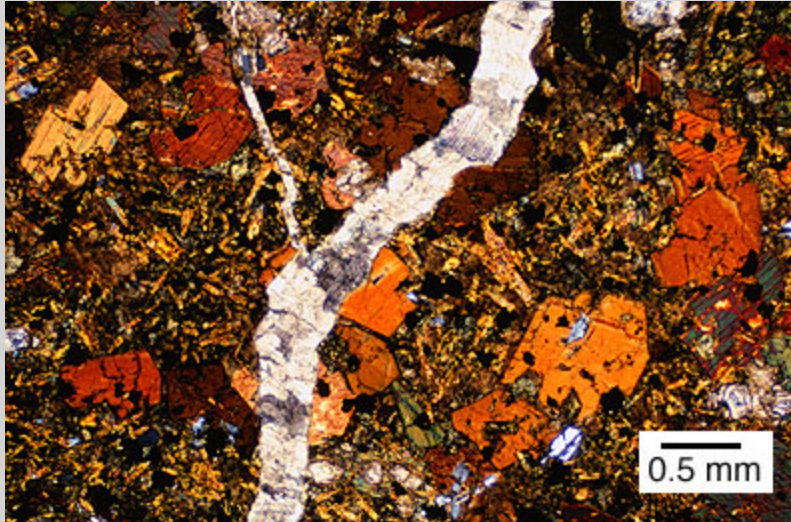


## Calcite vein



This vein of [calcite](#) was formed as fluids entered an open-space fracture during alteration of this rock. Notice how the orange and red grains of kaersutite (amphibole) match up across the fracture.

**UNC sample**

G-117

**Rock type**

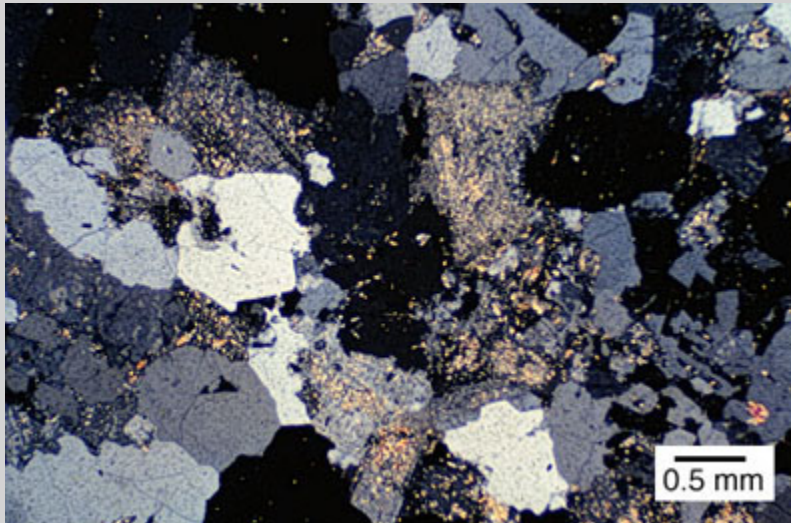
?

**Locality**

?



## Sericitic alteration



The feldspars in this alaskite from the Boulder Batholith have been largely replaced by fine-grained white mica (sericite).

**UNC sample**

BB-13

**Rock type**

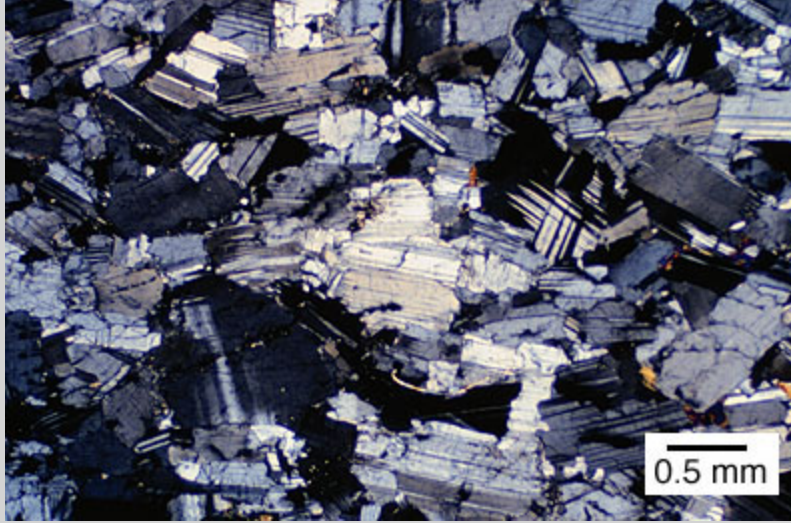
Alaskite

**Locality**

Montana



# Anorthosite



**UNC sample**

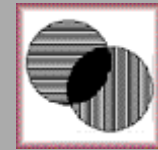
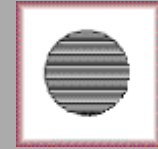
SA-4

**Rock type**

anorthosite

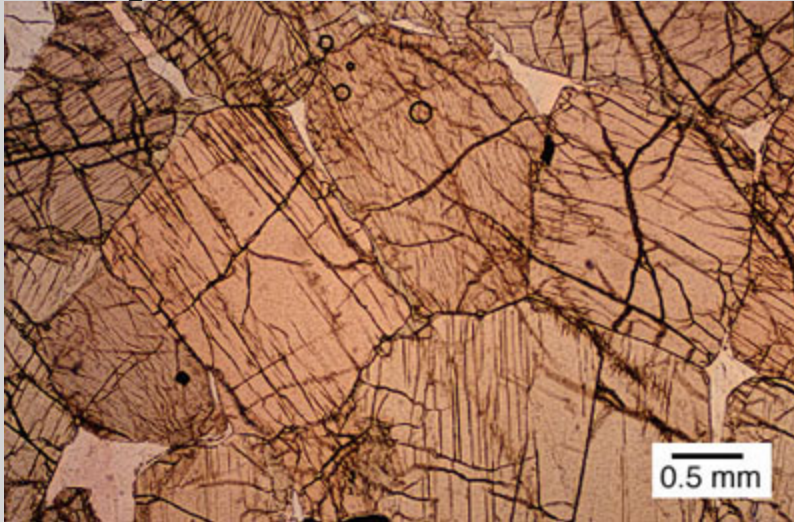
**Locality**

?



This rock is composed almost entirely of albitic [plagioclase](#).

## Bronzite (orthopyroxenite)



A bronzite is an orthopyroxenite dominated by the mineral [hypersthene](#). Almost all of the grains in this photomicrograph are hypersthene. This rock also contains some interstitial [plagioclase](#).

UNC sample

PP-12

Rock type

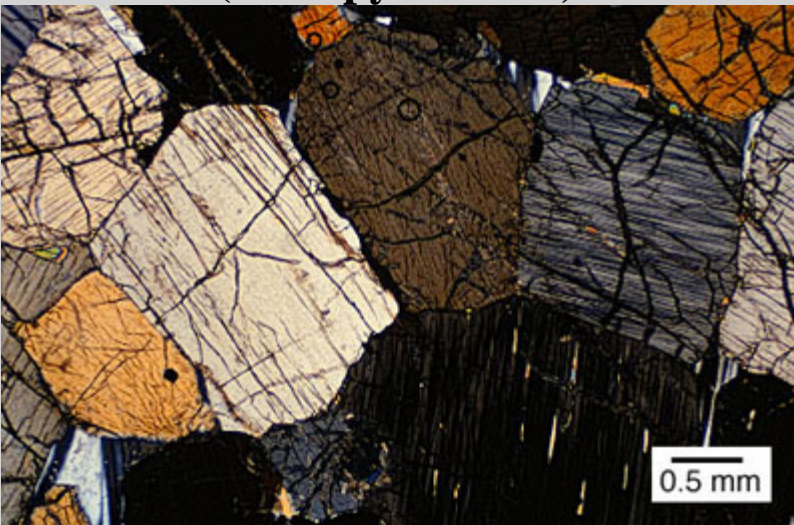
bronzite  
(orthopyroxenite  
)

Locality

Stillwater  
complex, MT



## Bronzite (orthopyroxenite)



A bronzite is an orthopyroxenite dominated by the mineral [hypersthene](#). Almost all of the grains in this photomicrograph are hypersthene. This rock also contains some interstitial [plagioclase](#) better seen in plane light.

UNC sample

PP-12

Rock type

bronzite  
(orthopyroxenite)

Locality

Stillwater complex,  
MT



## Clinopyroxenite



This rock is dominated by the clinopyroxene [augite](#).

UNC sample

in "norite" card

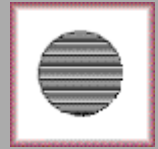
Rock type

clinopyroxenite

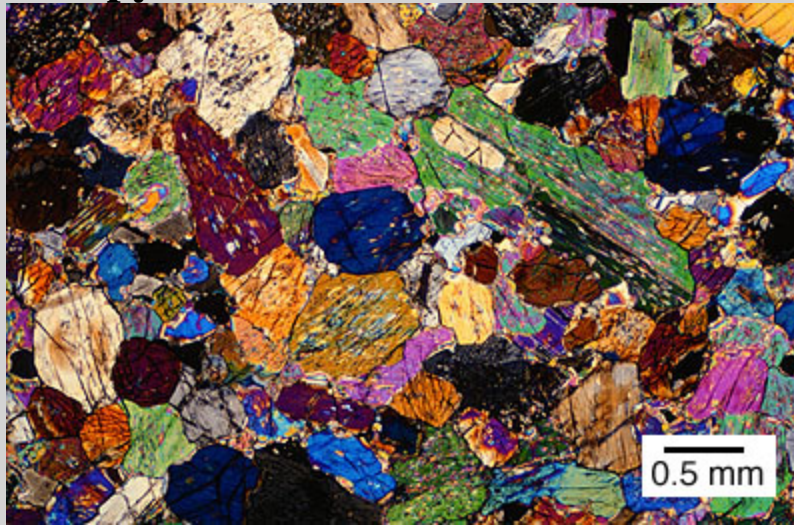
(card claims this is an "augite norite")

Locality

West Point, GA



## Clinopyroxenite



This rock is dominated by the clinopyroxene [augite](#).

UNC sample

in "norite" card

Rock type

clinopyroxenite

(card claims this is an "augite norite")

Locality

West Point, GA



## Diabase



A diabase is a basaltic rock with grain size more or less transitional between gabbro (coarse) and basalt (fine). Notice the elongate lath-shaped [plagioclase](#) and the colorful [clinopyroxene](#) and possible [olivine](#) in this rock.

**UNC sample**

SC-?

**Rock type**

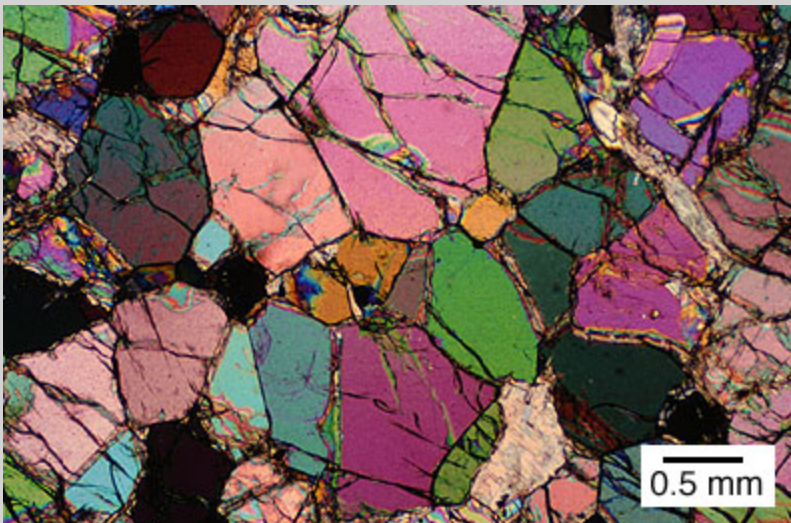
diabase dike

**Locality**

South Carolina



## Dunite



Almost all of the grains in this rock are olivine. Note the high order interference colors of olivine and the minor secondary calcite which occurs as veinlets through the sample.

**UNC sample**

W-44

**Rock type**

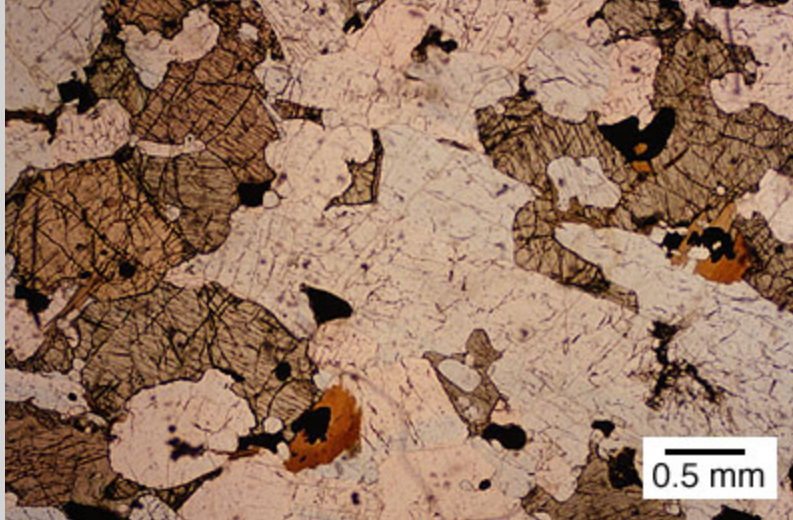
dunite

**Locality**

unknown



## Hypersthene gabbro



[Plagioclase](#) and hypersthene (orthopyroxene) dominate this rock. Note the rosy pleochroism of hypersthene in this plane light view.

UNC sample

H-35

Rock type

hypersthene  
gabbro

Locality

?



## Hypersthene gabbro



[Plagioclase](#) and hypersthene (orthopyroxene) dominate this rock. This slide may have been cut a little too thick, accounting for the higher-than-expected interference colors of the hypersthene.

UNC sample

H-35

Rock type

hypersthene  
gabbro

Locality

?



## Biotite granite



Minerals in this rock include [quartz](#), [plagioclase](#), [biotite](#), and [K-feldspar](#). Note the minor [myrmekite](#) in this sample.

**UNC sample**

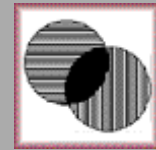
CA-65

**Rock type**

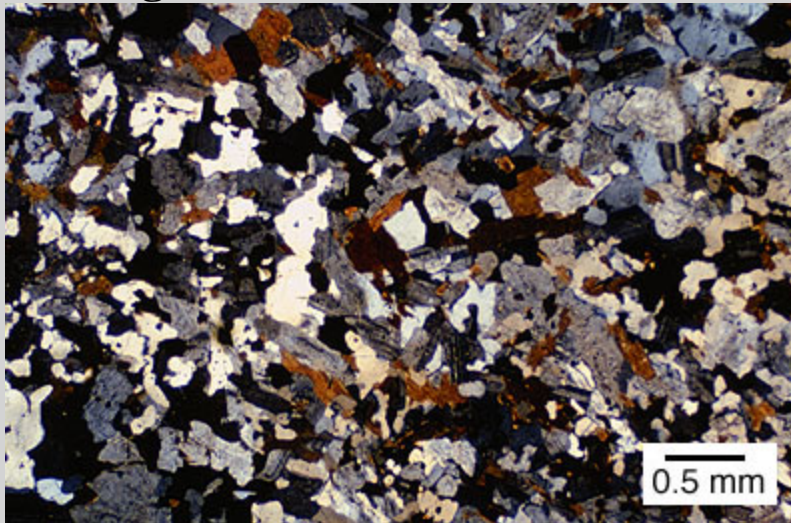
biotite granite

**Locality**

California



## Biotite granite



Minerals in this rock include [quartz](#), [plagioclase](#), [biotite](#), and [K-feldspar](#).

**UNC sample**

NC-108 a

**Rock type**

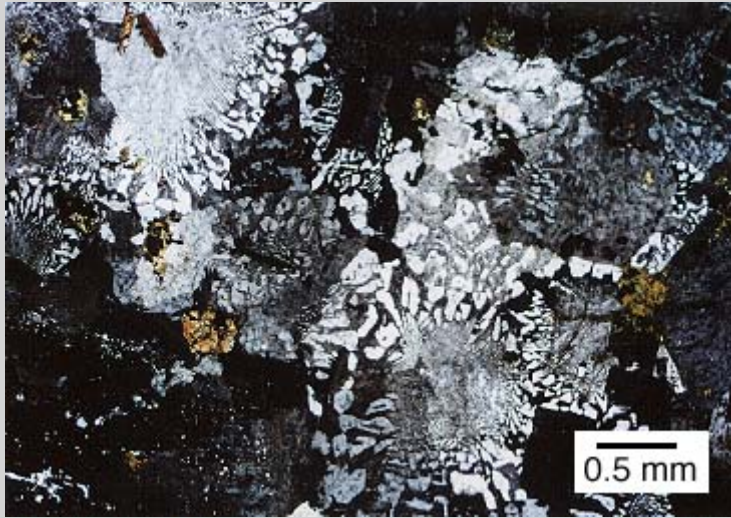
biotite granite

**Locality**

North  
Carolina



## Granophyre / Micrographic texture



Micrographic [quartz](#) and K-feldspar (cuneiform shaped intergrowths) dominate this rock.

UNC sample

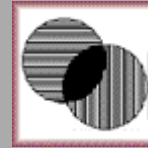
?

Rock type

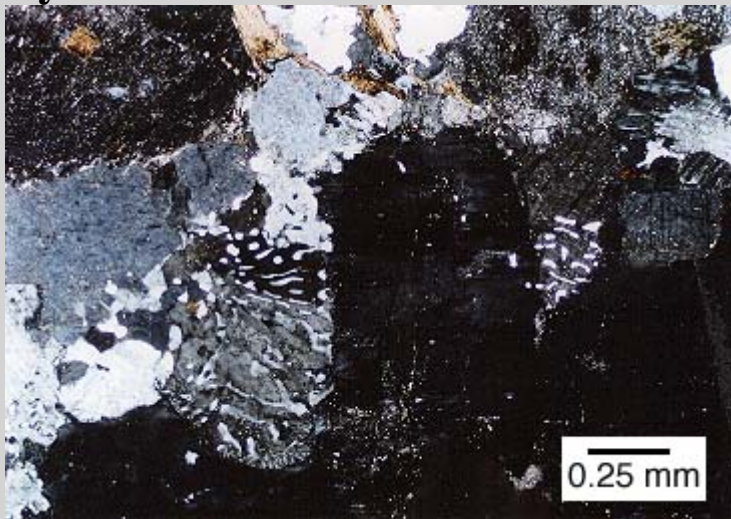
granophyre

Locality

?



## Myrmekite



Myrmekitic texture defined by wormy (rounded) intergrowths of [quartz](#) and K-feldspar in [plagioclase](#) which is adjacent to K-feldspar. Probably forms as a result of subsolidus exchange. Compare this texture to [micrographic](#) texture.

UNC sample

?

Rock type

granite

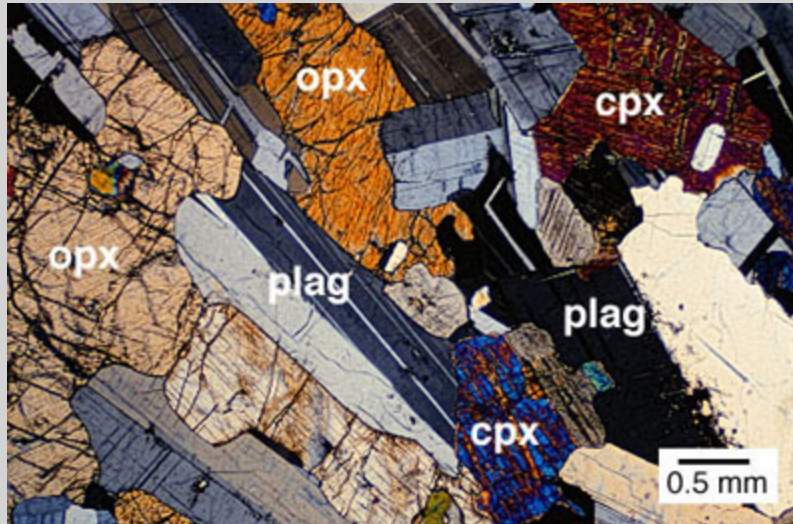
Locality

?





## Norite



A norite is a gabbro in which the pyroxene is principally orthopyroxene. This norite from the uppermost portions of the famous Stillwater Complex in Montana also contains some clinopyroxene. Generally, clinopyroxene has higher interference colors than orthopyroxene, as shown in this photomicrograph.

**UNC sample**

PP-15

**Rock type**

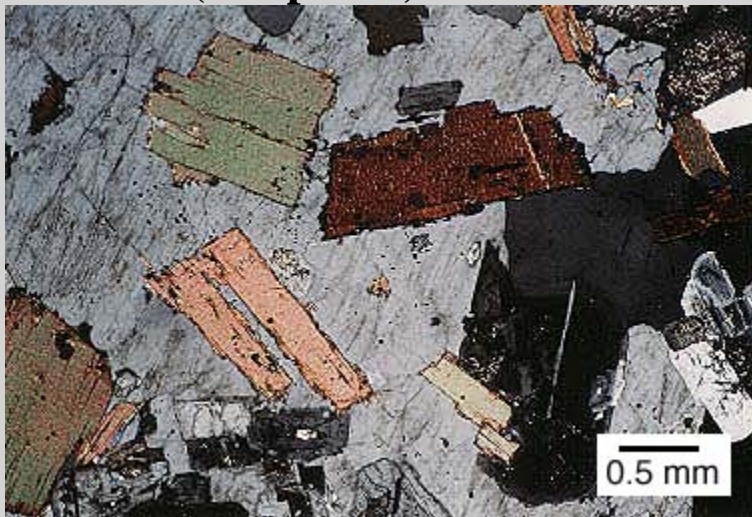
norite

**Locality**

Stillwater complex, MT



## Poikilitic (or ophitic) texture



In this photomicrograph, euhedral to subhedral [biotite](#) and [plagioclase](#) crystals are surrounded by optically-continuous, gray-colored K-feldspar.

**UNC sample**

not in collection

**Rock type**

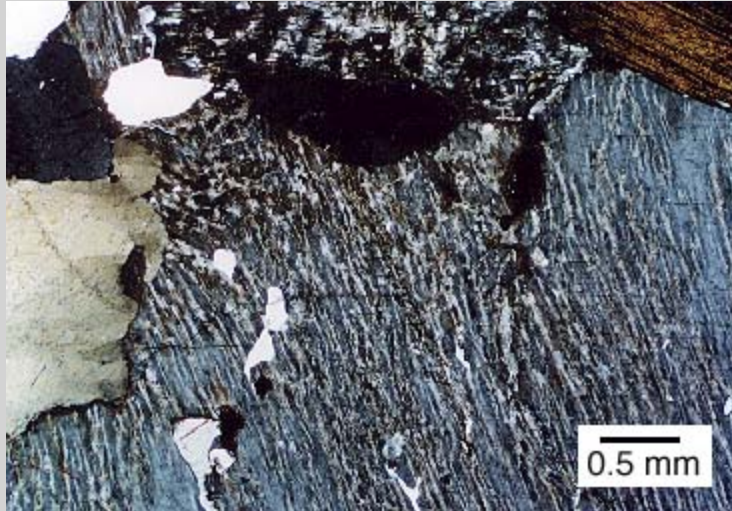
granite

**Locality**

Mill Canyon pluton, Eureka County, NV



## Perthite



The light gray streaks in this photomicrograph are [plagioclase](#) exsolution lamellae in gray K-feldspar. Perthite forms as an originally homogeneous feldspar exsolves two feldspars as temperature falls below the feldspar solvus during subsolidus cooling.

**UNC sample**

?

**Rock type**

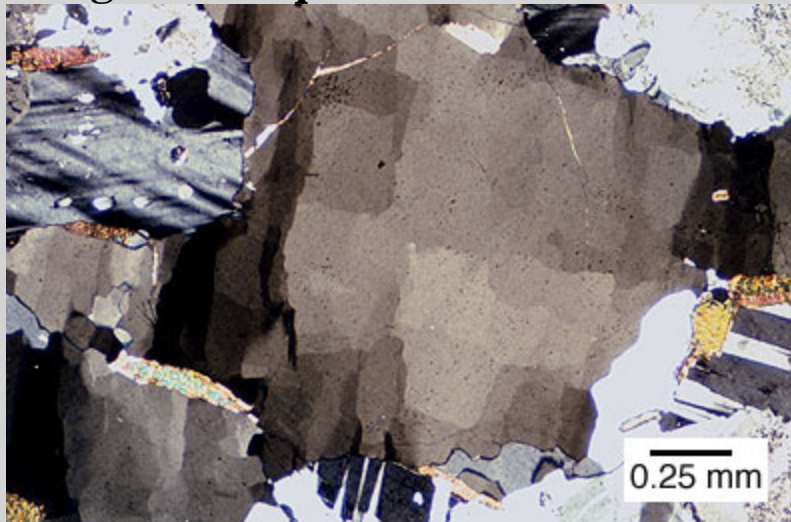
granite

**Locality**

?



## Sub-grains in quartz



The crystal structure of this quartz grain has been deformed (probably by low-grade metamorphism) to produce sub-grains.

**UNC sample**

GSR X1621

**Rock type**

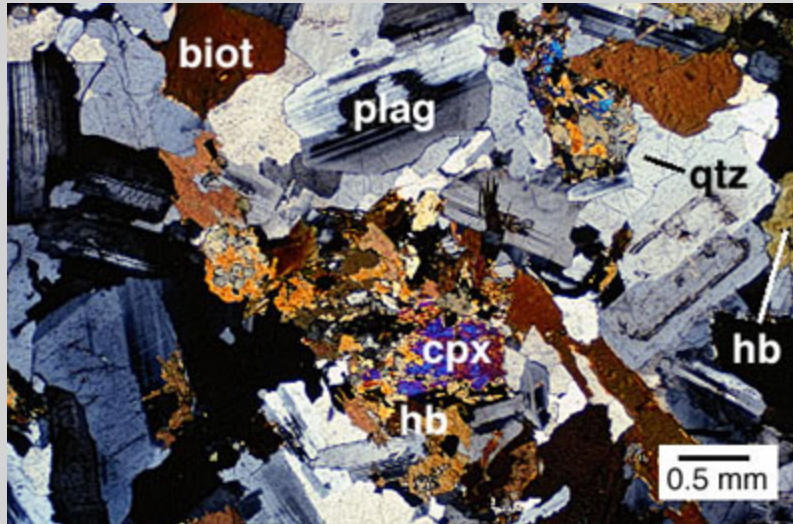
granite?

**Locality**

unknown



## Tonalite



This rock contains [hornblende](#), [plagioclase](#), [clinopyroxene](#), [biotite](#), and [quartz](#). Notice how the hornblende rims the small core of relict clinopyroxene in the center of this photo, indicating a reaction relationship.

UNC sample

SCB-13

Rock type

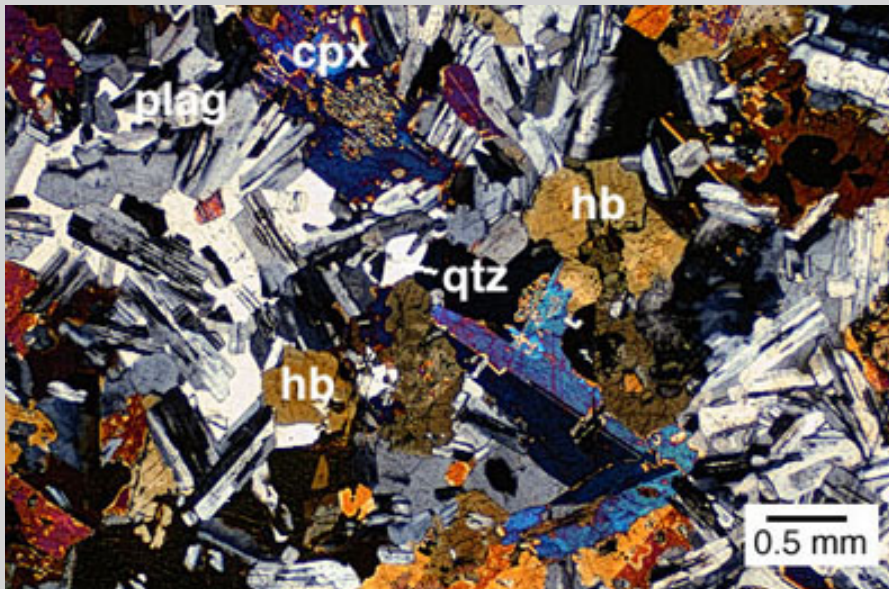
Tonalite

Locality

California



## Tonalite



This rock contains [hornblende](#), [plagioclase](#), [clinopyroxene](#), [biotite](#), and [quartz](#).

UNC sample

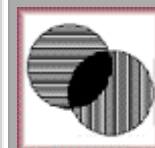
SCB-9

Rock type

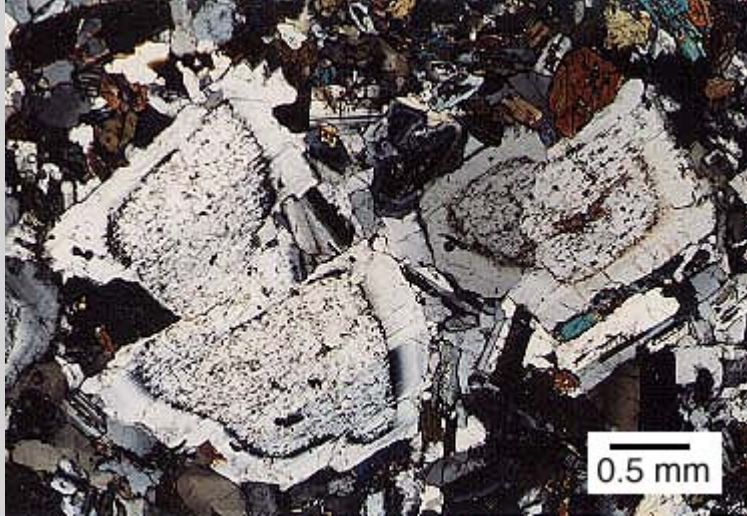
Tonalite

Locality

California



## Sieve texture



Sieve texture in corroded, partially resorbed plagioclase crystals. It is thought that this texture may be formed in at least two ways. If a plagioclase crystal is placed into a magma in which it is not in equilibrium (by magma mixing), it will become corroded, and melt will penetrate into the crystal structure. The crystal may also become rounded by partial resorption. New plagioclase of a different composition will precipitate from the magma and perhaps form a rim around the corroded core. Alternatively, the same effects could possibly be produced by volatile-loss from decompression as a magma rises to shallower regions in the crust.

### UNC sample

not in collection

### Rock type

quartz diorite?

### Locality

McCoy pluton,  
Lander County,  
NV

