

obtained in the analysis is to be assigned to argentite. Qualitative tests show that the iron is practically all in the ferrous condition, though a very small amount of ferric iron was detected. On treating with strong hydrochloric acid no chlorine is evolved, showing that the cobalt and nickel are also in the lower state of oxidation. Water-soluble arsenic trioxide was not detected, neither by long standing (three weeks) with occasional shaking, at room temperature, nor by boiling for an hour or more.

Preparation of Samples—The material was gently rubbed in an agate mortar and two portions were separated for analysis.

1. *Arsenate Part*: The powder which passed a 250 mesh sieve. This was chiefly arsenates with particles of native silver or dyscrasite and argentite. The hope that the very fine sieve would eliminate most of the native silver proved to be unjustified because of the brittleness of the so-called silver which may be judged by the fact that the analysis indicates the presence of about 18 per cent. in this sample, all of which of course, had passed through the fine sieve along with the arsenates, after only moderate rubbing. The brittle character of the silver would lead one to suspect that it was really dyscrasite.

2. *Silver Part*: This constitutes the coarser, less brittle portions left behind on the sieve. These were freed from adhering arsenates by dilute hydrochloric acid, rinsed with ammonia to remove any silver chloride and then washed to get rid of small particles of argentite.

These two samples were analyzed with the following results:

Analysis of the arsenate part:

Element	Per cent.	Mol. Ratio	Argentite Ag ₂ S	Native Silver, Dyscrasite and Amalgam	Symplectite Fe ₂ As ₂ O ₇ ·SH ₂ O	Erythrite Cu ₂ As ₂ O ₇ ·SH ₂ O	Annabergite Ni ₂ As ₂ O ₇ ·SH ₂ O	R ₂ As ₂ O ₇ ·SH ₂ O R=Cu, Co, Mg, Al
Ag	28.11	.2605	.1066	.1539	....	....	....	....
S	1.71	.0533	.0533	....	....	....	....	....
Sb	.79	.0066	....	.0066	....	....	....	....
Hg	.64	.0032	....	.0032	....	....	....	....
FeO	7.71	.1074	....	....	.1074	....	....	....
CoO	6.31	.0842	....	....	....	.0842	....	....
NiO	1.74	.0233	....	....	....	....	.0233	....
CuO	2.42	.0304	....	....	....	....	....	.0304
As ₂ O ₃	24.60	.1070	....	....	.0358	.0281	.0078	.0301
Sb ₂ O ₃	1.55	.0048	....	....	....	....	....	....
*H ₂ O	13.64	.7577	....	....	.2864	.2245	.0622	.2512
CaO	2.58	.0460	....	....	....	....	....	.0460
MgO	.72	.0638	....	....	....	....	....	.0638
†CO ₂	(2.81)	.0638	....	....	....	....	....	....
‡CO ₂	.73	....	....	....	....	....	....	....
Al ₂ O ₃	.30	....	....	....	....	....	....	....
Quartz	4.45	....	....	....	....	....	....	....
	(100.08)							
	98.00							

* Direct determination of total water. H₂O at 100°C not determined.

† Equivalent to CaO and MgO found.

‡ Actually found. One determination.