	А	Analysis of polybasite crystals:				
	Ag	Cu	l. Sh	8	Total	
Per cent.	74 to 75	2	6+	12+	95	
Theoretical Ar. Sb S.	75.67		9,34	14.99	100,00	
Argannina.						

Reviewing all the evidence it is found that these crystals agree in form, physical properties, and chemical composition with the mineral polybasite $(Ag,Cu)_{\sigma}$ SbS_g, which is thus definitely established as a Cobalt mineral.

It was thought that the argentite to which the polybasite crystals were attached might show an admixture with massive polybasite, especially as certain spots showed an unusual brilliant, superficial tarnish like bornite. An analysis (page 11), however, yielded no more than traces of antimony and copper as impurities, so that there is no evidence to show that massive polybasite is present in quantity.

Pink Carbonate

An oxidized arsenide specimen from the O'Brien mine showed velvety coatings, one to two millimetres thick, consisting of very delicate needle-like crystal growths. On some parts of the specimen this coating was pure white, on others, a beautiful peach blossom pink. It was thought that the pink material might be roselite and it was accordingly analyzed.

Fe Co Ca O Mg	$2.33 \\ 0.80 \\ 51.13 \\ .64$	per een 	4.83 1.35 91.53 2.21	per cent. 	F Co ₃ C Co ₃ Ca Co ₃ Mg Co ₃	
		Total	 99.92			

The material is evidently merely calcium carbonate with small amounts of iron and cobalt which give the colour. From optical tests and habit of growth it appears to be arragonite rather than ealeite.

Symplesite, Penn-Canadian Mine

This material was examined because it was thought it might contain cobalt oxides such as heterogenite or henbachite which have been supposed to be present in some of the oxidized Cobalt ores.

The specimen represents weathered, oxidized ore such as was obtained at the surface in opening up the Cobalt veins. It consists of earthy masses of bluish black oxidized material, held together by spongy native silver or dyscrasite. In some spots a dirty pirk colour indicates the presence of impure crythrite.

Under the microscope, the exactly material is seen to consist for the most real real of grains which, when thin, are translucent to transparent, yellowish in colour and doubly refracting. Along with these are other opaque grains which are chiefly native silver or dyserasite, and argentite.

Chemical Properties—The earthy part is readily soluble in five per cent. hydroehlorie acid, and no unoxidized arsenides were detected in the residue. The insoluble part consists eniefly of native silver or dyserasite, and argentite, with small grains of quartz. The argentite is not attacked by hydrochlorie acid of this concentration, and no sulphur is found in the filtrate, showing that all the sulphur

- 6.4	63		
- 33	ч.		