and IV of Catharine Township. Located approximately 9 miles, by road, from Boston Creek Ontario, the property is accessible from that town by unsurfaced township roads and a jeep road.

The owner of the property is Mr. George H. Clare, Suite 617, 62 Richmond Street West, Toronto, who is submitting this survey for assessment work.

EXPLORATION AND DEVELOPMENT OF THE PROPERTY:

Considerable development work had been carried out, previously, on this property during the period 1926-1935. Several diamond drill holes (at least 8) were bored. Logs and locations of all these holes are not available at the present time. In excess of 30 quartz veins are reported to have been found; and several large trenches have been blasted out, as indicated on the accompanying geological plan.

In an attempt to explore Veins No. 12 and No. 14, a shaft was sunk to a depth of 525 feet at an inclination of 66° corresponding to the estimated dip of No. 12 Vein. No. 12 vein was in the shaft down to a depth of 100 feet at which point it passed into the footwall of the shaft. A loading pocket was cut below the 500 foot level, and approximately 1200 feet of development work completed on the 500-foot level according to Mr. George Silvester who was Managing Director of the property at that time. Of the original camp, only the compressor, office, living quarters and stable remain. Tracks, air and water lines are still in the shaft.

Work on the 500-foot level failed to pick up the downward extension of No. 12 Vein, although a large fault was encountered in the projected position of the vein.

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 Algoman period.

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

TABLE OF FORMATIONS

QUARTERNARY	
Glacial and Recent:	Boulder Clay, Gravel.
PRE-CAMBRIAN	
Keweenawan:	Quartz Diabase.
Algoman:	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 Algoman 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 Algoman age intrude all formations except the Keweenawan 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-porphyry 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 Algoman quartz veins, feldspar porphyries,

aplite dikes and a Keweenawan diabase dike. The rocks are lightly 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 mineralization may be attributable to the lack of major structural features such as shears, faults or folds which could provide structural control for ore deposition.

Respectfully submitted,

H. A. Pearson

HAP/vt

H. A. Pearson, B.A.

GEOLOGICAL PLAN

OF

G.H.CLARE CLAIM GROUP

CLAIMS 58803-58810 INCLUSIVE

CATHARINE TOWNSHIP

ONTARIO

SCALE - 1" = 200'

North Base Line

5 8 8 0 3 | 5 8 8 0 9 | 5 8 8 0 8 | 5 8 8 0 7 | 5 8 8 0 6

5 8 8 1 0 | 5 8 8 0 4 | 5 8 8 0 5

LINE 0+00 | LINE 2+00E. | LINE 4+00E. | LINE 6+00E. | LINE 8+00E. | LINE 10+00E. | LINE 12+00E. | LINE 14+00E. | LINE 16+00E. | LINE 18+00E. | LINE 20+00E. | LINE 22+00E. | LINE 24+00E. | LINE 26+00E. | LINE 28+00E. | LINE 30+00E. | LINE 32+00E. | LINE 34+00E. | LINE 36+00E. | LINE 38+00E. | LINE 40+00E. | LINE 42+00E. | LINE 44+00E. | LINE 46+00E. | LINE 48+00E. | LINE 50+00E.

South Base Line

MCELROY TWP.

CATHARINE TWP.

PACAUD TWP.

— KEY MAP

LEGEND

KEWEENAWAN

1 DIABASE

ALGOMAN

qv QUARTZ (VEINS)

2 APLITE DIKE

3 FELDSPAR PORPHYRY

KEEWATIN

4 BASALT

5 DIABASE, DOLERITE

6 TUFFS

SWAMP

ROAD

TRENCH

SHAFT

BUILDING

OUTCROP

GEOLOGICAL BOUNDARY

STRIKE AND DIP OF FORMATIONS

DIP OF VEIN

STRIKE & TOP FROM PILLOWS

MAGNETIC

GEOLOGY BY Hartley B.A.

DATE OF SURVEY JULY 23 - AUG 7 '56

1" = 200'