

FIBROUS MARCASITE IN CRYSTALLINE CALCITE NEAR LOGANSFORT, INDIANA.

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In the quarry of the Logansport Stone and Lime Company about three and one-half miles east of Logansport, near the contact of the Kokomo limestone with the overlying Devonian limestone, there are some very interesting large calcite masses with more or less perfectly developed crystal form. They are embedded in masses of reddish brown clay which appears on casual observation to be residual. The calcite is remarkably well crystalized, in places almost of Iceland Spar clarity, and varies in color from colorless to white, brown and green. On closer examination, the greenish calcite is seen to be colored by a fibrous, greenish gold, metallic mineral, zonally distributed through the outer portions of the calcite masses.

Field observation suggested that the metallic mineral might be Millerite, NiS, but simple laboratory testing showed no trace of nickel. Further careful quantitative analysis by the junior writer showed the mineral to have the composition FeS_2 . The results of his determinations are given in the following table:

	I	II	III	IV	V	VI
Weight of crucible.....	6.4458	6.7037	6.4148	6.4066	6.4461	6.7047
1st weight crucible and Fe_2O_3 ...	6.4742	6.7200	6.4422	6.4398	6.4814	6.7357
2nd weight crucible and Fe_2O_3 ...	6.4736	6.7199	6.4417	6.4394	6.4812	6.7331
3rd weight crucible and Fe_2O_3 ...	6.4734	6.7198	6.4414	6.4392	6.4811	6.7326
4th weight crucible and Fe_2O_3 ...	6.		6.4413			6.7324
Weight of Fe_2O_3	.0276	.0161	.0265	.0324	.0350	.0277
Weight of iron.....	.0193	.0112	.0185	.0226	.0245	.0194
Fe/55.84.....	.000345	.000201	.000331	.000405	.000439	.000347

	I	II	III	IV	V	VI
Weight of crucible.....	6.4470	6.7032	6.4158	6.4066	6.4158	6.5271
1st weight crucible and BaSO_4 ...	6.6084	6.7953	6.5715	6.5979	6.6121	6.6895
2nd weight crucible and BaSO_4 ...	6.6073	6.7943	6.5711	6.5968	6.6118	6.6881
3rd weight crucible and BaSO_4 ...	6.6072	6.7942	6.5709	6.5966	6.6116	6.6880
Weight of BaSO_4	.1602	.0910	.1551	.1900	.1958	.1609
Weight of sulphur.....	.0220	.0125	.0213	.0261	.0269	.0221
S/32.06.....	.000685	.000391	.000665	.000813	.000869	.000691
Formula.....	FeS_2	FeS_2	FeS_2	FeS_2	FeS_2	FeS_2

Method of Analysis. I and II, fusion with sodium peroxide with a little glucose added; III and IV, bromine-nitric acid method; V and VI, Escha method of fusion with potassium nitrate.

The color of the sulphide rather indicated that it was Marcasite rather than Pyrite—an opinion which was confirmed by solution in concentrated nitric acid, free sulphur being formed.

