Geology of Part of the Cedartree Claim Group Metalore Resources Limited

(August - September/ 2004)

East Cedartree Lake Area
Dogpaw Lake (G-2613)

Northwestern Ontario

NTS: 52-F-5

DEC 2004

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GEOLOGY OF PART OF THE CEDARTREE CLAIM GROUP
METALORE RESOURCES INC.

Introduction

Geological mapping of about six square kilometers of Metalore's Cedartree Lake property was carried out during parts of August and September, 2004. The area, which lies abut 60km southeast of Kenora, Ontario, includes parts of claims 1149803, 1178821-22, 1215870, 1221143-44, 1231819-20 and 1239485. It roughly coincides with the VLF survey area which used the same grid and which was conducted in the previous year. Work was hampered by extremely wet weather.

Principal access to the area is by the Cameron Lake Road which passes through the northern part of the claim group. Secondary access, by foot, was along a road routed to lay a pipe designed to bring water from Purewater Lake to a facility near the Cameron Lake Road at a point about 12 ½ km east of Highway 71. All parts of the area are accessible from Cedartree Lake, and the southeast part is accessible from Little Stephen Lake.

Location of examined outcrop was facilitated by grid lines approximately 100 metres apart, and supplemented by air photographs at a scale of 1:20 000. The east-west baseline from Cedartree Lake to the pipeline road extends east into a very wet lowland south of Sunfish Lake. Unfortunately, to the east of the lowland, the baseline was offset about 125 metres to the north so that lines 25E to 28E, south of Sunfish Lake, are effectively on a separate grid. An east-west tie line is well cut 750 metres north of the western base line; between 25E and 26E a large wet lowland may be skirted by crossing a beaver dam.

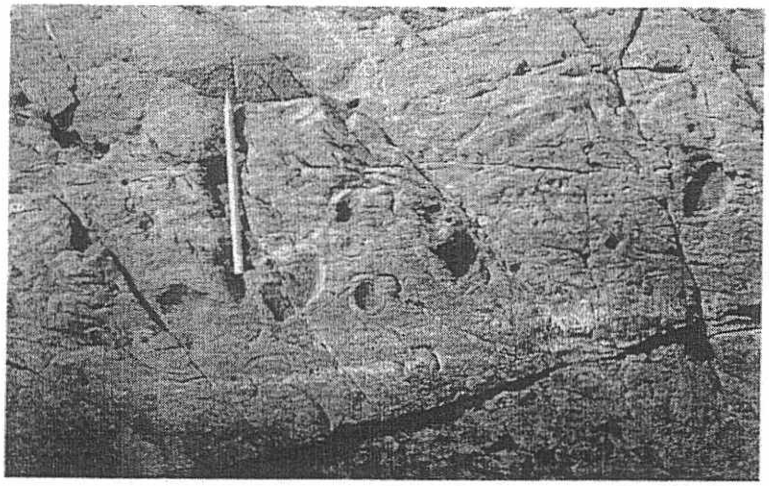
Figure 1: Cedartree Lake looking northwest from gabbro hill west of Purewater Lake.

Topography in the area is relatively rugged, with gabbroic rocks forming high resistant hills. Peridotite also forms resistant hills, especially in the northeast part of the area adjacent to the Cameron Lake Road. Areas of pyroclastic rocks are typically more subdued, topographically.

Bedrock is all Precambrian, the volcanic fragmentals having been dated at 2.712 billion years and the Stephen Lake intrusion at 2.698 billion years (G. Edwards, personal communication). The Cedartree Lake area and surrounding areas have all been mapped by the Ontario Geological Survey.

Basalt

The intermediate volcaniclastic pile of the Kakagi-Cedartree lakes overlies a thick sequence of basaltic flows but is, itself, virtually devoid of mafic volcanic interlayers. In the Cedartree group no mappable units of basalt were recognized, but basalt was identified in several places.



2.30865

Figure 2: Amygdaloidal basalt east shore Anvil Peninsula.

At the southeast contact of the Anvil Peninsula gabbro sill, at the shore and west of line 19E, a thin basaltic layer between tuff beds contains, near its east (top) boundary, many undistorted orbicular features 1-3cm across. These are probably amygdales. Such features could only be surficial, and so the rock must be a volcanic flow. Similarly, at the shore of Cedartree Lake some 200 metres south of the baseline, fine basaltic rock is present. One outcrop about a metre across, appears to consist of three pillows with deep weathering between them.

Within the gabbro of the two sills there are many places where the grain size is about 1mm, and it is possible that these represent enclosed blocks of basalt. Similarly, within the Stephen Lake diorite/quartz diorite are areas of mafic rock with grain size not exceeding 1mm, and these are considered to be blocks of basalt in the pluton.

Intermediate to Felsic Volcanic Rocks

Much of the area is underlain by light-colored volcanic rocks. A small amount of this represents dacitic or rhyolitic flows; the vast bulk consists of intermediate to felsic fragmentals. Included are massive fine ash flows, lapilli tuff and tuff-breccia with lesser amounts of thin-bedded tuff and associated chert.

Most of the coarser clastic rocks consist of light-colored fragments in a matrix of similar to slightly darker color, which may have been deposited sub-aerially. Some have light-colored fragments in a distinctly darker matrix, considered to be due to prolonged reaction of the matrix with magnesium-rich sea water. Less common are dark fragments in a lighter matrix, e.g. along or to the south of the Cameron Lake Road from 26E to 29E, and these are probably due to felsic eruption through mafic rocks. Cherts, where present, represent slow settling or precipitation from silica-saturated sea water between explosive volcanic events. Thus the environment of deposition fluctuated between shallow seas and low-elevation land.

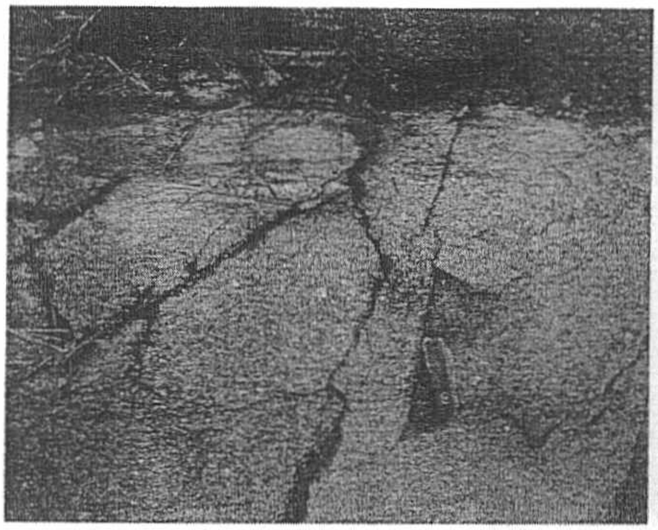


Figure 3: Massive tuff, shore of Cedartree Lake

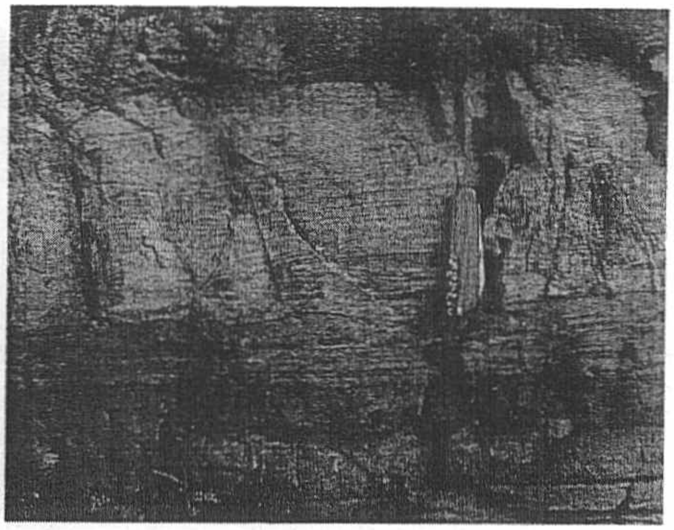


Figure 4: Chert, line 28E and 680S

The mapping of individual flows would be extremely difficult in the area, partly because of lack of outcrop continuity, but also because a cover of moss and lichen sometimes make it labor intensive to determine if a clastic rock is coarse or fine. In the area of Stephen and Little Stephen lakes to the east, Davies and Morin (1976) were able to trace individual ignimbrite units and spherulitic ash flows over considerable distances. One ignimbrite was located at the extreme southeast corner of the present map area, at the outlet of Purewater Lake, and trends north-northeast.

Mafic and Ultramafic Sills

Essentially concordant bodies of mafic and ultramafic rocks occur at five different stratigraphic horizons within the regional pyroclastic sequence. Four of these consist, at least in part, of a basal peridotite and an overlying gabbro. Davies and Morin (1976) identified them from lowermost (#1) to the west of Cedertree Lake, a second (#2) through central Cedartree Lake, a third (#3) through Sunfish Lake, a fourth (#4) lies to the south of Purewater Lake, and a fifth (#5) to the south of Stephen Lake.

Although pyroxenite of sill #2 was originally mapped along the northwest shore of Anvil Peninsula, during the present work the steep faces near the shore were not examined and the outcrops seen back from shore were all gabbro. Grain size is not uniform. In most outcrops the grains are 2-5mm, but near the north end of the peninsula grain size of 1-2mm was noted in places. Near the northwest shore there is an increase in grain size and mafic content, probably reflecting a gradational contact with pyroxenite. At or near the peninsula's southeast shore a pegmatite phase of the gabbro, with some quartz and long acicular amphiboles, was noted in a few places. The gabbro shows no preferred orientation of constituent minerals.

The nature of the contact with the enclosing volcanics is not simple. While the gross outline is concordant it appears in detail that thin slices of the volcanics lie within the sill near the contact. These slices are partly bounded by shears which parallel the strike of layering in the tuff, but may dip at an angle to the tuff. Near the point where 17E runs into the lake, about 550N, the tuffs dip steeply east and some shears dip west. Similarly, hole 4-02 intersected the gabbro at a depth of 40m and at a point some 15m west of the anticipated contact, suggesting a west dip to the sill and, hence, non-concordancy.

At the northeast extremity of Cedartree Lake, sill #2 enters a broad zone of east-west shearing. Here the fabric changes, with amphiboles aligned more nearly to the shearing, and the sill pinches out to the east.

Sill #3 extends diagonally across the area and consists of gabbro with an approximate width of 300m, and underlying peridotite with an approximate width of 200m. In the northeast part of the area the sill is interpreted to have been offset sinistrally by a north-trending fault. In the vicinity of Purewater Lake faulting may also account for the apparent thickening of the gabbro.

Anorthositic gabbro is present at the west edge of the gabbro sill to the north of the northeast corner of Sunfish Lake and also about 300m west of Purewater Lake. It also occurs at the east contact of the gabbro near the shore of Purewater Lake. This suggests that the sill is not a single in-place differentiated intrusion, but more likely multiple intrusions. This could also account for the variation in grain size.

The peridotite/pyroxenite sill appears to be continuous in the north half of the area, but to the west of the Sunfish Lake southern wetland it terminates abruptly against fragmental volcanics and chert. Faulting almost certainly has to be invoked to explain this termination, but surface mapping has not disclosed the offset portion. Hole 4-06 intersected peridotite beneath the western part of the wetland, indicating distinct widening of the peridotite on the northeast side of the fault, possibly due to structural complications.

East of the northeast corner of the map-area the peridotite of sill #3 is offset dextrally by a southeast-trending fault parallel to the Cameron Lake fault.

Diorite and Granodiorite

Grey weathering medium-grained diorite outcrops in three areas between lines 23E and 24E, and 350N to 950N. It consists of equigranular 2 to 5mm amphibole and plagioclase, with minor quartz in places. Associated with this diorite is finer-grained granodiorite containing much fine pyrite.

The southern outcrops suggest an oval-shaped intrusion with an area of about 3½ hectares, but hole 3-13 demonstrates that tuff and metasediment project through this body and divide it into two smaller intrusions, one about 1 ½ hectares and the other half the size, though they may be connected at depth. Both are elongate parallel to bedding in the enclosing tuffs.

A third intrusion outcrops at the shore of Cedartree Lake and 950N. While it is altered and fragmented, with shearing and quartz-carbonate veining, the intrusive nature is evident in the core of holes 3-09 and 3-12.

Diorite with 3 to 6mm amphiboles in a 1 to 2mm mass of amphibole and plagioclase is found in a larger body between 25E and 29E, from 950N to 1100N. Outcrops, and hole 3-08, suggest this body is more elongate east-west with an area of about 5 hectares, but with an arm that extends to the northeast. Within the arm is granodiorite similar to the southern bodies, and the extreme end has been thoroughly carbonatized with much silica and pyrite. This diorite body is considered to have been intruded at the same time as the more-southern diorites, and may be connected at depth.

Granodiorite outcrops also on line 24E at 1050N where a large trench and small pits have been sunk. The rock is light grey to pink, medium to coarse grained and has been stressed by east-west fracturing. An outcrop of white-weathering granodiorite occurs on line 25E, about 200m to the northeast, and the granodiorite may be continuous between the two outcrops. It also occurs in drill hole 3-12, indicating a probable northeast strike length of 350m (550m if the outcrop at 1330N on 26E is part of the same dike.

A larger outcrop of granodiorite has been crossed by line 27E at 1500N. This weathers white to light grey and is characterized by rusty spots where pyrite grains lie at the surface. The granodiorite contains randomly-oriented biotite but appears stressed. Fine fractures are present and some contain minor quartz veins.

A similar pyrite-bearing granodiorite occurs on a small point on Flint Lake where it is intersected by line 29E. The fine- to medium-grained rock weathers orange-grey, probably due to the pyrite, which appears to be more abundant in the least altered zones than in the east-trending sheared equivalents.

Late Mafic Dikes

Locally fine mafic dikes cut the volcanic rocks. Structural controls are not apparent.

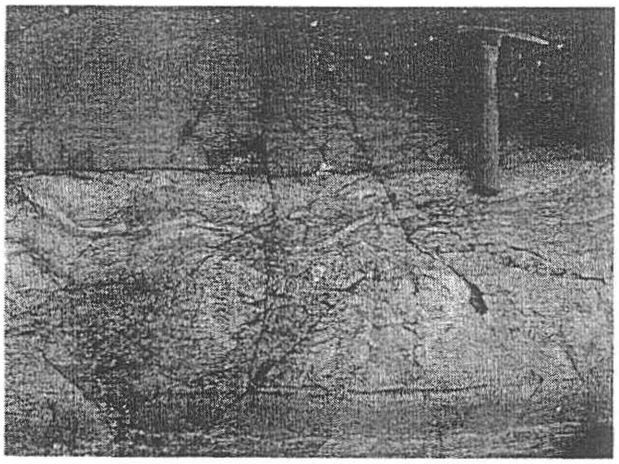


Figure 5: Dike edge not conformable with adjacent layering in fine tuff.

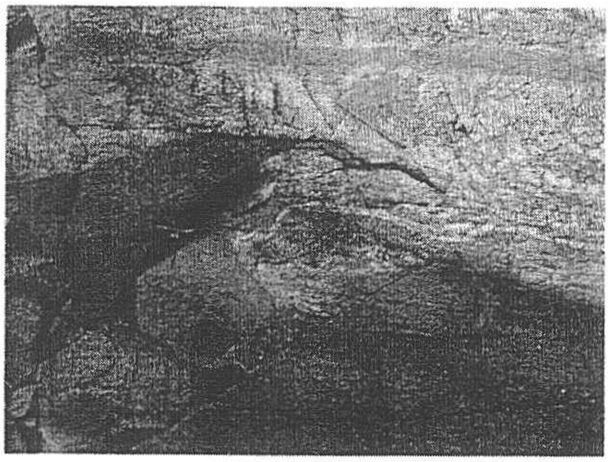


Figure 6: Dike clearly cross-cutting bedding in tuff. Shore of Cedartree Lake.

Stephen Lake Stock

The main body of granodiorite and diorite which constitute the Stephen Lake stock lies to the east of the mapped area. However, to the south of the southeast end of Sunfish Lake, there is a broad hill which is mainly underlain by diorite and quartz diorite, and is considered to be a marginal phase of the stock. Inclusions of basalt and tuff are present.

The area west and south of this broad hill provides a real problem for geological mapping. Outcrop is scarce and bush is thick, and while about half of the outcrop is diorite, the other half is tuff. Because the gabbro of sill #3 does not contain tuff inclusions, the diorite is considered to be related to the Stephen Lake stock. To define contacts on the basis of known outcrops is unrealistic, so until further information is available, the area is considered to be underlain by a roof pendant of tuff through which diorite of the stock has intruded. The alternative is to limit the stock to the broad hill, and to consider the remainder of the area to be underlain by tuff, intruded by diorite.

Structural Geology

One of the remarkable features of the rocks of the area is the low degree of metamorphism, in spite of the fact that the rocks have been tilted to near vertical and broadly folded. By contrast, some rocks in the Flint Lake shear zone have been highly deformed. The shear zone is over 500 metres wide and consists mainly of readily recognized tuffs and some gabbro which have been intersected by strong shears, so that most of the rocks reveal a steep-dipping, east-striking fabric. The sense of movement is dextral, with moderate to steep plunges to the east.

A number of north-south lineaments have been identified from air photographs. One lies along the east side of Sunfish Lake and is considered to mark a fault that has offset the peridotite and gabbro sill. To the south, this fault is best demonstrated by topographic contrasts, but it may also be reflected in the level of exposure of the Stephen Lake stock. A second parallel lineament lies near line 23E, but the only place where dislocation appears certain is near the west shore of Purewater Lake.

Several northwest-trending lineaments have also been recognized. One marks the termination of the peridotite sill and, though corroborating evidence was not found on steep faces at the edge of the peridotite, a fault relationship with the adjacent volcanics seems inescapable. The southeast extension of this fault appears to have offset sinistrally the upper contact of the gabbro sill, and possibly the lower contact.

Conclusive evidence for offset along other northwest 'lineaments' has not been demonstrated, though Davies and Morin (1976) interpret a small dextral offset to the west of Purewater Lake. The southern diorite intrusions may in part be controlled by faulting in this direction, and possibly the northern diorite as well. Plotting of these lineaments on electromagnetic-survey results may allow the reinterpretation of the trend of anomalies.

Small-scale brittle fracturing in an east-west direction is evident in rocks at or near the shore of Cedartree Lake, at least as far south as the 750N tie-line. These are believed to be related to the major stresses which produced the Flint Lake shear zone. Some sulphides and quartz are associated with these fractures.

The Emm Bay-Peninsula Bay synclinal axis trends east-northeast at the south end of Cedartree Lake and was traced to a point about 1 km south of the outlet of Purewater Lake. Thus the entire sequence in the area of the claim group lies on the northeast limb of the syncline, with tops facing steeply east. Isoclinal folding was seen in a few thin beds on a scale of less than 20cm but there was little evidence for larger-scale folding. Small east-northeast shears, seen in a few outcrops, may represent axial-plane deformation.

Economic Geology

The area was mapped with the hope of locating targets for mineral exploration which had not been previously discovered or prospected. Regrettably, indicators for base-metal deposits were not found. Peridotite sills were not subject to more-detailed examination, though the possibilities for platinum-group metals were recognized.

Areas of extensive alteration or of sulphide mineralization were located, but most bore evidence of having been previously prospected. Gold remains the most favorable mineral for exploration.

The presence of sulphides is common in many of the volcanic rocks, but is especially evident in some of the finer tuffs and associated cherts where it constitutes up to five percent of the rock. This probably represents direct precipitation from sea water, with or without iron carbonate. Examples are on the baseline at 2175E; near line 28E and 900 to 1000S; and an area between lines 28E and 29E, and between 1150N and 1265N. The latter has been prospected by 10 trenches (see plan in appendix) which show the sulphides occur in fine east-northeast fractures as well as finely disseminated in the rock. The number of trenches suggests that some encouraging gold values were found, but their abandonment suggests that there was insufficient gold to warrant further work.

Pyrite is also abundant in fine-to medium-grained granodiorite associated with diorite and exposed at 380N on line 23E; in two small outcrops (2326E, 576N and 2368E, 602N); and in a five by three metre outcrop at 2338E, 558N. The latter was cleared to ensure that it was outcrop. A sample was assayed (see appendix) but was discouragingly low in gold.

Minor pyrite occurs in granodiorite at 990N on line 28E and is associated with the largest diorite intrusion. About 60 metres to the east-northeast is a hill about 40 metres across and 80 metres long which appears to be entirely underlain by an intensely altered rock interpreted to have been diorite. The reddish carbonate and silica of the soil is evidently unable to support tree growth so that the hill is covered by brush. Numerous pits and trenches have been sunk on this outcrop, apparently without encouraging results.

Close to the pipeline road, and about 150 metres north of Purewater Lake, a heavily carbonatized and silicified zone lies along the east side of an outcrop of gabbro. The zone strikes east of north, dips steeply and is exposed over a length of 10 metres. Minor pyrite is present. To the south is a wet depression and to the north is the road. A fault nearby may be inferred here, as a huge outcrop area of gabbro rises steeply to the east.

Very close to the shore of Cedartree Lake, on or near tie line 750N, a trench and a number of pits have been sunk on east-striking, north-dipping shears and fractures. Pyrite and carbonate are both present. The shears are narrow. To the east about 20 metres, a peculiar square of low ground is bound by east-west and north-south margins, each about 40 metres in length. Shears may account for this pattern. Fracturing, silicification and mineralization have been found in core of holes drilled in this zone and significant gold has been reported.

An inlet of Cedartree Lake at 1000N coincides with a northwest lineament and probably represents a fault. Granodiorite on the north shore of this inlet has been fractured and altered with some irregular vein quartz in the fracture. Pyrite and a little chalcopyrite were noted in the walls of an 8 metre trench.

Encouraging gold intersections have been recognized in a number of drill holes in an area between 24E and 26E, to the south of the Cameron Lake Road. The area is mostly covered by overburden, and no attempt was made during the present survey to compile the results of the drilling. It should be noted that the adjacent Flint Lake Shear may have acted as a large plumbing system for the transportation of metals. There is significant potential for gold to have been deposited along fractures in more competent rocks.

Carbonatization, silicification and to a lesser extent pyrite mineralization have been recognized in the Flint Lake shear zone, especially where rock faces have been blasted during road construction. Traces of gold were found in one of the two holes which were drilled into the zone.

Recommendations

Much of the area has been prospected, though information on the work done appears to be lacking. It would be helpful in an over-all assessment of the area to acquire assays from the previous prospecting, if available. If this is not possible, it is suggested that assays be carried out on:

a. chip samples of at least two of the ten trenches centered at 2850E and 1200N
b. grab samples from at least two pits in the carbonate hill centered at 2900E and 1100N
c. chip samples of the trench at 2400E and 1050N
d. chip samples of the trench at 2500E and 1275N

While sampling of the pits and trenches near 2300E, 750N may add to the data base, it would be preferable to drill additional holes to determine whether the gold values intersected in holes 3-09 to 3-12 have continuity, and to discern any controlling structures. To this end it is recommended that holes be drilled at right-angles to bedding from near line 24E at 750, 850 and 950N. If mineralization is continuous to 950N then drilling from the ice may be contemplated to extend the strike length northward.

In terms of new discoveries it is recommended that:

1. Sampling of the carbonate zone 150 metres north of Purewater Lake be undertaken.
2. At least three more samples be taken from the mineralized granodiorite associated with the southern diorites. Appropriate locations may be about 385N on line23E, or near by, and at 576N and 2326E or 602N and 2368E or nearby.
3. The granitic outcrop on Flint Lake at Line29E be sampled.

With regard to the area of the principal gold occurrence near the Cameron Lake Road, it would be appropriate to have a computer-generated three-dimensional model to demonstrate structural and/or lithologic controls before any additional drilling is contemplated.

Respectfully submitted,

John C. Davies PhD.
December 10, 2004

Declaration

I, John C. Davies, of 411 Garrison Crescent, Saskatoon, SK, do hereby certify that:

1. I am a graduate of the University of Manitoba with the earned degrees of B.Sc. (Honors) 1955, M.Sc. 1956, and Ph.D. 1966.

2. I was previously a member of the Geological Association of Canada, the Society of Economic Geologists, and the Association of Professional Engineers of Saskatchewan.

3. I have practiced as a professional geologist for over 30 years.

4. I am familiar with the area, having mapped it for the Ontario Geological Survey in 1971.

5. This report and accompanying map is based on over three weeks of field work at Cedartree Lake in August and September of 2004, and on public records relating to exploration work in the area of concern.

6. I do not presently own, nor do I expect to receive, any interest whatsoever, direct or indirect, in the property herein described nor in the securities of Metalore Resources Ltd.

John C. Davies

John C. Davies.

Dated at Saskatoon, SK, on this seventh day of December, 2004.

Clarification of References:

Davies, J.C. and Morin J.A.,1976. Geology of the Cedartree Lake Area, District of Kenora; Ontario Division of Mines, GR134, 52p. Accompanied by Map 2319, scale 1:31 680.

Edwards, G., 2004. Personal communication regarding age of Stephen Lake intrusion


METALORE RESOURCES LTD.
PART OF CEDARTREE LAKE GROUP
Claim Line
Outcrop area
Strike/dip of bedding
Strike/dip of foliation
Plunge of linear features
Geological contact
Fault zone defined
Fault zone inferred
Lineament
Pit, Trench
Vertical projection of drill hole
Drill road
Cut line, defined, approximate
Grass encroaching lake
Wet lowlands with reeds
Beaver flooded areas
Seasonally wet lowlands
Sulphide, rusty zone
Strongly carbonatized
Chert more abundant
STEPHEN LAKE PLUTON
5a Diorite, Quartz diorite
5b Inclusion-rich diorite
FELSIC AND INTERMEDIATE INTRUSIONS
4a Granodiorite
4b Quartz Porphyry
4c Diorite, Quartz diorite
MAFIC AND ULTRAMAFIC INTRUSIONS
3a Diorite, Quartz gabbro
3b Gabbro
3c Anorthositic gabbro
3d Pyroxenite
3e Peridotite
FELSIC TO INTERMEDIATE VOLCANICS
2a Dacite, Rhyolite
2b Tuff-breccia
2c Lapilli tuff: light clasts
2d Lapilli tuff: dark clasts
2e Chert
2f Tuff
2g Greywacke, mudstone
MAFIC VOLCANICS
1a Fine-grained basalt
1b Amygdaloidal basalt
Base from OGS map 2319 with corrections from air photographs
Geology by John C. Davies, 2004
0 metres 400
Scale 1:5000
2.30865
Highway 71
← 11 km
Flint Lake
Cameron Lake Road
Cedartree Lake
Anvil Peninsula
Sunfish Lake
Purewater Lake
Cameron Lake Mine
12 km →
K1149803
K1178821
K1239485
K1143898
K1231819
K1215870
K1178822
K01231820
K1221144
K1221143
road
water-pipe
old cut line
Little Stephen Lake