

been settled it is not desirable to depart from the first orientation.

After the formation of the crystals of spencerite they were in most cases covered by a deposit of calamine as it is only in a few small cavities which had apparently been sealed up to prevent this deposition that good crystals are to be observed. In a few of these cavities the spencerite crystals are perfectly bright and free from calamine deposition. In others there are coatings of calamine, sometimes a mere frosting of the crystals while in others the crystals are completely masked. There are many examples of pseudomorphous casts of calamine where the thick-walled masses of calamine, rudely resembling the spencerite crystals in shape, are hollow. These casts are very sharp within and appear to have been formed by the deposition of the silicate on crystals of the phosphate followed, in the solution period, by the removal of the substance of the crystals. It is only where these pseudomorphs of calamine have been broken across that the interior may be observed.

As has been already stated the spencerite forms the central part of the stalactitic growths and would appear to have been sealed up by the later shell of calamine. There is frequently observed a solution cavity between the relatively insoluble calamine and the more soluble spencerite. In these cavities are found in small amounts hopeite in fine crystals, complex aggregations of parahopeite and thin-bladed projections of calamine—the adjacent plates parallel to one another suggesting that they had been present as inclusions along the best cleavage (100) of spencerite. In the microscopic examination of the latter mineral small lenticular inclusions of the same character are often noted. A small quantity of this leafy residual material was the subject of a partial analysis with the following result (I):

	I	II	II
ZnO.....	62.87%	67.35%	67.49%
SiO ₂	23.64%	25.32%	25.01%
H O.....	6.83%	7.33%	7.50%
	93.34	100.00	100.00