

Nov 14/79

Bill

520816

This is a petrographic  
report from a specimen  
of core from Easy

79-4

The galena & chalcite  
estimates I would guess  
are high; but the report  
explains the arsenic geochem  
anomaly & supports the trace  
amounts of galena & chalcopyrite  
noted earlier on grid line O  
part way up the west slope Bob



# Vancouver Petrographics Ltd.

ESTD 1961

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## Sample 79-4 135.1'

The sample contains two rock types, a strongly altered quartz diorite, and chert. The chert appears in part at least to be a late vein cutting the quartz diorite and early quartz veins.

### quartz diorite

quartz	40-45%	biotite	1-2% (altered to muscovite-Ti oxide)
calcite	20-25	apatite	trace
sericite	15-17		
kaolinite	15-17		
arsenopyrite	2- 3		
galena	1- 1½		
pyrite	0.5		
chalcopyrite	0.3		

Quartz forms anhedral grains 0.1-1 mm in size intergrown with finer grained patches of calcite (0.05-0.3 mm grain size), and anhedral patches of sericite-kaolinite-quartz. Sericite forms flakes and scattered laths up to 0.2 mm in length. Kaolinite forms very fine grained patches averaging 0.005-.01 mm in grain size, intergrown with patches and scattered quartz grains averaging 0.02 mm in size.

Biotite forms ragged laths up to 1.2 mm long; these are completely altered to pseudomorphs of muscovite with patches of Ti-oxide up to 0.15 mm in size. Apatite forms scattered subhedral to euhedral grains from 0.05 to 0.2 mm.

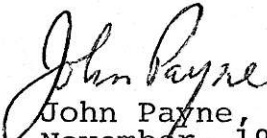
Arsenopyrite forms clusters of diamond-shaped to elongate grains averaging 0.2 mm across and 0.5 mm long respectively. Some occur in the altered rock and some in the early quartz veins.

Galena and chalcopyrite form very irregular aggregates intergrown with sericite; grain size is from 0.05 to 0.3 mm in size. Many consist of galena with minor chalcopyrite patches along or near the borders of the patch; chalcopyrite also forms monominerallic patches.

Pyrite forms anhedral to subhedral grains from 0.03 to 0.5 mm in size, generally separate from the other sulfides.

Early quartz veins average 0.2-0.8 mm in grain size; some contain calcite and arsenopyrite along their borders. Contacts with the altered rock are diffuse, indicating that the veins probably are related in origin to the alteration.

Chert forms a zone near one side of the section and a few vein-like zones which appear to cut the altered quartz diorite and quartz veins. Chert is extremely fine grained (0.005-0.01 mm) and contains scattered sericite flakes and coarser (0.02-0.1 mm) irregular grains of quartz and lesser calcite.

  
John Payne,  
November, 1979.