

Table 4. Minerals of the Shelby district

Mineral	Cleveland gneiss	Shelby gneiss	Battleground schist	Hornblende schist and gneiss	Toluca quartz monzonite	Pegmatite related to Toluca quartz monzonite	Yorkville granodiorite	Cherryville quartz monzonite	Muscovite-perthite-oligoclase-quartz pegmatite	Albite-Microcline-quartz pegmatite	Albite-spodumene-microcline quartz pegmatite	Sulfide deposits	Quartz veins
Muscovite	A	A	M	a	A	A	A	M	M	A	A	---	---
Biotite	M	M	M	A	M	M	M	M	A	---	---	---	---
Chlorite	a	a	a	a	---	---	---	---	a	---	---	---	---
Chloritoid	---	---	a	---	---	---	---	---	---	---	---	---	---
Plagioclase	M	M	a	M	M	M	M	M	M	M	M	---	---
Microcline	A	A	a	---	M	M	M	M	M	M	M	---	---
Spodumene	---	---	---	---	---	---	---	---	---	---	M	---	---
Diopside	---	a	---	A	---	---	---	---	---	---	---	---	---
Augite	---	---	---	a	---	---	---	---	---	---	---	---	---
Hornblende	a	a	A	M	---	---	---	---	---	---	---	---	---
Tremolite	---	---	a	---	---	---	---	---	---	---	---	---	---
Glaucophanes	---	---	---	a	---	---	---	---	---	---	---	---	---
Spinel	---	---	a	a	---	---	---	---	a?	---	---	---	---
Beryl	---	---	---	---	---	---	---	---	a	A	A	---	---
Tourmaline	a	---	a	---	---	a	---	---	a	a	a	---	a
Garnet	M	M	a	a	A	A	---	---	a	a	---	---	---
Staurolite	a	---	A	---	---	---	---	---	---	---	a	---	---
Dumortierite	---	---	---	---	---	a	---	---	---	---	---	---	---
Sillimanite	M	a	A	---	a	a	---	---	---	---	---	---	---
Andalusite	---	---	a	---	---	---	---	---	---	---	---	---	---
Kyanite	a	---	A	---	---	---	---	---	---	---	---	---	---
Pyrophyllite	---	---	a	---	---	---	---	---	---	---	---	---	---
Zircon	A	a	a	---	A	A	A	a	---	---	---	---	---
Quartz	M	M	M	a	M	M	M	M	M	M	M	M	M
Columbite	---	---	---	a?	---	---	---	---	---	a	a	---	---
Cassiterite	---	---	---	---	---	---	---	---	---	a	a	---	---
Rutile	A	a	---	---	a	a	---	---	---	---	---	---	---
Magnetite	a	a	A	---	a	a	A	---	---	---	---	---	---
Ilmenite	A	A	---	A	A	A	---	a	---	---	---	---	A
Hematite	---	---	---	---	---	---	---	---	a	---	a	M	---
Pyrrhotite	---	---	a	---	---	---	---	---	a	---	a	M	M
Pyrite	a	---	---	---	---	---	---	---	a	---	a	a	a
Sphalerite	---	---	---	---	---	---	---	---	a	---	a	a	a
Chalcopyrite	---	---	a	---	---	---	---	---	a	---	---	A	a
Calcite	a	a	a	---	---	---	---	a	---	---	a	---	---
Monazite	a	a	---	---	A	A	---	---	---	---	---	---	---
Xenotime	a	a	---	---	a	a	---	---	---	---	a	---	---
Apatite	a	a	---	a	a	---	a	a	a	---	a	---	---
Vivianite	---	---	---	a	---	---	---	---	---	---	a	---	---
Purpurite	---	---	---	---	---	---	---	---	---	---	---	---	---

M means commonly a major constituent.

A means commonly a minor constituent or locally a major constituent.

a means an uncommon minor constituent.

U. S. Geological Survey  
 OPEN FILE REPORT  
 This map or illustration is preliminary  
 and has not been edited or reviewed for  
 conformity with Geological Survey  
 standards or nomenclature.