ART. III.—On the "Anglesite," associated with Boléite,
No. 55; by F. A. GENTH.

MALLARD and Cumenge state in their interesting investigation on boléite* that anglesite, generally covered with a coating of gypsum, of variable thickness, is associated with the boléite from Boléo, Lower California, Mexico. These crystals showed such a peculiar appearance that I thought they deserved a fuller investigation, for which Mr. Clarence S. Bement with his usual liberality, furnished me with excellent material.

The crystals, from 2 to 20^{mm} in size are often distorted, but show generally a very common form of anglesite, the planes *c*, *m* and *l* predominating. They are opaque, and of a luster, between vitreous and greasy, their color is from white to bluish white, some show minute blue spots from a slight contamination with boléite. Many crystals have a coating of gypsum or minute scales of the latter implanted, while others are entirely free from it. Sp. gr. = 4.401. The material for the analysis was selected with great care and the purest that could be obtained, it gave :

		Molecular ratio.	
PbSO ₄	76.16	0.251	2
CaSO ₄	17.31	0.127	1
H ₂ O	4.53	0.251	2
Boléite by diff.	2.00		
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100.00			

This gives the formula : $2\text{PbSO}_4 + \text{CaSO}_4 + 2\text{H}_2\text{O}$. As it is not very likely that 2 mol. of PbSO₄ should have crystallized with one mol. of gypsum in exactly the same form as anglesite, we must come to the conclusion, that the so-called anglesite crystals from Boléo are pseudomorphs after a mineral of the composition : $2\text{PbSO}_4 \cdot \text{CaSO}_4$, which has not yet been observed in its original condition, but only after the calcium sulphate in it had taken up two molecules of water and changed into gypsum which now forms a mechanical mixture with the remaining anglesite, from which it can be completely extracted by water.

The fine powder of two small crystals was treated with water, as long as any precipitate of calcium oxalate could be formed in the filtrate ; a small quantity of lead in the solution was removed by hydrogen sulphide.

* Bull. Soc. Franc. de Mineralogie, December, 1891.

The analysis gave :

PbSO ₄	74.76
CaSO ₄	19.64
H ₂ O required to form gypsum..	5.20
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	99.60

showing that these crystals had a considerable admixture of gypsum.

Chem. Laboratory, 111 S. 10th St.,
Philadelphia, Nov. 22d, 1892.