# TRIP C

## NUBBLE, WAISANEN-TAMINEN, HARVARD MINES

Leaders: Frank Perham, West Paris, Maine, and
Roy L. Farnsworth, Bates College.

## INTRODUCTION

Oxford County, Maine pegmatites appear in a great number of articles on the origins of pegmatites as well as an accounting of the rare mineralizations which occur in them. Pegmatite is a very common rock in this section of Maine and the countryside is scarred with quarries either being worked regularly, spasmodically, or a past operation. These quarries have been operated for recovery of feldspar, mica or beryl; many of these being hand cobbed operations.

The purpose of the present field trip is to show some typical examples of the pegmatites of this region with an opportunity for some mineral collecting. The trip has been arranged to show within a relatively small area a simple pegmatite, to a more complicated one, and end with a considerably more complex one.

The quarries are owned and operated by Stanley Perham. His son Frank has done the most recent work in these quarries and in so doing has carefully noted mineral relationships there. It is from his first hand experience and observations that we can gain a further insight into these pegmatites.

### Directions to Reach the Area

Take Route 201 through Topsham to junction with Route 196. Go left on 196 to Lewiston (city center). Go left on Route 11 (with others) and proceed to junction with Route 26 at Welchville. Follow Route 26 through Norway and South Paris to junction with Route 219 at Trapp Corner, West Paris (Maine Mineral Store on the left). Turn left onto Route 219 and proceed 8 miles as per the sketch map (Figure 1) to the road to the quarries.

### Brief Historical Sketches of the Mines

Nubble:

First operated for feldspar by Matti Waisanen about 1935. During

World War II it was worked for mica, producing some of the highest grade mica produced in New England; some pieces were up to 3 feet in diameter.

Waisanen Mine:

Also operated for feldspar about 1935 by the Oxford Mining and Milling Co. During 1943-1944 it was mined for mica by the Douglass Mining Co.

Harvard Mine:

Quarry opened for quartz crystals in 1800's by Isaac Noyes of Norway
1917 Mineral rights obtained by Harvard Museum
1923-24 quarried for Harvard Mineralogical Department
Also quarried in 1943 for mica

Mine explanations

## Nubble Mine

A simple Pegmatite. Geologic emplacement (interbanded biotite schist and calci-silicates). Muscovite rich -- quartz core -- traprock dikes. Late state emplacement fingering out of the pegmatite vertically showing crystallization of minerals at apex.

## Waisanen and Tamminen Mines

Waisanen: contacts -- relation of mineralization of pegmatite to explanation of mineralization around feldspar crystals and vug formation--- Herderite and Bertrandite crystals.

Tamminen: Example of secondary lithia stage. Quartz crystallization (tabular-pseudo cubic parallel growth, etc.)
Lepidolite mass with rare phosphates.
Pollucite crystals, first identified in the United States.

## Harvard Mine

Famous multi-stage crystallized pegmatite
Tourmaline stage
Apatite stage
Quartz pseudomorph stage
Emplacement in schist with evident secondary soda spar zones with tourmaline and quartz crystal vugs. Recrystallization of primary muscovite zone into green tourmaline

Finish time collecting on the mine dump and enjoying the view

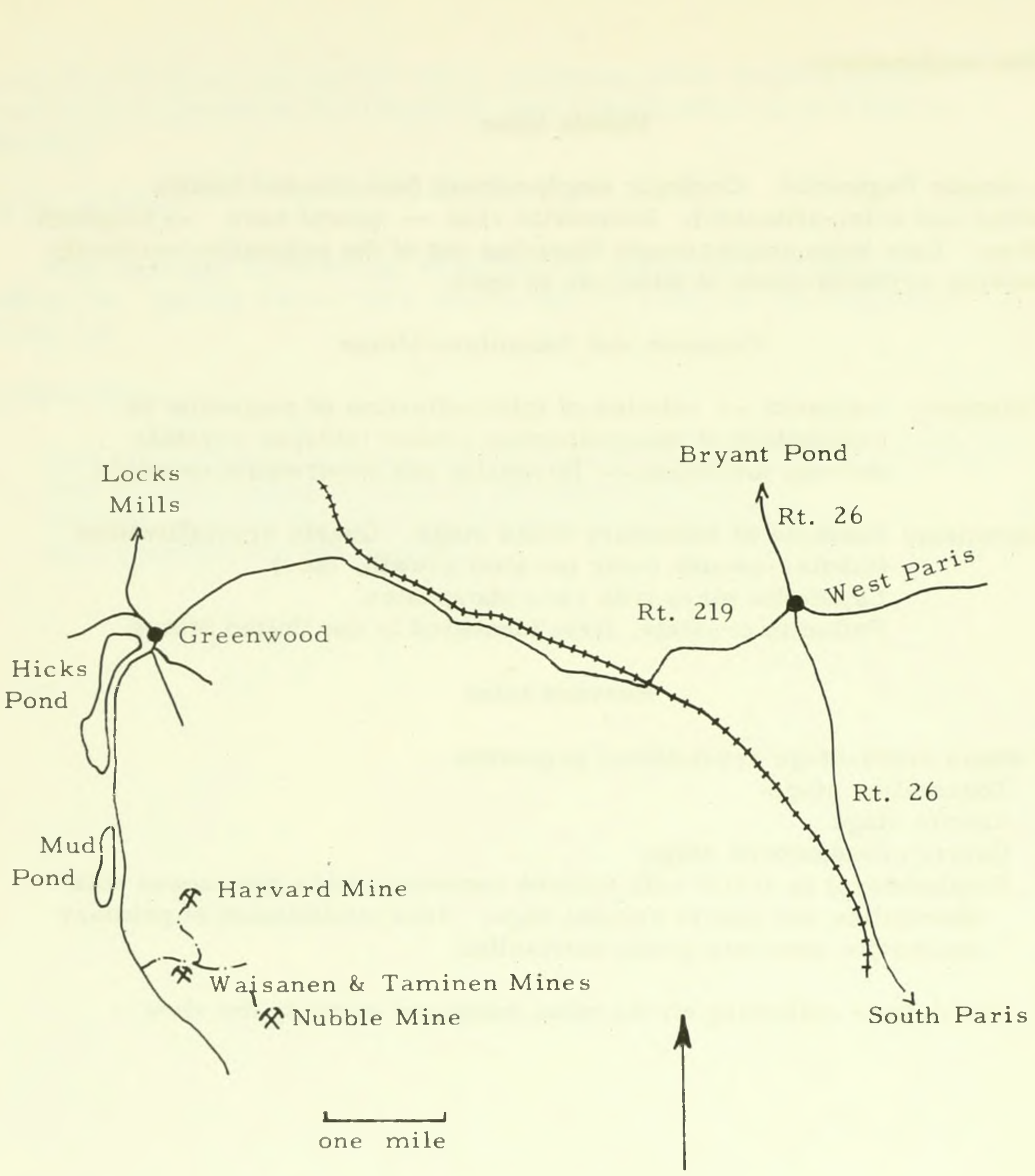


Figure 1. Location of pegmatite mines, Greenwood area, Maine

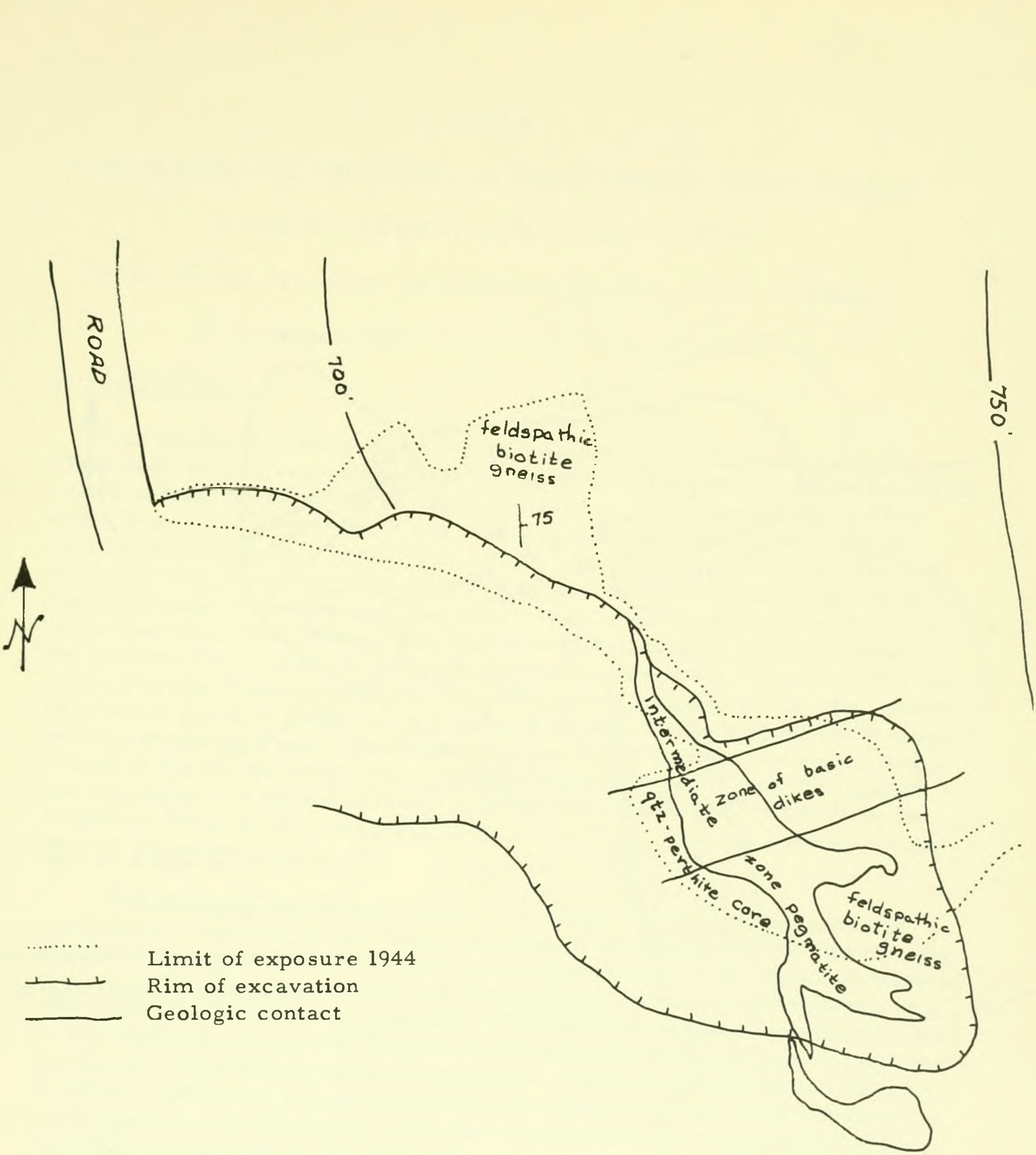


Figure 2. Sketch map of the Waisanen Mine, Greenwood, Maine. (Adapted from the U. S. Geological Survey Professional Paper 255)

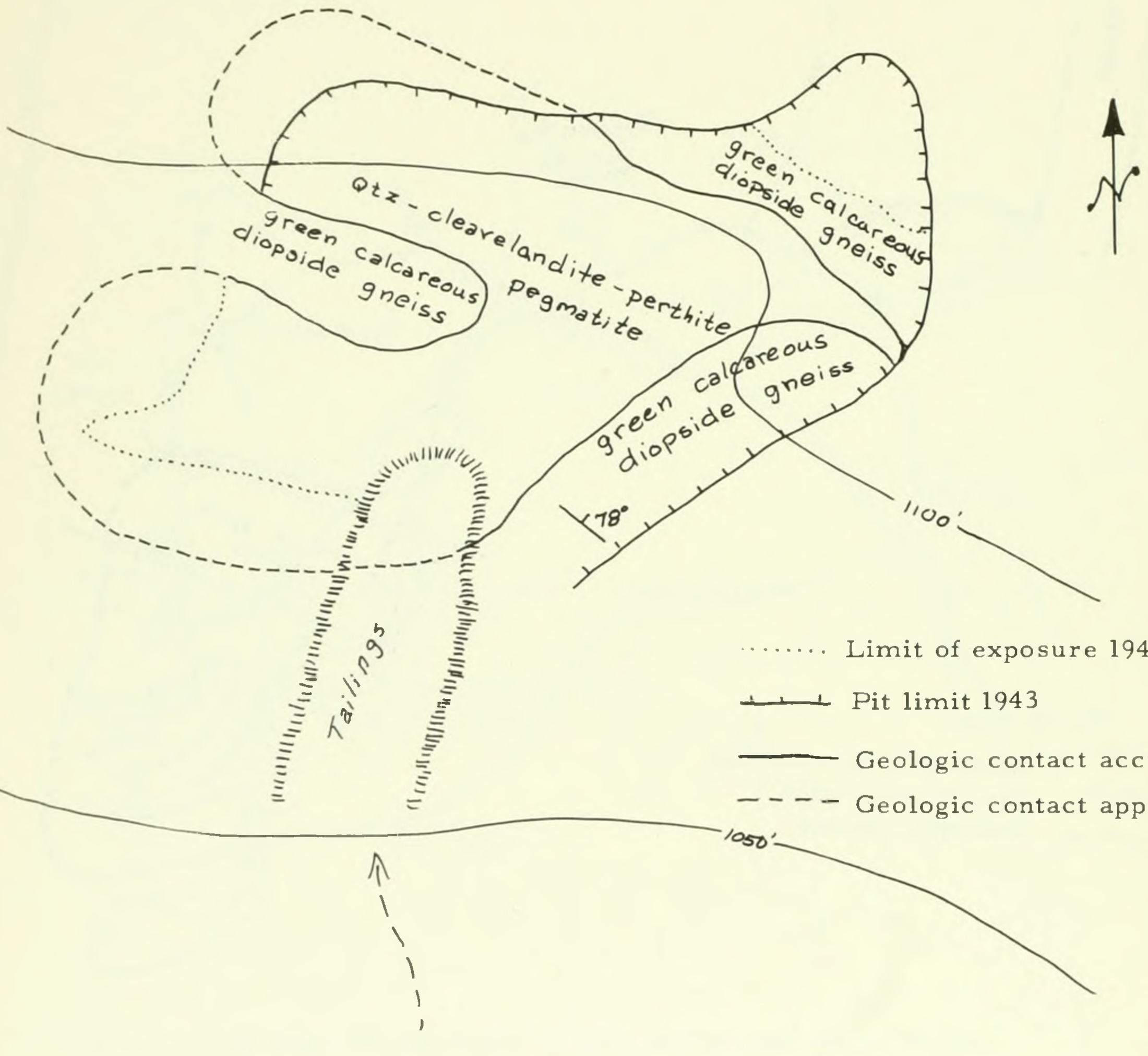


Figure 3. Sketch map of the Harvard Mine, Greenwood, Maine. (Adapted from U. S. Geological Survey Professional Paper 255.)