Studies of fault and fold patterns, volcanic stratigraphy, facies architecture and lithogeochemistry are all important for understanding the setting of volcanic-associated massive sulphide (VMS) deposits in ancient successions. Most major VMS mining districts comprise relics of strongly extended continental margin or mature arc crust although a few comprise relics of immature oceanic arcs. Continental and mature arc regions were generally deformed by inversion of extensional faults. Consequently, present fault and fold patterns can be used together with stratigraphy to interpret the original basin structure. Faults, folds and stratigraphic thickness variations indicate that many VMS deposits occur in second or third order grabens and/or half grabens. Facies architecture indicates that these grabens are host to, or are components of, felsic volcanic centres that can be identified by the association of lava, intrusions and pyroclastic facies. The character of these volcanic centres can vary greatly and includes dome complexes, calderas and volcanotectonic cauldrons. However, these volcano types are not mutually exclusive; for example dome complexes can be components of calderas and cauldrons. Facies of the volcanic centre influence the style and geometry of VMS ore deposit: juvenile glassy volcanic deposits and carbonate rocks promote subsea floor replacement style mineralization whereas coherent lavas, intrusions and mudstones promote mineralization on the sea floor. Lithogeochemistry and stratigraphic correlation indicate that within a mining district, VMS deposits generally occur on only one or a few stratigraphic horizons, which correspond to significant changes in volcanic stratigraphy and/or magma composition.