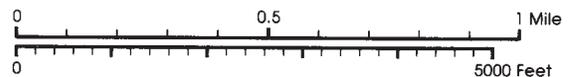


## Harvard, Tamminen, and Waisanen Quarries

**Town:** Greenwood, Oxford County

**Base map:** Greenwood and West Paris 7.5' quadrangles

**Contour interval:** 20 feet



### Harvard Quarry

**Type of deposit:** Granite pegmatite.

**Collecting status:** Open for collecting except when active mining operations are in progress. Avoid any areas that are roped off or otherwise designated as off limits.

**Minerals observed:** albite (including var. cleavelandite), almandine (garnet), arsenopyrite, autunite/meta-autunite, bertrandite, beryl, beryllonite, biotite, brazilianite(?), calcite (in country rock adjoining pegmatite), cassiterite, cookeite, damourite, diopside (in country rock), elbaite (tourmaline), ferroaxinite (in country rock), fluorapatite (purple, blue), gahnite, goyazite(?), hydroxyl-herderite, kaolinite, lepidolite, manganocolumbite, meionite, microcline, microlite(?), montebasite, montmorillonite, muscovite, phenakite(?),

pollucite, quartz, schorl (tourmaline), spodumene, topaz(?), vesuvianite (in country rock), vivianite, zircon (var. cyrtolite).

**Comments:** This quarry is best known for producing fine crystals of lilac to purple fluorapatite. Lustrous black cassiterite crystals and tabular blue fluorapatite crystals are also among the noteworthy finds. The locality is named after Harvard University which collected it for mineral specimens in 1923-24. Perham (1987) summarized the history of the Harvard Quarry. Caution: the dumps and hillside are very steep here.

**Directions:** Driving: From jct. of Rtes. 117 and 118 in Norway, go west on Rte. 118 for 0.95 mile. Turn right onto Greenwood Road and drive northwest 5.30 miles. Turn right onto Richardson Hollow Road and continue 0.40 mile to parking area on right. Trail to quarry is across road (north side) from parking area.

*Walking:* Follow trail (which may be marked with blazes or signs) uphill approximately 2,000 feet to quarry.

**CLOSED**

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## Tamminen Quarry

**Type of deposit:** Granite pegmatite.

**Collecting status:** Open for hobby collecting; permission not required. Owned and operated by Frank Perham, West Paris, Maine 04289 (207-674-2921).

**Minerals observed:** albite (including var. cleavelandite), almandine (garnet), autunite/meta-autunite, bertrandite, beryl (blue, green, pink), biotite, bismuth(?), calcite, cassiterite, cookeite, damourite, dickinsonite, elbaite (tourmaline), eosphorite, fairfieldite, fluorapatite, "gummite," hureaulite, hydroxyl-herderite, lepidolite, lithiophilite, manganocolumbite, manganotantalite, meionite, microcline, montebasite, montmorillonite, muscovite, petalite, pollucite, quartz (including scepter and pseudo-cubic crystals, amethyst, citrine), scheelite (in country rock), schorl (tourmaline), sphalerite, spodumene, topaz, uraninite, vesuvianite (in country rock).

**Comments:** The Tamminen Quarry is one of only two places in the U. S. where pollucite crystals have been found. They occur as tiny crystals along seams in petalite. Petalite (a rare lithium mineral) is relatively abundant here, but is difficult for the novice to distinguish from feldspar and other white minerals. Many quartz crystals have also been found, including the odd cubic-looking ones.

**Directions:** Same as for the Waisanen Quarry (see below). The Tamminen Quarry is 0.10 mile farther on the same mine road.

## Waisanen Quarry (Tamminen-Waisanen Ledge)

**Type of deposit:** Granite pegmatite.

**Collecting status:** Open for collecting; permission not required. Owner: Perham family, Perham's of West Paris, West Paris, Maine 04289 (207-674-2341).

**Minerals observed:** albite, almandine (garnet), arsenopyrite, bertrandite, beryl, biotite, calcite, cassiterite, columbite, cookeite, elbaite (tourmaline), fluorapatite, goethite, graftonite, heterosite, hydroxyl-herderite, microcline, montmorillonite, muscovite, pyrite, quartz (colorless, milky, smoky), schorl (tourmaline), sphalerite, triphylite.

**Comments:** Some of the best hydroxyl-herderite crystals from Maine have been collected at this quarry, as well as good crystals of bertrandite and smoky quartz. Perham (1964) gave a detailed account of the minerals found in crystal pockets at the Waisanen Quarry during feldspar mining operations in 1963.

**Directions:** *Driving:* From jct. of Rtes. 117 and 118 in Norway, go west on Rte. 118 for 0.95 mile. Turn right onto Greenwood Road and drive northwest 5.30 miles. Turn right onto Richardson Hollow Road and continue 0.40 mile to parking area on right.

*Walking:* Walk downhill on woods road 0.15 mile to water-filled quarry pit on right and nearby dump. Tamminen Quarry is 0.10 mile farther (uphill) on same trail.