

## Ottawa Lapsmith & Mineral Club

Mineral Collecting Guide

# Craigmont Mine, Craigmont Workings Craigmont, Ontario.

The guide was created to gather available information about the area in one document to help members of the OLMC and give information on the geology and the minerals that can be found at the location.

Revision 1

## 1. Location

The site is located near Craigmont, Ontario, a two-and-a-half-hour drive from Ottawa. From Ottawa, take the 417/17 to Renfrew. From there, take the 132 and follow it until you reach the intersection with highway 41. Turn right on 41 until you reach the intersection with Opeongo Road which will come up shortly after turning on 41. Turn left on Opeongo Road and follow it until you reach the end at highway 512. Turn left on 512 toward Foymount and follow 512 until it changes to hwy 66 at Brudenell. Continue on hwy 66 until you reach Letterkenny Road. Turn left on Letterkenny Rd and follow it until you reach Rockingham Rd (Hwy 68). Turn right on 68 and continue to Combermere. In Combermere, turn right on Hwy 515 then left on Combermere Rd, cross the river and turn left on Hwy 517. Continue on 517 until Dafoe Rd (517), turn right on Dafoe and continue until you reach the intersection with Craigmont Rd. Turn left on Craigmont and continue to the site. Craigmont Rd will change name to Regan Rd at some point.





## 2. Geology

From the Ontario Ministry of Northern development and Mines file MDI31F05SE00006:

http://www.geologyontario.mndmf.gov.on.ca/gosportal/gos?command=mndmsearchdetails:mdi& uuid=MDI31F05SE00006

[Note: re-formatted from original for clarity.]

H.D. Carlson described the geology as follows: 'The rocks exposed in the Klondike and Craigmont cuts may be divided into the following groups:

- 1) Granite and syenite pegmatites
- 2) Granite Gneiss
- 3) Syenite Gneiss a) quartz-albite syenite with arfvedsonite b) Hybrid, pink-buff alkaline syenites
- 4) Leucocratic nepheline gneiss
- 5) Scapolite gneiss
- 6) Oligoclase-andesine gneiss (grey alkaline syenite)
- 7) Amphibolites.

[**Arfvedsonite** is a <u>sodium amphibole mineral</u>: [Na][Na<sub>2</sub>][(Fe<sup>2+</sup>)<sub>4</sub>Fe<sup>3+</sup>][(OH)<sub>2</sub>|Si<sub>8</sub>O<sub>22</sub>]. It crystallizes in the <u>monoclinic</u> prismatic crystal system and typically occurs as greenish black to bluish grey fibrous to radiating or stellate prisms. It is a rather rare mineral occurring in <u>nepheline syenite</u> <u>intrusions</u>. From Wikipedia.]



#### Bedrock Geology of Raglan Township, Renfrew County, Ontario.

Location of Craigmont Mine in alkali plutonic rocks: nepheline-syenite, alkalic syenite, fenite; associated mafic, ultramafic and carbonatic rocks. Just south of tectonite unit.

#### **PRECAMBRIAN**<sup>d</sup>

GRENVILLEPROVINCE \*

#### PROTEROZOIC

#### NEO- TO MESOPROTEROZOIC (0.57 to 1.6 Ga)

Tectonite unit: tectonites, straight gneisses, porphyroclastic gneisses, unsubdivided gneisses in major deformation zones, mylonites, protomylonites

CENTRAL METASEDIMENTARY BELT

47 Late felsic plutonic rocks<sup>1</sup>: granodiorite, granite, syenite, pegmatite, alkalic granite, migmatitic gneisses

Mafic to ultramafic plutonic rocks<sup>f</sup>: diorite, gabbro, peridotite, pyroxenite, anorthosite, derived metamorphic rocks

Alkalic plutonic rocks: nepheline syenite, alkalic syenite, fenite; associated mafic, ultramafic and carbonatitic rocks

Early felsic plutonic rocks<sup>1</sup>: granodiorite, tonalite, monzogranite, syenogranite; derived gneisses and migmatites

GRENVILLE SUPERGROUP AND FLINTON GROUP 9

Carbonate metasedimentary rocks: marble, calc-silicate rocks, skarn, tectonic breccias

42

43

45

44

Clastic metasedimentary rocks<sup>f</sup>: conglomerate, wacke, quartz arenite, arkose, limestone, siltstone, chert, minor iron formation, minor metavolcanic rocks



Mafic to felsic metavolcanic rocks: flows, tuffs, breccias, minor iron formation, minor metasedimentary rocks; includes reworked pyroclastic units, amphibolite

#### MESOPROTEROZOIC (0.9 to 1.6 Ga) CENTRAL GNEISS BELT



Felsic igneous rocks: tonalite, granodiorite, monzonite, granite, syenite; derived gneisses

Anorthosite and alkalic igneous rocks: anorthosite, anorthositic gabbro, gabbro and related gneisses, nepheline syenite, alkalic syenite

#### 38 Mig



Migmatitic rocks and gneisses of undetermined protolith: commonly layered biotite gneisses and migmatites; locally includes quartzofeldspathic gneisses, orthogneisses, paragneisses

Mafic rocks: amphibolite, gabbro, diorite, mafic gneisses



37

Gneisses of metasedimentary origin: quartzofeldspathic gneisses, pelitic to semi-pelitic gneisses, calc-silicate gneisses, minor quartzite, minor marble

and marble breccia

### 3. Mineralization

Corundum is found in the nepheline gneiss, the scapolite gneiss, the oligoclase-andesine gneiss and in hybrid altered facies of these rocks, which occur along their contacts with the hybrid pinkbuff alkaline syenites. All these rocks, except the pegmatites and the arfvedsonite syenite, have for the most part, gneissic fabrics and occur in irregular bands conformably intercalated with one another. The attitude of the banded structure of the sequence is roughly parallel t the southern slope of Robillard Mountain; in general it strikes a little north of west and dips from 20 to 40 degrees south, the average dip being about 30 degrees, with minor, local open folding evident in some places.'

Hewitt describes the corundum as follows: 'It occurs both as round anhedral porphyroblastic grains and stubby euhedral, hexagonal, barrel-shaped crystals. The colour ranges from bronze to green todark grey. The grains range from 1 mm to 8 cm in size. Thin mantles of muscovite frequently surround the corundum. The following accessory minerals can be found in the corundum-bearing rocks; biotite, hornblende, pyroxene, muscovite, sphene (titanite), apatite, zircon, carbonate, sericite, chlorite, epidote, garnet, pyrite, zeolites, magnesite, and ilmenite. The nephiline gneiss contains a few grains of sodalite.'

Corundum occurs as grains less than ¼ up to crystals 3 inches across. Corundum forms between 5 and 25% of the host rock. Magnetite occurs as irregular splashes in the corundum zones and also as stringers with or without pyrite. Garnet occurs as crushed rounded crystals as much as 1 inch across. Molybdenite occurs in rare large flakes and muscovite occurs as small to large books, frequently in association with corundum. A grab sample containing allanite, collected by the OGS in 1977 returned 20 ppm U3O8 and 504 ppm Th.

The following pictures and descriptions were taken from an article by Michael Adamowicz published on MinDat in 2008:

http://www.mindat.org/article.php/388/Craigmont+Mine%2C+the+Mountain+of+Corundum+in+O ntario



Figure 1 Here is a 3.5 inch Corundum crystal in syenite. The boulder it is attached to is very large & moving it with ought explosives is not an option. It would be easier to find other samples rather than chipping this one out.



Figure 2 Here is my best sample, so far from the mine.Corundum crystals range from 1 to 4 cm long.



Figure 3 Mica group and Molybdenite [with corundum]



Figure 4 Pyroxene group and Molybdenite

## 4. Mineral List

List of minerals that can be found at Craigmount Mine (from MinDat): <u>http://www.mindat.org/loc-255519.html</u>

'Allanite Group' 'Apatite' 'Biotite' 'Chlorite Group' Corundum Epidote Euxenite-(Y) 'Feldspar Group' 'Garnet' Hematite 'Hornblende' Jarosite Magnetite 'Mica Group' Molybdenite 'Monazite' Pyrite 'Pyroxene Group' 'Scapolite' Titanite Zircon