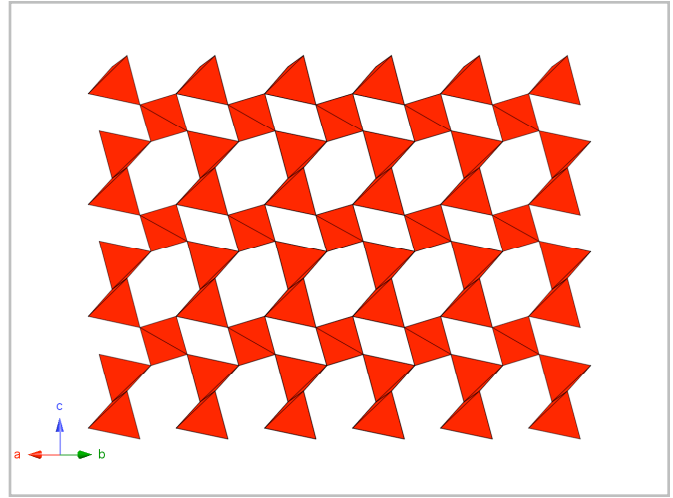


quartz

SiO₂

75.1.3.1

mineral group	
mineral subgroup	
date named	
name derivation	Derived from the German, quarz, or from Old English, querklufferz, meaning cross-vein ore.



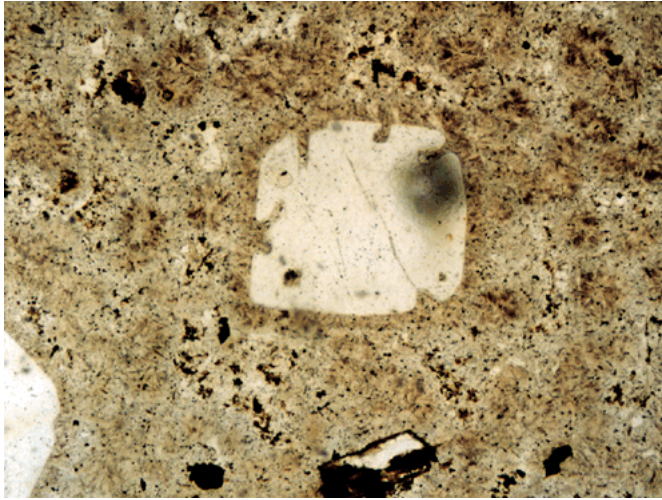
transparent
Harvard ID # 117648
Locality: Hot Springs, Garland Co., Arkansas, U.S.A.
Horizontal Dimension: 8 cm

Dana class	Si tetrahedral framework silicate	
diagnostic properties	conchoidal fracture; colorless to purple, pink, and other colors	
color	colorless, white, purple, yellow, brown, pink, blue	
luster	vitreous, pearly, waxy, dull	
streak	white	
Mohs hardness	7	specific gravity 2.65
cleavage	seldom distinct	
fracture & tenacity	conchoidal, brittle, tough when massive	
habits	prismatic hexagonal crystals with horizontally striated faces, commonly terminated by rhombohedrons; sometimes appears drusy, as a geode, gwindle; usually anhedral, equant grains; twinning common	
special properties	transparent to nearly opaque; piezoelectric and pyroelectric; may be triboluminescent; may show chatoyancy	
reaction with acid	soluble in hydrofluoric acid and in molten sodium carbonate	

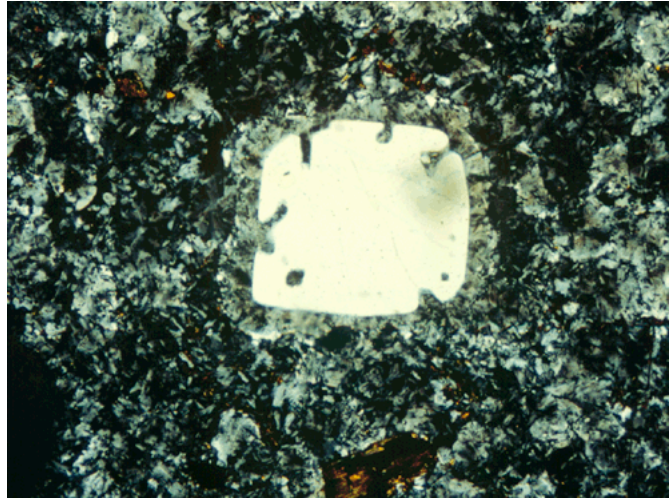
quartz
SiO₂

75.1.3.1

PPL



XPL



crystal class	trigonal trapezohedral
birefringence	0.009
a Axis	4.9135
b Axis	
c Axis	5.4050
alpha	90
beta	90
gamma	120
Z	3

crystal system	hexagonal
reflectance	
space group	P3 ₁ 21 or P3 ₂ 21
2V	
optic type	uniaxial
optic sign	+
alpha epsilon	1.553
beta omega	1.544
gamma	

optical comment

Quartz is distinctive in that it has low relief, low birefringence, and no cleavage. It can be distinguished from the feldspars and cordierite because it is uniaxial. It can be distinguished from beryl because it is optically positive and has lower refractive indices.

occurrence

Extremely common; found in many types of igneous, sedimentary, and metamorphic rocks. Especially in hydrothermal veins, in granites and pegmatites, in sandstones and quartzites, and in carbonates. May occur with calcite, fluorite, feldspars, epidote, chlorite, micas, zeolites, and many other mineral species.

selected localities

Tamminen quarry, Greenwood, Maine; Middleville, Herkimer, Little Falls, Fonda, Herkimer Co., Ellenville, Lake George, Diamond Point, Diamond Isle, Warren Co., New York; Alexander and Lincoln Cos., North Carolina; Mount Ida to Hot Springs, Ouachita Mountains, Garland Co., Saline and Montgomery Cos., Arkansas; Mount Antero and Mount White, Chaffee Co., Pikes Peak area, El Paso Co., Ouray Co., Colorado; El Capitan Mountains, Lincoln Co., New Mexico; White Queen, Elizabeth R., and Tourmaline Queen mines, Pala district, Little Three mine, Ramona, and Himalaya dike system, Mesa Grande, San Diego Co., Clear Lake region, Lake Co., California; Crystal Park area, Beaverhead Co., Little Pipestone Creek, Jefferson Co., Montana; U.S.A. Thunder Bay, Lake Superior, Ontario; Canada. Northeast Chihuahua, north of Chihuahua City, Mexico. Frizington, Cleator Moor, Alston Moor, Cumberland, England. Val Guif; Tiefengletscher, Graubunden, Switzerland. Carrara, Tuscany, Italy. Bourg d'Oisans, Isere, France. Mursinka, Ural Mountains, Russia. Sakangyi, Katha district, Myanmar (Burma). Otomezaka, Kai, Yamanashi Prefecture, Japan. Tamboholehehibe, Madagascar. South Africa. Rio Grande do Sul and Taquaral, Itinga, Minas Gerais, Goias, Bahia, Brazil. Artigas, Uruguay.