

SMITHSONIAN MISCELLANEOUS COLLECTIONS.

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THE SCIENTIFIC WRITINGS

OF

JAMES SMITHSON.

EDITED BY

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ACCOUNT OF A DISCOVERY OF NATIVE
MINIUM.

From the Philosophical Transactions of the Royal Society of London,
Vol. XCVI, Part I, 1806, p. 267.—Read April 24, 1806.

IN A LETTER TO THE RIGHT HON. SIR JOSEPH BANKS,
K. B. P. R. S.

MY DEAR SIR: I beg leave to acquaint you with a discovery which I have lately made, as it adds a new, and perhaps it may be thought an interesting, species to the ores of lead. I have found *minium* native in the earth.

It is disseminated in small quantity, in the substance of a compact carbonate of zinc.

Its appearance in general is that of a matter in a pulverulent state, but in places it shows to a lens a flaky and crystalline texture.

Its colour is like that of factitious minium, a vivid red with a cast of yellow.

Gently heated at the blowpipe it assumes a darker colour, but on cooling it returns to its original red. At a stronger heat it melts to litharge. On the charcoal it reduces to lead.

In dilute white acid of nitre, it becomes of a coffee colour. On the addition of a little sugar, this brown calx dissolves, and produces a colourless solution.

By putting it into marine acid with a little leaf gold, the gold is soon intirely dissolved.

When it is inclosed in a small bottle with marine acid, and a little bit of paper tinged by turnsol is fixed to the cork, the paper in a short time entirely loses its blue colour, and becomes white. A strip of common blue paper, whose colouring matter is indigo, placed in the same situation undergoes the same change.

The very small quantity which I possess of this ore, and the manner in which it is scattered amongst another substance, and blended with it, have not allowed of more qualities being determined, but I apprehend these to be sufficient to establish its nature.

This native minium seems to be produced by the decay of a galena, which I suspect to be itself a secondary production from the metallization of white carbonate of lead by hepatic gas. This is particularly evident in a specimen of this ore which I mean to send to Mr. GREVILLE, as soon as I can find an opportunity. In one part of it there is a cluster of large crystals. Having broken one of these, it proved to be converted into minium to a considerable thickness, while its centre is still galena.

I am, &c.,

JAMES SMITHSON.

CASSELL IN HESSE, *March 2d*, 1806.

From the *Philosophical Magazine*, Vol. XXXVIII, 1811, p. 34.

After I had communicated to the president the account of the discovery of native minium, printed in the *Philosophical Transactions* for 1806, I learned that this ore came from the lead mines of Breylau in Westphalia.