

**Common Mineral Associations:**

**A. IGNEOUS ROCKS:**

<u>Major</u>	<u>Minor</u>	<u>Trace</u>
<b>I. Felsic:</b>		
QUARTZ	GARNET	RUTILE
PLAGIOCLASE	FLUORITE	SILLIMANITE
K-FELDSPAR	SPINEL	TOURMALINE
BIOTITE	EPIDOTE GROUP	TOPAZ
HORNBLLENDE	ZIRCON	MONAZITE
MUSCOVITE	FE-TI OXIDES	APATITE

**Look at the following thin sections and you will find most of the above minerals together:**

BH250-49 (There are at least 10 of the above minerals in this thin section)

**II. Intermediate rocks**

PLAGIOCLASE	ORTHOPIYROXENES	RUTILE
CALCIC AMPHIBOLES	APATITE	SILLIMANITE
K-FELDSPAR	EPIDOTE GROUP	TOURMALINE
QUARTZ	FE-TI OXIDES	TOPAZ
BIOTITE	ZIRCON	MONAZITE
CALCIC CPX		ALLANITE

**Look at the following thin sections and you will find most of the above minerals together:**

BH250-11, BH250-50, BH250-85

**III. Mafic Rocks**

**e.g. Gabbro, basalts**

PLAGIOCLASE	CALCIC AMPHIBOLES	EPIDOTE GROUP
ORTHOPIYROXENE	BIOTITE	ZIRCON
CALCIC CPX	CUMMINGTONITE	RUTILE
OLIVINE	FE-TI OXIDES	SPINEL
PIGEONITE	APATITE	

**Look at the following thin sections and you will find most of the above minerals together:**

BH250-90

**IV. Ultramafic rocks**

**e.g. Dunite, peridotite**

PLAGIOCLASE	GARNET	APATITE
ORTHOPIYROXENES	CALCIC-SODIC CPX	EPIDOTE GROUP
CALCIC CPX	FE-TI OXIDES	SPINEL
OLIVINE	PERVOSKITE	

**Look at the following thin sections and you will find most of the above minerals together:**

BH250-17, BH 250-41

**V. Feldspathoids (silica undersaturated rocks)**

**e.g. Syenites, nepheline syenite**

PLAGIOCLASE	SODIC AMPHIBOLES	MELILITE
K-FELDSPAR	CALCIC-SODIC CPX	APATITE
NEPHELINE	SODIC CPX	EPIDOTE GROUP
LEUCITE	OLIVINE	FE-TI OXIDES
SODALITE GROUP	CALCITE	GARNET
BIOTITE	ANALCIME	VESUVIANITE
CALCIC AMPHIBOLES	PERVOSKITE	SPINEL
CA-NA AMPHIBOLES	CORUNDUM	

**Look at the following thin sections and you will find most of the above minerals together:**

BH250-18, BH250-83, BH250-84, also see Pervoskite slides

**MINERALS THAT ARE FOUND AS VESICLE FILLINGS IN IGNEOUS ROCKS:**

CALCITE	ANHYDRITE	PREHNITE
ARAGONITE	PECTOLITE	AOPHYLLITE
ZEOLITES	CELADONITE	SIDERITE
CHLORITE	ANALCIUM	

**Look at the following thin sections and you will find most of the above minerals together:**

**BH250-85**

COMMON MINERAL ASSOCIATIONS (CONT.)

**METAMORPHIC ROCKS**

**I. Pelitic**

QUARTZ	KYANITE	APATITE
PLAGIOCLASE	STAUROLITE	ZIRCON
MUSCOVITE	CORDIERITE	EPIDOTE GROUP
CHLORITE	K-FELDSPAR	SPINEL
BIOTITE	CHLORIOTOID	TOURMALINE
GARNET	CORUNDUM	GRAPHITE
ANDALUSITE	FE-TI OXIDES	
SILLMANITE	SCAPOLITE	

**Look at the following thin sections and you will find most of the above minerals together:  
BH250-1, BH250-45BH250-67, BH250-68**

**II. Mafic**

PLAGIOCLASE	GARNET	OMPHACITE
EPIDOTE GROUP	CALCIC CPX	APATITE
HORNBLLENDE	BIOTITE	ZIRCON
ANTHOPHYLLITE	CHLORITE	SPINEL
CUMMINGTONITE	STILPNOMELANE	FE-TI OXIDES
CORDIERITE	TITANITE	

**Look at the following thin sections and you will find most of the above minerals together:  
BH250-52**

**III. Carbonate**

CALCITE	GARNET	TALC
ARAGONITE	DIOPSIDE-HEDENBERGITE	GRAPHITE
DOLOMITE	BIOTITE	SCAPOLITE
QUARTZ	EPIDOTE GROUP	PREHNITE
WOLLASTONITE	VESUVIANITE	TITANITE
TREMOLITE-ACTINOLITE	MONTICELLITE	CORUNDUM
HORNBLLENDE	HUMITE GROUP	PERVOSKITE
OLIVINE	PERICLASE	FE-TI OXIDES

**Look at the following thin sections and you will find most of the above minerals together:  
BH250-55, BH250-78, BH250-79**

**IV. Blueschist and related rocks**

QUARTZ	NA-CA AMPHIBOLES	TITANITE
PLAGIOCLASE	GARNET	SERPENTINE
MUSCOVITE	CHLORITE	EPIDOTE GROUP
BIOTITE	SODIC PYROXENE	PREHNITE
LAWSONITE	CA-NA PYROXENE	APATITE
PUMPELLYITE	ARAGONITE	ZIRCON
SODIC AMPHIBOLES	CALICTE	FE-TI OXIDES

**Look at the following thin sections and you will find most of the above minerals together:  
BH250-7, BH250-23, BH250-51**

## **SEDIMENTARY ROCKS**

### **I. Clastic**

QUARTZ	CLAY	GLAUCONITE
CHALCEDONY	CALCITE	HEMATITE
K-FELDSPAR	MUSCOVITE	ZEOLITES
PLAGIOCLASE	BIOTITE	CLASTIC MATERIAL

**Look at the following thin sections and you will find most of the above minerals together:  
BH250-61, BH250-69, BH250-70**

### **II. Carbontes**

CALCITE	CLAY	CLASTIC MATERIAL
DOLOMITE	GLAUCONITE	SKELETAL MATERIAL

**Look at the following thin sections and you will find most of the above minerals together:  
BH250,**

### **III. Evaporites**

CALCITE	HALITE	CHALCEDONY
DOLOMITE	SYLVITE	CLASTIC MATERIAL
GYPHUM	SULFUR	
ANHYDRITE		

**Look at the following thin sections and you will find most of the above minerals together:  
BH250,**